

CROSBY WETLAND  
MANAGEMENT DISTRICT

(Including Lake Zahl  
National Wildlife Refuge)

**ANNUAL NARRATIVE REPORT**

Calendar Year 1998

**REVIEW AND APPROVALS**

**CROSBY WETLAND MANAGEMENT DISTRICT**

(Including Lake Zahl National Wildlife Refuge)

Crosby, North Dakota

**ANNUAL NARRATIVE REPORT**

Calendar Year 1998

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3/13/02

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## INTRODUCTION

Crosby Wetland Management District (WMD) was first staffed in 1962. On July 1, 1975, the District was combined with the Des Lacs NWR, Lostwood NWR, and Lostwood WMD and placed under administration of the Des Lacs NWR Complex. Included in the Crosby WMD are 96 Waterfowl Production Areas (WPAs) with 18,730 acres, 13 grassland easements totaling 5,126 acres, and wetland easements totaling approximately 66,678 wet acres. The district encompasses three physiographic areas. Northern Burke and northeastern Divide Counties are drift plain. South and west of this, the Altamont Moraine Complex (Coteau du Missouri) is approximately 15-30 miles wide and crosses the WMD diagonally from northwest to southeast. South of the moraine lies the Missouri slope. Over half the district's WPAs lie in the moraine complex.

Homesteaders arrived in the late 1800's and early 1900's with farming being the primary land use and livestock production secondary. The depression of the 1930's forced many ranchers to sell their livestock. The early 1940's ushered in a period of abuse and cultivation of marginal land that has continued, although the recent Farm Security Act has slowed that trend.

Despite the significant losses of quality habitat through the years, northwestern North Dakota remains one of the best duck producing areas in the Prairie Pothole Region.

The primary objectives of the WMD are the protection, preservation, and management of wetlands and uplands for waterfowl production.

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## **A. HIGHLIGHTS**

Average snowfall brought about good spring conditions following the previous winter's record snowfall (B).

Ducks Unlimited funded purchases of grassland easements on native prairie, marking the beginning of an active easement purchase program (C2).

Piping plover and burrowing owl studies and monitoring continued (G2).

## B. CLIMATIC CONDITIONS

Although snowfall was just average during the 1997/98 winter, the runoff from record snowfall during the 1996/97 winter maintained good wetland and soil moisture conditions into spring 1998.

June brought cool, wet weather with rainfall totaling over six inches filling District wetlands. Good moisture continued through the end of the year resulting in a precipitation total nearly three inches above average.

Table 1 shows the 1998 temperature extremes and precipitation as obtained by *Journal* editor John Andrist at the Crosby weather station.

**Table 1. Climatic Conditions Measured at Crosby, ND, 1998.**

<b>MONTH</b>	<b>HIGH TEMP. (°F)</b>	<b>LOW TEMP. (°F)</b>	<b>SNOWFALL (Inches)</b>	<b>PRECIP (Inches)</b>
<b>JANUARY</b>	46	-26	5.6	0.34
<b>FEBRUARY</b>	50	-10	18	1.87
<b>MARCH</b>	56	-24	0.8	0.15
<b>APRIL</b>	79	23		0.47
<b>MAY</b>	82	27		0.63
<b>JUNE</b>	88	32		6.02
<b>JULY</b>	95	44		0.75
<b>AUGUST</b>	94	50		1.82
<b>SEPTEMBER</b>	96	31		0.59
<b>OCTOBER</b>	69	23	15.1	2.61
<b>NOVEMBER</b>	52	-4	11.6	1.09
<b>DECEMBER</b>	45	-18	18	0.67
<b>TOTALS</b>			<b>69.1</b>	<b>17.01</b>
<b>AVERAGE</b>				<b>14.37</b>

## C. LAND ACQUISITION

### 1. Fee Title

The Service has not purchased any land since 1977 in the Crosby WMD (1128 acres were transferred from BLM in 1995). Total acres in fee title are as follows:

Burke County	3,545 acres
Divide County	10,701 acres
<u>Williams County</u>	<u>4,484 acres</u>
Total	18,730 acres

### 2. Easements

Total easement (wet) acres by county are shown in Table 2. Seven wetland easements were purchased this year totaling 666 wet acres. Most new wetland easements purchased are a result of the grassland easement program.

Prior to this year, the Service owned one grassland easement covering 2300 acres in the District (Goodman Ranch). In 1998, the Service began an active program to purchase grassland easements on remaining native prairie in high density wetland areas of the Missouri Coteau. First priority were the largest remaining blocks of unbroken sod, most of which exist in western Burke County in the Crosby District.

Ducks Unlimited provided funding for the purchases, while the FWS handled the biological review to select areas and contact interested sellers as well as completing the realty work involved.

Grassland easements provide for perpetual protection from breakout and delays haying until July 15. A wetland easement is a prerequisite to acceptance of a grassland easement.

Twelve grassland easements totaling 7,826 acres were purchased in 1998 (Table 3).

**Table 2. Wet Easement Acres in Crosby WMD, 1998.**

<b>COUNTY</b>	<b>ACRES</b>
Burke	24,049
Divide	34,334
Williams	8,295
<b>TOTAL</b>	<b>66,678</b>

**Table 3. Grassland Easements Purchased in 1998.**

<b>OWNER(S)</b>	<b>ACRES</b>
Marlow Shefstad	560
Ken Maruskie	340
Arthur & Robert Lagein	729
Kathryn O'Neil	494
Emmit O'Neil	1,200
Hugh & Emmit O'Neil	500
Hugh O'Neil	1,000
Hugh & Emmit O'Neil	195
Merlyn Witty	1,481
Kevin Carlson	479
Orlane Maruskie	528
Helen Glasoe	320
<b>Total</b>	<b>7,826</b>

### 3. Technical Assistance

A national directive to the Farmers Home Administration (FmHA) brought about the FmHA conservation easement program in 1989. The program protects important wetland resources on FmHA properties.

The District total easement properties remains at four, as no new properties have been received since 1989. Table 4 shows FmHA conservation easements and acreage in the Crosby District.

**Table 4. FmHA Conservation Easement Totals in Crosby WMD, 1998.**

	TRACT				TOTAL
	Neether, E	Bacon, J.	Hagen, L.	Perdue, J.	
COUNTY	BURKE	DIVIDE	WILLIAMS	WILLIAMS	
APPROVED BY FmHA	4/19/89	4/21/89	4/21/89	4/21/89	
TOTAL ACRES	1,360.0	480.0	1,979.0	920.0	4,739.0
WETLANDS PROTECTED	31.0	1.0	145.0	40.0	217.0
WETLAND ACREAGE	271.9	15.3	50.1	33.6	370.9
# EAs ACRES <sup>1</sup>	19.0	1.0	72.0	22.0	114.0
EAs ACRES <sup>1</sup>	79.9	5.0	76.3	43.7	204.9
BASINS - A	0.0	0.0	0.0	0.0	0.0
RESTRICTED - B	20.0	1.0	87.0	122.0	140.0
RESTRICTED - C	11.0	0.0	58.0	8.0	77.0
RESTORABLE WETLANDS	0.0	0.0	0.0	0.0	0.0
ACRES RESTORABLE	0.0	0.0	0.0	0.0	0.0
FLOODPLAIN ACRES	9.6	52.5	0.0	85.5	90.9
D EAs / GRASS	0.0	0.0	0.0	0.0	0.0
D EAs / TREES	0.0	0.0	0.0	0.0	0.0

<sup>1</sup>B RESTRICTION EASEMENT AREA, INCLUDING BLOCKS, AND WETLAND WITH GRASS BUFFER ZONES.

Haying permits for easement wetlands were issued on the Neether tract in Burke County and the Perdue tract in Williams County. New owner Marlow Nelson and lessee Jim Woodard were given haying permits on Neether and Wayne Perdue received a permit on the Perdue tract.

## E. ADMINISTRATION

### 1. Personnel

#### Crosby Wetland Management District Staff

- |  |     |
|--|-----|
| 1. Tim Kessler, Refuge Oper Specialist GS-11     | PFT |
| 2. Toby Placek, Biological Technician, GS-07     | PFT |
| 3. Monte Ellingson, Biological Technician, GS-07 | PFT |

#### Des Lacs NWR Complex Staff

- |   |                                   |     |
|---|-----------------------------------|-----|
| 1. Fred G. Giese, Project Leader, GS-14                               | Complex H.Q.                      | PFT |
| 2. Dan Severson, Supv. Ref. Oper. Spec. GS-12                         | Complex H.Q.                      | PFT |
| 3. Edith Goettle, Admin. Support Asst., GS-06                         | Complex H.Q.                      | PFT |
| 4. Janet Leet, Office Automation Asst., GS-04                         | Complex H.Q.                      | PFT |
| 5. Robert Murphy, Biologist, GS-11                                    | Complex H.Q.                      | PFT |
| 6. David Walker, Fire Mgmt Officer, GS-11                             | Complex H.Q.                      | PFT |
| 7. David Gins, Maintenance Worker, WG-10                              | Des Lacs NWR                      | PFT |
| 8. Duane Dockter, Maintenance Worker, WG-08                           | Des Lacs NWR                      | PFT |
| 9. Karen A. Smith, Refuge Manager, GS-11                              | Lostwood NWR                      | PFT |
| 10. Stacy Adolf, Refuge Operations Spec, GS-7<br>(EOD 7/19/98)        | Des Lacs NWR                      | PFT |
| 11. Ken Maruskie, Maintenance Worker, WG-9                            | Lostwood NWR                      | PFT |
| 12. Tim Kessler, Refuge Operations Spec. GS-11                        | Crosby WMD                        | PFT |
| 13. Toby Placek, Biological Technician, GS-07                         | Crosby WMD                        | PFT |
| 14. Monte Ellingson, Biological Tech., GS-07                          | Crosby WMD                        | PFT |
| 15. Todd Frerichs, Refuge Oper. Spec., GS-09                          | Lostwood WMD                      | PFT |
| 16. Tom Eikenberry, Range Tech. (Fire) GS-6                           | Complex H.Q.                      | PFT |
| 17. Calvin Moldenhauer, Range Tech. (Fire) GS-5<br>(EOD 7/6/98)       | Complex H.Q.                      | PFT |
| 18. Kristine Weisbrod, SCEP Student Trainee<br>ORP (6/8/98-8/21/98)   | Complex H.Q.                      | TFT |
| 19. Jeff Knetter, Biol. Tech., GS-5<br>(4/28/97-8/29/97)              | Lostwood NWR                      | TFT |
| 20. Gary Summerfield, Range Tech. (Fire), GS-05                       | Complex<br>(4/12/98-<br>10/04/98) | TFT |
| 21. Greg Ryberg, Range Tech. (Fire), GS-05<br>(5/24/98-10/11/98)      | Complex                           | TFT |
| 22. Shane Paxton, Range Tech. (Fire), GS-03<br>(5/11/98-10/11/98)     | Complex                           | TFT |
| 23. Corey Carstens, Range Tech. (Fire), GS-03<br>(4/12/98-8/14/98)    | Complex                           | TFT |
| 24. Ryan Sundberg, Range Tech. (Fire), GS-02<br>(4/13/98-10/11/98)    | Complex                           | TFT |
| 25. Jennifer Anderson, Range Tech. (Fire), GS-03<br>(5/18/98-8/20/98) | Complex                           | TFT |

26. Joe Taylor, Range Tech. (Fire), GS-02 (5/10/98-8/30/98)	Complex	TFT
27. Darrick Ystaas, Range Tech. (Fire), GS-03 (5/18/98-8/14/98)	Complex	TFT
28. Jason Melin, Range Tech. (Fire), GS-02 (4/13/98-8/30/98)	Complex	TFT
29. Brian Yarrow, Biol. Tech., GS-04 (4/27/98-11/8/98)	Complex	TFT
30. Ryan Hochstein, Biol. Tech., GS-04 (5/11/98-11/22/98)	Complex	TFT
31. Doug Mosser, Biol. Tech., GS-04 (5/11/98-8/20/98)	Complex	TFT
32. John Carlson, YCC (6/1/98-8/7/98)	Lostwood WMD	
33. Joslyn Dahlin, YCC (6/1/98-8/12/98)	Des Lacs NWR	
34. Chandra Ramsdell, YCC (6/1/98-7/17/98)	Lostwood NWR	
35. Chad Benson, YCC (6/1/98-7/17/98)	Crosby WMD	
36. Aren Eddingsaas, Intern, (4/13/98-8/28/98)	Des Lacs NWR	
37. Eric Ramsdell, SYETP, Job Service (6/8/98-7/21/98)	Des Lacs NWR	

Nine temporary Range Technicians were hired in 1998. Range Technician Gary Summerfield started his fifth year back as a firefighter for the Complex on April 12. Corey Carstens, Jason Melin and Ryan Sundberg started in mid-April with the remaining crew members, Shane Paxton, Joe Taylor, and Darrick Ystaas starting on May 10. Greg Ryberg was rehired to work on the prescribed burn crew and started May 24. Jennifer Anderson was rehired as a member of the fire suppression crew on May 18.

Kristine Weisbrod was hired under the Student Career Experience Program (SCEP) as an Outdoor Recreation Planner and started work on June 8, 1998. She will be back in 1999 to finish the program and expects to graduate from University of Montana in December 1999.

Three Biological Technicians were hired with Flood Repair funding as the fence repair crew. Brian Yarrow, Ryan Hockstein, and Doug Mosser spent the summer and early fall repairing miles of snow and flood damaged fence on Des Lacs NWR, as well as repairing fence on WPA's in the Crosby WMD. They also received fire training and were utilized in the late summer on several prescribed burns after most of the fire crew returned to school.

Career Seasonals were furloughed for one pay period each during the year. Eikenberry, Moldenhauer and Ellingson all took off the last pay period in December.

#### 4. Volunteer Program

Seventeen refuge volunteers contributed over 5600 hours for the Complex in 1998. Volunteers assisted in monitoring threatened piping plover nesting success and determined fledgling rates of plovers in northwestern ND. They also monitored small mammal populations in grassland habitats and conducted vegetation surveys on Des Lacs NWR. Other projects included harvesting native grass seed for reseeding native prairie, updating refuge bird list, adding to butterfly species list and collection by collecting and cataloging butterfly species on Des Lacs NWR. Installing and maintaining concrete waterfowl nesting structures in Lostwood WMD and monitoring nest density and production of Cooper's hawks on Des Lacs NWR.

#### 5. Funding

Specific funding activities for Crosby WMD are not available. All funding is administered through the Des Lacs NWR Complex. The budget for the Complex is shown in Table 5.

**TABLE 5. FUNDING LEVELS FOR DES LACS NWR COMPLEX  
FOR 1994-1998.**

FY	BASE O&M	MMS	FIRE	MISC <sup>1</sup>	EXPENSE FOR SALES	YCC	QTRS <sup>2</sup>	TOTAL
98	635.3	135	202.7	119.4	18.7	5.9	4.9	1,121.9
97	562.1	130	196.7	92.5	23	6.2	5.4	1,015.9
96	530	75.9	201.9	87.9	12	5.4	5.3	918.4
95	558	77	60.3	107.4	12	6.4	3.5	764.3
94	570.5	114.8	41.1	56.5	12	7.8	4.8	766.4
<sup>1</sup> EXTENSION 1121-40.0K; COOP-ED 1261 6.0K; MIG BIRDS 1231-3.5K; CHALLENGE COST SHARE-1261-5.9K; VOLUNTEER-1261-0.4K; DONATED FUNDS-SIGNS-7208-15.0K; OTHER 1261-48.6 <sup>2</sup> ESTIMATE								

The Des Lacs Complex again received funds to hire additional temporary fire personnel and we also hired a second career seasonal Range Technician in the fire program. We increased fire funded FTE's from 1.2 to 4.1. Nine Range Technicians were hired through that funding.

Funds were received for the private lands program (1121) to hire a Biological Technician again in FY98, and the position and person (Ellingson) was kept at Crosby WMD.

MMS funds 1262 were used to purchase a new semi-tractor for the Complex and two new vehicles for Crosby WMD and Lostwood NWR.

The \$400 we received for the volunteer funding does not even begin to address the size of the volunteer program we have developed for the Complex.

#### 6. Safety

Annual firefighting safety refresher held on April 16. ATV safety training held on May 20 at Des Lacs with two sessions of 5 people being trained. A training instructor was contracted from Minot.

Annual fire extinguisher refill and certification completed in October for Complex by Dakota Fire Extinguishers, Minot.

#### 7. Technical Assistance

Biologist Murphy and J. Clark Salyer biologist Todd Grant organized the annual Biological Training workshop for Region 6, which was held in Jamestown during the last week of August. The workshop focus was linking refuge biology and management, through examples from outside the region as well as several working examples from within the region. It included many invited speakers from other FWS regions, Northern Prairie Wildlife Research Center, and other BRD stations.

#### 8. Other

Completed 1998 Management Activities Report and sent it on to Bismarck WHO for preparation of refuges report to the Governor. RMIS refuge profile updated and Public Use Report completed and sent to RO.

Regional Director Morgenweck and ARD-LE Grosz visited the Complex on June 16.

Small lot sale was held on July 27-31 with bids opened on the 31<sup>st</sup>. Thirty-eight bidders took part with 28 of them successfully bidding on 69 lots. Total sales was over \$5200.00. Many old items were disposed of and boneyards and buildings cleaned up through the process.

New NationsBank credit cards were received by all employees and replaced the American Express and VISA cards.

a. Training and Meetings

Refuge Officers Severson, Giese, Placek, Kessler and Smith attended LE refresher training in Marana, AZ in January and February.

Walker attended Aviation Safety training in Tucson, Arizona the week of March 30.

Refuge Officers Giese, Severson, Smith, Placek and Kessler all requalified at Upper Souris NWR on September 17.

Giese, Walker and Kessler attended Refuges National Conference on October 19-23 in Keystone, CO.

## **F. HABITAT MANAGEMENT**

### 1. General

The primary habitat types in Crosby WMD fee lands are semi-permanent wetlands (36%) and native prairie (26%). Table 6 shows the breakdown in acres of all fee habitats in the district.

**Table 6. Habitat Types in Crosby WMD (acres).**

	County	Burke	Divide	Williams	Totals	Percent
<b>Wetland Class</b>	<b>I</b>	120	238	26	<b>384</b>	<b>2</b>
	<b>II</b>	52	128	4	<b>184</b>	<b>1</b>
	<b>III</b>	409	472	80	<b>961</b>	<b>6</b>
	<b>IV</b>	1438	2471	2260	<b>6169</b>	<b>36</b>
	<b>V</b>	79	1621	184	<b>1884</b>	<b>11</b>
<b>Upland Type</b>	<b>Native Prairie</b>	796	2682	921	<b>4399</b>	<b>26</b>
	<b>Brush</b>	212	747	167	<b>112</b>	<b>1</b>
	<b>Woodland</b>	11	26	19	<b>56</b>	<b>Trace</b>
	<b>Tame Grass</b>	340	484	361	<b>1185</b>	<b>7</b>
	<b>DNC</b>	60	1362	294	<b>1716</b>	<b>10</b>
	<b>Other</b>	28	30	6	<b>64</b>	<b>Trace</b>

### 2. Wetlands

Although only 28 inches of snow fell during the 1997/98 winter, the runoff in spring 1997 from record snowfall during the 1996/97 winter maintained good wetland and soil moisture conditions into spring 1998.

June brought cool, wet weather with rainfall totaling over six inches filling District wetlands. Good moisture continued through the end of the year resulting in a precipitation total nearly three inches above average.

A total of 230 random ponds on federal and private lands are surveyed annually during the "four square mile" waterfowl pair count. The ponds occur throughout the Crosby and Lostwood Districts, which are combined for the count. Table 7 compares projected wet ponds from 1987 to 1993 and shows the devastating effect the drought had on wetlands in the districts. Data for 1994 and 1995 are not available.

**Table 7. May Wet Ponds, "Four<sup>2</sup> Mile" Survey, 1987-1998.**

<b>YEAR</b>	<b>EASEMENT</b>	<b>FEDERAL</b>	<b>PRIVATE</b>
<b>1987*</b>	16,898	247	60,640
<b>1988*</b>	3,395	159	17,541
<b>1989**</b>	16,143	877	54,821
<b>1990**</b>	2,369	458	6,591
<b>1991**</b>	3,240	1,137	13,962
<b>1992**</b>	2,998	1,215	17,167
<b>1993**</b>	11,602	964	32,919
<b>1994, 1995**</b>	***	***	***
<b>1996**</b>	32,862	2,355	99,137
<b>1997**</b>	23,528	1,365	93,429
<b>1998**</b>	34,526	2,194	119,277

\*Crosby WMD only

\*\*Crosby WMD and Lostwood WMD (survey data combined)

\*\*\*No 1994-95 data available

## 5. Grasslands

Spring soil moisture conditions were good throughout the District and precipitation was adequate to maintain good grassland conditions throughout the year.

Rejuvenation of seeded nesting cover continued on Hamlet, Oien, and Hedlund WPA's. Small grain was seeded on each unit and the FWS received 25% of each crop which was banked at elevators to purchase grass seed in 1999.

Agreements for haying and light discing were completed on Rosten and North Lake WPA's. All acreage and cooperators for grassland rejuvenation projects are shown in Table 8.

**Table 8. Grassland Rejuvenation Areas in Crosby WMD, 1998.**

WPA	COOPERATOR	ACRES
Hamlet	Ray Nygaard	35.0
Oien	Eugene Johnson	17.7
Rosten	Keith Rosmiller	6.0
North Lake	Larry DeJardine	13.0
Hedlund	Emil Hedlund	27.0

## 7. Grazing

Cooperative grazing was completed on nine WPA's to remove accumulated litter and to improve grass vigor (Table 9). The grazing rate in North Dakota for 1998 was \$6.73/AUM.

**Table 9. Grazing in the Crosby WMD, 1998**

<b>WPA</b>	<b>COOPERATOR</b>	<b>GRAZING PERIOD</b>	<b>ACRES</b>	<b>AUM'S</b>
<b>Long Creek-U1</b>	S. Hanson/D. Fagerland	June 19-June 30	25	25
<b>Long Creek-U2</b>	S. Hanson/D. Fagerland	July 1 - July 21	45	45
<b>Long Creek-U3</b>	S. Hanson/D. Fagerland	July 22-August 11	45	45
<b>Grubb-U1</b>	Robert Footh	July 15 - August 2	32	32
<b>Grubb-U2</b>	Robert Footh	August 3-August 21	32	32
<b>Jacobson</b>	Brian Ledahl	June 12-July 3	30	22
<b>R. Wigness-U1</b>	Les Aaberg	July 10-July 30	40	40
<b>R. Wigness-U2</b>	Les Aaberg	August 1-August 20	40	40
<b>State Slough</b>	Norman Haugland	July 26-August 15	21	16
<b>Fenster-U1</b>	Pete Fagerbakke	May 25-June 15	31	31
<b>Fenster-U2</b>	Pete Fagerbakke	June 16-July 7	31	31
<b>Daneville</b>	Curtis Anderson	June 5-June 25	45	40
<b>Thompson</b>	Robert Leininger	July 20-August 10	70	53
<b>Osvold</b>	Robert Leininger	August 11-August 25	40	41
<b>Totals</b>			527	493

### 8. Haying

The good moisture conditions produced excellent grassland growth throughout the District. As a result, few requests for hay were received this year.

Wetland haying was permitted on Maruskie (5 ac) and Grubb (3 ac) WPA's.

### 9. Fire Management

Prescribed burns were completed on six WPA's (Table 10) to remove litter for hazardous fuels reduction and to stimulate growth of native prairie plants.

One lightning caused wildfire burned 18 acres on Hedlund WPA on June 2. The Wildrose Rural Fire Department responded and extinguished the fire.

**Table 10. Prescribed Fire Units, 1998.**

Unit	Date	Acres	Type*
Rattler Lake East	29 April	254	W, EH
C. Wigness	31 July	168	W, EH
LaBounty	13 August	58	HF, EH
Soo Grade	20 August	280	W, EH
Kittelson	28 August	264	HF
Fuller Isles 6-10	28 September	3.5	W

\*HF=Hazardous Fuels, W=Wildlife, EH=Environmental Health

#### 10. Pest Control

Several limited areas of leafy spurge were spot-sprayed with 2,4-D in June (Table 11).

**Table 11. Leafy Spurge Spraying on Crosby WMD, 1998.**

WPA	Acres
O'Rourke/Larson	0.02
Godejahn	0.01
Soo Grade	0.01
Lindell	0.30
Norman Lake	0.10
State Slough	1.00
Rosten	0.01
Hedlund	0.05
<b>TOTAL</b>	<b>1.50</b>

Insect releases made on spotted knapweed at Sandeen Lake WPA included 105 root boring moths (*Agapeta zoegana*), 105 seed head weevils (*Larinus minutus*), and 550 seed head gall flies (*Urophora sp.*).

10,000 black flea beetles were released on leafy spurge at Norman Lake WPA.

### 11. Easement Monitoring

No oil wells were drilled on land covered by wetland easement in the District. New oil wells on easement lands are checked, prior to drilling if possible, to insure that impacts to wetlands do not occur. The most common problem that necessitates this monitoring is wetland fill resulting from either the constructed pad or access road. Table 12 shows oil wells on easements since 1988. Activity has paralleled oil prices during the time span.

**TABLE 12. Oil Wells On Easement Lands in Crosby WMD, 1988-98**

<b>COUNTY</b>	<b>88</b>	<b>89</b>	<b>90</b>	<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>	<b>96</b>	<b>97</b>	<b>98</b>
<b>Burke</b>	0	1	3	2	1	0	0	4	2	5	9
<b>Divide</b>	2	2	4	3	1	0	3	2	0	0	0
<b>Williams</b>	0	1	2	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>2</b>	<b>4</b>	<b>9</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>5</b>	<b>9</b>

### 14. Private Lands Enhancement

Extension activities resulted in 9 private land agreements in 1998. Three agreements are for new dams or dam repairs and construction was completed this year. These dams created 8.3 acres of new water. One agreement was for prescribed burning. The burning was on land that is located adjacent to the Des Lacs refuge. Two agreements are for perpetual restorations. Nine wetlands totaling 6.6 acres were restored. Three agreements allowed land access for two Ducks Unlimited dam repair sites. The repairs were not completed in 1998, but will create ponds of 16 and 18 acres.

Five dams were constructed in 1998 from previous year's agreements that created 16.6 acres of water.

All private lands projects for 1998 are shown in Table 13.

**TABLE 13. Extension Projects on the Crosby WMD in 1998.**

COOPERATOR	TYPE	ACRES GRAZED/ SEEDED	#	ACRES RESTORED/ CREATED	STATUS
Dorvan Solberg	DU creation	-	1	18	Awaits Construction
Donald Kaldahl	DU creation	-	-	same as above	Awaits Construction
D. Weaver & M. Loken	DU creation	-	1	16	Awaits Construction
Obert Kallberg	Creation	-	1	1.8	Completed
Steve Feil	Creation	-	1	2.3	Completed
G. Jorgenson Farm Part.	Creation	-	1	4.2	Completed
K. Smith & R. Murphy	Perpetual Restor.	-	4	3.1	Completed
LaVern Hanson	Prescribed burn	20 burned	-	-	Completed
Odegaard Land Co.	Perpetual Restor.	-	5	3.5	Completed
<b>TOTALS</b>		<b>20</b>	<b>14</b>	<b>48.9</b>	

## G. WILDLIFE

### 2. Endangered and Threatened Species

1998 was a banner year for whooping cranes stopping in the District during spring and fall migration. The first sighting was during one of the few spring snow storms. On March 7, two adults were observed in the southern part of the District. Four adults were confirmed just west of Crosby on April 15. Three adults were spotted north of McGregor on April 27. Fall sightings included confirmed sightings of 13 birds (11 adults, 2 young) south of Crosby and two adults north of Noonan.

Piping plover surveys were done in the District (Table 14) along with Medicine Lake and Audubon refuges.

**Table 14. Piping Plover Survey on Crosby WMD, 1998.**

SITE	DATE	% FULL	MILES SEARCHED	TOTAL ADULTS	TOTAL AD./MILE	TOTAL PAIRS	TOTAL PR./MILE
Africa L.	6/11	95	7.0	2	0.3	1	0.1
Miller Lake	6/3	85	5.50	25	4.5	11	2.0
North Lake	6/4	90	2.7	7	2.6	3	1.1
McCone Lake	6/10	85	2.7	5	1.9	2	0.7
Westby Lake	6/10	85	3.4	0	0.0	0	0.0
Danville Lake	6\11	50	2.0	2	1.0	1	0.5
No Name 01	6\11	0	0.0	0	0.0	0	0.0
Johnson Lake	6\11	50	1.0	4	4.0	2	2.0
Appam Lake	6/8	95	7.0	105	15.0	50	7.1
Camp Lake	6/11	85	7.0	5	0.7	2	0.3
Twin Lake	6/11	95	5.5	0	0.0	0	0.0
Stink Lake	6/11	95	0.5	0	0.0	0	0.0
<b>Total</b>			<b>46.1</b>	<b>155</b>		<b>72</b>	

### 3. Waterfowl

#### a. Migration

The peak of the spring migration occurred during the first 10 days of April with several common species of ducks here by March 25. Snow geese and whitefronts first appeared on April 3.

The first fall snow goose observation was September 10 but very few were present in the District until late October. A major migration through the area occurred on Nov 9 when a snow storm forced all birds out of Canada.

Ducks were numerous throughout the District until the first part of October. Good numbers were present thereafter in limited areas of the District until freezeup during the second week of November.

#### b. Production

Waterfowl production was excellent due to very good wetland and upland habitat conditions.

Fifteen of 25 Fuller WPA 0.75 acre islands were searched three times each at 21 day intervals (Table 16). Forty-one percent of the nests were abandoned. Three days of cool, wet weather in late June was the cause of most of the nest abandonment. Redhead parasitism also continued to be a problem.

Results from the Miller Lake Island search, a 3.5 acre natural island, are shown in Table 17.

Four square mile pair counts were again completed, results of which are shown in Table 15.

**Table 15. Four Sq. Mi. Production, Crosby/Lostwood WMD's, 1998.**

<b>Species</b>	<b>Pairs</b>	<b>Prs/Sq. Mi.</b>	<b>Recruits</b>	<b>Recruits/Sq. Mi.</b>	<b>Recruitment Rate</b>
<b>Mallard</b>	246,371	36.17	257,496	37.80	0.52
<b>Gadwall</b>	171,948	25.24	280,361	41.15	0.82
<b>BW Teal</b>	244,499	35.89	411,285	60.37	0.84
<b>Shoveler</b>	73,660	10.81	101,182	14.85	0.69
<b>Pintail</b>	117,075	17.19	136,721	20.07	0.58
<b>Total</b>	<b>853,553</b>	<b>125.29</b>	<b>1,870,045</b>	<b>174.25</b>	<b>0.70</b>

**Table 16. Fuller Island Nest Success, 1998.**

Species	Normal Nests	Parasitized Nests	Successful Nests	Parasitized Successful Nests	Apparent Hatch Rate	Parasitized Apparent Hatch Rate
Mallard	65	39	46	25	0.708	0.658
Gadwall	55	21	24	4	0.436	0.190
Wigeon	0	1	0	1	0	1.000
BWT	20	12	9	4	0.450	0.333
Shoveler	5	3	4	1	0.800	0.333
Pintail	3	2	2	2	0.667	1.000
Redhead	6	0	1	0	0.167	0
L.Scaup	15	5	4	1	0.267	0.200
<b>Total</b>	<b>169</b>	<b>83</b>	<b>90</b>	<b>38</b>	<b>0.533</b>	<b>0.463</b>

**Table 17. Miller Island Nest Success, 1998.**

Species	Total Nests	No. Successful	Apparent Hatch Rate
Mallard	38	32	0.842
Gadwall	12	7	0.583
Pintail	2	2	1.000
<b>Total</b>	<b>52</b>	<b>41</b>	<b>0.788</b>

### 7. Other Migratory Birds

Two District mourning dove coo count routes were completed. Results of this year's survey and comparisons to previous years are shown in Table 18.

**Table 18. Mourning Dove Coo Count Routes on Crosby WMD, 1983-1998.**

YEAR	DIVIDE	WILLIAMS
1998	20	48
1997	34	51
1996	36	25
1995	44	39
1994	40	50
1993	27	22
1992	28	31
1991	48	43
1990	49	30
1989	32	57
1988	56	28
1987	31	29
1986	24	24
1985	14	--
1984	16	--
1983	39	--

#### 8. Game Mammals

Whitetail deer numbers remain high in the District. Winter surveys were completed by the NDGFD with good numbers in the District. Mule deer are present in some areas of the District with the biggest population in western Divide County.

#### 10. Other Resident Wildlife

Upland game birds as well as resident passerines experienced a very easy winter but spring and early summer took its toll on upland bird production. Gray partridge have not rebounded from all time lows in 1994. Sharp-tailed grouse numbers were good in spring lek counts but wet June weather hampered production. Table 19 shows results of 1994-1998 grouse lek surveys.

**Table 19. Crosby WMD Grouse Lek Survey, No. Males, 1994-1998**

WPA	1994	1995	1996	1997	1998
Alamo	17	23	21	18	24
Alkabo	4	16	11	8	12
Anderson W.	10	13	8	8	16
Blue Ridge			10	11	12
Boundary	17	18	22	12	11
Brightwater Lake		23		14	18
Colgan				14	11
The Corner		17	18	6	11
Drawbond	12	18	16	12	6
Hamlet	9	21	24	12	22
Hedlund	4	19	22	15	22
Kittelson	16	16	14	8	23
Labounty N.	9	7	13	8	3
Labounty W.		15	7	2	
Lindell		20		8	7
Mullen		10			
North Lake	16	16	15	9	25
Osvold	10	16	12	13	10
Quam	10	9	13	2	
Radar	6	10	1		
Soo Grade	14	11	17		16
Thompson	16	35	35	9	12
Torgerson	10	41	15	11	11
Troy	15				
C. Wigness		19	9		12
Lake Zahl NWR	25	34	25	14	14
<b>Total Males</b>	220	427	328	214	298
<b>Leks Counted</b>	19	23	21	21	21
<b>Males/Lek</b>	11.6	18.6	15.6	10.2	14.2
<b>% Previous Year</b>	39.3	160.3	84.1	65.2	139.3

## H. PUBLIC USE

### 7. Other Interpretive Programs

Several presentations were given to hunter safety students, elementary students, boy and girl scouts, Kiwanis and other organizations during the year. Various news releases covering such topics as private lands programs, hunting seasons, and whooping crane migrations were provided to area newspapers.

### 8. Hunting

Upland bird hunting was fair. The pheasant population has steadily dwindled since 1992. Some success on opening weekend was observed but birds were tough to bag later, until the pressure subsided. Late season hunting was fair.

Sharp-tailed grouse populations had poor production, although the adult population was fairly good. Early season grouse hunting was good. Partridge populations remained very low resulting in poor success.

Duck hunting proved to be fairly good, but not nearly as good as the 1970's and early 1980's prior to the drought. Good numbers early in the season offered very good hunting opportunities, but the last half of October proved more difficult as ducks were present only in limited areas.

Snow geese spent most of the fall north of the border in southern Saskatchewan. The geese quickly migrated through the area on November 9 during a snow storm. As a result, very little snow goose hunting occurred this year. Giant Canada geese were present in the areas of the District with water and provided limited hunting recreation for those that chose to pursue them.

Deer hunting pressure was again very light. In spite of the annual increases in licenses over the past several years, the deer population has remained stable. Hunters are well spread out, with most pressure occurring in the eastern portion of the unit (3A1) adjacent to Des Lacs and within Lostwood Refuge. Since the deer population was in good shape, hunter success was very good, with more than 80% of the hunters bagging deer.

### 17. Law Enforcement

Law enforcement is done periodically through the hunting season, primarily on weekends. Since the small District staff is responsible for such a variety of management programs in addition to law enforcement, LE activities are limited primarily to waterfowl hunting and refuge lands (WPA's).

Manager Kessler and Bio.Tech. Placek spent a week at Marana, Az., for LE In-Service training.

## **J. OTHER ITEMS**

### 1. Cooperative Programs

Upland game bird brood sightings and grouse lek survey data were provided to the North Dakota Game and Fish Department.

### 3. Items of Interest

One seismographing permit was issued in 1998. Natural Resources Geophysical received a hand carry only permit for crossing Rosten WPA. Table 20 shows the number of permits issued for seismic crossing over WPA's from 1985-1998. Hand-carry permits are issued with a \$100 administrative fee while permits involving vehicle crossing are issued at \$400-\$600 per mile or \$100 per shothole, depending on the rate paid on private lands in the area of exploration.

A gas line route crossing Williams and Divide County was also inspected for impacts where it crossed wetland easement lands in the counties.

A right-of-way permit was issued to Burke Divide Electric for a buried electrical cable route crossing Maruskie WPA.

**Table 20. Special Use Permits For Seismic Exploration In Crosby WMD, 1985-98.**

<b>YEAR</b>	<b>NUMBER OF PERMITS</b>
1998	1
1997	5
1996	0
1995	1
1994	0
1993	0
1992	0
1991	0
1990	0
1989	1
1988	8
1987	6
1986	2
1985	30

The FWS made revenue sharing payments to counties at 62% of the total allowable, down from 72% in 1997. The amounts paid to each county are shown in Table 21.

**Table 21. Revenue Sharing Payments for Crosby WMD Counties, 1998**

COUNTY	AMOUNT
Burke*	\$22,538
Divide	\$6,724
Williams	\$3,994

\* includes Lostwood NWR and Burke County portion of Des Lacs.

#### 4. Credits

The following individuals are credited with writing this report:

Dan Severson - Sections E1, E5, and E6  
 Toby Placek - Section G  
 Monte Ellingson- Section F14  
 Tim Kessler - Remaining portions

Dan Severson, Des Lacs Complex Assistant Project Leader and Tim Kessler, Crosby WMD Manager edited the report, and Edith Goettle printed and assembled the report.


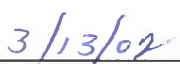

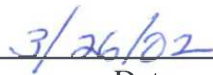
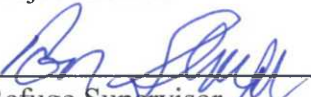
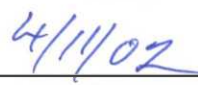
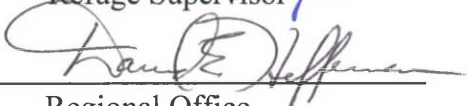
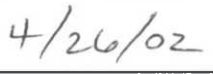
# REVIEW AND APPROVALS

## LAKE ZAHL NATIONAL WILDLIFE REFUGE

Crosby, North Dakota

### ANNUAL NARRATIVE REPORT

Calendar Year 1998

 _____ Refuge Operations Specialist	 _____ Date
 _____ Project Leader	 _____ Date
 _____ Refuge Supervisor	 _____ Date
 _____ Regional Office	 _____ Date

INTRODUCTION

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**G. WILDLIFE**

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## INTRODUCTION

Lake Zahl NWR was established in 1939 as a "refuge and breeding ground for migratory birds and other wildlife". The refuge encompasses a total of 3,219 fee title acres and 520 easement acres.

The refuge lies at the juncture of the Missouri Coteau and the Missouri Slope. Water flowing from Lake Zahl enters the Little Muddy River which flows into Lake Sakakawea and the Missouri River approximately 28 miles south of the refuge.

### F. HABITAT MANAGEMENT

#### 1. General

Table 1 presents habitat types included in the Lake Zahl NWR boundaries. Besides the listed fee title acres, 520 acres of easement refuge lands are also included.

Table 1. Habitat Types in Acres, Lake Zahl NWR.

WETLAND TYPE	II	III	IV
WETLAND ACRES	246	101	1226
UPLAND ACRES	NATIVE PRAIRIE		1237
	BRUSH		169
	WOODED		2
	TAME GRASS		126
	DNC		53
	CROP		55
	ROAD		4

## 2. Wetlands

Average snowfall occurred over-winter in 1997/98; spring runoff was adequate to fill both north and south pools to capacity. Dry summer and fall conditions lowered levels to 70% capacity in the north pool and 60% in the south pool.

The goal of filling water units to full pool was reached and water levels through June were adequate to meet objectives. The natural drawdown that occurred due to evapo-transpiration for the remainder of the year was adequate to meet pool objectives for the year. No additional water releases were made.

## 4. Croplands

Cooperator Don Gunlikson farms a small portion of the refuge to help alleviate deer and waterfowl depredation. The six field divisions in 1998 included a total of 20.9 acres of wheat, 16.6 acres of barley, and 17.6 acres of fallow. Eleven acres of barley was swathed and baled to be used for winter deer feed to alleviate depredation.

## 5. Grasslands

Grassland growth was excellent due to very good soil moisture conditions going into spring.

Grazing was done on 870 acres by two cooperators as shown in Table 2.

**Table 2. Grazing, Lake Zahl NWR, 1998.**

<b>Unit</b>	<b>Cooperator</b>	<b>Dates</b>	<b>Acres</b>	<b>AUM</b>
G4B	Don Gunlikson	June 1-June 21	170	87
G5	Don Gunlikson	June 22-July 12	140	87
G4A	Don Gunlikson	July 13-August 2	160	87
G1A	Richard Dragseth	May 26-June 16	100	72
G1B	Richard Dragseth	June 17-July 7	100	72
G1C	Richard Dragseth	July 8-July 28	100	72
G1D	Richard Dragseth	July 29-August 18	100	72

## **G. WILDLIFE**

### 3. Waterfowl

In 1974, the North Dakota Game and Fish Department released 250 giant Canada geese at Lake Zahl. Numbers nesting within the refuge steadily increased until the mid-1980s and have since remained stable. New pairs have continued to expand their range both east, west and north of the refuge into Missouri Coteau wetland habitat.

Most of the refuge's nesting geese use artificial nesting structures (fiberglass tubs mounted on posts). Several ground and muskrat house nesters also occur. The refuge had approximately 20 useable structures available in 1998, most of which successfully hatched geese.

### 10. Other Resident Species

A sharp-tailed grouse lek in the north unit was surveyed in April. Fourteen male grouse used the lek this year, equal to the number counted in 1997.

## **H. PUBLIC USE**

### 8. Hunting

The refuge is open to archery deer hunting, concurrent with the state season (except closed from the waterfowl season opener through the first four days of the deer gun season for the area). The refuge received frequent use by area archers, primarily from the Williston area. No deer were known to have been taken by archers in 1998.

Lake Zahl was opened to upland bird hunting from December 8- January 3, 1998. Legal game included ring-necked pheasants, sharp-tailed grouse, and gray partridge. About ten hunters were present for the opener and pressure remained light throughout the season. Success was good on pheasants for those accustomed to hunting cattail wetland areas for late season birds. Hunters on opening day averaged about two birds each.

Special regulations for the late season hunt included foot traffic only and a non-toxic shot requirement.