

AG 22 Narrative Report Charles M. Russell MWR 1974

NARRATIVE REPORT

FY 1974

for

Charles M. Russell National Wildlife Range
Lewistown, Montana

and

Hailstone, Halfbreed, Lake Mason & War Horse
Wildlife Refuges

March 14, 1975

Charles M. Russell National Wildlife Range
Narrative Report
July 1973 - June 1974

PERSONNEL

General Schedule

Frank R. Martin
Larry L. Calvert
Philip B. Aus
F. David Stearns
William C. Krantz
Ronald D. Shupe
Rolland J. Krieger
Linda H. Wicks

Refuge Manager-Lewistown (Retired 7/73)
Refuge Manager-Lewistown (EOD 4/74)
Assistant Refuge Manager-Lewistown (Trans.8/73)
Assistant Refuge Manager-Lewistown (EOD 9/73)
Wildlife Biologist-Lewistown
Assistant Refuge Manager-Fort Peck
Assistant Refuge Manager-Slippery Ann
Refuge Clerk-Lewistown

Wage Grade

Harold H. Jones
Floyd L. Emery
John Kombol
Joseph J. Kombol
Samuel A. Sage
Gerald A. Sullivan

Maintenance Leader-Slippery Ann
Maintenanceman -Slippery Ann
Maintenanceman -Slippery Ann
Maintenanceman -Slippery Ann
Maintenanceman -Fort Peck
Eng.Equip Mechanic-Lewistown

Temporary

Walter W. Grovom
Judith A. Carlson
Donald T. Durbin
Kelly J. Gill
Mark J. Gerlach
James A. Jensen
Terrence P. McEneaney

Maintenanceman -Fort Peck
Clerk-Typist -Lewistown
Laborer -Lewistown
Maintenance Helper-Lewistown
Conservation Aid -Slippery Ann
Biological Aid -Slippery Ann
Biological Aid -Slippery Ann

College Work Study

Peggy Swan
Patricia Garlich

Clerical Aid -Lewistown
Clerical Aid -Lewistown

Neighborhood Youth Corps

David Dunigan
Charlie Meier
Larry LaFountain
Mark LaPier
Laurie Pierce

Laborer -Lewistown
Laborer -Lewistown
Laborer -Lewistown
Laborer -Lewistown
Clerical Aid -Lewistown

C O N T E N T S

	<u>Page</u>
I. General	
A. Weather Conditions.	1
B. Habitat Conditions.	1
1. Water	1
2. Food and Cover.	2
II. Wildlife	
A. Migratory Birds	2
B. Upland Game Birds	7
C. Big Game Animals.	7
D. Fur Animals, Predators, Rodents, and Other Mammals. . .	10
E. Hawks, Eagles, Owls, Crows, Ravens, and Magpies . . .	10
F. Other Birds	12
G. Fish.	13
H. Reptiles and Amphibians	14
III. Refuge Development and Maintenance	
A. Physical Development.	14
B. Plantings	15
C. Control of Vegetation	16
D. Fires	16
IV. Resource Management	
A. Grazing	17
B. Haying.	19
C. Fur Harvest	19
D. Timber Removal.	19
E. Commercial Fishing.	19
V. Field Investigation or Applied Research	
A. Nichols Coulee Resource Conservation Area	20
B. Threatened Species Study.	22
C. Elk Study	26
D. Winter Mallard Banding.	26
E. Bighorn Sheep	26
F. Wilderness.	26
VI. Public Relations	
A. Recreational Uses	27
B. Visitors.	29
C. Refuge Participation.	29
D. Hunting	29
E. Violations.	30
F. Safety.	32
VII. Other Items	
A. Jurisdiction.	32
B. Satellite Narrative	33
C. Credits	33
D. Signature Page.	34

Satellite Refuge Report follows

Charles M. Russell National Wildlife Range
Lewistown, Montana

Narrative Report

July 1973 to June 1974

I. General

A. Weather Conditions

Fiscal year 1974 was characterized by a dry, warm fall, mild winter, and a cool wet spring.

The normal annual precipitation for the Wildlife Range, which varies between 11.60 inches at Fort Peck and 13.02 inches at Slippery Ann, was approximately 13% above normal during the year. However, the preceding year's drought was not broken until spring, when heavy rains during April, May, and June saturated the soil. The total precipitation for the reporting period was 14.67 inches at Mobridge on the west end and 13.12 inches at the Fort Peck Powerhouse.

The most severe conditions occurred in late May when snow, rain, and unseasonably cold temperatures invaded the Range for the better part of three days. The May storm deposited over five inches of precipitation in many areas and did much to disrupt nesting birds, especially sage grouse. A July hailstorm rated second in severity, killing many sage grouse and songbirds, particularly in Garfield County.

Temperatures were above normal during the summer, fall, and winter while spring temperatures were below or near normal.

B. Habitat Conditions

1. Water

As a result of the previous drought (which was the worst in 50 years for some parts of Montana), many small reservoirs dried up during August, thus concentrating wildlife and domestic stock near what little water remained. Fort Peck Reservoir was well used by cattle, deer, and elk, trapping many animals in the shoreline mud. The Reservoir levels are tabulated in Table 1 for the past four years. These data indicate the main stem of the Missouri water production was "near normal" for FY 74.

Freeze-up occurred on the Reservoir on ^{January} November 11th and ice-out on April 14th.

Table 1. Fort Peck Reservoir Level for 1971-74

Month	Mean Sea Level Elevation			
	1971	1972	1973	1974
January	2239.1	2239.8	2241.7	2235.8
February	37.7	38.4	40.6	35.6
March	38.1	37.4	39.0	35.8
April	39.2	39.2	37.3	37.3
May	39.5	39.0	37.3	40.5
June	41.9	40.5	37.8	44.4
July	43.5	43.5	38.5	44.5
August	43.6	43.8	38.1	44.4
September	42.4	43.7	37.0	42.7
October	41.5	43.3	36.2	42.7
November	41.3	43.1	36.9	41.3
December	41.0	42.7	36.3	38.9

The spring rains resulted in an abundance of standing water, both natural and impounded. This dispersed nearly all wildlife, especially breeding waterfowl. It was not until late fall that the moderate to good upland game bird production become evident.

2. Food and Cover

During the spring and summer of 1974, the saturated soils of the Range made up for the scant forage production in previous years by nearly engulfing the landscape with vegetation. The locals pronounced it one of the best grass years in over a decade. The outstanding sweet clover crop of 1973 was also nearly duplicated.

Extremely fat deer, elk, and antelope harvested in September and October gave added testimony to the exceptional quality and quantity of the 1974 forage.

II. Wildlife

A. Migratory Birds

1. Waterfowl

Breeding populations of Canada geese continue to disperse from both Fort Peck and Slippery Ann. The total breeding population increased from approximately 200 in 1973, to 360 in 1974. Improved forage and standing water in the area may have attracted the additional breeding geese in 1974.

The 1974 total CMR breeding population of 1,680 ducks also reflects an increase over 1973. Mallards were the most prolific, followed closely in order by American widgeon, blue-winged teal, gadwall, and

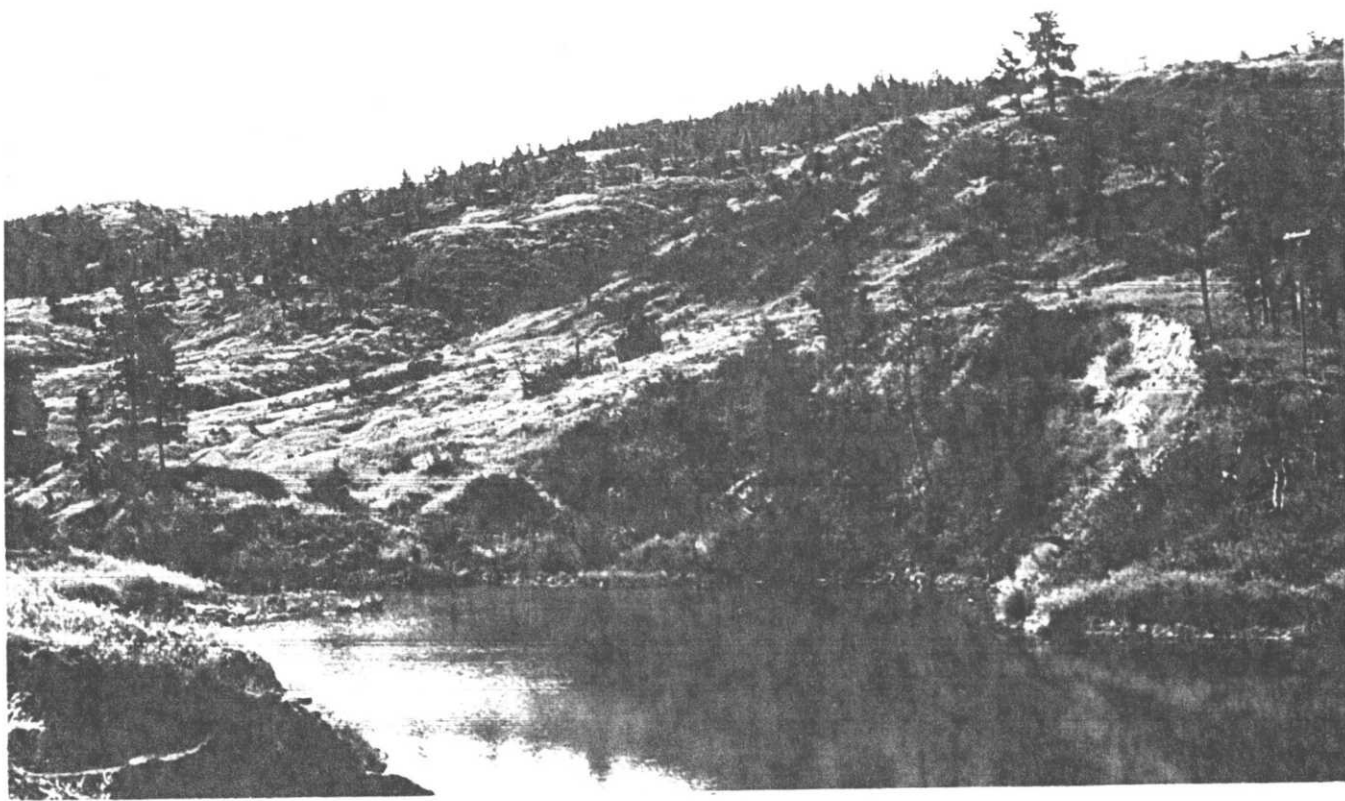


Photo 1. Sweet clover in the Missouri River Breaks furnishes food and cover for many wildlife species, particularly elk.

common merganser. These five species contributed approximately 79% of the total production. The remaining 21% was produced by green-winged teal, shoveler, pintail, ruddy duck, common goldeneye, lesser scaup, and redhead.

The dryness and above-normal temperatures during the fall and early winter resulted in a more leisurely fall migration of both geese and ducks. The peak number of 1,700 geese was reached about the 15th of November. Their numbers continued to be high until December 26th, when the first major winter storm pushed many out of the area. The peak of duck migration occurred near October 20th; however, another build-up was recorded just prior to December 25th.

The mild weather enabled the wintering mallards at Fort Peck to disperse. The 1973-74 Fort Peck winter mallard population averaged about 5,000 with a peak of 7,500 during the first week of February.

The Lewistown headquarters had its normal flock of 200-400 mallards which, like the Fort Peck birds, were very thin by January. The birds that were shot during the high plains season were exposed to a high rate of non-retrieval and croppling loss. This was especially prevalent below the Fort Peck Dam. This concentration of birds will be discouraged if the extended season near Fort Peck is adopted for 1975.

The normal feeding program during FY 74 was much reduced, with only 1,900 bushels fed between January 7th and February 28th. In spite of the mild winter, approximately 50 mallards were lost. Hopefully, a liberalized season in 1975 will alleviate this situation.

The return of Canada geese on February 14th marked the beginning of the 1974 breeding and nesting season in the Missouri River Breaks. A total of 125 breeding pairs were present in the west unit and 105 pairs in the east unit. Incubation began in the last week of March, and the first goslings were sighted on April 25th. The rain and snow-storm that blasted through Montana on May 28-29 probably resulted in some gosling mortality although no direct evidence was found.

Floating goose nesting platforms were constructed and installed on five of the larger reservoirs north of Slippery Ann Station. One brood of two goslings was produced on the Manning Corral reservoir.

Other nest platforms were placed on P-191, P-193, Whisper, and an unnamed pond (NE $\frac{1}{4}$, S5, T22N, R26E), all of which failed to produce geese.

The primary production areas in the east unit seem to be the downstream islands and dredge cuts below Fort Peck Dam, the Big Dry Arm of the Reservoir, and the north-shore bays between Fort Peck and Ninth Point.

The west unit nesting geese are distributed up and down river with a nucleus at Slippery Ann. Table 2 indicates the increasing production in the east unit since 1971 (see page 6).

Captive Geese

The Captive Canada goose flock at Fort Peck continues to suffer from local thieves, predation, and other losses. Presently we are in the process of replacing the missing birds since the captive birds attract many free-flyers which result in substantial goose production. During this reporting period, about 120 free-flyers were attracted to the pen. The Corps of Engineers has requested we continue the captive goose flock as part of the Fort Peck public relations program.

2. Marsh, Shore, and Water Birds

The Fort Peck Reservoir islands were investigated by Manager Shupe to determine their current value to wildlife. Not all islands were visited; however, we now have a much better understanding of their contribution to the wildlife community. A nesting colony of 60 white pelicans containing approximately 15 young was discovered on an island off 8th Point. Also noted in 8th Point Bay were two colonies of double-crested cormorants and one colony of California gulls. Other observations are contained in Table 3. Gull, tern, and sandpiper numbers appear to be near normal.

Table 3. Fort Peck Island Wildlife Inventory - July 17, 1974

Species	Location	Number Observed		Remarks
		Total	Young	
Double-crested cormorant	8th Point Bay	742	230	2 colonies
White pelican	8th Point Bay	60	15+	1 colony
Ring-billed gull	8th Point Bay	8	-	--
California gull	8th Point Bay	186	75	1 colony
Common tern	scattered in east end of Reservoir	100	133	18 colonies
Forster's tern	scattered	12	-	--
Great blue heron	"	17	-	--
Western grebe	"	6	-	--
Unidentified shorebird	"	39	-	--
Canada geese	(mostly in Duck Cr)	1,127	53	12 broods
Mallard	-	25	10	1 brood
Common merganser	-	38	28	6 broods; south side
Redhead	-	9	8	1 brood
Unidentified ducks	-	28	12	2 broods; 7th Point Bay

Table 2. Estimated Goose Production in the East Unit, 1971-1974

Location	1971			1972			1973			1974		
	Pairs	Broods	Prod.	Pairs	Broods	Prod.	Pairs	Broods	Prod.	Pairs	Broods	Prod.
River & Dredge Cuts	9	8	30	15	15	42	26	18	66	42	8	37
Big Dry Arm	11	11	36	18	18	54	17	16	50	28	24	97
Fort Peck to Fourchette Bay	15	15	45	27	25	107	30	26	100	62	56	305
Captive Pen	13	12	31	8	8	34	8	7	23	3	2	6
Totals	48	46	142	68	66	237	81	67	239	135	90	445

3. Doves

Large flocks of summering mourning doves arrived on CMR about April 19. The population numbers appear to be about the same as previous years. Our banding operation was only moderately successful. A total of 296 birds was banded. In the process, three of the walk-in traps were stolen by an unidentified passerby. Roadside trapping sites will no longer be used.

B. Upland Game Birds

The populations of most of CMR's upland game birds remain near normal except for gray partridge and sharp-tailed grouse which are above normal. The mild winter and well-timed spring moisture gave most species a real boost. The one exception seems to have been the sage grouse which were caught half way through incubation by the late May snowstorm.

In an effort to establish a trend census for sharptails, both Fish & Wildlife Service and Montana State employees began a dancing ground search. Nine grounds were located on the east unit and five on the west unit. The results are presented in Table 4, together with other known grouse grounds. The low average number of active males on several grounds indicated that many may be transitory.

A mid-season hailstorm in Garfield County did much damage to crops and caused sizeable losses of sharptail and sage grouse.

The turkey flocks are growing slowly. Presently, about 50-60 birds are in the west unit and probably over 100 in the east unit. The flock in the Lost Creek-Devils Creek area seems to be doing rather well in spite of some hunting. At least six birds were harvested during the fall hunt on the south side of the Missouri.

C. Big Game Animals

1. Deer

White-tailed deer populations on the west unit of the Wildlife Range remain fairly constant at about 200 to 250 animals. On the east unit, however, the area occupied by white-tailed deer has been expanded in recent years to include areas such as the Pines Recreation Area, traditionally occupied primarily by mule deer. Reproductive success of the white-tailed deer, however, is quite poor and averages about 45 fawns/100 does.

Mule deer populations within the Range have declined rather significantly in recent years with poor reproductive success. Winter inventory data from the Nichols Coulee RCA portrays the generally poor condition of mule deer in the breaks.

Table 4. Native Grouse Display Grounds on or Near CMR.

Species	Location	Remarks
Sage grouse	S18, T22N, R26E	no birds in 74
	S18, T23N, R24E	" " "
	S31, T23N, R26E	not checked in 74
	S34, T23N, R27E	" " "
	½ mi W of Lugar Place	" " "
	S27, T23N, R25E	" " "
	½ mi SE of Hepner Place (E of 191)	" " "
	1½ mi SW of Square Butte turnoff	" " "
	S26, T20N, R26E	" " "
	S11, T20N, R24E	2 grounds
	S10, T25N, R39E	no data
Sharp-tailed grouse	S29, T23N, R24E	6 birds in 73
	S21, T22N, R26E	not checked in 74
	S9, T21N, R27E	12 birds in 74
	S28, T22N, R27E	2 birds in 74
	S16, T20N, R29E	not checked in 74
	S5, T20N, R27E	0 birds in 74
	S8, T20N, R27E	12 birds in 74
	S12, T20N, R26E	2 birds in 74
	S20, T20N, R26E	12 birds in 74
	S3, T20N, R25E	3 birds in 74
	S32, T22N, R23E	9 birds in 74
	S1, T22N, R22E	0 birds in 74
	S4, T24N, R39E	37 birds in 74
	S34, T25N, R38E	9 birds in 74
	S27, T28N, R40E	10 birds in 74
	S20, T26N, R40E	8 birds in 74
	S19, T26N, R40E	15 birds in 74
	S12, T24N, R38E	8 birds in 74
	S30, T26N, R40E	18 birds in 74

Table 5. Winter Helicopter Classification Survey - 1974

Species	Total*	Adults	Young	Female	Male	Spike	2 Pt	3 Pt	4 Pt+
Mule deer	32	24	8	17	6			1	
Whitetails	9	5	4	5					8
Elk	3	2	1						
Coyote	1								

*One adult mule deer was not classified as to sex.

The data gathered on this survey indicated a ratio of 33.3 fawns/100 adults, 47.1 fawns/100 females, and 35.3 males/100 females. Obviously, reproduction is very poor and male survival is not appreciably better. The 7,200 acre census area averaged 2.84 deer/section, which is far below the optimum of ten deer per section. Data gathered on the south side of the Range also indicated poor deer populations.

2. Elk

The elk herd continues to increase in spite of moderate hunting pressure. The CMR elk herd is estimated at approximately 500 animals. Reproduction seems good, averaging about 60 calves/100 cows. A significant change in home range was observed in the area of Nichols Coulee. Animals are now using the habitat on the south side of the Range more, moving into vacant habitat as far south as Blood Creek, some 10 miles to the southeast. The east unit elk continue to move quickly and long distances in almost all directions in response to hunting pressure. Other animals have apparently established home ranges north of the Wildlife Range in areas void of trees or other escape cover.

3. Bighorn Sheep

The remnant herd of Rocky Mountain bighorns is stabilized at 18-20. This is primarily due to high lamb mortality. During 1973, the lamb crop of 5 was completely gone by July 1st. The cause or causes are unknown. The 1974 crop of 8 is down to 2. A reintroduction to bolster the population is planned in 1975 or 1976.

Two rams and one ewe were neck-banded in early 1974. Observations of these marked individuals indicate that there is free movement between the fenced sheep enclosure, Two-Calf drainage, and other areas west of the Wildlife Range. A three-pasture rest-rotation grazing system was initiated in 1974 to improve winter forage for the bighorns. The critical area at the mouth of Two-Calf Creek should be improved by this system.

4. Antelope

Herds are generally increasing on the south and east sides of the Wildlife Range. South Valley and South Phillips County antelope numbers are approximately stable. The Garfield and Fergus County populations are increasing moderately. The total CMR populations are estimated to be about 500.

Wildlife Range antelope habitat consists primarily of critical winter range utilized during severe winters. As photo 2 indicates, this type of habitat is well utilized during some winters.

5. Other Big Game

The bison and longhorn exhibit at Fort Peck is being transferred to the Corps of Engineers.

D. Fur Animals, Predators, Rodents, and Other Mammals

1. Beaver

The fall cache count conducted in 1972 indicate that Units I - III (Missouri River) contained significantly fewer caches than in preceding years. Table 6 below summarizes these data.

Table 6. Aerial Beaver Cache Census Summary - West Unit of CMR

Unit	Stream														
	Miles	73*	72	71	70	69	68	67	66	65	65	63	62	61	60
I. CMR bdry-Robinson Br.	10	-	12	17	27	27	29	21	18	14	15	20	8	7	25
II. Bridge-Rock Cr.	13	-	14	23	23	24	29	26	24	20	16	13	6	5	35
III. Rock Cr.-Lake	15	-	5	12	22	17	27	19	22	22	15	27	6	6	55
Totals			31	52	72	68	85	66	64	56	46	60	20	18	115

*Census not conducted in 1973.

The populations of other furbearers (mink, raccoon, etc.) appear stable. Predatory species such as red fox, gray fox, and bobcat are slightly below normal. This may be related to the above-normal populations of coyotes. The number of coyote scent-post surveys was increased to a total of three for the Wildlife Range. The staff has experienced many problems with this technique, consequently, a modified siren-survey will be initiated in FY 75 to help indicate trends in coyote populations.

The status of small mammals is discussed in Part V.

E. Hawks, Eagles, Owls, Crows, Ravens, and Magpies

The outstanding work of the two biological aids in FY 1974 added to our understanding of raptors and their allies on CMR. They recorded a total of 13 field observations for prairie falcons, including 3 nests and 8 young. The summer population of prairie falcons is presently estimated at 25. Their eyries hopefully can be used in the upcoming peregrine propagation program. Six ferruginous hawks were also noted. Two were associated with prairie dog towns. Ten Merlin sightings and 3 young in the Nichols Coulee area was used as a basis for our summer population estimate of 25 for this species. American kestrels are very numerous within the Range, with the summer population in excess of 800. Nesting concentrations of kestrels were reported in the Seven-Blackfoot and Burnt Lodge areas.



Photo 2. The Wildlife Range provides essential wintering habitat for antelope during severe storms. Animals from as far as southern Canada drift into the Breaks for food and shelter.

Other observations included 7 osprey nests containing 8 young, 6 golden eagle nests (9 young and 4 inactive nests), 3 red-tailed hawk nests, 2 Swainson's hawk nests, 1 marsh hawk nest, 1 great-horned owl nest, and 6 burrowing owl colonies. The bald eagle nest (just west of the Range along the Missouri River) probably had a single fledgling. Since population estimates for the various raptors have not been attempted prior to this year, their trends are speculative. Reports of peregrine eyries are probably open to further investigation since some of the better habitat was not investigated.

Table 7. Estimated Populations for Some Raptors on the
C. M. Russell NWR - 1974

Species	Adult Summer Population	1974 Production
Peregrine falcon	4	unknown
Prairie falcon	25	8-12
American kestrel	800	1,100
Merlin	25	3+
Golden eagle	25	8-12
Bald eagle	20	unknown
American osprey	30	70-15
Ferruginous hawk	6	unknown
Red-tailed hawk	200	200
Swainson's hawk	75	unknown
Cooper's hawk	50	unknown
Burrowing owl	30	unknown

F. Other Birds

The CMR bird list was updated as a result of the many observations of our staff and two summer students. The old bird list containing 218 species was increased by 19. The additional species included green heron, black brant, Ross' goose, northern phalarope, Bonaparte's gull, rock dove, black-billed cuckoo, chimney swift, white-throated swift, willow flycatcher, brown creeper, Townsend's solitaire, black and white warbler, orange-crowned warbler, Tennessee warbler, black-throated blue warbler, orchard oriole, hoary redpoll, and grasshopper sparrow. Previous observations by CMR staff will add surf scoter, whimbrel, solitary vireo, Philadelphia vireo, rusty blackbird, field sparrow, Lincoln sparrow, Harlan's hawk, eastern bluebird and black rosy finch.

Migrating patterns were much the same as in past year. Table 8 indicates some east unit migrant sightings. Generally, the west unit migrants arrive somewhat later.

Table 8. Migration Chronology on East Unit - 1974

Species	Date	Number
	First Seen	
Western meadowlark	3/29	1
Killdeer	3/17	1
Red-winged blackbird	3/26	10
Common crow	3/26	1
Red-tailed hawk	4/7	1
American kestrel	4/5	1
Double-crested cormorant	4/11	1
Mourning dove	4/11	5
White pelican	4/18	1
Tree sparrow	3/10	10-15

G. Fish

Most fish populations in the Fort Peck Reservoir are stable, including channel catfish, crappie (both black and white), sauger, and walleye. A record shovelnose sturgeon for Montana was caught June 8th in the Missouri River near the Slippery Ann Station, weighing 8 lbs. 12 oz. Good-sized saugers are also coming from the river just below the dam. The best populations of these species are in the upper end of the Reservoir. Currently, the two most productive species are lake trout and perch. Northern pike, rainbow trout, and coho salmon are very scarce and do not provide a significant amount of recreation.

A total of 188 paddlefish were tagged by Montana Fish & Game personnel in the dredge cut complex for harvest and movement studies. Information on the harvest of tagged paddlefish at this site indicates low exploitation by fishermen. Observations of tagged paddlefish suggest that interchange between the Missouri and Yellowstone Rivers is common.

A paddlefish creel census and harvest study initiated in the Missouri River above Fort Peck Reservoir in 1973 was continued in 1974. During the spring of 1974, 2,253 man-days of snagging yielded a harvest of 637 paddlefish - an increase of 32.7 percent from 1973. Completed trip data was obtained on 70.0 percent of the fishermen. Length and weight data on 58 female paddlefish and 67 males showed females had an average total length of 65.3 inches and an average weight of 74.5 pounds. Males averaged 55.0 inches in total length and 32.8 pounds. Fifty-five paddlefish were tagged above the Reservoir to determine harvest rates and movement. Of the 96 paddlefish that have been tagged at this site, 4 were caught in 1974.

Several small reservoirs in or near the Range have been stocked and support good bass and trout fisheries. The growth of trout in these ponds is excellent. A few ponds support cutthroat trout, grayling, and other "unique" species. Locations without conflicts between waterfowl production and fisheries are being inventoried for stocking. The 1974 CMR stocking program appears in Table 9.

Table 9. Stocking by Montana Fish & Game Department - 1974

Location	Species	Size	No.	Date Planted
Perimeter Pond	Rainbow Trout	8"	815	4/23
		5"	2,522	5/8
		10"	2,058	9/17
Flat Lake	Rainbow Trout	5"	3,000	6/24
		8"	2,040	4/23
		22"	349	9/4
		26"	70	9/5
Fort Peck Reservoir	Northern Pike	3"	1,000	6/12

H. Reptiles and Amphibians

An initial listing of reptiles and amphibians occurring on CMR was made during the summer of 1974. Field observations included sightings of a tiger salamander, prairie spadefoot toad, Woodhouse's toad, great plains toad, boreal chorus frog, leopard frog, painted turtle, spiny soft-shell turtle, eastern yellow-bellied racer, milk snake, common garter snake, gopher snake, and prairie rattlesnake. Three other likely but unconfirmed residents (sagebrush lizard, western garter snake and plain garter snake) brought the total to 16 species.

III. Refuge Development & Maintenance

A. Physical Development

1. Lewistown

The old loading chute and corral were razed and rebuilt near the wareyard. Loading is much easier with the new facility. A new hydraulic hoist was installed in the shop and is now in working condition.

2. West Unit

Gerald Sullivan, the Refuge mechanic, solved the problem of a new pump raft for our Slippery Ann goose pond pump. He designed and built a smaller and lighter raft which can be handled much easier. The new styrofoam flotation is superior to the old type (barrels) that were a constant maintenance problem.

The west unit completed about 1,000 feet of security fence around the wareyard at Slippery Ann, which hopefully will discourage the local "borrowers". Two strands of barbed wire were placed atop the 6-foot woven wire sections.

A windmill was installed in the bighorn sheep pasture to supplement the two small reservoirs that were rebuilt this spring. With all three sources of water available, it is hoped that the sheep will be able to better utilize the enclosure and increase their numbers.

A reservoir was also built in the Two-Calf drainage which should help to hold cattle away from the bighorn sheep wintering area.

Road and fence maintenance constituted the major portion of the summer work program. The buildings and "bone yard" also got a long overdue face lift. In all, 16 buildings were repainted. This work included painting 3 residences, 2 offices, 4 equipment storage garages, 1 shop building, 1 oil house, 2 bunk houses, 1 patrol cabin, 1 shower house, and 1 small storage shed. Most of the buildings had not been painted for four years and some of the Lewistown buildings had not been painted in ten years.

The mass of junk hauled away from Slippery Ann was enormous. The 12 loads totaled over 74,000 pounds!

3. East Unit

A storage building was assembled and erected at Coleman Park to house maintenance equipment. An automobile tour route through the longhorn pasture, culverts in Nelson Creek, and fencing on tract 62Da were also completed.

B. Plantings

1. Trees and Shrubs.

Approximately 30, 6-8 foot cottonwood trees were planted around Camp Charlie to screen the buildings from the river road. This will do much to obscure the bunk houses and corral in addition to discouraging the general public from wandering into this area. Several shade trees were also planted in the longhorn pasture.

2. Upland Herbaceous Plantings

The sheep pasture was the scene of much activity this year. About 30 acres are due to be planted to a modified DNC mixture for the use of pheasants, grouse, and wintering bighorn sheep. One-half was planted this season with the remainder scheduled for the drilling in 1975. It is hoped that by planting only one-half the area at a time, the existing cover and forage will suffice until the improved vegetation is available.

3. Cultivated Crops

All CMR farmland is sharecropped under annual cooperative farming agreements. The farmlands are Corps of Engineers-owned tracts managed by the Service. The cropland acreage during 1974 amounted to the following:

Barley	539.7 acres
Millet	34.0
Wheat	126.5
Alfalfa and/or wild hay	1,391.3
Wildlife cover	72.0
Summer fallow	303.8
	2,467.3 acres

Inasmuch as all the farming is conducted by cooperators under an annual lease agreement, the cost to the Range is minimal. In calendar year 1974, total expenditures amounted to an estimated 40 permanent man-days and a total of \$3,000 for salaries in the administration of this program. Additional costs of this program include an estimated \$1,500 in the cost of buildings, structures, road, and other facilities maintenance which provide indirect support to the farming program.

C. Control of Vegetation

Ureabore in a dry granular form was applied by hand to 2,500 linear feet of airstrip at Slippery Ann. The plants controlled were kochia, bluegrass, brome grass, and pigweed.

Approximately 250 acres of cropland were treated with 2-4,D water emulsion at .75 lb/acre. The target species were Russian knapweed, bindweed, fanweed, and dandelion within the barley and wheat fields. Presently, both the products are doing a satisfactory job--Ureabore as a temporary soil sterilant and 2-4,D as a broadleaf herbicide.

D. Fires

During the fall of 1973, the extremely dry fuel conditions and summer lightning storms resulted in one of the worst fire seasons on record. Fortunately, much damage was prevented by not using heavy equipment to build fire breaks. The Bureau of Land Management, who has primary responsibility for fire control, is learning from past experience that a Missouri River Breaks' fire is best left alone. The highly erosive soils are damaged much more by trying to stop a fire than by letting it burn out naturally. A BLM supervisor summarized the situation by saying "I'm not sure we've (BLM) ever stopped a fire in the Breaks."

Our current fire agreement specifies that control will be exercised in the wilderness candidate areas only when it is apparent that human life or private property is in danger. This philosophy is probably applicable to nearly all of the Wildlife Range. Table 10 summarizes the extent of the fires during the summer and fall of 1974.

Table 10. Wildfire Statistics of 1974

Location	Fires	Extent-Acres	Fuel	Cause
Fort Peck	2	10	Grass	Lightning
Brown's Ridge	1	495	Brush & grass	"
Harper's Ridge	2	4,940	Grass	"
East Burke	2	210	Grass	"
West Burke	1	90	Grass	"
Burnt Lodge	1	180	Conifers & grass	"
Larb Hills	1	320	Conifers & grass	"
Squaw Creek	1	5,120	Conifers & grass	"
Widow Coulee	5	3,045	Conifers & grass	"
East Hell Creek	2	200	Conifers & grass	"
Totals	18	14,610		

IV. Resource Management

A. Grazing

Executive Order 7509, which created the Wildlife Range, recognized the need for proper management of CMR's grazing lands. Under the terms of this Order, the Fish & Wildlife Service is charged with the management of the Range for wildlife benefits while the Bureau of Land Management was given the responsibility of administering livestock grazing under the Taylor Grazing Act. Later Secretarial Orders and Departmental Memorandums have also stressed that the wildlife management needs determine the amount of livestock use and management. Additional clarification was given by Secretary Udall in 1963:

"It is my decision that the primary responsibility for policy and program decisions shall be vested in the Bureau of Sport Fisheries and Wildlife."

The data presented in Table 11, page 18, is a summary of the grazing program on the Wildlife Range for 1972, the most recent year for which complete data is available. The "other lands" column includes 60,612 acres of U.S. Army Corps of Engineers land with an annual grazing rate of 7,802 AUM's; 34,708 acres of State school lands rated at 7,287 AUM's; and 58,169 acres of private land grazed at a carrying capacity rate of 9,294 AUM's. The Corps of Engineers land is administered jointly by the Bureau of Land Management and Fish & Wildlife Service through

Table 11. Grazing Summary for Charles M. Russell NWR - 1972

County	Agricultural Operations		Haying Operations		Grazing Operations						Cash** Revenue	Total Cash Revenue in \$
	Number	Acres	Number	Acres	Public Lands Number	Acres	AUM's	Cash Revenue	Other Lands* Acres	AUM's		
Fergus	5	279	5	618	20	40,682	2,646	1,746	14,391	1,723	1,525	3,271
Petroleum	2	77	2	152	4	47,795	6,806	4,492	10,054	1,362	1,441	5,933
Garfield	0	0	0	0	31	200,460	23,672	15,624	53,277	8,003	6,749	22,373
McCone	0	0	0	0	18	43,114	5,075	3,350	24,616	4,263	3,704	7,054
Valley	3	350	1	8	6	121,062	9,025	5,957	17,169	2,330	1,010	6,967
Phillips	4	468	4	1,037	13	210,108	11,562	7,631	33,982	3,703	4,350	11,981
Totals	14	1,174	12	1,815	92	663,221	58,786	38,800	153,489	21,384	18,779	57,579

*Based on unified grazing rate of \$0.66/AUM.

*Includes U.S. Army C.O.E., State School Lands and Private Lands.

**Includes only C.O.E. and State School Lands at a grazing rate of \$1.50 and \$1.64/AUM, respectively.

various agreements with the Department of Defense. There is no jurisdiction over the State or private lands, but the owners or lease holders, in the case of State land, usually incorporate these parcels into the grazing program on adjacent public land.

The total cash revenue listed in Table 10 is only the direct measurement of the value of forage removed. In 1972, 92 licenses were issued by the Bureau of Land Management to individuals, corporations and associations for grazing privileges on the Wildlife Range.

B. Haying

As Part III B-3 indicated, the total acreage of hayland is now 1,391.3 acres. This acreage consists of both alfalfa and grass hay. The crop is essentially taken by the cooperative farmers in return for all of the grain in the west unit and one-third of the grain in the east unit. In the future, the acreage of hayland and wildlife cover (DNC) will increase substantially. Cutting dates will also be pushed back to July 15th in "late" years.

C. Fur Harvest

Trapping permits are issued to take nuisance animals where they interfere with refuge operations. In the winter of 1973-74, the trapping was concentrated around the goose pens and at Slippery Ann Station.

Table 12. CMR Fur Harvest - Winter 1973-74

Species	Quota	Trapped	Sex			Age			Avg.Price* Received	Total* Received
			M	F	Unk	Ad	Juv	Unk		
Fox	10	10	6	4	0	6	4	0	\$41.00	\$410.00
Mink	10	6	4	2	0	6	0	0	19.40	116.40
Muskrat	50	16	8	8	0	11	5	0	2.30	36.80
Beaver	45	28	17	10	1	9	18	1	18.50	203.50
Total										\$766.70

*East Unit figures only.

The 30 beaver quota on the west unit was issued to reduce the beaver near Slippery Ann. Irrigation ditches and Rock Creek are the primary problem areas.

D. Timber Harvest

No harvest of timber is permitted on the Range. Only trees which are public hazards are removed from the refuge.

E. Commercial Fishing

The commercial fishing operations on Fort Peck Reservoir netted a total of 500,638 pounds of fish, mostly buffalo. Table 13 indicates

that the harvest was about average although some species such as goldeye and drum were much more numerous. The commercial fishing operations do not conflict with sport fishing to any real extent since no commercial fishing is permitted near the shore or upstream from Ul Bend.

Table 13. Commercial Fishing Summary for Fort Peck Reservoir - 1974

Species	Pounds of Fish Harvested	
	1974	1965-1974 Average
Buffalo	376,850	313,325
Catfish	1,011	6,670
Carp	-	32,630
Drum	94	4,550
River carpsucker	16,719	11,940
Goldeye	105,964	65,185
Sucker	-	155
Totals	500,638	434,455

V. Field Investigations

A. Nichols Coulee Resource Conservation Area

The Nichols Coulee Resource Management Area was established to determine the best livestock grazing system for the Missouri River "breaks" and C. M. Russell National Wildlife Range.

The RCA has been under a 88,810 acre, four pasture, rest-rotation grazing system since 1965 in cooperation with the Lazy JD Cattle Company.

Based on quantitative data obtained from 27 vegetative trend photo stations established in 1967 and re-read in 1970, the average trend index has improved 22 points. The index is computed from a combination of percent composition and ground cover of key species, number of seedling key species and percent litter. Five of the 27 photo stations showed a downward trend in vegetative condition.

Pellet group transects were begun in 1969 for deer, elk, and cattle. The summary in Table 14 indicates that generally higher deer and elk use is occurring in the areas without cattle grazing. The data is not conclusive; nonetheless it does indicate that some type of intra-specific competition may be present.

Helicopter census in the area during the winter of 1973 was initiated to characterize the wildlife use in the two RCA pastures within CMR. Table 15 indicates that sharp-tailed grouse, deer, and elk use was lower in the pasture that was grazed early the preceding growing season. Conversely, the pastures grazed later had greater numbers of game.

Table 14. Summary of Pellet Group Transect Data, Expressed as Use-Days Per Acre for the
CMR Portion of Nichols Coulee RCA

Species	1969			1970			1971			1972			1973		
	Cow	Elk	Deer	Cow	Elk	Deer	Cow	Elk	Deer	Cow	Elk	Deer	Cow	Elk	Deer
Unfenced Transects (All species of use)	17.2	1.5	1.1	8.2	2.4	2.8	15.1	2.4	1.8	15.4	2.0	1.5	12.3	0.6	4.1
Fences Transects (Cattle excluded)	0	7.8	3.8	0	2.7	2.4	0	3.9	3.6	0	2.9	4.6	0	1.4	6.9

The overstocking of the pastures (% capacity column) is a problem on the RCA. This appears as one of the disadvantages in incorporating CMR grazing into adjacent BLM systems. That is, the Wildlife Range may be subjected to the same stocking rates as adjacent public domain lands.

Table 15. Nichols Coulee RCA Helicopter Wildlife Census - 1974

Species	Deer	Elk	Grouse	Grazing Use in AUM's	Season of Use
Pasture 3	145	8	22	3,249 (109%)*	7/20 - 11/30
Pasture 4	39	0	8	3,175 (121%)*	5/28 - 11/5
Totals	184	8	30		

*Percent of capacity.

B. Threatened Species Studies

As part of the black-footed ferret investigations, two biological aids were hired for FY 1974 primarily to do two things: (1) Inventory all or as many prairie dog towns as possible to determine the status of CMR ferret habitat; and (2) To collect information on other threatened or endangered species such as the peregrine falcon.

In spite of a reduced budget and work period, much new and valuable information was gathered by the two aids. Their observations indicated that the blacktail prairie dog has specific habitat requirements on CMR. Vegetation and physiography are the limiting factors in their occurrence (Table 16). Soil types were also found to influence the prairie dog town vegetational types as well as the density of the burrows within the town. Rarely did prairie dogs occupy a slope greater than 20%.

Prairie dogs were commonly found near waterholes that had been heavily grazed and have been observed drinking from the reservoirs.

Table 16. Plants Found Regularly on Prairie Dog Towns

Grasses	Forbs	Shrubs
*Blue grama	*F. Sagewort	*Big sage
*Sedge	*Prickly pear cactus	Greasewood
Tumblegrass	*Spindle plantain	Silver sage
	Scarlet globemallow	

*Dominant plants

The vegetation within these prairie dog towns was often utilized so heavily that very little sign of grasses appeared except blue grama and sedges. When grasses were present on the prairie dog town, blue

grama was found to be the predominant plant. Fringed sagewort, prickly pear and spindle plantain were the dominant forbs. Big sage was usually the most common shrub and was found mostly on the perimeter of the towns. Most frequently, all shrubs had been removed or killed from the centers of the dog towns.

The golden eagle was found to be the most numerous avian predator on the prairie dog towns. Of the several golden eagle nests located on the Range, prairie dog remains were found in all nests surveyed. There seems to be a direct correlation between prairie dog abundance and eagle density. All eagle nests were found in close proximity to their prey species. Ferruginous, Swainson's and red-tailed hawks were also occasionally seen hunting prairie dog towns. Mammalian predators seen on the prairie dog towns were the badger, coyote, and bobcat. No sign of the black-footed ferret was found on any of the dog towns. The rattlesnake was the most common reptilian predator found on the towns.

Certain wildlife species appear directly associated with the prairie dog towns. The mountain plover, burrowing owl, horned lark, and killdeer readily used the towns. The burrowing owl was found primarily on the east unit whereas the mountain plover was most plentiful on the west unit. Some sharp-tailed grouse dancing grounds were found on prairie dog towns. Antelope and mule deer also were often seen utilizing prairie dog towns.

Earlier studies on CMR's prairie dogs indicated the population density in late winter to be 4 per acre. Due to the shortened work period it was impossible to establish a breeding population estimate. Because of the rainy weather only an approximate estimate of the summer prairie dog density was made. Populations fluctuate throughout the year with mortality and production. Therefore, it was estimated that the density of prairie dogs on the Wildlife Range varies between 4 - 14 animals per acre. Using these density figures, it is estimated the total CMR population to be 18,000 to 63,000 prairie dogs, depending on the season of the year.

Of the 758,000 land acres comprising the Range, 4,464 acres are presently occupied by prairie dog towns. This represents .6% of the total land area.

Phillips County has the most area occupied by prairie dogs (Table 17). This comprises 46.7% of the total area used by the prairie dogs on the Wildlife Range. Garfield County contains 25.9% of the land area used by CMR prairie dogs. Phillips and Garfield Counties are not only the largest counties but also offer the most ideal habitat for the prairie dog. Fergus and Petroleum Counties contain the least acreage of dog towns.

Table 17. Total Acreage of Known Prairie Dog Towns by County Within the C. M. Russell National Wildlife Range

County	Acreage	Percent of Total
Petroleum	22	0.5%
Fergus	76	1.7%
McCone	384	8.6%
Valley	741	16.6%
Garfield	1,156	25.9%
Phillips	2,085	46.7%
Total	4,464	100.0%

A total of 53 prairie dog towns were found--23 were expanding; 15 towns were stable; 6 towns were decreasing; 5 towns were stable-decreasing; 4 towns were stable-increasing (Figure 1). The 15 towns classified as stable represent 7.8% of the total acreage used by the prairie dogs. Whereas, it was found the 23 expanding towns represented 3,887.3 acres or 86.4% of the total area occupied.

Since the prairie dog towns ranged in size from .3 to 960 acres, no conclusion can be made as to the average size. All towns greater than 90 acres were found to be expanding. Only 9 towns out of the total 53 were found to be greater than 90 acres. These 9 towns comprise 70.4% of the total area occupied by prairie dogs.

Recommendations of the study were:

- (1) If a poisoning program is initiated to control prairie dogs on selected towns, it should be done during the spring. At this time the population is limited to a breeding population and the poisoning program would be more effective.
- (2) Due to the secretive habits of the black-footed ferret, a winter survey is necessary to determine its present status on the CMR. The Big Dry Arm area has the best potential habitat because of its remoteness and prairie dog density.
- (3) The black-tailed prairie dog is an integral part of the prairie ecosystem and a "hands off" policy should be followed on smaller prairie dog towns.

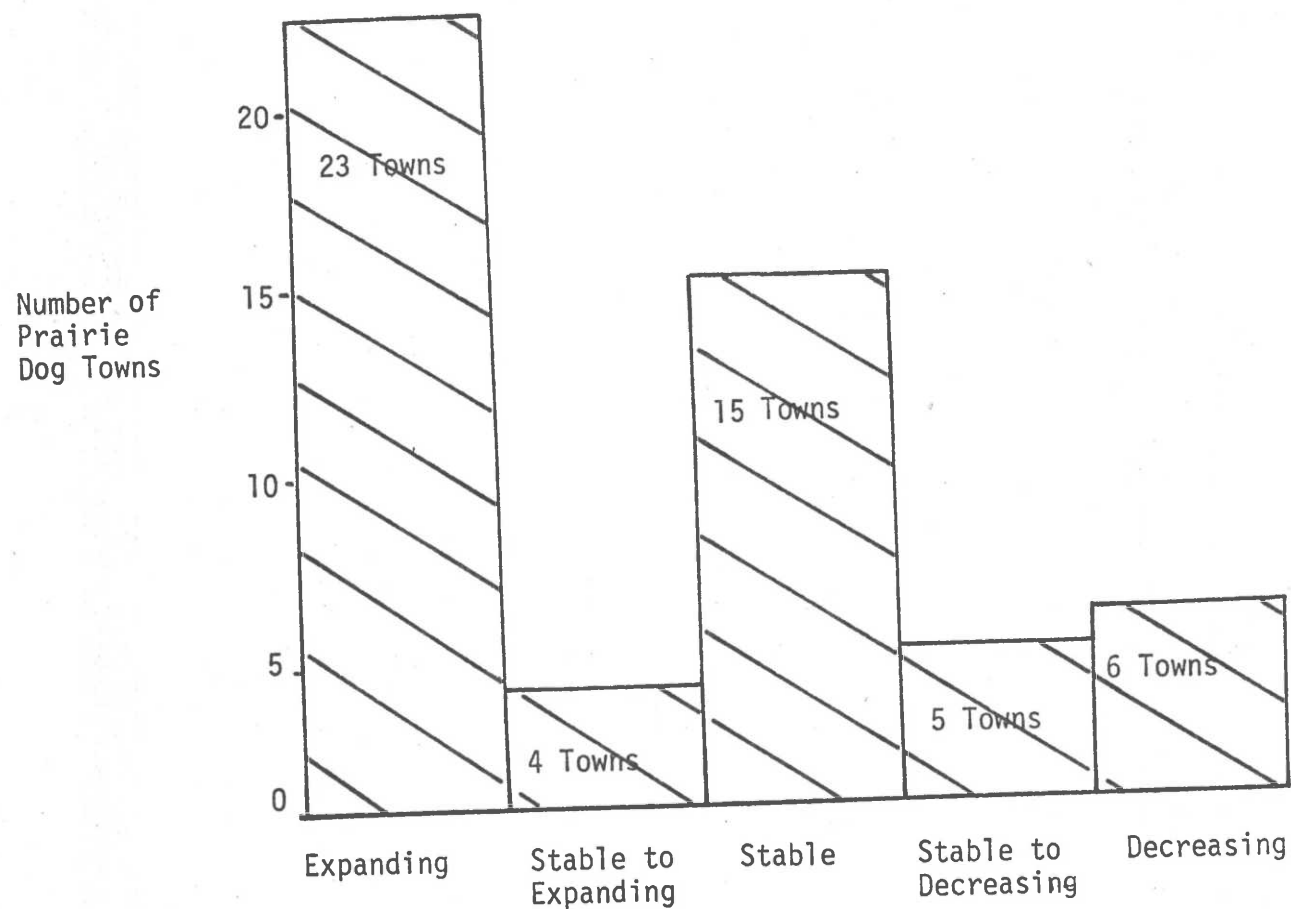


Figure 1. Status of Prairie Dog Colonies found on the Charles M. Russell National Wildlife Range

C. Elk Study

The Montana Fish & Game Department has initiated an elk investigation in the Missouri Breaks to determine elk ecology and movements, particularly in response to various types of hunting. Food habits and cattle-big game interactions are being studied by two graduate students. During the period a total of 36 elk were tagged. Nine elk and three deer were fitted with transmitters. Both ground-based and aerial receivers were used to locate marked individuals.

Observations by the graduate student in Nichols Coulee RCA indicate that sweet clover is an important summer elk food. Small, secondary drainages of mixed conifer and sagebrush-grassland furnished much of the summer elk habitat in 1974. The Missouri River appears to be little, if any, hinderance to elk movements judging from past and present observations. Based on this information, the west unit elk hunting district will include both sides of the Missouri River.

D. Winter Mallard Banding

The mild winter during 1974 resulted in a week of futile attempts to cannon net 500 birds from the Duck Creek population. These birds normally congregate in a very small area during the cold part of the winter and can be baited to the trapping site. However, with moderate temperatures and bare stubblefields, the trapping was impossible.

E. Bighorn Sheep

A cooperative effort among Fish & Wildlife Service, Bureau of Land Management, and Montana Fish & Game to neckcollar and record the bighorn sheep movements in the west unit began in January of 1974 when one ram and two ewes were neck-collared in the Two-Calf wintering area. Initial observations of the marked bighorns indicate that movement between the known habitats is not impaired by fences nor topography. All known wintering areas were used in a relatively short time. The total herd is down to 18 and the lamb crop, as reported elsewhere, has been reduced to 2. Since the severe die-off in 1971-72, the numbers of Rocky Mountain bighorns have continued to decline. Additional Sun River bighorns will be introduced if an adequate social group can be trapped. The future for reestablishment of this species is now doubtful. However, it is hoped that the present study will solve some of the questions related to lamb mortality and winter forage requirements.

F. Wilderness

The long and painful review process for wilderness was finally brought to a close on June 24th. The CMR staff was put to the supreme test, doing much late night typing and writing. John Martin of Medicine Lake

and Marvin Kaschke of the National Bison Range were called in to help share in the "fun". This included the writing of a brochure, draft environmental statement, a wilderness study report, and making arrangements for public hearings in Malta, Miles City, Jordan, Billings, and Denver, Colorado.

The public sentiment was rather well divided between wilderness advocates and those opposed to wilderness. The original proposal (see attached brochure) was modified from 176,140 acres in 13 units to 161,480 acres in 15 units, primarily as a result of undetected reservoirs, fences, and jeep trails that were, in aggregate, enough to disqualify parts or all of the original candidate areas (Figure 2).

As might be expected, the public proposals ranged from no wilderness to 446,200 acres. The latter proposal was authored by the Montana Fish & Game Department, Wilderness Society, and the Wildlife Federation.

VI. Public Relations

A. Recreational Uses

Boating, fishing, hunting, rock hounding, wildlife observation, and nature study plus many other activities draw people to CMR on their way to and from the Northern Rocky Mountains, especially Glacier National Park. Roughly, a million visitors each year pass through this area. Only a few really see or enjoy more than a few CMR attractions.

The development of the Fort Union coal formation on the southeastern periphery of CMR is expected to increase the present recreational uses drastically. Currently, the three State parks within the Wildlife Range overflow on peak days.

According to the 1973 Corps of Engineers estimates, 79.4 percent or 550,530 visits occurred in the Fort Peck-Big Dry area with the remaining 142,620 visits scattered across the rest of the Wildlife Range. Of the 550,530 visits in the east unit, 49,965 visits occurred in the Big Dry area and the remaining 500,565 visits occurring in and around Fort Peck. It is estimated that 70 percent or 400,000 of these visits were for outdoor recreational pursuits. These activities include such things as camping, picnicking, swimming, boating, waterskiing, softball tournaments, a summer theatre, snowmobile and motorcycle races, and many others. Fishing use and its associated activities in the Big Dry area has increased about 200 percent in the last two years. All other uses are increasing rapidly but not at this rate. Most of this use originates on lands not under FWS jurisdiction (private and COE), but the activities spill over onto areas where we do have jurisdiction and responsibility.

B. Visitors

During August of 1973, Toar Marston, then the Regional Director, and shortly thereafter, Vic Schmidt toured the Wildlife Range and satellites.

C. Refuge Participation

The staff took active part in many of the community functions as they did in past years. This included slide presentations and information meetings at Lions Club, Rod & Gun Club, BLM, Fish & Game Department, school programs, scouting, and many others.

D. Hunting

1. Deer

The 1973 fall deer season opened with 2,250 hunters--a new CMR record. Even though our deer hunting objective O.T.U. was exceeded, the quality deteriorated in only a relatively small area. Congestion of hunters was noted in South Valley County near Harper's Ridge, the Pines Area, Timber Creek, and Wagon Coulee. As might be expected, success was below normal for nearly all hunters on the Range (Table 18). The composition of the kill was also abnormal due to the high percentage of does and fawns. Large bucks were conspicuously absent from the harvest, indicating that the herd composition may be changed from the late 60's. The white-tailed deer population is essentially stable.

Table 18. Big Game Hunting Statistics - 1973

Species	Number	%	Harvest		Total	Remarks
	Hunting	Success	Male	Female		
Mule deer (gun)	unknown	44	-	-	433	621
" " "	"	44	-	-	450	631
White-tailed deer (gun)	"	54	-	-	85	621
" " "	"	54	-	-	21	631
Elk (gun)	80	59	33	14	47	all CMR
Elk (archery)	467	7.1	22	11	33	all CMR

2. Elk

The 1973 elk season was moderately successful, especially considering the 59% rifle hunter success. Archery elk hunting is still very popular with a relatively large number (33) bagging animals (predominately bulls). One reason for the slightly lower success in 1973 was that about 100 animals moved onto the south side (unit 410) which was closed. Future hunting will include this area but a "bulls only" season will be stipulated for all the Range until the desired elk population is reached. After several meetings with the Montana Fish & Game personnel, concurrence on the restrictive elk season was reached.

3. Antelope

The bulk of CMR antelope hunting is in McCone and North Garfield Counties, with much more additional hunting near the Wildlife Range in Phillips, Valley, Fergus, and Petroleum Counties. Harvest in the hunting districts is increasing slightly although access restrictions are becoming common.

4. Upland Game Birds

The major hunting effort for upland game is still directed to the two prairie grouse--sage grouse and sharp-tails. Gray partridge are hunted incidental to the other species. Pheasant populations are below normal and are hunted by very few.

As Table 19 indicates, the east unit has good populations of sharp-tailed grouse and fewer hunters than normal. The number of hunters was low due to the abundant cover and food which dispersed the birds. The reduced numbers of sage grouse and "huns" did little to improve the situation.

5. Waterfowl

Waterfowl hunting was again minor within the Wildlife Range. Goose hunters were most common in the west unit, near UL Bend, and in the Big Dry Arm of Fort Peck Reservoir. Duck hunters were scattered throughout the Range but are insignificant in relation to the other hunters.

6. Predators

During 1973, coyote sport hunting permits were issued to 103 persons. The price of furs increased the demand dramatically. Since most pelts are rubbed by March 31st, the permits were not valid beyond that date. There seems to be little desire on the part of the permit holders to ask for extensions or new permits beyond this cut-off date.

E. Violations

Whenever possible, violations are turned over to state wardens for processing through state courts. Off-road restrictions were apparently the most frequent violation. However, apprehension was very difficult with our small staff spread over one million acres. Fortunately, we continue to have very good cooperative relations between our staff and the state wardens. The 26 violations in Table 20 were processed during the period with one exception. Most of the off-road travel occurred during the mid and late portions of the deer hunting season when the low numbers of deer became evident and "road" hunting was deemed necessary by hunters in the Wildlife Range.

Table 19. Prairie Grouse Opening Day Hunter Harvest in East Unit
for 1972, 1973, 1974 and 18-Year Average

	1972	1973	1974	18-Year Average
No. of Hunters	62	114	48	123
Hours Hunted	216	443	197	475
Total Birds	125	220	101	199
Birds/Hunter	2.0	1.9	2.1	1.6
Hours/Bird	3.5	3.8	2.0	2.4
<u>Sharp-tailed Grouse</u>				
No. of Birds	105	158	89	141
Birds/Hunter	1.7	-	1.86	1.1
No. Adults	17	43	-	46
No. Juveniles	85	109	-	88
Juv/100 Adults	500	-	-	190
<u>Sage Grouse</u>				
No. Birds	17	55	8	42
Birds/Hunter	0.3	-	0.2	0.3
No. Adult Females	4	5	-	6
No. Juveniles	13	47	-	38
Juv/100 Adult Females	325	-	-	633
<u>Gray Partridge</u>				
No. Birds	3	7	4	24
No. Adults	-	-	-	7
No. Juveniles	-	-	-	18
Juv/100 Adults	-	-	-	257

Table 20. FY 1974 State* and Federal Violations on CMR

Type of Violation	No.	Disposition
Off-road travel	1	\$25 forfeited bond
" " "	1	\$37.50 fine
" " "	1	\$22.50 fine
Hunting in closed area	1	\$27.50 fine
" " "	1	Juvenile (not processed)
Possession of firearms in closed area	1	(not processed)
" " " " "	3	Juveniles (not processed)
Improper tagging (deer)	4	\$30 fines
Failure to tag big game	3	\$60 fine
Failure to wear life preserver	1	Juvenile (not processed)
Hunting w/o valid license	2	\$50 fines
Fishing w/o license	1	\$25 fine
Improper tagging	6	\$25-\$30 fines
("B" violations)		

*The cases processed by the state warden in South Phillips County not included.

F. Safety

No FWS accidents of any type were recorded during the period, which was a significant accomplishment for such a large staff. Credit for our safety record goes to Safety Officer Bill Krantz and his well-planned safety program. Defensive driving films, brochures, fire prevention demonstrations, and active safety discussions at staff meetings helped much in this regard.

One Range fatality was reported during the fiscal year when a Range visitor, Samuel S. Kutt, fell into the Missouri River near James Kipp State Park and drowned. Mouth-to-mouth resuscitation was successful in reviving the victim. However, Mr. Kutt died in Lewistown at 12:30 p.m. from inhalation of debris in the water.

VII. Other Items

A. Jurisdiction

At this writing a rather quiet debate is proceeding over who gets to administer the Missouri River Breaks area now known as Charles M. Russell National Wildlife Range--Fish & Wildlife Service or Bureau of Land Management. Needless to say, the 1974 narrative may well be CMR's epitaph. If so, the readers are encouraged to review this document and reflect how the many years of work will be treated by our sister agency.

B. Satellite Narrative

The photographs of the satellite areas that follow were included to attempt, in a small way, to enlighten the readers about the satellite migratory bird resource which is little known, and essentially forgotten except by several thousand ducks, geese, and shorebirds. The narrative for these areas follows.

C. Credits

The contributors to this narrative included all members of the CMR staff plus biologists for the Montana Fish & Game Department.



The Duck Creek wintering population of mallards has reached 30,000 birds.

Signature Page

Submitted by:



Refuge Manager

Approved by:

Area Manager

Concurred:

Chief, Div. of Land Management

C. M. Russell
Satellite Area Narrative

for

Hailstone, Halfbreed, Lake Mason & War Horse
National Wildlife Refuges

July 1, 1973 to June 30, 1974

I. General

A. Weather Conditions

These areas, which total approximately 30,000 acres, are scattered from just north of Billings to east of Lewistown (Figure 1, page 2). Weather is naturally variable over such a large area. The Roundup, Montana weather records provide a reasonable average for the various areas. The high for the period was 104° with a low of -31°. Total precipitation for 1974 at the Roundup station was 13.0 inches.

Precipitation patterns for the period were similar to the CMR. The severe drought conditions of the preceding two years were not overcome until late May when heavy rains hit most of Montana, dropping from 2 to 7 inches of rain.

B. Habitat Conditions

1. Water

Although the fall water levels in War Horse, Yellow Water, Halfbreed, Hailstone, and Lake Miller were somewhat below average for the reporting period, there was adequate water for waterfowl production. The Wild Horse, Tahlbett Lake, Tom's Lake, and Lake Mason basins were dry or nearly so throughout the entire year.

Water levels were essentially unchanged until spring when plentiful rains recharged most pools. In spite of the good ground water recharge, Lake Mason and the nearby basins remained dry. Over-appropriation by upstream irrigators in these areas does much to aggravate the water shortages. As the following photographs indicate, all of these areas are valuable waterfowl areas when given adequate water.

2. Food and Cover

An exceptionally good growth of grass followed the spring rains and provided some of the best nesting conditions in recent years. The



Hailstone Lake: This is one of the less productive of our satellite areas. It produces from 400 to 500 birds. "Trenching" activities on an adjacent prairie-dog town gives indication of the possible presence of black-footed ferret.



Halfbreed Lake: A beautiful Type IV marsh with excellent brood cover is a consistent duck producer. The land is owned by Father Flanigan's Boys Ranch and the Refuge was created by Executive Order in 1977.

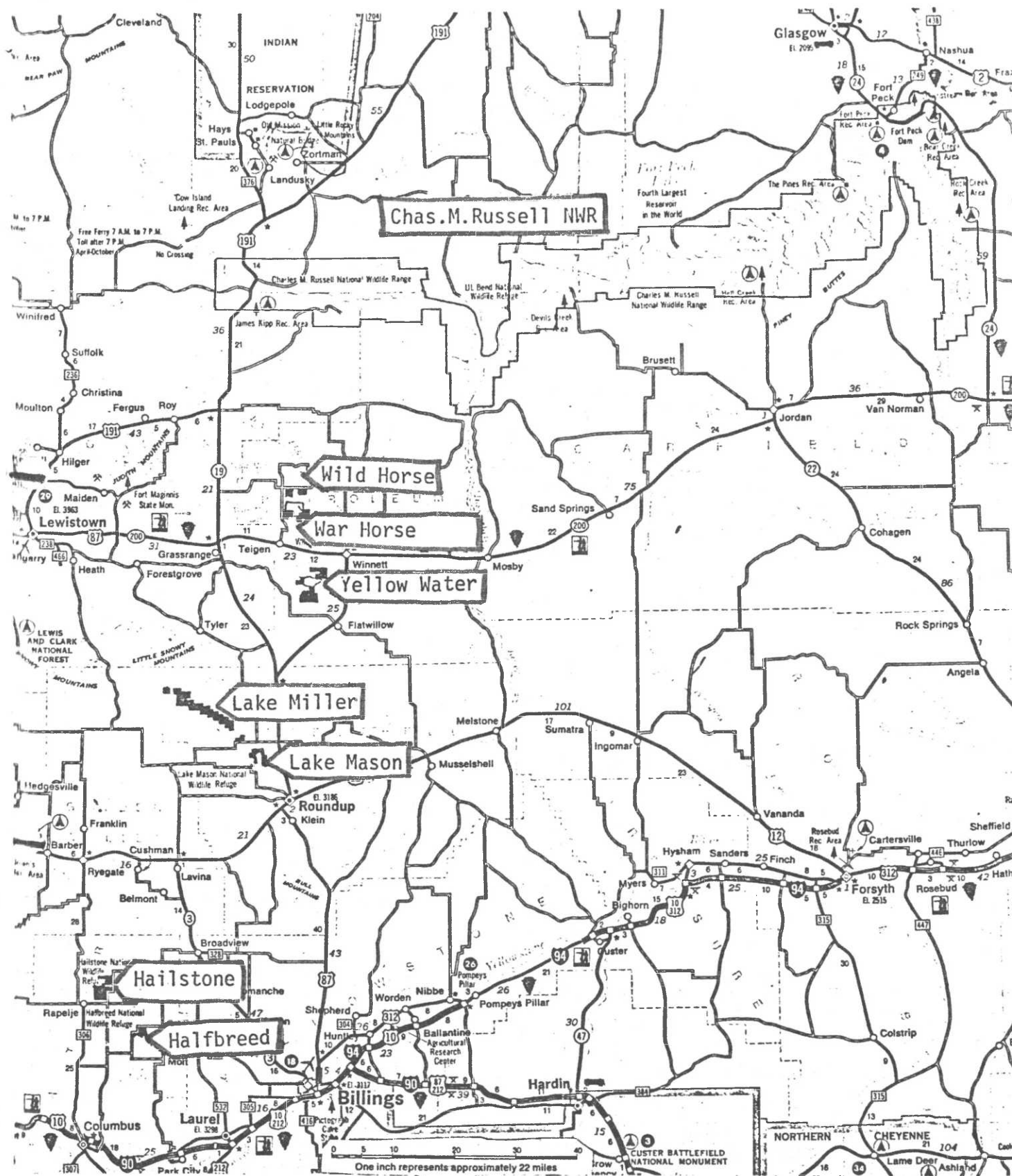
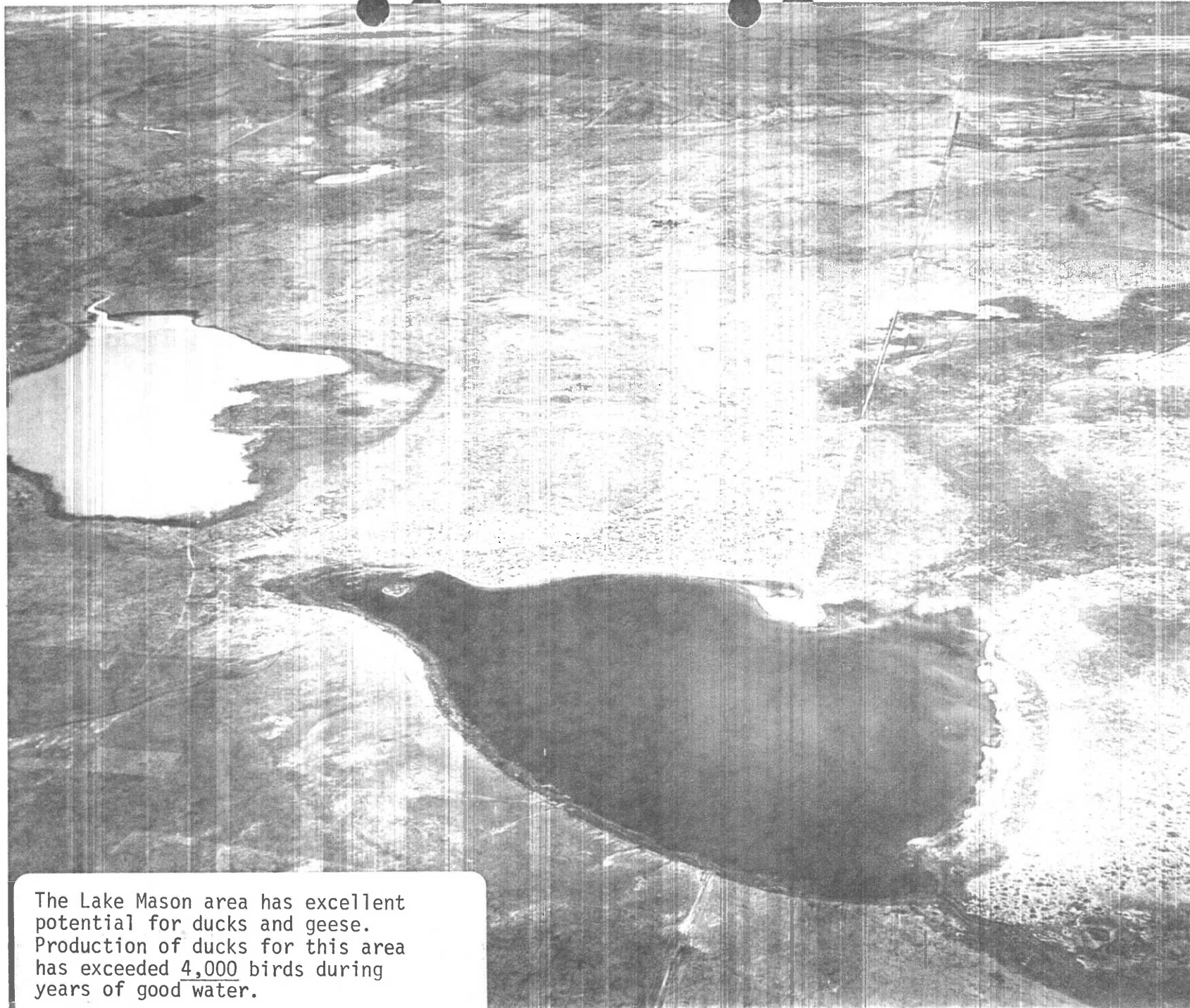
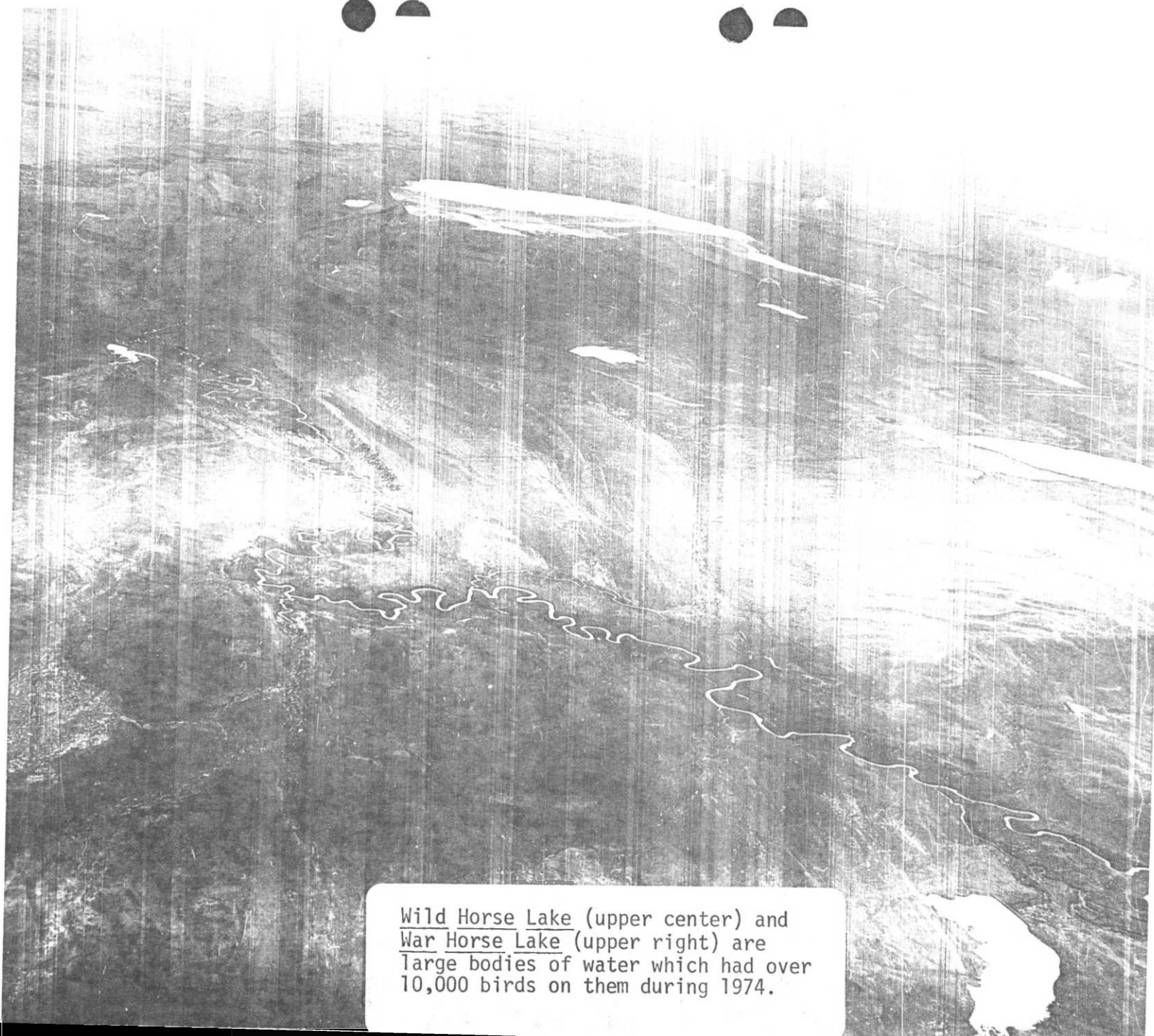


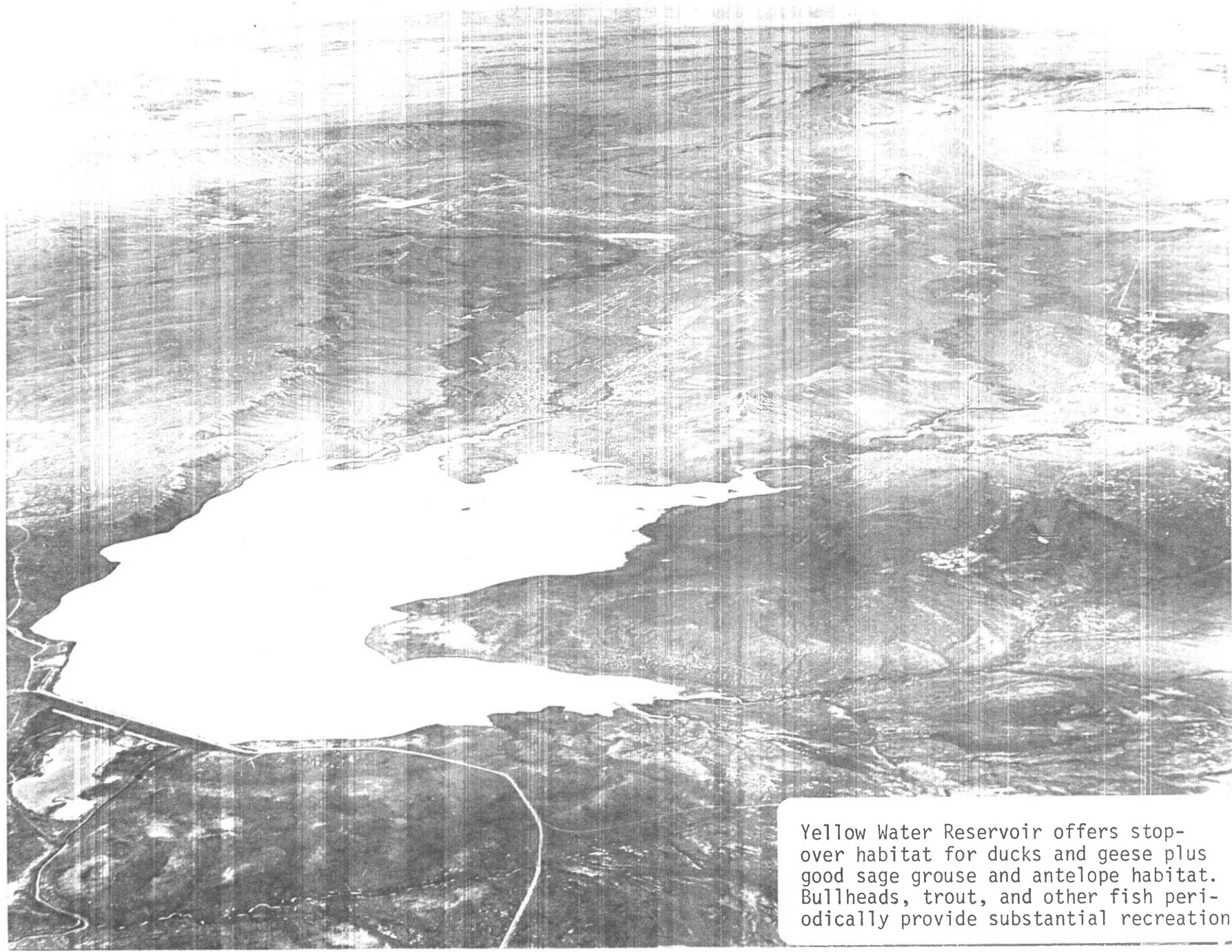
Figure 1. Location of the CMR satellites.



The Lake Mason area has excellent potential for ducks and geese. Production of ducks for this area has exceeded 4,000 birds during years of good water.



Wild Horse Lake (upper center) and
War Horse Lake (upper right) are
large bodies of water which had over
10,000 birds on them during 1974.



Yellow Water Reservoir offers stop-over habitat for ducks and geese plus good sage grouse and antelope habitat. Bullheads, trout, and other fish periodically provide substantial recreation.

small reservoirs in outlying areas attracted many paired birds and thus waterfowl nesting was somewhat dispersed.

The shorelines of War Horse, Yellow Water, Wild Horse, Lake Miller, and Lake Mason continue to be heavily grazed by domestic livestock. Cover around these impoundments consequently is not as good as can be expected. The uplands of Wild Horse, War Horse, Yellow Water, Halfbreed, and Hailstone, however, provided fairly good nesting cover.

Aquatic growth continues to be good in War Horse, Halfbreed, and Hailstone. Parts of Miller Lake also support good growths of bulrush. Wild Horse and Yellow Water remain turbid and without good aquatic vegetation.

II. Wildlife

A. Migratory Birds

The satellite areas were not periodically inventoried during the early part of the year due to the numerous vacant positions and the continuing crisis of administrative deadlines. The monthly census was resumed in August for all of the impoundments and hopefully will continue.

War Horse Lake was the largest producer of ducks with 2,000, while Hailstone, Halfbreed, and Yellow Water added approximately 500 birds each. The scant use and production data for these areas is presented in Table 1. The drastic variance in production for all these areas, especially War Horse, indicates one of our most pressing problems is providing sufficient water. Upstream users account for most of the problems in the Lake Miller-Lake Mason areas.

The peak of fall migration came in mid-November while the peak of spring migration was in early May. In the spring and summer, up to 10,000 ducks and 450 geese were observed on War Horse Lake and 2,000 snow geese and 850 mallards were observed on Miller Lake. The other satellites experienced similar peak numbers. For example, Halfbreed Lake had 5,600 ducks and about 90 geese using it during September. The principal species associated with these areas were mallard, gadwall, teal, and wigeon.

B. Upland Game Birds

The upland game bird populations on the satellite areas are generally near normal. Sage grouse populations are slightly below normal while the other species are above average. The mid-May snowstorm and unseasonally cold weather in late spring and mid-summer reduced the

Table 1. Waterfowl Use and Production for the CMR Satellites

	<u>Hailstone</u>		<u>Halfbreed</u>		<u>Lake Mason</u>		<u>War Horse</u>		<u>Wild Horse</u>		<u>Yellow Water</u>	
	Use	Produc-	Use	Produc-	Use	Produc-	Use	Produc-	Use	Produc-	Use	Produc-
	Days	tion	Days	tion	Days	tion	Days	tion	Days	tion	Days	tion
1960	105,515	140	68,180	-	88,825	25	7,880	-	-	-	-	-
1961	9,585	-	dry		dry		dry		dry		48,315	60
1962	81,725	65	321,580	340	516,195	75	804,720	150	165,830	80	30,380	75
1963	97,930	145	213,395	165	715,085	150	784,105	505	6,804	-	187,110	125
1964	55,770	50	dry		338,000	-	340,525	300	106,675	-	94,300	65
1965	80,430	480	dry		664,699	1500	261,044	890	49,840	25	51,198	140
1966	27,013	35	1,074	-	767,904	1880	1,050,350	2167	23,065	-	80,559	60
1967	230,307	250	333,753	195	1,009,400	190	1,528-337	600	25,270	-	139,482	90
1968	362,693	250	555,443	50	2,000,145	-	1,483,874	872	47,215	-	132,321	100
1969	244,349	117	744,401	490	1,426,922	667	1,133,573	145	20,035	-	237,671	80
1970	393,317	233	494,390	715	2,225,160	1176	1,775,201	685	-	-	307,651..	120
71-73	No Data											
1974	388,500*	420	740,600*	550	dry		914,400*	2,000	dry		50,250*	100

*Use Days were estimated for part of the year.

sage grouse production. This species, however, continues to be the most numerous upland game bird on the satellites, especially at War Horse, Wild Horse, Halfbreed, and Yellow Water. Sharp-tailed grouse and gray partridge rank as the second and third most important species. Ring-necked pheasants occur sporadically at Lake Miller, Lake Mason, and Hailstone. The pheasant populations are improved from previous years, but nonetheless total no more than 500.

C. Big Game

The most numerous big game animal on the satellites is the pronghorn antelope. The areas are used in an "on-and-off" fashion and have few resident animals. The Lake Miller-Lake Mason complex receives the most use with Yellow Water, Wild Horse and War Horse areas close behind. The hunting with virtually unrestricted access at Yellow Water and War Horse helps to keep these antelope populations stable; while access restrictions and closure to refuge hunting at Lake Mason and Lake Miller have helped to increase these herds. Some of the largest antelope bucks in Montana were observed by the Montana Fish & Game Department near Lake Miller during 1974 census flights.

Both white-tailed and mule deer occur on the satellites; however, only mule deer appear in significant numbers. Deer use is like that of antelope in that the refuges furnish only a part of their home range. War Horse, with its significant ponderosa pine cover, has the most mule deer and consequently the most hunting pressure. Presently, numbers of mule deer are lower than normal. The number of deer of both species using the satellite areas probably does not exceed 200.

D. Fur Animals, Predators, Rodents, and Other Mammals

Predator and furbearer populations are generally above normal. The coyote population is very high and coyote sport hunting is increasing, due primarily to the value of their pelt. Interest in the other furbearers is high for the same reason. Coyote hunting is permitted only on the three northern areas. A engineering survey crew observed two mountain lions in a single day while working at Lake Miller, which is a new record for Lake Miller. Rabbits and other small mammals remain scarce.

E. Hawks, Eagles, Owls, Crows, Ravens, and Magpies

The migrant use of satellites by most raptors is near normal. Golden and bald eagles continue to use all the areas, especially the northern ones. As many as 26 bald eagles were recorded in a single day at War Horse Lake. The attraction seems to be the large and plentiful carp.

Rough-legged, Swainson's, and red-tailed hawks are the most commonly observed buteos. The normal numbers of prairie falcons, American

kestrels, and an occasional peregrine falcon were also seen. The snowy owl numbers were slightly above average, with several winter observations in the Wild Horse area.

The mid-winter eagle census indicates no major change in the winter population of eagles on the Judith River or the Central Montana prairies. The total observed was 18 (10 bald, 8 golden).

The observation of a burrowing owl colony on the Hailstone area was recorded for the first time during the period.

F. Other Birds

Nothing to report.

G. Fish

The numerous carp and low water levels at War Horse Lake are interfering with the large-mouth bass fishery. Two age classes now exist--one about 2-3 pounds and one about three-fourths of a pound. Northern pike are scarce although they are now about 8-10 pounds in size. The black bullheads are still plentiful although somewhat reduced.

The Yellow Water rainbow trout have succumbed as was expected by most local sportsmen. The total plant of 60,000 catchables was apparently lost due to turbidity and high water temperatures.

H. Reptiles

The CMR's rare and endangered study produced many "spin-off" benefits, including an initial list of amphibians and reptiles which included 16 species.

CMR sightings included the tiger salamander, prairie spadefoot toad, Woodhouse's toad, great plains toad, boreal chorus frog, leopard frog, painted turtle, spiny softshell turtle, eastern yellow-bellied racer, milk snake, common garter snake, and the prairie rattlesnake. Most of these species probably also occur on the satellite areas.

I. Disease

No outbreaks of disease were noted this year. Only one documented incident of botulism is known from the satellites. This came in 1970 when 1,500 ducks died at Lake Mason.

III. Refuge Development and Maintenance

A. Physical Development

Some boundary corners of the War Horse NWR were reposted by an engineering survey party working out of the Bismarck Area Office.

IV. Resource Management

A. Grazing

All livestock grazing on the satellite areas is administered by the BLM under the authority of a cooperative memorandum of understanding. The unfenced FWS satellites are licensed and grazed together with the adjacent public domain lands. Consequently, shoreline cover near War Horse, Yellow Water, and Lake Mason was again heavily grazed. The concentration of stock near the water results in reduced waterfowl nesting. Table 2 illustrates some of the grazing data for the satellites.

Fish & Wildlife Service plans call for closely controlled grazing to insure proper use and good nesting cover. This entails consolidation of holdings, fencing, and administration of grazing by the Service. Two of the three steps were initiated in FY 1974 by setting aside funds for fencing and notification of BLM that FWS would issue the grazing licenses. Unfortunately, the "uncertainty of jurisdiction" prompted cessation of these actions. Hopefully, we can start on these projects soon.

B. Commercial Fishing

The carp and black bullhead fishery at War Horse Lake have yielded over \$5,000 gross income in 1970. However, during 1974, aquatic growth prevented the local commercial fishermen from harvesting any fish.

VI. Public Relations

A. Recreational Uses

The three northern areas are intermingled with public domain lands and thus receive the greatest variety and amount of public use. Upland bird hunting, fishing, wildlife observation, and big game hunting are the primary activities. The southern three areas receive very little public use of any kind.

Total annual public use on all areas is difficult to determine but it probably does not exceed 1,000 visits.

Table 2. Grazing Data for CMR Satellites, Summer of 1973

Permittee	Season of Use	AUM's on FWS Tracts	Total AUM's in Area	Total No. of Cows	Total No. of Sheep	FWS Receipts
Pronghorn Ranch	5/1-4/30	1,070	2,055	1,015	-	909.50
Graves Ranch	4/1-2/28	235	1,840	650	3,000	199.75
Lake Mason Assn.	5/15-11/14	482	1,106	600	-	599.25*
Kombol Ranch	5/1-1/31	222	387	40	-	188.70
Snowy Mt. Ranch	4/1-3/31	259	259	25	-	220.15
Harbour Ranch	5/16-10/31	228	415	83	-	193.80
Louis Corgiat	6/1-10/31	75	112	46	-	63.75
Lawrence Stanley	12/1-2/28	478	609	395	-	406.30
Lake Mason Assn.	5/1-11/14	223	872	-	-	*See above
Walker Ranch	5/16-11/15	40	108	29	-	34.00
Joe King & Sons	5/20-8/31	303	1,228	670	-	134.30
John Hedman	4/15-11/15	120	684	152	-	102.00
John Hanson	5/16-11/15	169	330	120	-	143.65
Dorothy Bartlett	5/16-9/30	244	412	80	-	207.40
Totals		4,148	10,417	3,905	3,000	\$3,402.55

Table 3. Estimated Recreational Visits to CMR Satellites

Area	Fishing	Big Game Hunting	Wildlife Upland		Total
			Obs.	Bird Hunt.	
Hailstone	0	0	10	0	10
Halfbreed	0	0	10	0	10
Lake Mason-Lake Miller	0	0	15	0	15
War Horse	150	10	75	30	265
Wild Horse	0	10	10	15	35
Yellow Water	125	75	15	60	275
Totals	275	95	135	105	610

VII. Other Items

A. Items of Interest1. War Horse Negotiations

The Montana Division of Natural Resources is contemplating the return of the dam and its appurtenances to the Winnett Irrigation Company. In the 1920's, the irrigation company gave the project and \$50,000 of indebtedness to the State Water Resources Board. Needless to say, FWS personnel have bargained long and earnestly for complete control of the project facilities. At the present time, the decision has not been made. However, if the water users who make up the irrigation company, agree to our latest proposal, the Service would get a 800-900-acre conservation pool. Dense nesting cover, fencing, nesting islands and nesting structures would then be installed to obtain maximum waterfowl use and production.

The BLM's Little Bear Project is also hanging in the balance and could be accommodated to produce up to 2,000 ducks and geese. If the State Water Board gives the project back to the downstream users to furnish irrigation water for hay; waterfowl use and production in one of Montana's best waterfowl areas will be severely impaired. Figure 2 illustrates the location of the lakes and the irrigation canals.

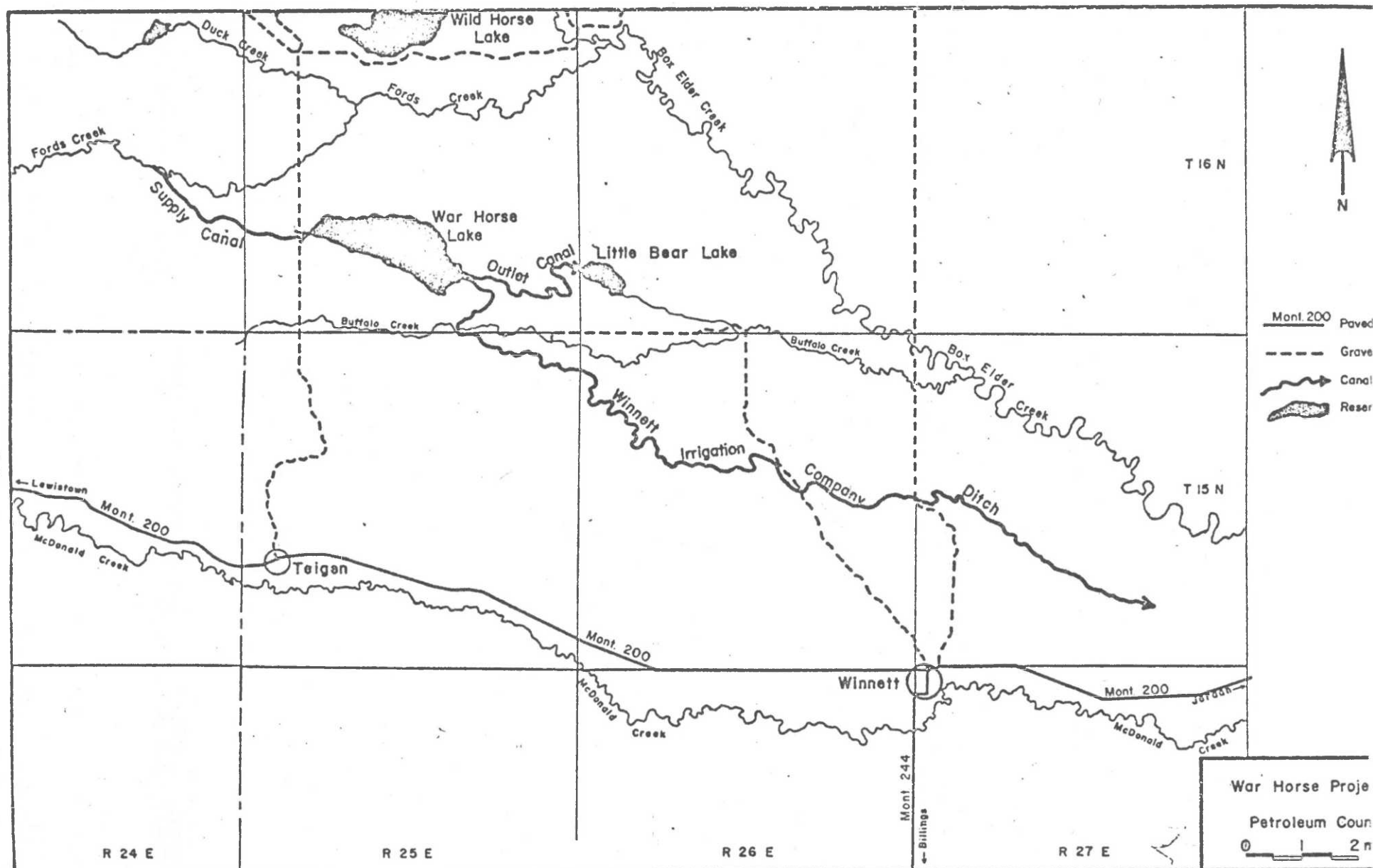


Figure 2. Location of the War Horse and Little Bear Lakes.