J. Clark Salyer
Wetland Management District

Upham, North Dakota

ANNUAL NARRATIVE REPORT

Calendar Year 1986

U.S. Department of the Interior

Fish and Wildlife Service

NATIONAL WIDLLIFE REFUGE SYSTEM

REVIEW AND APPROVALS

J. CLARK SALYER WETLAND MANAGEMENT DISTRICT

Upham, North Dakota

ANNUAL NARRATIVE REPORT

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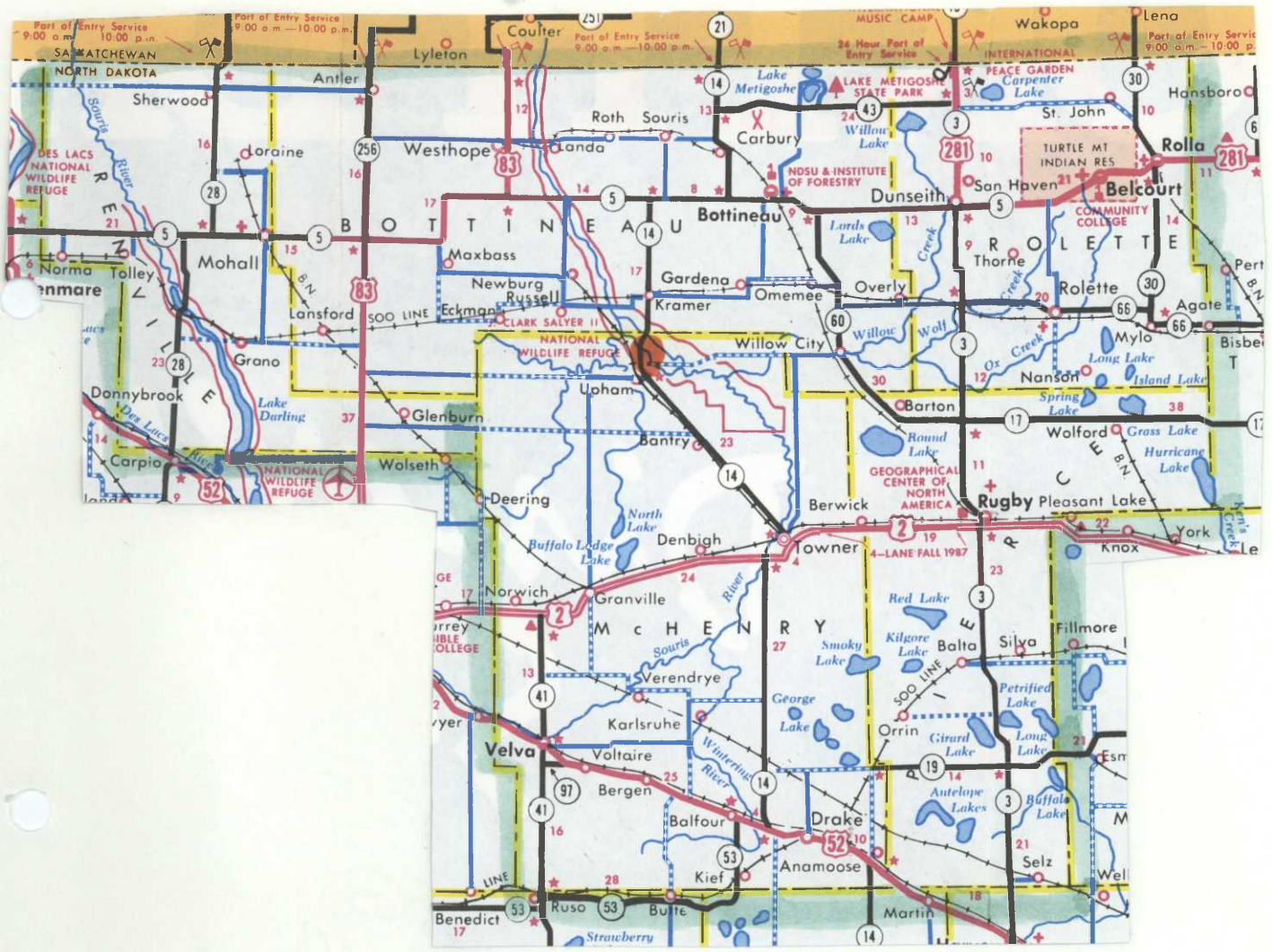
Gary Eslinger	6/11/87	Robert L Howard	6/11/87
Wetland Manager	Date	Project Leader	Date
Dale B Henry	6.23.87		
Refuge Supervisor Review	Date	Regional Office Approval	Date

Introduction

J. Clark Salyer Wetland Management District is located in northcentral North Dakota. The district is made up of Renville, Bottineau, Rolette, McHenry and Pierce Counties. Within the five counties there are over 2,000 easement contracts protecting 118,000 wetland acres, 114 Waterfowl Production Area Management Units totaling 22,192 acres, and 7 easement refuges totaling 8,826 acres.

The majority of the district is made up of glacial drift prairie with glacial Lake Souris occupying central Bottineau County and northcentral McHenry County. A portion of eastern Pierce County, in and around Hurricane Lake, lies within glacial Lake Cando. Only a small portion of southwestern McHenry County lies within the Missouri River Coteau. A twelve township sized area in southwestern Rolette and northcentral Pierce Counties is made up of numerous small prairie lakes and potholes comparable to the Missouri River Coteau. A majority of the district WPA's are located in this geological formation. The Turtle Mountains lie in the northeastern part of the district. They are not mountains as such but a wooded moraine rising about 500 feet above the surrounding prairie. Many shallow lakes and small potholes make up this geological formation. Uncleared uplands in the Turtle Mountains are made up of green ash, burr oak, aspen and various shrubs.

J. CLARK SALYER WETLAND MANAGEMENT DISTRICT



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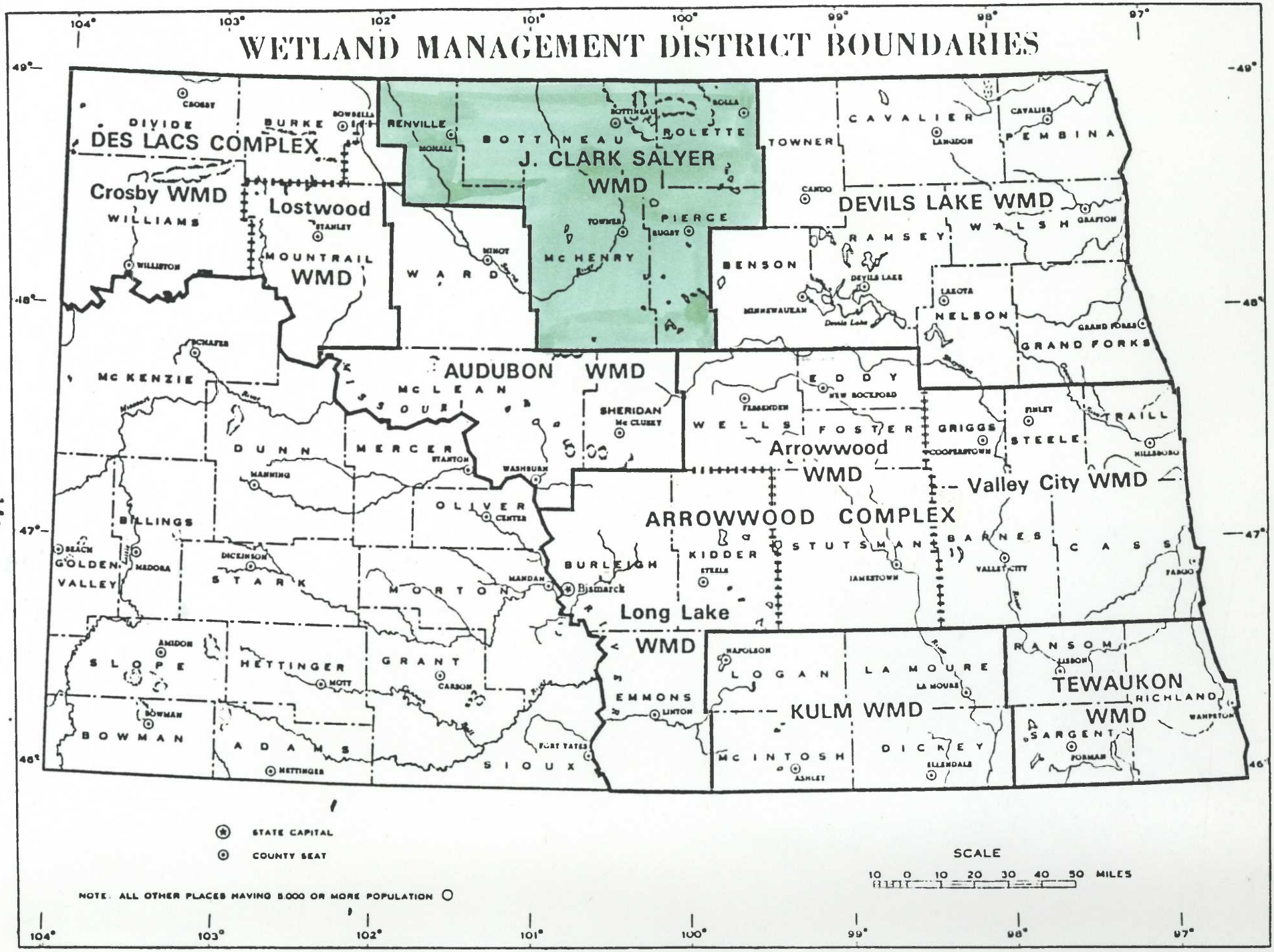

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A. HIGHLIGHTS

In March the Fish and Wildlife Service, North Dakota Game and Fish Department, North Dakota Chapter of the Wildlife Society and the Bottineau County Water Resource Board entered into a Memorandum of Understanding in regards to the White Spur Drain and Stone Creek Channelization Project (F.11.).

Thirteen new easement contracts were signed in 1986 protecting about 722 acres of wetlands (C.2.).

Judge rules on Russell Drain lawsuit (F.11.).

Only three confirmed easement violations in 1986. This is the lowest number of violations since enforcement of easement contracts began (F.13.).

B. CLIMATIC CONDITIONS

The year began with a heavy snow cover in southern and eastern portions of the district as a result of snowfall received in November. Temperatures however were generally very mild in January and the first part of February so conditions were easy on wildlife. Coldest temperature of the year was -36°F on February 20.

The spring thaw began on February 25 and by March 10 most snow had disappeared from the landscape. Most district wetlands were observed to be in good shape during easement flights in March. However there was a dry area beginning in northern McHenry County and extending into parts of eastern Bottineau and western Rolette Counties. Ice went out of most district wetlands on April 1. Precipitation was heavy in April with most areas receiving over three times the normal. May and June were on the dry side, but soil moisture was adequate due to heavy April precipitation.

Last frost of the spring was 26° on May 17. High temperature for the year was 96° on June 19. During July heavy precipitation fell across the district with many areas receiving two to three times their normal. The heavy rains filled temporary wetlands in some areas. This weather pattern however produced mixed results on crops with most benefitting but some being damaged due to blight and disease brought on by the extremely wet conditions.

Dry weather arrived in August and allowed farmers to begin their harvest. First frost of the fall was 26° on September 6. In mid-September a wet spell halted harvesting for a month. Dry weather returned later in October and allowed most farmers to complete their harvest. Winter arrived suddenly on November 7 with a major blizzard that dumped over a foot of snow on most of the district. By November 9 most waterfowl were gone and water areas were frozen. Mild weather returned in late November and melted much of the snow cover in southern and western portions of the district. A good 10-12 inch snow cover remained in the northern and eastern parts of the district until the end of the year due to slightly cooler temperatures.

At Upham total snowfall for 1986 was 35.9 inches. Total precipitation was 15.99 inches or 0.62 inches below the normal of 16.61 inches.

C. LAND ACQUISITION

1. Fee Title

No fee acquisition took place in the five county wetland management district in 1986. The first tract to be acquired since 1978 is scheduled to be purchased in early 1987.

2. Easements

In 1986, eight easement acquisition worksheets were completed and submitted to realty. At year's end 13 easement contracts were signed with a total of 722 acres of wetlands protected. A summary of the acreage and county breakdown is as follows:

There is still a lot of good habitat left to be protected. Easement 418x, McHenry County. GAE.

County	Acquired in 1986	Easement Wetland Acres	Goal Acres
Bottineau	61(2)	26,355	33,550
McHenry	248(4)	23,878	28,900
Renville	0	12,366	16,700
Pierce	377(6)	36,672	38,150
Rolette	36(1)	19,294	23,350
Total	722(13)	118,565	140,650

Easement acquisition is 84 percent complete for J. Clark Salyer WMD.

D. PLANNING

2. Management Plan

Prescribed burning plans and pesticide use plans were combined with the refuge plan and submitted to the Regional Office in March.

3. Public Participation

Revenue sharing checks were presented at the April County Commission meetings. Township boards in Renville and McHenry Counties were met with throughout the year concerning township road projects. Weed control officers were met with during the growing season and were sent summaries of weed control measures. County commissioners were also informed about our weed control efforts in the five county district.

Various Fish and Wildlife Service and wetland issue presentations were given during the year. A summary of those is as follows:

Organization	Topic	Month
Bottineau County Wildlife Federation	FWS Easement Program	January
Bottineau County Water Resource Board and Landowners	FWS and GF Habitat Programs	February-May
Rolla Kiwanis Club	FWS in Rolette County	April
Regional Solicitors Tour	Souris River and Devils Lake Basin Drainage Problems	May
Westhope Wildlife Club	Cooperative Wildlife Projects	May
Regional Solicitor-Denver	White Spur Drain	August
Mohall Ducks Unlimited Banquet	DU/FWS Projects in Upper Midwest	November
Wolford Wildlife Club	Nesting Basket Project	December

In addition landowners in Bottineau, Rolette and Pierce County were met with in regards to drainage problems.

5. Research and Investigations

North Dakota Waterfowl Stream Survey

The third and final year of waterfowl stream survey was conducted in the Souris River Basin. The study is being coordinated by Al Sapa of the Fish and Wildlife Enhancement office in Bismarck. Souris Basin streams have consistently been among the highest densities of the 12 watersheds sampled in North Dakota. A summary of pairs per mile of stream is listed below:

WATERSHED-SOURIS RIVER

YEAR	MAL	GAD	WID	PIN	BWT	GWT	RED	SCA	SHO	WOO	OTH	TOTAL
1986	1.65	1.04	0.30	0.57	4.43	0.30	0.09	0.35	0.83	0.04		9.60
1985	1.70	1.30	0.13	0.96	3.09	0.22	0.04	0.39	0.43	0.00	0.09	8.26
1984	2.13	1.30	0.26	1.08	5.87	0.09	0.09	0.35	0.91	0.17	0.04	12.29

1986 Island Searching

In cooperation with John Lokemoen at NPWRC seven islands were nest searched to document waterfowl use. Only two were used by waterfowl. The following tables summarizes the use:

Waterfowl Use

Lemer Island - Lemer Lake - McHenry County

Species	# Nests	# Success	% Success Apparent	% Success Mayfield
Gadwall	11	11	100%	100%
Pintail	8	7	88%	74%
BWT	4	4	100%	100%
Mallard	1	1	100%	100%
Lesser Scaup	1	1	100%	100%
Canada Goose	1	0	0%	0%
Totals	25	24	96%	92%

Other Bird Use

Species	# Nests	# Successful
A. Avocet	25	20
W. Phalarope	2	2

Meyer Island - Meyer WPA - Pierce County

Species	# Nests	# Success	% Success Apparent	% Success Mayfield
Gadwall	24	13	54%	27%
Pintail	5	5	100%	100%
BWT	5	5	100%	100%
Shoveler	1	1	100%	100%
Ruddy	1	0	0%	0%
Mallard	1	1	100%	100%
Total	37	25	66%	40%

This one acre island on Meyer WPA had 37 nests with a 40 percent success ratio. MG.

This island on Rush Lake WPA appears to have good waterfowl nesting potential. In 1986 it had 0 nests, 1 fox den and 3+ mink dens. It will be "intensively" managed in 1987. WJB.

Of the five remaining islands three had no use. Use on the other two is summarized in the following tables:

Long Island - Willow Lake - Rolette County

Species	# Nests	# Young
D-C Cormorant	191	417
White Pelican	444	618

Long Island - Long Lake - Pierce County

Species	# Nests	# Young
Ring-billed Gull	unknown	1400
D-C Cormorant	161	0.78 young/nest
		2.10 eggs/nest

Double-crested cormorant and ring-billed gull use on Long Lake Island in southern Pierce County. MG.

1986 Piping Plover Survey

In cooperataion with the North Dakota Game and Fish Department a piping plover survey was conducted in McHenry, Pierce, Benson and Sheridan Counties by SCA volunteer Andra Buchl. A total of 19 areas were surveyed. Plovers were found in eight areas. The following table summarizes the results:

Area - County	Total Birds	Br. Prs.	# Nests	# Succ.	# Eggs	Obsv. # Yng.
Balta WPA - Pierce	3	1	1	unk*	4	0
Bromley Lake - McHenry	11	3	3	3	9	3
Fillmore WPA - Benson	12	6	3	2	6	5
Kandt Lake - Sheridan	7	3	3	unk*	5	0
Little Antelope Lake - Pierce	13	6	6	2	23	9
Orrin Lake - Pierce	15	6	5	unk*	20	4
Sandhill Crane WPA - Pierce	11	4	2	0*	6	0
Volk NWR - Benson	3	1	1	0*	4	0
Totals	75	30	24	7	77	21

* Indicates rain storm washed nest(s) away (in most cases), a few nests were predated by fox, etc.

Piping plover nest on West Antelope Lake WPA. AB.

This study will be expanded in 1987 onto adjacent private lands in the same four counties.

E. ADMINISTRATION

J. Clark Salyer WMD and NWR are administered out of the same office but are considered separate stations.

1. Personnel

Gregory Siekaniec entered on duty on 30 March 1986 in the position of Clerk/Typist (part-time).

Front Row from left to right: Latendresse (11), Berg (3), Opdahl (6), Zeretzke (10), Benson (9), and Eslinger (5). Back Row from left to right: Badke (8), Giese (2), West (5), and Howard (1). GES.

1. Robert L. Howard, Refuge Manager, GS-12, PFT
2. Fred G. Giese, Assistant Refuge Manager, GS-11, PFT
3. William J. Berg, Wetlands Manager, GS-11, PFT
4. William L. West, Refuge Manager Trainee, GS-7, PFT
5. Gary A. Eslinger, Biological Technician, GS-7, PFT
6. Wanda L. Opdahl, Refuge Assistant, GS-6, PFT
7. Gregory E. Siekaniec, Clerk/Typist, GS-3, PPT, EOD 3/30/86
8. Raymond F. Badke, Automotive Mechanic, WG-10, PFT
9. Hamilton S. Benson, Maintenance Worker, WG-7, CS, 4/27/86-12/7/86
10. Edwin C. Zeretzke, Motor Vehicle Operator, WG-7, CS, 1/1/86-1/5/86 and 4/27/86-12/31/86
11. Leo J. Latendresse, Engineer Equipment Operator, WG-8, CS, 4/27/86-12/7/86

12. Jay F. Peterson, Biological Technician, GS-5, 4/26/86-12/6/86
13. Mike L. Grabow, Biological Technician, GS5, 4/26/86-9/6/86

The WMD has one full-time wetlands manager along with a full-time Biological Technician. Two temporary biological technicians were also hired for the WMD in 1986. Maintenance personnel assist with larger projects as needed. The Refuge Assistant and Clerk/Typist spend about one-third of their time on WMD activities.

Temporaries Jay Peterson and Mike Grabow posting Holsten Slough WPA/DU Project. WJB.

SCA volunteer Andra Buchl did an excellent job conducting a piping plover survey. BV

FTE trends for WMD are shown below:

	Permanent Full-Time	Summer Temporary
FY-78	1.69	0
FY-79	1.25	0
FY-80	1.58	0.9
FY-81	1.66	0.6
FY-82	1.51	0
FY-83	1.80	0.9
FY-84	1.75	1.2
FY-85	1.80	0.9
FY-86	1.80	1.0

5. Funding

Funding for the WMD is included in the budget for the Salyer Complex. Funding for the past 5 years is compared below:

Funding	FY-82	FY-83	FY-84	FY-85	FY-86
1210	257,000	308,000			
1220	13,000	11,500			
1240	8,000	12,000			
1260			380,000	433,100	478,000*
6860			3,000	5,000	5,000
6810		3,500			
O&M	278,000	335,000	383,000	438,100	483,000
1510		28,225		1,895	573
6410		125,000			
6450		140,000			
8610			10,700	12,000	11,000
2821		127,000	107,000		10,575
TOTAL	278,000	755,225	500,700	451,100	505,148

* Includes $115,000 of Resource Problems funds.

6. Safety

Safety meetings are held monthly during regularly scheduled staff meetings. This years designated safety officer was Gregory Siekaniec. No lost time accidents occurred in the WMD in 1986.

7. Technical Assistance

Technical assistance was provided to the Corp of Engineers on Bureau of Indian Affairs 404 permit violation that occurred on the Turtle Mountain Indian Reservation. In the past the BIA has been very cooperative about getting the necessary agencies involved with their proposed road projects. It seems that money was available and had to be spent so the BIA went ahead

using Tribal equipment and manpower to do the roadwork. The road straightening and widening project involved 7 wetland basins and about 55,000 cubic yards of fill.

One of seven 404 violations discovered on BIA road project. GAE.

Technical assistance was also provided to Renville County SCS on a potential swampbuster violation.

F. HABITAT MANAGEMENT

1. General

Heavy precipitation in April produced good stands of upland grasses compared to the very light stands of last year. Most wetlands were in good shape going into the nesting season.

In general small grain and row crops did well during the year. A blight caused extensive damage to some wheat fields mainly in the eastern portions of the district. This was the result of very heavy rains in July and unusually high humidity for extended periods. On the plus side the heavy rains resulted in some of the best corn crops on record and a heavy second growth of alfalfa fields.

2. Wetlands

Data compiled during spring pair counts indicated that wetlands were 73 percent full going into breeding season. This is a significant improvement over the 49% recorded last year and 61% in 1984.

Most wetlands held their levels until late summer primarily as a result of the heavy rains in July. By October most small wetlands were dry along with a number of the larger lakes.

3. Forest

Eight WPA'S in the Turtle Mountains have native stands of burr oak, green ash and aspen. The remaining acreage of woodland on WPA'S in the district consists of shelterbelts and farmstead plantings. There are a total of 807 acres of woodlands on the 114 management units.

4. Croplands

Cooperative farming agreements were carried out on ten WPA'S in 1986 as follows:

Unit	Acres	Purpose
Weinrebe	41	Farmed for 1987 DNC seeding
Kuntz	35	Seeded to DNC
Twin Lakes	22	Farmed for winter food plot
Beatty	20	Farmed for winter food plot
Mikes Peak	18	Farmed for winter food plot
Round Lake	40	Farmed for 1988 DNC
Volk	66	Farmed for 1990 DNC
Christensen Lake	120	Farmed for 1988 DNC
Elbow Lake	75	Farmed for 1989 DNC
Long Lake	53	Farmed for food plot and DNC
Total	490	

For those units with food plots the amount of crop left standing for winter use is usually around five acres. This is due to half of the field being summerfallowed each year and half of the crop share going to the permittee. Due to timely rains most of the crops on the food plot areas did very well this year.

The remaining units are being farmed until seeded to a DNC mix. Three of the units are incorporating weed control as part of the management technique.

Yields of small grains were good to excellent on all units except Christensen. Here the yield was only 6 bushels per acre due to a blight brought on by the extremely wet weather in July.

The past two years we have tried to rotate about 200 acres into the cooperative farming agreements program. As in the past we have had a difficult time finding cooperators who will farm 10 to 20 acre units for 2 to 3 years before putting it back into nesting cover.

5. Grasslands

The 35-acre field at Kuntz WPA was seeded to a DNC mix with an oat nurse crop by the cooperator. Our cooperators overseeded a 24-acre switch grass field at Round Lake and a 20-acre DNC field at Mikes Peak to try to improve the density of the stand. Little germination occurred on any of the three units

due to unfavorable sprouting conditions after planting. Sprouting should occur in the spring of 1987.

A 20-acre decadent DNC field was worked up force account at Holsten WPA in preparation for conversion to native grasses. Sections of the fields seeded to native grasses at Herd Lake in 1984 were also worked up. Portions of the original seeding on these areas did not catch. Plans are to reseed about 20 acres as soon as soil preparation is complete.

7. Grazing

Trespass grazing occurred on Berube WPA in June. It appeared that the 25 head had only been on the WPA a short period. The owner was given a warning and told that if it happened again the case would be referred to the U.S. Attorney.

8. Haying

Haying was accomplished on 7 WPA's in 1986 as outlined below:

Unit	Acres	Purpose
Round Lake	40	DNC Management
Twin Lakes	40	Food Plot/DNC Management
Beatty	34	Food Plot/DNC Management
Mikes Peak	50	Food Plot/DNC Management
Volk	70	DNC Management
Elbow Lake	75	DNC Management
Long Lake	30	DNC Management
Total	339	

A 10 year old DNC field on Volk WPA responded well to haying. GAE.

At Elbow Lake the hay was removed to add to the farmers reimbursement prior to breaking. The remaining areas were hayed for reimbursement for farming the food plots or improve dense nesting cover. Because of the difficulty in finding good cooperators for small units we are trying to improve nesting cover by other means. Rather than break out an old DNC field and farm it for two or three years we have tried haying to improve the stand. It appears alfalfa and wheatgrass will respond readily to haying in DNC fields under 10 years old.

9. Fire Management

Prescription burning was accomplished on two units in 1986 as follows:

Unit	Acres	Purpose
Spichke	134	Improve Native Seeding
Herd Lake	105	Improve Native Seeding
Total	239	

Response was good on both burns. In October 8 to 16 foot strips were mowed around 6 native grass seedings in preparation for 1987 burns. These mowed areas have made it much more efficient to burn native seedings.

Mowed fire breaks were put around native grass seedings in preparation for 1987 prescribed burns.

10. Pest Control

A total of 200.43 acres were treated for noxious weeds on 41 separate units in 1986. A mixture of 1 quart tordon and 1 quart 2,4-D was used on 75% of the units and a straight 2,4-D mix on the remainder. Only one weed complaint

was received in the district and this involved a county road right-of-way which technically was not our responsibility. Following the spraying season all county weed control officers and county commissioners were sent summarys and maps showing areas that had been treated.

11. Water Rights

Holsten Slough WPA

Finishing touches on the earthen dike and surface drain were completed on the cooperative FWS/DU project in April. Gates on the inflow channel were opened up in mid May but inadequate flows in the Boundary Creek ditch did not provide enough water to fill the marsh.

The new water control gates above Holsten WPA were opened up for the first time in mid May. WJB.

White Spur Drain

In February the ND Game and Fish Department, North Dakota Chapter of the Wildlife Society (NDCTWS), FWS and the Bottineau County Water Resource District Board (WRB) entered into a Memorandum of Understanding in regards to the White Spur Drain Project. Essentially the MOU gave wildlife interests an opportunity to investigate mutually agreeable alternatives to the drain project. The agreement was modeled after the successful negotiations that occurred on the Crystal Lake Drain project in Wells County.

A public hearing was held to explain various state and federal habitat programs. Individual landowner contacts were made to determine if there was any interest in the fee or easement program. Of the eight initial contacts only one landowner would not consider either program. Even though an agreement was not reached it appears there are some oportunities to protect certain

wetland basins in the project area. The board was very reluctant to even consider alternatives mainly because of their personal opinions of the fee and easement program.

Once the MOU expired the WRB filed for drain permit with the North Dakota State Water Commission (SWC). On May 21 the State Engineers hearing on the drain permit application was held in Bismarck. Testimony by various wildlife organizations and landowners was presented. In addition a petition in opposition to the drain, signed by over 52 percent of the assessed landowners was submitted. Following the hearing the attorney for the SWC made a recommendation to the State Engineer that 18 type IV wetlands within the project area be protected as required by state law. The State Engineer overruled this recommendation and allowed the drainage of 15 type IV's because of overriding agricultural values. In August the State Engineer approved the drain permit application. Following the permit approval the North Dakota Chapter of the Wildlife Society filed an appeal in District Court. On March 23, 1987 the hearing was held and as of April 1 no ruling had been made.

Russell Drain

After 17 months of deliberation District Judge Heen issued an unfavorable ruling in regards to the ND Chapter of the Wildlife Society v. Bottineau County Water Resource District lawsuit. The judge ruled the SWC, BCWRD and their engineers in combination had done adequate investigations to determine the Russell Drain would not create downstream impacts on the J. Clark Salyer National Wildlife Refuge. The biggest disappointment was the Judge's failure to address the cumulative impact issue. The NDCTWS goal for this case was to convince the court that water management boards and the State Engineer must take into account other drainage projects which contribute to flooding and siltation on the Souris River. In addition the Judge found the NDCTWS should be barred by "laches" which means the NDCTWS waited too long to bring the case to court. Because of the laches ruling it was not appealed to the Supreme Court. It was feared the Supreme Court would only uphold the laches ruling and not investigate the cumulative affect argument which has been the real issue.

Hurricane Lake

Negotations on the Hurricane Lake Drainage Project continued during 1986. The Devils Lake Wetland Management Office and the Regional Office is handling this project. For a complete summary of this project see the Devils Lake 1986 NR.

13. WPA Easement Monitoring

Easement surveillance was conducted in March and April. Following ground checks only three violations were confirmed. All three involved ditching. The following table summarizes the 1986 violations.

County	Easement	Type of Violation	Status
McHenry	27x-3,4	Scraper Ditches	Restored
Bottineau	366x	Scraper Ditches	Restored
Rolette	348x,1	Plow Furrow	Restored

In addition, 10 easement violations remaining from 1985 were restored. The following table summarizes these.

County	Easement	Type of Violation	Status
Renville	73x	Junk and Tree Fill	Restored
Renville	76x,1,2	Tree Fills	Restored
Renville	154x	Junk and Dirt Fill	Restored
Pierce	477x	Scraper Ditch	Restored
McHenry	93x,1,2	Scraper Ditch	Restored
McHenry	93x-3	Scraper Ditch/fill	Restored
McHenry	92x,1,2	Scraper ditches	Restored
McHenry	92x,1,2	Scraper ditch/fill	Restored
McHenry	92x,1,2	Scraper ditch/fill	Restored
Rolette	210x,1,2	Plow furrows	Restored

This leaves a total of 8 violations not resolved at the end of the year. The following table summarizes these.

Year	County	Easement	Type of Violation
1985	Renville	175x,1	Tree and rock fills
1985	Renville	125x	Junk Fill
1985	Bottineau	109x3	Tree Fill
1985	Bottineau	349x	Tree Fills
1985	Bottineau	28x	Scraper Ditches
1984	Renville	11x & 217x	Tree Fill
1984	Renville	68x	Tree Fill
1984	Renville	228x	Rock Fills

Most of these have not been restored due to water in the wetland basins. Easement 28x in Bottineau County and 228x in Renville County are tied up in court action.

A study of easement violations over the past five years showed the following trends:

		Type of Violation				
Year	Flight Time	Scraper	Plow Furrow	Fills	Open Cases	Total Cases
1981	Fall	0	4	2	0	6
1983	Spring	3	8	5	0	16
1984	Spring	8	8	4	3	20
1985	Spring	7	4	9	5	20
1986	Spring	2	1		0	3
Totals		20	25	20	8	65

Only three oil well sites were inspected for possible conflicts with easement wetlands. Activity has dropped sharply since oil prices fell. No violations of easement contracts occurred because of drilling activity. Cooperation with oil companies and dirt contractors remains very good.

G. WILDLIFE

2. Endangered or Threatened Species

See G.6. under this section for records of bald eagle observations.

3. Waterfowl

The first major spring migration of waterfowl in the district occurred on March 21 when 750 Canada geese, 20 snow geese and 100's of ducks were observed in McHenry County. Within a week snow goose numbers increased to over 50,000 in the Upham area.

A total of 461 duck pairs were counted in the quarter-section sample areas during the annual pair count census. This computed to 6,950 young produced on fee acres in the WMD. To arrive at these figures a 25 percent productivity rate was used along with an average brood size of 6 young. Productivity rates are arrived at by using several nesting studies that are ongoing around the state. Average brood size is estimated from actual observation data from the refuge and the 5-county district. Total young are up 6 percent from last year but down 22 percent from the 15-year average of 8,688 young produced.

The Cowardin model duck pair counts were continued on the same 4-square mile areas. The Bottineau County area showed 80 pairs compared to 11 pairs last year. The northern Rolette County area was up but the southern area was down. Differences are attributed mainly to variations in water levels. Production estimates using the Cowardin model were not available at the time this NR was written.

Canada goose production for 1986 in the WMD was estimated at 100+ young. Most of the nesting occurred on natural sites. Of the 78 structures available for nesting three had successful nests. Use of structures should increase steadily in the future as the released birds start to nest. Random observations during the season showed young birds at Rush Lake, Sandhill Crane, Beatty and Horseshoe Lake WPA's.

Weekly aerial waterfowl counts were made during the fall and revealed the following peak concentrations:

WPA	Snow Geese	Canadas	Ducks	Swans
Round Lake	12,000	3000	1000	500
Long Lake	11,000		500	250
Lords Lake	30,500	100	2000	100
Hurricane	26,000		4000	450
Cruden	1,000		5000	500

Tundra Swan use on Round Lake WPA. GAE.

The greatest number of snow geese counted in the survey area was 63,000 on October 29. Although up 20 percent from last year these numbers are still 20 to 30 percent below the average. This is primarily the result of the westward shift of snow geese which has been the trend for the past several years.

By November 9 most waterfowl had moved south as the result of blizzard-like conditions and water areas freezing over.

4. Marsh and Water Birds

The first flock of sandhill cranes, numbering 50 birds, was observed west of Upham on April 7. A great blue heron was observed north of Upham on April 21.

While inspecting Rush Lake WPA on May 30, Berg and Grabow observed 3 cattle egrets and a colony of 200 black-crowned night herons. On June 9 a red-necked grebe was observed at Rieder WPA, and on June 16 nine Western grebes were observed on Mikes Peak WPA. On June 30 Peterson observed 2 young red-necked grebes near Wintering River WPA.

A flock of 20 white pelicans was observed on Long Lake WPA (Rolette) on July 23 and a flock of 50 at Avocet WPA on July 30.

The first major movement of sandhill cranes in the fall was noted on September 10 when a flock of 500 birds was observed near Round Lake WPA.

5. Shorebirds, Gulls & Terns

The first general movement of shorebirds was noted on April 23 when three marbled godwits, six Hudsonian godwits and one Wilson's snipe were observed in wetlands near Bantry.

A major movement of plovers was noted in mid-May. On May 14 a flock of 30 black-bellied plovers was noted near Bottineau. On May 15 a flock of 200 golden plovers was observed near Russell and another flock numbering 150 near Mortensen WPA.

The first general movement of shorebirds returning south was noted on July 3 at Foss WPA when 30 long-billed dowitchers, 10 stilt sandpipers and 20 lesser yellowlegs were observed.

6. Raptors

On January 27, while erecting goose structures at Rush Lake WPA, Eslinger and Siekaniec observed two golden eagles feeding an a rabbit carcass.

The first major movement of hawks was noted on March 12 when a marsh hawk, rough-legged hawk and a kestrel were observed in Renville County. Bald eagles were observed in migration on March 25 and 26 in western Bottineau County.

The first bald eagles returning south were noted on September 18 and 19 in an area northwest of Upham. On October 19 Howard observed a bald eagle kill a snow goose in a field near Kramer. Observations of bald and golden eagles were rather common in late October and November as the food supply increased from the hunting seasons.

8. Game Mammals

White-tailed deer continued to be abundant across the district during 1986. No problems with deer starvation occurred due to mild winter weather. Even though deer numbers appear to be above normal they are not as high as in many parts of the state.

The moose population in the Turtle Mountains has started to increase after remaining stable for several years. Densities are now estimated to exceed one animal per square mile according to Game and Fish surveys. Up to five animals have been reported by landowners on Willow Lake WPA-Easement Refuge.

10. Other Resident Wildlife

a. Resident Birds

According to surveys made during 1986 by the North Dakota Game and Fish Department all upland game birds showed an increase in production.

Sharp-tailed grouse in the WMD showed a 13 percent increase from 1985 during the spring census, a 15 percent increase in production and a 4 percent decline in fall hunter success.

Ruffed grouse are present on WPA's in the Turtle Mountains. The spring drumming counts showed a 131 percent increase and fall hunter success showed a 42 percent increase from last year. State biologists believe ruffed grouse are in their cyclic upswing.

Hungarian partridge in the WMD showed a 17 percent increase from 1985 in the spring census, a 1.8% increase in production, and 5 percent decline in hunter success.

The survey information shows that our grouse and partridge populations are in good shape.

Hunter success for these birds was variable probably due to weather conditions. Random observations of sharp-tails and partridge during late fall and over winter indicatae a high population of both of these birds in the WMD.

Ring-necked pheasants are present in localized areas of the WMD and remained at low levels again during 1986. Pheasants were observed at Long Lake (Pierce), Aylmer and Mikes Peak WPA's.

b. Furbearers

Fox populations continued to increase in 1986 and reached their highest densities in a number of years. One local hunter harvested six animals out of 1/4 section.

Coyote populations remain stable due to continued pressure from market hunters, government hunters and illegal hunters.

12. Wildlife Propagation and Stocking

This was the third year a night-lighting banding operation was conducted in order to transplant young Canada geese to waterfowl production areas. Due to a smaller catch this year only one group of birds was released. The following table summarizes this activity since it began in 1984:

Release Date	# Birds Released	Description of Release Area
07-03-83	30	*Sandhill Crane WPA - Pierce County
07-03-84	55	Hurd Lake WPA - Pierce County
07-04-84	38	Horseshoe Lake WPA - Pierce County
07-01-85	34	Willow Lake WPA - Rolette County
07-03-85	35	Rush Lake WPA - Pierce County
06-24-86	33	Long Lake WPA - Pierce County

* These birds were captured at Audubon NWR and transplanted by the ND Game and Fish Department.

During the winter six new goose structures were erected at Long Lake WPA and ten were erected at Rush Lake WPA.

H. PUBLIC USE

8. Hunting

a. Waterfowl

Hunting accounts for the majority of total visits on WPA's. Other than the opening weekend, hunting pressure was rather light. Most birds ended up on the refuge and opportunities in the district were generally isolated to a few major areas such as Hurricane and Lords Lakes. An added factor in low hunting success was poor production of the geese on their Canadian nesting grounds.

b. Upland Game

Hunting success for Hungarian partaridge, sharp-tailed grouse and pheasants was down due mainly to cool, wet weather during the season. Good populations of sharp-tailed grouse and partridge exist on a number of units in the district. Pheasant populations are low due to poor habitat conditions.

c. Deer

The 1986 regular deer season opened at noon on November 7 and ran through November 30. A special season for antlerless deer only opened on December 1 and ran through December 14. This made for a 23 1/2-day regular season, the same as last year, and an additional 14-day special season.

The blizzard on opening weekend threatened to hinder the harvest due to limited access to many areas. However, mild weather during the last week of November opened up most areas and harvest success ended up near normal. The addition of a special season increased the harvest, but the overall take was less than anticipated due to lack of interest by hunters.

9. Fishing

Fishing occurs on School Section Lake NWR, Cottonwood Lake NWR, Buffalo Lake NWR and Beatty WPA. Cottonwood Lake and School Section Lake receive the most use with medium-sized northern pike being caught at School Section and small perch at Cottonwood.

10. Trapping

Due to improved fur prices trapping interest was higher this year. However, the blizzard on November 7 ended much of the trapping activity for several weeks. When conditions improved near the end of the month a number of trappers didn't bother to renew their efforts. As a result overall trapping success was down even though furbearers such as red fox, were at their highest densities in a number of years.

17. Law Enforcement

Most enforcement activities were centered around the J. Clark Salyer NWR. For a summary of all violation notices issued in 1986 see refuge narrative.

The following FOC's were written in the WMD.

Violation	Description	Fine
16 USC 703, 50CFR 20.24	Overlimit Canvasbacks	$300(3)
16 USC 703, 50CFR 20.24	Exceed Bag Limit Geese	$50(1)
16 USC 668dd, 50CFR 27.31	Snowmobile Trespass	$150(3)

I. EQUIPMENT AND FACILITIES

2. Rehabilitation

Boundary posting was checked and replaced as needed on all 114 units in the district.

Another 500 4-square mile, 4" to the mile cibachrome prints were purchased for the district in 1986. The prints were made from National Wetland Inventory color positives and are a much needed improvement over the outdated ASCS photos that were previously borrowed from the realty offices. The photos have been used extensively for easement enforcement, acquisition proposals and drain projects. Photo coverage in the district is now about 75% complete. The remainder will be purchased in FY 87.

3. Major Maintenance

Maintenance activities are covered in the J. Clark Salyer NWR narrative.

4. Equipment Utilization and Replacement

One 4x2 1/2 ton pickup was replaced and is being used in the district.

A 4x4 ATV was purchased and used extensively throughout the year.

A video camcorder and a video cassette recorder were purchased in June. The camcorder has been used for documenting management practices and drain project impacts and will be very helpful for easement enforcement.

J. OTHER ITEMS

1. Cooperative Programs

The Atmospheric Deposition Monitor Site (North Dakota Health Dept.) at Horseshoe Lake WPA was dismantled and removed in July. The Health Department was unable to find a local citizen who could take the required biweekly readings.

4. Credits

Kathy West typed, assembled and prepared maps for this report. Biological Technician Gary Eslinger wrote sections B, C 2, D 5, F 1-9,13, G 2-10,12, H 8-10,17, I 4 and the sections on the easement refuges. Bill Berg wrote the remainder. Bob Howard edited. Photo credits are given for each photo as noted.

K. FEEDBACK

Almost one quarter million acres were enrolled in the USDA's conservation reserve program in 1986 in North Dakota. In this district McHenry and Rolette Counties were the leaders with just over 68,551 acres signed up. It is ironic that in just three weeks time as much acreage as is currently protected by the SWAP fee program was signed up for a 10 year period. An estimated 2.8 million acres will be put into a permanent grass cover within 3 years. This should have a significant impact on prairie wildlife, both migratory and resident species. The FWS's associated piggyback lease program has also been a big success. The program has not only encouraged landowners with easements to sign up for CRP, it has generated much interest in the easement program itself.

Management practices which were once planned, initiated and approved at the project leader level now require environmental documents and justification that sometimes resemble a major research project. A case in point is the environmental assesment process which is required for DU projects and other management practices. It seems an EA for a 0.9 acre waterfowl nesting island receives more attention and critique than does a 2,000-acre wetland drainage project which will not only destroy wetlands but will also impact a down-stream NWR. If as much time and effort were put into analyzing the impacts of various drainage projects we would be a lot better off in the long run.

Now the positive side. The North Dakota small wetlands acquisition program is finally back on track. Even though manpower and funding is somewhat lagging behind landowner interest, there are many prime habitat areas being protected. The piggyback lease/wildlife extension program has also been an encouraging step in a different direction. It has given wildlife people and landowners a more positive view of wetland programs rather than the negative attitudes that often accompany preservation efforts. The future looks brighter with rumors that acquisition funding and manpower will improve.

The many values of wetlands. WJB

Lords Lake NWR

This easement refuge is located on the Bottineau - Rolette County line and has a total of 1,915 acres, all closed to hunting. The large brackish lake, which is separated by a township road, provides a resting area for large numbers of snow geese and other waterfowl that stop mainly in the fall. An average of 15,000 snow geese were present during the month of October, double that of last year. A peak of 30,500 snow geese occurred on October 29.

Boundary signs remained in good condition during the year.

Water levels in the spring of 1986 were slightly below 1985 levels. By fall the levels were 5.0 feet below the meandered level of the lake.

Willow Lake NWR

This easement refuge of 2,619 acres is located in the Turtle Mountains of Rolette County. The FWS owns 228 acres of the refuge purchased under the small wetlands acquisition program. The Service prohibits hunting within the boundaries and maintains the water rights on the large lake found thereon.

A cabin, garage and outhouse are located on a two-acre tract owned by the Service. Under a cooperative agreement with North Dakota State University (Bottineau Branch) this site and the 228 acres of WPA are used for environmental education projects.

Five goose structures are maintained in sheltered areas on the lake. The northernmost structure again had a successful nest.

The white pelican and cormorant rookery on the islands in the southwest portion of the lake was active again this year. On May 28 there were 417 cormorants and 618 white pelicans (flightless young) counted on the islands.

Water levels in 1986 were slightly higher than 1985 levels.

All boundary signs were in good condition during an inspection in October.

Rabb Lake NWR

This 260-acre easement refuge is located adjacent to the Canadian border in the northwestern corner of Rolette County.

The FWS controls hunting and water rights on the area. The refuge is covered with an aspen and green ash forest, the dominant habitat type of the Turtle Mountains. The adjacent state game management area, along with Rabb Lake, provides excellent migratory habitat for diving ducks, especially canvasbacks.

Rabb Lake is the most remote of all our easement refuges and is accessible only during good weather conditions. The remoteness of the area accounts for otherwise uncommon bird species such as red-necked grebes and broad-winged hawks.

Water levels remained high in 1986. This has been the case since 1983.

Boundary signs were found in good condition during an inspection in October.

School Section Lake NWR

This 680-acre unit is Rolette County is over 60 percent woodland with the remaining portion water. The lake provides good fishing for northern pike.

The FWS controls the hunting rights and the right to maintain the water elevation of the lake at 89.6.

The North Dakota Game and Fish Department owns 640 acres of this unit while the other 40 is in private ownership.

This unit provides excellent diving duck habitat, as do Willow and Rabb Lake NWR's located 5 to 7 miles away. The upland cover is good habitat for ruffed grouse and white-tailed deer.

Water levels were up slightly from 1985 levels.

Buffalo Lake NWR

This 2,070-acre easement refuge is located in southern Pierce County along the southern overflow valley to ancient glacial Lake Souris.

The service owns 24 acres in fee title. Of the fee title, 2.5 acres along the southeast shore are under a special use permit with United Pentecostal Church Camp.

When the refuge was established, a spillway and rubble masonry culvert were placed in the county road to create a lake. A relief spillway, diversion dike and a diversion ditch were installed to provide additional waters to the lake from an adjacent watershed.

During the 1960's the local sportsmen's club repaired the spillway with concrete and raised the lake level two feet.

The North Dakota Game and Fish Department stocks the lake with fish in cooperation with the local sportsmen's club. The area receives year-round fishing pressure with poor success. Poor reproduction caused by heavy pollution from agricultural chemicals and fertilizer runoff is believed to be the primary problem.

Water levels were up slightly from 1985 levels.

Cottonwood Lake NWR

This 1,031-acre easement refuge is located in southern McHenry County. When the refuge was established a diversion ditch, relief spillway, and outlet spillway were constructed. Since that time the relief spillway was blown out and the outlet spillway has been repaired by the Butte Sportsmen's Club. A new outlet spillway was put in by the sportsman's club in 1983.

The large, open lake is a popular fishing area for local people.

Water levels are measured at the outlet spillway. Levels were up slightly from those measured last year.

Wintering River NWR

This 239-acre easement refuge is also located in southern McHenry County. The Service owns 160 acres of the refuge purchased under the small wetlands acquisition program. This is our only easement refuge with Type IV wetland habitat, rather than open water or Type V. The unit has a diversion ditch and dike creating the 157-acre marsh.

The new water control structure completed in 1985 improved waterfowl habitat in the marsh. This area is scheduled for marsh management now that we can maintain higher water levels and have better control. It has become choked with cattails from many years of low water levels.

The new Wintering River NWR water control structure.
GAE