

REVIEW AND APPROVALS

MORRIS WETLAND MANAGEMENT DISTRICT

Morris, Minnesota

ANNUAL NARRATIVE REPORT

Fiscal Year 1998



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4-20-99
Date

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INTRODUCTION

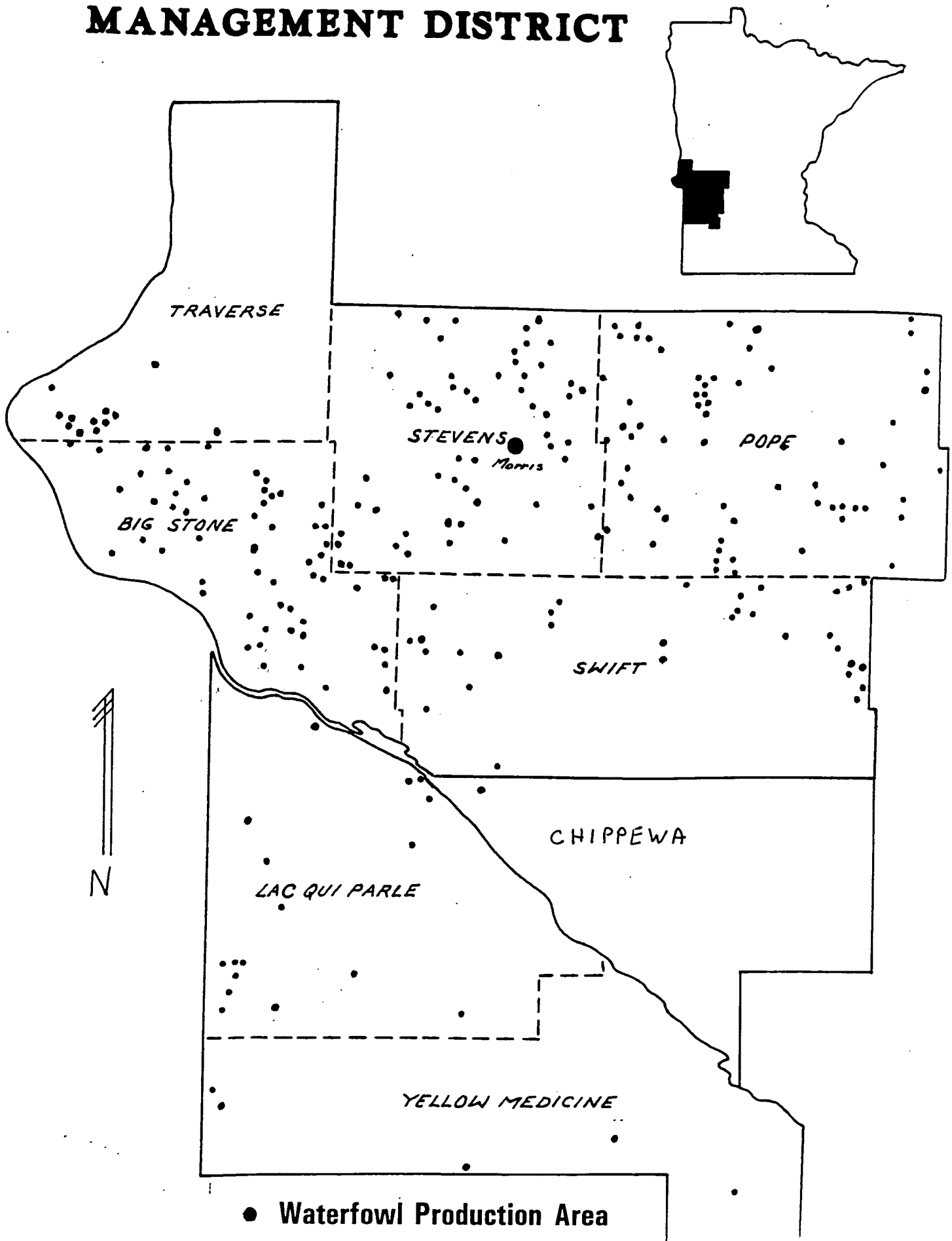
The Morris Wetland Management District (WMD), originally established in 1964 as the Benson WMD, includes 245 Waterfowl Production Areas (WPA's) totaling 49,996 acres in fee title ownership. The Morris office also administers approximately 19,759 wetland acres of Waterfowl Management Easement lands, 1,224 acres of FmHA Easements and 1,744 acres of Wildlife Habitat Protection Easements. The fee and easement areas are scattered throughout Big Stone, Chippewa, Lac qui Parle, Pope, Stevens, Swift, Traverse and Yellow Medicine Counties. The headquarters is located four miles east of Morris, Minnesota, on the 861 acre Long Lake-Edwards WPA.

The topography of west-central Minnesota is extremely diversified, ranging from the granite outcrops of the Minnesota River bottoms to the rolling hills of Pope County. The flat agricultural land of the Red River Valley of the north blends into the transition zone between the tall grass prairie and the eastern deciduous forest. Soils of the region are generally productive which contributed to the historically high concentrations of breeding waterfowl. With the advent of modern agriculture, over 60 percent of the original wetlands were drained and nearly 100 percent of the native grasslands were converted to cropland.

As a part of the Minnesota Waterfowl and Wetlands Management Complex (MWWMC), the primary objective of this District is to acquire, develop and manage habitat for waterfowl production and maintenance. Waterfowl species that commonly breed in this area include blue-winged teal, mallard, pintail, wood duck, redhead, canvasback, and Canada geese. The District also contains good populations of ring-necked pheasant, gray partridge and white-tailed deer. Another high priority objective is to provide habitat for native plants and animals, especially neotropical birds, and to provide for bio-diversity. Private land habitat improvement for waterfowl and other wildlife is an added emphasis during the 1990's. Waterfowl Production Areas are open to public hunting and a variety of other wildlife oriented uses. The WPA's receive their highest public use on opening days of waterfowl, pheasant, and deer hunting seasons.

Of the 49,996 acres of fee title, 16,838 acres consist of marshes. Grasslands comprise 30,943 acres of the District. This category includes 8,465 acres of re-seeded native grasses and 7,012 acres of unbroken native prairie. The balance of the existing grassland contains various cover types including brome, quack and alfalfa. Croplands account for an approximately 700 acres and consist primarily of rest-rotation food plots for resident game.

MORRIS WETLAND MANAGEMENT DISTRICT



INTRODUCTION

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HIGHLIGHTS

Morris WMD Manager Al Radtke and Soil Conservationist Bernie Angus retired after each had served more than twenty years. (Section 9b)

Our Four Square Mile Waterfowl Survey estimates WMD waterfowl production at 78,100 recruits with a 0.63 recruitment rate. (Section 1a)

Morris staff burned a record 2,258 acres of grassland under prescription in 1998. (Section 3f)

We restored 91 wetlands encompassing 331 acres on private and public land. (Section 2a)

We purchased 470 acres of new WPA land. (Section 6g)



Al Radtke and Bernie Angus retired from the Service on December 30, 1997. 98-1 2/12/98 CGR

CLIMATIC CONDITIONS

Record keepers are calling the "Winter of 1997-98" one of the warmest of the century! The beautiful fall and spring have been reported as part of the "nicest years of the last century." Mean temperatures were above normal in every month except June (below average 1.7°). The mean temperature for February was 15°. For April, the mean temperature was 5°, and for May, it was 7°. The month of September was above normal. The first fall frost was late this year, arriving on October 20 (27°). The last spring freeze (30°) occurred on April 17. Normally, a spring freeze occurs around May 11.

Precipitation came on a timely basis during the growing season except for a 2½ week period in early August. A drier than normal April and first part of May allowed for early planting of fields. The precipitation from April through August was 18.46 inches, 2.75 inches above normal.

For 1998 there were only seven days in which temperatures reached or exceeded 90° and only 27 days when the temperature was 0° or below. The total 1998 precipitation was 28.8 inches, 5.02 inches above normal, and the snowfall was 38.8 inches, compared to an average of 39.4 inches.



Although the spring was extremely beautiful, weather changes. This funnel cloud or cold air spout was sighted in Pope County.

98-2 5/19/98 BW

**Comparative Weather Data
October 1996 Through September 1998**

	<u>Mean Temperature</u>				<u>Total Precipitation</u>				<u>Snowfall</u>			
	1998	1997	1996	Aver.	1998	1997	1996	Aver.	1998	1997	1996	Aver.
Oct.		48.6	46.8	47.2		2.20	5.40	1.74		0.0	0.0	0.7
Nov.		25.5	19.8	29.7		0.53	2.34	0.97		6.3	14.5	4.7
Dec.		24.9	7.8	15.2		0.21	0.73	0.68		4.1	10.5	6.6
Jan.	12.0	3.4		8.0	1.03	2.25		0.68	13.9	25.6		7.8
Feb.	27.4	14.2		12.8	1.18	0.31		0.67	4.0	5.1		6.9
Mar.	27.5	22.2		26.7	1.13	2.19		1.13	5.9	22.7		8.0
Apr.	48.7	39.7		43.6	1.81	2.70		2.26	7.3	1.6		3.4
May	63.0	52.2		56.1	3.13	1.56		2.97	0.0	0.0		0.2
June	64.1	70.2		65.8	5.74	2.51		3.96	0.0	0.0		0.0
July	71.2	69.8		70.9	4.19	5.14		3.51	0.0	0.0		0.0
Aug.	71.1	67.3		68.7	3.59	3.92		3.01	0.0	0.0		0.0
Sept.	65.7	63.3		59.0	0.36	1.30		2.20	0.0	0.0		0.1

Records or Near Records Set in 1997-1998

<u>Period</u>	<u>Observation</u>	<u>Record</u>
Oct 1-Dec 12	Mean temp (61.9°)	Record mean temp/time period
October 8	Maximum temp (86°)	Record daily max temp
December '97	Mean temp (24.9°)	Fifth warmest on record
January 3	Maximum temp (44°)	Record daily max temp
February	Mean temp (27.4°)	Fourth warmest on record
February	Average min temp (21.9°)	Warmest on record
February 28	Daily precip (0.49 in.)	Record daily snowfall
April 1	Daily snowfall (7.3 in.)	2 nd highest daily snowfall
May 19	Maximum temp. (97°)	Record daily max temp
August 22	Daily precip. (2.11 in.)	2 nd highest daily precip
September	Mean temp (65.7°)	5 th warmest on record

Selected Weather Variables

<u>Weather</u>	<u>1998</u>	<u>1997</u>	<u>Normal</u>
Growing season precipitation (April 1 - August 31)	18.46 in.	15.83 in.	15.71 in.
Maximum temperature	97° (May 19)	94° (June 24)	
Minimum temperature	-21° (January 13, 14)	-20° (January 26)	
Days with temp. > 90°F	7 days	6 days	13 days
Days with temp. < 0°F	27 days	40 days	47 days
Last Spring Frost	April 17 (30°)	May 15 (31°)	May 11 (32°)
First Fall Frost	Oct. 20, '97 (27°)	Oct. 3, '96 (26°)	October 4 (28°)

MONITORING AND STUDIES

1a. Surveys and Censuses

The non-game bird point count ran from June 3, to June 24, 1998 and included 41 native prairie and 14 seeded native sites on five WPA's. A total of 76 species were found. Twenty-eight of these were neotropical migrants. Members of the blackbird family were found to be the most numerous. No new species were found this year in this six-year study. Bird numbers continue to be down from previous years.

The woodcock survey was done on April 29, 1998 with nine counted.

Morris WMD NR98 - "Four Square Mile Waterfowl Pair Count"

Wetland and upland conditions were good for waterfowl throughout the District. Canada goose numbers continue to increase. Breeding pair estimates are provided by Northern Prairie Wildlife Research Center using results of our Four-Square Mile Survey. Results from 46 plots are shown below.

Four Square Mile Survey Breeding Pair Estimates Morris WMD - 1998

	<u>Mallards</u>	Blue-Winged <u>Teal</u>	<u>Woodduck</u>	All <u>Species</u>
Breeding Pairs	33,500	23,700	4,600	70,700
Pairs / Sq. Mile	7.1	5.0	1.0	15.1
Pairs / Pond	1.3	0.9	0.2	2.8
Total Recruits	32,800	36,100		78,100
Recruits / Sq. Mile	7.0	8.1		16.6
Recruitment Rate	0.49			0.63

Breeding pair estimates and recruitment rates were relatively unchanged from the previous year and remain down from two years ago.



April and May mean waterfowl pair count time. 98-3 4/98 WAH

Morris WMD NR98 - "Flea Beetle Release Monitoring"

Sweep net monitoring at Aphthona release sites were collected with a 15 inch sweep net along points in the north, south, east, and west direction from the original release point. Flea beetles were counted after each of the sweeps and recorded. The flea beetles had been released at locations in native prairie to aid in the control of leafy spurge problems.

Table 1 - Sweep Net Sampling at Loen WPA, Number and Distance For Adult Flea Beetles - 1998

Count #1: June 15 - 19

<u>Date</u>	<u>Site No.</u>	<u>Number Beetles</u>	<u>Greatest Distance (feet)</u>
6/17/98	1	86	20 (40 @ 5 feet)
	2	0	0
	3	2	15
	4	0	0
	5	7	20 (30 @ center)
	6	10	10 (4 @ 10 feet)

Count #2: June 29 - July 3 - Not Done. Collected and released beetles during this time instead.

Count #3: July 13 - 17

<u>Date</u>	<u>Site No.</u>	<u>Number Beetles</u>	<u>Greatest Distance (feet)</u>
7/13/98	1	55	20 (15 @ 5 feet)
	2	2	5
	3	11	20 (5 @ 15 feet)
	4	1	5
	5	11	20 (5 @ 15 feet)
	6	20	20 (6 @ 15 feet)

Table 2 - Sweep Net Sampling At Lynch Lake WPA, Number and Distance For Adult Flea Beetles - 1998

Count #1: June 15 - 19

<u>Date</u>	<u>Site No.</u>	<u>Number Beetles</u>	<u>Greatest Distance (feet)</u>
6/16/98	1	257	20 (43 @ 10 feet)
	2	421	20 (225 @ 10 feet)
	3	8	10 (4 @ 10 feet)

Count #2: June 29 - July 3 - Not Done. Collected and released beetles during this time instead.

Count #3: July 13 - 17

<u>Date</u>	<u>Site No.</u>	<u>Number Beetles</u>	<u>Greatest Distance (feet)</u>
7/14/98	1	12	20
	2	27	20 (13 @ 5 feet)
	3	20	20 (6 @ 5 feet)

Morris WMD NR98 - "Predator/Furbearer Scent Post Survey"

The Scent Post Survey in Minnesota (23rd Annual) is an interagency cooperation between the Minnesota Department of Natural Resources (DNR) - Section of Wildlife, St. Croix State Park, Superior and Chippewa National Forests, all U.S. Fish and Wildlife Service National Wildlife Refuges and Wetland Management Districts, Fond du Lac and White Earth Indian Reservations, Cass and Beltrami County Land Departments, Brainerd Technical Institute, the Itasca Biological Station and Crookston Campuses of the University of Minnesota, and the Great Lakes Indian Fish and Wildlife Commission.

The routes show the distribution and annual visitation indices for fur-bearers, dogs, and cats in the state. Routes are generally run between late August through early October. Scent stations spaced 0.43 km apart along a route are baited with a biodegradable plaster-of-paris patty acid scent (Fas) disc and left overnight. Each scent station is checked and all tracks identified and documented. Data is used primarily to develop a population index.

The Morris Wetland Management District participation commenced on September 1 and was completed September 4. Fifteen routes of ten scent stations located in four counties were run: Stevens County-7 routes, Pope County-4 routes, and 2 routes each in Big Stone and Swift Counties. Survey results from Morris are shown in Table 3.

No routes were destroyed by rain.

**Table 3 - Comparison of Scent Station Survey Data
Morris Wetland Management District
1992-1998**

<u>Species</u>	<u>1998</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>	<u>1994</u>	<u>1993</u>	<u>1992</u>
Coyote	1	0	1	1	1	1	0
Red Fox	15	12	11	20	38	24	37
Raccoon	13	33	30	25	36	40	28
Skunk	26	11	11	14	6	8	4
Dog	3	8	13	12	11	8	8
Cat	21	16	18	10	4	8	6
Mink	0	0	0	0	2	1	0
Badger	0	0	0	0	1	0	0
Weasel	0	0	0	0	2	0	0
Opossum	6	1	0	0	0	0	0

This year there was an increase in opossum and skunks while raccoon numbers decreased. Other species observed but not listed in the table include whitetail deer, birds and small mammals such as mice.

1b. Studies and Investigations

Pesticide Drift Study

The Minnesota Department of Agriculture is doing a study of pesticide drift in the vicinity of potato fields. On August 5, two samples of vegetation were collected from Spring Lake WPA, Section 4, Appleton Township, Swift County. The sample results are shown below. Obviously pesticides have drifted onto the WPA. Ecological Service is presently checking with the Minnesota Department of Agriculture to evaluate the situation.

<u>Analyte</u>	<u>Sample KR-98-51 Concentration</u>	<u>Sample KR-98-52 Concentration</u>
Chlorothalonil	0.10 ppm	0.14 ppm
Endosulfan I	0.21 ppm	0.70 ppm
Endosulfan II	0.18 ppm	0.70 ppm
Endosulfan Sulfate	0.23 ppm	0.92 ppm
Metribuzin	*ND @ EDL	* ND @ EDL
Dithiocarbamate		
Fungicide**	2.0 ppm	1.4 ppm

S098089 * None detected at or above the estimated detection limit of 0.04 ppm.

**Calculated as mancozeb. EBDC: Batch S098117.

False Indigo Pasture Competition Study

During early July 1998, phase 1 of the cooperative project between West Central Experiment Station-University of Minnesota, and Fish and Wildlife Service-Morris WMD started. False Indigo transplant seedlings were established on plots at Fehr WPA (Stevens County). Base line data were collected about surrounding grasses next to the transplants. This study will determine the response of herbaceous pasture plants when grown with false indigo.

1c. General Wildlife Observations

Birds

Bald eagle nesting attempts within the District was three. However, it is not known how many were successful.



Thousands of snow geese during their northward migration near Edwards WPA, Stevens County. 98-4 3/30/98 BLA

A Wilson's phalarope, Minnesota State list as "threatened," was found during point count at Hillman WPA, Big Stone County, on June 10, 1998, and from the way it was behaving it may have had a nest.

Marbled godwit, Minnesota State "Species of Concern," was observed on:

- October 7, 1997 at Anderson WPA, Big Stone County
- May 1, 1998 at Welsh WPA, Swift County
- June 3, 1998 at Hegland WPA, Lac qui Parle County, during point count
- June 4, 1998 at Hastad WPA, Lac qui Parle County, during point count

The first observation of spring waterfowl was of Canada geese on February 23. However, the influx of migrants was on March 26 when swans, blue-winged teal, green-winged teal, woodducks, mallards, and gadwall moved in. Snow geese numbered in the thousands on March 30 along with reports of "lots" of white-fronted geese. An uncommon to rare black duck was noted on April 3. During waterfowl pair counts on Pope County Plot #295, a very late common goldeneye was seen on April 29. The first goose brood observed was on Froland WPA, Pope County, on May 1 and the first mallard brood seen was May 18 at Long Lake WPA, Stevens County.



"Ma" blue-winged teal with her brood. Big Stone County.
98-5 6/98 KGM

Game Mammals

The white-tailed deer harvest throughout the District was reported as down. The severe winter of 1996-97 had significant impacts on the local deer herd resulting in fewer doe permits issued for the 1998 hunt. However, herd sizes should rebound with the mild 1998 and 1999 winters. August Roadside Counts by the Minnesota DNR indicate an index decrease of 27 percent from comparable routes in 1997 and is the lowest since 1990.

Moose sightings are reported most every year in the District, but this year no reportings were recorded.

According to Scent Post Survey results by the Minnesota DNR (Section 1a), red fox and coyote numbers have decreased over the last couple years in our zone. This trend may be due to the presence of Sarcoptic mange. While red fox and coyote numbers are down, raccoon and skunk numbers have risen with skunks hitting an all time high (+ 51 percent) in our zone and the highest raccoon index (517) occurred at Big Stone. Although no index is included in the DNR report for opossum, a record number of stations were hit (16 instances) with the most frequent visits at Morris WMD. Deer are an "accidental" species, but their index also rose in all zones (+ 41 - 66 percent).

According to the Minnesota DNR August Roadside Count, the 1998 Eastern cottontail index indicated a significant increase of 42 percent from 1997. The West Central Region showed a 118 percent increase over 1997. The statewide white-tailed jackrabbit index for 1998 decrease a non-significant 12 percent from 1997.

Other Resident Wildlife



Many red bellied snakes like this one make an appearance near the office during the year. 98-6 4/28/98 CGR

According to the 1998 Minnesota DNR August Roadside Wildlife Count Summary, the following was recorded:

Ring-Necked Pheasants

The farmland zone index of pheasants per 100 miles increased a significant 110 percent on comparable routes driven. The 1998 pheasant index was 66 percent above the five-year mean index. The number of hens and broods per 100 miles showed substantial increases of 131 percent and 118 percent, respectively, and the number of cocks per 100 miles increased 24 percent. However, caution must be taken when looking at the 110 percent increase. It is believed that the 70 to 80 percent reduction in CRP acres from 1996 affects the observability of pheasants during the August Roadside Counts. Due to this reduction in CRP acres, it is estimated that the true population change is closer to 66 percent and not the 110 percent

as indicated by the survey. The West Central Region, which includes our entire District, showed an increase of 204 percent over last year and 18 percent over the five-year mean.

Gray Partridge

Statewide roadside count indices show a significant increase of 60 percent from last year and 8.5 percent above the five-year mean. The West Central Region showed a 650 percent increase over last year; however, numbers remain close to the lowest on record.

Wild Turkeys

See Section 4c.

Fisheries

In 1998, as in the past 13 years, the Minnesota DNR Area Fisheries Office in Glenwood requested the use of one Type V wetland on Stammer Waterfowl Production Area for rearing walleye fry to fingerlings. The pool was used but production was very poor.

Hunting

The diversity of WPA's in the Morris District offers different options to the hunter.

Waterfowl hunting was good over the District. The hunting season remained at 60 days with a daily bag limit of six birds. The open season date for ducks, coots, and mergansers was October 3 through December 1. The early goose season was open from September 5-15. The daily bag limit was five Canada geese in our area. The early goose season targets the local population of giant Canada geese. The areas included in this early season and the bag limits are set in part because of the depredation complaints which are received. The entire state, except for the Northwest Zone, is included in this hunt. The regular Canada goose season for the West Zone was October 3 through October 27 which had a daily bag limit of one.

Trapping

For the fifth year, red fox and raccoon were open to trapping and hunting year around. Due to economic turmoil across Asia and other parts of the world, prices of wild fur were down. Some fur was even difficult to sell at all. Trapping data for specific species is not available. The Minnesota Predator/Furbearer Scent Post Survey (Section 1a) shows red fox and coyote numbers down and raccoon numbers remaining steady for last year. Generally, furbearers within our District remain at high levels.

HABITAT RESTORATION

2a. Wetland Restoration (On/Off Refuge)

A total of fourteen landowners cooperated with our private lands program to restore 40 wetlands during FY98. Wetland restorations were completed in six of the eight counties in the District for a total of 175 wetland acres restored. The typical restoration averaged 4.38 acres per restoration in FY98 at an average cost of \$248.82 per acre. Approximately 47 percent of the restoration costs were paid for by private donations.



Arneson restoration completed in Swift County. 98-7 8/31/98 CGR

The number of wetland restorations completed in previous years needing repairs was down 75 percent from last year. The above normal precipitation the previous years had increased the number of projects needing repairs. This spring's limited runoff followed by more normal precipitation patterns was much easier on our dikes and water control structures. Only three dikes involving 60 wetland acres needed repairs this year. Two of the dikes washed out during the heavy spring runoff of 1996. The landowner did not inform us of the washout until this year, however. The other repair involved a non-perforated tile line that ran under the wetland. One of the joints developed a leak. The landowner did not want the line removed

when the initial restoration was completed. He relented and let us remove it when the leak developed. Only \$2,197.50 was spent on private lands repair projects this fiscal year.



The Alvin Hanson restoration prior to the high water years of 1996-97.
98-8 6/25/93 BLA



Note the increased water levels on Lake Oliver after the floods of 1996 and 1997. 98-9 8/31/98 CGR

Wetland restorations on public lands totaled 51 wetlands restored for 156 acres. All of the restorations were completed on WPA's. The typical restoration averaged 3.06 acres per restoration in FY98 at an average cost of \$154.82 per acre. Approximately 38 percent of the restoration costs were paid for by private donors.

There were no wetland restoration repairs completed on public lands during FY98.

Contributed Funds For FY98 Projects

North American Waterfowl Management Plan	\$13,123.50
Ducks Unlimited	7,641.00
U.S. Department of Agriculture	4,889.50
Upper Minnesota River Watershed District	<u>3,819.50</u>
	\$29,473.50

2b. Upland Restoration (On/Off Refuge)



Koosman FmHA Conservation Easement, Swift County, prior to burning for seed bed preparation. 98-10 4/21/98 WAH

For the first time ever two prescribed burns were performed on private property for seed bed preparation. The Glimsdahl Habitat easement and the Koosmann FmHA easement in Swift County were seeded with a warm season native grass mix. In addition, the Koosmann FmHA easement was used to demonstrate the operation of the private lands grass drill to the Yellow Medicine and Lac qui Parle Soil and Water Conservation Districts which had purchased identical grass drills.

Grasslands consist of native prairie, native grass and introduced cool-season grass seedings, and legume plantings. Management practices include fire, grazing, and haying. Some fields have not had any active management for 20 years but still provide good cover. New fee acquisition has provided the acreage for seeding each year. Occasionally new acquisition land is cash rented back to the original landowner. The purpose is to have soybeans planted, which makes a good seed bed for native grasses.

Weed control on young seedings is very critical. A combination of herbicides (roundup, 2,4-D, banvel), burning, haying, and grazing are used to aid the establishment and maintenance of both native and cool-season grass seedings and legume plantings. For native grass establishment and maintenance, prescribed burning reduces competition from unwanted cool-season grasses but may also stimulate broadleaf weeds. This may necessitate the subsequent application of 2,4-D.

Treatment of Seedings - Morris WMD - 1998
(in Acres)

<u>County</u>	<u>Acres</u>	<u>2,4-D</u>	<u>2,4-D & Banvel</u>	<u>2,4-D & Roundup</u>	<u>Mowing</u>
Big Stone	684.9	214.0	275.7	19.2	70.0
Chippewa	50.0				50.0
Lac qui Parle	106.0		47.0		59.0
Pope	61.0	26.0	15.0		20.0
Stevens	545.5	175.0	197.6	47.4	125.5
Swift					
Traverse	122.0		75.5	19.0	27.5
Yellow Medicine	<u>329.0</u>	<u> </u>	<u> </u>	<u>139.0</u>	<u>190.0</u>
Total	1,898.4	415.0	610.8	224.6	542.0

Four fields were hired out for custom spraying totaling 405 acres. The total cost for custom application was \$2,044.71. The vendors furnished the equipment and the government provided the chemical.

Native Seedings

Four fee and four easement areas were seeded to native grasses this year totaling 377 acres. The grass mixtures used consisted of Big bluestem (*Andropogon gerardi*), Indiangrass (*Sorghastrum nutans*), Switchgrass (*Panicum virgatum*), Little bluestem (*Schizachyrium scoparium*), and Side-oats grama (*Bouteloua curtipendula*). Green needlegrass (*Stipa viridula*) and Western wheatgrass (*Agropyron smithii*), cool-season natives, were also added in small quantities. Seeding occurred between early May and mid-June.



Monarchs alighting on blooming liatris to gather nectar at Lamprecht WPA, Stevens County. 98-11 8/25/98 KGM

Fee Native Grass Seedings - Morris WMD - 1998

<u>County</u>	<u>Unit</u>	<u>Acres</u>
Big Stone	Hillman	22
Stevens	Johnson	52
Traverse	Mosquito Ranch	22
Yellow Medicine	Swede Home	<u>135</u>
Total		231

Easement Native Grass Seedings - Morris WMD - 1998

<u>County</u>	<u>Unit</u>	<u>Acres</u>
Lac qui Parle	Rademacher	90
Chippewa	Hanson FmHA	45
Swift	Glimsdal	5
Swift	Koosman	<u>6</u>
Total		146

Since 1973 the Morris Wetland Management District has planted 8,608 acres of native grasses. A shift has been made to plant more local ecotypes and indigenous species.

The Morris WMD harvested native grass seed from the following areas:

Harvested Native Grass Seed - Morris WMD - 1998

<u>WPA</u>	<u>Species/ Variety</u>	<u>Lbs. Cleaned Seed</u>	<u>Germ.</u>	<u>Purity</u>	<u>Harvest Date</u>
Schultz	Indian/Tomahawk	1596	63%	64%	9/3
Schultz	Sideoats-Big Blue/ MN Native	690	N A	N A	9/4
Lamprecht	Big Blue-Indian/ MN Native	1920	86% 51%	81% 56%	9/11
Lamprecht	Big Blue/Bonilla	3270	83%	80%	9/16
Lamprecht	Switch/Forestberg	5027	69%	99%	9/18

Cool-Season Grasslands

No cool-season grass seedings were done in 1998.

Native Prairie

The original upland vegetation within the Morris District was tall grass prairie. The total native prairie acreage on WPA's within the District was 7,012 in 1998. The areas vary in size from less than one acre to 424 acres. Active management consisting of prescribed burning, grazing, and haying have been limited to the larger acreages. The small remnants have not been actively managed because of size, location, and staff time.

HABITAT MANAGEMENT

Habitat Summary - Morris WMD - 1998

<u>Cover Type</u>	<u>Acres</u>
Grassland	30,943
Wetland	16,838
Cropland	768
Timber	<u>1,447</u>
Total	49,996

3a. Water Level Management

The Morris Wetland Management District continues to manage 29 water control structures on 943 acres on Waterfowl Production Areas within a surrounding four county area. Two water control structures under easement on private land are also maintained and managed.

Analysis of water management at our water control structures is done by monthly observations and aerial photography. Aerial photos are taken of each pool in late August or early September which greatly assist in the evaluation of management decisions for each pool.

The primary management of all wetlands is for waterfowl production. Management of each wetland is determined by its association with the surrounding wetland complex. Management goals include: spring food production and habitat for breeding pairs, brood rearing, and fall migration.

Precipitation for 1998 was near normal which allowed water levels to recede in most of the wetlands. This stimulated vegetation growth around the edges. It also helped for those wetlands in draw down; mud flats were exposed, and they had good vegetation growth. The wetlands in draw down had good shorebird and waterfowl use.

There were eight wetlands in draw down this year. Two wetlands have an annual draw down cycle and the other six were in draw down to stimulate emergent vegetation growth. Near normal conditions throughout the summer allowed very good vegetation growth in most of the wetlands. Some of the wetlands had silt and vegetation that retarded water from escaping the wetland and water levels remained too high to allow growth.

Silt buildup and vegetation removal from around three structures was completed this summer. This should allow water to escape so that management goals can be met.

Some of the wetlands have problems downstream that hold water levels too high. Stewart and Grote WPA's have some type of blockage downstream on private property. Until these factors are taken care of, water level management cannot be controlled. Overby and Bengston WPA's both have beaver problems downstream which hold water levels higher than planned. Hutchinson and Loen (South Pool) WPA's had clean out completed along the ditch at the structure - silt and vegetation was removed. This should allow control of management.



Periodic maintenance of water control structures is required because of beaver activities (Loen WPA, Swift County-north structure).

98-12 5/14/98 CGR

Beaver exclusion devices are still in place and working great. The device at Nelson Lake WPA (Beaver Pool) was replaced this summer. This device was installed in 1992 and has saved many staff hours of beaver debris removal. The device at Loen WPA (North Pool) was also replaced. Next year the structure at Nelson Lake WPA (YCC Pool) may need to be replaced. Over all, problems with the devices are minimal, and they save many hours of debris removal.

3b. Haying

Haying has been used on a limited basis for noxious weed control and upland habitat management. It has been utilized primarily on pure stands of alfalfa. The annual manipulation keeps the alfalfa in a more vigorous condition. Haying is normally delayed until after July 15 to allow for duck nests to hatch. However, on newer seedings haying may take place earlier to eliminate a serious noxious weed problem.

Haying Summary - Morris WMD - 1998

<u>County/WPA</u>	<u>First Cutting</u>	<u>Acres</u>	<u>Second Cutting</u>	<u>Acres</u>
Big Stone				
Anderson	7/29	18		
	8/11	5		
Boehnke	8/11	10		
Hillman	7/27	36		
Lane	8/06	50		
Lac qui Parle				
Bolson Slough	9/02	40		
Florida Creek	9/02	65		
Pope				
Rolling Forks	7/27	47	9/01	35
Walden	7/27	14	9/01	14
Westport	7/27	57		
Stevens				
Thorstad	7/27	32		
Swift				
Fahl	7/29	53		
Monson Lake	7/29	38		
Traverse				
Diekman	8/01	93	9/01	95
Robinhood	8/01	95	9/01	15
Gibson	7/29	22		
Yellow Medicine				
Spellman Lake	8/01	38	9/01	38
	9/01	57		
Easement				
Mitteness FmHA	8/01	14.5	9/01	14.5
Monson FmHA	8/01	<u>25</u>		<u> </u>
Total		809.5		211.5

3c. Grazing

Controlled grazing has been used as an alternative to prescribed burning. Objectives are to reduce litter buildup and reduce competition from cool-season grass invaders. A high concentration of livestock is needed to remove a dense litter buildup and the new growth in a 30 day period of time. Grazing does not begin until mid-April for two reasons:

1. Most permittees are not through calving until May 1.
2. The combination of spring rains and high A.U.M.'s can cause degradation of the sod.

The grazing period is 30 days. In dry years there may not be enough vegetation to support the number of A.U.M.'s, and livestock need to be taken off early. Permittees have been good to work with. This grazing period on WPA's gives their own pastures a break. However, it is becoming more difficult to find permittees as each year there are fewer cow/calf operators. Grazing is targeted more to native prairie. Areas are normally grazed two years in a row and then rested for three to five years. Kentucky bluegrass (*Poa pratensis*) comes on very strong if grazing takes place only one year.

Grazing Summary - Morris WMD - 1998

<u>County/WPA</u>	<u>Acres</u>	<u>Actual AUM's</u>	<u>Planned AUM's</u>	<u>Fee/ AUM</u>	<u>Grazing Period</u>	<u>Scheduled Period</u>
Stevens						
Fish Lake	95	75	75	\$2.75	4/18-5/16	4/18-5/16

3d. Farming

In 1998, 434.5 acres of cropland were managed as resident wildlife food plots. These plots were located on waterfowl production areas identified by the Minnesota DNR as significant wintering areas for ring-necked pheasant and white-tailed deer.

All food plots were located near shelterbelts and/or cattail sloughs which provide escape and winter cover. Plots were located on soils not classified as highly erodible land which have minimal soil loss potential. Most of the food plots consisted of two, ten-acre fields where corn was planted in one

field and a grass mixture was seeded in the other. These fields are then alternated every three to five years. This rotation has helped reduce disease and insect problems in corn and also provided nesting cover in the grassland field. Occasionally soybeans are planted one year instead of corn to break an insect or disease cycle. The cooperator is responsible for all field work, seed, fertilizer, and weed control. The wildlife's (government's) share is left standing in the field in alternate strips. The alternate strips help disperse snow and reduce the chances of the entire plot being buried in snow. The cooperator is allowed to harvest any corn or soybeans remaining the following spring.

Farming Summary - Morris WMD - 1998

<u>County</u>	<u>No. WPA's With Plots</u>	<u>Total Acres in Corn, Soybeans</u>	<u>Total Acres In Plots</u>
Big Stone	13	100	273
Lac qui Parle	1	0	19
Pope	4	48	89
Stevens	13	102.5	187.5
Swift	6	68	114
Traverse	4	94	94
Yellow Medicine	<u>2</u>	<u>22</u>	<u>22</u>
Totals	43	434.5	798.5

Note: Due to wet field conditions, several WPA's were not planted as planned.

The Stevens County Pheasants Forever chapter financed winter food plots and feeder cribs throughout the county, predominantly on private land. One plot was planted on Edwards WPA and one on Pomme de Terre River WPA, both in Stevens County.

3f. Fire Management

A total of 2,258 acres was prescribe burned in 1998. Experienced employees aided in making the burning program more efficient resulting in a record year for burned areas.

Prescribed Burn Summary - Morris WMD - 1998
(In Acres)

<u>County/ WPA</u>	<u>Date Burned</u>	<u>Native Prairie</u>	<u>Intro. Natives</u>	<u>DNC</u>	<u>Marsh</u>	<u>Trees</u>	<u>Total</u>	<u>Cost/ Acre</u>	<u>Total Staff Hours</u>
Big Stone									
Henry	4/16	36					36	\$6.50	18.0
Hillman	4/16			5			5	\$15.00	3.5
Persen	4/16	5	35				40	\$3.75	12.0
Seidl	4/17		125	10			135	\$2.90	31.0
Toqua	4/17		19	19			38	\$3.68	11.0
Stegner	4/27		132				132	\$2.27	18.0
Dismal S	4/28		130				130	\$1.92	20.0
Prairie	4/30	100	27	47			174	\$2.52	30.0
Pope									
Froland	4/20	5	28	7		5	45	\$7.67	30.0
Rosby Lk	4/22	36	62	60			158	\$40.66	37.0
Stevens									
Horton	4/21		16				16	\$12.50	10.0
Mero	4/21		167	5			172	\$2.56	36.0
Moore	4/21	2	80	66			148	\$1.76	23.5
Smith	4/23	21	72	50			143	\$3.15	36.0
Long Lk	4/29	80	17	166			263	\$2.28	37.0
Schultz	5/05		15				15	\$16.67	15.0
Lamprecht	5/05		136	20			156	\$2.56	22.5
Swift									
Maki	4/24	57	35	14			106	\$3.49	28.0
Traverse									
Robinhood	4/27	15	102	61			178	\$1.41	20.0
Mos Ranch	5/06	—	—	20		—	20	\$22.50	24.0
TOTAL		357	1,198	550		5	2,110		462.5
				Private			8		
				MN DNR			140		
GRAND TOTAL							2,258		

Average Cost/Acre \$ 5.50
Average Staff Hours/Burn 23.15



Maintenance worker Rod Ahrendt puts down a wetline on Koosman FmHA Easement in preparation for a native seed down. 98-13 4/21/98 WAH



Biologist Haugen and Maintenance Worker Gades show good form in the Pack Test. 98-14 4/09/98 CGR

3g. Pest Plant Control

Spraying and Mowing

There were 43 WPA's treated for noxious weed control this past year. Twenty-five were treated for Canada thistle, four for both thistle and spurge, 13 for spurge, one for marijuana, and one for both marijuana and thistle. The District has been spraying areas with planted natives after prescribed burns and in the fall when they have thistle problems. This appears to be working and limiting major pest plant problems. The District still receives complaints about pest plants from neighbors, as well as county and township officials. This past year we received 18 calls about pest plants, primarily "thistle."

Noxious Weed Control - Morris WMD - 1998

	<u>Contract</u>		<u>Force Account</u>		<u>Mowing</u>		<u>Totals</u>	
	<u>Spraying</u>		<u>Spraying</u>					
	No.		No.		No.		No.	
<u>County</u>	<u>WPAs</u>	<u>Acres</u>	<u>WPAs</u>	<u>Acres</u>	<u>WPAs</u>	<u>Acres</u>	<u>WPAs</u>	<u>Acres</u>
Big Stone	0	0	9	131	2	34	11	165
Chippewa	0	0	0	0	0	0	0	0
Lac qui Parle	0	0	3	17	0	0	3	17
Pope	0	0	4	27	0	0	4	27
Stevens	0	0	12	178	5	46	17	224
Swift	0	0	2	5	1	10	3	15
Traverse	0	0	3	10	0	0	3	10
Yellow Med.	<u>0</u>	<u>0</u>	<u>2</u>	<u>40</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>40</u>
1998 Total	0	0	35	408	8	90	43	498
1997 Total	1	18	32	292	10	128	43	538
1996 Total	0	0	29	230	12	173	41	403
1995 Total	0	0	25	140	6	77	31	217
1994 Total	0	0	38	386.5	12	133.7	50	520

*Some waterfowl production areas may have received both contract and force account control efforts.

Biological Control

Purple Loosestrife (*Lythrum salicaria*)

The project began in 1997 with the raising and release of loosestrife beetles (*Galerucella californiensis* and/or *Galerucella pusilla* (gaca/gapu)) at Ouren, Overby, Nelson Lake, and Kolstad Lake WPA's.

The project continued in 1998 when leaf and flower-eating beetles were raised and released as follows:

<u>County/WPA</u>	<u>No. Adults</u>	<u>No. Larvae</u>	<u>No. Sites</u>
Stevens - Darnen	125 +	2,317 +	3
Pope - Overby	317	1 +	1
Pope - Nelson Lake	<u>486</u>	<u>312</u>	<u>4</u>
Total	928 +	2,630 +	8

These sites will be monitored during the growing season in June, 1999.

Leafy Spurge

This project began in 1996 with the introduction of 5,000 flea beetles, 3,500 *Aphthona lacetosa* and/or *Aphthona czwalinae*, and 1,500 *Aphthona flaua* at four sites on Loen WPA, Swift County. In 1997, 44,000 apcz/apla were added to Loen WPA in three sites and 70,000 apcz/apla at Lynch Lake WPA, Swift County. The beetles released in 1996 and 1997 were provided by the U. S. Department of Agriculture/APHIS.

In 1998, apcz/apla flea beetles were collected at Valley City, North Dakota by personnel from this station and released at the following sites:

<u>County</u>	<u>WPA</u>	<u>No. Released</u>	<u>Sites</u>
Lac qui Parle	Taylor	5,000	1
Stevens	Sherstad Slough	30,000	3
Swift	Loen	65,000	3
Swift	Lynch Lake	10,000	1
Yellow Medicine	Dakota	<u>5,000</u>	<u>1</u>
Total Released in 1998		115,000	9

To date the total releases of spurge control beetles are:

<u>WPA</u>	<u>Released</u>	<u>Type Beetles</u>	<u>Sites</u>
Loen	112,500	apcz/apla	8
	<u>1,500</u>	apfl	<u>1</u>
Loen Total	114,000	apcz/apla, apfl	9
Lynch Lake	80,000	apcz/apla	4
Sherstad Slough	30,000	apcz/apla	3
Taylor	5,000	apcz/apla	1
Dakota	<u>5,000</u>	apcz/apla	<u>1</u>
Total Released	234,000	flea beetles	18

Monitoring at sites consists of sweep net sampling (see Section 1a, Monitoring and Studies, Surveys and Censuses). Three times during the summer, each area is sampled with a sweep net at sites 5, 10, 15, and 20 feet in four directions from the central point of each release site.

3h. WPA/Easement Monitoring

Easements

Easement Enforcement Summary - Morris WMD - FY 98

Cases closed during FY98	1
Cases forwarded for legal action	0
New fall 1998 violations (unresolved)	1
Total cases outstanding October 31, 1998	10

The FY98 easement surveillance flights were completed April 10, 13, and 16, 1998. Early snow in the fall of 1997 prevented flights from being done then. During easement flights, we also photograph other potential wetland violations and report them to appropriate FSA, Minnesota DNR, and/or Corps of Engineers authorities.

In recent years FmHA and grassland easements have been added to our list of responsibilities. Our current inventory of these properties is rather small. They typically have smaller acreage and increased Service authority/responsibility to regulate activities. Procedures for administering these lands are evolving and will hopefully be less of a problem than anticipated.

Waterfowl Production Areas

Most WPA problems are detected during routine work activities, while flying easement checks or from public turn-in. Typical problems include farming encroachment, rock dumping, sign damage, vehicle trespass, dead animal and/or garbage dumping, and private drainage affecting WPA wetlands.

If possible, problems caused by neighboring landowners or renters are negotiated to a fair solution for all without creating a neighboring enemy. Legal action is usually a last resort.

Other violations such as vehicle trespass, dumping, littering, etc., persist and often leave highly visible evidence, but catching someone is difficult and rare.

Due to concerns about potential surface water impacts from installation of a controversial high volume rural water system well, the Service has required monitoring to be done on Dakota WPA, Yellow Medicine County. Reports from test wells, a staff gauge, and a weir are received and forwarded to the local Minnesota DNR hydrologist. Since monitoring started in 1995, there has been no cause for alarm. However, these have been exceptionally wet years and monitoring continues.

FISH AND WILDLIFE MANAGEMENT

4b. Disease Monitoring and Treatment

Avian Cholera

Losses of waterfowl to avian cholera were reported in Lac qui Parle, Swift, and Big Stone Counties during December 1997 and January 1998. Most of the losses had occurred on Lac qui Parle Wildlife Management Area, but smaller numbers died on Hart and Thielke Lakes. Canada geese, mallards, coots, and other duck losses occurred during this event.

Wildlife Treatments

March 24	Great Horned Owl taken to rehabilitator
April 20	Tundra Swan found dead
September 8	Common Nighthawk taken to rehabilitator
October 3	Red-Tailed Hawk taken to rehabilitator.

4c. Re-introductions

Since 1994 approximately 125 turkeys have been released in five different areas of Pope County. Twenty-five birds were most recently released near Barsness Woods in south-central Pope County during this past year.

Previous release sites have proven to be very successful resulting in a proposed 1999 hunt. Successful turkey releases in northwest Big Stone County have also resulted in proposed 1999 hunting seasons.

4d. Nest Structures

Morris WMD has been developing and field testing waterfowl nest structures since 1991. As the lead District for the Minnesota Waterfowl and Wetland Management Complex responsible for nest structure testing, we tried to develop productive duck nesting structures useable by interested citizens, wildlife clubs, and wildlife managers. Several designs were tested with varying degrees of success. We promoted use of those most productive and practical.

Generally we have found that the cylinder shaped nest structure placed in any appropriate location (i.e. mounted on a pole, on a floating raft, attached to a goose nesting structure or large round bale, etc.) is likely to attract and

produce mallards. Predation on all structure types is minimized by barriers (such as an unclimbable pole), distance from shore (100+ yards recommended on floating structures), nesting geese adjacent (while their nest is active they will keep most predators away), etc. Often just plain luck seems the main success factor. One sure observation is that after a successful hatch, probability of repeat use in subsequent years is very high.

We have two main goals in our structures program. One is to maintain approximately 300 nest structures on WPA's in our District. The other is to distribute good working structures and reliable information about placement and maintenance to cooperators willing to maintain them on private lands.



Woody Camp youth constructing mallard nest cylinders. Youth volunteers rolled 219 nest cylinders in FY98. 98-15 8/14/98 KB

First, the 300 structures we maintain on WPA's. Of these we have monitored about two-thirds for the last several years and have these divided into four projects. Overall results have become quite steady the last few years. Results of Projects 1-3 are shown on Table 4 and Project 4 is on Table 5.

Project 1 - Double Cylinder (Table 4)

Determine approximate use and success of the District's 200 2-cylinder/pole structures. These were made by converting Ducks Unlimited (DU) fiberglass baskets to a pole structure with two nesting cylinders attached. Conversion was accomplished by simply wiring two carpet/hay cylinders on top of the former DU basket. This type has been found to protect nesters from predation and offers two duck nesting sites per structure. More importantly, 95 percent of the duck use was by mallards and the former goose nest site was eliminated. This is a good feature considering the depredation problems that have evolved with our local goose flocks. Nesting under and on top of the two cylinders also occurs occasionally. Of the 200 structures available, 100 were checked. Of these, 48 were used with 66 nests initiated. Of these, 51 hatched, 3 were predated, 11 were abandoned, and one was of unknown fate. This nesting structure type hatched 0.51 nests per structure in FY98.

Project 2 - Cedar Boxes (Table 4)

Determine use and success of a cedar box pole structure made from the same materials as the traditional and popular wood duck houses. These structures have three nest sites available, one on top that will accommodate duck or goose nesting, with two side by side duck nest sites below. This is the only structure type available to goose nesting. Thoughts were that if this worked well many who participate in the traditional wood duck house projects might also prefer building similar houses for mallards. This was the sixth year of monitoring and it appears this option is practical. In large wetlands where we placed most of these structures, spring ice damage continued to be a problem. Of 15 boxes available, 11 were used. These had 16 duck and 1 goose nest initiated. Of these the goose and 11 ducks hatched, 2 were predated, 2 abandoned, and 1 was of unknown fate. This structure type hatched 1.13 nests per structure in FY98.

Project 3 - Single Cylinder (Table 4)

Continue monitoring the fiberglass nest structures remaining from the Kawalchuk study to determine long term usage rate changes, saturation level, predation problems, maintenance problems, etc. Nearly all the hay cylinders have been converted to 2 cylinder structures and are included in Project 1. Of 54 available structures, 28 were used having 31 nests initiated. Of these 27 hatched, 2 were predated and 2 abandoned. This structure type hatched .5 nests per structure in FY98.

Project 4 - Saturation Test (Table 5)




Determine structure preference, compare success by type, observe mallard tolerance to density placed structures, note predation changes and note any other significant changes which occur over many years' time. Many

1993-1998 NEST STRUCTURE SUMMARY

D = Duck (~90% Mallard)
G = Goose

MORRIS WETLAND MANAGEMENT DISTRICT











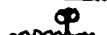
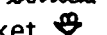
Table 4

Structure Type	Nest Sites/ Structure	Number Structures Available	No/Percent Structures Used	Total Number Nests	No/Percent Success	No/Percent Predated	No/Percent Abandoned	No/Percent Unknown Fate
Double Cylinder								
	- 1993	2	49	7 / 14%	11 (D)	10 / 91%	0	1 / 9%
	- 1994	2	23	9 / 39%	12 (D)	7 / 58%	0	5 / 42%
	- 1995	2	87	38 / 44%	52 (D)	43 / 83%	0	9 / 17%
	- 1996	2	89	53 / 60%	78 (D)	55 / 71%	2 / 3%	21 / 27%
	- 1997	2	83	42 / 51%	69 (D)	47 / 68%	0	21 / 30%
	- 1998	2	100	48 / 48%	66 (D)	51 / 77%	3 / 5%	11 / 17%
Cedar Boxes								
	- 1993	3	25	3 / 12%	1 (D) 2 (G)	0 2 / 100%	0 0	1 / 100% 0
	- 1994	3	17	10 / 59%	9 (D) 4 (G)	8 / 89% 4 / 100%	0 0	1 / 11% 0
	- 1995	3	16	13 / 81%	21 (D) 1 (G)	19 / 90% 1 / 100%	1 / 5% 0	1 / 5% 0
	- 1996	3	14	12 / 86%	22 (D) 2 (G)	16 / 73% 2 / 100%	1 / 5% 0	4 / 18% 0
	- 1997	3	11	9 / 82%	14 (D) 3 (G)	8 / 57% 3 / 100%	3 / 21% 0	2 / 14% 1 / 7%
	- 1998	3	15	11 / 73%	16 (D) 1 (G)	11 / 69% 1 / 100%	2 / 13% 0	2 / 13% 1 / 6%
Single Cylinder - Hay or Fiberglass								
	- 1994	1	96	23 / 24%	23 (D)	18 / 78%	2 / 9%	3 / 13%
	- 1995	1	90	31 / 34%	31 (D)	26 / 84%	2 / 6%	3 / 10%
	- 1996	1	82	45 / 55%	56 (D)	48 / 86%	2 / 4%	5 / 9%
	- 1997	1	81	46 / 57%	49 (D)	39 / 79%	4 / 8%	2 / 5%
	- 1998	1	54	28 / 52%	31 (D)	27 / 87%	2 / 6%	4 / 8%

1995-1998 SATURATION TEST

Table 5

MORRIS WETLAND MANAGEMENT DISTRICT

Structure Type	Nest Sites/ Structure	Number Structures Available	No/Percent Structures Used	Total Number Nests	No/Percent Success	No/Percent Predated	No/Percent Abandoned	No/Percent Unknown Fate
Saturation Test - 1995								
- 3 Types in 3 Wetlands								
Floater	 3	12	12	25	16	6	3	0
Fiberglass	 3	12	8	10	6	2	2	0
2 cyl on basket	 3	10	7	13	8	0	5	0
1995 Totals		34	27 / 79%	48	30 / 63%	8 / 17%	10 / 21%	0
Saturation Test - 1996								
Floater	 3	12	12	26	18	0	5	3
Fiberglass	 3	10	10	19	13	0	5	1
2 cyl on basket	 2	11	11	17	11	0	6	0
1996 Totals		33	33 / 100%	62	42 / 68%	0	16 / 26%	4 / 6%
Saturation Test - 1997								
Floater	 3	12	12	31	14	8	3	6
Fiberglass	 3	9	9	13	10	0	3	0
2 cyl on basket	 2	10	10	20	18	0	2	0
1997 Totals		31	31 / 100%	64	42 / 66%	8 / 13%	8 / 13%	6 / 9%
Saturation Test - 1998								
Floater	 3	12	12	33	14	3	11	5
Fiberglass	 3	11	11	22	12	0	10	0
2 cyl on basket	 2	11	11	19	13	1	5	0
1998 Totals		34	34 / 100%	74	39 / 53%	4 / 5%	26 / 35%	5 / 7%

An increasing number of citizens wish to maximize waterfowl use and production on their own small acreage. Early indications are encouraging as several individual citizens and clubs are experiencing results similar to ours on their private wetlands.

We continue to learn and share our results with a receptive Minnesota public that wants to know what will work on their property.....so we keep learning. We are mindful that it is easy to raise waterfowl in a wet cycle and expect benefits to be most significant when the dry years return.

This year we hatched 129 nests from 203 structures checked. Following is a summary of all four FY98 project results:

- 203 structures available for use
- 121 (60 percent) structures were used
- 188 nests initiated
- 129 (69 percent) nests were successful
- 11 (6 percent) nests were predated
- 41 (22 percent) nests were abandoned
- 7 (4 percent) nests were of unknown fate

Through our private lands program we give nesting cylinders away to cooperators willing to put them up and maintain them for a minimum of two years. This has been very successful and well received by the public. In FY98 we gave away 149 cylinders to participants, and since the inception of the program in 1995, we have distributed an even 500 nest cylinders. Most structures are put up in pairs supported by a highway sign post or pipe. It is particularly gratifying when a cooperator comes back a subsequent year for more cylinders because of the success he/she had.

Morris WMD also supported a multi-year cost share program in which cedar raft nesting structures were distributed throughout Minnesota from 1993 to 1997. Many were involved in the project; however, particular appreciation is extended to Service Volunteer Roger Strand who coordinated most of the program and Ducks Unlimited whose strong financial support of \$54,000 cost share dollars insured success for the project. DU contributions were matched by private individuals, sportsmen clubs, and conservation agencies to accomplish distribution of 1,160 floating nest structures, most of which were placed in the prairie pothole region of west-central Minnesota.

Volunteer Strand also did an excellent evaluation of 724 of these structures from 1994 to 1997 in an effort to determine effectiveness of the program. His final report can be found at the back of this report.

structures in a single wetland are most practical from both a maintenance and a waterfowl production view. The initial goal was to establish four each of three structure types in three separate wetlands. Sites are located on Dismal Swamp WPA in Big Stone County, Schultz WPA in Stevens County, and Walden WPA in Pope County. The three nest structure types placed were the cedar floater (three nest sites each) and two pole mounted types, the double cylinder on fiberglass DU basket (2 nest sites each), and Backes fiberglass cylinders (3 nest sites each). All of the 34 structures available were used. They contained 74 duck nests of which 39 hatched, 4 were predated, 26 were abandoned, and 5 were of unknown fate. The cedar floater was the type used most. They had 33 nests initiated with 14 hatching. Predation remains a minor problem on floating structure types, but no unreasonable increases have occurred and learned predation behavior has not evolved so far. This is perhaps our most significant fear. Most notably, abandonment increased from 8 to 26 nests. Most abandonments were small, unincubated clutches suggesting much competition and interaction is probably occurring. Since our number of successful nests remained near that of prior years, it appears we may be at the attainable maximum production for the available structures in this test. Rough weather, possibly scavenging birds, and much traffic were responsible for eliminating evidence resulting in the five fate unknowns. Combined, these structures hatched 1.15 nests per structure in FY98.



Under a directed study University students Ryan Bahn and Cam Volbreck monitored the District's four nest structure projects in the 1998 nesting season. 98-16 4/16/98 LEL

4e. Pest, Predator, and Exotic Animal Control

There was only one beaver complaint this year. There was a beaver dam in the water control structure at Osterberg Lake WPA, Pope County, that caused flooding of the neighbor's property. One beaver was removed from this area. Two additional beaver were removed from WPA's (Krantz Lake, Pope County, and Svor, Swift County) where water levels were being raised.

One beaver exclusion device was rebuilt this year. There currently are six wire panel devices and three Clemson Beaver Pond Leveler's within the District. These exclusion devices continue to save many hours of time that would otherwise have been expended to remove beaver dam material. In addition, we don't have to trap beaver at these sites.



Beaver problems on spillway for Krantz Lake WPA, Pope County.
98-17 5/13/98 KB

One electric predator fence is maintained each year which encloses approximately 16 acres.

COORDINATION ACTIVITIES

5a. Interagency Coordination



Goose banding crew from Minnesota DNR, and Morris and Fergus Falls Wetland Management Districts. 98-18 8/98 KGM

Staff members Haugen and Henderson spent 16 hours assisting the NRCS office in Swift county during the 18th CRP signup. Ninety additional hours were spent reviewing and surveying CP23 wetland restoration projects in Lac qui Parle and Swift counties for NRCS. This included 31 feasibility determinations which resulted in 22 wetland restoration designs.

Sixteen hours of assistance were given to SWCD offices in Swift and Chippewa counties reviewing permanent RIM and PWP easements.

Raitz served on a State Department of Agriculture committee establishing guidelines for the Environmental Quality Incentive Program administered by the county NRCS and FSA offices.

Staff members participated in county Conservation Review Group meetings and county water planning meetings.

Staff members worked on water issues with other agencies which included Soil and Water Conservation Districts, local watershed boards, NRCS, County Highway Departments, landowners, etc.

Biologist Lewis was selected to participate as a member of a technical committee to address flooding problems in the Red River Watershed. The committee was responsible for providing support to a multi-agency/organization workgroup in a formal mediation process which was ordered by the Minnesota state legislature to resolve permit issues in the Red River watershed. Several meetings were attended in Crookston and a series of technical papers were assigned for the work group to complete. If views being developed by the technical committee are adopted and implemented in the Red River watershed, there could be significant wildlife benefits gained where formerly there were few to none. Jim Litzinger is the Service representative on the work group. Next year's Annual Narrative should contain a progress report.

5b. Tribal Coordination

Nothing to report.

5c. Private Land Activities

In 1997 the Pope County Environmental Services Office asked us to work with them on a water quality improvement project for the watershed of Trappers Run Creek. The creek is a primary watershed for Pelican Lake and Lake Minnewaska. They had identified a number of potential wetland restoration projects in the watershed, one of which they were targeting for restoration in 1997. When the project fell through and the primary administrator for the Environmental Services Office took another job, progress on the watershed project slowed. A meeting was held during the latter part of FY98 when a new administrator was hired which has revitalized the project. Our part in the process is to secure the wetland easement, design and complete the construction project, and pay restoration costs.

Our partnership with the Niemackel Lake watershed project continued although no wetlands or prairie habitat was restored during the fiscal year.



Bruns project, Niemackel watershed - first year after restoration and native grass seeding. 98-19 5/98 WAH

Our on-going relationship with the Upper Minnesota River Watershed District and Big Stone County continued in FY98 led by Kyle Kirkeby's fourth grade class at Ortonville Public School. For four years Mr. Kirkeby's fourth grade class has held fund raisers for wetland restoration projects through the sale of candy and school chewing gum permits. Each year the class adopts a wetland restoration project identified by the Morris WMD. The fund raising proceeds are funneled through the Citizens for Big Stone Lake to the Upper Minnesota River Watershed District. The money is then donated to the Morris WMD Partners for Wildlife Program and submitted for a match through the Region's Challenge Grant Program. In past years, the donation has been matched by the North American Waterfowl Management Plan. This past year, the Watershed District also solicited the involvement of the Big Stone County Water Plan.

Mr. Kirkeby's fourth grade class raised \$600 this past year through the sale of candy and student chewing gum permits. Working as partners, the Citizens for Big Stone Lake, the Upper Minnesota River Watershed District, and the Big Stone County Water Plan recognized the kids' efforts by individual donations of \$2,000 toward the project for a fund raising total of \$6,600. In the end, if the entire fund raising total is matched by the Regional Challenge Grant program, the fourth grade class' 1998 project

could raise \$13,200 towards wetland restoration projects in the upper Minnesota River watershed for FY99. Their FY98 fund raising total came to \$4,000 after being matched by the North American Waterfowl Management Plan through the Regional Challenge Grant Program.



Kyle Kirkeby's Adopt-A-Pothole fourth grade class.
98-20 1998 DDH

This year, the Morris WMD entered into a cooperative agreement with the University of Minnesota-Morris to study the effect of a rotational grazing system on plant and bird species. The Morris office will be responsible for finding a landowner to participate, supply material for enclosures, and assist in finding funds for project continuation. This year the Morris Office was able to secure \$8,000 in funding through the Challenge Cost Share Program.

This was the second field season the grass drills, purchased for private lands native grass seedings, were used. Forty-one landowners used the drills to plant approximately 1,840 acres to a grass cover, primarily CRP warm-season native grass mix.



The Partners for Fish and Wildlife program's native grass drill being used by a private landowner to establish native grass on CRP.

98-21 1998 WAH

The Morris WMD had two full time FTE's for the private lands program during FY98. Funding for the program generally comes from the Fish and Wildlife Service Partners for Wildlife program, North American Waterfowl Management Plan, and private donations. The FY98 budget was \$128,000 with a additional \$12,000 from the North American Waterfowl Management Plan and \$17,473 from private donations. In addition to these funds we also receive 1261 RONS funding of \$10,000 for wetland restorations, \$28,000 for prairie restoration projects, plus \$12,000 from Region 6 for prairie restorations. This budget covers salaries, supplies, and prairie and wetland restoration costs as well as repairs on past projects.

Swampbuster

From 1985 to 1995 the swampbuster provisions of the Farm Bill legislation had mandated Service involvement in wetland appeals, exemption requests, turn-ins of potential wetland conversion violations, minimal effect/drainage maintenance/mitigation requests, and the wetland reserve program. However, the 1995 rules changed the Service's role to one of voluntary invited involvement and effectively leaves us with very little ability to protect wetlands via USDA authority.

We did turn in three potential swampbuster violations in FY97 but a determination of legal maintenance is the typical outcome.

Swampbuster, combined with Corps of Engineers 404 authority and the Minnesota Wetlands Conservation Act, has done much to curb drainage since the mid-1980's. Recent relaxing of the regulatory clout has prompted resumption of the "Don't Delay - Drain Today" mentality in this area. Unfortunately, the ability to profitably drain makes the message "If you buy a wetland-you own a wetland-and you have a social obligation to pass it on intact to future generations" impossible to sell.

Conservation Reserve Program (CRP)

CRP continues to be the best wildlife program since the Soil Bank Program of the 1950's and 1960's. Biologist Lewis is on the State Advisory Committee. Morris staff generously provides assistance to local NRCS offices by request during signup. We strongly support this all too important program and advocate liberal funding and sound direction for it.

Lake Oliver

Controversy over rising water levels in Swift County's Lake Oliver persisted through FY98 when the county decided not to proceed with plans to install the million dollar pump station at the southeast end of the lake which was to pump 8+ feet of water from the lake. This summer, when the lake level failed to recede at a rate comparable to area wetlands, county officials decided there was obviously a groundwater connection feeding the lake, and the pumping option may be both costly and impractical.

Historically, the lake has stayed about 10 to 15 feet deep for the last 100+ years. It has a small closed watershed and has had fish winter kill problems. In the early 1900's, someone established a primitive road across the shallow northwest end of the lake. Through the years this road was built up and improved to become a major paved county highway. The only problem was that no one had sufficient vision to anticipate a normal 100 year wet cycle and plan accordingly by re-routing the road. In the early 1990's, the lake level began to rise with the ensuing wet cycle. It continued to increase through the years to its current depth of over 30 feet in places. The county road was built up 8 feet in 1995. This is currently under 3+ feet of water. At 10 more feet of rise, the lake would spill via its natural and unaltered outlet. Most area residents want this "unnatural" event of the road being under water corrected and the lake drained down to where it is "supposed to be." Ironically, emergency federal highway dollars in the amount of \$500,000 are available to help accomplish this. Due to involvement of federal dollars and Byre Waterfowl Production Area's

location in the path of the currently proposed outlet site, Biologist Lewis has been involved in meetings to resolve this problem. The latest 1.3 million dollar plan calls for a tile outlet to drain 3+ feet from the current elevation of the lake and then build up the road a few more feet. Believe it or not, this has been the least impacting proposal to date and it appears destined for implementation. There is irony in this somewhere!



Lake Oliver in a 100 year wet cycle. Note township roads (bottom center) and county highway (upper left center) all under water. Because no one planned accordingly, this lake will have a drainage outlet installed to lower it 3+ feet. 98-22 4/16/98 LEL

RESOURCE PROTECTION

6a. Law Enforcement

Two people on the Morris staff had law enforcement authority during the year; they are officers Lewis and Raitz.

Most enforcement activities are associated with wetland drainage violations or resolving WPA problems. Citations are seldom used in resolving these problems but the training and the authority to arrest or cite an individual are essential assets in these contacts. State Conservation Officers have primary responsibility for hunting season enforcement. We maintain good rapport with these State Officers and work cooperatively during waterfowl season and upon request in other situations.

This year we had approximately 20 incidents and seven NOV's and State Citations issued. Also, approximately 5.45 miles of new boundary were posted and 108.35 miles of boundary were maintained.

6b. Permits and Economic Use Management

During FY98, a total of 32 special use permits were issued. The majority of these permits were issued for cutting hay, grazing, or cash rent (Section 3, Habitat Management). Two permits were issued to neighbors for maintenance of existing drainage facilities. One permit was issued to an individual wanting to trap pocket gophers and one permit was issued to the Minnesota DNR allowing the rearing of walleye fry on Stammer WPA, Pope County.

6f. Cultural Resources Management

All historical surveys for acquisition or right-of-way requests came back negative, so there is nothing to report for this year.

6g. Land Acquisition Support

Fee Title

Three new fee tracts totaling 469.64 acres were added to the Morris Wetland Management District in FY98. This compares to 200 acres in FY97. Two tracts were roundouts to existing waterfowl production areas, and the 80 acre Oellien tract is a new WPA. Therefore, the current fee acreage of 49,996.12 represents 67 percent of the Morris District's goal acres.

Waterfowl Production Area Acreage - Morris WMD - 1998

<u>County</u>	<u>Acquisition Total 9/30/97</u>		<u>Acquisition Total 9/30/98</u>		<u>Goal Acres</u>
	<u>Units</u>	<u>Acres</u>	<u>Units</u>	<u>Acres</u>	<u>Acres</u>
Big Stone	61	10,777.89	61	10,777.89	15,600
Chippewa	1	164.10	1	164.10	---
Lac qui Parle	17	3,526.70	18	3,996.34	6,600
Pope	63	13,136.25	63	13,136.25	21,000
Stevens	55	9,315.03	55	9,315.03	12,850
Swift	30	7,579.03	30	7,579.03	10,800
Traverse	12	4,063.63	12	4,063.63	6,720
Yellow Medicine	5	963.85	5	963.85	1,260
Total	244	49,526.48	245	49,996.12	74,830

The continuing low annual revenue sharing payments and other problems make it difficult to obtain county certification and thereby discourages the Wetland Manager from being aggressive in going after fee areas. More emphasis on wetland habitat protection easements also reduced the time available for realtors to work on fee tracts. The fee program is slow but interest by willing sellers has increased this past year.

The long term future of fee acquisition continues to be an unknown. The farm economy, revenue sharing, Service staff time, acquisition funding, Land Exchange Board attitude, emphasis on easement work, and many other factors will influence its future. However, one thing is certain, sufficient wetland habitat still exists for the Morris District to reach its fee acquisition goals.

The tax loss issue continues to be one of the Service's greatest hurdles to future acquisitions. A trust fund payment is made to the County government with each new fee purchase where revenue sharing is short. The interest from the trust fund payment, when invested at the current one-year treasury bill rate, should make up the difference between the revenue sharing payments and the taxes that would be paid on land if it remained private property.

The payments will only be made in cases where the estimated revenue sharing payment for the land is less than the current taxes on the property. It is up to the counties to decide what to do with the payments. Previously purchased lands are not covered by this new plan. The County Commissioners appreciate this change in the Service's program but don't consider it the answer to the revenue sharing problem and all our "back taxes."

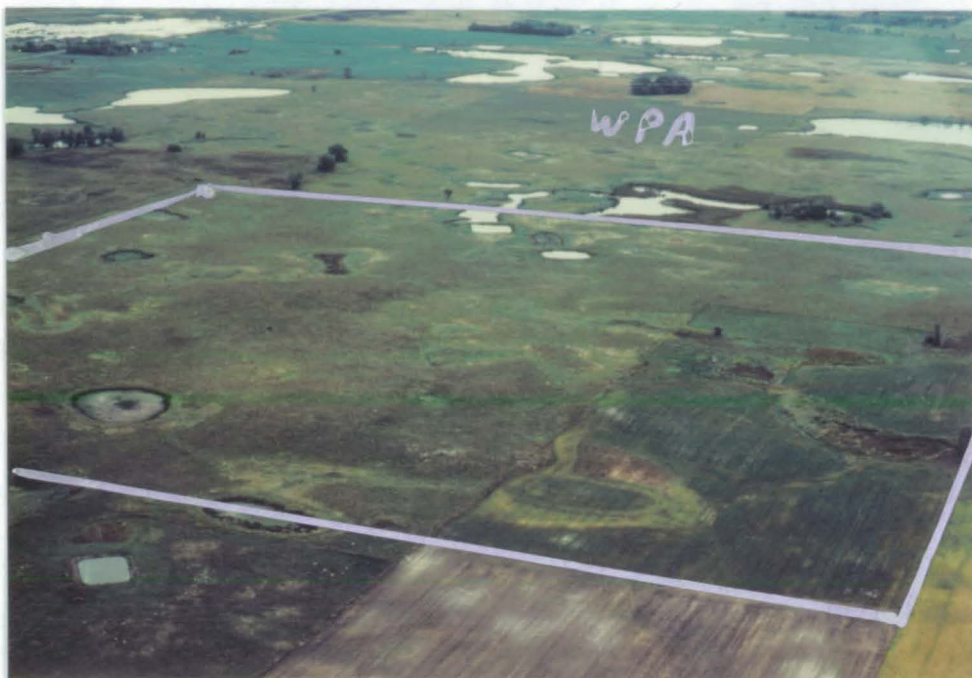
The acquisition of cropland is the other major concern that is becoming more popular with local citizens and County Commissioners opposing our program. The Stevens, Lac qui Parle, Big Stone, and Pope County Commissioners expressed concern of losing cropland acres for local farmers. It has even been mentioned as a reason to deny grassland easements.

A county by county analysis of current and future acquisition follows:

Big Stone County

The Fish and Wildlife Service currently owns approximately 10,778 fee acres in Big Stone County, not including Big Stone National Wildlife Refuge. This represents 69 percent of the 15,600 acre goal.

Land acquisition is not an easy task in Big Stone County at the present time. Tax loss seems to be a major issue with the County Commissioners and Zoning Commission. They are also uncomfortable with the fee acres purchased because of the loss of farmable land. However, the Service has always been successful in Big Stone County until late in 1996 when the Shriner's tract near Artichoke Lake was not recommended by the Zoning Commission and not certified by the County Commissioners. In part this problem was caused by a major controversy involving a Minnesota DNR acquisition project with spinoff effects on our project. Hopefully the Service will soon challenge such local action by going to the Land Exchange Board so that a wider range of interest groups can express opinions on the proposal.



Recent addition to Hillman WPA, Big Stone County.
98-23 8/31/98 CGR

It seems that habitat protection easements and wetland easements are facing an ever increasing level of opposition. However, the county board did approve four habitat easements and one wetland easement this past year.

Chippewa County

There is only one WPA in Chippewa County. This county is highly drained and not many wetlands remain. Until a willing seller appears with a tract that we want, we really don't know what the county commissioners will do.

Lac qui Parle County

Three fee tracts were purchased in this county in FY98. The Perry Lueders tract of 269.64 acres was roundout to Farrell WPA, the Anderson tract added 120 acres to Hastad WPA, and the Oellien 80 acre tract was the start of the new WPA called Freeland. The County Commissioners would rather not see the Service continue to purchase land but we probably can push tracts through if the tax issue is solved. The Commissioners have had no problem in certifying our easements. One 198.06 acre grassland easement was taken in FY98.



This 1997, 80 acre fee tract from Roger Hanson doubled the size of Garfield WPA, Lac qui Parle County. 98-24 8/31/98 CGR

Pope County

No fee tracts were purchased in Pope County in FY98. Fee purchases are not popular with the Board and it would be difficult to get certification. The Pope County Commissioners require us to go to the Township Boards for their opinion. The Commissioners use this method to slow our efforts and to reduce their responsibility. Our easement program is active in Pope County and has received only minor opposition from the Commissioners. One wetland easement and one habitat easement was purchased in 1998.

Stevens County

The present county commissioners are difficult to deal with. When fee tracts are presented to them they have three concerns: taxes, weeds, and loss of plow ground. They did approve one wetland easement this year. They would not approve a 160 acre roundout (Kuske tract) to the Lee WPA. This tract will be re-submitted to the county board next year with "less plow ground."

Swift County

No fee tracts were purchased in FY98. One small grassland easement, one wetland easement, and one flowage easement were taken. Getting

certification from the Swift County Zoning Commission and the Commissioners will always be a challenge but the Service has an excellent record of success. Revenue Sharing is the major obstacle of fee purchases in Swift County.

Traverse County

One easement was purchased in FY98.

Yellow Medicine County

No fee or easements were purchased in FY98.

Revenue Sharing Payments - Morris WMD

<u>County</u>	<u>FY96</u>	<u>FY97</u>	<u>FY98</u>
Big Stone	\$21,024	\$27,902	\$ *
Chippewa	446	407	
Lac qui Parle	6,215	7,612	
Pope	27,142	24,779	
Stevens	25,154	24,373	
Swift	25,351	23,143	
Traverse	14,577	13,308	
Yellow Medicine	<u>3,319</u>	<u>3,701</u>	
Total	\$123,228	\$125,225	

*Payments for 1998 have not been received at this time.

Revenue sharing payments are important to our acquisition program. The county commissioners are always interested in the percentage of the calculated annual payment their counties receive. The reduced payments are now causing the slowdown of acquisition in several counties in Minnesota. Big Stone, Swift, and Pope Counties will probably not certify additional fee tracts until 100 percent payments are received.

Easements

Over 221 wetland acres were added by the 13 Wetland Easements and Wildlife Habitat Protection (grassland) Easements. The Grassland Easement is a new type added in 1993 and will be explained in detail later in this section.

Easement Program Status - Morris WMD - 1998

<u>County</u>	<u>Easements</u>	<u>Wetland Acres</u>	<u>Total Easement Acres</u>	<u>Total Goal Acres</u>
Big Stone	186	6,479	23,675.51	42,640
Chippewa	0			
Lac qui Parle	28	946	3,077.75	23,540
Pope	220	8,207	31,560.75	44,180
Stevens	52	1,666	4,492.08	6,090
Swift	57	1,169	4,320.50	14,540
Traverse	34	1,143	3,859.51	8,440
Yellow Medicine	<u>7</u>	<u>149</u>	<u>527.27</u>	<u>7,860</u>
Total 1998	584	19,759	71,513.37	147,290
Total 1997	579	19,633	71,178.32	147,290
Total 1996	574	19,599	70,760.32	147,290
Total 1995	567	19,440	69,691.73	147,290
Total 1994	540	18,716	66,930.81	147,290
Total 1993	506	17,984	64,049.78	147,290

Wetland Easement

Six wetland easements were taken in 1998. Under the terms of a wetland easement, the Service purchases the rights to burn, drain or fill wetlands from a willing seller. Easements of highest priority have been those which would preserve wetlands within two miles of a waterfowl production area. However, wetlands located near Minnesota Department of Natural Resource's Wildlife Management Areas or other acceptable nesting cover can also be protected by easement. A large portion of the wetland easements currently being purchased are on restored wetlands. This probably will be the trend as long as the private lands program remains active.

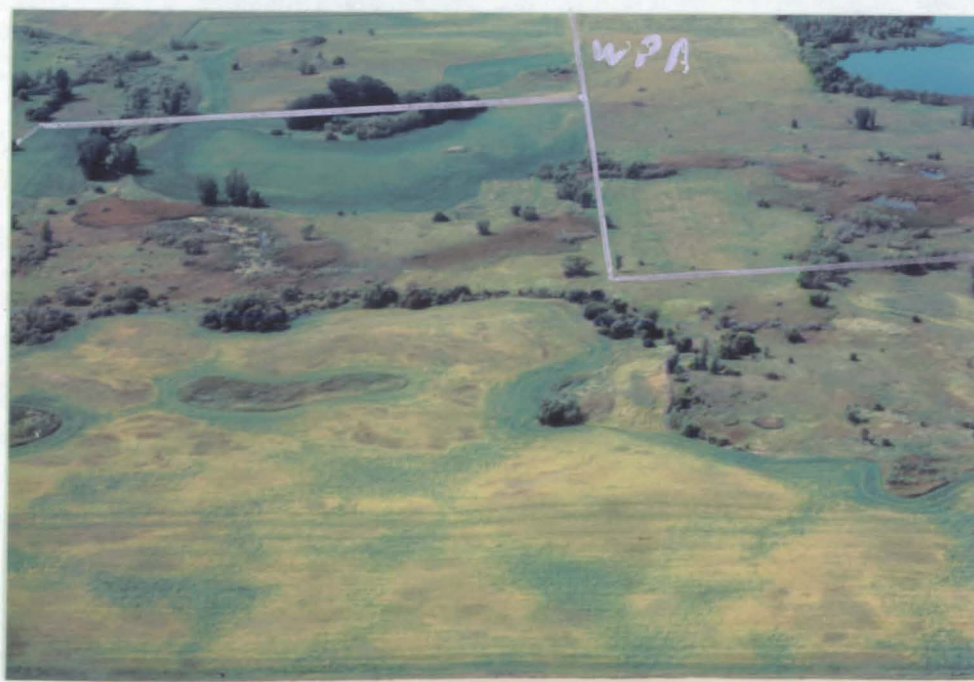
The future of the easement program continues to be directly related to funds and manpower available to our Division of Realty. If manpower was available for additional "door knocking," many other easements could be taken. Numerous wetlands are still available that need protection. Hopefully this program will continue until goal acres are acquired or there are no unprotected basins remaining in western Minnesota.

The county boards of commissioners must review all easement proposals for certification as with fee tracts. Easement certification has usually been routine in the past. However, opposition is increasing. The major objection is placing easements on restored wetlands that were previously considered cropland. Many Commissioners view that as a loss of productive agricultural land and are concerned that the conversion to marsh will reduce the tax revenue. All of the objections were handled at the field and none were elevated to the Land Exchange Board level.

Wildlife Habitat Protection Easements

The Fish and Wildlife Service introduced the new Wildlife Habitat Protection Easement in 1993. This easement is primarily aimed at preserving native tallgrass prairie. However, it can be used for other upland sites to enhance production habitat.

Four types of the easement are available with some grazing and/or haying options; otherwise the easement is very restrictive and allows virtually no uses except walking, hunting and trapping. The landowner is required to pay taxes and control the noxious weeds. The easement is perpetual with a one-time payment to the landowner.



Chuck Sanvik Habitat Easement in Pope County.
98-25 8/31/98 CGR

Seven grassland easements were purchased this year. There was one Habitat Easement taken each in Lac qui Parle, Pope, and Swift Counties, while four were taken in Big Stone County.

Easements For Wildlife Habitat Protection - 1998

<u>County</u>	<u>Easements</u>	<u>HO</u>	<u>GO</u>	<u>HG</u>	<u>NHG</u>	<u>Acres</u>
Big Stone	4	2			2	245.29
Chippewa	0				0	0.00
Lac qui Parle	1				1	198.06
Pope	1				1	105.58
Stevens	0				0	0.00
Swift	1				1	13.41
Traverse	0				0	0.00
Yellow Medicine	<u>0</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>0</u>	<u>0.00</u>
1998 Totals	7	2			5	562.34
1997 Totals	2	0	0	0	2	87.00
1996 Totals	2	1	0	0	1	267.55
1995 Totals	5	0	0	0	5	226.65
1994 Totals	9	1	0	0	8	600.44
Grand Total	25	4	0	0	21	1,743.98

HG - Allow haying and grazing

HO - Allow haying only

GO - Allow grazing only

NHG - No haying or grazing allowed

The new Habitat Protection Easements must have County Commissioner approval and Land Exchange Board certification in the same manner as the Wetland Easement. This new easement also counts against the goal easement acreage set for each Minnesota county.

The preservation of native prairie is the primary objective of the grassland easement work in the Morris District. Less than one percent of the original 18 million acres of native prairie in Minnesota remains unbroken. Some of the tracts accepted are being enhanced or "squared up" by seeding local species of native grasses and forbs on cropland adjacent to the original prairie tracts. The Service is providing the seed and doing the seeding in these cases.

Farmers Home Administration Conservation Easements

Due to their small size, management activities on FmHA tracts are limited. This year the Dale Hanson and Koosman FmHA tracts were seeded to native warm season grasses.

Only one farm in Pope County was reviewed for potential deed restrictions this year, and the Service declined to be the easement administrator. Guidelines put into affect by the USDA has greatly reduced our desire and opportunity to place restrictions on farms.

FmHA Accomplishments - Morris WMD - 1991-1998

<u>Year</u>	<u>Service Farms Reviewed</u>	<u>Service Wetland Deed Restrictions</u>	<u>Plugs Completed</u>	<u>Total Esmts. In Place</u>	<u>Total Esmt. Acre</u>
1998 Total	0	0	0	0	0.00
1997 Total	0	0	1	21	1224.12
1996 Total	1	1	0	20	1160.92
1995 Total	4	4	0	20	1160.92
1994 Total	4	4	2	16	1050.77
1993 Total	5	5	2	10	825.33
1992 Total	8	5	0	0	0.00
1991 Total	3	3	0	0	0.00

PUBLIC EDUCATION AND RECREATION

8a. Provide Visitor Services

A total of 47,083 people visited and participated in some activity at Morris WMD in FY98.

In the eight county region, 245 waterfowl production areas provided 39,536 hunters opportunities for hunting migratory birds, upland game, and big game. Also, fishing and trapping activities occur in smaller numbers as does beach and water use, and other recreation.

A significant part of our staff's effort goes into education/ interpretation. Some of the people reached through our environmental education efforts include students taught on or off sight, teacher workshops, school programs, scouts, etc.

Educator Workshops



Mike McClelland with students checking out the aquatic insects and invertebrates at our annual Second Grade Wetland Field Day.

98-26 5/21/98 WAH



Kenton Moos showing the furs of mammals to a group of second graders.
98-27 5/21/98 WAH



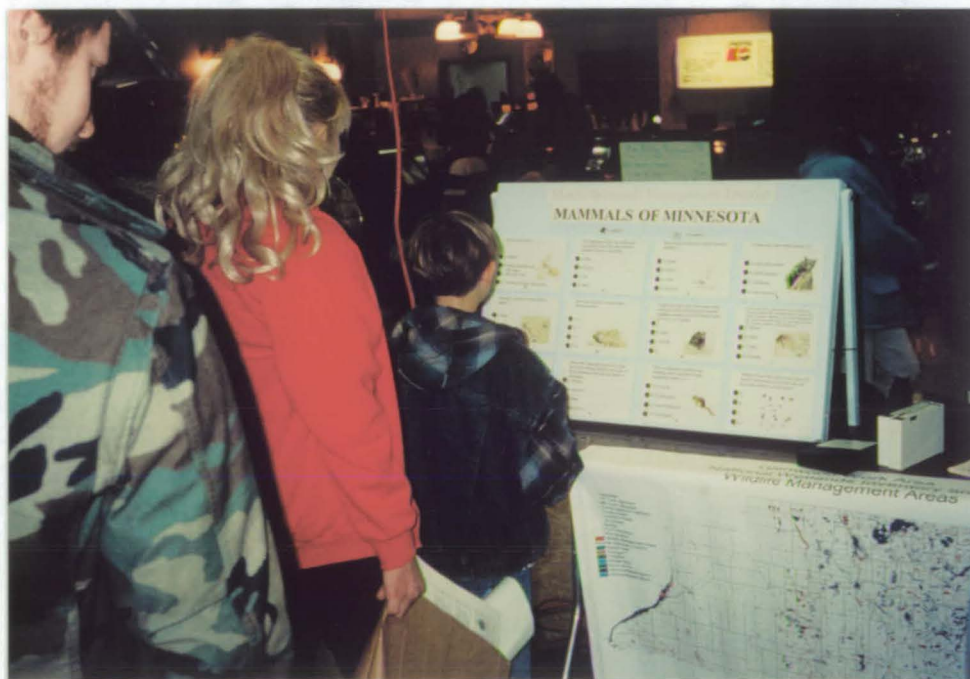
Student looking at the egg display - Second Grade Wetland Field Day.
98-28 5/21/98 WAH

A Haybuster Drill demonstration was put on for Lac qui Parle and Yellow Medicine Soil and Water Conservation District employees on May 22.

Other

- Starbuck Boy Scout troop toured Morris WMD on October 2, 1997.
- A Morris area home school visited the office and trail system on October 16, 1997.
- University of Minnesota-Morris, Biology classes used the area for study on October 21 and 22, 1997, and April 28, 1998.
- Morris Area High School visited October 30, 1997.
- Russian Exchange students enjoyed tours on May 5, 1998.
- Department of Agriculture tour of FmHA and Partner Program on June 23.

8b. Outreach



Our quiz board used during Duck Habitat Day at Alexandria.
98-29 2/7/98 WAH

Our public outreach efforts reached 24,484 people. There were many group presentations provided to local 4-H chapters, Pomme de Terre Garden Club, Envirothon, and Moorhead Audubon Society. Traveling

exhibits were displayed and attended by Morris staff at Duck Habitat Days, Evansville Sportsmen Club, Stevens County Fair, North American Waterfowl Federation Meeting, West Central Horticultural Night, Prairie Pothole Day, and National Wildlife Refuge Week. Other educational outreach in which the staff was involved include Morris Area High School's Science Fair, Minnesota Waterfowl Association's Woody Camp, and Career Days at Benson and Morris High Schools.



Kenton Moos made eight presentations about trapping to Morris Area Elementary Students at a Rendezvous at Scandia Woods Environmental Learning Lab (SWELL) on May 14. 98-30 5/14/98 JJ

Listed below are some of the groups and activities that the Morris staff was involved with.

- Moorhead Audubon Society - Bernie and Al gave a presentation on October 23, 1997.
- Chad and Kenton visited 85 Minnewaska Area School students on December 19, 1997 at Glacial Lake State Park.
- Pomme de Terre Garden Club enjoyed a talk on butterflies given by former staff member and volunteer Bernie Angus on February 24.
- Chad and Larry participated in Area II Envirothon on May 7, involving 200 students.
- Chad and Kenton gave presentations on wetlands to five groups of 4-H kids from Morris, Hancock, and Donnelly during Stevens County Extension Service Day Camps held on July 21-23.
- Staff judged projects at Morris Area High School's Science Fair on January 7 and Morris Elementary School's Science Fair March 3.

Four news releases were issued, four radio/tv spots were held, and seven special events happened in the Morris District. Larry Lewis was a panelist on a Public Broadcast System television show "Future of Flooding" on January 15.

Proposed Tallgrass Prairie Refuge

This proposed refuge would preserve some of the remaining tracts of tall grass prairie in an area from Des Moines, Iowa, to Manitoba, Canada. Al Radtke and Bernie Angus assisted in writing the Environmental Impact Statement for this proposed action. The public was invited to comment on the Statement at open houses held at various locations within the area covered. Al assisted at three open houses, one of which was held at Morris WMD on October 10, 1997.

PLANNING AND ADMINISTRATION

9a. Comprehensive Conservation Planning

The Minnesota Waterfowl and Wetlands Complex is developing a Comprehensive Conservation Plan for the Morris Wetland Management District. This plan will guide management decisions for the next 15 years. Morris held an Open House on November 11, 1997, to give the public an opportunity to participate in the planning process. Comments and lists of goals were sent to the Regional Office for analysis. A final report is forthcoming.

On September 14, 1998, Morris WMD received a final report, "Cultural Resources Overview Study" of Waterfowl Production Areas and Easements in western Minnesota by Teresa Holloran, David Mather, and Martha Frey of Loucks & Associates, Inc., dated August, 1998 of existing and potential cultural resources conducted as part of the comprehensive conservation planning. This analysis includes secondary sources and a list of contacts, as well as a description of cultural resource management in terms of Fish and Wildlife procedures, and other management information. No field survey was included.

9b. General Administration

Personnel

On December 30, 1997, Manager Alfred Radtke and Soil Conservationist Bernie Angus retired from the Service under the "early out" program. Judyann Goulet was hired as Soil Conservationist on August 17. She came from the Forest Service in Steamboat Springs, Colorado. On September 27, Steven Delehanty became the new Wetland Manager at Morris. He came from St. Croix WMD in Wisconsin. In March and April, Bryan Combs and Kristofer Beuckens, seasonal Biological Technicians (fire), both resigned to pursue other careers. Brant Wobig, who was working as a temporary Biological Technician, and Kory Bossert were hired to replace Bryan and Kristofer as permanent seasonal technicians.



10 8 5 6 12 4 11
 7 2 1 3 9

1. Alfred L. Radtke, Wetland Manager, GM-13, PFT - retired 12/30/97.
2. Gaylord J. Bober, Refuge Operations Specialist, GS-12, PFT.
3. Bernard L. Angus, Soil Conservationist, GS-11, PFT - retired 12/30/97.
4. Larry E. Lewis, Wildlife Biologist, GS-12, PFT.
5. Darrell D. Haugen, Wildlife Biologist, GS-11, PFT.
6. Chad G. Raitz, Refuge Operations Specialist, GS-9, PFT.
7. Donna M. Oglesby, Biological Technician, GS-7, PFT.
8. Wayne A. Henderson, Wildlife Biologist, GS-9, PFT.
9. Kenton G. Moos, Biological Technician, GS-7, PFT.
10. Karen M. Stettner, Administrative Technician, GS-7, PFT.
11. Rodney G. Ahrndt, Engineering Equipment Operator, WG-8, PFT.
12. Victor H. Gades, Maintenance Worker, WG-7, PFT.
13. Kristofer L. Beuckens, Forestry Technician, GS-5, PFT Seasonal
Resigned 4/4/98.
14. Bryan P. Combs, Forestry Technician, GS-5, PFT Seasonal,
Resigned 3/21/98.
15. Brant D. Wobig, Biological Technician (Fire), GS-5, PFT Seasonal,
E.O.D. 5/24/98.
16. Kory E. Bossert, Biological Technician (Fire), GS-5 PFT Seasonal,
E.O.D. 6/7/98.
17. Judyann M. Goulet, Soil Conservationist, GS-09, PFT,
E.O.D. 8/17/98.
18. Steven J. Delehanty, Wetland Manager, GS-12, PFT,
E.O.D. 9/27/98.



Judy Goulet and Steve Delehanty



Brant Wobig, Kory Bossert, Erik Bray, Mike McClelland

Temporary Personnel

Brant Wobig, Biological Technician, TFT, 3/31/98-5/23/98

Mike McClelland, Biological Technician, TFT, 3/29/98 - 9/5/98

Erik Bray, Biological Technician, TFT, 3/29/98 - 9/26/98

Other

Tom Leonard, Green Thumb

04/02/96 - 12/10/97

Lance Kieffer, CEP

06/09/98 - 07/28/98



Lance Kieffer

Morris WMD Staff Size - FY92-98

	Full <u>Time</u>	Permanent Full Time <u>Seasonal</u>	Permanent <u>Part Time</u>	Temporary <u>GS & WG</u>	Other <u>Programs*</u>
FY98	12	2	0	2	2
FY97	12	2	0	1	1
FY96	12	1	0	2	2
FY95	12	1	0	2	2
FY94	12	2	0	1	3
FY93	12	2	0	2	2
FY92	11	2	0	3	6

*YCC, CETA, Work Study, Green Thumb, etc.

Youth Programs

There was no YCC program at Morris WMD this year due to a lack of funds.

Other Manpower Programs

Green Thumb

Tom Leonard had health problems in December of 1997 and was unable to work any longer. This station was without a Green Thumb employee for the remainder of the fiscal year.

CEP Program

Lance Kieffer, a high school student, worked 180 hours from June 8 to July 28 under the CEP program. Lance performed a variety of maintenance jobs including keeping the office and shop buildings clean, the grounds mowed and weeded, and helped with vehicle and equipment maintenance.

Volunteer Program

Volunteers continue to provide valuable assistance to the Morris District. We would like to increase the number of volunteers and continue to look for ways to reach out to the public.



Katy Borgerding volunteered over 382 hours helping with surveys, studies and investigations, fire management, nest structures, predator, pest and exotic control, interagency coordination, visitor services, and outreach.

98-31 5/98 WAH



Bernie Angus, former staff member, volunteered 189 hours to organize the District's slides.

98-32 2/98 CGG

A total of 60 volunteers contributed 1,628 hours during FY98. They contributed 61.5 hours doing surveys and censuses, 207 hours of studies and investigations, 10.5 hours farming, 165 hours to fire management, 45 hours for pest control, 538 hours on nest structures, 17.5 hours pest, predator and exotic animal control, 37 hours interagency coordination, 528 hours providing visitor services, and 18.5 hours of outreach.



Melanie Kleis volunteered 56 hours during 10 days at Morris WMD
98-33 5/98 WAH

Contributors of over 100 hours of volunteer time include:

- The sophomore class from Morris Area High School spent over 400 hours rolling duck nesting cylinders.
- Katy Borgerding contributed 382.5 hours doing a variety of jobs.
- Former staff member Bernie Angus volunteered 189 hours.
- Ryan Bahn (131 hours) and Camron Vollbrech (125 hours) did volunteer work on the waterfowl nesting program.

Towards the end of FY97 Morris received \$121,000 of funds to be used for repair of damages resulting from the spring flooding and last winter's snow damage. These funds could be spent over FY97 and FY98 and were to be used primarily on boundary posting, repair of washed out trails, and repair of water control structures. These projects were accomplished by spending \$36,128 in FY97 and \$84,872 in FY98.

Safety

There were five accidents reported at this station during FY98.

- On April 23, a Honda 4 x 4 was burned when it failed to start during a prescribed burn.
- On May 12 Rodney Ahrndt backed into a parked Dodge Ram causing a dent.
- May 18, while working on a grass drill, Wayne Henderson jumped from the drill and landed incorrectly, injuring a bone in his foot.
- On July 15, Victor Gades caught his finger in the bars of a pickup ramp.
- On September 21 Darrell Haugen tried to unload a roll of filter fabric from the cargo carrier on his pickup. The roll fell on his head and caused neck and back injury.

All employees recovered from their injuries with no lost time. The ATV was replaced and the pickup repaired.

The entire staff has been tested for lyme disease. Temporaries and other personnel were tested the first and last day of work. Permanent personnel were tested once in late fall.

Following is a list of topics of our monthly meetings:

Driver Safety	ATV Safety
Outdoor Safety	Backing Safety
Bobcat & Skid Loader Safety	Importance of Safety Shoes
Beating a Blowout	Vacation Safety
First Aid on the Job	
Protecting Yourself from Hantavirus Diseases	

The station Safety Committee, consisting of three staff members, rotates every three months and remains the most viable part of our safety program. This committee is responsible for planning and presenting our monthly safety meetings and conducting inspections and accident investigations for the station.

Computers

This was a banner year for the Morris WMD with the addition of four new Micron Pentium desktop computers and one Micron Pentium Laptop. With these additions every employee has a computer at his/her work station.

A Trimble GPS unit was also added to the Morris' arsenal of new technology. This unit will be a great aide in tracking management activities in the District. The Morris WMD would like to thank the Regional Office Realty Office for their assistance in purchasing one computer and the GPS for GIS application.

Rehabilitation

Shop

One of the final steps of the 1997 contract to correct drainage at the shop area was to install filter fabric and rip-rap around the drain tile and catch basin outlets south of the shop. This work was finished in the spring of 1998. The only work still to be completed under this contract is damage to the doors of the seed room and some damage to the siding on the storage building. It appears the contractor will pay damages rather than repair the items.

Parking Lot Maintenance

After much looking, an economical sweeping service was located to clean the paved parking lot in front of the office. The company was appropriately named Sweep-Cheep.

Well Sealing

Two wells were sealed this past year by Valnes Well Drilling. One was sealed on Robinhood WPA in Traverse County and the other was on Lundgren WPA, Chippewa County.

Equipment

Combine

The 1967 Gleaner E Combine was traded in on a 1972 Gleaner K Combine at a cost of \$1,995.00. The value of the native grass seed harvested by use of the combine this past fall exceeds \$70,000.

New Trailer

An enclosed trailer was purchased to haul the Argo ATV. The Argo has a soft top for winter use, but the top was not meant to be hauled at highway speeds on an open trailer. The Argo receives extensive use during the winter, primarily for maintenance of nest structures.

Seed Drying Box

A 16 foot long metal truck box with five foot high side walls was purchased. The maintenance staff installed a grain drying floor in the box and mounted a large fan with duct work on the front of the box. Harvested native grass seed is placed in the box, air is forced into the box under the drying floor, then upward through the drying floor, and finally through the grass seed. This will allow the District to dry grass seed in 24 to 48 hours and save the hand labor of turning the seed several times when it was dried by spreading on the warehouse floor.

Replacement Equipment

The following replacement items were ordered in FY98:

- 3 - pickups
- 1 - 6' x 10' single axle utility trailer
- 1 - ATV 4 x 4 Arctic Cat 500



Sarah Huschle volunteered through the school year on various projects. Here she is assisting second graders catch insects at our sixth annual Second Grade Wetland Field Day. 98-34 5/21/98 WAH

Funding

The station's total funding for the past six years is shown in the following table.

Morris WMD Funding Levels - FY93-FY98 (Dollars in Thousands)

<u>FY</u>	<u>1260</u>	<u>Fire</u> <u>9100</u>	<u>3110</u>	<u>YCC</u>	<u>1221</u>	<u>1230</u>	<u>1120</u>	<u>Total</u> <u>Budget</u>
98	703.7 +	36.9	5.0	-0-	-0-	13.0	128.0	886.6
97	585.6	34.5	5.0	-0-	-0-	14.8	115.0	754.9
96	584.3	36.5	5.0	-0-	1.0	15.7	102.0	744.5
95	536.2 *	39.4	5.0	-0-	-0-	25.5	100.8	706.9 **
94	596.2 ^	33.4	5.0	-0-	-0-	15.3	120.0	769.9
93	528.4	28.2	5.6	-0-	-0-	116.0	25.5	703.7

+ Includes \$46,000 of project specific funds and \$72,000 for MMS projects

* Includes \$61,680 of project specific funds

** Does not include one time flood funds of \$217.6

^ Includes \$220.8 of MMS and other project specific funds

ITEMS OF INTEREST



Wetland Manager Al Radtke and Soil Conservationist Bernie Angus retired from the Service on December 30, 1997. A retirement party was held for them on February 19, 1998. 98-35 2/19/98 CGR



Jack Mooty, President of Minnesota Wildlife Society, presents Al with the prestigious Minnesota Wildlife Award for his professional contributions to Minnesota wildlife resources. 98-36 2/12/98 CGR



HAPPY TRAILS

USFWS/DU FLOATING NEST STRUCTURE PROJECT REPORT 1997 SEASON and FINAL SUMMARY

Final four-year results from a waterfowl floating nest structure project in Minnesota have been compiled. This study, carried out from 1994 through 1997, documents the ready acceptance of an artificial raft-like structure by nesting waterfowl, and, most notably, by mallard hens.

Variables make yearly comparisons difficult, but the '97 production remained steady on available structures. There was a small apparent rise in predation recorded during this final reporting year.

In '97, some structures were lost to floodwaters. Repairs (usually minor) became a more frequent need. For some, the work of regrassing, placement, and seasonal removal became too time consuming. These factors have led to a decline in structures available for nesting. While the overall human attachment to the project wavered, the strong relationship of the mallard hen to the structure appeared unchanged.

BACKGROUND REVIEW: With the loss of native upland nesting cover in prairie Minnesota, and the rise in predator pressure in remnant strips, nesting prospects for the hen mallard are often dim. The mallard, more than other dabblers, has always shown a willingness to turn to natural overwater nesting sites.

Overwater horizontal artificial nesting baskets have been used for centuries in Europe to propagate waterfowl. Recent North American studies, using variations of the basket model, suggest that mallards may benefit as much as wood ducks from artificial nest structure programs.

Field tests, coordinated by biologist Larry Lewis of the Morris Wetland District of the U.S. Fish and Wildlife Service, were conducted in 1992 and 1993. The tests evaluated several types of pole and floating nest structures. Unusual success was noted using a model which featured double hay-covered cylinders and an overlying goose nesting ring, placed on a wooden triangular raft. This floating cedar raft was further buoyed by underlying hollow PVC tubes and held with a concrete block anchor.

To help discover the role that this structure might play when used and monitored by the general public, an expanded program was designed by Lewis and Roger Pederson of Ducks Unlimited. DU agreed to provide 50% cost-sharing to private individuals and conservation groups willing to purchase the structure. In return, the cooperator would place, monitor, and maintain it for five years, and provide nesting reports for four years.

A USFWS volunteer lay coordinator was appointed, and the sale of 361 units completed by March of 1994. Following a successful initial nesting

season, the project was renewed for 1995, with the addition of 363 structures. The combined group of 724 units has been followed through the 1997 nesting season.

CONSTRUCTION/COST REVIEW: The primary structure source was Jim Savre of Nester's Co.: 144 Satellite Lane NE; Fridley, MN 55432. Additional units were built by Steve Sharstrom's Kandiyohi Co. sentenced-to-serve workers, along with MWA chapter members, using Savre's blueprints.

The cost per structure was \$112, with DU providing 50%. In the Morris District, the USFWS picked up an additional 25%.

METHODS AND STUDY AREA: Cooperators included a broad range of individuals, conservation club members, and professional wildlife personnel. Written instructions were given to help cooperators choose placement sites and determine nest fate. Demonstration teaching, using old nests, was done at pick-up points. The structures were to be skidded over the ice or rowed out soon after ice-out, then removed from the wetland each year after the nesting season. Wetlands varied from one to over four thousand acres.

The old prairie pothole region of Minnesota was targeted for placement, but some were also placed in wild rice lakes near Duluth and in scattered sites in the southeast corner of the state.

RESULTS AND DISCUSSION: Of the 724 structures in this study group, 1997 nesting season reports were obtained for 650 (90%). 442 structures were judged available for nesting in 1997, with 208 not available, for a variety of avoidable and unavoidable reasons (See Fig. 8).

Figure 1: Comparison of Nesting in '94, '95, '96, and '97

Available Structures	Duck/Goose Nests Initiated (at least one egg)	Duck/Goose Nests Hatched	Average Structure Yield	Duck Nest Predation
'94: 318	258 .8 per structure	206 = 80%	.65 Hatched nest per structure	8%
'95: 605	614 1.0 per structure	475 = 77%	.79 Hatched nest per structure	8%
'96: 542	581 1.1 per structure	441 = 76%	.81 Hatched nest per structure	7%
'97: 442	474 1.1 per structure	369 = 78%	.83 Hatched nest per structure	10%

Once again in '97, no predation was reported in goose nests. Duck nest predation reached 10% in 1997. Whether or not this 2-3% rise is significant, there have been more reports in '96 and '97 suggesting repeated mink predation in successive years on the same wetland. For example, Barry Carlson has now reported six nests lost to mink in the last two seasons, all on one previously-productive structure in a ten acre pond.

Figure 2: Nesting by Species

	1994	1995	1996	1997	Total
Mallard (and unidentified duck)	233 Nests	570 Nests	532 Nests	438 Nests	1773 Nests
Canada Goose	18 "	30 "	43 "	25 "	116 "
Wood Duck	1 "	8 "	4 "	4 "	17 "
Blue-winged Teal	5 "	2 "	1 "	6 "	14 "
Gadwall		2 "	1 "		3 "
Wigeon		1 "			1 "
Redhead		1 "		1 "	2 "
Canvasback	1 "				1 "

Four Year Total, All Waterfowl Nests= 1927

The wood duck was the only species to nest between and under the cylinders; they also incubated in cylinders, and even once in the top ring.

Figure 3: Nest Fate--1997

<u>Species</u>	<u>Nests</u>	<u>Hatched</u>	<u>Depredated</u>	<u>Abandoned</u>	<u>Capsized</u>	<u>Unknown</u>
Ducks	449	346 77%	46 10%	26 6%	2	29 6%
C. Geese	25	23 92%	0	1		1

In some of the 29 cases of "unknown fate", an incubating hen was observed early in the season in a cylinder, but either the structure was never rechecked or was rechecked too late to be certain of results.

Figure 4: Hatching Success -- Duck Nests Only

	1994	1995	1996	1997	Total
<u>Duck Nests Initiated:</u>	240	584	538	449	1811
<u>Duck Nests Hatched:</u>	194 81%	449 77%	399 74%	346 77%	1388 77%

The consistency of hatching success seems noteworthy.

Figure 5: Nest Choice by Site on Structure--Ducks*

	1994	1995	1996	1997	Total
Cylinders	194 85%	506 87%	476 88%	404 90%	1580 88%
Top Ring	31 14%	68 12%	50 9%	39 9%	188 10%
Bow Platform and between/under cyl.	3 1%	10 2%	12 2%	6 1%	31 2%

* All nesting geese chose the top ring site.

Over four years, the ducks have clearly shown a preference for the cylinder over the open top ring. This was true even in '94 when almost every structure still had a top ring. Because of local crop depredation by geese, capsizing risk, and higher predation rates, removal of the top ring has become more common, with 82 structures (19%) being topless in '97.

**Figure 6: Duck Nest Fate (when known)--Cylinder vs. Top Ring
Four Year Totals**

<u>Site</u>	<u>#Duck Nests</u>	<u>#Hatched</u>	<u>#Abandoned</u>	<u>#Depredated</u>
Cylinder	1484	1224 82%	132 9%	119 8%
Top Ring	177	121 68%	29 16%	27 15%

The differences in hatching success, abandonment, and predation rates between cylinder and top ring nests have been consistent in each year of reporting. It seems likely that the overhead cover provided in the cylinders is an important protective factor. A few reports of raptor predation in top ring nests were received; other avian predators could also be playing a role.

Figure 7: Predation/Distance from Shore

	1994	1995	1996	1997
<u>Depredated</u> Duck Nests; Average Distance to Shore	44 yds.	49 yds.	86 yds.	75 yds.
<u>Hatched</u> Duck Nests; Average Distance to Shore	88 yds.	85 yds.	93 yds.	90 yds.

Bearing in mind the results from '94 and '95, cooperators, on average, placed their structures further out from shore in '96 and '97. This would still seem like a common sense strategy in a continued effort to limit predation. However, it has become apparent that a mink will swim long distances to investigate a hay-covered floating structure. Dave Trauba, DNR Wildlife Manager at Lac Qui Parle, suggested that the structure looks like a muskrat house from shore, housing one of the mink's favorite food sources. In shallow basins, mink have depredated nests on these structures out as far as 200 yards from shore.

The mink's habit of removing eggs, one by one, and transferring them to the area under the cylinders for dining, has been observed and is now well-documented. When this project began, some felt that raccoons would be the major predator. Over the past four years, more mink than raccoon predation has been reported (unless the structure had drifted into shore).

Crows regularly depredate artificial nest baskets in Europe, unless they're constructed with a narrow neck. No crow predation has been reported by cooperators in this study, but both floating and pole structures remain at risk. Don't be in a hurry to bet against the crow.

Figure 8: Structures Not Available for Nesting*

	1994	1995	1996	1997
Structure intact, but not placed	6	37	43	116
Capsized, not righted	6	20	8	12
Carried to shore (ice, bog, anchor rope)	22	12	13	11
Lost/Destroyed (river, flood, ice)	5	9	18	42
Needed repairs or broke early		8	14	19
Placed, but never checked		5	23	8
No Report Obtained	4	28	63	74

*To properly assess the structure's value, it had to have been upright & floating during nesting season to count as available.

The causes for the increase in structures "not placed" have been discussed on page one, introductory section.

Capsizing, with one '97 flood-water exception, has occurred only with structures having intact top rings. The incidence rises with April storms,

which may fill the rings with snow, making the structures top-heavy.

The increase in the "lost/destroyed" category in '97 relates in part to the number of structures left in the wetland and iced-in during the preceding winter. Most of these were not functional in 1997.

Regarding the 10% "no report" group: Sometimes a dead end is reached, following repeated mailings and phone calls. In '97, results for one block of thirty structures, which had been productive and well-reported previously, could not be obtained. In addition, each year more units change hands, sometimes with no forwarding address available.

SUCCESSFUL MULTIPLE NESTING: Over the four years, reports of interspecific strife between geese and ducks were minimal or absent. During simultaneous incubation by a goose in the top ring and a mallard or two in the cylinders, no depredation of duck nests occurred. This was true again in 1997, with fourteen such incidences occurring. It seems likely that the presence of the protective gander is a factor.

In '97, the most productive unit, as reported by Rick Toms, featured three mallards (top ring and both cylinders) successfully hatching broods, followed by a late successful fourth mallard hatch in the bow cylinder.

During the field test period near Morris, two mallards were observed incubating in the same cylinder. This same observation was made on Marsh Lake in '95. The two hens were oriented tail-to-tail.

SUCCESSFUL SUBSETS: *Lac Qui Parle:* Dave Trauba, DNR Area Wildlife Manager, and John Wollenberg, Assistant Manager, have been monitoring over forty highly successful floating structures in pools and wetlands of the Minnesota River. In what could be a model for this type of program, they partnered with DU, USFWS, and the Minnesota Waterfowl Association for structure purchases, and with a group of sportsmen, headed by Win Mitchell, for help with placement and monitoring. Many of their suggestions regarding structure management are included in this report.

Evansville Sportsman's Club/Pioneer Heritage Conservation Trust: Spearheaded by Vern Ostrom, these two groups cost-shared 255 units, or 35% of the structures in this study. Tim Springer monitored many of these units and has provided invaluable management and reporting help.

MANAGEMENT IMPLICATIONS: This section arises from observations and suggestions provided by project cooperators over the past four years.

Monitoring: Periodic monitoring, with timely structure maintenance, improves production and the accuracy of reports. However, once incubation is underway, monitoring should be done from a distance to avoid unnecessary flushing of the hen. Hens vary greatly, but nest abandonment has been related to such disturbance.

Muskrats: Muskrats were important competitors for space within cylinders during the egg-laying period, and seem to contribute to nest abandonment. They remove or cover nesting hay, replacing it with food material. No direct predation of eggs has been reported, despite the fact that muskrats have been said to feed on fresh water clams. Mid-season monitoring, replacing hay as needed, may lead to late nesting success. The structure's value as a waterfowl loafing platform is apparent, but the longer the unit is left in the water after brood hatching, the more closely it may begin to resemble a muskrat house. To help prevent rat-chewed anchor ropes, PVC pipe straps, and decking boards, the structures should be removed from the wetland in August rather than October.

Top Ring Site: As mentioned before, because of local crop depredation by geese, capsizing risk, and higher predation, removal of the top ring has become more common. It should be noted, however, that there were 121 duck broods and 116 goose broods produced from the top ring over the four years of the study. When preparing the circumference of the top ring for nesting, tie in the nesting hay, wrapping the donut tightly with about eighteen feet of baling twine. With a pliers, bend every other set of vertical ring wires together to make gosling exit easier.

Timing of Placement: Most cooperators continue to place their structures before ice-out, citing ease of placement (if skidding conditions are right) and the desire to attract early-arriving Canada geese. Open water placement advocates argue that ice pack vagaries too often have led to later repositioning chores by boat. When the structure is placed over ice, an April recheck is needed to make sure it's still in position.

Repair: For complete regrassing of the cylinders, bend open the wire ends, unroll, and lay in the new material. Any wild hay will work. Most years, however, supplemental regrassing will suffice. Take an 18" lath-sized stick in one hand and stuff in handfuls of hay between the two wire layers on both ends of the cylinder. This technique also works well for on-site refurbishing of pole-mounted cylinders, working over ice with a toboggan-load of hay. To help keep nesting hay inside the cylinder, try using a single wire tied tightly across the mouth of the cylinder on each end, about two inches from the bottom.

Muskrats take their toll on the plastic straps which hold the PVC pipes. If damaged, replace with fenestrated metal plumber's strapping. Muskrats also divide anchor ropes. Replacement with a good-sized chain is ideal, depending on the relationship between depth of slough and wallet.

Moving: When moving the structure or taking it in for the season, try this technique: Use steady pressure on the anchor rope from the boat's

mid-stern to gradually free the anchor from the bottom. Use a second person or counterweight in the bow. Life vests should be on. Tow the structure by oar power. It tows slowly but easily.

CONCLUSIONS: It's been estimated that 15-20% of nests must be successfully hatched for the continental dabbling duck population to remain stable. In the last couple years, with the return of wet conditions to the northern prairie states and provinces, and the addition of CRP acres, biologists have been pleased to report nest success rising above that level in some large study blocks--sometimes to well over 30%.

On a local landscape, the perspective changes. For a Minnesota conservation group or individual waterfowler, or even for professional wildlife managers, acquiring large blocks of prairie nesting habitat surrounding a managed wetland is often impossible or impractical or both.

If the management goal is to add breeding ducks to a local population, it would seem logical to institute an artificial nest structure program. For mallards, this means floating and/or pole-mounted units. This study documents a high occupancy rate, with a 77% nesting success, on one type of floating structure; thus, such a project has a high likelihood of success, especially considering the strong homing tendency of the mallard hen. For wildlife managers, however, budget and time constraints often interfere.

Partnering can be an answer. This project, launched by the USFWS and cost-shared by DU, was expanded to involve the DNR, other conservation groups and the general public, in order to achieve management goals. There have been apparent benefits for all partners, as well as for the resource.

The late H. Albert Hochbaum, long-time director of the Delta Waterfowl Research Station, often spoke of the need to restore breeding hens to perfectly good but empty marshes in Minnesota, where nesting traditions had been lost due to man's activities. Patience is needed, but this study shows that when a pioneering hen mallard does find a proper nesting structure, she'll have a decent chance to hatch her clutch--and to restore the local tradition. Priming the wetland with structures, encouraging "drakes only" hunting habits, and adopting other needed management measures, will in time replenish that empty Minnesota marsh.

Good luck with your structures in the coming seasons.

Roger Strand, Coordinator
USFWS/DU Nest Structure Project
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New London, MN 56273
Phone: (320) 354-2418