KULM WETLAND MANAGEMENT DISTRICT

Kulm, North Dakota

ANNUAL NARRATIVE REPORT

Calendar Year 1981

U.S. Department of the Interior
Fish and Wildlife Service
NATIONAL WILDLIFE REFUGE SYSTEM

Back row, left to right - 4, 6, 3
Front row, left to right - 7, 5, 13, 2

Personnel

1. H. "Tuck" Stone, Refuge Manager, GS-11, PFT - Transferred 2/8/81
2. Larry D. West, Refuge Manager, GS-11, PFT - EOD 8/23/81
3. Francis Maiss, Asst. Refuge Manager, GS-9, PFT
4. John W. Jones, Biological Technician, GS-9, PFT
5. Edna Okerlund, Refuge Assistant, GS-5, PPT
6. James A. Steinmetz, Maintenance Helper, WG-5, Career Seasonal
7. Sherwood Lundgren, Biological Aid, GS-4, Career Seasonal
8. Harold Hettich, Biological Aid, GS-2, EOD 4/19/81 - 10/31/81
9. Dave Rutschke, Biological Aid, GS-2, EOD 4/19/81 - 10/31/81
10. Randy Klusmann, Biological Aid, GS-2, EOD 5/31/81 - 8/22/81
11. Kelly King, Biological Aid, GS-2, EOD 5/31/81 - 9/05/81
12. Gary Brovold, Biological Aid, GS-2, EOD 5/31/81 - 8/22/81
13. Rory Roloff, YACC, EOD 8/31/81

Review and Approvals

Larry D. West 7/19/82
Submitted by Date

Area Office Date

Kulm WMD
Refuge

Regional Office

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A. HIGHLIGHTS

The winter of 1980-81 was very dry and mild. It was excellent for resident game populations but resulted in poor nesting conditions for waterfowl, as only 28 per cent of the Kulm district's Waterfowl Production Area (WPA) wetlands contained water. Waterfowl production was only 33 per cent of its potential due to these poor conditions.

Habitat management techniques consisted of burning 75 acres of cattail marshes, cropping 1,345 acres, reseeding 646 acres to grass, grazing 5,313 acres of native grasslands, haying 536 acres of tame grasslands and spraying 500 acres of leafy spurge.

Aerial easement flights revealed nine confirmed violations with restoration dates set.

The Kulm Wetland Management District (WMD) shop facilities were burglarized with the culprits apprehended and convicted.

New construction activities consisted of 11 water developments, 23 miles of new fence and a 30 foot by 60 foot pole barn.

B. CLIMATIC CONDITIONS

The winter of 1980-81 was very mild compared to other years. As of early January there was no snow on the ground and daytime temperatures were in the 30's. The entire winter was one without any measurable snowfall. The lack of snow, coupled with the previous year of drought left most of the wetlands devoid of water. With the early spring thaw which occurred around February 14 there was only water in 28% of the Kulm WMD's wetlands to greet migrating waterfowl. This was one of the mildest winters on record, with no snowfall, and only 22 days below zero during January and February.

The drought persisted through the normally wet spring months with only 5.75 inches of precipitation falling in April and May. Rainfall for the months of June through September amounted to 16.6 inches which is within the normal range. However, due to the dry conditions most of this rainfall soaked right into the ground and entered the water table. Very little accumulated in the wetlands.

The waterfowl nesting conditions within the Kulm WMD were very poor in 1981, with most birds going further north where water conditions were better.

Freeze-up occurred with the first major snowfall which occurred on November 18. By the end of December there was approximately a foot of snow on the ground with temperatures well below zero. With the coming of a normal winter the drought cycle may be ended.

#2 This picture of a 600 acre Type IV wetland on the Berlin Church (106, 130) McI WPA depicts general wetland conditions during the spring of 1981. Seventy two per cent of the wetland basins, including many Type IV marshes, were bone dry. 81-02 FGM

C. LAND ACQUISITION

1. Fee Title

Due to the governor's refusal to approve any land sales the district did not purchase any new WPA lands during 1981. This is unfortunate, as we have over 20 willing sellers who would like to sell the Kulm WMD about 6,800 acres of lands that would adjoin existing WPA's. Currently the Kulm WMD is managing 190 units totalling 42,307 acres in Dickey(D), LaMoure(LaM), Logan(L) and McIntosh(McI) counties.

2. Easements

No easements were taken in 1981 due to the prohibitive restrictions placed on them by a state law passed in 1977.

Twenty-five 20 year easement contracts covering 1,107 wetland acres expired in 1981. Currently the Kulm WMD is administering 1,307 easements encompassing 98,129 wetland acres more or less.

D. PLANNING

5. Research and Investigations

Kulm NR 81 - "The effects of rest-rotation grazing and prescribed burning on the mixed grass prairie community and wildlife production in the glaciated prairie region" (905-08)

This study led by Arnold D. Kruse and James Piehl of the Northern Prairie Wildlife Research Center entered its second of seven years. The objectives of this study are to evaluate changes in the height, density, species composition and frequency of vegetation on areas of native prairie in the Missouri Coteau and Southern Drift Plain of the Prairie Pothole Region, resulting from various rest-rotation 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 first year of avian nesting data and second year of vegetative data were also collected.

KULM NR 81 "20 YEAR EASEMENT STUDY

The Northern Prairie Wildlife Research Center is also conducting a study of the expiring 20 year easement contracts within the Kulm WMD. District personnel monitor the amount of drainage occurring on these expired easements during the annual easement flights, and report the findings to Ken Higgins, the study co-ordinator. An evaluation will occur after several years of flights.

KULM NR 81 - "Upland Breeding Bird Communities of North Dakota Waterfowl Production Areas in Relation to Land Treatment"

This is a three year study between Iowa State University and the Northern Prairie Wildlife Research Center.

The objectives of the study are to determine the effects of three land treatment types (DNC, idled native prairie and grazed native prairie) on bird species composition and density of upland bird communities on Waterfowl Production Areas. Data on DNC and idled native prairie are being collected on WPA's within the Arrowwood WMD and data on grazed native prairie are being gathered on WPA's within the Kulm WMD. This was the first year of data collection on grazed native prairie within the Kulm WMD.

The study is being conducted by Rochelle B. Renken, graduate student of Iowa State University with Kenneth F. Higgins of NPWRC and James J. Dinsmore of ISU as advisors.

E. ADMINISTRATION

1. Personnel

On February 8, 1981 refuge manager Harry "Tuck" Stone transferred to Lake Andes NWR in South Dakota. He was replaced by Larry D. West who has worked on several refuges in Region 4 and served time in Atlanta as an ascertainment biologist before coming back to the field. Larry entered on duty at the Kulm WMD on August 23, 1981.

Sherwood Lundgren, Range Aid GS-3 was reclassified and promoted to Biological Aide GS-4 on April 5, 1981.

The following chart depicts the Kulm WMD staffing pattern for the past five years.

	Permanent		
	Full Time	Part Time	Temporary
FY-1981	3	3	5
FY-1980	3	3	7
FY-1979	3	1	9
FY-1978	3	1	7
FY-1977	3	1	1

2. Youth Programs

The Kulm WMD currently employs one non-residential YACC enrollee. Rory Roloff of rural Kulm entered on duty August 31, 1981. His main duties include work on force account construction projects such as fencing, pole barn etc., and maintenance of shop areas, vehicles and most other ongoing labor intensive work projects within the district.

3. Other Manpower Programs

During the summer months the Kulm WMD employed 5 local temporary workers for force account fence projects. With their help the Kulm staff removed seven miles of old deteriorated fence, constructed 22.75 miles of new fence and sprayed 600 acres of noxious weeds.

5. Funding

In 1981 fixed costs, mainly permanent salary, absorbed 70% of the allotted

budget. While the remaining 30% of the budget is generally adequate for carrying on that one year's work, it does not allow us enough to replace existing equipment such as vehicles, heavy equipment etc. BLHP has allowed the Kulm WMD to totally renovate its vehicle fleet which includes six pickup trucks. These trucks are now three to four years old and will all become obsolete about the same time. The current station budget is not adequate to replace them at the rate of one or two per year and delaying replacement until subsequent budgets will only compound the problem.

The following chart depicts the Kulm WMD funding pattern for the past five years.

Year	1210	CM	1220	1240	BLHP
1981	169,000			2,000	
1980	150,000				67,000
1979	126,000	16,000			186,000
1978	112,000	6,000	2,200	1,000	36,000
1977	70,000	8,000		1,000	13,000

6. Safety

The Kulm WMD had monthly safety meetings throughout the entire year.

During the summer months two employees suffered minor injuries. One employee slipped while using a pneumatic chisel which resulted in a puncture wound to the hand. Another employee suffered a recurrence of a slipped disc while tightening a strand of barbed wire on a fence corner.

7. Technical Assistance

In November assistant manager Fran Maiss assisted the John Stroehl family of Kulm in legally disposing of a collection of over 150 animal mounts. Many of them were raptors, shorebirds and waterfowl that were shot in the 1930's. All species were identified and donated to the LaMoure County Museum in Grand Rapids, North Dakota. This collection was of great interest to many local people as Mr. Stroehl had most of these specimens on display at his gas station in Kulm from the early 1940's to the mid 1960's.

F. HABITAT MANAGEMENT

2. Wetlands

All of the wetlands within the Kulm WMD are natural prairie potholes where water levels fluctuate and on which water level manipulation is non existent. Due to natural cycles caused by climatic conditions only 28% of the WPA wetlands contained water this spring.

Many of the Type IV wetlands within the district are completely choked with 10-20 years accumulation of cattail vegetation. In October some experimental management treatments were applied to a limited number of sloughs to see if it is possible to reduce 100% cattail cover to a more favorable 40-50%.

#3 81-03 FGM

#4 Typical WPA wetlands on the Holmes (140a) D and Hamann (203) D WPA's showing solid stands of cattails that have been accumulated over the past 10-15 years. 81-04 FGM

A 60 acre cattail marsh was burned on the Olson (53a) WPA in LaMoure county. After the burn about 30 acres of this marsh was chisel plowed.

A 15 acre cattail marsh was burned on the Holmes (140a) WPA in Dickey county. If insufficient snowmelt run-off occurs to drown out some of the cattails, this small WPA will be spring crowd grazed in a further effort to suppress cattail growth.

A 30 acre cattail marsh was burned on the Hamann (203) WPA in Dickey county. This marsh will be left alone with the hopes that snowmelt will be sufficient to drown out some cattails.

#5 81-05 LDW

#6 - Before and after photographs of the Type IV marsh on the Hamann (203) D WPA in Dickey county. 81-06 LDW

Several more marshes were scheduled for burning but winter snows interfered with the plans. Aerial photos of treated and untreated marshes were taken for future evaluation of the results of the treatments.

During the course of the summer several drained type three wetlands on two WPA's were discovered and subsequently plugged. One drained wetland was restored on the Carlson (208) WPA in LaMoure county and five drained wetlands were restored on the Moldenhauer (384) WPA in Logan county.

#7 81-07 JWJ

#8 - Drained Type III and Type IV wetlands which were restored via ditch plugs on the Moldenhauer (384) L WPA.
81-08 JWJ

4. Croplands

Twenty six permittees farmed 1,345 acres under cooperative agreements. Under the terms of the agreement, the crop on 151 acres was harvested and taken to the elevator where it was sold. The money derived from the sale of this grain, which amounted to $7,596.87 as of December 1981, was distributed to Red Rocks Lake NWR and Northern Prairie Wildlife Research Center which converted the money back to grain to feed waterfowl.

The ultimate goal of this cropland farming is proper seedbed preparation for the establishment of Dense Nesting Cover (DNC). A total of 100 acres on four WPA's were seeded to DNC with a nurse crop in early spring, and 389 acres on seven WPA's were seeded to DNC in late October and early November by cooperative farmers. The DNC mixture contained five pounds of intermediate wheatgrass, two pounds of tall wheatgrass and three pounds of alfalfa per acre.

1981 DNC SEEDING

WPA	Acres	Season
Reinke (354)D	52	Spring
Barr (54a)LaM	138	Fall
Rasmussen (152)LaM	12	Fall
Boschee (368a)L	40	Fall
Dallman (338)L	34	Fall
Kroll (116)L	59	Fall
Bender (215)McI	90	Fall
Brinkman (195)McI	16	Fall
Kappes (287)McI	14	Spring
Meidinger (436)McI	22	Spring
WIC (214d)McI	12	Spring

Twenty eight acres of cropland on the WIC (277a)McI were seeded to "Ranger" variety alfalfa at 10 pounds per acre at the request of the Northern Prairie Research Center. A research crew is doing nest dragging research on a nearby WPA and wanted some areas where they can do some informal comparison nest drags on DNC versus straight alfalfa fields. It is suspected by the research crew that pure stands of alfalfa are more attractive to nesting waterfowl than DNC.

One hundred twenty nine acres on four WPA's were seeded to native grass by refuge personnel in 1981. The native seed mixture consisted of three pounds of big bluestem, two pounds of sideoats gramma, one pound of green needlegrass, one pound of slender wheatgrass, one pound of intermediate wheatgrass and three pounds of switchgrass, pure live seed per acre.

1981 Native Grass Seeding

WPA	Acres	Season
Olson (53)LaM	14	Fall
Brinkman (195)McI	6	Fall
Jenner (289)McI	85	Spring
Mund (134)McI	24	Spring

A total of 463 acres of degenerate tame grass fields were broken out in late summer for cropping in 1982 and return to DNC in 1983.

Within the district there are five WPA's containing wildlife food plots totaling 34 acres of corn. These plots support resident populations of wintering white-tail deer, pheasant and Hungarian partridge. They are all farmed and maintained by local sportsmens groups or individuals interested in helping wildlife.

A four acre food plot on the Quandt (210) D WPA was summerfallowed and seeded to perennial grain in the fall. This is a cross bred plant between wheat and intermediate wheatgrass. It produces a perennial grass plant with very large seed heads which hopefully will provide a good low maintenance food source for use on wildlife food plots.

5. Grasslands

Over 35 per cent (15,000 acres) of the Kulm WMD fee title acreage is native rangeland or restored native grasslands. Thus a major emphasis of management in the district consists of attempting to keep these rangelands vigorous, with overall range trends moving upwards toward good to excellent range condition. It is assumed that such range conditions produce the most desirable nesting habitat.

The main problem with native rangelands within the Kulm WMD is invasion by two cool season exotic grasses, Kentucky bluegrass and smooth brome. These grasses are the first to grow in the spring and produce much low growing foliage. 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 warm season 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.

There are two main management techniques for suppressing exotic cool season grasses within the mixed grass prairie. They consist of burning, and grazing by livestock.

The critical growth period for Kentucky bluegrass and smooth brome begins with initial spring green up and continues for about a month. During this period all green growth is accomplished directly through the utilization of nutrients stored in the plant's root reserves. Total removal of the green leaves at this time through fire or heavy grazing pressure severely 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 and wheatgrasses is approximately two to three weeks behind the exotics so they generally have the ability to regrow during the same year as the spring treatment. The warm season grasses such as bluestems and switchgrass are basically unmolested during their critical growth period which starts in late May to early June.

Fall regrowth is a second critical growth period that occurs in Kentucky bluegrass during September and October. One hundred per cent of fall regrowth is dependent upon the utilization of root reserves. One can take advantage of the selectivity of grazing animals by fall grazing with a moderate stocking

rate (0.5 AUM/acre) during which time the livestock will graze almost exclusively on Kentucky bluegrass while leaving the cured out native grasses alone, thereby significantly depleting the root reserves of this exotic grass prior to the winter. Then the following spring the area can again be crowd grazed (1 AUM/acre) or burned to further deplete the root reserves and hopefully kill the plant.

Litter control on tracts of native prairie that are not invaded by exotic grasses can be achieved through burning, grazing or haying in the fall. By September all of the native grasses have passed their critical growth stage and have fully replenished their root reserves so total vegetative removal by any means for litter control should not influence existing species composition.

Fall treatments have the added attraction of not disturbing nesting birds that spring treatments incur.

The techniques of spring crowd grazing, back to back fall-spring grazing and fall crowd grazing and their effects on range condition and waterfowl nesting success are presently incorporated in the NPWRC burning-grazing research project occurring within the Kulm WMD.

Non-native grasslands within the Kulm WMD include 6,000 acres of DNC and about 2,000 acres if tame grasslands. Degenerate stands are periodically rejuvenated through haying, haying followed by chisel plowing or cropping and reseeding.

7. Grazing

During 1981 the Kulm WMD permitted grazing of 5,313 acres on 50 WPA's. Receipts from grazing totalled $21,279.35.

This is slightly higher than the normal acreage grazed within the district in any given year for two reasons.

One reason was about 20 new WPA's which had not previously been fenced could be included in our grazing cycle thanks to the previous year's BLHP fencing project. Basically the cycle consists of a spring crowd graze every fourth year spaced by three years of rest.

Another reason was that the extreme drought conditions that existed within the Kulm district over the past two years presented a good opportunity to control Kentucky bluegrass through spring crowd grazing with a minimal impact on nesting waterfowl. Of the 50 WPA's grazed, 25 had no water present in the WPA wetlands. Water for livestock was present only in the form of existing dugouts, developed springs, or had to be provided by the permittee.

Crowd grazing was used as a seeding tool on two WPA's. On the Schopp (433) McI livestock were turned into a 130 acre stunted crested wheatgrass field on May 1. By June 10 the grass had been pretty well cleaned off and the permittee seeded six pounds of ranger alfalfa per acre directly on the ground. The cows were left in the pasture until the end of June so that the alfalfa seed would be trampled into the soil. Summer rains ensured germination and by late August many alfalfa seedlings were well established throughout the field. Hopefully

the nitrogen fixing alfalfa will cause increased vigor in the crested wheatgrass besides providing a more desirable nesting cover itself. The light soils on this hilly WPA are not suitable for plowing and planting to DNC, so this type of renovation was accomplished with a minimum of time and effort.

#9 - Tract of native prairie on the Werth(166) McI WPA in September 1981 that was spring crowd grazed the same year. 81-08 FGM

Livestock were used to crowd graze an 85 acre native pasture on the Mund(143) McI WPA. Within this pasture there was a 24 acre crop field that was in stubble from the previous year's cropping. The cows were turned in on April 18 and the field was seeded to native grasses in mid-May. The cows kept the stubble field free of all early growing weeds plus it is hoped that seed trampling will be beneficial to seedling establishment. By early September it appeared we were having a fairly good catch of native grass, however the field was heavily infested with pigeon grass. It was hoped that this method would provide a firmer seed bed and would eliminate the need for mowing newly seeded fields for weed control.

This field's response in 1982 will have to be evaluated before coming to any definite conclusion.

The following chart gives the pertinent information on the units grazed in 1981. Stocking rates were set at 1 AUM/acre of grassland but often exceed that rate on paper due to the fact that livestock spend a considerable amount of time in dry wetlands eating cattail shoots and other wetland forage. Each WPA is monitored during the grazing season with livestock being left on until the native upland has had sufficient litter removal. In the case of fall crowd grazing the stocking rate should be increased to 1.5 AUM/acre of grassland to achieve proper litter removal, as the cows prefer to eat green wetland vegetation rather than cured out native grasses.

UNITS GRAZED IN 1981

WPA	Acres	# Cows with calves	Dates	Stocking Rate AUM's/Acre
Lazy M (340) D	1200	120 yrlgs	5/1/-8/24 (rest rotation)	0.8
WIC (15a) D	28	30	5/11-6/10	1.0
Honl (76) D	122	94	5/2-6/8	1.0
Marek (123) D	35	25	5/2-6/16	1.1
Barton (204) D	74	60	5/3-6/10	1.0
Earnest(13)(37) D	80	97	5/15-6/15	1.6
Jackson (151) LaM	60	50	5/1-6/9	1.3
Lundgren (47) LaM	80	70	4/6-6/5	1.8
Cornell (15) LaM	96	51	4/15-6/15	1.1
Riss (151) LaM	43	41	5/6-6/23	1.2
Kannowski (10) LaM	50	37	4/11-6/11	1.6
Enzinger (13) LaM	60	80	5/1-6/9	1.8
Malm (29) LaM	45	40	4/18-6/10	1.6
Krueger (23a) L	75	73	5/4-6/4	1.0
Moldenhauer (384) L	79	80	5/2-5/30	1.0
Kusler (148) L	34	66	5/4-5/30	1.7
Muonio (109) L	48	44	4/25-6/3	1.2
Kosanke (53) L	120	80	4/23-5/23	0.9
Nitschke (388) L	58	53	4/26-6/12	1.4
Buchholz (65) L	80	56	4/15-5/31	1.1
Mundt (75) L	133	105	5/4-6/15	1.1
Kroll (116) L	86	110 yrlgs	5/2-6/15	1.5
Larson (12) L	103	75	4/29-6/9	1.0
Ammon (14b) L	140	74	4/24-6/15	1.0
Lahr (396) L	140	72	5/1-6/15	0.8
Koskiniemi (29) L	71	56	5/11-6/18	1.0
Brunner (101) L	140	90	4/20-6/19	1.3
Karius (243) L	63	52	5/1-6/20	1.3
Mund (134) McI	85	71	4/18-6/5	1.5
Kesselberry (249) McI	40	40	5/1-6/21	1.6
Rothfusz (280) McI	68	79	5/1-6/2	1.2
Nitschke (118) McI	25	15	5/2-6/10	0.8
WIC (214) McI	55	40	4/20-6/10	1.3
Schumacher (150) McI	30	32	5/8-5/29	0.8
Kramlich (216) McI	60	70	4/30-6/2	1.3
Klein (33) McI	72	60	4/20-6/3	0.9
Fey (144) McI	78	66	4/20-6/4	1.5
Lux (193)(204) McI	97	65	5/5--6/15	1.0
Pfeifle (177) McI	92	64	4/17-6/7	1.3
Betsch (55) McI	30	25	5/1-6/15	1.3
Werth (166) McI	50	50	4/28-6/10	1.4
Ruff (179) McI	130	85	5/1-6/15	0.9
Ulmer (220a)	50	62 yrlgs	4/25-6/10	1.5
Schneider (53) McI	40	30	5/8-6/24	1.1
Klipfel (274) McI	90	76	4/25-6/15	1.4
Kempf (25)(143) McI	250	85	4/24-6/30	0.8
Schopp (433) McI	125	100	5/1-6/30	1.6
Koepplin (142b) McI	146	110	5/19-6/21	0.8

NPWRC Grazing Research Project

WPA	Acres	#Cows with Calves	Dates	Stocking Rate AUM's/Acre
Erlenbusch (12)(262) D				
Field #1	57	43	9/1-9/24	1.2
Field #3	81	27	9/1-10/21	0.5
Lazy M (340) D				
Field #3	80	35 yrlgs	8/25-10/15	0.6
Field #5	110	88 yrlgs	8/25-10/15	1.0
Geiszler (210) McI				
Field #4	85	61	9/6-10/15	1.0
Field #5	87	32 yrlgs	9/1-10/15	0.5

8. Haying

A total of 536 acres on 16 WPA's were hayed in 1981. Receipts from haying totaled $1,948.

Most of the land was hayed in August in an attempt to remove excessive litter and rejuvenate old stands of grass.

#10 - This tract of seeded native grass on the Miller (171) L WPA was hayed in August of 1980 to remove excessive litter. 81-10 JWJ

Two alfalfa fields on the Quashnick (349) D and Klettke (304) D WPA's were hayed at the request of NPWRC personnel. These fields will be hayed and nest dragged annually over several years for a comparison of waterfowl nesting success with nearby DNC fields.

A 30 acre DNC field on the Goehring (368) McI WPA was hayed and chisel plowed, and 90 acres of sparse DNC on the Gruneich (359a)(361) WPA were hayed and overseeded with 10 pounds per acre of DNC mix in the late fall. The following table shows pertinent data relating to the units hayed.

WPA	Acres Hayed	Type of Hay
Quashnick (349) D	20	alfalfa
Klettke (304) D	22	alfalfa
Marek (123a) D	18	Brome
Gruneich (359a)(361) D	90	DNC
Schock (249) LaM	7	slough
Schock (249a) LaM	18	Brome
Dittus (180) LaM	15	Brome-slough
Wetzel (253) LaM	45	alfalfa
Kessel (181) LaM	15	Brome
Hochhalter (283) L	39	Brome-native
Eisenbeis (379) L	5	Brome
Fandrich (52a) L	80	alfalfa-brome
Klein (33) McI	43	DNC
Sackman (100) McI	50	native-crested wheatgrass
Goehring (268) McI	46	DNC
Berlin Church (130a) McI	23	DNC-brome

9. Fire Management

Three cattail marshes totalling 75 acres on three WPA's were prescribed burned in October 1981 to remove excessive cattail litter.

No spring burning of native grasslands was planned.

One wildfire occurred on the Lundgren (47) LaM WPA during October when a neighboring farmer allowed a slough fire to get away. The fire burned a 30 acre field of seeded native grass and about 10 acres of cattail marsh before being suppressed.

10. Pest Control

The Kulm WMD is required by state law to control noxious weeds on its fee title areas. The main emphasis in 1981 has been on controlling leafy spurge and Canada and Russian thistle.

Thistle seed is fairly widespread throughout the district and wherever disturbed land is left untended, thistle tends to grow. Thus the main thistle problem occurs in newly seeded fields where DNC 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 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. This year thistle was mowed on 3 WPA's.

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, county officials and casual passers by.

The best results at controlling this plant have been to spray with Tordon 22K in mid-June, just prior to seed ripening with a followup spray in the fall to kill new seedlings. Since most areas of spurge infestation are small patches, spray is applied via a hand sprayer. This gives excellent control of this potent chemical 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 germinate up to eight years after dissemination.

In 1981 2.5 man months were spent conducting spot spurge control on 30 WPA's.

As dictated by state law the district is required to mow the roadside ditches along all of the WPA's. On WPA's there farming, grazing or haying is permitted the stipulation is that the cooperator will mow the roadside for the district. On WPA's where no use has been permitted, payment is made to neighboring farmers to mow the road shoulder. In 1981 $522.50 was spent for mowing 11.5 miles of WPA roadside ditches.

13. WPA Easement Monitoring

Due to the unusually mild weather that occurred in the fall of 1980 the Kulm WMD re-flew the easement areas in Dickey and LaMoure counties where most of the violations occur, in the spring of 1981. Only one new ditching violation was discovered and the landowner was contacted and a restoration time frame agreed upon.

Between November 2-14, 1981, aerial easement checks were made over the district. In the four county area 16 possible easement violations were discovered. Of these, nine cases have been investigated and documented with restoration time frames worked out with the violators. The other seven possible violations need to be ground checked after snow melt in the spring. The following is a listing of easement violations investigated in 1981.

Easement	Violation	Final Disposition
Dickey (112x)	2 scraper ditches & fill	Restoration prior to spring field work
Dickey 343x)	2 tree piles in wetlands	Restored by 12/20/81
LaMoure(190x)	1 scraper ditch	Restoration by 6/1/82
Logan (117x)	2 scraper ditches	Restoration prior to spring field work
Logan (62x)	2 scraper ditches	Restoration prior to spring field work
Logan (300x)	3 scraper ditches & fill	Restored by 11/17/81
Logan (147x)	1 scraper ditch & fill	Restored by 11/17/81
Logan (137x1)	2 scraper ditches & fill	Restored by 11/17/81
Logan (175x)	2 scraper ditches & fill	Restoration prior to spring field work
Logan (84x	1 plow furrow ditch	Restored by 11/22/81

#11 81-11 FGM

Easement violator on easement 300x in Logan County removing fill from the wetland basin (above) and replacing it in the ditch (below). The restoration work was accomplished in the nick of time as freeze-up occurred the following day.

#12 81-12 FGM

G. WILDLIFE

2. Endangered and/or Threatened Species

Whooping cranes migrate through North Dakota but no verified sightings have taken place in the Kulm WMD since this office was established.

Only one bald eagle was observed on migration this fall within the district and that was near the Larson(12) WPA in Logan County.

3. Waterfowl

The random quarter section pair count was used to obtain an estimate of the number of breeding duck pairs in the district during the last week of May. Refuge personnel inventoried 1,689 wetland acres on 34 WPA's out of 16,840 wetland acres owned in fee title. Thus the production projections are based on an actual inventory of 10 per cent of the WPA wetland acres. Due to the lack of snowfall over the winter plus the second consecutive dry spring only 28% of the wetlands were wet when this pair count was undertaken.

Waterfowl production on WPA's within the district totalled 14,700, which was only 33 per cent of the 1979 WPA production estimates, when the wetlands were 100 per cent full.

No production estimates are attempted on easement acreage due to lack of data.

Estimated Waterfowl Production on WPA's

Species	Pairs Counted	Projected Breeding Prs.	Avg. Prod. Rate .45	Std. Brood Size	Total Ducks Produced
Mallard	89	896	403	6	2,418
Pintail	37	372	167	6	1,002
Gadwall	112	1,127	507	6	3,042
Blue Wing	116	1,169	526	7	3,682
Green Wing	6	61	27	7	189
Shoveler	38	382	172	6	1,032
Redhead	61	613	276	6	1,656
Canvasback	15	151	68	5	340
Ruddy	64	646	291	4	1,164
Widgeon	1	9	4	6	192
Scaup	7	71	32	6	192
					14,741

This year the fall goose migration occurred along the James River in the eastern part of the district. Not many geese stayed around the Kulm area as happened the year before. The peak population along the James River was about 200,000 birds in late November.

4. Marsh and Water Birds

Due to the extremely dry wetland conditions nesting habitat for commonly occurring marsh and water birds such as the American bittern and black crowned

night heron were very poor.

The cormorant rookery on the Graham (31) D WPA was abandoned for the second consecutive year because the nesting island was connected to the mainland due to low water levels.

5. Shorebirds, Gulls, Terns and Allied Species

All had poor nesting conditions within the Kulm WMD in 1981 due to the lack of water.

6. Raptors

The most frequently observed raptors such as marsh hawks, American kestrels and great horned owls appeared to be present in normal numbers.

In early November large numbers of migrating raptors were in the Kulm district. The main species were rough-legged, red-tailed, Swainsons and ferruginous hawks.

7. Other Migratory Birds

Songbird populations appeared to be in the normal range.

8. Game Mammals

A special white-tailed deer archery season was allowed for the fifth straight year on the Maple River NWR, after the deer gun season closed. This hunt is an effective tool to disperse deer concentrations and reduce depredations on neighboring croplands. Peak population on the 400 acre parcel open to bow hunting was about 50 deer, compared to over 300 in years past.

Within the entire WMD white-tailed deer seem to be on the increase after two consecutive mild winters. Deer can be found on almost every one of the 200 WPA's within the district.

During the winter months trapping and hunting of fur bearers is a major activity. With fox selling for $65 in the round and raccoon and badger worth $40, the search for these animals is relentless. Despite heavy hunting and trapping pressure fox numbers seemed to be very high with sightings very commonplace.

For the first time in many years coyotes seem to be moving into the Kulm WMD. FWS staff have seen coyotes on the Barr (54a) LaM, Wentz (122) L, Brinkman (315) McI, Dalke (65) McI and Werth (438) McI WPA's during the summer months and reports from local citizens indicate another dozen or so sightings from all areas within the district. A pair of denning coyotes were destroyed by ADC personnel in the spring on the Brinkman (315) McI WPA due to a complaint by a neighboring sheep raiser. That was unfortunate, as a coyote den on this 1400 acre WPA could have been beneficial in controlling other waterfowl nest predators.

10. Other Resident Wildlife

Two consecutive mild winters have been very beneficial to existing populations of upland game birds, as large numbers survived the winters to produce offspring.

The Hungarian partridge and sharptailed grouse populations seem to be up substantially throughout the entire district. Pheasant populations in the Ellendale-Oakes area were up tremendously due to the mild winter and large amount of sunflower stubble. This is the only portion of the Kulm WMD where sizable pheasant populations occur.

15. Animal Control

During the summer the Kulm WMD assisted the branch of Animal Damage Control in disseminating scare devices and information for controlling waterfowl and blackbird depredation. Scare devices were loaned or given to over 70 local farmers. According to ADC personnel this was to be the last year for giving away scare devices as next year farmers should be able to buy them from local distributors.

As was discussed under "Game Mammals", a breeding pair of coyotes was removed from the Brinkman (315) McI WPA by ADC personnel due to a complaint by a neighboring sheep owner.

17. Disease Prevention and Control

During 1981 there was a minor botulism outbreak on one area, Lake McKenna southwest of Napoleon. Between July 31 and Sept. 21 a total of 451 waterfowl and 46 white pelicans were picked up. The situation could have been much worse except that breeding waterfowl numbers were greatly reduced due to drought. There was also evidence of a few ducks dying of botulism on the Wentz (122) L and the Graham (31) D WPA's but no pickup was initiated as the raccoons effectively cleaned up the few carcasses present.

PUBLIC USE

2. Outdoor Classrooms - Students

In May the Kulm WMD participated in the Soil Conservation Service's 7th grade environmental education tour. Biological Technician John Jones gave a presentation on waterfowl identification and the importance of North Dakota wetlands in waterfowl production to students from the surrounding six county area. The site for this presentation is the Wendt (165) WPA in LaMoure county.

#13 - Students enjoying "hands on" environmental education during conservation tour. 81-13 JWJ

8. Hunting

As mandated by the small wetland acquisition program all WPA's are open to hunting of waterfowl and resident game. Due to poor water conditions waterfowl hunting pressure on WPA's was very light. However, the 30 WPA's in the drift prairie received very heavy hunting pressure due to increased pheasant numbers and the posting of private lands.

For the third year in a row pheasant hunting was allowed on the Maple River NWR. A late season, running from Nov. 17 to Dec. 31 was allowed on the 400 acre fee title parcel of this easement refuge. The late season was designed to eliminate conflicts with heavy waterfowl use on the refuge during the fall migration and yet allow local hunters the opportunity to harvest surplus pheasants. This refuge received heavy hunting pressure with an estimated 100 pheasants harvested.

10. Trapping

As mandated by the small wetlands acquisition program all WPA's are open to trapping of furbearers. With the strong interest in trapping in North Dakota almost all of the district's 200 WPA's receive trapping pressure.

15. Off-Road Vehicling

The public off-road vehicle problems within the Kulm WMD are caused by hunters, trappers and fisherman. Most damage occurs in the fall when unauthorized traffic makes trails in DNC and native prairie which create travel lanes for

predators during the following nesting season.

This year the Kulm WMD staff stickered many WPA signs with a yellow adhesive "no vehicle" sign which seemed to cut down on the number of violators, especially by deer hunters. However, a new problem arose as people thought that since some WPA's were signed with a "no vehicle" sign then a WPA without a sign could be driven on. It seems to be all or nothing proposition.

Also this year there were many snowmobile trails on the Mundt (65) WPA in Logan county caused by ice fishermen on Mund Lake who would occasionally go for a spin on the surrounding native prairie and DNC. Since part of this lake is still in private ownership it is virtually impossible to keep snowmobiles off the ice.

It seems that when it comes to vehicle tracks on WPA's the FWS may be its own worst enemy.

One would think with all the changes in the sign manual of late the FWS would have some effective signs to deal with management problems. But alas, this is not the case. All of the WPA signs should have "no vehicles" printed somewhere on the sign so that we wouldn't have to add additional stickers which create more work and confusion. Many of the larger WPA's within the Kulm WMD have a single access trail which allows neighboring farmers access to their land. If all parties would stick to the one trail things would not be too bad, however the trail often becomes a major artery from which many spurs can radiate. Somewhere in the sign manual there should be a sign which denotes the message, "Please stay on the trail." The current "Vehicle Access Route sign" doesn't impart this message.

Also, in the course of everyday work many tire tracks on WPA's are caused by FWS personnel. The greatest single cause of tire tracks occur from the Kulm WMD spray truck during weed control efforts. During 1981, the spray truck drove all over 30 WPA's.

The six WPA's on which NPWRC is conducting nest dragging research have more trails than the adjacent section lines, and it is virtually impossible to repair fences or boundary signs without driving on the WPA.

While FWS staff attempts to keep tire tracks to a minimum, probably 75 per cent of off-road vehicle damage within the Kulm WMD is caused by FWS management operations.

17. Law Enforcement

This year things were relatively quiet. There were no major farming or grazing trespass problems and very few game violations. There were four game law cases made, one for possession of a whistling swan, one for possession of a canvasback, and two for hunting in a rest area.

On the night of April 1, 1981 the FWS shop facilities west of Kulm were burglarized. Someone had cut their way through three locked gates and stole approximately 400 steel posts and five rolls of barbed wire. The stolen materials were discovered by local law enforcement authorities on the Merwin R. Carlson farm, two miles northeast of Kulm.

A subsequent investigation by the FWS Special Agent Robert Gelvin of Bismarck led to the arrest of four local men; Merritt M. Carlson, Merwin R. Carlson, Daniel L. Pahl and Leroy Van Joslin Jr., who were charged with felony theft of Government property (18 USC 641).

On September 9, 1981 three of the four men who pled guilty in U.S. District court in Fargo, ND were sentenced to 1 year in jail with 11 months suspended sentence, and 2 years probation. Mr. Van Joslin, whose testimony was used to convict the other three received a sentence of 2 years probation.

I. EQUIPMENT AND FACILITIES

1. New Construction

During the month of April the Kulm WMD borrowed a backhoe from Arrowwood NWR for three weeks to develop some small wetland sites that could be used for stock watering on WPA's that were devoid of water. A total of nine sites were developed on seven WPA's. Four sites were spring developments and 5 sites were small dugouts consisting of about 200 cubic yards of excavated material.

#14 - Spring development on the Schumacher(150) McI WPA. The spring was excavated to a depth of 6-8 feet and filled with rock to prevent plugging. A small adjacent catch basin stores seepage water. 81-14 FGM

#15 - Spring development on the Werth (166) McI WPA. The spring was excavated to a depth of 6-8 feet, filled with rock and piped about 30 feet down hill to an excavated holding basin. 81-15 FGM

#16 - Spring development on the Baltzer (70) L. A small pond was excavated on gravel soil right over the spring site. 81-16 JWJ

#17 - A small traditional style dugout which collects groundwater on the Kempf (25) McI WPA. 81-17 JWJ

Two 1000 yd livestock dugouts were constructed by contract, one each on the Geiszler (210) McI and Jenner (289) McI WPA's.

A major construction effort in 1981 was the construction of 22.75 miles of three strand barbed wire fence on 21 WPA's. This fence construction is necessary for management of native grasslands with livestock to maintain a vigorous plant community conducive to waterfowl nesting. All of this fencing was done force account using summer temporary labor.

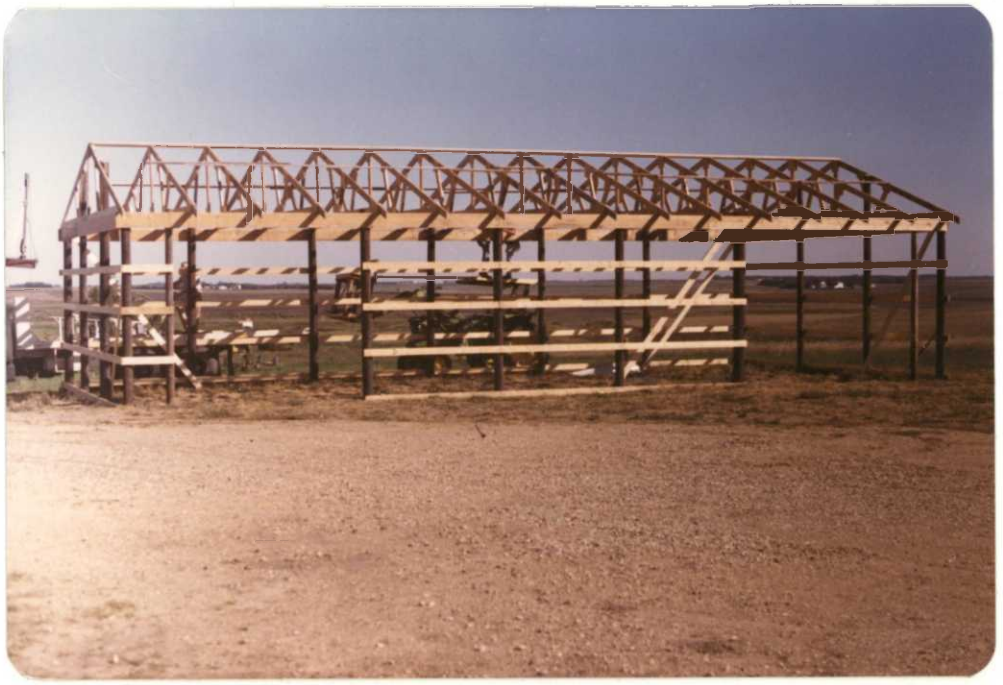
The following is a list of units on which fencing was accomplished in 1981.

WPA	Mi. of Fence	WPA	Mi. of Fence
Heine (356)D	1.25	Dallman (338)L	0.5
Cornell (15)LaM	0.75	Moldenhauer (384)L	0.75
Olson (53a)LaM	0.25	Knecht (397)L	1.75
Riss (151)LaM	0.50	Mayer (408)L	1.25
Jackson (159)LaM	0.75	Krueger (230)L	0.5
Wendt (165)LaM	1.0	Sperling (168)L	1.5
Musland (175)LaM	0.5	Baltzer (70)L	3.5
Carlson (208)LaM	1.5	Hoffman (121)McI	2.5
Allison (259)LaM	2.0	Kappes (287)McI	0.75
Gackle (52)LaM	0.25	Koskiniemi (29)L	0.5
Opp (178)L	1.0		

Another major project was the force account construction of a 30 foot by 60 foot metal pole barn at the Kulm shop site which will be used to house farm implements and light trucks. The barn was sided with yellow sheet metal siding which matches the three existing buildings at the shop site.

#18 - A boom was constructed and adapted to fit a local wrecking truck (above) so that the pole barn rafters could be lifted by winch cable and set into place (below). 81-19 FGM

#19 81-19 FGM



#20 - The wood frame barn (above) was sided with colored aluminum sheeting to match existing buildings. New pole barn is in foreground (below). 81-20 FGM

#21 81-21 FGM

3. Major Maintenance

Approximately 250 miles of refuge boundary (out of 520 miles total) was field checked for bent, broken and tattered WPA signs and poles throughout the four county area.

Seven miles of useless fence on 11 WPA's were removed and two dump sites, one on the Wetzel (253) and one on the Linnard (242)LaM WPA's were buried.

#22 - Barbed wire roller custom built by maintenance helper Jim Steinmetz. Old wire is guided through center square onto spool which is driven by rubber tire on PTO. The square guide makes it impossible for the wire to slip off of the spool while winding. 81-22 FGM

4. Equipment Utilization and Replacement

Two new Honda 110 ATV's and a used John Deere 2010 backhoe loader were purchased with O&M funds in 1981.

As discussed under the "Funding" section, the current O&M budget is barely adequate to cover the station's costs for the existing fiscal year so a plan for the orderly replacement of aging vehicles and heavy equipment is non-existent. In another two or three years the Kulm WMD will be operating with an entire fleet of well used pickup trucks in need of replacement.

J. OTHER ITEMS

2. Items of Interest

For the third year in a row FWS fielded a slow pitch softball team which

participated in the local league. "Wildlife" came in tied for second place with a 5-4 won/lost record, and came in second with a 2-2 record in the double elimination tournament. Everyone had a good time and the staff is looking forward to next season.

3. Credits

This report was written by Assistant Refuge Manager Francis Maiss and typed and assembled by Refuge Assistant Edna Okerlund.

K. FEEDBACK

One of the main items of concern within the Kulm WMD is the lack of any positive movement in the past four years in resolving the stalemate between Small Wetlands Acquisition Program and the Garrison Diversion project.

Currently the Kulm WMD has on file a list of 23 willing sellers who would like to sell the FWS 6,865 acres of new WPA lands. The sad part is that 4,865 of these acres would be round-outs or substantital enhancements of 15 existing WPA's that would eliminate existing management problems and conflicts.

Since the favorable court ruling of 1981 which stated that North Dakota could not legally interfere with the SWAP program the FWS should proceed with some form of acquisition program for round-outs, problem solving and high quality additions.

Perhaps the Service should embrace the philosophy of this administration on decentralization of government with the placing of funding and authority at the local, rather than the national level and apply this to the National Wildlife Refuge System. It is evident after four years of in-action by the Service that the SWAP program has been "tabled" and may never be activated again. If this problem was handled at the project leader level rather than "on high" it is likely that the problem could have been resolved within a year. Certainly this philosophy could apply to many other problems and needs in the National Wildlife Refuge System.

A project to reduce botulism on Lake McKenna, a meandered lake in public ownership, should be investigated. This single 2,200 acre wetland southwest of Napoleon, ND is the site of annual waterfowl losses which have ranged from 1,000 to 50,000 ducks per year. This lake is thus responsible for destroying a number of ducks that is the equivalent to 10-50% of the district's entire WPA production every year. The effect of this lake on the district is about like draining and plowing 20,000 acres of productive WPA land. If one considers that it would cost about $8,000,000 to buy enough land to offset these losses (and acquisition is not looked on favorably these days), then any less costly project that would be successful, such as changing it from a shallow wetland to a deep water lake, would be a bargain.