NORTHEASTERN MONTANA WETLANDS DISTRICT

ANNUAL NARRATIVE REPORT
Calendar Year 1978

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

Submitted by
Medicine Lake
National Wildlife Refuge
Medicine Lake, MT. 59247

Date

2-14-79

Area Office

Burford Cranke 3/14/79

Date

Regional Office

Maurine O'Neill 3/22/79

Date
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I. GENERAL

A. Introduction

The Northeastern Montana Wetlands District is bounded on the north by Canada and on the east by North Dakota. This land area is a continuation of the glaciated pothole region of the Dakotas and is commonly known as the Missouri Coteau. The lake and pond laced hills of the coteau end abruptly as you head south and west. The district is comprised of three northeastern counties of Sheridan, Daniels, and Roosevelt.

Annual precipitation is around 12 inches with the majority of it coming as March snows and spring rain. Surface and ground water levels are almost solely dependent on winter snowpack and spring melt.

The wetlands district is administered by the staff of Medicine Lake National Wildlife Refuge.

B. Climate and Habitat Conditions

The winter of 1977-78, although being severe, produced abundant snow which was needed to fill the potholes and recharge the groundwater. Before snowmelt occurred, the only potholes which held water were Type IV's or larger. The extreme cold weather caused a complete freeze-out of muskrats in all but the deeper lakes.

Weather information for the wetlands district is collected at Medicine Lake but this data is not always representative of the weather that occurs in the coteau country. The refuge recorded 19.48 inches of precipitation but some areas in the northern part of the district probably received 22 to 25 inches - this is more than double the normal amount.

Native grasslands responded to the abundant moisture and once again became rolling seas of grass. All water basins were refilled and many Type I basins could have been easily classified as III's as the summer progressed. Although heavy rains caused significant flooding on major drainages, most closed wetland basins experienced very little water level fluctuations once they were filled.

Winter came early again this year with heavy snows in late November and December. At the end of the year we had a greater snowpack on the ground than we had all of the previous winter. All basins at freeze-up would have been considered at or above normal levels. This year would have to be considered excellent for habitat conditions.
C. Land Acquisition

1. Fee Title

No options were accepted during calendar year 1978. Two different tracts were worked on which were hopefuls. One tract was located in Roosevelt and contained 2,240 acres of which over 600 were wet. The landowner had indicated his willingness to sell because of financial difficulties. A considerable amount of time was spent getting approval and justifying the tract. In addition to this, a complete appraisal report was prepared. When the time came for the offer to be made he told us that he had just acquired a low interest loan and was going to keep on farming. So goes the business of buying land!

The other tract contained 840 acres of which 148 acres were wet. This tract was adjacent to another WPA and would have made a 1,644 acre unit. This tract was all ready to be bought, but the day on which the landowner was to sign the option, she was run over and killed by a vehicle on her farm. The estate then went to probate court and had not been settled as of the end of the year.

TABLE I. Fee Acquisition Program

<table>
<thead>
<tr>
<th>County</th>
<th>No. of Tracts</th>
<th>No. of WPA's</th>
<th>Total Acreage</th>
<th>Goal Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheridan</td>
<td>66</td>
<td>36</td>
<td>7,913.80</td>
<td>11,000</td>
</tr>
<tr>
<td>Daniels</td>
<td>5</td>
<td>3</td>
<td>646.41</td>
<td>2,000</td>
</tr>
<tr>
<td>Roosevelt</td>
<td>2</td>
<td>1</td>
<td>179.20</td>
<td>1,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73</strong></td>
<td><strong>40</strong></td>
<td><strong>8,739.41</strong></td>
<td><strong>14,000</strong></td>
</tr>
</tbody>
</table>

2. Easements

A total of 35 options were taken this year protecting 1,581 wetland acres. TABLE II gives the current status of easement acreages for the district.

TABLE II. Easement Acquisition Program

<table>
<thead>
<tr>
<th>County</th>
<th>No. of Cases</th>
<th>Wetland Acres</th>
<th>Goal Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheridan</td>
<td>90</td>
<td>5,422</td>
<td>10,000</td>
</tr>
<tr>
<td>Daniels</td>
<td>6</td>
<td>262</td>
<td>2,000</td>
</tr>
<tr>
<td>Roosevelt</td>
<td>9</td>
<td>687</td>
<td>1,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>105</strong></td>
<td><strong>6,371</strong></td>
<td><strong>13,000</strong></td>
</tr>
</tbody>
</table>
This was the first year since 1974 that any effort was put into the acquisition program in this district. With the shut down of acquisition in North Dakota we were able to utilize three realtors from the Minot office. These three people did an excellent job for us but have now all transferred to different stations. It's a shame our program couldn't have been more active in the preceding years because a bill introduced to the state legislature may seriously limit our program. This bill was sponsored by Senator Edward Smith who is one of our refuge neighbors. The bill would require county commissioners approval of all Fish and Wildlife Service acquisitions — including easements. The bill also calls for inspection of each tract by the commissioners and a public hearing must be held before each tract could be bought.

3. Other

Nothing to report.

D. Systems Status

1. Objectives

The wetlands district is included with the Medicine Lake National Wildlife Refuge in the objective setting process. Our AWP and RPS combine both areas. This section was covered in the refuge narrative report.

2. Funding

No separate O&M funding is received for the wetlands district. The BLHP program has provided $63,000 for fencing and $11,000 for DNC plantings for FY-79.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

One fencing contract was completed during the year. The entire boundary of Northeast WPA was fenced (1,020 rods) for $1.95/rod. This was considerably cheaper than we could have done it by force account.

The Regional Office provided cadastral services to find unmarked lines on six of our WPA's. Surveying is now complete. In-lining for fence construction can now also be completed in preparation for 42 miles of fence building to be started in the spring of 1979.

B. Maintenance

Eight man-days were utilized in fixing fence which had a bad case of the droop. Droop is caused by compacted snow which has drifted over the fence and then settles.
C. Wildfire

Nothing to report.

III. HABITAT MANAGEMENT

A. Croplands

Cooperative farming is carried out on Widgeon Slough and Erickson WPA's. The Widgeon Slough Tract contains 44.5 acres of cropland and is farmed by an adjacent landowner. Spring wheat was planted on 19.6 acres and the remainder was summer fallowed. The Erickson Tract is farmed by three permittees and contains 260 crop acres. Because this soil is underlain with gravel, the county agent recommended continuous cropping since the normal summer fallowing process would not conserve moisture. The former fields were restripped north and south so they would be perpendicular to the prevailing winds. Tall wheatgrass barriers were planted every 60' apart for a total of 44 miles of barrier. Half of the acreage was planted to spring wheat and the other half was planted to barley. Both crops yielded better than 20 bushel/acre.

The Erickson Tract, which was bought in 1975, contains almost 1,100 acres. The former landowner had farming reservations through 1977. Out of the total acreage, 817 acres had been recently farmed. With his permission, we planted 101 acres of DNC in stubble in the fall of 1976. This spring we planted an additional 267 acres. The response of wildlife to these cover plantings has risen from zero to a healthy population. Only one duck brood was sighted in 1977 as compared to fourteen this year. White-tailed deer which had never been present number about 15 head and good populations of pheasants, grouse, and partridge have been noted.

The standing grain left in the fields for the refuges' share was utilized heavily by mallards the first two weeks of November.

Approximately 300 acres of former farm fields were delineated on Goose Lake WPA. This land is scheduled for conversion to DNC in 1979.

B. Grasslands

No haying or grazing is allowed on any of the WPA Tracts at this time.

There are 2,590 acres of native mixed-grass prairie located on the various tracts. It will be essential in the near future to develop a management plan for these grasses.

A two acre patch of Canada thistle which bordered a neighbors grain field was rotary mowed on Base Camp WPA.
C. Wetlands

At the present time we have only one water management facility on the district - this is a dam which impounds water in Johnson Lake. BLHP monies, if received, are scheduled for the building of numerous coulee dams in FY-80.

D. Forestlands

Nothing to report.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Nothing to report.

G. Easements for Waterfowl Management

The fall surveillance flight gave our Montana easement owners a clean record again. No violations were observed and only a few new ditches were noted in the entire county.

IV. WILDLIFE

A. Endangered and/or Threatened Species

Whooping cranes traverse the area but no sightings were made during the year.

Peregrine falcons were noted on Goose Lake and Widgeon Slough WPA's this fall. Prairie falcons are quite common throughout the district and are sighted on numerous occasions.

Western burrowing owls are common nesters throughout the district. They generally inhabit old badger dens and feed mostly upon insects and small rodents.

B. Migratory Birds

1. Waterfowl

The first returning waterfowl were seen at Long Lake WPA on 3/23. Ducks peaked on 4/18 with 11,500 being present. This peak was 77% lower than in 1977 but water conditions were entirely different. This year, water was abundant and the ducks were scattered. Last year, water was found only in larger lakes - many of which are located on WPA's.

Water and habitat conditions were much improved over 1977 but waterfowl
production dropped. Again, this can be attributed to water abundance. Last year, nesting waterfowl were forced onto WPA's because small water areas just didn't exist.

Duck production on the district totalled 9,249 birds to flight stage. This total was 33% lower than in 1977. Canada goose production increased to 45 goslings. Coot production was up by 74% to 750 young.

### TABLE III. DUCK PRODUCTION BY SPECIES

<table>
<thead>
<tr>
<th>Species</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue-winged teal</td>
<td>2,757</td>
</tr>
<tr>
<td>Shoveler</td>
<td>1,309</td>
</tr>
<tr>
<td>Lesser Scaup</td>
<td>1,164</td>
</tr>
<tr>
<td>Gadwall</td>
<td>1,148</td>
</tr>
<tr>
<td>Mallard</td>
<td>919</td>
</tr>
<tr>
<td>Pintail</td>
<td>646</td>
</tr>
<tr>
<td>American Wigeon</td>
<td>453</td>
</tr>
<tr>
<td>Ruddy</td>
<td>396</td>
</tr>
<tr>
<td>Green-winged teal</td>
<td>153</td>
</tr>
<tr>
<td>Redhead</td>
<td>139</td>
</tr>
<tr>
<td>Canvasback</td>
<td>131</td>
</tr>
<tr>
<td>Ring-necked duck</td>
<td>17</td>
</tr>
<tr>
<td>Bufflehead</td>
<td>17</td>
</tr>
</tbody>
</table>

The above table is production for WPA's only. No production is figured at this time for the easements under our jurisdiction.

Production of Canada geese has been increasing in the district. In 1976, 16 goslings were known to be produced to flight stage. Last year there were 28 produced and this year we had 45. Sixteen of these young were on Stateline WPA and the other 29 were on Pintail Marsh WPA. Both of these units have isolated islands where geese can nest securely.
Fall migration build-up was early again this year. Peak population occurred on 9/28 when we counted 52,850 ducks and 18,330 coots. Mallards are always the last group to migrate through and they kept building until 11/9 when they peaked at 27,300. Large concentrations of mallards were noted on Big Slough, Widgeon Slough, and Pintail Marsh WPA's.

It would be interesting to study why different duck species preferentially select different water bodies. It has been documented over the past three years that different lakes attract a majority of one waterfowl species throughout the season. WPA's with characteristic waterfowl populations are as follows: Melby - canvasback; Big Slough - lesser scaup; Berger Pond and Long Lake - wigeon and coot; Goose Lake - shoveler; Jerde - gadwall; and of course Redhead WPA - has redheads.

With the excellent water conditions we also had abundant aquatic growth. Pondweeds were especially prevalent in all areas and hardstem bulrush provided excellent nesting cover for divers. Snails, crustaceans, and insects were again superabundant in all waters. The total bio-mass provided by these prairie wetlands is almost unbelievable.

No botulism outbreaks were encountered in the district this year. Special surveys were made on the larger lakes but no dead birds were found.

2. Marsh and Water Birds

No census data is regularly compiled on these birds, which is unfortunate, as the district is a virtual paradise for these species. Eared grebe are the most common nesters with large colonies being found on Widgeon Slough and Big Slough WPA's.

Other common nesters include western grebes, horned grebes, pied-billed grebes, American bittern, black-crowned night herons and Sora rails. Pelicans and double-crested cormorants from Medicine Lake feed on those lakes which are deep enough to sustain minnows.

3. Shorebirds, Gulls, Terns and Allied Species

As is the case with marsh and water birds, these species are not censused or evaluated. Large movements of birds are generally recorded during migration. Wilson's phalarope normally show up in large numbers during the 1st week in October on Parry WPA. Long-billed dowitchers also build to high populations early in September on Goose Lake WPA.

Common nesters include the American avocet and the killdeer. It is known that Franklin's gulls and black terns also nest on the district.
4. **Raptors**

The most common nesters include the short-eared owl and the marsh hawk. The western burrowing owl is also a known nester. The prairie falcon, red-tailed hawk, and American Kestrel are common during the summer with rough-legged hawks and golden eagles becoming more common in late fall and early winter.

The refuge conducts a survey route for raptors which runs through the wetlands district. This survey is a cooperative program with the State of Montana and was started in 1977. We hope to gather some information from it.

5. **Other Migratory Birds**

Nothing to report

C. **Mammals and Non-Migratory Birds and Others**

1. **Game Mammals**

White-tailed deer are commonly found on the bigger WPA tracts in the district. Salter WPA, which is adjacent to the main refuge, serves as important winter range for about 80 deer. Erickson WPA has developed a herd of about 15 head. Goose Lake and Outlet Marsh also winter between 10 and 15 deer each.

The establishment of large tracts of DNC on WPA's and some large water bank plantings have helped increase deer populations throughout the district. Prior to these plantings, winter cover had restricted deer to the larger coulees. Now deer are found scattered throughout the district.

Hunting pressure in the district is light. Some tracts, like Erickson, attracted a number of hunters but the deer were hard to move out of the heavy cover. Once fencing is completed, the deer will be relatively safe because most Montana deer hunters refuse to get out of their vehicle and walk for a deer if they can drive and shoot it someplace else. Most of the smaller tracts were never hunted but held deer throughout the season.

A small band of eight antelope was seen using the Erickson Tract at different times.

The high prices which are being paid for wild furs have brought renewed interest to the sport of trapping. Professional trappers and young people alike, are relying more upon WPA's because of increasing resistance by private landowners to allow trapping. Evidence of trapping for long-haired furs was noted on many WPA's. The general trapping season for mink and muskrat opened up with a
major snow storm and freezing temperatures. Conditions never improved and as a result very few muskrats were trapped.

Beaver are not common in the district because of a lack of deep water areas but colonies are located on Johnson Lake, Salter, and Goose Lake WPA's. Other fur-bearing animals that are found throughout the district include red fox, coyote, badger, mink and raccoon. The raccoon is a relative newcomer to the area but the amount of tracks that are encountered each year indicate the population is increasing.

2. Other Mammals

Nothing to report.

3. Resident Game

Many of our DNC plantings are directly responsible for sustaining pheasant populations in the northern part of the district. Good pheasant populations exist on Erickson, Goose Lake, Carlson, and Johnson Lake WPA's. Coveys of Hungarian partridge were noted on Erickson, Carlson, and Outlet Marsh WPA's. Sharp-tail grouse inhabit almost all of the tracts and a large dancing ground was found on Erickson WPA this year.

4. Other Animal Life

Nothing to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

The Froid school system continues to use Johnson Lake WPA as an outdoor classroom for biology students. Water chemistry, insect populations, and plant identification are some of the subjects which students investigate.

2. Off-Refuge

Since all of our programs deal with both the refuge and the wetlands district it is difficult to separate the interpretive benefits.

B. Recreation

1. Wildlife Oriented

At least 75% of the visits to the district concern hunting and trapping and these are few in number. All wildlife oriented visits numbered 892 for the entire year.
2. Non-Wildlife Oriented

Nothing to report.

C. Enforcement

Refuge personnel generally patrol the district on the opening day of waterfowl and deer season. Although some violations occur the pressure is so light that it is sometimes difficult to even find hunters. Five different violation notices were written and successfully disposed of.

VI. OTHER ITEMS

A. Field Investigations

Nothing to report.

B. Cooperative Programs

Two Special Use Permits were issued for seismic activity on Big Slough and Parry WPA’s. A permit for drilling and production was issued for Mallard Pond WPA. We really have no control over these activities since the mineral exploration is a reserved right held by the former landowners. It seems ironic that we are bound by policy not to disturb native sod on refuge lands yet oil companies can doze it up to place their drilling rigs on. We stipulate on the special use permit certain conditions which help to safeguard the environment but that is about all we can do.

This year we became aware of another environmental hazard which is associated with oil production. Most oil in this area is piped from production wells to central tank batteries. These pipes are made out of fiberglass since it is one of the few materials through which oil will flow freely. When crude oil is pumped up out of the well it carries a considerable load of abrasive sediment which is continuously scouring these pipelines. We were called in on an oil spill this summer which was adjacent to Hansen WPA. This spill was caused by a fiberglass distribution pipe simply wearing through. The hole was about the size of the end of a pencil but by the time they discovered the leak - over 100 barrels of crude oil had escaped. The pipe was buried about six feet in the ground but the oil pressure (160 psi) had forced it to the surface where it then ran into a wetland. This pipe was probably not over 10 years old and there is literally hundreds of miles of it in the district. At the present time, there is no method of determining wear on these pipes until they actually develop a leak and then not until a significant pressure drop is noted on the lines.
Section of fiberglass oil pipe showing hole caused by abrasive action.

Cleanup operations of a 100 barrel oil spill caused by a ruptured pipeline.
C. **Items of Interest**

Nothing to report.

D. **SAFETY**

Nothing to report.