

KULM WETLAND MANAGEMENT DISTRICT

Kulm, North Dakota

ANNUAL NARRATIVE REPORT

Calendar Year 1986

NATIONAL WILDLIFE REFUGE SYSTEM
Fish and Wildlife Service
U.S. DEPARTMENT OF THE INTERIOR

KULM WETLAND MANAGEMENT DISTRICT

Kulm, North Dakota

ANNUAL NARRATIVE REPORT

Calendar Year 1986

Review and Approvals

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INTRODUCTION

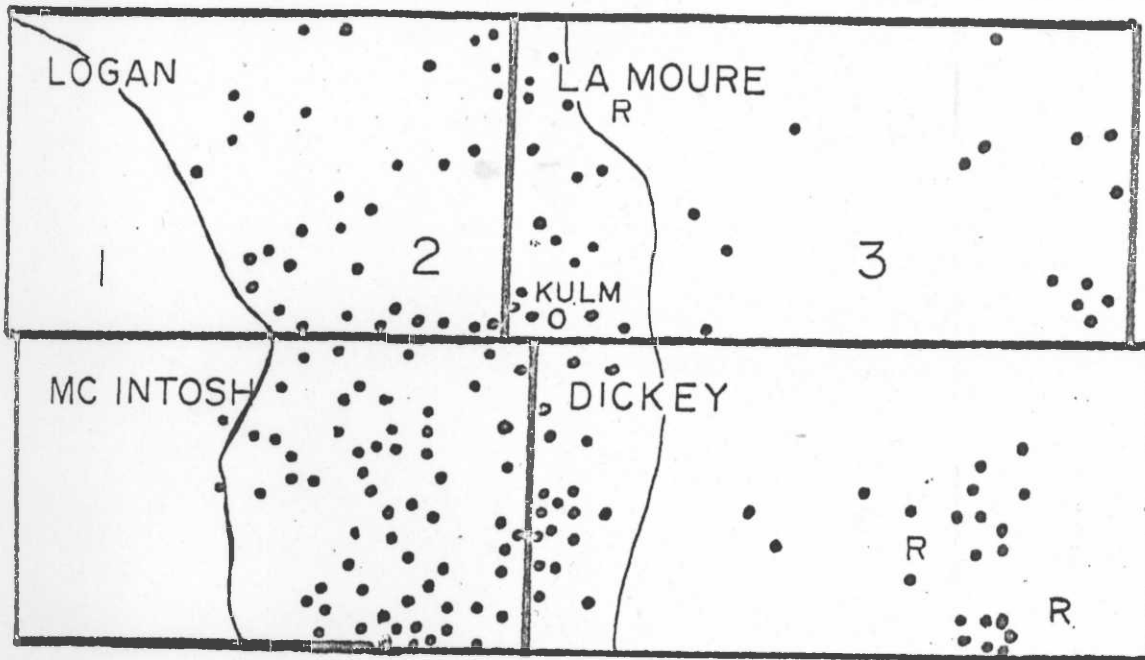
The Kulm Wetland Management District is located in southeastern North Dakota in the heart of the Prairie Pothole Region. The District covers 4278 sq. miles in four counties - McIntosh, Logan, Dickey, and LaMoure. The District headquarters is centrally located in the city of Kulm, ND. There are three major physiographic regions in the District which include from east to west the Southern Drift Plain, the Missouri Coteau and the Coteau Slope (Map I). The Drift Plain covers most of Dickey and LaMoure counties except where it meets the Missouri escarpment which is located in the extreme western part of those counties. The Drift Plain is characterized by flat to gently rolling ground moraine. Where the Drift Prairie meets the Missouri escarpment there is 300-400' elevation change which raises up to the Missouri Coteau. Elevations range up to 2250 feet above sea level in western Dickey county. The Missouri Coteau is characterized by non-integrated drainage and thick glacial drift more commonly described as knob and kettle country. The third physiographic feature, the Coteau Slope is best described as flat to rolling thin glacial drift with an integrated drainage that flows westward to the Missouri River. The wetland basins in the Missouri Coteau are on the average larger and deeper than those on the Drift Plain and hence are somewhat more permanent. District lands include 42,065 acres in fee title making up the Waterfowl Production Areas (WPA's), 100,720 wetland easement acres, and 3 easement refuges totalling 4,108 acres. There have been 306 tracts of fee land purchased which are managed as 182 WPA's. Two thirds of the WPA's and wetland easements are located in the Missouri Coteau and the 3 easement refuges are located in the Southern Drift Plain. Very little land is administered on the Coteau Slope (Figure 1). Approximately 60 percent of fee lands are upland with the remaining 40 percent being wetland acres.

The primary purpose of the Wetland District is waterfowl/wildlife production and wetland preservation activities. Primary funding for acquisition was through funds generated by the sale of migratory bird hunting and conservation stamps.

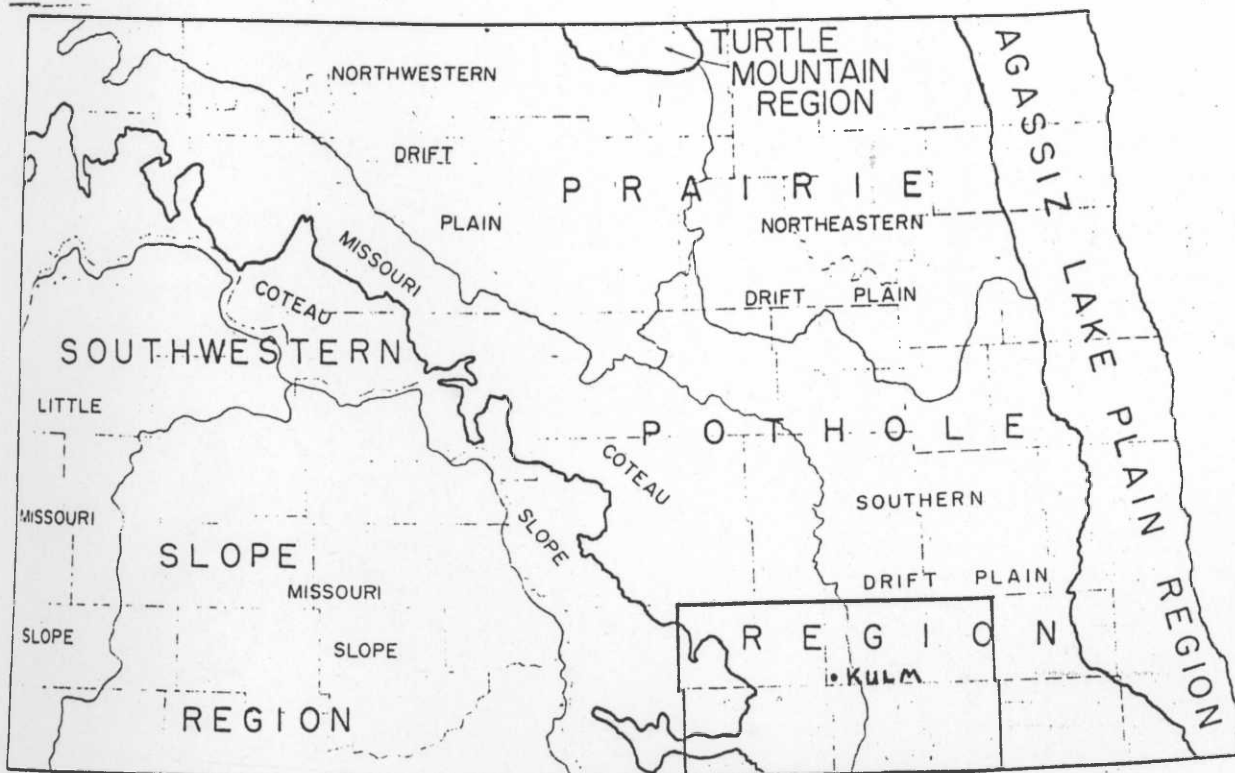


Photo 86-17-11. The Missouri Coteau at its finest. 7/86-LDW.

KULM WETLAND MANAGEMENT DISTRICT



- WPA'S
- R EASEMENT REFUGE
- 1 MISSOURI SLOPE
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NORTH DAKOTA

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NATIONAL WILDLIFE EASEMENT REFUGES

A. HIGHLIGHTS

An extra 10" of rain, in the spring and summer, allowed district duck production to double. (Section B & G.3)

A significant number of depredation complaints and service assistance was provided during a wet harvest. (Section G.15)

Nesting bales were more successful and cost effective for waterfowl production than other, more expensive, nesting structures. (Section G.3)

Personnel changes increased the full time staff and moved three others in, out, and up. (Section E.1)

A district waterfowl production/predator trapping study showed trapped areas to be much more successful. (Section G.3 & G.15)

Three areas of the district were selected for the Small Unit Management Program (SUMP), research to be conducted by NPWRC from FY 87-92. (Section D.5)

A total of 2546 acres were acquired for wetland easement. (Section C.2)

Ducks Unlimited projects initiated in 1985 were completed or put on hold this year. An electric predator fence was finished (Section I.1) and peninsula cut-offs stopped by litigation. (Section F.2)

The Giant Canada goose restoration program begun in 1984 was continued. (Section G.12)

An electric predator barrier was completed by the staff. (Section I.1)

B. CLIMATIC CONDITIONS

2.

Precipitation was again the major factor in the District's waterfowl management, but on the plus side for a change. 1980 - 1985 was a very dry, drought like period with type III and IV basins drying up during most summers. But 1986 was a truly wet year with 29.5" of rain and 33.2" of snow falling. Nine (9") inches of rain alone fell in April and May allowing for much improved breeding pair and brood water conditions.

Quarterly Summary:

- Jan. - March: Mild conditions, precipitation below normal. Very warm temperatures in late March caused rapid melting. Run-off quickly absorbed in dry, frost-free soil. (Very poor waterfowl nesting season anticipated)
- April - June: Generally mild conditions. Precipitation much above normal. Wetland basins 80% full. April 13-15th blizzard brings 15" of snow destroying some early goose nests. (Nesting season upgraded to fair).
- July - Sept: Temperatures below normal with precipitation much above. Seventeen days of rain in September delay small grains harvest. Depredation complaints increase on ducks and blackbirds.
- Oct. - Dec: Mild conditions, with record warm temperatures in December. First major storm on November 7 and 8th, with 12" of snow drives waterfowl south, and hunters home on opening deer weekend. First frost of fall comes on Oct. 13th.

Table I. Temperature and Precipitation Data, 1986.

Month	Temperatures F ^o		Precipitation Inches		Snowfall Inches	
	Max.	Min.	1986	Avg.*	1986	Avg.
January	40	-23	--	(0.48)**	3.75	4.80
February	44	-22	--	(0.49)**	2.25	4.90
March	75	-05	--	(0.79)**	.20	7.90
April	81	19	6.08	1.93***	15.0	1.20
May	84	31	3.23	2.70	--	--
June	94	45	4.90	3.75	--	--
July	99	51	4.38	2.74	--	--
August	93	42	5.08	2.52	--	--
September	76	37	4.77	1.83	--	--
October	74	21	1.06	1.11***	--	2.00
November	56	-11	--	(0.62)**	12.	6.20
December	44	- 6	--	(0.48)**	0.04	4.80
TOTAL	99	-23	29.50	19.44	33.24	31.80

* 1951 - 1980

** Extension Service Uses 10:1 Factor for Snow and Precipitation Model.

*** Includes both Rain and Snow Conversion

C. LAND ACQUISITION

1. Fee Title

Acquisition of fee land for WPA's in North Dakota has been non-existent since 1978. This is an extremely political issue and is directly related to the controversial Garrison Diversion Project. It appears that until an agreement is signed with the Governor or Garrison is finally resolved no additional lands will be purchased for wetland preservation and waterfowl production. This is unfortunate as we receive several calls each year from willing sellers wishing the Fish and Wildlife Service would purchase their lands. Many of these would be round outs to existing WPA's which would allow management of complete wetland complexes. The Garrison Project has been recommended for minimal budgeting in FY 88, not an encouraging prospect. The Governor, however, has been in office for 2 years now and is often working close with Conservation groups and Regional Office FWS staff. Also a North Dakota migratory bird acquisition plan has been formulated to address the State's concerns and list county by county goals. We remain hopeful.

Currently the Kulm District manages 42,065 acres of fee title land in the four county area. The table below lists our currently managed acres and our goal for fee acquisition.

<u>FEE ACQUISITION</u>			
<u>County</u>	<u>Fee Land and PDL Acres</u>	<u>Acquired in 1986</u>	<u>Goal Established to be Purchased</u>
Dickey	9,209	0	11,900
LaMoure	4,800	0	8,450
Logan	10,654	0	12,900
McIntosh	17,402	0	20,300
Totals	42,065	0	53,550

2. Easements

Wetland easement acquisition continues for its third year since the shutdown in 1978. Several wetland tracts have been optioned within the District. Biological evaluations were completed on 20 new tracts and 9 new purchases were accomplished by our ND Realty staff. Costs per acre are down substantially from 1985's average cost of \$114/acre. The table below illustrates our current acreages, new purchases, and goal acres. The District is now responsible for management and surveillance of 100,720 wetland easement acres, divided among 1302 contracts.

<u>EASEMENT ACQUISITION</u>					
<u>County</u>	<u>Purchased in 1986</u>	<u>Cost</u>	<u>Average Cost/acre</u>	<u>Total Acres</u>	<u>Goal Acres</u>
Logan	--	--	--	34,566	48,375
McIntosh	631	\$8,100	\$12.81	28,153	47,767
Dickey	--	--	--	23,655	37,300
LaMoure	1915	\$55,500	\$28.98	14,346	28,615
Totals	2546 ac.	\$63,600	\$24.98	100,720	162,057
9 tracts					

D. PLANNING2. Management Plan

A three year program to update Resources Inventory Planning Cards was completed for the District. The old resource inventory cards were last completed in 1976. With many changes occurring over 10 years, the update has greatly improved the use and value of the cards. These cards are used almost daily and are a valuable asset to the office when planning management needs and activities, assessing probable impacts, and planning daily projects or discussing questions with the public.

Other management planning included such items as The Annual Land Synopsis Report, Predator Trapping Plan, and Fire Management Planning.

3. Public Participation

Meetings were held with County commissioners from all four counties to discuss weed problems and other concerns. Shared revenue payment checks were also distributed. Meetings were also held with various county weed boards and township boards to discuss their concerns.

4. Compliance with Environmental Mandates

The station's pesticide use proposals were submitted to the Regional Office to be reviewed for proper use and compliance with NEPA.

An Environmental Assessment was formulated and approved for our pest control program (predator management). The Regional Office allowed us many attempts at getting it their way before the EA was accepted and approved. In addition to the EA, a varied array of permits such as section 404 permits, water rights, archaeological clearances and section 7 consultations were required for DU projects.

5. Research and Investigations

Kulm NR 86 - "The effects of rest-rotation grazing and prescribed burning on the mixed grass prairie community and wildlife production in the glaciated prairie region" (924-08).

This study led by Arnold Kruse, Research Biologist, of the Northern Prairie Wildlife Research Center (NPWRC) entered its seventh of eight years. The objectives of this study are to evaluate changes in height, density, species composition and frequency of vegetation on areas of native prairie in the Missouri Coteau of the Prairie Pothole Region resulting from various grazing and prescribed burning systems. The study will also evaluate changes in the nesting response of dabbling ducks and population trends of breeding birds due to these systems. The sixth year of avian nesting data and vegetative data was also collected.

Thirty Robel and 240 Daubenmire plant transects were completed. Three breeding bird transects and four nest searches were completed on each of the 15 fields. Photos were taken at 80 photo stations during the spring and summer. Grazing was carried out on 3 fields this year.

Preliminary data regarding duck nest numbers and the various grazing systems are as follows:

	Spring Crowd Grazing					Fall-Spring Grazing					Fall Crowd Grazing				
	1982	1983	1984	1985	1986	1982	1983	1984	1985	1986	1982	1983	1984	1985	1986
Number of nests located	12	17	28	16	27	16	25	36	23	11	23	15	17	19	20
Apparent success (%)	8.3	47	32	26.1	33	0	36	33	30.4	37.5	26.1	47	43.7	44.4	36.8
Mayfield success (%)	3.9	28	13.4	11.6	13.3	1.8	18.2	11.8	16.4	7.5	6.2	18.6	19	27.5	16.2
Number of Mayfield nests	26	29	67	34	68	?	50	102	43	40	97	38	37	29	43
Average Robel reading at Nest	.94					.96					1.34				

	Season-long Moderate Grazing					Control					Totals				
	1982	1983	1984	1985	1986	1982	1983	1984	1985	1986	1982	1983	1984	1985	1986
Number of nests located	44	20	22	19	31	29	25	34	17	24	124	102	136	94	113
Apparent success (%)	23.3	35	4.7	26.3	21.4	44.8	44	26.4	47.1	34.7	24.6	41	28	34.0	30.6
Mayfield success (%)	7.7	12.5	4.4	16.8	6.4	24.4	22.5	11.5	28.5	19.9	11.3	19.6	11.1	19.5	12.3
Number of Mayfield Nests	130	56	23	30	94	53	49	78	28	40	275	214	342	163	268
Average Robel reading at Nest	1.61					2.16									

This study, amongst others, indicates that where grazing is necessary, the short-term, crowd grazing methods allow more duck production than random grazing.

Kulm NR-86 - "Island /Point Research Study" (924.A - 924.09)

John Lokemoen, NPWRC Research Biologist, completed his second year of research on the benefits of predator free environments and the homing of nesting birds into those areas. Electric predator barricades at the Bovey and West Island WPA's were used. Eight other barricades or islands were also used for study in other parts of North Dakota. It came as no surprise that success was much higher on treated areas. Total treated areas had an apparent success at 60% compared with 16% on control areas. Nesting birds may also tend to concentrate in treated areas.

Small Unit Management Research - "Evaluation of management to increase mallard recruitment on selected Wetland Management Districts".

This is a proposed detailed study by NPWRC which is funded for five years beginning in FY 87. Some office and field work in preparation for this research was completed in 1985 and 1986 using station and DU funds. The study will test the hypothesis that if nesting mallards are protected from predation either by some type of barrier or removal of predators, local population buildups resulting from homing will occur. The research is designed to determine (1) the magnitude of increase in recruitment that can be attained through use of specified available management techniques, (2) the level of population density that will result from increased recruitment, and (3) the ecological factors that will ultimately limit the size of a breeding population. In addition, the proposed study will serve as a verification of simulation techniques that may be used as operational decision-making tools.

The entire district was evaluated in 1985 for potential candidate areas that met certain criteria such as WPA's with an 80 acre block of former cropland, class II or III soils, no greater than 3 per cent slope, no wetlands in block, good surrounding wetland complex, typical of WMD good road system, etc. Three WPA's in the Kulm WMD were selected as central points for 2.5 mile radius circular sampling areas. The Todd (16) was designated as a control, the Werth (166) was designated for predator trapping and the Klettke (304) was designated for an electric fence. A 95 acre field on the Klettke WPA was broken out and cultivated using station funds in 1985. It was seeded to DNC in the spring of 1986 and DU finished a \$45,500 predator fence, begun in October, 1985.

1. Personnel



8 4 3 5 6 7

Photo 86-2 Kulm WMD Staff - 12/86 - Tony Buerkley

The 1986 Staff consisted of:

1. Larry West, Refuge Manager, GS-11, PFT, Transferred 10/11/86
2. Roger Hollevoet, Refuge Manager, GS-9, PFT, Transferred 7/7/86
3. Mike Murphy, Refuge Manager, GS-9, PFT, EOD 8/10/86
4. John Jones, Biological Technician, GS-9, PFT
5. Mike Johnson, Biological Technician, GS-5, PFT, EOD 1/12/86
6. Edna Okerlund, Refuge Assistant, GS-5, PFT
7. James Steinmetz, Maintenance Worker, WG-8, PFT

8. Mark Gruebele, Biological Aid, GS-4, Temporary, EOD 3/31 - 11/29/86
9. Lee Albright, Biological Aid, GS-4, Temporary, EOD 4/18 - 8/24/86
10. Randy Klusmann, Biological Aid, GS-4, Temporary, EOD 3/28 - 7/25/86
11. Gene Taszarek, Biological Aid, GS-4, Temporary, EOD 5/12 - 8/9/86

12. John Bogen, SCA Volunteer, EOD 4/7 - 6/27/86
13. Drew Ullberg, SCA Volunteer, EOD 4/7 - 6/27/86
14. Elizabeth Stoller, SCA Volunteer, EOD 5/15 - 8/6/86

15. Mark Kinzler, YCC, EOD 6/2 7/25/86
16. Cory Zachrison, YCC, EOD 6/2 - 7/25/ 86
17. Darin Johnson, YCC, EOD 6/2 - 7/25/86
18. Troy Reinke, YCC, EOD 6/2 - 7/25/86
19. Paul Wegenast, YCC, EOD 6/2 - 7/25/86

Personnel changes included:

8.

- Larry West - Transferred to Felsenthal NWR, AR after five years as Kulm WMD's project leader.
- Roger Hollevoet - Detailed to Devils Lake WMD in June. Selected as primary assistant there and officially transferred 7/7/86.
- Mike Murphy - Transferred from Felsenthal NWR, AR after 2½ years as primary assistant.
- Mike Johnson - Transferred from Fish Springs NWR, UT after 1 year as a bio. tech.

Four temporaries were employed in 1986 in order to complete an abundance of projects. The 5 year staffing pattern for the wetland district is as follows:

	Permanent		Temporary	Total FTE
	Full Time	Part Time		
FY 86	6	-	4	7.5
FY 85	5	1	6	7.5
FY 84	5	1	4	7.3
FY 83	5	1	4	7.1
FY 82	4	2	6	6.6

2. Youth Programs

Five YCC enrollees began work on June 2nd under the supervision of Bio. Aid Randy Klusmann. Mr. Klusmann is a history teacher/football coach at the Kulm High School and has excellent rapport with the enrollees. During their eight weeks, the crew completed several very labor intensive jobs including:

- Construction of a 1.1 mile electric predator barricade.
- Fencing four WPA's with 8000' of three-strand barbed wire.
- Removal of 11,000' of old fencing.
- Construction of 8 storage racks for fencing material.
- Brush Removal on 40 acres of DNC and native prairie.
- Assisted with nest dragging.
- Numerous maintenance projects including litter/debris pickup, washing, painting and trimming.

The YCC program was so successful, particularly with fence construction, that a maximum number of enrollees was requested for 1987. Sorry, no picture was available of all 1986 enrollees.

3. Other Manpower Programs

Four biological aid positions were utilized by temporary workers this year. The biologists worked on several major tasks such as prescribed burning, waterfowl pair counts, fence repair, farming, predator trapping, easement flying and mapping, canvasback surveys, building predator fences, report writing, rip carding, nest dragging, island surveys, nesting studies. land inventories and posting WPA's.

4. Volunteer Program

9.

The Student Conservation Association (SCA) Program to recruit volunteers was utilized for the third consecutive year. Three volunteers were recruited:

- John Bogen - 1986 graduate in Biology from Western Washington University.
- Drew Ullberg - 1985 graduate in Environmental Studies from Northwestern Illinois University.
- Elizabeth Stoller - Junior in Biology from Smith College in Maryland.

Total cost of the program was \$3950. including: a subsistence payment of \$40/week, transportation to and from their permanent residence, and \$50 uniform allowance. Volunteers have a 12 week tour of duty. A 50' GSA surplus trailer is utilized for living quarters which provides economical living. An attractive feature of the program is that the SCA volunteers do not go against FTE ceilings. Work elements that the volunteers completed or assisted in included: spring pasture fence repair, predator trapping, prescribed burning (after required training), waterfowl pair counts, erecting duck nesting baskets, completed a nesting structure use analysis, canvasback surveys, nest dragging, and easement mapping.



Drew, Liz, John

Photo 86-15-22. SCA volunteers provided 36 weeks of inexperienced, but enthusiastic labor. 6/16 - LDW.

5. Funding

The funding level of the Kulm WMD for FY 87 is \$232,000. This is 12% below the previous five year average of \$264,680. With 81% of the station's funds locked in fixed expenditures, only a very small percentage is available for optional expenses like: fuel, training for fire/enforcement/pesticide personnel, vehicle replacement, transfers, temporary employees, etc. In a 4,200 sq. mile district, fuel, vehicle repair/replacement, and adequate seasonal personnel are vital just to maintain our present tracts. Some programs were scaled back in 1986 and more can be anticipated in 1987. Only one of three vehicles scheduled to be replaced since 1985, is requisitioned in FY 87. Cuts in personnel and their time were made in 1986 and will expand in 1987. Pesticide purchases for 1987 may be reduced 20-25%. Coupled with reduced personnel, the district's weed control program will diminish.

The chart below depicts the district's funding level since FY 82 (in \$ thousands).

<u>FY</u>	<u>1200's</u>	<u>6800's</u>	<u>ARMM 1200</u>	<u>YCC 1510</u>	<u>BLHP 2800</u>	<u>TOTAL</u>
1987	151.0	12	72	?	--	232.0
1986	169.3	13	55	9.0	--	246.3
1985	181.8	14	98	9.0	--	302.8
1984	185.0	9	53	7.0	55	309.0
1983	185.0	10	--	4.5	--	199.5
1982	163.0	--	--	--	102.8	265.8

6. Safety

Two lost time accidents and one serious visitor injury occurred in 1986. Refuge Officer John Jones shot himself in the right thigh while firing on the district's firing range in August. Mr. Jones was practicing with a new Nelson breakfront holster after using a Bianchi breakfront since 1982. John spent nine days in the hospital, a week at home, and another two weeks in light duty. Bills totalling \$6000. were sent to OWCP, Denver. A recommendation was made to practice with an unloaded pistol until familiar with new leather gear.

Asst. Manager Roger Hollevoet re-injured his back while moving office furniture in January. He had previously injured his back in August, 1985 moving grain sacks. Roger required medical attention to reduce the pain.

In October, a hunter, Alvin Haug, attempted to push down a barbed-wire fence on the Kroll WPA with his 1978 Chrysler Cordoba. The vehicle became mired in high grass, barbed-wire, and a metal fence post. Mr. Haug had a Blood Alcohol Concentration (BAC) of 0.20% (intoxicated) and fell asleep with the motor running. He awoke and found his waders, car, and the surrounding grass on fire. His catalytic converter is believed responsible. A local farmer, Marvin Wentz was passing and saw the fire. As he approached the fire, he observed Mr. Haug lying in the burning grass.

Mr. Wentz pulled Haug out of the fire and got help. Mr. Haug had 2nd and 3rd degree burns over 50% of his body and was flown to the burn center in Fargo. He is 77 years old and still recovering at the end of the year.



Photo 86-24-N. Over-eager hunting resulted in total loss of car and shotgun, as well as severe injury. 10/86-MRJ

SCA volunteer John Bogen needed stitches in a finger after catching it between a hitch and a tow chain. It was raining hard at the time, probably adding extra haste to a busy summer.

Monthly safety meetings were held with all employees participating. Topics included:

- Personal stress
- Airboat operations and related safety equipment
- Physical ability and fitness
- Prescribed burning
- Chain saw safety
- 4 wheel drive and seat belts usage
- Trapping
- Chemical safety
- Frostbite and hypothermia
- Weapon safety and Hunter education

7. Technical Assistance

Technical assistance is given in varying fashions to local landowners on cattail control, blackbird and duck depredation, wetland plantings, weed control, and other habitat problems. The following organizations received specific assistance:

- Soil Conservation Service
- Corps of Engineers
- City of Kulm
- Napoleon Wildlife Club
- ND Game and Fish Department
- Logan County Highway Department

In 1986 the Kulm district entered into a cooperative agreement with the four county ASC District offices to enhance lands in the Conservation Reserve Program (CRP). This agreement allows the ASC districts to use the district's grass drills to plant DNC's and native grasses on the CRP lands. To ensure a high quality area, we used force account labor and equipment to develop a 20 acre demonstration plot. The landowner provided the field and grass seed. The district charged the landowner \$10.00 an acre to pack and seed the field.



Photo 86-15A. "Sodbuster" regulations should prevent native grass breakouts, like this, in the future. 7/86-JWJ



Photo 86-16-N. Private CRP land to be seeded in DNC. 11/86-JWJ

The Conservation Reserve Program takes a highly erodible land out of crop production and seeds it to grass. Much of this land should never have been broken out in the first place.

F. HABITAT MANAGEMENT

1. General

Waterfowl Production Areas within the Kulm Wetland District are composed of 60% uplands and 40% wetlands. A desirable mixture of wetland types, soils, and a variety of upland cover types creates habitat desirable to waterfowl and other wildlife species. The primary objective of the wetland district is waterfowl/wildlife production which requires:

- inventory of the habitat
- planning management
- preservation, maintenance, or restoration of these habitats
- enforcement of laws and statutes
- and testing and implementation of new management techniques

Maintenance and restoration of the habitat includes: prescribed burning, grazing, haying, seeding, farming and chemical treatments, scraping and plugging. The primary techniques used in the 1980's for the Kulm District is outlined in the following table.

KULM WETLAND MANAGEMENT DISTRICT ACTIVITY SUMMARY, 1980-1986

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Grazing (ac)	3734	5313	4539	2783	2804	2546	2034
Haying (ac)	404	536	521	323	796	1786	172
Farming (ac)	2065	1345	1548	1182	626	920	841
Burning (ac)	0	75	335	286	689	807	445
Fencing (mi.)	42.25	22.75	17.25	13.2	7.00	5.7	4.0

Management activity was reduced in 1986 due to emphasis on nest dragging, easement enforcement, and wet weather conditions.

2. Wetlands

A variety of wetland types and upland make up the District's 42,065 acres. The wetlands and upland are categorized as shown.

KULM WETLAND MANAGEMENT DISTRICT - 1986 LAND INVENTORY (Acres)

	<u>Logan</u>	<u>McIntosh</u>	<u>LaMoure</u>	<u>Dickey</u>	<u>District</u>	<u>Total</u>
Wetlands:					<u>Acres</u>	<u>Percent</u>
Type I	91	180	37	62	370	1
Type III	627	871	782	587	2,891	7
Type IV	1,804	4,483	488	1,577	8,352	20
Type V	<u>1,288</u>	<u>2,226</u>	<u>277</u>	<u>1,088</u>	<u>4,879</u>	<u>11</u>
Wetland Totals	3,810	7,760	1,584	3,314	16,492	39%

KULM WETLAND MANAGEMENT DISTRICT - 1986 LAND INVENTORY (Acres)

	<u>Logan</u>	<u>McIntosh</u>	<u>LaMoure</u>	<u>Dickey</u>	<u>District</u>	<u>Total</u>
Uplands:					<u>Acres</u>	<u>Percent</u>
DNC	1,194	2,891	1,004	1,418	6,480	15
Tame grasses	1,913	2,992	1,003	1,252	7,160	17
Native grasses	3,366	3,304	719	2,798	10,187	24
Native Seeding	140	100	207	339	786	2
Cropland	183	129	262	58	632	2
Woodlands	<u>51</u>	<u>226</u>	<u>21</u>	<u>30</u>	<u>328</u>	<u>1</u>
Upland Totals	6,844	9,642	3,216	5,895	25,573	61%
TOTAL ACREAGE	10,654	17,402	4,800	9,209	42,065	100%

The district was pleasantly surprised to have good wetland conditions develop from April - June, particularly after a dry winter (Sec. B). By June, 75% of all basins were 80% full. Logan and LaMoure county basins were close to 100% full.

Two major concerns in the Prairie Pothole Region are wetland drainage and agricultural practices adversely affecting the remaining basins. Significant impacts of the latter include high siltation rates and pesticide/fertilizer run-off. Because of the silt and fertilizer, many basins are choked with cattail, making them less desirable for waterfowl usage.

Some of the District's management is geared to lessen the impacts. Tracked dozers are used to scrape silt from existing wetlands, shear cattail stands, construct dams and plugs in draining basins, and create deeper openings. Prescribed burning is described in Sec. F.9.



Photo 86-21-16. Restored wetland on Kramlich WPA.
Drainage plug with smartweed in center of photo. 7/86-LDW.



Photo 86-21-22. Kramlich WPA, first season after restoration by plugging. 7/86-LDW

The following list summarizes the district's 1986 wetland management:

<u>WPA</u>	<u>Activity</u>
Marzolf	Restored dam
Klein	1 - ditch plug - 2 dilt removals
Young	2 - ditch plugs
Ernst	1 - ditch plug
Kroll	Restored and increased height of dam
Gackle	3 - openings in cattails



Photo 86-16A-N. John Jones' rebuilding of dike on Kroll WPA. 10/86-JWJ

A major Ducks Unlimited (DU) project on the Brinkman and Wentz WPA's, initiated in October, 1985, was put on hold in March. Scherr Construction of Valley City was able to make only limited progress during freeze-up, spending most of their time getting unstuck. DU re-set deadlines several times and finally withdrew the contractor performance bond. Scherr Construction filed suit with the case still in litigation at the end of the year.



Photo 86 . "No one said life would be easy".
Fortunately, temperature had warmed up to -10° F. 2/86-JWJ

3. Forests

There are about 328 acres of woodland scattered throughout the district's fee lands. Most of these are in the form of scattered woodlots, old farmsteads and shelterbelts. No specific management occurs on these areas, other than issuing occasional special use permits for firewood. From 1982 - 1985, a shelter belt was planted around the district shop site. The area is cultivated yearly by a weed badgering service for row weed control.

4. Cropland

Cropland management consists of converting old decadant stands of DNC, tame grasses, or "go back" into high quality, low maintenance DNC or other herbaceous cover. Other cropland management activities in the district involve the seeding of food plots for resident wildlife species. No croplands developed by the district are specifically managed for migrational waterfowl feeding.

A total of 632 acres were farmed in 1986 by 18 permittees. Force account farming involved 10 WPA's totaling an additional 309 acres, overlapping permittees on several units. The district attempts to have the farming done by cooperative farming agreements, but we use force account on small acreages or special areas.

The district's farming agreements are generally for a 3 year period. In the first year, the cooperator is allowed to remove and utilize the hay and then summerfallow the ground the remaining season. Year 2 allows the cooperator to plant a crop and retain 99% of the crop while our share of 1% remains standing. In year 3 the cooperator must plant small grain and in addition he must plant FWS grass seed. He then receives 75% of the crop and we take 25%. The three year program is a shorter program designed to get the area back to grass as soon as possible. WPA's in the cooperative farming program in 1986 are as follows:

<u>County</u>	<u>WPA</u>	<u>Acres</u>	<u>Crop</u>	<u>Coop/Gov't Share</u>	<u>Action</u>
LaMoure	Liechty	65	Winterwheat	75/25	Contract cancelled
	Laney	24	Corn	99/1	---
	Miller	29	Wheat	99/1	---
	Allison	120	Springwheat	99/1	---
Logan	Boschee	89	Small grain	75/25	Fall discing
	Kroll	60	Small grain	75/25	Fall packed-FWS
	Klein	20	Small grain	99/1	---
Dickey	Klettke	20	Hay	99/1	---
McIntosh	Koepplin	20	Summerfallow	--	No-till seeding
	Brinkman	54	Hay	99/1	---
	Koepplin	12	Hay	99/1	---
	Wolf	38	Hay	99/1	---
		<u>551</u>			

Some additional acreage is farmed in a food plot program handled via permit through various sportsmen's clubs and landowners. Some fields are done as a volunteer activity and some involve crop sharing. The total acreage involved is only 81 acres on 7 WPA's but this goes a long way in the public relations department. The food plots are normally planted to corn and supply supplemental food for pheasants, Hungarian partridge, sharptail grouse and whitetail deer. The WPA's involved in food plot areas are:

<u>WPA</u>	<u>Acres</u>
Malm (29)	4
Knutson (123)	16
Maple River (11)	20
Lee Sukut (151)	27
German (123a)	5
Kirschmann (13)	4
Kvigne (260)	5
Total	<u>81</u>



Photo 86-13-N. Jim Steinmetz seeding DNC at completion of three year farm rotation. 11/86-JWJ.

The ultimate goal of farming on WPA's is to reseed the unit, improving herbaceous cover. The actual seeding of dense nesting cover, native grass or interseeding activity took place on 6 WPA's in 1986, totaling 155 acres, as shown.

<u>WPA</u>	<u>Acres</u>	<u>By</u>	<u>Season</u>	<u>Seed</u>
Klettke	95	FWS	Spring	DNC
Grabau	20	FWS	Spring	DNC
Wendt	5	FWS	Spring	DNC
Wentz	10	FWS	Spring	Interseed alfalfa
Muonio	10	FWS	Spring	Alfalfa
Gackle	15	FWS	August	Green needlegrass
	<u>155</u>			

The Gackle unit listed above was seeded to green needlegrass in August, 1985. It had an excellent response that fall and was developing exceptionally well in 1986. To control annuals, 2-4,D was sprayed in June. Later it was discovered that a quart of unlabeled Rodeo had been mixed with the spray. Of course, the needlegrass died and had to be plowed under and re-seeded in August.

The native biotic community in the District is composed of the eastern mixed grass prairie or transition grassland and the mixed-grass prairie. Local tracts of tall-grass prairie are also present in naturally drained lowlands, north and east facing slopes and in natural swales. Typical tall-grass and transition grassland prairie species consist of big bluestem, switchgrass, Indiangrass, prairie dropseed, little bluestem, side-oats grama, Canada wildrye, slender wheatgrass, needle and thread, blue gramma, prairie junegrass and green needlegrass. In the western part of the district in the mixed-grass prairie we will find blue grama, needle and thread, green needlegrass, prairie junegrass, western wheatgrass and needleleaf sedge. WPA areas where native grasses have been previously disturbed now contain dense nesting cover (DNC) or tame grasses. The DNC is composed of tall wheatgrass, intermediate wheatgrass, and alfalfa. The tame grasslands are composed of smooth brome, Kentucky bluegrass, quackgrass, sweet clover, alfalfa, and crested wheatgrass in varying compositions.

Approximately 60% or 25,200 acres of the Kulm District is upland. The major emphasis of management consists of keeping these grasslands in a condition conducive to good waterfowl production, in other words good height/density ratios and/or excellent range condition.

Management of the DNC and tame grass utilize many of the same techniques. Primary methods utilized to maintain good height-density ratios are periodic haying, hay and disking, or haying and spiking, interseeding, and prescribed burning. Where complete renovation is needed the area is broken out and farmed. Farming prepares the seed bed for new planting of DNC or native grasses. (Sec. F.4)

The management of native grasses presents another challenge. A major problem with native rangelands within the Kulm WMD is invasion by cool season exotic grasses, such as brome, quack, and primarily Kentucky bluegrass is the first to grow in the spring and produces a low dense mat of vegetation. If native rangeland is left undisturbed for several years these early season plants will produce such an accumulation of litter that the growth of the native forbs and grasses are severely inhibited. Thus the District's main objective of native grassland management is to suppress the growth of exotic cool season grasses and prevent excessive litter deposition which would inhibit growth of native grass species. Four management techniques are used for suppressing cool season grasses and litter accumulations. They consist of burning, cattle grazing, a combination of the two or a haying operation.

The critical growth period for Kentucky bluegrass begins in early spring and continues for about a month. During this period green growth is accomplished through the utilization of nutrients stored in the plant's root reserves. Total removal of the green leaves at this time through fire, heavy grazing or both inhibits the plant's ability to regrow due to its diminished root reserves. The critical growth period

for native cool season plants such as the needlegrasses is approximately two to three weeks behind the exotics so they generally have the ability to regrow the same year as the spring treatment, if the management timing is correct. There is a fine line here and may be hurting cool season natives also. The warm season grasses such as bluestems and switchgrass are basically unmolested from these early treatments as their critical growth period starts in late May to early June.

Full regrowth in September/October is a second critical growth period that occurs in Kentucky bluegrass. Fall regrowth is also dependent upon the utilization of root reserves. One can take advantage of the selectivity of grazing animals by fall grazing during which time the livestock will graze almost exclusively on Kentucky bluegrass while leaving the cured out native grasses alone, thereby depleting the root reserves of this exotic grass prior to the winter. Prescribed fire can be used in the same way. Then the following spring the area can again be crowd grazed or burned if enough vegetation is present to further deplete the root reserves and hopefully severely damage the plant.



Native prairie response after spring crowd grazing in 1986 on the Olson WPA. These excellent responses also occurred on other units. 10/86 - JWW. Photo 86-16-N

7. Grazing

There are approximately 11,000 acres of native grasses and 7,000 acres of tame grasses (Non-DNC) located in the district. These areas, if left for a long period of time, become heavily littered, and degrade to a point of lowered value for waterfowl/wildlife species. These areas must be managed properly to promote a healthy vegetative stand conducive to attracting nesting birds and offering secure cover.

In the Kulm Wetland District spring crowd grazing is the primary tool used in the management of native grassland. Another management tool, prescribed burning, is also used but is usually hampered by unpredictable weather. Crowd grazing rates of 1 AUM/acre or better removes most of the litter and is usually accomplished from May 1 to June 1. Dates however, must be flexible and can be expanded anywhere between April 1 and June 15, depending on the amount of litter, weather, type of exotic grasses and the permittee. From past experiences it might be more desirable to shoot for as high as 2 AUM's/acre to get the best results.

Fall crowd grazing or fall/spring crowd grazing is used minimally but seems to be effective on cleaning up severely matted pastures. Heavy stocking rates in the fall should be considered.

Grazing treatments totalled 2034 acres on 28 WPA's in 1986. This brought in a total of \$13,185.47 in receipts based on \$6.50/aum.

The following chart shows the units grazed and the resulting stocking rates. It is crucial to keep in touch with the grazing cooperator to make sure the 1 AUM/acre or higher rate is achieved. We have found that many of the cooperators traditionally stock our pastures light.

County	WPA	Acres	Dates	AUM's	Stocking Rate AUM/Acre	Cost
Dickey	Marek (123)	35	5/1-5/26/86	26	.7	\$152.10
	Wishek (15a)	30	5/1-6/1	30	1.0	175.50
	Ernst (37)	58	5/8-6/8	57	.98	333.45
	Heine (356)	140	5/1-5/29	135	.96	789.75
	Hille (228)	100	5/1-6/15	100	1.0	585.00
	Barton (204)	30	5/1-6/1	53	1.8	310.00
	Erlenbusch (12)*	81	5/1-6/15	90	1.1	585.00
	Lazy M (340)*	68	5/1-6/15	70.3	.96	475.15
	Lazy M (340)*	152	6/16-9/19	176.8	1.1	1149.20
	Rutschke(156,352)*	55	5/1-6/7	51.8	.9	336.70
McIntosh	Geiszler (210)*	80	5/1-6/15	72.	.9	468.00
	Ulmer (220a)	49	4/24-6/14	54.51	1.1	265.99
	Ruff(179,179a)	80	4/25-6/9	126.5	1.6	740.02
	Lundgren (47)	119	Staggered	75	.8	631.15
LaMoure	Olson (53)	45	5/5-6/6	44.8	1.0	276.65
	Cornell (15)	47	4/27-5/23	48.75	1.0	285.20
	Kannowski (10)	45	5/1-6/2	44.9	1.0	291.85
Logan	Krueger (23)	75	Staggered	57.33	.76	372.59
	Larson (12)	138	Staggered	123.8	.9	700.00
	Abell (145a)	70	5/1-6/26	67	.95	370.17
	Nitschke (388)	60	5/1-6/10	68.67	1.1	446.36
	Moldenhauer (384)	79	5/1-5/21	73.3	.9	476.45
	Hochhalter (283)	50	5/3-6/10	91.2	1.8	592.80
	Ammon (14)	70	Staggered	93.03	1.3	544.23
	Koskinemi (29)	70	5/1-6/1	68	.97	442.00
	Kosanke (53)	110	5/4-6/7	98.4	.9	543.66
	Buchholz (10)	50	5/1-5/24	44.23	.9	287.50
	Opp (178)	48	Staggered	86	1.8	559.00
		2,034		2125.32	1.04 Ave.	\$13,185.47

* Denotes Northern Prairie Wildlife Research Center's grazing study. Grazing fee of \$6.50/aum was charged. This cost was adjusted for fence repair which usually ranged in the 10-15% of the \$6.50.

8. Haying

23.

Haying is one of the management tools used to rejuvenate native and tame grasslands. Haying is done after the normal nesting season and is very effective in restoring vegetative vigor.

Haying activity is usually performed in weedy fields, heavily littered DNC, tame grasslands and choked wetlands. We recommend that the cooperator hay the field or wetland with a sickle bar mower and rake for a cleanup of litter as opposed to a swather.

With good soil moisture conditions, an excellent grass response resulted this year, allowing the district to concentrate on haying weedy areas.

Most of the haying is done through special use permits. A list of WPA's hayed in 1986 is as follows:

<u>COUNTY</u>	<u>WPA</u>	<u>Acres</u>	<u>Vegetative Type</u>	<u>Cost/acre</u>
McIntosh	WIC (277a)	28	Alfalfa/wormwood	\$3.50
	Eslinger (246)	37	Alfalfa/wormwood	3.50
	Koepplin (142b)	54	Wheatgrass/ quack/ alfalfa	2.00
	Koepplin (142b)	12	Slough hay	No charge
	Berlin Church	3	Alfalfa	8.50
	Fischer	14	Upland grass	5.00
	George (263a)	18	DNC	4.00
Logan	Logan (3a)	<u>6</u>	Quack/wormwood	<u>3.00</u>
Total acres		172	Total haying receipts	\$540.50

9. Fire Management

In the Kulm District, prescribed fire is used as a management tool to sustain or improve uplands and wetlands for waterfowl/wildlife production and maintenance. Fire is utilized to reduce litter, improve stand height/density, recycle nutrients, alter plant species composition, create openings in choked wetlands, increase seed production, aid in weed abatement, reduce fuel levels, and reduce competition in new seedlings. In a nutshell, prescribed burning is utilized for rejuvenation, improvement, and maintenance of the District's native grasslands, tame grass, DNC, and wetlands.

Areas burned consist of both upland and wetland sites. Burning is utilized on:

- 1) native grassland tracts that have become decadant or matted with residual growth
- 2) areas being invaded by cool season exotics
- 3) sites planned for future harvesting of seed
- 4) areas that need an overall improvement in height/density ratios and nutrients
- 5) choked wetland basin needing opening



Photo 86-17M. SCA volunteers getting field experience in equipment protection and fire management. 4/86-MRJ.

Wetlands are burned to open the wetland basins and alter species composition; often in combination with other tools such as mowing, grazing, or disking. The majority of these basins are types III and IV (PEMIC and PEMIF). The district has been attempting to increase its yearly burn acreage as shown below. The 1986 burn was reduced due to wet conditions.

<u>Year</u>	<u>Acres Burned</u>
1980	0
1981	75
1982	335
1983	286
1984	689
1985	807
1986	445

This year's Burn Plan called for controlled burns on 21 WPA's encompassing 1,361 acres. Preparations began in February with submittal of the annual Burn Plan to the RO and North Dakota Department of Health. During March and April, equipment was readied and repaired, WPA's checked, and firelines prepared. In early April, Bio. Techs Jones and Johnson updated their fire-fighting qualifications by attending a five day fire school in Jamestown, ND. The 3 SCA volunteers were given the

S-130 Firefighting Techniques and the S-190 Fire Behavior course by Asst. Manager Hollevoet. Upon completion of the step test, the 1986 crew numbered 7 (two permanent staff members, 2 seasonal bio. aides, and 3 SCA volunteers).

On April 9, the first burn was initiated on the Ernst WPA. We thought we were getting a good start on the burn plan, until the bottom dropped out 5 days later. On April 14, the worst blizzard of 1986 "roared in". Though most of the snow was gone by the 23rd, wet weather continued to hamper the program. Between April 23 and May 15 we were only able to burn an additional 6 WPA's. By the middle of May, the fields had "greened up" to such an extent that further burning was useless. We hoped that we could get back on schedule in the fall but once again the weather would not cooperate. Only one unit was burned in October. Only 445 acres of the planned 1,361 acres were burned by the end of 1986. Besides the 7 prescribed fires ignited on the district this year, we also had one wildfire. It began on Oct. 30, in the final weekend of waterfowl season. It was started by the catalytic converter of a hunter attempting to drive to a slough on the Kroll WPA. The fire burned less than 2 acres but resulted in serious injury to the hunter (Section E.6).

1986 Prescribed Burns Kulm WMD

<u>WPA</u>	<u>Month</u>	<u>Cover Type</u>	<u>Acres Burned</u>
Ernst	April	DNC/Wheatgrass	81
Borth	April	DNC/ Exotics	98
Young	April	DNC	62
Ziegenhagel	May	DNC/Kentucky Bluegrass	36
German	May	DNC/Natives/Exotics	123
Hille	May	Native grasses	36
Geiszler(Gackle)	Oct.	Cattails	9
TOTAL			445

10. Pest Control

The Kulm WMD is required by state law to control noxious weeds on its fee title areas. The main emphasis has been controlling leafy spurge, followed by Canada thistle and absinth wormwood.

Thistle can be fairly widespread throughout the district and wherever disturbed land is left untended, thistle tends to grow. The main thistle problem occurs in newly seeded fields where DNC or native grass establishment takes one or more years. Since a good stand of DNC will generally crowd out any thistles present, the district does not attempt any control unless a complaint is lodged by a neighboring farmer. When a complaint is received the thistle patch is usually mowed prior to the seed ripening. This prevents the spread of seed to neighboring private lands and generally satisfies the neighbors. Once DNC is established, thistle control is no longer necessary.

Leafy spurge is a much more tenacious weed and provides the biggest control headache. Left unchecked it can crowd out DNC, massively invade native rangeland and subject the government to verbal abuse by neighbors and county officials. The primary control of this plant has

been to spray with Tordon 22K, 2,4-D, or both in mid-June, just prior to seed ripening with a follow-up spray in the fall to kill new seedlings. Since most areas of spurge infestation are small patches, Tordon is applied via a hand sprayer. This gives excellent control and restricts the kill to individually selected spurge plants. Even though a complete kill occurs in any given year, areas of known spurge infestations are checked annually as spurge seeds can be dormant and germinated up to eight years after the seeds are in the soil. Annual control is normally required, but in most cases the size of the spurge area is getting smaller. An average of 1.5-2.0 man months is spent conducting spot spurge control on 35 WPA's.

Absinth wormwood is on the increase and combatting it is usually accomplished with 2,4-D, in addition to using fire and mowing techniques.



Photo 86-30M. Boom spray truck provides quick transportation and effective method of herbicide application.
10/86-MRJ.

Application of chemicals is accomplished by four methods:

- 1) Boom-equipped spray truck
- 2) Spot treatment by hand/portable sprayer
- 3) Aerial spraying
- 4) Contract spraying

The district's spray truck was utilized on 16 WPA's to treat a total of 196 acres. About half of this acreage was for leafy spurge control using a LV-4, Tordon mixture. The remaining acreage consisted of 58 acres on the Kroll WPA and 30 acres on the Koeplin WPA. Both of these units were treated with Roundup in preparation for native grass seeding next year.

Spot treatment was accomplished on 17 WPA's to treat about 10 acres. This is time consuming and labor intensive, but is necessary to control leafy-spurge. In certain situations, like fence rows, hillsides, or shelterbelts it is the only viable method.

Aerial spraying for leafy-spurge was contracted on 4 WPA's as shown:

Haberman	63 acres
Carlson	58 acres
Mayer	20 acres
Baltzer	<u>20</u> acres

Total 161 acres

Aerial spraying is cost effective in this area. With the district supplying the chemical, our total cost for plane/labor came to \$434.70 for 161 acres or \$2.70 per acre. Ground spraying by contract was done on 2 WPA's for leafy-spurge control, as shown:

Knutson	103 acres
Kannowski	<u>24</u> acres

Total 127 acres

Total cost was \$254.00

In the fall of 1986, the area under 4 electric predator fences was treated with Pramitol. This is a soil sterilant and is necessary to keep weed growth from shorting out the fences during the nesting season. The fences total just over 2 miles in length but only a small strip is treated, making it necessary to only use 1½ quarts.

In summary, 494 acres were chemically treated as shown, at a total cost of \$5,925.00.

46.75 Gal.	Tordon 22K
76.50 "	2-4,D, LV-4
44.00 "	Roundup
.30 "	Pramitol

In addition to control of weeds, the district mowed 35.75 miles of roadside in accordance with township regulations. This is done twice each season and was slow going this year due to wet weather and lush growth. Jumping off a tractor every 50 yards to clear the sickle bar makes for a long day.

13. Easement Monitoring

Easement surveillance flights were conducted in late May and early June of 1986. These flights were over parts of LaMoure, Dickey and Logan counties, concentrating on past problem townships. Easement surveillance was started again in November, completing LaMoure and part of Dickey county before the weather closed in.

Sixty (60) possible violations in 1985 were carried over into 1986. These cases were added to another 20 possible violations picked up in the spring and fall of 1986. Of the total possible violations, twenty (20) were confirmed with five (5) left to be ground checked. Added to this work load were four (4) violations from 1984, of which three (3) were closed and one left dragging into 1987.



Photo 86-19. Easement (212x) LaM Co., wetland restored after verbal negotiations with drainage violator. 4/86-JWJ

Easement contacts are still a tense and dangerous situation with farm foreclosures still occurring due to the depressed farm economy. (Section H.17). A summary of the 1986 violations follows:

<u>Easement</u>	<u>County</u>	<u>Year</u>	<u>Activity</u>	<u>Status</u>
141x	Dickey	1984	Borrow Pit	Open
141x		1984	Waste holding pond	"
135x		1985	Burn	"
82x		1985	Fill	"
309x		1985	Fill	"
135x		1985	Burn	"
345x		1985	Fill	"
190x		1985	Fill	"
180x	LaMoure	1985	Fill	"
173x	"	1985	Fill	"
117x	Dickey	1986	Fill	"
192x	Dickey	1986	Fill	"
365x	Dickey	1986	Fill	Closed
114x	LaMoure	1986	Burn	Open
83x,1-5	"	1986	Burn	"
127x	"	1986	Burn	"
367x	"	1986	Burn	"
196x	"	1986	Burn	"
198x	McIntosh	1986	Fill	Closed
165x,1-3	Logan	1986	Ditch	Closed

G. WILDLIFE1. Wildlife Diversity

While WPA's are purchased with Duck Stamp funds for waterfowl production, they receive use by a wide variety of other wildlife species. The use of food plots as part of the DNC rotation, combined with the FWS's share of unharvested grain bales or stacks on WPA's, greatly increases the use of WPA's by resident species such as pheasants, Hungarian partridge, and white-tailed deer. This is particularly true during the winter months when food becomes scarce. This food source, along with excellent cover provided by cattail marshes and healthy grass, makes very attractive habitat for these species. While resident wildlife certainly should not detract from waterfowl production, it can be achieved within waterfowl management techniques. It also helps with public relations. (Sec. F.4)

2. Endangered and/or Threatened Species

Bald eagles are occasionally observed in the district during the spring and fall migration. In November, one whooping crane was reported to the district office. The sighting could not be confirmed. The spring's first pair of piping plover was observed on the Kautz WPA in March, and another pair on West Island in April. Additional plover sightings were made throughout the summer. Two piping plover nests, with 4 eggs each were found while nest dragging West Island in May.

3. Waterfowl

a) Ducks

Waterfowl production doubled in the district this year, due to a wet spring improving habitat conditions. Returning duck pairs numbers, however, were very similar to 1985, preventing the fullest production possible. Pairs/wetland acre were the lowest since records started in 1976. During pair counts in May/June, basins were 80% full compared to 31% in 1985. Yearly production and censusing techniques are shown in table 1, below.

Table 1. Waterfowl Production Summary

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Censusing Technique	1*	1	2**	1 2	1	3***
Pairs Counted	546	1281	1259	963 1269	616	624
Projected Pairs	5,497	12,967	↓	10,366 ↓	6,135	5,699
Wetland % Wet	28	97	NPWRC	57 NPWRC	31	80
Pairs/Wetland Acre	1,166	0.794	Computer	1.080 Computer	1.177	.456
Productivity Rate	.45	.45	Model	.18 Model	.18	.357
Est. Prod. on Fed. Prop.	14,741	35,434	6,229	11,433 7,964	6,786	12,319
(Represents 3%-5% of Total Dist. Production)						

* - 1 - Random quarter section pair count

** - 2 - Cowardin 4 mi² survey

*** - 3 - Modified quarter section pair counts (separated by wetland type)

Random quarter pair counts were conducted on 34 WPA's totalling 1,791 acres in 1986. As can be seen in Table 2, pairs and projected pairs are broken down by wetland type. This adjusts estimates to account for a difference in percentage of wet acres in each wetland type. Compared to 1985, production was up on all species, except gadwall.

<u>Species</u>	<u>% Change from 1985</u>	<u>Species</u>	<u>% Change from 1985</u>
Mallard	+162	Shoveler	+26
Pintail	+210	Redhead	+343
Gadwall	-0.4	Canvasback	+323
Bluewinged Teal	+162	Ruddy	+312
Greenwinged Teal	+334	Scaup	+236

NPWRC's Mallard Management Model computer program determines production estimates on federal, easement, and private property. Previous work for the Kulm WMD, indicates production estimates from random pair counts on WPA's represent 3%-5% of the district's four county total production. Total duck production within the district for 1986 is estimated to be 410,000 - 450,000.

Kulm WMD 1986 Estimated Waterfowl Production

Table 2

Species	Type I Total Pairs	Type III Total Pairs	Type IV Total Pairs	Type V Total pairs	Census Route Type I Wetland Acres Counted	Prs/Type I Wetland Acre	Prs/Type III Wetland Acre	Prs/Type IV Wetland Acre	Prs/Type V Wetland Acre
Mallard	2	20	38	8	(59% wet) 34.01	.059	.053	.055	.031
Pintail	3	16	23	10		.088	.042	.033	.038
Gadwall	1	6	43	10	Type III Wetland Acres Counted	.029	.016	.062	.038
Blue winged teal	22	79	50	21	(68% wet) 377.62	.647	.209	.072	.081
Green winged teal	2	1	5	3		.059	.003	.007	.012
Shoveler	5	20	19	7	Type IV Wetland Acres Counted	.147	.053	.027	.027
Redhead	3	32	80	14	(78% wet) 695.88	.088	.085	.115	.054
Canvasback	0	4	13	6		0	.011	.019	.023
Ruddy	0	3	24	9	Type V Wetland Acres Counted	0	.008	.034	.035
Scaup	0	2	10	6	(91% wet) 260.62	0	.005	.014	.023
Widgeon	0	0	1	0		0	0	.001	0
Ringneck	0	0	1	1		0	0	.001	.004
Bufflehead	0	0	0	1		0	0	0	.004
	38	183	307	96		1.117	.485	.440	.370

District Wetland Acres	Species	Type I Projected Pairs	Type III Projected Pairs	Type IV Projected Pairs	Type V Projected Pairs	Total Projected Pairs
Type I (59% wet) 218.3	Mallard	13	103	358	138	612
Type III (68% wet) 1949.6	Pintail	19	82	215	169	485
Type IV (78% wet) 6514.56	Gadwall	6	31	404	169	610
Type V (91% wet) 4439.89	Blue winged teal	141	407	469	360	1377
	Green winged teal	13	6	46	53	118
	Shoveler	32	103	176	120	431
	Redhead	19	166	749	240	1174
	Canvasback	0	21	124	102	247
	Ruddy	0	16	221	155	392
	Scaup	0	10	91	102	203
	Widgeon	0	0	7	0	7
	Ringneck	0	0	7	18	25
	Bufflehead	0	0	0	18	18
		243	945	2867	1644	5699

Species	Projected Pairs	Average Productivity Rate	Brood Successful To Flight Stage	(Hammond) Standard Size Brood to Flight	Estimated Total Ducks Produced
Mallard	612	.357	218	6	1308
Pintail	485		173	6	1038
Gadwall	610		218	6	1308
Blue winged teal	1377		492	7	3444
Green winged teal	118		42	7	294
Shoveler	431		154	6	924
Redhead	1174		419	6	2514
Canvasback	247		88	5	440
Ruddy	392		140	4	560
Scaup	203		72	6	432
Widgeon	7		2	6	12
Ringneck	25		9	5	45
Bufflehead	18		6	?	?
Total	5699		2033		12319

	Projected Pairs	Average Productivity Rate	*District Trapped Brood Successful To Flight Stage	(Hammond) Standard Size Brood to Flight	*District Trapped Estimated Total Ducks Produced
Mallard	612	.482	295	6	1770
Pintail	485		234	6	1404
Gadwall	610		294	6	1764
Blue winged teal	1377		664	7	4648
Green winged teal	118		57	7	399
Shoveler	431		208	6	1248
Redhead	1174		566	6	3396
Canvasback	247		119	5	595
Ruddy	392		189	4	756
Scaup	203		98	6	588
Widgeon	7		3	6	18
Ringneck	25		12	5	60
Bufflehead	18		9	?	?
Total	5699		2748		16646

*Columns for (district trapped) were tabulated using a productivity rate of .482 an increase of .125 over .357. These totals represent the number of broods and ducks that would be produced if the increase in nest success experienced on trapped uplands was applied to the entire district.

NESTING STRUCTURES

Management of artificial nesting structures was changed in 1986. No nesting baskets or goose tubs were placed this year due to low usage and high costs. In the last two years, only 8 successful nests have been found on 75 nesting baskets. A total of \$800.00 was spent on labor and baskets during that same period, costing the district \$100/nest. Only 5%-15% of the baskets are used each year, with avian predators causing about a 50%-60% loss of nests. Goose tubs appear to have a higher usage, but only 16 are presently up. They cost \$50.00 each and a few are lost each winter in the ice. Over the long run, this will also be very costly.



Photo 86-04. Dozer breaking trail for Ford tractor hauling bale at the Young WPA. 1/86 - MRJ

Nesting bales, on the other hand, are cost effective and relatively successful. They cost \$6-\$8.00 each, and last 5-7 years in the water. Total cost to get a wrapped bale in place is \$18.-\$20.00 each. Cost to the district is \$3.50/bale/year. The nesting bales have a 35%-40% use rate, with some bales having two nests at one time. They have a high success rate of 65%-75% (100% in 1985). An April blizzard reduced 1986's success. Fifty-eight(58) bales were placed on 19 WPA's this year, mostly on type III and IV wetlands.



Photo 86 -19 . SCA Liz Stoller checking success of nesting bales. 6/86 - LDW

NEST DRAGGING/PREDATOR CONTROL/ISLAND STUDY

Nest dragging was started in 1985 and continued in 1986 to determine the effectiveness of predator control and the nesting success rate of islands. A total of 1775 acres on 15 WPA's were dragged and included: native grasses, DNC, islands, and tame grass with alfalfa. Predator control took place on 384 acres of those areas. Other sites were used for control and island comparison areas (Sec. G.15).

As expected, trapped areas had a much higher success rate.

Data for all nests in all cover types is:

	<u>Trapped Areas</u>		<u>Untrapped Areas</u>	
	1985	1986	1985	1986
Total Nests	92	219	196	199
Usable	71	125	40	79
Predated	11	59	59	57
Abandoned	5	8	11	3
Unknown	5	27	86	60
Apparent Success	77.1	57.0	20.4	39.7

Island success, came out to a relatively high 69.4% (Table 3). An average productivity rate of 35.7% was figured from the nest dragging results and plugged into the district's production estimates (Table 2).

Table 3

* Nests found "terminated" were not used for Mayfield figures.

DUCK NESTING SUCCESS*- KULM WMD - 1986

	West Island		Moldenhauer Islands		Camp Lake Islands		Other Islands		All Islands	
	# Nests	% Success Apparent/Mayfield	# Nests	% Success Apparent/Mayfield	# Nests	% Success Apparent/Mayfield	# Nests	% Success Apparent/Mayfield	# Nests	% Success Apparent/Mayfi
Gadwall	22	66.7/46.8	11	41.7/24.6	5	100.0/100.0	8	50.0/7.0	46	60.9/42.2
Blue-winged teal	7	85.7/75.1	2	33.3/26.4	2	50.0/0.5	1	100.0/100.0	12	75.0/56.8
Mallard	10	80.0/68.5	8	37.5/23.7	21	47.6/22.9	7	72.0/85.7	32	40.6/42.5
Shoveler	3	100.0/100.0	0	----	0	----	0	----	3	100.0/100.0
Pintail	8	83.3/67.0	2	50.0/37.4	2	50.0/0.0	1	100.0/100.0	13	72.7/41.7
Lesser Scaup	0	----	3	33.3/20.7	1	0.0/--	1	100.0/100.0	4	50.0/37.5
Wigeon	1	100.0/100.0	0	----	0	----	0	----	1	100.0/100.0
Green-winged teal	2	100.0/100.0	0	----	0	----	0	----	2	100.0/100.0
ALL DUCKS	53	78.0/63.2	26	39.3/25.3	31	54.8/36.1	18	72.2/45.8	113	60.2/46.9
	Bovey Peninsula		Other Peninsulas		NPWRC Research Pastures					
	# Nests	% Success Apparent/Mayfield	# Nests	% Success Apparent/Mayfield	# Nests	% Success Apparent/Mayfield				
Gadwall	7	57.1/34.2	2	0.0/0.3	19	42.1 / 10.2				
Blue-winged teal	3	66.7/63.4	8	25.0/5.3	82	25.6 / 6.0				
Mallard	4	75.0/46.3	0	----	5	20.0 / 4.4				
Shoveler	0	----	1	0.0/0.2	5	25.0 / 9.4				
Pintail	1	100.0/100.0	0	----	2	100.0 / 100.0				
Lesser Scaup	0	----	0	----	0	---- / ----				
Wigeon	0	----	0	----	0	---- / ----				
Green-winged teal	0	----	0	----	0	---- / ----				
ALL DUCKS	15	66.7/48.8	11	18.2/2.8	113	29.6 / 7.2				

Comparison of Duck Nesting Success- Kulm WMD- 1986

	<u>West Island</u>	<u>Moldenhauer Island</u>	<u>Camp Lake</u>	<u>Other Islands</u>	<u>All Islands</u>	<u>Bovey Peninsula</u>	<u>Other Peninsulas</u>	<u>NPWRC Research Pastures</u>
# Fields or Islands	2	2	5	16	25	1	2	15
Acres Searched	57.0	9.2	4.9	26.4	97.5	6.3	14.8	1076
# Nests	53	28	31	18	130	15	11	113
Acres per Nest	1.08	0.33	0.16	1.47	0.75	0.42	1.35	9.52
Apparent Success %	78.0	39.3	54.8	72.2	69.4	66.7	18.2	29.6
Mayfield Success %	63.2	25.3	36.1	45.8	45.5	48.8	2.9	7.2

Nest dragging, as informative as it may be, was not recommended for 1987, for four reasons:

- 1) 110 FWS staff days and 140 volunteer days were used for nest searches at a cost of \$10,000 in 1986. Since 1985, \$27,500 has been spent to find 706 nests at a cost of \$38.95/nest. With decreasing district budgets, that cost does not justify nest searches.
- 2) Staff and volunteer days can be made available for active management of the WPA's, including: burning, grazing, farming, fencing, etc. There never seems to be enough time to accomplish all those goals.
- 3) NPWRC will have three, 5-mile SUMP areas in the district to research trapped, non-trapped, and control nesting success. There is no need to duplicate effort.
- 4) The effectiveness of trapped vs. non-trapped areas has been demonstrated previously in this district and in surrounding districts.

MISCELLANEOUS

The spring migration of ducks was first noted by the staff on March 10, with 5 pintails circling the Brinkman WPA. The day of the "Big Move" was March 24th when numerous flocks of waterfowl were observed on or over the coteau. Fall migration peaked during the last week of October.

b) Geese

Twenty two(22) Canada geese were observed on March 5th, the first flight of the year. By the 18th, Canada geese were already sitting on nesting bales. Major flights were observed on March 24th. Unfortunately, a blizzard on April 13-15 destroyed about 90% of the bale nests. Some of the Canada geese successfully renested.

Fall concentrations of snow geese peaked at 50,000 during the first week of November, At Dakota Lake NWR. A Dakota blizzard on November 7 and 8, drove most of the geese south. Thirty flights of geese were observed moving south during the storm.



Photo 86-12-24. 35,000 snow geese on Dakota Lake NWR, during fall buildup. 11/86-(Bob Wright, Sand Lake NWR)

A predator barrier fence was completed on the Young WPA protecting 65 acres of upland. Construction costs were substantially reduced by building a 4' fence with additional hot wires, rather than a 6' fence. Cost for the 4' fence was \$1.25/ft. vs \$5.00/ft. for the 6' fence built in 1985. Total length of the Young fence was 2850'.

Three FWS predator barriers are now complete on the Young, West Island, and Bovey WPA's. DU has completed a fourth fence on the Klettke WPA (Sec. I). While only limited research has been done, it appears that trapped and fence protected areas have a nest success rate of 60%-80%. Cost per duck could be 50¢/bird depending on the life and effectiveness of the fence.



Photo 86-15. YCC crew building end of barrier.
60'-70' extension into water keeps most predators
from moving around ends. 6/86-LDW.

4. Marsh and Water Birds

Observation of marsh and waterbirds is incidental to other management activity. Eared grebes, great blue herons, B.C. night herons, and cormorants are the most frequently observed. Other common sightings include: white pelicans, double-crested cormorants, rails, western and pied-billed grebes, and American bitterns. Sandhill crane are seen during migrating periods. The April blizzard was too harsh for some of these birds. Six migrating grebes were found dead, after the storm.

8. Game Mammals

The district's WPA's offer excellent forage and cover for North Dakota's game mammals during stressful winter months. Wetlands, on and off WPA's, provide critical cover, during both the hunting seasons and winter. Primary game includes: white-tailed deer, raccoons, red fox, mink, muskrat, coyote, and badger. Mule deer occur on a few of our units.

Record populations of white-tail deer have occurred during the last few years, and 1987 should be no exception. Despite a major November snow storm on opening weekend of the deer season, close to 90% of local hunters were successful. Those who were not, generally passed up shots waiting for a trophy. Even with this high success rate, North Dakota officials estimate 30,000-40,000 additional deer should have been taken. Those extra deer, plus a record warm and dry December, indicate record numbers of deer in 1987.

10. Other Resident Wildlife

41.

Sharptailed grouse are the most common game bird in the district. Over 30 dancing grounds are known on the various WPA's. During April, over 100 sharptail were observed in one sighting on the Mayer WPA.

North Dakota Game and Fish Department released 20 adult female pheasants and one male on both the Malm and Moldenhauer WPA's. Pheasant numbers were fair in 1986, and the population appears to be expanding slowly on the coteau. Hunters never have enough, but all seemed to be satisfied with a few birds in each group. Hungarian partridge numbers were also up. The 1986-87 mild winter should be of benefit to all these populations.

Seed corn was delivered by our staff to several sportsmens' groups to use for development of food plots. The corn was received from the ND Game and Fish Department.

12. Wildlife Propagation and Stocking

Giant Canada goose releases were completed again this year. A total of 70 birds were obtained from Audubon NWR in July. Thirty five (35) birds each were released on the Mundt Lake and Baumann-Denning WPA's. This is the third year for this program. A total of 227 geese have been released since 1984.

To aid this project and returning nesting geese populations, 58 nesting bales were placed on 19 WPA's in 1986. Since 1984, a total of 158 nesting bales have been placed with very successful results. (Sec. G.3). The district also assisted the Napoleon Wildlife club in strapping 30 bales in Logan county.



Photo 86-17-5. Recruits from Audubon NWR reporting for duty at Kulm WMD. 7/86-LAA.



Photo 86-17-15. Biological Aid Lee Albright assisting with goose release at Baumann WPA. 7/86-LDW

In November in conjunction with local sportsman clubs we placed 13 millet bales on 6 WPA's. These are intended as food for pheasants that had been released earlier in the year by the club and by ND Game and Fish Department. Some will argue that this may not be sound management practice, but with the minimal cost and time, we feel the public relations makes it worthwhile.



Photo 86-23-N. Biological Aid Mark Gruebele placing winter feed for upland birds on Earnest WPA. 11/86-MRJ.

14. Scientific Collections

43.

In April, Northern Prairie Wildlife Research Center (NPWRC) requested 4 live raccoons for a stress study involving different trapping techniques. The district predator control program uses live traps and the coons were trapped with little trouble. They were transported to the fenced enclosure on the research lab and handed over to the grinning biologists. We do not know the fate of these raccoons nor do we wish to know.



Photo 86-21-N. "Oh no, anywhere but the research lab". 4/86- RAH

15. Animal Control

Waterfowl production in the district, is being hampered by many factors. Wetland losses and impacts, native prairie and hayland conversion, and habitat destruction are the primary causes for low production figures. To compound the problem, predation losses are high for nesting waterfowl as predator and prey are concentrated on the remaining habitat. Supervisory research and field personnel believe that predator management is necessary to increase waterfowl production. Last year, Northern Prairie Wildlife Research Center (NPWRC) concluded a 5 year nest drag study in the Kulm area utilizing 990 acres. Data showed a very low duck recruitment; nesting success below that required to replace the population in some years. The primary cause of low recruitment was predation.

Since 1985, the district has been involved in gathering data on the effects of predator removal on waterfowl production. The study involves correlating nest density on 350 acres on trapped habitat versus 350 acres of untrapped habitat (See G.3). Data for all nests in all cover types is:

	<u>Trapped Areas</u>		<u>Untrapped Areas</u>	
	1985	1986	1985	1986
Total Nests	92	219	196	199
Useable	71	125	40	79
Predated	11	59	59	57
Abandoned	5	8	11	3
Unknown	5	27	86	60
Apparent Success (%)	77.7	57.2	20.4	39.7

For 1986, a total of 149 animals were caught on 15 WPA's (Table 4). Last year Biological Technician Johnson examined 35 trapped females for the presence of embryos; 23 were pregnant.

Other activities for 1986 included flying the district in April to locate active fox dens. Dens mapped in the air are easily relocated when searching on the ground.

TABLE 4
1986 TRAPPING SUMMARY OF KULM WMD

<u>WPA</u>	<u>Raccoon</u>	<u>Skunk</u>	<u>Franklin's Ground Squirrel</u>	<u>Fox</u>	<u>Badger</u>	<u>Feral Cat</u>	<u>Totals</u>
Bender				2			2
Boschee	13	4					17
Bovey	4	6	1				11
Earnst	3	6	1			1	11
Kautz	7	7			1		15
Kramlich	2	1					3
Klein	5	1		1	2		17
Mayer	4	1	2	1	1		9
Moldenhauer		3		1			4
Mund		1					1
Mundt Lake	15	7					22
Patzer	3					1	4
West Island	1	1					2
Wolf	9	8				1	18
Young	10	3					13
Totals	76	57	4	5	4	3	149

SEX OF TRAPPED ANIMALS

45.

<u>Species</u>	<u>Male</u>	<u>Female</u>	<u>Unknown or not checked</u>
Raccoon	54	18	4
Skunk	44	12	1
Franklin's Ground Squirrel	2	2	
Fox		1	4
Feral Cat	1		2
Badger	2	2	
	<hr/>	<hr/>	<hr/>
	103	35	11

The district also completed a 4th electric barrier fence for passive predator control (Sec. G.3 & I).

A total of 25 depredation complaints from local farmers were received this year. The majority occurred at harvest. Most of these were the result of the unusually wet summer and fall. Planted fields became so saturated, it was impossible in many areas to get harvesting equipment into them. Farmers who were lucky enough to swath their crops could not get the weather to cooperate long enough to dry the grain. In September it was not uncommon to see swaths of grain in the field beginning to sprout. Needless to say, as waterfowl migration began, there was an abundance of feed in the fields. The frustration of being unable to harvest plus a forecast for continuing wet weather equalled short tempers. Farmers began calling the office demanding that we "get your damn ducks out of my field or I'll start shooting them"! Along with this, blackbirds began their yearly feeding on maturing sunflowers, which always brings heated complaints. Our summer crew and bio. techs were kept hopping handling these complaints. Besides offering advice (and giving them the phone number of ADC and State Game and Fish Department), we loaned the farmers propane scare devices and black flagging. This flagging is nothing more than a piece of lath with a square of black plastic stapled to it. The plastic flapping in the wind, does a good job of scaring the ducks away. By October, drier weather began to prevail and the opening of the waterfowl season brought an end to the complaints.

17. Disease Prevention and Control

The district made several searches on areas with past botulism problems and the results were negative. Twin Lakes in LaMoure County was removed as a State waterfowl rest area by the State Game and Fish Department. This area has been the site of a major snow goose die-off for the past 2 out of three years. With the lake open to waterfowl hunting no goose mortality was observed in 1986, other than those claimed by hunters.

1. General

The Kulm Wetland Management District has a primary objective of waterfowl/wildlife production and maintenance. Most of our annual budget goes into the management of grassland or wetland habitats, population management activities, construction and maintenance, law enforcement and resource protection/preservation work. The bulk of our public relations and public use is centered around outdoor classrooms for students on environmental tours, talking and working with various sportsmen's groups, meeting with county commissioners and township boards, hunting and trapping information, and the use of waterfowl production areas for wildlife observation and recreation. We have no interpretive exhibits or kiosks, camping is prohibited and we have no interpretive trails. The following sections highlight our public use/public relations activities.

2. Outdoor Classrooms - Students

Biological Technician John Jones participated in the Soil Conservation Service's environmental education tours. A wildlife program was presented to all seventh graders (480 students) in LaMoure, Dickey, Logan, Ransom and Sargent counties. This program also gives us a chance to communicate with ASCS, SCS, county agents and teachers. The outdoor classrooms are located throughout the counties mentioned in State Parks, Recreation areas and Federal Waterfowl Production Areas. Participation in this annual event gives us the opportunity to communicate conservation issues to most of the youth in the District.



Photo 86-15-N. Conservation program provided to all seventh graders in six county area. 5/86-JWJ

Approximately 490 7th grade students and 21 teachers in the six county area were instructed in wildlife conservation, waterfowl ID, and wetland values.

7. Other Interpretive Programs

47.

Most of our public use or public relations work is best described under the category of other programs. This typically includes giving presentations or assisting various sportsmen's groups, Lions Clubs, 4-H groups, schools and various other groups. In addition we are continually answering questions regarding farming, grazing, haying, wetland easements, burning, etc.

We also meet annually with all the county commissioners to discuss any potential needs or problems, weed control, revenue payments, drainage and easements. Meetings are also held with various township boards, county water management boards and weed control boards.

Participation and local involvement with community groups is also important to spread the word on Fish and Wildlife Service activities and conservation issues and the District staff participates in several community efforts. West was president of the Kulm Rod and Gun Club. Hollevoet was on the Land Management/Land Use committee of the club, a member and training officer of the Kulm Volunteer Fire Department and a member of the Board of Directors at the Kulm Country Club. Jones is president of the Kulm Lions Club and served as science fair judge at the Gackle and Forbes schools. Murphy is on the Land Management/Land Use committee of the Club and member of the Edgeley Lions Club.

Another function important to the local communities is the hunter/safety education program. Hollevoet and Jones are certified hunter safety instructors and annually participate by holding a one week night course for interested students each March.

8. Hunting

Hunting activity is the primary recreation activity that occurs on the District's Waterfowl Production Areas. Major game species include waterfowl, white-tailed deer, pheasants, sharp-tailed grouse, partridge, red fox and coyote. Waterfowl production areas provide some of the best cover in the area and hunting can be excellent at times. Waterfowl hunting was good to exceptional this year after five dry years. Most hunters were very pleased with water conditions and waterfowl numbers.

White-tailed deer and pheasant hunting was also excellent for this part of the state. White-tail populations are at record levels causing the state to hold its first second deer season to further reduce the deer herd.

The pheasant population has been increasing the past several years. Waterfowl Production Areas are heavily used by walking hunters for these two species. Sharptail grouse hunters also had to work for their birds but many of the working hunters were successful.



Photo 86-12-N. Opening weekend buck on Mund WPA.11/86-MRJ.

Coyote numbers are on the increase and furbearer hunting is a common sport during the winter months. With the increase in coyote numbers many hunters have the opportunity to take both red fox and coyote during their winter hunts.

10. Trapping

All of the District's WPA's are open to trapping and most of the units are in some trapper's home area. Major species trapped are red fox, coyote, coon, mink and muskrat. Although the WPA's are open to trapping, no vehicles are permitted, allowing only walking trappers, which are few, to trap the interior of the larger units. Fur prices have been down the last two years reducing trapping pressure. The district's predator management programs are under Section G 15.

11. Wildlife Observation

No specific data is kept on this subject but from visual observation and reports we know that the district's WPA's are utilized frequently by people to observe ducks, geese, big game, upland game, dirt birds and many non-game species. Dakota Lakes National Wildlife Refuge in Dickey county attracts a large number of people during spring and fall migrations, to view 20,000 - 80,000 snow geese.

This unauthorized activity is hard to pin down. We have 182 WPA's scattered over four counties so enforcement of ORV usage is almost impossible. We normally find a broken gate or fence and a set of tire tracks and that's it. Most of our ORV activity comes from adjacent neighbors and farmers, partying teenagers, deer hunters and poachers.

Tracks are an aesthetic eyesore, create predator lanes and just plain destroy habitat. We have tried to combat the problem with signs, fencing, gates and locks. We ourselves may partially be to blame by leaving, spraying, fencing and nest dragging tracks.

17. Law Enforcement

Law Enforcement in the District can be put into three categories:

- 1) Wetland easement contract enforcement
- 2) WPA regulation enforcement
- 3) Waterfowl/wildlife

Wetland easement enforcement was previously discussed in section F.13. Two time easment violators or violators with knowledge of the easement contract are fined \$100.00, depending on circumstance. No citations were issued in 1986.

WPA enforcement usually involves trespass grazing, trespass farming, dumping, off-road vehicle use and destruction of government property. These types of violations require a lot of surveillance and investigation but very few tickets are written. Information is difficult to obtain in order to complete a case. The Logan County - Jayson Rath trespass case of 1985 was referred tp Federal Court at the request of Mr. Rath. He felt that a \$100.00 fine for 50+ illegal head of cattle on the Kautz (156) WPA for only 4-5 days was very unreasonable. The court felt otherwise and upheld the fine.

After 5 dry years, the excellent water conditions in the district produced some very fine waterfowl hunting. But some hunters got greedy, not having gotten their "fair share" in other years, and the violation tickets issued went from 0 last year to 14 in 1986. Two warnings were also issued.



Photo 86-15-N. Officer Mike Johnson assisting ND Game & Fish wardens at State road check. 10/86-JWJ.

A summary of violations worked on in 1986 is as follows:

<u>Violation</u>	<u>No.</u>	<u>Fine</u>	<u>Total</u>
Unplugged shotgun	4	\$35.00	\$140.00
Unplugged shotgun	1	Dropped	---
Unplugged shotgun(warning-juvenile)	1	---	---
Taking over limit	5	50.00	250.00
Violation of State law	1	50.00	50.00
Exceeding possession limit	1	50.00	50.00
Wanton waste	1	100.00	100.00
Killing migratory game birds without retrieving	1	50.00	50.00
Hunting deer in a closed area	1 (warning)		---
			<u>\$640.00</u>

On opening weekend of the waterfowl season, Refuge Officer Murphy checked a Kulm duck processing facility and found hundreds of untagged birds. The facility had so many, in fact, it stored some of the birds at a local restaurant. After discussions with the North Dakota Game and Fish Department and his own refuge staff, it was decided that he and a state officer would return and explain state and federal regulations. After Officer Murphy and the state warden discussed tagging procedures with the processors, word spread around Kulm about a lot of "extra rules and regulations." The restaurant owner was also concerned about his "wrongdoings" and visited with the FWS staff. The processor closed their facility during the week.

A State Representative eating in the restaurant the following weekend was told by the owner that extra enforcement had closed the processing facility and scared away hunters. The State Representative, whose son had been cited by the FWS for trespass in previous years, contacted the NDGF Commissioner. Of course contact was made with the FWS and a lot of extra effort was made to explain our position.

During the last 4-5 years, increasingly tense and dangerous confrontations have occurred, particularly with land owners, over even minor cases like vehicle trespass and rock dumping. Most of the emotion is whipped up by farm activist groups and farmers with severe business problems. Officers Jones and West were waved down on a road and confronted by a landowner, who had admitted the previous day to trespass and rock dumping on a WPA during the spring. The farmer continued the verbal assault he had started the day before and stated he would deal with the officers as had been done with "people like you north of Interstate-94". (Two federal officers killed by Gordon Kahl 30 miles north at Medina). After several compliance letters were sent, and phone calls made by and to the landowner, who made additional threats, his wife finally agreed to remove the whole rockpile. The landowner has stated he is going to "get those responsible for the problem". Stay tuned.

I. EQUIPMENT AND FACILITIES

1. New Construction

Two electric predator barrier fences were completed this year. A 4' woven wire fence with 4 "hot" strands of wire was completed by force account on the Young WPA. The fence is 2850' long and encloses 65 acres of land jutting into the Young slough. The fence was constructed at \$1.25/ft.

Ducks Unlimited completed a 7000' predator fence on the Klettke WPA, enclosing 65 acres of DNC planted in 1986. Their fence is a real "Cadillac", with 6' of vinyl coated wire buried 2' in the ground, and 2' of woven wire added on top. Its four "hot" strands are powered by a solar panel. The fence will be part of NPWRC's Small Unit Management study until 1992 (Sec. D.5). Total cost was \$45,500.



Photo 86-12A. Solar panel, powering an electric predator barrier fence.

A total of 2 miles of three strand, barbed wire or electric fence was constructed on the following WPA's:

<u>WPA</u>	<u># of miles</u>
Olson	0.75
Moldenhauer	0.25
Heine	0.50
Abell	0.50 (electric)
	<hr/> 2.0

Seven storage racks for wire, steel, and posts were constructed with 8" posts. These are behind the west storage building and substantially improved the appearance of the shop yard. A loading dock was constructed of the same material, inside the 30'x60' storage building. Two predator gates were built for the Bovey and Young fences.

2. Rehabilitation

A culvert was installed in the road leading from the shop yard to the new target range. The road was re-graded and gravelled.

3. Major Maintenance

Windows and frames were purchased for the 50' GSA trailer. The old, rollout windows had worn out and opened and closed as the wind directed. The spring and summer occupants (SCA volunteers) didn't have a problem with this, but snow drifts inside an empty trailer causes excessive deterioration. The inside of the new fire garage was painted, and vent fans installed in the shop.

4. Equipment Utilization and Replacement

Total cost to operate and maintain the district's vehicles was \$15,800 in 1986. Individual costs were as shown and didn't include any replacement.

Vehicles	- \$9600
Tractors	- \$3500
ATC's	- \$ 700
All other equip.	- \$2000

Total	\$15,800

Costs were up this year basically due to older equipment, that should be replaced, needing extra repairs and fuel. Maintenance included:

- Overhaul of engines on the 1977 and 1979 Dodge pickups.
- Replacement of wood decks on the 1966 IHC - 1½ ton and the 1980 GMC - 10 ton trucks, with steel plate.
- Building and installation of full capacity hydraulic pump and system for loader on 7710 Ford tractor.
- Manufacture and assembly of front and rear mounts on Ford tractor, to lift and haul nesting bales.
- Repair of rear end in Region's tree spade.
- Mounting of safety blinkers on tractors.
- Routine checks, lubrications, oil and filter replacement, and safety inspections.

Twelve hundred (\$1200) dollars was spent to twice take a relatively new Ford tractor to Martells' of Wishek for hydraulic problems. The tractor returned and worked well for a few hours, but the hydraulic would again get slow, jerky, and overheat. After some frustrations, in not having technical representatives return our calls, we finally decided to have our "ace" mechanic take a shot at it. After several hours, Jim Steinmetz discovered two sets of quick couplers hooked end to end. The couplers were working against each other, would off center, and lock up the oil flow. He removed one set of couplers and the tractor has been a champ since.

J. OTHER ITEMS

1. Cooperative Programs

A cooperative endeavor the district participates in involves the ND Game and Fish Department, Ducks Unlimited, Northern Prairie Wildlife Research Center, and a private landowner. The project is an electric predator fence of which Ducks Unlimited supplied the material for construction, the Kulm District put up the fence, maintains it, and owns and manages 14 acres on an existing island. The ND Game and Fish Department leases the remaining portion of the 50 acre island from a private landowner under the State's habitat program and Northern Prairie is conducting research on duck recruitment and densities on the protected area. The project is working well.

3. Items of Interest

- Mike Johnson completed Federal Law Enforcement Training at Glynco, Ga. on August 2. Mike also completed fire courses S-130 and S-190 in April and the ND Commercial Pesticide Applicator course in December.
- John Jones completed law enforcement refresher and S-130 and S-190 in April. John was also elected District Director for Hunter Safety for nine counties in SE North Dakota.
- Larry West and Roger Hollevoet completed a LE refresher in April.

4. Credits

The report was written by:

- Mike Johnson: Section F.9 & 10; Section G. 12-16
- John Jones: Section F.5-8 & 13; Section H
- Jim Steinmetz: Section I
- Mike Murphy: Completed the rest and edited the draft
- Edna Okerlund: Organized and typed the narrative

K. FEEDBACK

For years, the complaint of excessive reports and short deadlines has been rampant in the Service. In discussing it here, I don't expect to break any new ground, but the sheer magnitude of learning to be a bureaucrat this fall was numbing. The list below contains 40 required reports due in the 61 work days from October 1 - December 31, 1986. That's a report due every 1½ days. To compound the time problem, activities like habitat management, enforcement, public presentations, accidents, use-or lose time, eating, etc. came up daily. Supervisors and the public reasonably expect that those activities also have relatively equal merit, as well as expecting you to address their current questions by phone or in person.

October Reports:

- Real Property Inventory
- Real Property Utilization
- Monthly Activity Report
- YCC Accomplishment (Form 5)
- Performance Standards
- Hunter Performance Cards (for State)
- Quarterly Energy Report
- Amendment to Burn Plan
- Burn Report
- Quarterly Procurement Report
- DU Production Projects

November Reports:

- Accident and Incident Report on burned hunter (2) plus follow-up
- Monthly Activity Report
- Resubmission of invoices for OWCP claim
- Annual Work Plan and Engineering Work Orders
- Land Use Synopsis
- Refuge Round-out Acquisition
- Review of NPWRC maps for Service ownership and easements
- LE Credential Review
- Pesticide Usage
- Easement Accessments (2)

December Reports:

- Swampbuster Violations
- Resource Management
- Seed Request for 1987
- Compliance with Special Use Collection
- 1987 Production Estimates for ASCS offices in four separate counties
- Monthly Activity Report
- Vehicle Acquisition Forecast
- Seizure Destruction
- Mid-winter Goose Survey

- Waterfowl Enhancement Report (5 staff days to complete)
- Blueprints of Dakota Lake dam for WHO and Engineering
- Copier Usage
- List of Survey Needs
- Consolidation of Easement Violation from 1981-86
- Arch/Historical Resources Needs
- Obligation/Acquisition of Equipment/Vehicles
- Direct Deposit Delays
- Picloram Inventory

Most of you recognize that some of these reports can be done in less than an hour, while others take 3-5 staff days. In addition, routine papers such as Time and Attendance, Monthly Imprest Audits, and easement violation documentation aren't even included. In a nutshell, almost 50% of our total staff time was spent in paper-pushing.

The problem begs several questions with a possible simple answer. Why are trained, professional field biologists and managers encouraged to become "paper duck producers"? If there is a pressing need for bureaucratic documentation, why do we emphasize biological training vs business administration for educational requirements? Can the Service expect its highly motivated and enthusiastic recruits, with a major interest in field work, to be satisfied with sitting at a desk? And finally, do the Washington and Regional offices support their field offices or vice-versa?

For 5000 years, governments have required documentation of accomplishments and people. So reports will always be here. But in two generations, with the development of instantaneous communications and computers, we increased world information in a 10 year period, by the same amount it took 5000-6000 years to develop. Some of our country's best minds say that 90% of that increased information was unimportant or only of possible historical interest.

It goes against our grain, but we can cut back and cut out. Twenty four of these reports are unnecessary or duplicate previously submitted information. A call to the RO confirmed this. They indicated it was easier for us to re-assemble the requested information than to find it dispersed in their separate offices. In addition, suggestions that specific reports are unnecessary threatens some people's jobs. They fight to maintain their reports and are several layers closer to the decision makers.

But take heart, fellow desk warmers; a new year brings hope and the yearly trial of the Annual Narrative.



Photo 86-13-25. The ducks aren't produced until the paperwork is finished. 6/86-LDW.