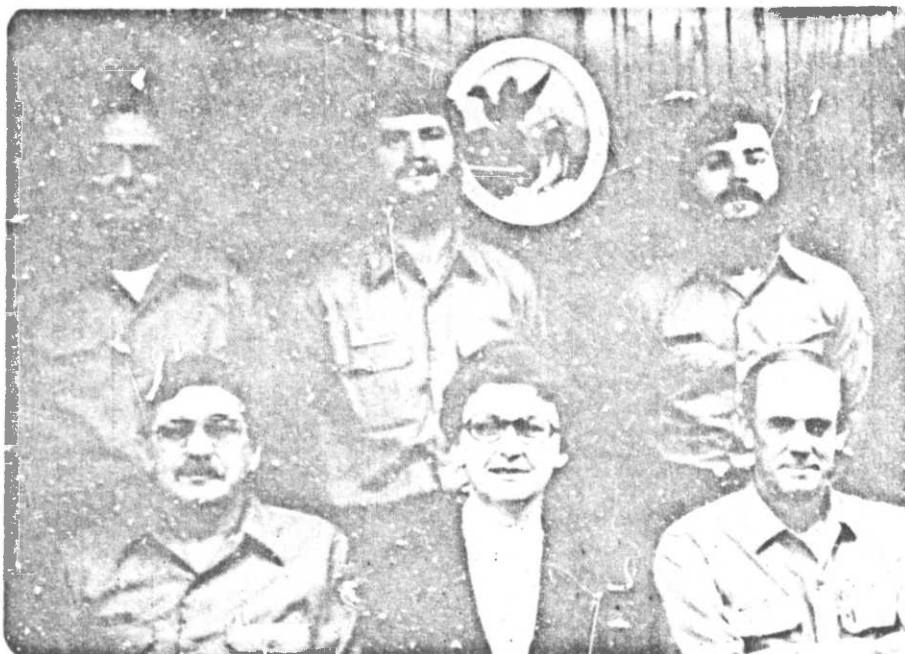


RG 22 Narrative Report Benson Wetland Management District 1976

1976



Date: 12/76 Kershbaum

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2. Marvin A. Tolander, Clerk-Steno, GS-4
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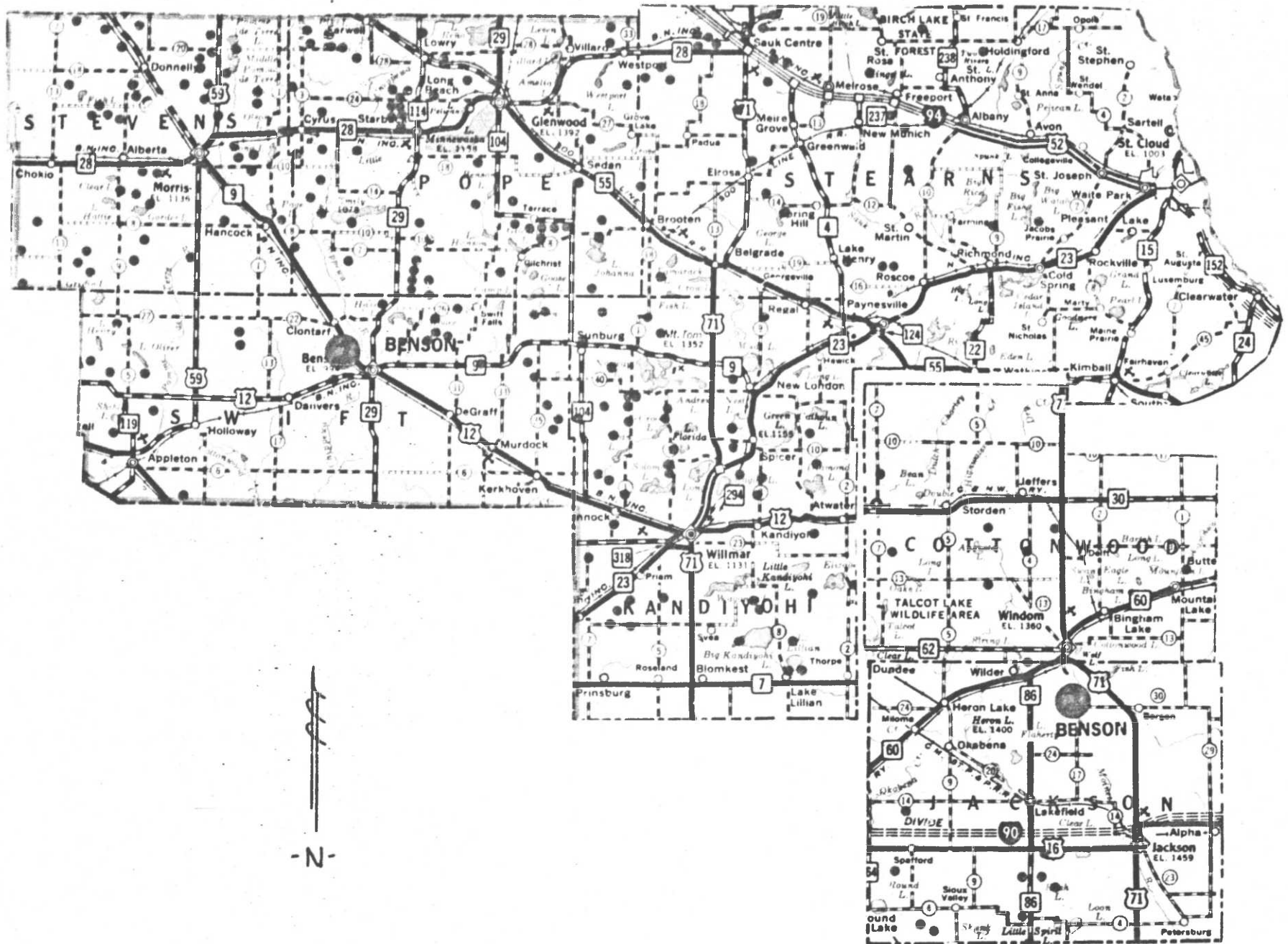
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## I. GENERAL

### A. Introduction

The Benson Wetland Management District, established in 1963, includes 250 Waterfowl Production Areas encompassing nearly 44,000 acres in fee title. Also, under our jurisdiction is 35,000 acres of easement lands. These easements and WPAs are scattered throughout Cottonwood, Jackson, Kandiyohi, Pope, Stearns, Stevens and Swift Counties. The topography is extremely diversified as can be expected within such a large district. Flat agricultural lands of the south is gently rolling grassland of the north blend into a transitional zone between the western prairie and the eastern deciduous forests.

Numerous marshes and shallow lakes are typical throughout this region. However, extensive drainage during the last decade has drastically reduced this wetland resource. The wetland acquisition program has only a finger hold on these marsh lands. In many areas, WPAs are the only islands of habitat that remain.

### B. Climate and Habitat Conditions

Lack of winter snow cover should have forecast to all keen observers that 1976 would be no ordinary weather year. But everyone knew spring rains always fell, and if they were above normal, things would even out.

But spring rains did not appear and we entered the expected dry period of July and August far below our normal level of precipitation. Then July and August passed, as they usually do - DRY.

Talk was that 1976 was about as dry as anyone could remember and strongly reminiscent of the 1930s. Rainmakers appeared on the scene to take advantage of a now desperate crop situation. A west-coast rain-making firm with their silver iodide machines was hired by groups of farmers; they too failed to produce needed rains.

Fall came and now we curely expected moisture. But still no significant rainfall came. Nearly all wetland basins on Waterfowl Production Areas were dry in September. The few remaining basins with water were frozen by mid-November. Some light snow fell in late November and December.

The very dry condition of 1976 was directly responsible for crop yields of 50% or more below normal throughout most of this wetland management district. To recover some value from drought-stricken crops, many small grain fields were grazed rather than harvested. Likewise, many acres of corn were cut for silage.

During 1976 normal supplies of hay were drastically reduced. Some of the best and often only hay around was that found near wetlands on Waterfowl Production Areas. Critical hay shortages in this district and strong public opinion prompted emergency haying of Waterfowl Production Areas during the period July through September and emergency grazing in August and September. The details of these emergency programs are reported under Section III, Part B, Grasslands. Regrowth of hayed and grazed areas was slowed by droughty conditions and for this reason these areas will likely provide less nesting cover in 1977.

Wetland habitat was scarce for brooding use in late summer and migrant use in fall. Some deeper marshes, especially Type V's, may have better food and cover in 1977 as a result of decreased water levels in 1976.

But the effects of this drought will not be confined to reduced crop yields or some dry wetland basins alone. The dry conditions were ideal for new ditching and tiling projects, and the fall of 1976 will have to be remembered for the widespread new drainage efforts by private landowners throughout this wetland management district. Some of these drainage efforts were directed against even federal easement and fee wetlands.

## C. Land Acquisition

### 1. Fee Title

The fee title acquisition program was very limited during CY 76. Approximately 700 acres were acquired as compared to almost 3000 acres in CY 75. Two factors account for this drastic reduction in acquisition. One, there has been temporary shift in acquisition priorities to other areas in the state. Two, our county goal acreages have been nearly met.

Following is a tabulation of the fee lands managed by the Benson W&D:

<u>County</u>	<u>Units</u>	<u>Acres (1975)</u>	<u>Acres (1976)</u>
Cottonwood	7	1010.40	1010.40
Jackson	13	1872.26	1874.26
Kandiyohi	50	9051.42	9330.97
Pope	61	11623.93	11639.93
Stearns	34	6707.13	6791.44
Stevens	51	7151.62	7219.62
Swift	25	5557.94	5765.75
	<u>241</u>	<u>42994.70</u>	<u>43652.37</u>

## 2. Easements

The easement acquisition program has been very lethargic in the past due to increased land values. Many landowners feel they can get more for their dollars by draining marshes and putting land into agricultural production rather than accept a one time payment for an easement. Some claim easements are an encumbrance if and when they want to sell their land. In CY 76 we acquired five easements totaling 344 acres compared with none in CY 75. A considerable improvement! Although landowners are not beating down the door to sell an easement there has been some increased interest, probably due to the increased payments over that of the past. We believe, with an active acquisition staff pushing the easement program, combined with the higher payments, a noteworthy increase in easement acquisition will occur.

Following is a tabulation of easement lands in the district:

<u>County</u>	<u>Easement No. 1975</u>	<u>Easement Acres 1975</u>	<u>Easement No. 1976</u>	<u>Easement Acres 1976</u>
Kandiyohi	85	10058.64	86	10198.64
Pope	120	20546.91	122	20706.91
Stearns	8	1232.11	8	1232.11
Stevens	14	1444.73	15	1508.73
Swift	17	1341.52	14	1381.52
	<u>240</u>	<u>34623.91</u>	<u>245</u>	<u>34907.91</u>



## D. System Status

### 1. Objectives

Benson WMD objectives call for significant output increases over present levels in wildlife maintenance, and waterfowl production. These two groups account for 80% of all outputs planned for objective level management at this district. To achieve these objectives will require substantial construction and major rehabilitation funding to develop and enhance both wetland and upland habitat. Furthermore, commensurate increase in O&M funding will be essential to maintain these habitat improvements.

For example: present levels of waterfowl production are estimated to be no higher than .5 duck per wetland acre. On the basis of studies done in South Dakota, we believe a goal of 3 ducks per wetland acre is realistic for this WMD. This goal however, will be achievable only with a significant investment of money and manpower.

Other important output groups at the objective level will be consumptive wildlife recreation, Fish and Wildlife Service Information, Natural Environments Preserved, and Cooperative Programs. To bring these output groups to objective level will require that we: 1. increase hunting quality, 2. increase professional contacts with other governmental agencies, group or organization, and the general public, 3. increase the level of protection to every acre of fee or easement habitat.

In the 1976 Program Scheduling effort, it was again apparent to us that we continue to do too much with too little. NFIO funding level is not sufficient for maintenance of present equipment and facilities and salaries of existing permanent staff. Neither does NFIO funding permit purchase of needed supplies and materials. To bring our management in line with NFIO funding required that we reduce facilities and manpower. We would then concentrate our activities upon habitat protection and EE to attain the maximum outputs at the NFIO level. NFIO leaves very few dollars for material and supplies. Nearly all work accomplished at NFIO funding would have to be done on contract or cooperative basis.



Specific commitments in the 1976 Annual Work Plan Advice concerning this wetland management district were:

1. provide training for all pesticide applicators
2. decrease grazing and haying on WPAs
3. increase enforcement on wetland easements
4. assist SCS and ASCS with water bank program
5. conduct woodcock census route
6. develop criteria for wetland complex designation and acquisition
7. conduct upland habitat rehabilitation. (we will be provided with a \$34,000 increase to do this)
8. complete posting on at least 50% of all WPAs

Major areas of effort in this station's 1976 Annual Work Plan will be grassland management, maintenance of facilities, and enforcement, all under the Migratory Bird Program. Other programs at this station, namely Mammals and Non-Migratory Birds and Interpretation and Recreation are presently funded at such low levels that little of significance would be accomplished.

## 2. Funding

Funding at this station over the past five fiscal years is summarized in the following chart:

FY	F&D	TRD	MB	MMB	IMB	Ascerta- ment.	Mjr. Re- hab or Const.	Total Budget
			1210	1220	1500	3110		
1976	1503	236	121.1	1.6	5.1	10.2	-	138.0
1975	1506	834	115.8	2.5	12.8	6.8	55	192.9
1974	1342	443	78.0	20.0	12.0	-	-	101.2
1973	1353	358		Q&M =	96.2		S&M = 5	101.2
1972	1300	379		Q&M =	95.6		S&M = 8	103.6

Other than the \$55 thousand for wetland restoration received in FY 75, the station's Q&M funding has continued to creep slowly upward. Although this upward trend has helped us hold against inflation, it has done woefully little to restore or enhance approximately 45,000 acres of habitat on over 250 separate waterfowl management units. Program Scheduling is a tool upon which we will rely heavily to document and obtain needed increases in funding.

## II. CONSTRUCTION AND MAINTENANCE

### A. Construction

To insure progress in meeting the output objectives of this WMD, our management philosophy and subsequent activities have been directed to (1) provide recognition and protect integrity of the land through posting and fencing and (2) restore or enhance grassland and wetland habitat. Accomplishments in these two areas of WPA management have been very difficult and terribly slow simply because funding has not matched the magnitude of the work. For this reason nearly all construction to date has been accomplished in bite and pieces using annual OSM funds. But in 1975, we did receive \$55,000 earmarked for wetland habitat restoration. With this money two major water control structures and several dozen ditch plugs were constructed. In addition culverts and stoplog structures were purchased for future water control facilities.

Begun in 1975, the two water control structures on the Nelson Lake WPA were finally inspected and the slide gates closed in August 1976. The structures will create two impoundments along a water course which runs through this WPA. Planned sizes for these impoundments are 150 acres at site 1 and 19 acres at site 2. Cost of this project was \$26,800.00.

The Nelson Lake WPA water control structures were an excellent example of a project which could not be completed in piecemeal fashion and for which a large, lump sum of funding was absolutely essential. This WMD is filled with worthwhile projects that will enhance or restore large amounts of habitat, but these cannot even be initiated without significant capital investment.

Other new construction completed on this WMD in 1976 was accomplished under our annual Migratory Bird Program appropriation and is reported below.

Approximately 23 miles of boundary were posted with WPA signs at 30-rod intervals as required by Minnesota state law. This posting was accomplished on 15 WPAs. About 380 miles remain to be posted to standard and represents over 60% of the district boundary. Posting accomplished is detailed on the following list.

Porting Accomplished

<u>Unit</u>	<u>County</u>	<u>Miles</u>
Alla Lake	Kandiyohi	4.50
Sperry Lake	Kandiyohi	1.30
Swan Lake	Kandiyohi	3.25
Westport	Pope	1.00
Krauts Lake	Pope	1.60
Ransom	Pope	1.00
Froland	Pope	2.00
Stony Creek	Stearns	.40
Costello	Stearns	2.20
Mau	Stevens	.80
Pomme de Terre Lake	Stevens	1.20
Mad Creek	Stevens	.80
Stahn	Stevens	1.30
Lynch Lake	Swift	.60
	TOTAL	22.65

Four-strand barbed wire fence was constructed along 7.55 miles of boundary on 15 WPAs. This fencing was accomplished because of frequent and damaging abuses to nesting habitat by farmers, hunters, and snowmobilers or in response to requests by neighbors for a partition fence. Fence construction is detailed in the following list.

<u>Unit</u>	<u>County</u>	<u>Miles</u>
Carlson Lake	Kandiyohi	.10
Sperry Lake	Kandiyohi	.75
Raymond	Kandiyohi	.20
Florida Slough	Kandiyohi	.10
Swan Lake	Kandiyohi	.40 (5-strand)
Nelson Lake	Pope	1.30
Warfield	Pope	.90
Dreilberg	Pope	.25
Whitney	Stearns	.25
Behmen	Stearns	1.30
Asibley	Stearns	.30
Costello	Stearns	.80
Pomme de Terre Lake	Stevens	.10
Moore	Stevens	.40
Lynch Lake	Swift	.40
	TOTAL	7.55

Where fences have been constructed, our trespass problems have markedly decreased. Existing fiscal constraints have neither permitted us to comply with legal partition fence requests nor enabled us to fence out all problems. As a result our annual fencing effort has been directed at only a few miles of the most abused portions of boundary. In addition to the maintenance of approximately 210 miles of fence, there remains over 350 miles of unfenced boundary. New tracts continue to be acquired, further compounding the physical development of this WCD.

To reduce vehicle trespass and to facilitate hunter access and use, ten parking areas were constructed on the following WPAs.

<u>Unit</u>	<u>County</u>	<u>Parking Areas</u>
Spring Lake	Kandiyohi	1
Florida Slough	Kandiyohi	1
Malson Lake	Pope	2
Warfield	Pope	1
Paulson	Pope	1
Benson	Stearns	1
Ashley	Stearns	1
Moore	Stevens	1
Welsh	Swift	1
TOTAL		<u>10</u>

A 500-foot access road and highway approach was constructed for access to the Malson Lake WPA at a cost of \$1500.00.

A new 8-foot disc was purchased to use in field preparation for grassland cover seedings.

Twelve ditch plugs were constructed on Horse Lake, Klevenberg, Hagstrom, Johnson and Walden WPAs. The plugs were constructed to enhance approximately 26 acres of wetland habitat which had previously been drained by ditches.

A small water control structure was built on the Benson WPA with the aid of the Prairie Sportsmen's Club of Benson. This structure will improve a 40-acre Type III wetland.

### B. Maintenance

We continued our on going program of bringing headquarters buildings and grounds up to system standards. We installed and stained the remaining rough cedar exterior siding for our office, building No. 10. A wind screen and planter were also constructed for this building. In building No. 11 we blocked in a 10'x12' door. In building No. 12 glass blocks were installed in five windows, at the east end. The building No. 12 office drywall was patched and taped for painting and paneling was installed. The vehicle service area in this building was insulated and drywalled. Concrete pads were poured at both entrances to building No. 12. Two portions of a concrete driveway and a sidewalk connecting building Nos. 10 and 12 were also poured. A new headquarters road was laid out and graveled. Topsoil was placed on portions of the old road and will be sodded in 1977.

Following a sale by bid, buildings were removed from the Rosby Lake WPA. We leveled and buried an old building site on the Gilbertson WPA.

Servicing platforms and water gages were installed on seven water control structures built in 1975.

A reel with retractable hose was installed on the station's invert sprayer thereby converting the unit to firefighting capabilities.

To create large blocks of nest cover, .6 mile of interior fence were removed from the Bear WPA. We completed fence maintenance along portions of the String Lake, Overby, Benson, Spring Lake, and Big Slough WPAs at the request of neighbors.

Some safety improvements were completed during the year and included:

1. Installed signs at exits in building No. 10.
2. Installed check valve for reverse flow protection in acetylene torch.
3. Developed station log to document safety suggestions and insure subsequent action.
4. Secured invert sprayer to bed of 4x4 with six U-bolts as suggested by Regional Safety Manager.
5. Conducted routine vehicle safety inspections with special emphasis upon vehicle condition and equipment.
6. Destroyed worn metal wire stretchers and replaced them with safer rope-pulley type stretchers.

### C. Wildfire

As drought conditions became worse across western Minnesota so did the incidence of wildfires occurring in the district. Six fires on Waterfowl Production Areas were reported to us and probably many more went undetected. These six fires are described as follows:

<u>Date</u>	<u>Unit</u>	<u>County</u>	<u>Acres Burned</u>
4/12/76	Humre	Kandiyohi	10.0
5/13/76	McCorack Lake	Stearns	8.0
7/22/76	Lovall Lake	Stearns	5.0
9/12/76	Loon Lake	Jackson	0.4
9/23/76	Bredberg	Pope	140.0
11/11/76	Lake Johanna	Pope	2.0

Service personnel assisted in fighting the Bredberg WPA fire. High winds swept flames across boundary lines and 1/2 mile of boundary fence was destroyed. All other reported fires were either allowed to burn themselves out or were extinguished by local fire departments.

Generally, these fires were neither beneficial or detrimental to management of these lands. The Humre WPA fire may have benefited warm season grasses as it occurred in the spring. The others occurred in late summer or fall, too late to benefit upland habitat. The Bredberg fire continually burned down into the peat of a Type IV marsh which may improve brood habitat by opening up dense vegetation. Causes of these fires varied, but thoughtless neighbors burning marshes, braking trains and careless smokers were involved in one or more of the fires.

At present we have identified high risk areas in our seven county district. We have asked local fire departments for fire protection on these units only and no others. Stevens and Pope Counties may be included in Minnesota's fire protection coverage. Under this plan the DNR would assume fire protection responsibility by contracting local fire departments. The United States would pay the DNR a flat rate at the beginning of each year.

### III. HABITAT MANAGEMENT

#### A. Gravelands

Primary reasons for farming on this WMD are to:

1. Seed land to wildlife nesting cover.
2. Convert from one land use to another.
3. Hold land in "weed free" condition until funds are available for proper seed down.
4. Provide wildlife food plots.

Most farming in 1976 was accomplished by means of cooperative farming agreements with a few done under special use permit.

Fifty-one wildlife food plots totalling 392 acres were seeded to corn on a 2/3-share for cooperator and a 1/3-share for the FWS. One 5-acre plot had sorghum and one 10-acre plot had buckwheat. Many of these plots supported resident wildlife species throughout the winter. Good hunting opportunities were often found adjacent to these plots. On 3 WPAs in Jackson County, FWS share of the corn was chopped. Spring duck use of these areas was good and this practice will be continued.

Alfalfa/orchard grass dense nesting cover was seeded by cooperative agreement on 952 acres of previously farmed land. A small grain crop was seeded with the alfalfa/orchard grass and represented the cooperator's share. Due to drought conditions, some of these fields failed and will require re-seeding.

We also farmed 337 acres of corn, 81 acres of soybeans, and 26 acres of small grain as an interim step in converting land from agricultural use to wildlife nest cover. These acres will be seeded in subsequent years to either alfalfa/orchard grass mix or a mixture of native prairie grasses.

Receipts for cash rental for agricultural purposes were \$1512.00 for 23 acres on the Raymond WPA, \$2100.00 for 70 acres on the Bahr WPA, and \$262.00 for 10.5 acres on the Sunburg WPA.

Farmers were responsible for weed control in fields covered by cooperative agreement. The most common chemicals used were 2,4-D and MCPA to control thistles in corn and small grains.



## B. Grasslands

Approximately 46% of the 43,600-acre Benson WMD has been classified as grassland and represents essential nesting habitat for prairie ducks and other wildlife in west central Minnesota. This grassland habitat is comprised of native grassland - 1300 acres, restored native grassland - 1300 acres, and introduced grasses (principally monotypic stands of quack, brome, or bluegrass). WMD objectives call for large increases in waterfowl production which can, in part, be achieved by developing high quality grassland habitat for nesting.

### Native Grass Establishment

Native grass seeding was accomplished on seven WPA's. All seeding was done with a Nisbet drill. A total of 51 acres was seeded to big bluestem, little bluestem, Indian grass, green needle, and switch grass at a target planting rate of 40 pls per square foot. The Prairie Sportsmans Club of Benson furnished native grass seed for a 7-acre field on the Lynch Lake WPA.

To reduce competition from weeds and to increase stand vigor, a total of 376.5 acres of newly established native grass stands were mowed or sprayed. This included all stands planted in 1975 and 1976.

<u>Unit</u>	<u>County</u>	<u>Acres Seeded</u>	<u>Seeding Mixture</u>	<u>Rate of Application</u>	<u>Date</u>
Raymond	Kandiyohi	7	Variable	35.0 PLS/Ft. <sup>2</sup>	5/27/76
Broberg	Kandiyohi	7	Recorded	57.7 PLS/Ft. <sup>2</sup>	5/26/76
L. Chip. kv. Pope		10	In	49.2 PLS/Ft. <sup>2</sup>	5/19/76
Klovnsburg Pope		5	Unit	63 PLS/Ft. <sup>2</sup>	5/20/76
Stewart Pope		6	Files	40 PLS/Ft. <sup>2</sup>	5/18/76
Pope Co. Little Lk. Stevens		9		40 PLS/Ft. <sup>2</sup>	5/21/76
Lynch Lake Swift		7		27 PLS/Ft. <sup>2</sup>	5/27/76
TOTAL		51 Acres			

### Prescribed Burning

One 10-acre tract of the Sproule WPA was burned to improve switch grass cover on this unit. Of even more importance, was the practical experience in the use of this management tool gained by our personnel. Very dry conditions, adverse public opinion, a state ban on open burning, and an 80 directive not to burn closed the book on further prescribed burns in 1976.

### Vegetation Control

Control of noxious weeds by moving and spraying continues to drain our money and manpower resources. State law requires that landowners control noxious weeds. Sow and Canada thistle and leafy spurge are the principal complaint species in this area.

We believe that establishment of quality cover is good weed control and have been working hard to convince officials and neighbors of this fact. We have also recognized that some immediate control such as moving or spraying will be necessary and accomplished as funding levels permit. The arguments between FWS and farmers about weeds have continued but in 1976 a new administrative plan for weed control on federal WPAs was developed. This plan was a cooperative effort between the U.S. FWS and the Minnesota Department of Agriculture. The plan recognized two important aspects of weed control: that weeds need to be controlled and that FWS resources were limited and would not permit eradication of weeds to the satisfaction of all local officials and farmers.

Under the plan county agricultural inspectors would furnish us with a prioritized list of what they considered were the most severe weed problems in their county. We then reviewed these lists, developed a realistic control program based upon current funding, and reported to county inspectors what units we would be able to do. We were somewhat ambitious in 1976, but we did everything we said we would. Overall the new plan seemed to be working and will be continued into 1977. While we often receive no direct outputs from weed control work, successful efforts in this area will generate support for the future acquisition of wetlands in our 7-county district.

Weed control was accomplished on 906 acres at a cost of \$12,700.00. Five acres of leafy spurge and one acre of wild hemp were cut by hand. Thistle control included mowing of 728 acres, aerial application of 2,4-D on 100 acres, and ground spraying of 2,4-D on 152 acres. Some weed control was afforded by haying, mowing native grass and farming, and is reported in other sections of this report.

### Haying and Grazing

Haying was again allowed on new alfalfa-orchard grass seed downs for the first year following establishment. This practice was carried on to give some control of weed species, but even more, we believe it has often contributed to a better seed down when the cooperators can share in the hay crop in the following year. Thirty-five permits were issued for up to two cuttings of hay on portions of 28 WPAs. A total of 467 acres were cut; revenues totalled \$9620.75.

<u>County</u>	<u>Acres</u>	<u>Revenue</u>	<u>Estimated Tons</u>
Cottonwood	67.0	2321.00	105.5
Jackson	34.5	1115.00	23.3
Landiyohi	71.0	1743.55	72.5
Pope	85.0	813.30	38.5
Stearns	166.5	2920.15	173.2
Stevens	18.0	388.35	17.3
Swift	25.0	706.35	13.9
TOTAL	467.0	9620.75	450.2

The 1976 drought worsened and feeding of livestock became a critical issue as hay crops failed and pastures dried up. More and more farmers turned to WPAs for relief and by the end of July we were directed by the Regional Office to embark upon an emergency haying and grazing program. Priority for these uses was given to previous owner, tenant, immediate neighbor, and any neighbor (up to 3 miles distant) in that order. A total of 55 permits were issued for emergency haying on 692 acres on 30 WPAs. Revenue received for emergency haying totalled \$5680.00. A total of 12 permits were issued for emergency grazing on 679 acres on 12 WPAs. A total of 573 ADUs produced receipts of \$1632.50.

### Emergency Haying

<u>County</u>	<u>Acres</u>	<u>Revenue</u>
Cottonwood	10	80.00
Jackson	61	600.00
Landiyohi	72	576.00
Pope	82	733.00
Stearns	326	2563.00
Stevens	20	160.00
Swift	121	968.00
TOTAL	692	\$5680.00

Emergency Grazing

<u>County</u>	<u>Acres</u>	<u>AUM</u>	<u>Revenue</u>
Cottonwood	-	-	-
Jackson	60	60	\$180.00
Kandiyohi	-	-	-
Pope	61	61	\$206.00
Stearns	215	173	\$509.00
Stevens	241	158	\$403.50
Swift	122	121	\$334.00
<b>TOTAL</b>	<b>679</b>	<b>573</b>	<b>\$1632.50</b>

Desired outputs probably dropped some in 1976 as drought and emergency haying and grazing offset gains made in establishment of nesting cover. We thought we may have gained a bit where landowners saw the need for water and grass on the land but converts to this land ethic still appear few and far between.

C. Wetlands

This district contains 16,200 wetland acres or 37% of the total acquired land. Water levels are managed on only seven basins due to lack of funds for wetland rehabilitation. However, a considerable amount of topographical surveying was done to obtain base data necessary to efficiently restore or enhance other key brood marshes. Areas surveyed were Grote, Iowa, McCormick Lake, and Trisko.

In the fall of 1975, six major water control structures were constructed on Bengtson, Colfax, Moore, Nelson Lake and Overby WPAs. These structures will assist in the retention of water for brood use in summer and migrational use in fall on nearly 200 acres of wetland habitat.

Water level management for Bengtson WPA called for retention of 3 to 4 feet of water over most of a 38 acre Type IV marsh. This would inhibit growth of a dense stand of emergent vegetation and retain sufficient water for breeding and migrant waterfowl. Optimum levels were reached early in spring but lack of sufficient rainfall caused levels to drop rapidly.

Our management plan on Colfax WPA was to retain 1 to 1½ feet of water in a 33 acre wetland basin throughout the year. Lack of snow cover and spring rains reduced water flow into the basin. We were only able to maintain water levels at our planned elevation during March and April.

Plans for Overby WPA called for maintenance of 1.75 feet of water in a 25 acre Type III wetland basin. With a large watershed we were able to maintain water levels throughout most of July. A considerable increase in shorebird and waterfowl use was noted.

The objective for the Moore WPA structure was to raise water levels 2½ feet in a 27 acre Type III basin. This level would discourage a dense stand of emergent vegetation and therefore make the marsh more attractive to waterfowl. It was discovered that gravel seepage in front of the structure caused significant water loss. Hopefully, this problem was corrected by incorporating Bentonite into the soil in front of the structure.

Two new water control structures located on the Nelson Lake WPA, were not operable until August 1976 and therefore optimum water levels were not reached. These structures will impound 150 acres and 19 acres respectively.

An existing control structure at Weber WPA was nonfunctional due to a poor outlet ditch. This ditch was cleaned out and will now enable us to draw down water levels during the spring growing season, encouraging emergent plant growth. Out flow in June will then be reduced and a feet maintained over a 30 acre Type IV marsh for migrant waterfowl.

One attempt at mechanical control of vegetation was done on the Froland WPA. A 3.2 acre Type III marsh was mowed with a rotary tractor mounted mower. Cattails were clipped below anticipated spring water levels to reduce growth and open marsh basin to attract waterfowl. Results of this will be documented during the spring of 1977.

#### D. Forestlands

Monocommercial forestland acreage on Waterfowl Production Areas are listed by county as follows:

Cottonwood	-	9.4 Acres	Stearns	-	321.8 Acres
Jackson	-	109.3 Acres	Stevens	-	165.5 Acres
Kandiyohi	-	449.8 Acres	Swift	-	107.8 Acres
Pope	-	398.3 Acres			

In 1973 Kandiyohi County enacted an ordinance for the cutting and removal of any elm trees determined to have Dutch elm disease. Dutch elm disease has been known to exist in the area for several years and attempts to control infestation are senseless. Despite this, we were forced, at the request of Congressman Nolan, to cut and remove all diseased elms from a 5 acre wooded tract on the Iarnon WPA in Kandiyohi County. This tract lies adjacent to a county park. Under contract a local woodcutter cut approximately 5000 board feet of merchantable American and red elm from the tract. The remaining tops and unuseable trunks are to be piled and burned in 1977.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

No areas included in this section apply to this district.

G. Easements for Waterfowl Management

Easement surveillance has been grossly neglected in past years because of money and manpower constraints. In an effort to bring all easements up-to-date we concentrated our efforts on making a ground inventory and map of each easement. Each map shows all wetland basins and types, and all maintained, deleted or old drainage facilities present. To date 175 or 71% of all easements have been inventoried. Preliminary investigation shows possible violations taking place on 50% of our easements. Most will go unprosecuted and as many as 5-10 years old before the violations are noted. One 1971 easement violation, Alice Johnson (501) in Stevens County, has been sent to the solicitor for prosecution. All wetlands, except one, within the easement have been drained. We are anxiously awaiting an enforcement agent who will concentrate solely on easement and fee title violations. An agent handling the violations would free the wetland manager to do other important but often neglected duties. However, with the new inventory maps in conjunction with annual aerial inspections we should be able to determine all recent draining and filling activity.

#### IV. WILDLIFE

A. Endangered and/or Threatened Species

There were no known species of this category in the district.

## B. Migratory Birds

### 1. Waterfowl

Waterfowl production was approximately 6,000 individuals. This includes ducks, geese and coots on both fee and easement tracts. Due to severe drought conditions, production was down forty-four percent from 1975. Coot production was almost entirely eliminated. Waterfowl produced averaged .24 per fee wetland acre and .30 per easement acre. This compared to .40 and .34 in 1975.

Blue-winged teal and mallards accounted for most of the waterfowl produced. Other species of significance were wood ducks, shovelers, green-winged teal and pintails. Censusing of breeding waterfowl is limited to breeding pair counts run on established routes. Brood counts are also taken from an established route. Other than these two counts populations were based on random observations and expanded by a numerical value assigned to each WPA. This method is not fool proof but to determine populations on each WPA would be a physical and economical impossibility.

### 2. Marsh and Water Birds

Populations of marsh and waterbirds were determined by a similar method used for waterfowl estimates. Species identified were pied-billed grebe, common loon, double crested cormorant, white pelican, American bittern, great blue heron, black crowned night heron, Virginia rail and cane rail. Although most water birds were rarely seen after most basins dried up they certainly took advantage of an increased food supply on exposed mud flats and small pools.

### 3. Shorebirds, Gulls, Terns and Allied Species

Species common to our district include herring, ring-billed and Franklin's gulls, common snipe, greater and lesser yellowlegs, killdeer, dowitcher, upland plover, marbled godwit, Wilson's phalarope, osprey, and black tern.

Woodcock are found in portions of Pope, Kandiyohi and Stearns Counties. Suitable woodcock habitat exists on only a small number of WPAs, however, two woodcock singing count routes are conducted annually as part of the nationwide survey. Six "peents" were recorded on the Pope County route. None were reported on the Kandiyohi County route.



#### 4. Raptors

An unusual phenomenon occurred on September 19, 1976. A large concentration of broad-winged hawks was observed over the city of Benson. For nearly an hour there was a continuous passing overhead. Geese, shorebirds, gulls and warblers were seen migrating along with the hawks. These birds apparently moved along with a frontal system between two air masses.

Other species occasionally observed are American kestrel, great horned owl, short-eared owl, long-eared owl, red-tailed hawk, rough legged hawk, marsh hawk, and an occasional golden and bald eagle.

#### 5. Other Migratory Birds

Mourning doves are abundant throughout the district with an estimated population of 11,000. Considerable nesting occurs in many of our tree plantings, shelter belts, and abandoned farm groves but no surveys have been done to determine numbers produced.

#### 6. Mammal and Non-Migratory Birds and Others

##### 1. Game Animals

White-tailed deer are the only big game mammals found in this portion of Minnesota. Population seems to be stable at 750 animals on WPAs. Counting of animals has been limited to random observations reported while in the field.

Estimable numbers of gray, red and fox squirrels, eastern cottontail rabbits, and white tailed jackrabbits are found.

##### 2. Other Mammals

Mammals which are relatively common are fox, raccoons, muskrat, mink, beaver, badger, short tailed, least and long-tailed weasels, thirteen-lined ground squirrel, Franklin's and Richardson's ground squirrels, pocket gophers, eastern chipmunk, woodchuck and Virginia opossum (Jackson County only).

A cow moose with a calf was observed on the Popperton WPA in Stevens County in August. Moose are occasional visitors to the area.

### 3. Resident Birds

Ring-necked pheasant, our most popular game bird appears to be increasing in areas of suitable habitat after a relatively mild winter and dry spring.

Gray partridge are frequently seen and seem stable. Ruffed grouse are not abundant due to lack of suitable habitat on our WPAs.

### 4. Other Animal Life

Many species of reptiles and amphibians exist throughout this region. However no data has ever been collected as to population densities, species composition etc.

The fisheries resource is relatively unimportant due to the nature of shallow wetlands on most WPAs. Bullheads, northern pike and carp are present on several areas.

Fish control project has been proposed on the McKahan WPA. Surveys revealed a large population of bullheads, fathead minnows and crayfish. Their presence has caused extreme turbidity on a Type V marsh practically eliminating aquatic vegetation necessary for waterfowl. Chemical control was approved. A pretreatment fish population survey was made in August and for unexplained reasons the bullheads had vanished. The project was canceled!

## V. INTERPRETATION AND RECREATION

### A. Information and Interpretation

#### 1. On-Refuge

A self-guided interpretative foot trail is maintained on the Froland WPA in Pope County. This 3/4 mile trail meanders through wetland, grassland and woodland habitats. During the year, the Minnesota Highway Department installed two standard directional signs at the site. This will provide better direction for prospective trail users and increase public use.

The greatest use of WPAs for environmental education purposes was during the eight week YCC Camp activities. Several classes from the Morris school system have been using the Edwards, McKahan and Poudre de Terre Lake WPAs for environmental education activities. Up to 60 students have been studying ecological communities, plant taxonomy, vegetation mapping, soil sampling, forest timber cruising and water sampling techniques. The environmental education potential

is endless and we continue to encourage educators to take advantage of these areas.

## 2. Off-Refuge

Members of the staff presented seven county workshops for township board members. These workshops were set up to improve liaison between township officials and our staff. Subjects covered were land acquisition, revenue sharing, fire control, ROW requirements for drainage and road improvement, vegetation and animal control programs, fencing policy, public use policy and general regulations. Attendance was excellent and many ideas were exchanged.

Movies, slides and other programs were given to eleven civic, church and school groups. Refuge leaflets, maps and other informational publications were distributed thru exhibits, presentations, and refuge visitation.

Our wetland display was again shown at the Little Crow Sports and Travel Show and also at the Stearns County Fair. About 12,000 visitors viewed the exhibits.

Lectures and literature about EE opportunities at the Benson WFO were sent out to 14 area schools as part of our Level I involvement. Also sixty-one informational letters and eighteen news releases were sent out.

Wetland Manager Toltsmann continued his involvement with area sportsman clubs and is an active member of the Upper Minnesota Valley Regional Development Commission's Land Use and Water Quality Committee.

## B. Recreation

### 1. Wildlife Oriental

Waterfowl hunting provides considerable recreation opportunities. However, fire dangers caused a hunting ban by order of the Governor for the northern 2/3 of the state. The ban included Pope and Stevens Counties, but with the majority of wetland basins completely dry hunting opportunities were reduced significantly. Extended seasons did little to improve the situation as any sloughs with water were frozen.

Pheasant, ruffed grouse and gray partridge provide some good hunting opportunities. Pheasants seemed to have increased and hunting was exceptional in some isolated areas.

Deer hunting was limited to four days of two consecutive weekends for bucks only. Antlerless deer were taken by permit only on the final two days. Harvests on WPAs were less than previous years due to dry conditions. Hunters fared better on or near river bottoms or where water was available. No bag checks were made on WPAs but harvest was estimated to be about 100 animals as compared to 150 in both 1975 for both shotgun and archery hunters.

Other species hunted to some extent were rabbits, fox, squirrels, snipe, and woodcock.

Trapping for musk and muskrat was of little significance this year as to the lack of water; however, fox trapping pressures continue to parallel increasing fur prices.

Fishing as a form of recreation is rather limited but bullheads and northern pike on the Harder Lake and Spirit Lake WPAs provided some enjoyment for anglers.

## 2. Non-Wildlife Oriented

Outdoor enthusiasts found many opportunities for wildland appreciation such as hiking, snowshoeing, cross-country skiing, photography and horseback riding. Off-road vehicles, snowmobiles and camping are all prohibited on WPAs.

A local expert on Viking artifacts, Carl Skoglund, has taken an interest in the Nelson Lake WPA. He believes he had found a Viking "mooring stone" there.

## C. Enforcement

Vehicle and agricultural trespass continue to be the major enforcement problems. We have made a considerable effort to identify the major vehicle trespass problems and as time, money, and manpower permit, construct parking lots and gates. Other areas where hunters are using field approaches to drive over the WPAs and where it is not immediately practical to construct fences, we place "No Vehicle Trespass" signs. Sometimes, but not often, the sign discourages these "sportsmen". Our best course of action to prevent these violations has been to 1) adequately post the unit, 2) fence as necessary and 3) inform the public about WPA regulations.

Agricultural trespass in the form of using federal lands as head land and rock dumping are constantly being detected. When appropriate, fencing out our neighbors solves the problem. Rock dumpers are told to remove the piles and are threatened with prosecution. Removal usually follows.

Drainage trespass is always a threat and has intensified with drought conditions. A neighbor adjacent to the St. Martin WPA in Stearns County constructed a ditch onto our area draining a marsh on his land. The violation was given to U.S. District Court and a \$25.00 fine was imposed. We decided to avoid long delays and fill the ditch ourselves.

## VI. OTHER ITEMS

### A. Field Investigations

Nothing to report.

### B. Cooperative Programs

YCC began at the Benson WED for the first time ever on 6/13/76. Our 10-person, non-resident camp was budgeted at \$13,000.00. Nine of the enrollees came from the Benson area with one from Appleton.

Group leaders for the camp were Renee Hayden and Joel Boldenow. Renee was a junior high school science teacher, while Joel had recently graduated with training in elementary education. We decided to handle the camp director's responsibilities with our own staff. These duties were assigned to the assistant wetland manager.

Major work projects for the summer included a waterfowl nest search at Bengtson WPA, riprap of water control structures at Moore, Bengtson, and Nelson Lake WPAs, and fence and parking lot construction at the Nelson Lake WPA. Estimated value of completed projects totalled \$12,942.00.

We had no major problems during our first exposure to the YCC program for several reasons. First, our group leaders were personable, dedicated to their job, and able to relate to young people. Second, this WED has an almost infinite number of jobs suitable for accomplishment by YCC enrollees. The variety both in terms of type of work and locations of work sites contributed to en-

rolles interest. Third, we were able to free vehicles for YCC use exclusively and thus potential transportation problems were greatly reduced. Finally, no significant injuries occurred. This was due to luck, prior job hazard analyses, and close supervision.

Two special nights for parents and enrollees were held during the 8-week program. An evening orientation was conducted the week before camp. We also conducted a post-camp program for parents about what the YCCers had accomplished. This included a tour of all their projects at the Nelson Lake WPA. We were very pleased with parent interest and response in the YCC program and are certain to continue Parent's Nights in our 1977 camp.

YCC seems highly suitable and easily integrated to the work program of this WPD. We learned much in 1976. We hope for and expect not only to continue YCC in 1977, but to expand the size of our YCC camp.

### C. Items of Interest

Revenue sharing payments to counties for FY 76 were received as per terms of the Refuge Revenue Sharing Act (P.L. 88-523) during December and distributed to the counties in January 1977. A summary of the payments and a comparison to FY 75 follows:

<u>County</u>	<u>FY 75</u>	<u>*FY 76</u>
Cottonwood	1639.36	3171.37
Jackson	2863.06	6111.20
Kandiyohi	10664.31	21281.55
Pope	8662.70	18363.35
Stearns	7337.22	15351.72
Stevens	8000.98	15665.77
Swift	4543.12	9437.34

- \* Actual payment shown was + less because receipts to Refuge Revenue Sharing Fund insufficient to meet scheduled payments. FY 76 payment included additional 3 month transition period 7-1-76 to 9-30-76.

Assistant Manager Matthias A. Kerschbaum was transferred to Blackwater Hall. Matt will surely be missed. Our loss is certainly Blackwater's gain.

Listed below are each staff members' contribution to this report.

Matthias A. Kerschbaum: I B, I D, II A, II B, III A, III B and VI B.

Richard M. Papaszo: I A, I C, II C, III C, III D, III G, IV, V and VI C.

John T. Hutchinson: VI D.

Karine A. Talandier: All typing and assembly of report.

#### D. Safety

Safety meetings were held each month throughout the year. Some of the topics covered were; hypothermia, power tool care and use, pesticide use, office safety, wildfire fighting, smoke detectors, and boundary fence construction. During one safety meeting a quiz was given covering important items from past meetings during the year. This quiz acted as a good refresher. Topics for the safety meeting were chosen by the safety committee. The safety committee, consisting of three staff members appointed for a three month period, also held monthly meetings, conducted grounds and equipment inspections, and investigated accidents.

Only one accident happened at this station this year and that one, thankfully, was a minor one. One of our newer light-weight overhead garage doors rolled part way down and a staff member drove into it when leaving the building. No vehicle damage occurred and the door was repaired by station personnel. Lesson learned - make sure adequate spring tension is applied to overhead doors to hold them securely in the up position.

Some other safety additions, improvements, and inspections include the following:

Ground fault interrupter inspections were conducted monthly; one faulty interrupter had to be replaced.

A monthly fire extinguisher inspection was started to replace the biannual inspection.

Fence stretchers were inspected and all of the lever type were discarded and replaced by rope and pulley types. It was determined that the rope and pulley type were the safest and remained serviceable longer.



A tool was fabricated to lift fence wire over grass and obstructions when the wire is being stretched. Stretching wire is the most dangerous aspect of fence building. If the wire should break when an employee is trying to move it using only a gloved hand or fence pliers, he is too close and serious injury could result. The tool devised keeps the employee at least two feet from the wire and seems to work well.

The station gas welder was repaired and reverse flow check valves were installed in both lines.

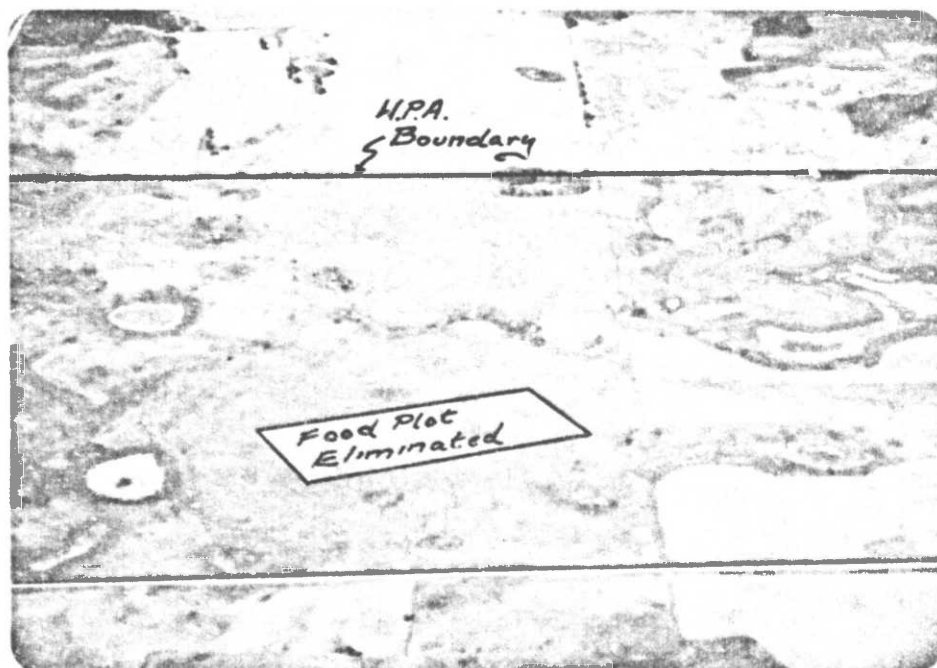
All handyman jacks were modified to prevent hand or finger injury.

Our YOC program was a success safetywise. One case of poison ivy was the sum of our problems.

At the close of the calendar year this station's record stands at 2641 days without a lost time injury.



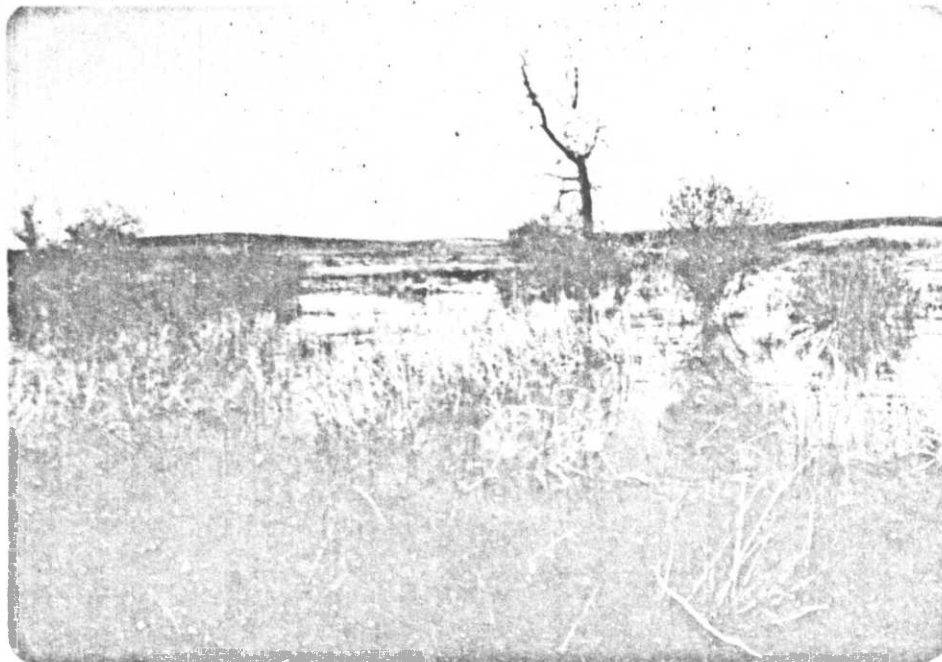
Elimination of certain resident game food plots allowed re-establishment of nesting cover and wetlands. In this case a tile will be plugged and the food plot seeded down.  
 Date: 8/76 Hutchinson



Many food plots were located in ideal nesting areas. Many were eliminated or moved to the boundary of WPAs so as to not break up large blocks of nesting cover.  
 Date: 8/76 Hutchinson



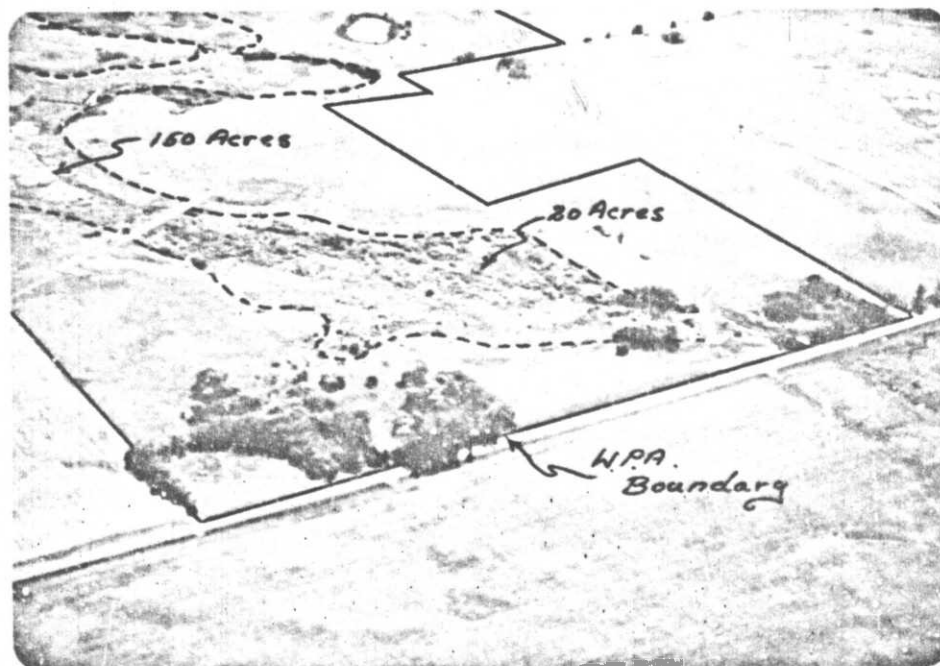
Restoration of wetlands continued. Overby WPA before restoration of 40-acre wetland. Date: 12/75 Papasco



Stoplog structure will allow management of this fine marsh. Date: 5/76 Papasco



Small water control structure - Colfax WPA. Excellent wood duck habitat in this 20-acre wetland was restored.  
Date: 5/76 Papasso



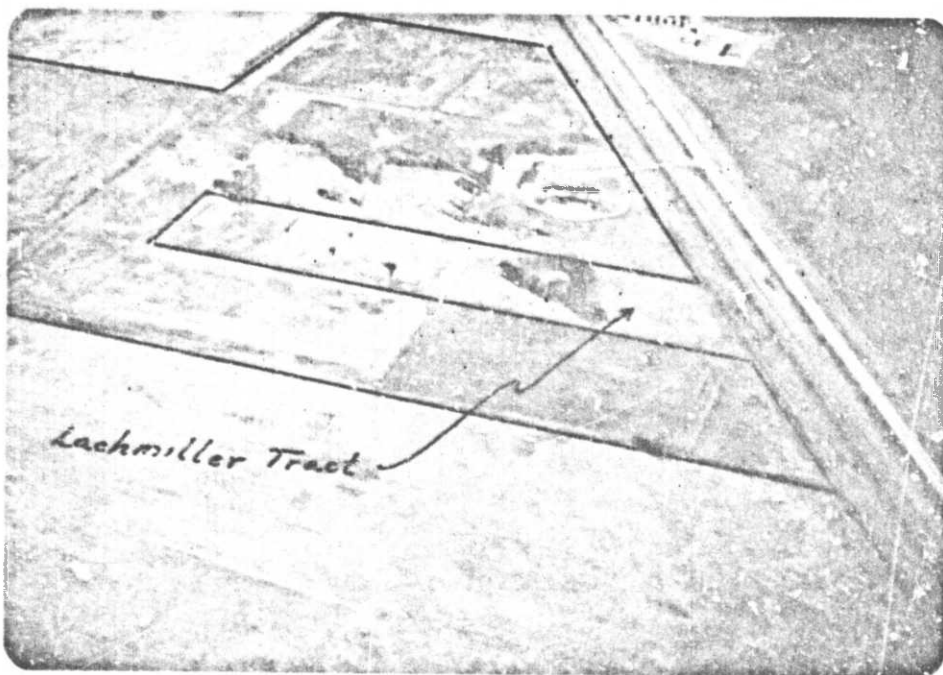
Two large dikes and water control structures were constructed at the Nelson Lake WPA. Impoundments of 20 acres and 150 acres will be created. Date: 9/76 Hutchinson



In many areas of the district the WPA are being surrounded by center-pivot irrigation systems. Alternately, these shallow wells may lower the water table enough so that wetland levels will be adversely affected. Spring Lake WPA.  
Date: 8/76 Hutchinson



On the ground inventories of easements continued. Contact was made with each owner or tenant and all drainage facilities were mapped. Refs: Jankoff, Easement Owner, Marsha Baum and Papawso. Date: 10/76 Toltzmann



Nine acre inholding at headquarters site was finally acquired  
at a cost of \$25,000.00. Lynch Lake WPA.  
Date: 8/76 Entchinson