

NORTHWEST MONTANA WETLAND MANAGEMENT DISTRICT  
Kalispell, Montana

Annual Narrative Report  
Calendar Year 1977

National Wildlife Refuge System  
Fish and Wildlife Service  
U.S. Department of the Interior

Comments

# RESOURCE MANAGEMENT ROUTING SLIP

☒  
☐  
☐  
☐

Beaty  
Kvernmo  
Wills  
Brown

☒  
☒  
☒  
☒

Sontag  
Fowler  
McCrea  
Potts

☐  
☐  
☐  
☐

Nelson  
Quinter  
Bender  
Stieglitz

☒  
☒  
☒  
☒

Young  
Frickie  
Baldacchino  
Oman

☒  
☒  
☐  
☐

Adams  
Carlsen  
Forester

☐  
☐  
☐  
☐

Operations

Planning

From:

Date:



NORTHWEST MONTANA WETLAND MANAGEMENT DISTRICT

Kalispell, Montana

Annual Narrative Report

Calendar Year 1977

National Wildlife Refuge System  
Fish and Wildlife Service  
U.S. Department of the Interior

PERSONNEL

Permanent, Full Time

|   |       |
|---|-------|
| *Marvin R. Kaschke, Refuge Manager          | GS-12 |
| **Robert C. Brown, Refuge Manager           | GS-12 |
| Milton K. Haderlie, Assistant Manager       | GS- 9 |
| Gary A. Hagedorn, Assistant Manager         | GS- 9 |
| ***Robin Magaddino, Refuge Manager Trainee  | GS- 5 |
| Susan I. McCollum, General Clerk            | GS- 5 |
| Victor B. May, Maintnanceman Foreman        | WS- 6 |
| Grant Hogge, Engineering Equipment Mechanic | WG-10 |
| Ernest Kraft, Maintnanceman                 | WG- 9 |

Permanent, Subject to Furlough

|                                     |       |
|-------------------------------------|-------|
| Edward G. Krantz, Maintnanceman     | WG- 7 |
| Robert L. Middlemist, Maintnanceman | WG- 7 |
| William J. Lampshire, Maintnanceman | WG- 7 |

\*Transferred to Sheldon-Hart Mountain Refuge 6/19/77  
\*\*Entered on duty 7/3/77  
\*\*\*Entered on duty 9/11/77

REVIEW AND APPROVALS

*Robert C. Brown* 3-7-78 *Robert McCollum* 3/24/78  
Submitted By Date Area Office Date

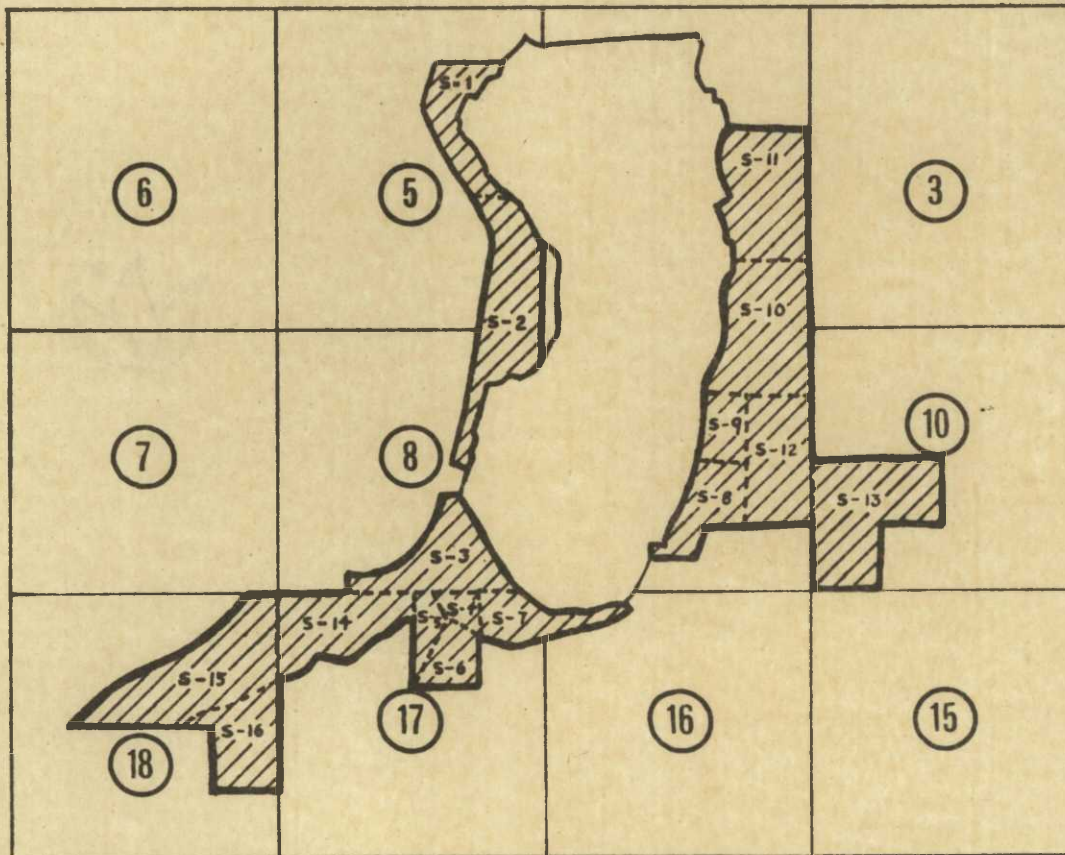
*Dwight J. Wilson* 6/9/78  
Refuge NATIONAL BISON RANGE Regional Office Date  
MOIESE, MONTANA 59824

Complex Office



# SMITH LAKE WATERFOWL PRODUCTION AREA

FLATHEAD COUNTY, MONTANA





# FLATHEAD WATERFOWL PRODUCTION AREA

FLATHEAD COUNTY, MONTANA

U. S. FISH AND WILDLIFE SERVICE

UNITED STATES  
DEPARTMENT OF THE INTERIOR

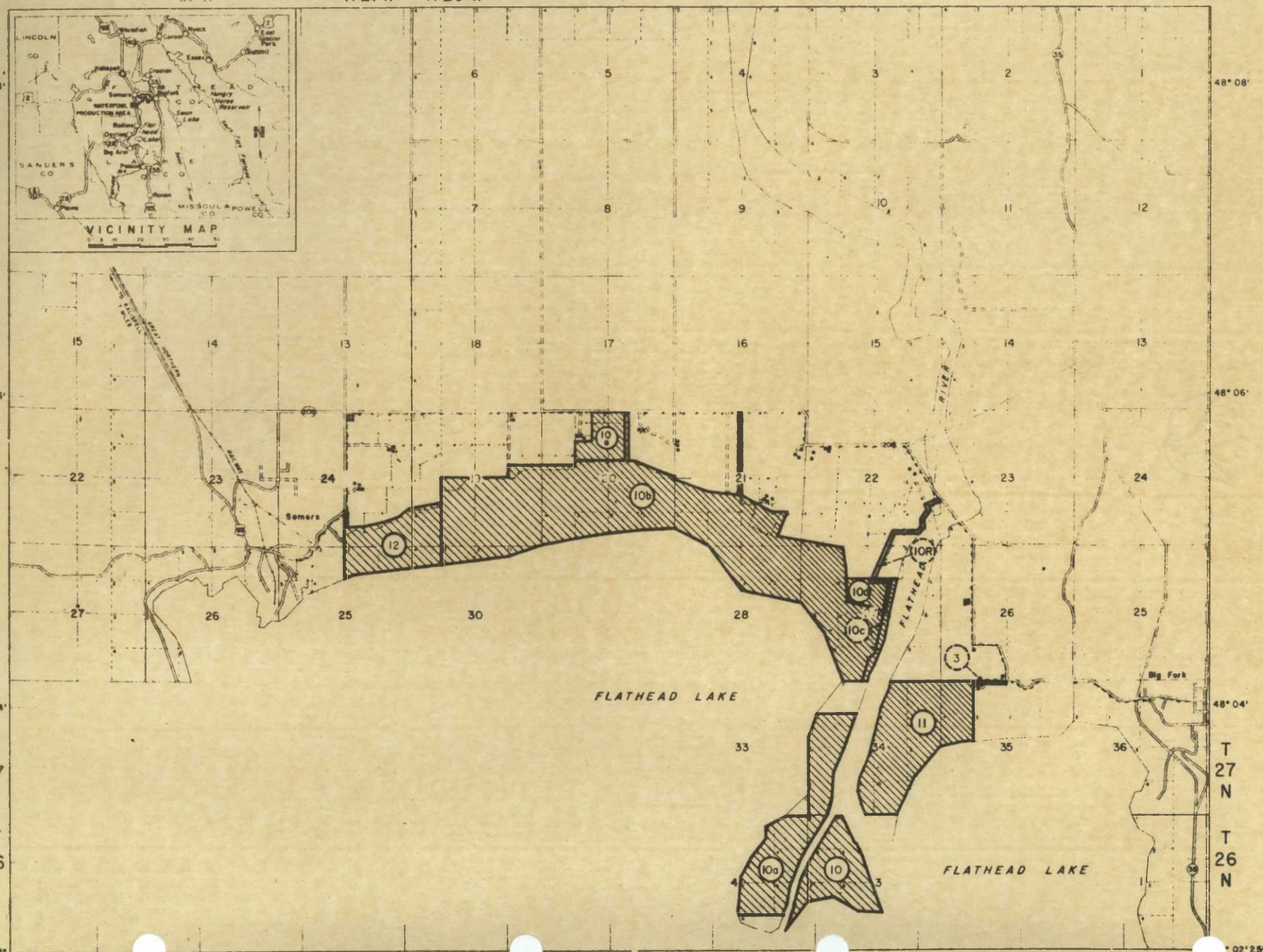
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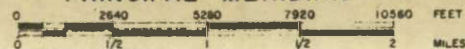


COMPILED IN SURVEYS AND MAPS FROM  
SURVEYS BY BLM, USGS AND FWS

DENVER, COLORADO

JANUARY, 1983

PRINCIPAL MERIDIAN



MEAN  
DECLINATION  
1975

6C-MONT 402



## TABLE OF CONTENTS

|  | <u>Page</u> |
|--|-------------|
| <u>I. GENERAL</u>                                      |             |
| A. Introduction. . . . .                               | 1           |
| B. Climatic and Habitat Conditions . . . . .           | 1           |
| C. Land Acquisition. . . . .                           | 2           |
| D. System Status . . . . .                             | 2           |
| <u>II. CONSTRUCTION AND MAINTENANCE</u>                |             |
| A. Construction. . . . .                               | 4           |
| B. Maintenance . . . . .                               | 4           |
| C. Wildfire. . . . .                                   | 5           |
| <u>III. HABITAT MANAGEMENT</u>                         |             |
| A. Croplands . . . . .                                 | 5           |
| B. Grasslands. . . . .                                 | 5           |
| C. Wetlands. . . . .                                   | 6           |
| D. Forestlands . . . . .                               | 6           |
| E. Other Habitat . . . . .                             | 6           |
| F. Wilderness and Special Areas. . . . .               | 6           |
| G. Easements for Waterfowl Management. . . . .         | 6           |
| <u>IV. WILDLIFE</u>                                    |             |
| A. Endangered and Threatened Species . . . . .         | 7           |
| B. Migratory Birds . . . . .                           | 7           |
| C. Mammals and Non-Migratory Birds and Others. . . . . | 14          |
| <u>V. INTERPRETATION AND RECREATION</u>                |             |
| A. Information and Interpretation. . . . .             | 14          |
| B. Recreation. . . . .                                 | 15          |
| C. Enforcement . . . . .                               | 15          |
| <u>VI. OTHER ITEMS</u>                                 |             |
| A. Field Investigations. . . . .                       | 16          |
| B. Cooperative Programs. . . . .                       | 16          |
| C. Items of Interest . . . . .                         | 16          |
| D. Safety. . . . .                                     | 16          |



## I. GENERAL

### A. Introduction

The Northwest Montana Wetland Management District is comprised of six fee Waterfowl Production Areas in Flathead and Lake Counties. The total acreage of 4,473.35 includes 3,913.35 acres in Flathead County and 560 acres in Lake County.

### B. Climatic and Habitat Conditions

Drought conditions continued from the fall of 1976 throughout most of 1977. A few late summer showers temporarily relieved the dry situation. The dry conditions subsided completely in late November and December with 5.72 inches of precipitation including 53.75 inches of snow. The late summer and winter precipitation caused the 1977 precipitation to exceed the 27 year average of 18.96 inches by 2.91 inches. The annual precipitation does not accurately reflect the dry conditions which existed during the growing season.

The 1977 climatological data for Flathead County WPA's indicates totals of 21.87 inches of precipitation (includes 83 inches of snow) and temperature extremes of 91° F in June to -11° in December. Refer to the climatic conditions section of the National Bison Range report for data on Lake County WPA's.

Lack of snow and rain did not appreciably affect wetlands. Irrigation water was used to recharge Lake County WPA's. The lake type character and Ashley Creek kept water levels of Flathead County WPA's only slightly below normal.

Upland grass cover, new dense nesting cover plantings, and crops all suffered greatly from lack of moisture during the growing season.

Although erosion of the shoreline of Flathead WPA was not as severe as previous years, the problem continues. Minimum water elevation of Flathead Lake was 2,883.33 feet on April 1, too low for optimum Canada goose nesting success. The peak water level was 2,893.07 feet on August 25. By the end of December the lake had receded to a water elevation of 2,888.27 feet. Flathead WPA extends along the north shoreline of Flathead Lake, a distance of five miles.

Batavia WPA has been flooded only periodically since purchase in 1975 to facilitate construction projects. The lack of sus-



tained water levels in the marsh has prevented growth of desirable marsh vegetation. Lack of food plants within the marsh seems to be the major limiting factor affecting waterfowl use. A 60 acre grain field on the WPA is being maintained to help alleviate current food shortages.

A water control structure on Ashley Creek allows controlled flooding of the marsh units on Batavia WPA. The cropland, water control structures, marsh, and DNC plantings add a mini-refuge type character to this atypical WPA. The marsh was flooded in February, but boards were removed in July to allow the unit to dry for construction of nesting islands. The unit was reflooded in September.

The ice was gone from all WPA's but Smith Lake by mid-March. Ice-out occurred on Smith Lake during the first week of April. Flathead County WPA's were re-frozen by November 10.

#### C. Land Acquisition

A 2.24 acre tract was added to the land inventory of NW Montana WMD in 1977. The tract is a round-out to the east side of Smith Lake.

Active wetland purchase in northeast Montana has temporarily been curtailed by the Division of Realty. The availability of excellent diver habitat could kindle further acquisition.

The wetland complex is comprised of the following fee areas:

|    |                |                 |                |
|----|----------------|-----------------|----------------|
| 1) | Batavia WPA    | Flathead County | 509.98 acres   |
| 2) | Flathead WPA   | Flathead County | 2,370.84 acres |
| 3) | Smith Lake WPA | Flathead County | 1,032.53 acres |
| 4) | Herak WPA      | Lake County     | 80.00 acres    |
| 5) | Montgomery WPA | Lake County     | 80.00 acres    |
| 6) | Sandsmark WPA  | Lake County     | 600.00 acres   |

#### D. System Status

Land use planning and fund distribution has focused on maximizing waterfowl production of the fee areas. Emphasis on development and management of the land base for waterfowl has taken heavy precedence over public use or economic activities.

Funding and manpower allotments are appropriated from the National Bison Range budget.

An assistant manager stationed near Kalispell is assigned to NW Montana WMD and Swan River Refuge. Other personnel are assigned jobs on these sub-stations of the Bison Range as time, funding, and priorities allow.



## CLIMATOLOGICAL DATA - 1977

From Creston Agricultural Experiment Station  
Flathead County, Montana

| <u>1977</u> | <u>Temperature - F</u> |            |             | <u>Precipitation</u> | <u>Snowfall</u> |
|-------------|------------------------|------------|-------------|----------------------|-----------------|
|             | <u>High</u>            | <u>Low</u> | <u>Ave.</u> |                      |                 |
| January     | 46                     | - 7        | 20.0        | 1.34                 | 13.0            |
| February    | 55                     | 11         | 30.8        | .71                  | 2.5             |
| March       | 56                     | 13         | 34.3        | 1.40                 | 11.8            |
| April       | 85                     | 19         | 45.1        | .41                  | 2.0             |
| May         | 80                     | 28         | 51.2        | 2.86                 | 0               |
| June        | 91                     | 38         | 61.5        | .52                  | 0               |
| July        | 89                     | 40         | 62.6        | 3.60                 | 0               |
| August      | 90                     | 40         | 62.8        | 1.50                 | 0               |
| September   | 81                     | 32         | 51.5        | 3.25                 | 0               |
| October     | 67                     | 21         | 42.5        | .56                  | 0               |
| November    | 52                     | -10        | 30.4        | 1.62                 | 16.5            |
| December    | 45                     | -11        | 22.0        | 4.10                 | 37.25           |
| Extremes    | 91                     | -11        |             |                      |                 |
| Totals      |                        |            |             | 21.87                | 83.05           |



## II. CONSTRUCTION AND MAINTENANCE

### A. Construction

Twelve new islands or crescent shaped dikes were constructed on the southern marsh at Batavia. The islands will increase the amount of open water available and provide additional nesting sites. The twelve islands constructed on the north marsh in 1976 revegetated the following spring contributing to waterfowl production and maintenance outputs.

Fourteen nesting islands were constructed on Flathead WPA with a dozer in March. Two were used immediately by nesting Canada geese. A dragline used in the same cattail choked area would provide more open water. The dozer was not able to penetrate the frozen soil very deeply.

A dike was graveled at Herak WPA to reduce muskrat damage and erosion.

The following sections of exterior fencing were replaced during the year on three WPA's.

|            |                                  |
|------------|----------------------------------|
| Sandsmark  | 1/2 mile                         |
| Smith Lake | 1 mile on Tracts 20, 17a, and 18 |
| Batavia    | 4 miles                          |

Recognition signs were constructed by maintenanceman (artist) Ernie Kraft and placed at Batavia and Smith Lake WPA's.

### B. Maintenance

Goose nesting structures were placed on Montgomery, Flathead, and Smith Lake WPA's. All new and old artificial structures were repaired, and filled with vegetation by students of the Outdoor Club of Flathead High School in Kalispell.

The four permittees with irrigation pump sites on Flathead WPA (Flathead Lake) merged to a common pump site. The site was repaired, pipe lines buried, and sump enlarged.

The entrance road to Batavia was reshaped, widened and graveled.

Seven miles of old exterior and interior fencing were removed from Smith Lake and Batavia WPA's. There are several miles of old fences remaining which need to be cleaned up.



C. Wildfire

None.

III. HABITAT MANAGEMENT

A. Croplands

Forty of the sixty acres in the farming unit at Batavia were planted to spring wheat by a cooperator. The entire crop was left unharvested. The dry spring resulted in a poor crop which the cooperator felt was not worth trying to harvest. Farming will continue at Batavia to supplement food supplies for waterfowl and upland game birds.

One hundred sixty acres of spring barley and 90 acres of winter wheat were harvested at Sandmark WPA. The acreage figure of croplands will be reduced as conversion to DNC and noxious weed control progress.

B. Grasslands

Robel transect readings were taken on all WPA's. The readings indicated poor to fair nesting cover on all areas except the DNC plantings of Montgomery and Sandmark WPA's which were excellent. Cooperative farming agreements have been prepared for Flathead, Sandmark, and Smith Lake WPA's to farm certain units in preparation for conversion to DNC.

The two 30 acre tracts planted to DNC in 1976 at Batavia are doing poorly from lack of moisture.

The native rangelands at Batavia continue to recover from past abuse.

A bid invitation was issued for the following tracts of hay:

|                |           |                            |
|----------------|-----------|----------------------------|
| Smith Lake WPA | 133 acres | Tracts 16, 16b, 17, 20, 33 |
| Flathead WPA   | 13 acres  | Tracts 10b, 10e            |
| Batavia WPA    | 30 acres  | Tract 25                   |

Haying was limited primarily to canary grass meadows which are subject to annual spring flooding, willow invasion, and extreme vegetative matting. The sealed bid method of disposing of hay resulted in an average bid of \$31/ton with a high bid of \$35.60/ton for canary grass. A cooperative farming agreement was issued for an additional 44 acres of canary grass hay in Tracts 17a and 30. The cooperator baled the hay in the form of large



(1,200 lb.) round bales with the government receiving a share of the bales to use as goose nesting structures.

Fifty AUM's of grazing were issued on one half of Tract 11 on Flathead WPA. The unit will be used to evaluate Robel transect readings, loss of plant vigor, and nesting densities on areas of prolonged non-use versus periodically grazed areas.

Twenty acres of Canadian thistle and 10 acres of musk thistle were sprayed with 2,4-D amine on Batavia WPA. Six acres of Canadian thistle were sprayed at Flathead. Whitetop was sprayed on 3 acres at Herak, 15 acres on Sandsmark, and 3 acres on Montgomery WPA's.

Two 5-acre plots were burned at Flathead WPA to provide goose browse on brooding areas, increase plant vigor, and burn excess drift wood and debris in the fields.

C. Wetlands

The potholes of Sandsmark, Herak, and Montgomery WPA's were recharged from an irrigation ditch flowing through the areas. The units are filled in early spring with water which comes primarily from snow melt.

Smith Lake was extremely low through July. As much as one half of the lake was exposed mud flats. Late summer rains raised levels somewhat.

Flathead Lake was very low through May. The delta islands had no water separating them from the mainland. Normal levels were reached in late June as Flathead Lake was raised by Montana Power.

Batavia was flooded in February, went dry in July, and was re-flooded in September as detailed in Section I-B. Beaver plugged culverts and dammed the creek frequently during 1977 and had to be removed in the fall.

D. Forestlands

Marketable timber was removed from Tract 32 of Smith Lake WPA as part of a timber reservation in the purchase agreement. The previous landowner piled brush and debris and will burn during late winter 1978.

E. Other Habitat

None

F. Wilderness and Special Areas

None.

G. Easements for Waterfowl Management

None.





Flathead WPA consists of marshy area on north edge  
of Flathead Lake. FL-1 GAH



Refuge dozer being used to dig out small potholes to  
open large expanse of cattail choked marsh. FL-2 GAH



#### IV. WILDLIFE

##### A. Endangered and/or Threatened Species

Occasionally peregrine falcon sightings have been reported, no other threatened species use the areas.

##### B. Migratory Birds

###### 1. Waterfowl

Seventy-four Canada geese and 18 whistling swans were on Flathead WPA during the midwinter waterfowl survey in January 1977. The other WPA's had no birds and were completely frozen.

Spring migrational use in the Flathead Valley was about normal.

The Flathead Valley Canada goose production was the highest of recent years, although production on the WPA's was slightly below the 1976 level. Flathead WPA production was above average but below the 1976 production. Nesting birds on Flathead WPA are turning to artificial nesting structures as the delta islands have almost completely eroded. The islands once served as the major goose nesting area at the north end of Flathead Lake.

Duck production was average. Flathead WPA continues a sharp decline in duck production, however skunk predation is heavy on all areas.

Eighty-nine local Canada geese were banded at Somers near the west end of Flathead WPA. Sixty-one local geese were banded at Smith Lake. This was the first banding of geese at Smith Lake.

Flathead WPA had a significant increase in peak waterfowl numbers during the fall migration. Most of the increase is attributed to the experimental hunting closure at the west end of the WPA. Mallards gathered heavily along the shoreline after hunting season began. Large flocks of redheads and canvasback rafted on Flathead WPA during November and December. Average fall migration populations were characteristic of the other WPA's.



Flathead delta islands are eroding away forcing nesting geese to use artificial nesting structures. FL-3 GAH



These productive wetlands in Flathead valley have been delineated and await acquisition. FL-4 GAH



# BREEDING PAIR SUMMARY

| <u>Species</u> | <u>Batavia</u> | <u>Flathead</u> | <u>Smith</u> | <u>Herak</u> | <u>Montgomery</u> | <u>Sandsmark</u> | <u>Total</u> |
|----------------|----------------|-----------------|--------------|--------------|-------------------|------------------|--------------|
| Mallard        | 45             | 14              | 75           | 8            | 4                 | 10               | 156          |
| Gadwell        | 1              | 1               | 13           | 1            |                   | 2                | 18           |
| Pintail        | 2              | 1               | 3            | 1            | 1                 | 3                | 11           |
| GW teal        | 1              | 5               | 6            | 1            | 2                 | 2                | 17           |
| BW/Cinn. Teal  | 5              | 3               | 35           | 2            | 3                 | 7                | 55           |
| A. Wigeon      | 2              | 4               | 10           | 0            | 1                 | 1                | 18           |
| Shoveler       | 3              | 1               | 1            | 3            | 0                 | 5                | 13           |
| Canvasback     | 0              | 1               | 1            | 0            | 0                 | 0                | 2            |
| Wood Duck      | 1              | 0               | 1            | 0            | 0                 | 0                | 2            |
| Redhead        | 2              | 0               | 19           | 13           | 2                 | 5                | 41           |
| Ringneck       | 0              | 0               | 5            | 0            | 0                 | 1                | 6            |
| L. Scaup       | 0              | 0               | 4            | 0            | 0                 | 1                | 5            |
| Ruddy          | 0              | 0               | 3            | 1            | 0                 | 2                | 6            |
| H. Merganser   | 0              | 0               | 0            | 0            | 1                 | 0                | 1            |
| Total          | 62             | 30              | 176          | 30           | 14                | 39               | 351          |



ESTIMATED PRODUCTION  
1977

| <u>Species</u> | <u>Batavia</u> | <u>Flathead</u> | <u>Smith</u> | <u>Herak</u> | <u>Montgomery</u> | <u>Sandsmark</u> | <u>Total</u> |
|----------------|----------------|-----------------|--------------|--------------|-------------------|------------------|--------------|
| Mallard        | 150            | 50              | 250          | 30           | 20                | 50               | 550          |
| Gadwall        | 0              | 0               | 20           | 0            | 0                 | 5                | 25           |
| Pintail        | 10             | 0               | 10           | 0            | 0                 | 10               | 30           |
| GW Teal        | 0              | 10              | 10           | 0            | 5                 | 5                | 30           |
| BW/Cinn. Teal  | 25             | 10              | 150          | 5            | 10                | 40               | 240          |
| A. Wigeon      | 5              | 0               | 30           | 0            | 0                 | 0                | 35           |
| Shoveler       | 0              | 0               | 0            | 0            | 0                 | 20               | 20           |
| Canvasback     | 0              | 0               | 10           | 0            | 0                 | 0                | 10           |
| Redhead        | 10             | 0               | 70           | 30           | 0                 | 20               | 130          |
| Ringneck       | 0              | 0               | 20           | 0            | 0                 | 0                | 20           |
| L. Scaup       | 0              | 0               | 15           | 0            | 0                 | 0                | 15           |
| Ruddy          | 0              | 0               | 5            | 5            | 0                 | 10               | 20           |
| H. Merganser   | 0              | 0               | 0            | 0            | 5                 | 0                | 5            |
| Total          | 200            | 70              | 590          | 70           | 40                | 160              | 1,130        |
| Canada Goose   | 0              | 125             | 55           | 0            | 5                 | 0                | 185          |
| Coot           | 30             | 0               | 65           | 0            | 0                 | 5                | 100          |
|                |                |                 |              |              |                   |                  | <hr/> 1,415  |



# COMPARATIVE DATA

## Peak Waterfowl Populations Spring Migration

|                 | <u>Batavia</u> | <u>Flathead</u> | <u>Smith Lk.</u> | <u>Herak</u> | <u>Montgomery</u> | <u>Sandsmark</u> | <u>Total</u> |
|-----------------|----------------|-----------------|------------------|--------------|-------------------|------------------|--------------|
| <u>Coot</u>     |                |                 |                  |              |                   |                  |              |
| 1973            | -              | -               | -                | -            | -                 | -                | -            |
| 1974            | -              | 1,300           | 2,500            | -            | -                 | -                | 3,800        |
| 1975            | 20             | 600             | 6,000            | -            | 0                 | -                | 6,620        |
| 1976            | 40             | 200             | 1,200            | 0            | 16                | 10               | 1,466        |
| 1977            | 40             | 4,000           | 1,000            | 5            | 0                 | 32               | 5,077        |
| <u>C. Goose</u> |                |                 |                  |              |                   |                  |              |
| 1973            | -              | 80              | -                | -            | -                 | -                | 80           |
| 1974            | -              | 220             | 75               | -            | -                 | -                | 295          |
| 1975            | 5              | 260             | 36               | -            | 0                 | -                | 301          |
| 1976            | 10             | 300             | 34               | 6            | 7                 | 0                | 357          |
| 1977            | 16             | 390             | 75               | 17           | 5                 | 0                | 503          |
| <u>W. Swan</u>  |                |                 |                  |              |                   |                  |              |
| 1973            | -              | 100             | -                | -            | -                 | -                | 100          |
| 1974            | -              | 60              | 100              | -            | -                 | -                | 160          |
| 1975            | 134            | 1,370           | 77               | -            | 5                 | -                | 1,586        |
| 1976            | 0              | 130             | 26               | 0            | 0                 | 30               | 186          |
| 1977            | 20             | 400             | 16               | 0            | 0                 | 0                | 436          |
| <u>Ducks</u>    |                |                 |                  |              |                   |                  |              |
| 1973            | -              | 6,337           | -                | -            | -                 | -                | 6,337        |
| 1974            | -              | 9,430           | 1,500            | -            | -                 | -                | 10,930       |
| 1975            | 6,252          | 12,415          | 8,810            | -            | 2,000             | -                | 29,477       |
| 1976            | 830            | 12,470          | 1,435            | 372          | 250               | 55               | 15,412       |
| 1977            | 15,000         | 3,390           | 3,580            | 150          | 110               | 300              | 22,530       |



# COMPARATIVE DATA

## Duck Breeding Pair Count

|      | <u>Batavia</u> | <u>Flathead</u> | <u>Smith Lk.</u> | <u>Herak</u> | <u>Montgomery</u> | <u>Sandsmark</u> | <u>Totals</u> |
|------|----------------|-----------------|------------------|--------------|-------------------|------------------|---------------|
| 1974 | -              | 94              | 114              | -            | -                 | -                | 208           |
| 1975 | 64             | 62              | 108              | -            | -                 | -                | 234           |
| 1976 | 53             | 47              | 94               | -            | -                 | -                | 194           |
| 1977 | 62             | 30              | 176              | 30           | 14                | 39               | 351           |

## Goose Production

|      |   |     |    |   |   |   |     |
|------|---|-----|----|---|---|---|-----|
| 1974 | - | 115 | 30 | - | - | - | 145 |
| 1975 | 0 | 50  | 59 | - | - | - | 109 |
| 1976 | 0 | 173 | 26 | 0 | 7 | 0 | 206 |
| 1977 | 0 | 125 | 55 | 0 | 5 | 0 | 185 |

## Duck Production

|      |     |     |     |    |    |     |       |
|------|-----|-----|-----|----|----|-----|-------|
| 1974 | -   | 285 | 400 | -  | -  | -   | 685   |
| 1975 | 330 | 195 | 705 | -  | -  | -   | 1,230 |
| 1976 | 242 | 160 | 435 | 21 | 59 | 16  | 933   |
| 1977 | 200 | 70  | 590 | 70 | 40 | 160 | 1,130 |



## COMPARATIVE DATA

Peak Waterfowl Populations  
Fall Migration

|                 | <u>Batavia</u> | <u>Flathead</u> | <u>Smith Lk.</u> | <u>Herak</u> | <u>Montgomery</u> | <u>Sandsmark</u> | <u>Total</u> |
|-----------------|----------------|-----------------|------------------|--------------|-------------------|------------------|--------------|
| <u>Coot</u>     |                |                 |                  |              |                   |                  |              |
| 1974            | -              | 10,000          | 8,000            | -            | -                 | -                | 18,000       |
| 1975            | 0              | 15,000          | 9,500            | -            | -                 | -                | 24,500       |
| 1976            | 20             | 11,000          | 3,000            | 0            | 16                | 16               | 14,052       |
| 1977            | 0              | 3,000           | 1,000            | 20           | 20                | 50               | 4,090        |
| <u>W. Swan</u>  |                |                 |                  |              |                   |                  |              |
| 1974            | -              | 30              | 20               | -            | -                 | -                | 50           |
| 1975            | 0              | 34              | 7                | -            | -                 | -                | 41           |
| 1976            | 0              | 21              | 0                | 0            | 0                 | 0                | 21           |
| 1977            | 0              | 55              | 0                | 0            | 0                 | 0                | 55           |
| <u>C. Goose</u> |                |                 |                  |              |                   |                  |              |
| 1974            | -              | 180             | 40               | -            | -                 | -                | 220          |
| 1975            | 0              | 400             | 35               | -            | -                 | -                | 435          |
| 1976            | 0              | 500             | 16               | 15           | 0                 | 340              | 871          |
| 1977            | 75             | 580             | 100              | 0            | 0                 | 30               | 785          |
| <u>Ducks</u>    |                |                 |                  |              |                   |                  |              |
| 1974            | -              | 1,840           | 3,400            | -            | -                 | -                | 5,240        |
| 1975            | 620            | 3,125           | 1,820            | -            | -                 | -                | 5,565        |
| 1976            | 120            | 5,600           | 4,550            | 225          | 85                | 1,805            | 12,385       |
| 1977            | 430            | 20,350          | 2,310            | 80           | 70                | 140              | 23,380       |



## 2. Marsh and Water Birds

Several greater sandhill cranes spent the spring and fall at Batavia WPA. They were seen often in the grain field of Tract 6. A peak of 5 was reached in September, but departed soon after hunting season began.

Two sandhill cranes spent the spring and early summer at Smith Lake but no nesting activity was observed.

Eared grebe, red-necked grebe, great blue heron, American bittern, and pied-billed grebe were common to all areas. Common loon and western grebe were common on Flathead WPA.

Nesting species include great blue heron, American bittern, and red-necked grebe.

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

The former abundance of shorebirds and gulls at Flathead WPA during spring migration has decreased greatly.

Black terns nested in good numbers at Batavia and Smith Lake.

## 4. Raptors

A pair of bald eagles raised two young to flight stage this year on the delta island of Flathead WPA.

Seven active osprey nests were located on Flathead WPA. Nesting success was unknown.

Short-eared owls were common nesters on the Lake County WPA's.

Other raptors common in various seasons were American kestrel, marsh hawk, rough-legged hawk, red-tailed hawk, goshawk, golden eagle, prairie falcon, and great horned owl.

Very large numbers of bald eagles moved into the valley during November and December. Four hundred thirty-seven were recorded on one count in Glacier Park in November.

## 5. Other Migratory Birds

The WPA birds list includes 127 species. No additions were made in 1977.



C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

White-tailed deer were common to Smith Lake, Batavia, and Flathead WPA's. Dogs chasing deer is a problem on all areas.

An occasional moose was observed at Smith Lake during the winter months.

2. Other Mammals

Skunks were numerous on all areas and are significant predators to nesting waterfowl.

Six beavers were removed from Batavia WPA to reduce the problem of plugged culverts and unauthorized dams.

Coyotes were noted on all areas.

3. Resident Birds

The Montana Department of Fish and Game planted ring-necked pheasants on Flathead WPA and Batavia WPA in early fall.

Gray partridge populations are increasing at Batavia WPA. The pheasant and gray partridge were sustaining populations on the other WPA's, excluding Smith Lake.

Ruffed grouse were present at Flathead and Smith Lake.

4. Other Animal Life

Yellow perch are extremely numerous at Smith Lake and an important recreational species.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

Conducted tours of the wetlands were given to two classes of biology students of Flathead High School in Kalispell and on two occasions to students of New Covenant Christian School.

2. Off-Refuge

Slide shows were presented to: New Covenant Christian School,



Outdoor Literature Class - Flathead High School, and Outdoorsman's Club - Flathead High School.

A class on environmental problems was taught at a three day outdoor classroom sponsored by the Extension Service. Nine hundred fifty-four junior high school students participated in the program.

Other activities included judging a local science fair, trail ride with Outdoorsman's Club, and two Wildlife Society meetings.

## B. Recreation

### 1. Wildlife Oriented

Hunting and fishing continued to be the most popular recreational activities on the wetlands.

Hunter self-check stations were placed on all areas, but hunter cooperation in recording information properly was poor. An estimated 1,250 waterfowl hunters bagged 1,660 ducks and 80 geese in 3,800 hunting hours. Smith Lake provided the highest hunting success.

The experimental hunting closure at Flathead WPA did not relieve the criticism that was prominent in 1976. The closure held birds and with stormy weather encouraging bird movement, the field shooting was good.

A portion of Sandmark WPA was also closed by State regulation.

A large number of people turned out for the annual "perch fishing derby" at Smith Lake, but fishing was poor. Perch fishing throughout the year was excellent, however.

Bird watching groups frequently used Flathead WPA.

### 2. Non-Wildlife Oriented

None.

## C. Enforcement

Flathead WPA was closed to public access from March to July. The long sandy beaches, which were prominent because water levels were low during that time of year, tempt many motorcyclists and beach hikers. The area was patrolled to reduce harassment to nesting geese. Three citations were issued and about 15 contacts were made with trespassing motorcyclists in 1977. Warnings were given to those people with short penetration into the closed area.



## VI. OTHER ITEMS

### A. Field Investigations

A report summarizing biological data on delineated wetlands in Flathead County was submitted. Several excellent diver nesting areas were among the delineations.

A review was made of all land for sale by private individuals who approached the Fish and Wildlife Service with possible wetland habitat.

The Lake County WPA's will be incorporated into a study by Arthur Hawkins on redhead nesting in the lower Flathead Valley. To date, the study has revealed breeding population densities which are higher than any other known area of the U.S. or Canada.

### B. Cooperative Programs

A cooperative Flathead Valley Canada goose study with the Montana Department of Fish and Game continues.

Lakeshore construction permits were obtained from Flathead County commissioners for nesting islands for Flathead WPA and Smith Lake WPA. A 404 Permit was also obtained from the Corps of Engineers for island development.

### C. Items of Interest

A garbage dumpster site was placed on county land adjacent to Smith Lake WPA. The only problems have been occasional garbage scattering and visual degradation.

Cooperation with, and acceptance by, local public officials, Montana Fish and Game, and the general public has been excellent.

The assistant manager spent ten weeks away from the station with trips to Glyncro, Georgia, for law enforcement training, Billings for program schedule compilation, and Brooks, Alberta, for Canadian banding assignment.

### D. Safety

No accidents in 1977.