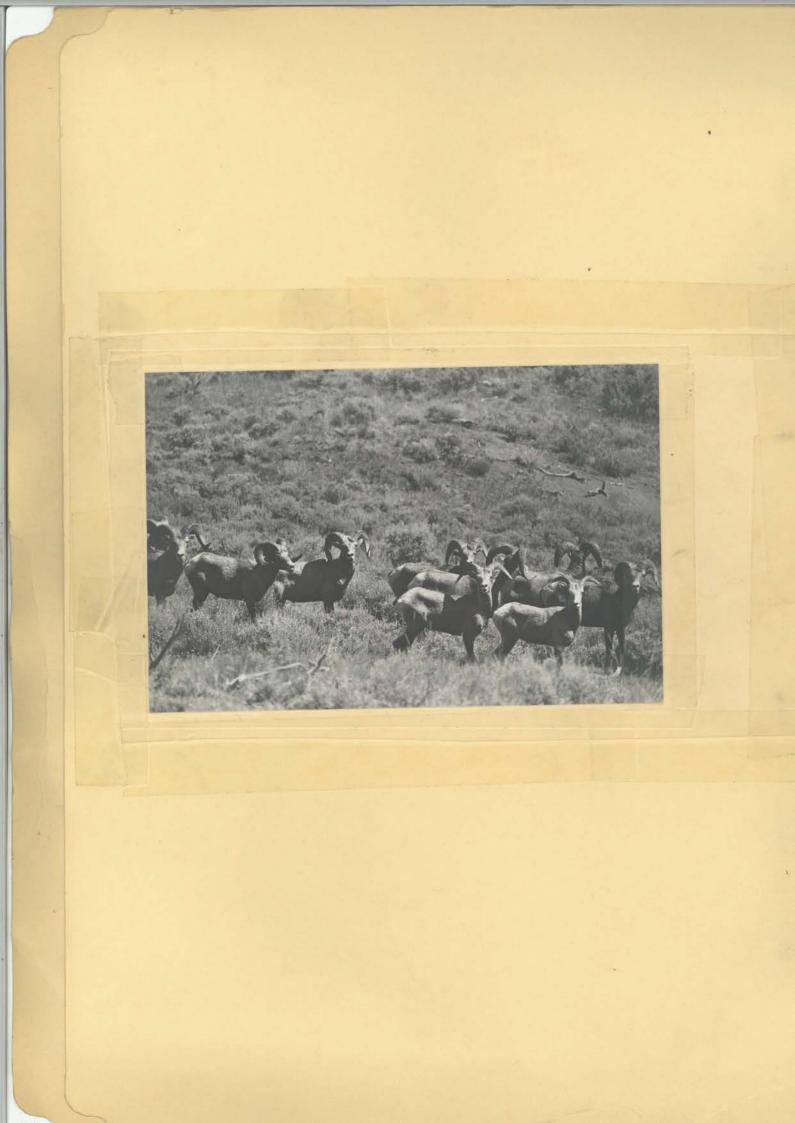
CHARLES M. RUSSELL (SATELLITE AREA NARRATIVE REPORT - 1967 REFUGES) Hailson, Halfbreed, Lake Mason, Wild Horse, War Horse, Yellow Water Ft. Peck, Slippery Ann. Miller Lake



COVER PHOTO

Bighorn rams photographed $1\frac{1}{2}$ miles west of the 2,000 acre sheep enclosure. Photo No. 67-602 - 7/19/67, FRM

CHARLES M. RUSSELL NATIONAL WILDLIFE RANGE Narrative Report

January - December 1967

PERSONNEL

General Schedule
Frank R. Martin
Bob L. Burkholder
Charles W. Gibbons
Marvin R. Kaschke
Charles S. Peck
Lloyd R. Ramelli
Richard T. Shideler
Allan H. Waller
Bruce P. Stollberg
Linda H. Wicks

Wage Board
Floyd L. Emery
Frank V. French
Dean A. Gilbert
Harold H. Jones
Lynes D. Kilby
John Kombol
Joseph J. Kombol
Frank Oset, Jr.
Samuel A. Sage
Gerald A. Sullivan
Joe F. Zupec

Temporary
Shirley A. Carlson
William F. Davis
Walter W. Grovom
Charles W. Kananen, Jr.
Lloyd M. Kelsey
Betty L. Minnich
Corry L. O'Brien
Thomas E. Schoonen
Harry R. van der Hagen

Refuge Manager-in-Charge
Wildlife Pilot-Biologist
Refuge Manager (Fort Peck)
Wildlife Biologist
Refuge Manager (Slippery Ann)
Recreation Specialist
Student Trainee
Student Trainee
Refuge Manager (Interim 3/12-5/20)
Refuge Clerk

Maintenanceman II (WAE)
Maintenanceman II (WAE)
Shop Foreman II
Maintenanceman Foreman II
Maintenanceman I (WAE)
Maintenanceman II (WAE)
Maintenanceman II (WAE)
Carpenter (WAE)
Maintenanceman III
Mechanic (HD)
Maintenanceman III (WAE)

Clerk-Typist
General Operator, Heavy
Maintenanceman II
General Operator, Heavy
Maintenanceman I
Clerk-Typist
Student Aid (YOC)
General Operator, Heavy
Maintenanceman II



CHARLES M., RUSSELL NATIONAL WILDLIFE BANCE Natistive Report

January - December 1967

PERRONMEL

General Schedule Frank R. Martin Bob L. Burkholder Charles W. Gibbons Marvin H. Kaschke Charles S. Peck Lloyd R. Kamelli Richard T. Shideler Alian H. Waller Bruce P. Stollberg Linda H. Wicks

Vage Board Floyd L. Smery Frank V. French Dean A. Gilbert Hareld H. Jones Lyngs D. Kilby John Kombol Joseph J. Kombol Frank Oset, Jr. Samuel A. Sage Gerald A. Sullivan Joe F. Zupec

Shirley A. Carlson William F. Davis Walter W. Grovom Charles W. Kananen, Jr. Lloyd M. Kelsey Betty L. Minnich Corry L. O'Brien Thomas E. Schoonen

Mefuge Manager-in-Charge

Wildlife Filot-Biologist

Mefuge Manager (Fort Beck)

Wildlife Biologist

Refuge Manager (Slippery Ann)

Recreation Specialist

Student Trainee

Refuge Manager (Interim 3/12-5/20)

Refuge Manager (Interim 3/12-5/20)

Maintenanceman II (WAE)
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Maintenanceman I (WAE)
Maintenanceman II (WAE)
Maintenanceman II (WAE)
Maintenanceman II (WAE)
Maintenanceman III (WAE)
Maintenanceman III
Maintenanceman III
Maintenanceman III (WAE)

Clerk-Typist
General Operator, Heavy
Maintenanceman II
General Operator, Heavy
Maintenanceman I
Clerk-Typist
Student Aid (YCC)
Veneral Operator, Heavy
Maintenanceman II



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CHARLES M. RUSSELL NATIONAL WILDLIFE RANGE Lewistown, Montana

NARRATIVE REPORT January - December 1967

I. GENERAL

A. Weather Conditions

Temperatures at Lewistown were average or perhaps slightly above for the first part of the year and during the same period moisture conditions were well above normal. A record of 106 inches of snow was recorded at Lewistown. This wet cool cycle was abruptly terminated during mid-June when precipitation became practically non-existent and temperatures shot above normal and stayed there. This condition remained until mid-September when welcome rains came to break the drought, putting an end to a very hazardous fire condition.

Average moisture was received during the year with considerable rainfall during the month of June. These conditions resulted in good forage production and water conditions but were responsible for a poor hatch of most upland game birds. Unusually heavy rainfall in September stimulated secondary growth of range grasses, filled water holes, and generally improved range conditions for big game and livestock.

Slippery Ann Weather Record

Sno	wfall	1	Precipitat	ion	Exti	Extremes	
-		1965	1966	1967	Max.	Min.	
January	5"	.86	.40	.25	50	-21	
February	911	.35	.55	.59	55	- 7	
March	13"	.33	.40	.82	62	-18	
April	7 11	.99	.64	1.56	70	8	
May	411	1.89	1.30	1.15	89	22	
June	-	2.60	1.10	3.27	91	40	
July	-	.88	2.08	.59	99	43	
August	-	1.14	.73	.01	101	38	
September	_	.78	.36	2.33	101	34	
October	-	Tr	.68	.80	78	16	
November	Tr	.72	1.98	Tr	56	- 1	
December		10	50	18	44	-28	
Totals	3911	10.64	10.72	11.55	101	-28	

In spite of the heavy snow pack in the Missouri River drainage, the spring thaw and breakup of river ice caused no unusual flood conditions on the Wildlife Range. However, due to high levels in the Fort Peck Reservoir, several hundred acres of land normally planted to wildlife crops were inundated.

Ice on the river went out March 28 and remained free of ice until November 29 when the river again froze solid for the winter.

The following table shows the weather conditions for the year on the east end of the Wildlife Range. This information was furnished by the weather station maintained by the Corps of Engineers at Fort Peck.

	Precipitation			Extr	emes
	1965	1966	1967	Max.	Min.
January	.50	.39	.62	45	-31
February	.14	.07	.18	52	-12
March	.42	.05	.71	63	-16
April	.90	.73	1.45	65	2
May	5.27	1.67	.36	82	22
June	4.48	1.56	1.59	90	42
July	3.54	2.91	.37	96	41
August	4.34	4.35	.02	98	45
September	1.44	.44	2.74	97	38
October	Tr	.82	.72	74	25
November	Tr	.27	.31	59	3
December	07	23	22	52	-22
Totals	21.10	13.49	9.26	98	-31

B. Habitat Conditions

1. Water

FORT PECK RESERVOIR - POOL LEVEL

	1965	1966	1967
Jan 1	2234.3	2242.1	2235.5
Feb 1	2233.3	2241.0	2234.6
Mar 1	2233.0	2239.6	2234.1
Apr 1	2233.2	2240.2	2235.3
May 1	2235.4	2239.7	2235.9
Jun 1	2239.7	2239.0	2236.7
Jul 1	2243.9	2239.0	2243.8
Aug 1	2245.6	2239.3	2245.4
Sep 1	2244.4	2239.0	2244.1
Oct 1	2243.6	2238.5	2242.8
Nov 1	2243.9	2238.3	2241.0
Dec 1	2243.4	2237.0	2239.3

The highest water level this year was 2245.7 on July 21. This is the second highest level since Fort Peck Dam was constructed in 1939. Other peaks were 2244.8 in 1948 and 2245.9 in 1965. The Corps of Engineers make every effort to sustain as high a level as possible and would bring the reservoir to capacity at 2250 if water was available.

The Fort Peck Reservoir froze over January 18 and was 100% ice-free by April 19. The lake was not frozen over by the close of the 1967 season.

Moisture for 1967 on the east end was low compared with past years. Rain received in the spring filled stock reservoirs and insured good plant growth on most of the range. Most reservoirs were dry by late summer and since no moisture was received in the fall, all were dry by the close of the season.

The Corps of Engineers continue with their stated plans of holding the reservoir in the general levels of 2235 to 2245. This inundates all of our valuable bottom lands habitat from tract 19 on down.

2. Food and Cover

Food and cover were both adequate for all wildlife. There were, however, graphic differences in vegetative growth in the east and west units. On the west end of the Wildlife Range above average June rainfall produced good plant growth and sufficient moisture was received during the summer to keep most vegetation green. The east end did not receive these summer rains and vegetation dried up early.

Yields from dry land hay and grain crops responded accordingly, varying from generally good on the west end to poor on the east end.

Unusually heavy rainfall was received throughout the entire area in September. This was followed by a week of warm weather which stimulated second growth of the range vegetation. As a result, good fall feed was available and big game and livestock went into the winter in excellent condition.

II. WILDLIFE

A. Migratory Birds

1. Waterfowl

Above normal precipitation during the year provided ample water in Central Montana. As a result, ducks were spread out and fewer were concentrated on the Wildlife Range. A normal peak of 15,000 mallards was established at Fort Peck the first of the year. This number decreased to 10,000 by March. During the peak of migration later that month, total numbers approached 40,000, including 23,000 mallards. The fall peak occurred in late October and numbered 15,000 birds, including 12,500 mallards. This peak was less than normal due to a mild season that again caused less of a concentration on the Wildlife Range. In early November the wintering mallards again stabilized at 15,000.

A mallard-black duck cross was shot near Lewistown in December 1966. The bird was apparently banded August 1954 at Moosehorn National Wild-life Refuge in Maine.

The mallard feeding program started on January 9 when snow covered all available feed in surrounding fields and depredation problems became acute. Average weights when feeding started were 2 lb. 6 oz. for females and 2 lb. 11 oz. for males. Feeding was continued daily until February 25 when a break in the weather melted snow and the birds again started using surrounding fields. During the first 17 days of March only part-time feeding was necessary. An average of 3 oz. of grain a day per duck was fed. This maintained the same average body weight throughout the winter.

The number of flightless geese concentrating on Fort Peck Reservoir increased from 1,600 in 1966 to 1,700 in July and August of 1967. A banding program conducted in cooperation with the Northern Prairie Research Station and the Montana Department of Fish & Game was initiated in order to learn more about these birds. A peak of 2,000 geese occurred during this period and again in October. Fewer were present on the west end because the rising water level of Fort Peck Reservoir destroyed most of the feeding habitat below Rocky Point. The lake reached 2,245.7', and remained above 2,240' from June 18 - November 18. These recordings are made at the dam site and do not reflect the considerable effect of the backwater curve at the head of the lake.

2. Captive Geese

Twenty-three broods totaling 109 young were produced in the immediate vicinity of Slippery Ann Station in 1967. This is two less broods than was tallied a year ago. It shows an increase in average brood

size from 4.6 to 4.7. A number of these broods were produced by non-pinioned birds which were decoyed into the area by the captive flock. A few nests were abandoned during a blizzard on May 6. The late spring snows did not appear to have much effect on the overall production adjacent to Slippery Ann. Further up river, however, many nests were found abandoned as a result of late spring storms.

Fifty goslings from the captive flock were turned over to the Montana Fish & Game Department to form a nucleus for establishing a nesting population on Freezeout, a state waterfowl management area west of Great Falls. It will be interesting to observe what effect removal of nearly half this year's production will have on the nesting population.

Losses in the captive flock due to predation during the past year were light. Two birds, one a flyer, were taken by eagles and six goslings were killed apparently by an owl. Bobcats were present throughout the year but were controlled by trapping during the critical winter period and no losses were noted. The number of pinioned birds declined from 69 to 58 during the year but this is not surprising since many of the birds are about ten years old.

Forty-five trees nesting platforms furnished with hay bales were erected at and around Slippery Ann in addition to those put up in previous years. Approximately 25% of these were used by nesting birds. Additional platforms will be erected and some locations of existing platforms changed with hopes of increasing use next year.

3. Other Water Birds

No change was noted from last year in the abundance of gulls, terns, cormorants, herons, pelicans, and other birdlife of this type inhabiting the range. First sighting of the great blue heron occurred March 24, and pelicans arrived April 28. The heron rookery on Harriet Island near Slippery Ann was again a foci of activity. Forty-eight nests were occupied--one of which was pre-empted by a Canada goose after several days of avian discord and debate. This rookery is near the main access road and many visitors stopped to watch the birds fishing in shallow water.

The heron-cormorant rookeries in the lake itself continue to decline as wave and ice action continue to knock down the above water snags. Osprey and Canada goose nest sites are likewise affected in these areas.

This year the little brown Sandhill crane migration did not include the Charles Russell Range in their itinerary of land sites. None were observed except at high altitude while enroute to wintering areas further south.

A Caspian tern, <u>Hydroprogne caspia</u>, was sighted on July 8 on the gull and cormorant island rookery on Fort Peck Reservoir. This is the first time this bird has been identified on the Wildlife Range.

4. Shore Birds

No noticeable changes occurred in this classification of bird life. The long-billed curlew was sighted more frequently as a summer resident and flocks of 10 to 20 were common in the spring and late summer. Considerable attention was given to populations of upland and mountain plover during the Nichols Coulee study. A number of nests were located and young birds banded. Biologists Marvin Kaschke and Bob Burkholder sighted a mountain plover October 20. This is the latest sighting of this species on record at Charles Russell National Wildlife Range.

A solitary sandpiper was observed at a reservoir near Nichols Coulee on August 2. This is another addition to the bird list.

5. Doves

The mourning dove is an abundant species on the Wildlife Range and is unique here in being almost exclusively a ground nester. Populations and production do not appear to have changed from last year. However, a reliable index of population change has not been developed for this area.

A dove banding program was initiated as part of the student trainees' assignment and 306 birds were banded. A great deal of experience was gained which will result in a more efficient and productive banding program next year. An unidentified dove was sighted at Slippery Ann on August 22. The bird was observed at close range but an attempt to collect it failed. It appeared smaller than the mourning dove--had all white wings, pink feet, and a white square tail.

B. Upland Game Birds

Upland game bird populations, with the exception of turkeys and sharptails, have decreased slightly from the low of last year. Various portions of the Wildlife Range were open to all species but hunting pressure was light and hunter success poor.

The usual inventory of sage grouse strutting grounds was not made this year due to other projects of higher priority occurring during mid-April. Last year 18 areas and 329 birds were located.

Turkeys are hunted in the Musselshell-Devil Creek area and reports from both the Montana Department of Fish & Game and local guides indicate that the take was light despite a normal turkey population estimated at 300 birds. Production of turkeys at Slippery Ann was estimated at 60 on the basis of broods sighted after nesting season although about 125 birds have been located to date. Late winter counts will provide a more reliable index to the total population. Ninety percent of these birds are adjacent to the Slippery Ann Game Station. It is expected that 100 birds will survive the winter.

Management plans include a transplant of 10 to 20 turkeys to the west end of the Wildlife Range prior to nesting season. A spring gobbler hunt and a fall archery season is proposed on the west end excluding the area of the proposed transplant.

In February the Montana Department of Fish & Game introduced 16 turkeys on the east end on the Pines Point. These birds were sighted occasionally during the summer but only two were reported this fall.

C. Big Game Animals

1. Mule Deer

Deer numbers the past several years have shown a steady decline, especially on the west end of the Wildlife Range. This is indicated by intensive census data on Nichols Coulee Resource Conservation Area, aerial transects elsewhere on the range, hunter surveys, informed public opinion, and other field observations by qualified personnel.

This year a hunter survey was conducted by mail in order to improve the quality of data over that of more informal surveys conducted in the past. Seventy percent of those contacted have made valid responses to date. These reporting hunters averaged 3.4 days afield, 5.3 days per deer, and 46% of them were successful in obtaining one or more deer. Although no comments were solicited, 16% of the hunters did so--and all of these requested a reduced season and/or remarked ontthe scarcity of deer on the Wildlife Range.

Browse conditions are improving following the 1959-1961 period of overuse when populations were high, however, the deer herd is not responding accordingly. Individual deer are in excellent shape as judged by bone marrow and body fat examination. No excessive winter kill has occurred even during the severe winter of 1964-1965.

It appears that the problem is one of limited reproduction coupled with an overharvest of the existing supply. Doe-fawn ratios are low, i.e., 10:7 in 1966, despite improving browse conditions of "fair". Investigations are underway to determine if an endemic condition is responsible within the herd itself.

From the layman's standpoint, it is inconceivable to have a two-deer limit and direct additional pressure by issuing special non-resident permits in an area where deer are not there to harvest. Our recommendations concur with this public opinion since there is not a sound biological case for doing otherwise.

2. White-tailed Deer

The doe/fawn ratio is 10:8.2--somewhat higher than the 10:7 for mule deer. The white-tailed deer continue to prosper despite the heavy hunting pressure exerted upon them. Six to ten thousand acres of prime

habitat was lost as river bottoms became flooded by the rising lake level last year. The lake level was maintained in the 2240' range, offering little relief for this situation. Whitetails are crowded on the remaining habitat and are forced into more of the mule deer range. There is little hope for correcting this situation as long as the lake is maintained above 2230' contour. New habitat cannot be created and the present supply is being completely utilized.

Recommendations include a liberalized hunting season if this can be designed to increase the harvest of white-tailed deer.

3. E1k

This important reintroduced species is on a biologically sound basis as evidenced by its productivity and general condition. There are normally three fairly distinct herds on the Wildlife Range but this year a fourth has been confirmed in the vicinity of Billy Creek in Garfield County. This small herd of 30 animals migrated across Fort Peck Lake last winter and has apparently taken up residence there.

The total number of elk post season approximates 570 animals—an increase of 90 over last year's estimate. Some of this increase was due to a decrease in the number of hunting permits issued on the north side—west end of the Wildlife Range and is in keeping with the management plan to increase this segment of the elk population.

Hunting on the east end is geared to crop the yearly increase and is effectively doing so. The unantlered adult/calf ratio remained at 100:53.

This species provides a great deal of recreation to the hunting public. Despite the fact that permits are issued for 160 animals, each permit holder takes his family and friends along on the hunt. Non-permit holders are not allowed to carry guns unless deer season is open concurrently, but this does not seem to decrease this participation.

An even bigger participation occurs during archery season and it may be significant that a car count on opening day of bow season was higher than that for opening day of the deer rifle season in the same area.

Archers were more successful this year than last and removed 21 elk--one-third more than they took in 1966.

The elk using the river bottoms in late summer afforded much enjoyment to the non-hunting public. They can be viewed from cars and their bugling can be heard up and down the river.

4. Bighorn Sheep

This species has maintained itself with slight additions to the total numbers since the transplant of 43 animals was concluded in 1961. The

current estimate is 80, over half of which are usually outside the enclosure. More sightings are occurring at greater distances from the enclosure. One ram was seen across the river opposite the enclosure and another near the mouth of Slippery Ann Creek. Others were seen on the south side of the river east to Sand Creek and as far west as the Power Plant ferry, a distance of 10 miles. We received an unconfirmed report of a ram near Dovetail which is located 50 miles east of the enclosure.

Two rams were found dead and one of these was definitely shot during the hunting season. No other losses were known to have occurred.

This sheep herd is now well established, having adapted to its new environment. It has increased to the point that it has extended its range from the original release site. The reproduction rate is slow but steady. Ram/ewe ratios are estimated at 50:50 with several of the original rams approaching their terminal age of 14 years.

Management plans include harvest of these older rams in a manner that will provide a quality experience befitting these exceptional trophies. Removing some of the older age class rams may increase the productivity of the herd.

5. Antelope

This species uses the Wildlife Range on an on-and-off basis. During severe winters migrations occur to the shelter provided by the "breaks" habitat and survival is assured. Antelope numbers are increasing following the severe winter in 1967-1966 but the recovery is not rapid.

6. Bison

During the winter months the five buffalo in the Leo B. Coleman Wildlife Exhibit were fed alfalfa hay and a small amount of "cake". Expected increases did not occur and the herd composition remains the same as last year with three Age Class IV--a bull and two cows; two yearlings--a bull and a heifer.

The animals are well adjusted to the 240-acre enclosure and no longer conceal themselves in the coulees. Range condition in the pasture remains excellent. They generally can be observed at any time and are a constant source of public enjoyment.

The mule deer in the Exhibit pasture did quite well despite our hopes to the contrary. At the beginning of the year there was one buck and four does. These are now augmented with eight fawns. In addition, the whitetail doe had a fawn which brings the total deer population to 16. "Reduction" drives will be conducted this winter.

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

1. Fur Animals

All fur animal populations on the Wildlife Range are normal but low. No harvest is recommended except for beaver. Aerial census conducted in November established the 1968 trapping quota of 85 beaver on the area of the river above Fort Peck Lake. The quota for this year was 70 and the harvest was completed without incident. Nuisance beaver control in the vicinity of Fort Peck was not authorized since the usual complaints decreased in number last year and none were received this year, indicating the effectiveness of past removal programs.

A black-footed ferret "study" was initiated after orientation and basic field work was accomplished with Mr. Donald Fortenbery of the Division of Wildlife Research. No ferrets were sighted but evidence was formed that indicates the presence of this rare and endangered species. (See Part V for details of the operation.)

2. Predators

Goose nesting successwas determined to be 16% (minimum) with an outside possibility that it could be as high as 50% in the prime nesting habitat upriver from Slippery Ann during the 1966 season. Predation on eggs and adult geese by coyotes, skunks, and raccoons accounted for most of the loss.

A concerted short-term control program was requested from the Division of Wildlife Services and conducted with the assistance of Refuge personnel. Control activities were confined to ten miles of river bottom upstream of the Fred Robinson Bridge. The operation began in November 28 and was concluded April 20. The operation resulted in increased nesting success and brood size despite heavy snows that occurred during the nesting period. Also, the eggs in abandoned nests remained undisturbed long after the season was past.

Coyote control over the remainder of the Wildlife Range as requested by livestock interests was conducted by the Division of Wildlife Services. The 1080 control program was as usual modified to meet changing conditions at the annual meeting of the State, BLM, and the Division of Wildlife Services and Refuges at the Lewistown headquarters.

Mountain lions, bobcats, skunks, and raccoons are present on the Wildlife Range but pose no significant problem to the overall prey species. Predation occurs in the captive goose flock at Slippery Ann but this is controlled by personnel stationed there and losses are kept to a minimum.

Charm Burn

3. Rodents

Mice continue to be a nuisance around home sites on the river but populations have not noticeably changed. No increase in porcupine numbers have been observed. Prairie dog towns have increased slightly on both ends of the Wildlife Range and a colony believed to have been poisoned two years ago is again becoming active. There are presently 33 known prairie dog towns on the Wildlife Range.

4. Rabbits

Both black-tailed jackrabbit and white-tail populations remain low and unchanged.

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

Populations of the above-listed birds remain unchanged except as noted below.

Bald eagles, winter residents on the Wildlife Range, concentrated on the river above Fort Peck Lake in the spring. On April 5, 24 adults and 37 sub-adults were counted in the area from Fourchette Creek to Slippery Ann. This bird along with the great horned owl are the primary avian predator on geese at Slippery Ann but vigilance by personnel stationed there discourage this activity and losses have not been excessive.

Osprey nesting activity has steadily declined from 1963 to 1965. In 1966 a rally occurred in nesting activity but production was poor. Only one nestling reached flight stage that year. This year's success was better when five young reached flight stage.

The following report by Bob Burkholder describes this activity in more detail:

"The Osprey, Pandion haliaetus, nests over water in old cottonwood snags, sometimes in heron-cormorant rookeries but more usually in isolated trees. Although such nesting sites occur elsewhere on the Charles Russell National Wildlife Range, the nesting activity is confined to the UL Bend from Devil Creek on the east to Soda Creek on the west.

In June of 1963, 11 nests containing 13 chicks were located; but in June of 1964, there were only 5 nests containing 3 eggs in this area. Only 1 nest was located in 1965. That year 16 eggs were laid in 7 nests. Two of the nests were destroyed by wave action but only 1 chick was raised to flight stage from the remaining 5 nests.

Cha M Rom.

The first osprey were sighted on April 18. Ten days later 2 nests were established. The nesting peak occurred early in June with 7 nests containing 13 eggs observed June 7. On June 19, 1 nest containing 3 eggs was destroyed by the rapidly rising lake level.

The first young were sighted July 3 and on August 8, 5 young were observed in 3 nests. Only 1 other nest had eggs on this date; and since these were the first laid, they were presumed to be dormant. Another nest was destroyed by wave action.

Osprey nesting activity has steadily declined from 1963 to 1965. Last year, 1966, a rally occurred, however, nesting success was poor. Only 1 chick was produced from 16 eggs, and 2 of the 7 nests were destroyed by wave action.

This year 7 nests were again occupies, 2 were destroyed, and 5 young reached "flight stage" from a total of 13 eggs.

Canada geese use some of these same nests and it is almost certain that the geese bring off their broods before the hawks are permitted to use them. Ospreys were present in the area while the geese were incubating but it appeared that the geese remained on the nests until the broods were off. Not until then did the osprey take over."

F. Other Birds

There are almost 200 different species of birds listed for the Wildlife Range--many of which are common. These occurred in usual numbers in 1967 and provided visitors with much enjoyment.

Some first observations of the season were:

February 27	Canada Goose
March 24	Great Blue Heron
March 24	Blackbird
March 25	Meadowlark
March 27	Sparrow Hawk
March 28	Duck Hawk
March 28	Green-winged Teal
March 28	Starling
April 1	Red-winged Blackbird
April 1	Crow
April 4	Cormorant
April 8	Mourning Dove
April 8	Red-shafted Flicker
April 15	Long-billed Curlew
April 19	Osprey
April 28	White Pelican
April 28	Mountain Bluebird

Two songbirds were added to the refuge bird list--Evening Grosbeak and Green-tailed Towhee.

G. Fish

Northern pike fishing in 1966 was considered the best year in the history of the reservoir but 1967 proved even better. Several catches of pike over 25 pounds were made. The best fishing was in the Rock Creek area of the Big Dry. Most pike average 6 pounds. The Montana Department of Fish & Game in cooperation with the Bureau of Commercial Fisheries is continuing a Northern Pike-Goldeye study. They have submitted a plan to the Corps of Engineers on water levels that if followed would insure good northern pike population.

No fish plants were made in the Fort Peck Reservoir or in the Missouri River immediately below Fort Peck Dam. The State has discontinued using the "winter harbor" at Fort Peck as a pike rearing pond. The following plants were made in the dredge cut trout pond by the Montana Department of Fish & Game:

Rainbow Trout	May-1967	Oct-1967
3 "	30,000	
911	3,700	
811		10,800

Fishing at the trout pond was excellent during the winter for small trout and good during the spring months for 1 to 2 pound trout. During the summer and fall months, however, catches were poor.

In the west unit interest in snagging paddlefish continued to increase this year. This unique angling method accounted for an estimated 600 fisherman use days—a 50% increase over last year. Paddlefish were taken from mid-April to late July with the best success experienced in May and June. Fish weights ranged up to 89 pounds but most were in the 40 to 70 pound weight class. Paddlefishing in this area received considerable publicity and increased public participation in this activity is expected.

Catfishing in the Missouri River yielded good catches to those using set lines and early spring catches of wall-eyed pike and sauger were good.

H. Reptiles

Few reptile sightings were reported during this period. A rattlesnake den about three miles from Slippery Ann Station was uncovered during the construction of a dike. A policy of peaceful co-existence was adopted. Another den along a roadside was discovered. The den and some of the inhabitants were photographed.

I. Diseases

No incidence of any diseasewas noticed this year. Leptospirosis, however, has been diagnosed in the livestock herds of the Lazy J-D Cattle Company which graze the Nichols Coulee RCA area and it is possible that this malady may have infected big game species.

Two blood samples from mule deer were collected but results are not yet available.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

In the west unit the following items were accomplished during the year:

Wingwalls on the bridges across Two-Calf Creek and Slippery Ann Creek were cabled back and the fill behind them repaired. Spring run-off had damaged both structures.

A cattleguard was installed on the access road to tracts 635-636. These tracts are near Highway 191 and the access road is receiving increasing public use.

Repaired sections of access road to tracts 635-636. A slide on a shale hillside had narrowed the road to the point it was difficult to move farm machinery over safely.

Reduced the grade on a section of Two-Calf Trail. This section of trail was so steep that it presented a hazard to the movement of farm machinery.

Leveled and diked a 30 acre field at tract 646. This land can now be flooded to create a waterfowl impoundment or dewatered and planted to a cereal crop for wildlife.

Constructed 5,500 feet of dike needed to complete the 78 acre waterfowl impoundment at Slippery Ann. Also constructed nesting islands and pump site. A 12" pump was installed and the area was filled with water before freeze-up.

Graded and graveled ¼ mile of turn-offs for picnic areas. These areas have caused the public considerable trouble in the past when they attempted to drive a few hundred yards off the graveled access road. Low-grade gravel available on the Wildlife Range was used, but it seems to have alleviated the problem.

A drainage ditch from the south access road to the river (approximately 300 yards) on Kelsey Coulee was constructed. The old ditch had silted in and the road was not drained properly.

A pumping platform was constructed on the river above Slippery Ann Station. Riverbank had eroded away to such an extent that there was no place left to set a pump.

Two hundred feet of riverbank was riprapped. This was the area behind steel piling which was used to face the bank a year ago in an attempt to stop erosion. The river eroded away the bank behind the pilings this spring so the pilings are being used as a retaining wall and riprap placed behind them.

One waterfowl pond at Slippery Ann was cleaned of silt and the interior banks resloped. The river water used to fill the pond has deposited silt and grossly reduced the storage capacity.

A culvert was installed at the entrance to King Island bottom. Erosion had made it impossible to move machinery into the area.

Stiles for the six big game enclosures in Nichols Coulee were built and installed. This facilitates access to the study areas and will reduce fence maintenance.

Finished contour ditch on Seven-Mile bottom. The ditch was constructed last year and required some additional finish work before it was usable.

A 1,000 bu. metal granary and slab were moved to a new location at Slippery Ann Station. This consolidates the grain storage facilities and will make loading and unloading grain easier.

Eight picnic tables and 4 toilets were constructed and placed in established picnic areas. Garbage collection facilities were also improved at public use areas.

In accordance with our Transportation Plan, approximately 138 miles of roads and trails were graded and maintained.

Normal building maintenance including painting 2 warehouses and 3 patrol cabins was accomplished during the year.

Recognition signs for the Nichols Coulee RCA (see Photo 67-997) and for entrance roads to the Wildlife Range and the Two-Calf Mountain Sheep Pasture were erected.

Twelve airstrips were constructed to provide safer landings at certain field projects. Construction was accomplished by clearing rocks and brush from the landing areas with a motor patrol.

On tract 70D, 20 acres were leveled, fertilized, and planed. An irrigation supply ditch and drainage facilities were also completed for this tract. In 1966, 77 acres of land were leveled at Fort Peck. Twenty acres

were leveled this year but no future leveling is anticipated until such time as increased yields or crops requiring irrigation are needed.

For that portion of tract 70D leveled in 1966, approximately 3,500 feet of elevated ditch was constructed and a pumping site built to facilitate irrigation. It will be 1968 before this tract will be under full irrigation. All land leveling and ditch work is engineered by the Soil Conservation Service under an agreement with this Bureau.

For many years the two-way radio facilities at Fort Peck were in need of replacement and improvement. This year a new building fully insulated and large enough to house and maintain the radio was set up. The building is wired for electric outlets, lights and heater; work benches were installed. The old antenna was replaced with a 100° directional-gain antenna which has improved contact with Lewistown and Slippery Ann.

At the Fort Peck service building several improvements were made. Four windows were added to the storage part of the building and a new fiber-glass door was installed. A ceiling for this portion of the building and heating facilities were started.

The office located in the service building was remodeled. The manager's office formerly located in the Corps of Engineers administration building was moved to the Service building. A night lighting system was completed for the security yard and both shop and oil house wired for lights in accordance with safety requirements.

A new 1,000 bu. bin was set up in the security yard and the 2,000 bu. bin formerly located adjacent to Quarters #3 was removed to the security yard. The three grain bins, oil house, and trim of Quarters #3 were painted.

The old service building located in Fort Peck was cleared out and made ready for disposal. This building was originally a mess hall during construction of Fort Peck Dam. It was acquired by the Bureau in 1942 and used as the Wildlife Range headquarters until 1956. In the past few years the building has been used as a warehouse.

Approximately 12 acres of land formerly occupied by the State Game Farm was cleared and made ready for cultivation.

A new 40 h.p. electric engine was installed on the Lewistown headquarters lawn sprinkling system.

The 40-acre pasture at headquarters was fertilized with 166 lb/acre of 40% nitrogen, 15% phosphorous, 10% potassium, and 10% sulfate sulfur. Cost of aerial application was 15¢ lb.

B. Plantings

1. Aquatic and Marsh Plants

None.

2. Trees and Shrubs

Three honey locust trees and 3 seedless green ash trees were planted at Slippery Ann Station this year. It appears that 4 of the 6 survived the summer. If so, they will provide much needed shade around the residences.

A dozen assorted rose, lilac, and spirea bushes were set as foundation plantings around the station residences and appear to have survived to date.

Numerous pine, juniper, and assorted deciduous shrubs were planted around Lewistown headquarters.

3. Upland Herbaceous Plants

Approximately 25 acres of roadsides and disturbed sites were planted to western wheatgrass. The seed was applied on melting snow with a hand broadcast seeder. Germination rate was only about 10% the first year.

4. Cultivated Crops

All refuge-farmed lands in the west unit under irrigation produced good yields and were heavily used by waterfowl, wild turkeys, and big game. Seven acres of proso millet produced 770 bu. which provided considerable food for mourning doves; and 13 acres of corn yielded approximately 1,040 bu. which was used throughout the fall by 35 head of elk. A 12-acre field of barley and alfalfa was harvested when the alfalfa bloomed. The second growth alfalfa stayed green until mid-October and furnished excellent waterfowl browse during the fall migration.

Sharecropped lands produced fair yields but extremely hot weather in late June and early July caused shriveling and weight loss in the grain. Ninety-one acres of barley produced 2,550 bu. which was harvested and will be used to meet winter feeding requirements at Fort Peck. Gereal crops left standing for wildlife utilization included 2,215 bu. of winter wheat from 73 acres and 2,725 bu. of barley from 397 acres. The latter figure includes 245 acres that were flooded by high water levels in the Fort Peck Reservoir. Unfortunately, this flooding has occurred on some bottom lands each year since 1964.

On the land tracts farmed by the refuge below Fort Peck Dam, 15 acres were seeded to Red Proso Millet and 40 acres were seeded to barley. Yield on the barley was about 15 bu. per acre and 10 bu. per acre on the millet. Except for 12 acres of barley harvested in September, the refuge crops were left standing for waterfowl use. The barley and millet were completely utilized by December 15.

On the sharecropped lands, 143 acres were planted to barley. Yield totaled 4,624 bu. for an average of 32 bu. per acre. On tract 68D, 9 acres were planted to corn and sorghum, and left standing. Waterfowl use commenced about December 20 and continued through the end of the year. We intend to increase the acreage of corn next year to make feed available to waterfowl when snow cover makes barley unavailable.

C. Collections and Receipts

None.

D. Control of Vegetation

One hundred and ninety-four acres were sprayed with 2,4-D amine at the rate of $1\frac{1}{2}$ lbs. a.e./acre. Results were generally good with kill rate ranging up to 90%.

Benzabor, a soil sterilant, applied to the Slippery Ann airstrip last fall leeched into the soil during the winter and was 90% effective in controlling weeds. However, it does not appear as effective where total sterilization is desired as does Ureabor and will be replaced with Ureabor for future application.

On the refuge-farmed tracts success with 2,4-D amine was excellent in the barley fields but only about 25% effective in the millet field. This was possibly due to a later spraying date for the millet.

Spraying with 2,4-D amine on the sharecropped tracts was successful this year. All sharecroppers sprayed their crops for weed control and performed necessary fallow operations.

E. Planned Burning

A 12-acre barley field and 11-acre millet field were burned this spring to facilitate land planing. There was no woody vegetation present and the fields burned clean.

F. Fires

Above-normal amounts of spring and summer rains and fewer serious lightning storms teamed to make fewer fires. The season started with a 10-acre fire on April 28. All vegetation appeared so green that it could not possibly burn but the humidity was apparently favorable and the fire burned quite hot.

The following table is a list of all reported fires and acreages:

Fire Name	1	ocati	on	Date	Fuel	Type	Total Acres Burned
Little Bunny	Sec 16			4/28/67		woodland	
Pines	Sec 13			8/17/67	11	- 11	70
Butcher	Sec 14	+ T20N	R20E	7/21/67	11	11	NA
Phipps	Sec 18	3 T21N	R32E	8/22/67	11	11	12
Hell Creek	Sec 35	T23N	R38E	9/11/67	11	11	30
							122

Two additional small fires were found--one burned itself out; the other was suppressed entirely by ranchers. All fires were lightning-caused.

Cooperative efforts of Corps of Engineers, BLM, BSFW, U.S. Air Force, and local ranchers combine to keep acreages burned to a minimum.

IV. RESOURCE MANAGEMENT

A. Grazing

Grazing problems continue to be one of the major difficulties in administering the range.

Considerable progress has been made in reducing livestock trespass with excellent cooperation from the BLM. The present trespass problem with the exception of one case is not considered significant enought to affect the range condition.

This exception pertains to an individual who changed his class of live-stock from cattle to sheep in 1960 without the knowledge of either the BLM or BSFW. He was given one year to remove the animals. He has continued to run the sheep and has been successful in keeping the case in court through a series of "appeals". This legally stops an action that might be taken. Many approaches have been attempted to settle this problem but none has been successful. We are hopeful a decision can soon be reached that is compatible with Wildlife Range objectives.

The BLM has completed the adjudication throughout the Wildlife Range and is attempting to move into more intensive management of public domain lands. This means more fences, reservoirs, wells, and range improvements to properly distribute livestock and establish rotational pastures. Although these grazing systems are usually good practices to improve range conditions, they are not always good wildlife management practices. Problems of this type will continue to plague us as long as there is dual administration--part of which is administered under authority of the Taylor Grazing Act.

Plans call for updating our range survey. The ecological site and condition method will be used exclusively on future surveys. Nearly 90,000 acres are scheduled for next year.

General range conditions remain fair to good throughout the entire Wildlife Range.

B. Haying

Alfalfa yields this year averaged slightly over 2 ton/acre as compared to 1.7 ton/acre last year. This increase was due primarily to better growing conditions, longer growing seasons, and improved irrigation practices. The wild hay averaged ½ ton/acre which is similar to last year's production.

Alfalfa continues to be one of the most important wildlife (especially big game) feeds raised. One 10-acre field of newly seeded alfalfa near Slippery Ann was completely utilized by elk, deer, and geese. The animals seemed to prefer the alfalfa to the corn and millet in adjoining fields.

C. Fur Harvest

Beaver on the west end again showed an increase and permits were issued for 85 animals for the 1967-68 season. Last year's quota of 70 animals (1966-67) was filled before the end of the trapping season. No other fur harvest permits were issued. The following is the quota recommended by trapping unit for 1967-68, based upon an annual aerial cache count conducted in November:

Unit	I	25	beaver
Unit	II	35	11
Unit	III	25	11
Unit	IV	nor	1e
Unit	V	nor	1e

Units IV and V are areas affected by the increased lake level. Beaver have moved from these units, concentrating in the upstream area from 7-Mile River to the western boundary of the Wildlife Range (Units I, II, and III).

D. Timber Removal

None.

E. Commercial Fishing

Two fishermen were issued permits for commercial operations on the Fort Peck Reservoir. One operator worked out of Fort Peck and concentrated efforts on goldeye while the other based at Devil Creek and operated over most of the lake.

Commercial catches were as follows:

		Pounds Taken	
Species	1965	1966	1967
Buffalo	130,340	157,092	167,600
Catfish	7,603	10,965	6,300
Carp	1,120	3,100	79,800
Drum	440	1,325	3,340
White Carp	-	12,800	-
Goldeye		<u>=</u>	46,000
Totals	139,503	185,282	303,040

Another permit was issued for commercial fishing in the dredge cuts below Fort Peck Dam. Listed below are the results of this operation as furnished by the Montana Department of Fish & Game.

Species	Poundage Taken			
Buffalo	7,600			
Carp	300			
White Carp	600			
Total	8,500			

F. Aircraft Operation

Flight time, including all aircraft types during calendar year 1967, totaled 441.1 hours. This was but 0.1 hour less than last year. Of this total about 400 hours were flown in the contract Supercub and the remainder in special charter aircraft. The contract price this year was \$12.74 per hour, dry rate.

Flight time for Bureau operations, other than Charles Russell Wildlife Range, increased again this year from 115.7 hours to 126.3 hours. Regional Office use decreased by one-third as did Bowdoin NWR. The Wetlands Acquisition Program, however, more than made up the slack. Benton Lake NWR flying increased slightly from last year. Total flying time for other than CMR is listed as follows:

	1967	1966
Wetlands	46.8	5.2
Benton Lake NWR	51.8	43.6
► Bowdoin NWR	13.7	23.0
Regional Office	14.7	10.0
Medicine Lake NWR	4.0	5.2
Red Rock Lakes NWR		15.0
Bureau of Outdoor Recreation		9.0
Total Hours	126.3	115.7

The airplane is a most essential tool in all activities on the Wildlife Range. This includes census work, fire patrol, enforcement patrol, transport of personnel and equipment, search and rescue, aerial seeding, livestock trespass, goose banding, and ferret studies, to mention a few. Census work is removed from the "educated guess" category to one of more finite measurement. Livestock trespass has been reduced significantly. Many man hours and hard use of vehicles is saved. In short, management of the Wildlife Range is becoming more of a reality as a result of the aircraft operation.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Progress Report

1. Nichols Coulee Resource Conservation Area

Investigative studies and development of physical structures on the Nichols Coulee RCA have progressed according to plan. The latter was completed this year insofar as Bureau commitments are concerned and collection of data continues.

The four pasture rest-rotation grazing plan initiated by the Bureau of Land Management in 1965 has been modified each year to meet changing conditions. Such modifications in stocking rates, pasture use, and rotation seriously complicate data analysis especially when trying to tie in wildlife response to the management system.

Wildlife trends are based on vegetative use analysis, pellet group studies, and aerial census. The latter is keyed to snow cover which fortunately has occurred the past several years. All information to date on the RCA has indicated a severe decline in mule deer, the indicator species. Deer numbers elsewhere on the Wildlife Range have shown a downward trend but not at the high rate of that on the study area.

Identical measurements were completed on all vegetation and pellet studies in the six exclosure complexes. The data, recorded on page reader forms, has been sent to the statistical analysis section of the Denver Wildlife Research Laboratory for IBM runs and analysis.

Assessment of prairie dog colonies and waterfowl use of stockwater ponds continued this past year and the former received additional attention because of the black-footed ferret study which was started in the late summer.

Another accomplishment is the documention of the entire project in a joint BLM-BSFW report. This report is not yet final but should be complete in early 1968. It describes background, goals, and study procedures with tentative results as they may occur from both Bureau operations.

2. Bird Banding

Interest in mountain and upland plover continues and young birds are banded as opportunity permits. During field work in the Nichols Coulee RCA, 19 mountain plovers and 2 killdeers were banded. Although there were several sightings of upland plovers, none were available for banding. To date only one band return is on record. This juvenile mountain plover was banded June 29, 1965 and was recovered from a jet engine at Bergstrom Air Force Base, Austin, Texas on December 1, 1965. One black duck was banded at Fort Peck.

The post season banding quota of 1,000 wintering mallards was exceeded by 18 birds at Fort Peck. Only 310 of the 500 mallard quota were banded at Lewistown. This program was terminated since sufficient data had been accumulated to satisfy management goals.

A dove banding program was started at Slippery Ann Station as part of the student trainee development program and 306 mourning doves were banded. This program will be continued and expanded in 1968.

Sixty geese associated with the captive flock at Slippery Ann were banded--55 of these were birds of the year and so identified with a green plastic band on the right leg. The number of young geese banded this year is less than previous years because 50 unbanded goslings were given to the State of Montana.

The following table documents the color marking used to date:

Year	No.	Color	Location
1962	111	Red	Left leg
1963	118	Red	Right leg
1964	114	White	Right leg
1965	75	White	Left leg
1966	121	Green	Left leg
1967*	55	Green	Right leg

*50 additional birds produced this year were unmarked and given to the State of Montana.

Band returns since 1958 indicate 33% of the birds produced at Slippery Ann are recovered in Montana. Alberta and Saskatchewan together account for 30% and Colorado and Wyoming another 16%. Idaho, Arizona, the Dakotas, Nebraska, Oklahoma, and New Mexico are also represented. The northernmost recovery is Northwest Territories, Canada.

A new Canada goose banding program was started on the Wildlife Range this year. Since 1964 aerial counts have indicated a gradual build-up of moulting Canada geese on Fort Peck Reservoir from Sutherland Bay to the Pines--1,200, 1,500 and 1,700 in the respective years of 1965, 1966, and 1967.

It was assumed that the bulk of these geese were non-breeders since few young were present in the concentration but actually all that was known about these birds was the number and species.

A large scale banding effort was made in cooperation with the Division of Research, the Montana Department of Fish & Game, and the Corps of Engineers, using portable traps, boats, and airplanes. A total of 211 geese were captured and 199 were banded. Thirty-four percent of these were sexed and aged and 75% of the females checked were non-breeders. There were 11 recaptures from other banding stations but none of these were from Slippery Ann. This group of birds is likely the largest concentration of non-breeding birds in Central Montana.

A lot of time was profitably spent developing techniques and special equipment that will benefit next year's banding effort. The goal is to band and gather information on 500 of these geese next year.

3. Black-footed Ferret Investigations

This rare animal is indigenous to the Wildlife Range but records are few and none are current. The most recent verification in Eastern Montana (a road kill) occurred in 1953 near Alzada, southeast of Miles City.

Since there are over 30 active prairie dog towns on the Wildlife Range and many of these are quite isolated from human activities, it seems probable that the ferret still exists on the range.

In October, Mr. D. K. Fortenbery, Bureau Wildlife Research Biologist, spent nine days in the Wildlife Range searching for ferrets and ferret signs. Part of this time was devoted to orientation of personnel in order that the investigation could be continued in his absence.

Of 26 dog towns checked, 7 showed some evidence of ferret activities and 2 of these had well-formed trenches. This is the best indication of ferrets that is presently known outside of seeing the animal itself.

Mr. Fortenbery reported: "I believe that ferrets do exist on the Wildlife Range and suspect that it is only a matter of someone spending enough time searching until they are found."

This is an interesting though time-consuming project and it is one of national significance. Additional work is planned when a snow cover exists. Hopefully, even more positive results can be reported next year.

VI. PUBLIC RELATIONS

A. Recreational Uses

Sale of Golden Eagle permits increased from 25 sold last year to 31 of the \$7 permits for 1967. Most of these were purchased by local people who were making use of local Forest Service campgrounds or those planning trips to the national parks as a part of their vacation.

In comparing our NR-6 reports, we find total visits increased from 523,799 in 1966 to 870,250 visits during 1967, an increase of about 40%. Meanwhile, visits by hunters decreased to 12,200 as compared to 15,400 of last year, and fishermen paid us 50,000 visits this year as compared to 78,391 during 1966.

We are not claiming that all this was actual increase but more likely that a good portion was due to better gathering of data. The Corps of Engineers used car counters on a number of their facilities, giving what we think was a far more accurate figure than the estimates we had to use in the past.

B. Wildlife Range Visitors

1. Lewistown Headquarters

January

9 L. R. Jacoby & S.E. Hottenstein, BSFW, Regional Office.
U.L. Bend project.

12 Bob Ross & Joe Zacek, SCS. U.L. Bend project.

Jim Mitchell & Neil Martin, Montana F&G. Big game & sheep.

18&31 T.E. Smith, BSFW, Regional Office. U.L. Bend project.

26 Dale Witt, Montana F&G. Waterfowl banding.

31 George Wiseman, BSFW, Regional Office. Annual policy meeting with BLM.

February

8 Harold Corbin, BSFW, Regional Office. U.L. Bend project.

10 R. L. Eng, Montana State University. Student project.

March

R. E. Kalcso, Bob Adams, L. W. Morrison, Allen Whitten & Fred McBride, BLM. Fire agreement.

- April E. E. Seyler, Wildlife Services. Mutual problems. 7 T. E. Smith & R. E. Mundinger, BSFW, Regional Office. W. R. Town. U.L. Bend project. 10 Rolland Jorgensen, BLM. Grazing. 14 J. G. Augsburger & F. L. Kenney, National Bison Range. Courtesy call. 18 Joe Zahler, Station KXLO. Radio program. May J. B. Helvie, Bowdoin NWR; D. N. White & A. W. Waller, 4 Medicine NWR. Courtesy call. Harold Hardesty, Regional transport driver. Property transfer. 18 5 Joe Montgomery & Don Pfau. Missouri River development. 15 Elihu Berg, Pat O'Halloran & D. O. Kettinger, MRBS. Courtesy call. 17 Homer Bradley, Des Lacs NWR. Courtesy call. Vernon Ekedahl, BSFW, Regional Office. Inspection. Frank Martin, BSFW, Region 3. Orientation. June L. R. Jacoby, BSFW, Regional Office. Inspection. 6 D. O. Kettinger & Pat O'Halloran, MRBS. Courtesy call. 7 R. D. Mundinger & T. E. Smith, BSFW, Regional Office. U.L. Bend project. Vic Ecklund, BOR. Missouri River report. 26 Carl Lind, BLM. Mutual problems. July Harvey Miller, BSFW. Fort Peck goose banding. 11 W. M. Lindsey & T. E. Smith, BSFW, Regional Office. Wetlands. 14 David Murphy, County Commissioner. Lake Mason. 25 Lee Zeller, Montana F&G. Wetlands.
 - John Carlsen, Sherburne NWR. Vacation.
 W. H. Adams, BLM, McGrath, Alaska. Visit.

August

August

- 14 Mr. Malchus, U.S. Weather Bureau. Check weather station.
- 18 George Wiseman, BSFW, Regional Office. Nichols Coulee inspection.
- J. T. Verderveen, ERBS Mgt. Consultant. Public Land Law Review.
- George Petkanis, BSFW, Central Office, & R. D. Mundinger, BSFW, Regional Office, U.L. Bend project.
- R. H. Town, BSFW, Pickstown, South Dakota. Vacation.
- 25 Russ Ferbrache, GSA. Surplus property.

September

- Vernon Ekedahl & W. M. Lindsey, BSFW, Regional Office.
 Wetlands inspection.
- 13 Eugene Stroops, Benton Lake NWR. Surplus property.
- 14 Glenn Cole, NPS. Courtesy visit.

 Jim Chandler, Corps of Engineers. Mutual problems.

 D. I. Gretz, Wildlife Services. Courtesy visit.
- 15 Skeet Dart, BSFW, (retired). Courtesy call.

 Jack Helvie & Gene Sipe, Bowdoin NWR; Donald White,
 Medicine Lake NWR. Courtesy visit.

 Fred Staunton, BSFW, (retired). Courtesy visit.

 C. A. Powell, Corps of Engineers. Land management.
- 20 W. H. Mondell, U.S. Solicitor's Office. Lake Mason water rights.
- 27 A. W. Waller, Medicine Lake NWR. Transfer surplus property.
- W. V. Kennedy, USGS. Data for geological survey maps. H. V. Ryan, FBI. Miller case.
- 29 Ged Devan, Ravalli NWR. Check surplus property. E.M. Richland, FS. Courtesy call.

October

- 2 Jack Helvie, Bowdoin NWR. Check surplus property.
- 5 J.A. Maierle, private consulting engineer. U.L. Bend project.
- 9-13 George Wiseman, BSFW, Regional Office. O&M inspection.
- 10 Fred Staunton, BSFW, (retired). Meritorious Service Award.
- 12 Ed Collins, Columbia NWR. Courtesy visit.

October

- 16 Harold Hardesty, Regional transport driver. Property transfer.
- 17 D. K. Fortenbery, BSFW. Black-footed ferret study. Tom Davies, Ravalli NWR. Surplus property.
- 23 Victor May, National Bison Range. Surplus property.
- 25 L. F. Reichmuth, Red Cross first-aid classes.
- 31 R. E. Ducret & Don Gifford, BSFW, Regional Office. Survey new land acquisition at headquarters.

November

- 1 Duane Rubink, C. B. Zook, C. B. Zook, E. L. Chapel, M. A. Bateman, Darrell Gretz, N. R. Miner and 5 others. Wildlife Services. Neil Martin, Montana F&G, Larry Eichorn, BLM. Lethal bait stations and policies (1968).
- Rolland Jorgensen & Joe Gibson, BLM. Lethal bait stations 6 and policies (1968).
- 8 R. D. Mundinger & T. E. Smith, BSFW, Regional Office. U.L. Bend project.
- 22 N. R. Miner, Wildlife Services. Lethal bait stations.
 - 2. Slippery Ann Station

March

23 Harold Bryant, Corps of Engineers; Frank Cortnell & Mike Waddell, professional photographers. Engaged by COE to make movie of area.

April

Montana Pilots Association. Office call.

- June 7 L. R. Jacoby, BSFW, Regional Engineer. Inspection.
- 14 Montana F&G personnel. Pick up 50 goslings.
- 28 Forrest Crossen, author. Scouting material for future books.
- July 2 Mr. Crosset, National Geographic Society, and party of 23. Toured station. Orville Gray, Montana Wilderness Society. Toured station.
- 10&11 Harvey Miller, NPWRC. Give instruction in age and sex determinations of Canada geese.

July 12 Norman Warneke, Malheur JCC. Courtesy call.

Charles Loveless, Denver WRC. Inspection of exclosures 18 in Nichols Coulee.

August

23 R. D. Mundinger & George Petkanis, BSFW, Regional Office. Meet with Manager Martin.

30&31 George Wiseman, BSFW, Regional Office. Nichols Coulee range tour.

October

3&4 W. F. Farnes, former Foreman. Courtesy call.

11 George Wiseman, BSFW, Regional Office. O&M inspection.

13&14 Harold Bryant, Corps of Engineers; Frank Cortnell & Mike Waddell, professional photographers. Engaged by COE to make movie of area.

17-27 Don Fortenbery, BSFW, Black-footed ferret investigation.

Fort Peck Station

January

10 Marvin Plenert, BSFW. Courtesy call.

11 James Turland, Valley Co-op. Power line right-of-way. Ted Thompson, BLM. Surplus property.

April

Don Combs, USGMA. Investigate violation.

June

L. R. Jacoby, BSFW, Regional Office. Inspection.

29 Jack Helvie & Gene Sipe, Bowdoin NWR. Surplus property.

July 5 Harvey Miller, NPWRC; Gene Stroops, Benton Lake NWR; Dale Witt, Montana F&G. Goose banding.

August

15 George Wiseman, BSFW, Regional Office. Inspection.

23 Don White & John Gustophenson, Medicine Lake NWR. Courtesy call.

September

14 Vernon Ekedahl & John Lindsey, BSFW, Regional Office. Courtesy call.

October

12 George Wiseman, BSFW, Regional Office. O&M inspection.

Frequent visitors at the Fort Peck Station throughout the year included Wildlife Range personnel from Lewistown and Slippery Ann, Montana Department of Fish & Game (District IV in Glasgow), Corps of Engineers personnel from Fort Peck and Omaha, and BLM personnel from both Miles City and Malta.

C. Refuge Participation

1. Talks and Films

100		
Ja	nua	TV

- Ramelli--slide/talk, Lewistown Rotary Club, on CMR and influence on local economy.
- 24 Kaschke--slide/talk, Worden Lions Club, on CMR.

March

- 7 Gibbons -- film/talk, Fort Peck Volunteer Firemen, "Outboard Outing".
- 14 Gibbons -- film/talk, Coast Guard Auxiliary, on boating safety.
- 20-23 Ramelli -- film/talk, 6 schools (1300), National Wildlife Week.
- 21 Stollberg--slide/talk, Malta Kiwanis Club, on CMR; also gave talk on CMR to Lewistown Lions Club.
- 24 Ramelli -- film/talk, Lewistown Rotary, on National Wildlife Week.
- Gibbons--film/talk, Big Muddy Sportsmen's Club, "Alaska Caribou" and "Safety in Scuba Diving".

April

- 12 Ramelli -- slide/talk, Salt Creek 4-H Club, on CMR.
- 19 Ramelli--film/talk, Rock Creek School, on wildlife and safety.
- 21 Gibbons--film/talk, Big Muddy Sportsmen's Club, "Outboard Outing".
- 24 Ramelli-film/talk, Fergus Key Club, on fishing safety.

August

Ramelli--film/talk, Slippery Ann personnel and Rock Creek School, "Sea Otters of Anchitka" & "Safety at Work".

October

- 9 Ramelli--slide/talk, Lutheran Brotherhood, on CMR.
- 16 Martin--slide/talk, Lewistown Rotary Club on employment and
- career opportunities in the wildlife field.
- Martin--slide/talk, Lewistown Lions Club, on employment and career opportunities in the wildlife field.
- Ramelli--film/talk to Slippery Ann personnel and Rock Creek School, "Know Your Ducks", "Safety", & "Pulse of Life".
- 26 Burkholder -- slide/talk, Lewistown Democratic Women's Club, on CMR.

November

- Ramelli -- slide/talk to Lewistown VFW Club, on CMR.
- 27 Martin--slide/talk, 100 Cub Scouts and parents, on CMR.

2.	Meetings
January 13-15 23 25-26	Burkholder and Kaschke assisted with mid-winter Lions Club Conference at Lewistown. Ramelli participated in BLM meeting on recreational development on Missouri River from Fort Benton to Robinson Bridge. Kaschke and Gibbons participated with BLM in protest meeting by range users in Miles City.
Februar	y
2-3	Acting Manager and his assistants participated in annual BSFW-BLM policy meeting at Lewistown.
21	Ramelli gave talk on predator control work on CMR at annual meeting of Garfield County Wool Growers.
March	
3	Gibbons attended Interagency Fire Control Meeting at Billings. Kaschke and Peck participated in Chain Buttes Grazing District
5	meeting. Stollberg met at Helena with Ekedahl and Wiseman and Montana
20	Department of Fish & Game on seasons and mutual activities. Kaschke and Peck attended luncheon at Malta Chamber of Commerce. Discussed proposed bison pasture.
April 3	Kaschke attended Billings meeting with BLM, Forest Service, and Solicitor on Miller trespass case. Kaschke participated in Advisory Board Meeting with Miles City BLM.
18	Stollberg attended Fort Peck Interagency meeting at Glasgow.
May 5	Stollberg and Burkholder participated in Fergus Rod & Gun Club Meeting.
June 2-3	Ramelli, Burkholder, and Gibbons attended Wildlife Federation Meeting at Great Falls.
July 13-15	Martin attended Public Land Law Review Meetings at Billings
24	Martin and Kaschke attended Soil Conservation Society Meeting

at Lewistown.

September 26-28 Ma Martin participated in the Wildlife Services annual workshop held at the Custer National Forest. October

Ramelli gave short talk at annual Tri-County Sportsmen's Association Banquet at Roundup.

11 Ramelli participated in the Fort Peck Interagency Council Meeting at Miles City.

November

Kaschke attended Indian Buttes Grazing District Meeting at Dovetail.

December

16 Gibbons attended Big Muddy Sportsmen's Club Meeting. Burkholder acted as Co-chairman at the Fergus County High School Lay Committee of the Lions Club.

Throughout the year participation in local Service Clubs was as follows:

Frank Martin Kiwanis Club Bob Burkholder Lions Club Lloyd Ramelli Rotary Club Marvin Kaschke Lions Club Linda Wicks Soroptimists

3. Tours

May 16 Ramelli on field tour with BLM and Montana Department of Fish & Game concerning sagebrush control experiments work in Petroleum County.

May 25 Ramelli conducted tour with Moore High School Conservation Class on west end of Wildlife Range.

July 3 Peck conducted Wilderness Society group of 20 over the Rocky Point area.

August Martin, Kaschke, Burkholder, and Peck participated in Nichols

Coulee tour with George Wiseman and BLM.

Sept 26 Ramelli, Burkholder, and Kaschke attended range tour of BLM-Montana Department of Fish & Game sagebrush control study.

October Martin and Ramelli on historical site tour with Joe Montgomery 18 and group to Soda Creek, Crooked Creek, and Musselshell area.

4. Publications and News Releases

Burkholder wrote feature article on the prairie dog for March five Central Montana newspapers.

Burkholder wrote feature article on the Slippery Ann goose July flock for Central Montana newspapers.

August Martin wrote feature article with photographs on Corry O'Brien and his work under our YOC project.

November Burkholder worked with local reporter on article concerning the black-footed ferret study which is awaiting publication.

5. Training. (See Section G for details)

Feb 13-17	Ramelli, Burkholder, Kaschke, Gibbons, and Peck attended
	Regional Conference at Portland.
April 14-	Kaschke attended Mid-Managers Training School at Arden
May 18	Hills, Minneapolis.
May 5	Ramelli, Burkholder, Peck, Jones, Gibbons, Gilbert,
	Sullivan, and Sage attended the GSA defensive driving
	course at Lewistown.
Sept	Ramelli, Burkholder, Kaschke, Gibbons, and Peck attended
18-21	the banding and enforcement workshop at Tule Lake.
Sept 19	Martin attended BLM Workshop at Malta.

Sept 26 Martin attended GSA defensive driving course at Wildlife Services Workshop.

Dec 4-7 Wicks attended Regional Office Clerical Workshop.

D. Hunting

Hunting seasons were particularly complicated on the Wildlife Range this year. Seasons are set by state districts, three of which are superimposed upon the Wildlife Range. Each of these districts had different opening and closing dates for most species of big game.

Elk. Elk could be hunted somewhere on the Wildlife Range for 66 days. The earliest opening was for the archery season on October 8, and the last rifle permit hunt closed on December 24. During the 21-day archery season, 21 elk were known killed.

During rifle seasons, 40 permit holders on the south side killed 20 elk, and 120 permits on the north side netted another 104. Hunter success varied from 50% on the south side-west end to almost 100% on the north side-east end.

Bow hunters success was 33-1/3% greater than last year in the total number taken. Last year's archers killed 7 elk on each end of the Wildlife Range, but this year a disproportionate kill resulted with 19 of the 21 animals coming from the east unit.

In the past several years, interest in bow hunting, especially for elk on the Wildlife Range, has increased tremendously. Previously the total number killed by archers was unpredictable and of little consequence. However, this is no longer true as evidenced by the relatively heavy kill the past two years. When the State sets quotas for the rifle permit hunt, the archery kill should now be considered and quotas reduced accordingly. Recommendations have been made to that effect.

A total of 11 elk on the east end and 2 on the west end were believed to have been killed either as cripples that were not recovered or as animals illegally taken. The total known kill including both legal and illegal animals is 158; and it is estimated that the actual loss is 170. Deer. The number of deer hunters declined slightly again this year. This is due primarily to poor hunter success which reflects a low deer population. This year in order to measure this factor more precisely, a questionnaire was implemented. As previously mentioned, the average reporting hunter spent 5.3 days per deer and about half of these were unsuccessful. Consequently, less liberal regulations are to be recommended for next year.

In the case of white-tailed deer, few animals were taken and an increased harvest is encouraged.

In the past, hunter field checks and State information was used but these sources were not reconcilable and neither gave a true picture of the actual hunter success on the Wildlife Range.

For example, at the Willow Creek checking station (Fort Peck), opening day hunter success increased slightly. Hunters numbering 210, 61 mule deer and 1 white-tailed deer were checked by State and Bureau personnel. Hunter success was 30% this year; 28% in 1966; and 21% during 1965.

Another source of information is contained in Table 1, which is on the following page. Here, again, the information encompasses more than just the Wildlife Range area but does show the increasingly poor hunter success that has been described.

Antelope. All of the Wildlife Range is open except for the small administrative closure at Slippery Ann Station, the Fort Peck townsite, and the bighorn sheep enclosure. Antelope use the area on an "on-and-off" basis but the extent of hunting is unknown. We do know that many hunters avail themselves of the privilege of hunting antelope on the Wildlife Range. These animals are hunted under a state quota system.

Upland Game. Sharptail grouse were again plentiful in the Big Dry area and most of the hunting for this species was in that area. A few hunters were checked in Valley and Garfield counties, but success was lower than in McCone County. Sage hen populations were lower this year and hunter success was consequently lower. The tables included for general information reflect opening day success for hunters primarily in McCone County. On opening day heavy rain prevented many hunters from getting out so the lower figures for this year do not necessarily mean poorer hunting for the season.

Pheasants and Hungarian partridge were in low supply this year and hunter success was low. Hunting pressure for pheasants at Fort Peck was very light simply because the pheasants are almost gone.

<u>Waterfowl</u>. A long mild fall spread the migration of waterfowl over a considerable period. Most stock ponds and small streams remained free of ice until late November and waterfowl in the area were widely dispersed. At Slippery Ann, peak goose numbers during fall migration were 500 compared with 800 a year ago.

Table I. Summary of Deer Kill Information Obtained At Glasgow and Malta Elk Drawings — 1964, 1965, 1966 and 1967.

			Numk	-	ASG	O W	Perc	non+			Numl		LIT	A	Perc	ant	
		164	-	166	167	164	165		167	164		166	167	164	165		167
	Licenses checked	1797	2065	1864	1404					934	801	932	1013				
	Kill per 100 licenses	83	69	71	63					72	69	84	54				
•	Mule deer kill	1226	969	751	535	82	68	57	60	541	410	539	415	80	74	69	75
•	Whitetailed deer kill	264	7/18	573	353	18	32	43	40	135	146	240	135	20	26	31	25
•	Composition of mule deer killed:																
	bucks	729	589	429	349	59	61	57	65	359	294	366	312	66	72	68	75
	does	425	326	265	160	35	34	35	30	146	104	151	96	27	25	28	23
	fawns	72	54	57	26	6	5	8	5	36	12	22	7	7	3	22	1
•	Composition of white- tailed deer killed:																
	bucks	167	287	360	252	63	64	63	71	92	98	157	95	69	67	65	70
	does	80	134	172	86	30	30	30	24	38	39	72	36	28	27	30	22
	fawns	17	27	41	15	7	6	7	5	4	9	11	4	3	6	5	

^{1.} Registration was held on Friday and Saturday before close of general season.

^{2. &}quot;Licenses checked" includes only those applicants possessing deer tags.

Table II. Prairie Grouse Opening Day Hunter Harvest Data, Fort Peck Dam, 1965, 1966, and 1967.

	1965	1966	1967	13 yr. Average
No. of Hunters	85	loli	85	131
Hours hunted	304	473	340	515
Potal birds	30	199	119	198
Birds/hunter	0.4	1.9	1.4	1.5
Hours per bird	10.1	2.4	2.9	2.6
Sharp-tailed Grouse				
No. birds	21	147	90	133
Birds/hunter	0.2	1.4	1.1	1.0
No. adults	6	46	19	1414
No. juveniles	15	101	71	82
Juv./100 adults	40000	220	376	186
Sage Grouse				
No. birds	7	40	27	46
Birds/hunter	0.1	0.4	0.3	
No. adult females	0	1	. 6	6
No. juveniles	7	19	20	43
Juv./100 adult females	*****	******		717
Hungarian Partridge				
No. birds	2	12	2	30
No. adults	1	3	1	7
No. juveniles	1	9	1	20
Juv./100 adults	******		******	286

Table III. Prairie Grouse Opening Day Hunter Harvest Data, Malta, 1965, 1966 and 1967

	1965	1966	1967	10-yr. Average
No. of hunters	97	106	63	95
Hours hunted	167	395	329	347
Total birds	154	268	103	194
Birds/hunter	1.6	2.5	1.6	2.0
Hours per bird	1.7	1.5	3.2	1.8
Sharp-tailed Grouse				
No. birds	21	86	20	30
Birds/hunter	0.2	0.8	0.3	0.3
No. adults	3	29	3	8
No. juveniles	18	55	14	211
Juv./100 adults	600	196	470	300
Sage Grouse				
No. birds	1.27	166	72	149
Birds/hunter	1.3	1.6	1.1	1.6
No. adult females	2	25	15	18
No. juveniles	108	108	38	102
Juv./100 adult females	5400	432	253	570
Hungarian Partridge				
No. birds	6	16	11	27
No. adults	1	14	14	6
No. juveniles	3	12	2	14
Juv./100 adults		*****	*********	236

Waterfowl food in the form of cereal grains was abundant. A 12-acre barley field adjacent to the riverbank, which was left unharvested, received heavy use by 400 mallards. Geese spent considerable time on a new planting of alfalfa at Slippery Ann Station and on a harvested field of barley.

No ducks were observed in the west unit after November 24. Goose numbers dropped from 450 to 250 by December 1 and appear to have stabilized pending more severe weather.

Goose hunter success on the Wildlife Range was very poor due to the high water on the upper end of the lake. River bottoms that were used outside the closed area last year were under water this year and most of the goose feeding and nesting activity occurred further upstream in the area closed to hunting. Goose hunting success was good in the feeding areas outside the Wildlife Range as the birds frequented these areas in Fergus, Petroleum, and Phillips counties.

An estimated 285 ducks were taken on the public hunting grounds at Fort Peck by an estimated 148 hunters. The bag limit of 2 mallards was the same as the preceding year, but migrants were fewer this year and much later in arriving due to the mild weather thus success was about one-third that of 1966. During the last two weeks of the waterfowl season, hunters enjoyed the only really good shooting of the season. Hunting pressure on the public hunting area west of Timber Creek was very light and no known kills were reported.

E. Violations

Chester McDermott for elk taken with false license 11/8. Fined \$28.50 with license revoked for 16 months. Apprehended by State Warden Quiring.

Gary Kruger for wanton waste of elk 11/12. Fined \$28.50 with license revoked for 16 months. Apprehended by State Warden Quiring.

Jon Bish took elk out of season 12/3. Fined \$50.00 and 30 day jail sentence, which was suspended. Apprehended by Manager Gibbons; assisted by State Wardens Graff and Bright.

Violations processed by state wardens at Fort Peck and Glasgow:

	No.	Total Fine
Big game	5	\$ 600.00
Game birds	4	55.00
Boating	17	238.00
Fishing	32	824.00
Closed area (hunting)	2	55.00
Litter	4	114.00

F. Safety

We closed the period with a safety record of 332 days without a losttime accident. This is not the most desirable record and we intend to add a year to this for the next report.

Safety meetings are held in conjunction with our bi-weekly staff meetings. Due to our staff being scattered as they are this offers the most efficient means and the best participation we can attain. In addition, A safety film is shown at the Lewistown and Slippery Ann stations each month.

A Red Cross first-aid course (see section on Training) was given at Slippery Ann. This course was completed October 31 when certificates were awarded to 13 employees and to 4 family members and interested neighbors. At the end of the period several members of the staff were attending an advanced first-aid course offered by the Red Cross.

A plan is underway to establish and designate landing areas throughout the Wildlife Range. Twelve such areas have been so designated in places where field activities are concentrated. The aircraft operation's danger potential has been and will continue to be reduced at every opportunity.

Although it is difficult to measure, the employees attitude regarding safety is improving here on CMR in all categories of the operation. A safety consciousness has been established and is being constantly improved.

G. Training

Biologists Kaschke and Burkholder and Managers Ramelli, Peck, and Gibbons attended the Regional Conference at Portland during mid-February. The general feeling was that this was one of the better conferences attended.

Marvin Kaschke was selected for the spring session of the mid-managers course at Arden Hills, Minneapolis. He reported a very informative session.

A training course in defensive driving by GSA was given at Lewistown. Personnel attending were Charles Gibbons, Sam Sage (Fort Peck); Charles Peck and Harold Jones (Slippery Ann); and Dean Gilbert, Jerry Sullivan, Bob Burkholder and Lloyd Ramelli (Lewistown).

Charles Gibbons was called to the Central Office on a special two-week assignment with the Refuge Division. While there, he assisted in compiling data pertaining to resident game on national wildlife refuges. He was also able to benefit from a general orientation in the functions of the Washington office.

Manager Frank Martin took the GSA defensive driving course while attending the Wildlife Services Workshop.

We employed one student under the Youth Opportunity Program. Corry O'Brien put in a very profitable summer with us. His work and training centered around maintenance and shop work at headquarters. Corry is now attending Junior College at Miles City. Special credit is due to the shop staff for their efforts in making this project a success.

A class in first aid was conducted for Wildlife Range personnel by a representative of the Red Cross. A total of 13 employees completed the course and were issued certificates. In addition, Mrs. Peck and Mrs. Jones along with two interested neighbors completed the course.

The class was also attended by all the students of the C.K. Creek School. They did not receive certificates since the Red Cross does not issue these to anyone under the age of 16. From their enthusiasm and willingness, these students are likely to have derived more from the class than their elders.

During September, Managers Ramelli, Peck, and Gibbons and Biologists Kaschke and Burkholder attended the banding and enforcement workshop at Tule Lake. This was an especially good course. Modern techniques, the values of banding, methods of aging, etc., were of great value to all.

An advanced Red Cross first-aid course was started during November. Several members of the staff and their wives are participating and at the end of the period this course was well on its way to completion.

Mrs. Linda Wicks participated in the Clerical Workshop at Portland during December. She reported a very worthwhile and enjoyable session.

VII. OTHER ITEMS

A. Items of Interest

The Wildlife Inventory Plan for Charles Russell National Wildlife Range, prepared by the Pilot-Biologist, was completed in March and submitted to the Regional Office for review.

Two fishermen lost overnight and adrift in their boat on Fort Peck Reservoir were located early the next morning by Bob Burkholder and George Wiseman flying a chartered aircraft. Gibbons at Fort Peck was alerted and he completed the rescue by boat.

Hunter access to the Wildlife Range in the Squaw Creek-Devil Creek area was closed by a private landowner. The locked gate, effecting the closure, was within 100 yards of the national wildlife refuge boundary on private land. Negotiations are underway to solve this problem and this may involve a relocation of the existing road to circumvent the private land.

Kaschke assumed leadership of the Silver Mountain Ski Club, having previously served as secretary and vice-president. A new ski area development in the Snowy Mountains is being planned for the Central Montana area.

Again this year the U.S. Army, Corps of Engineers Nuclear Cratering Group were active on Duck Creek, west of Fort Peck. Only one underground explosion was detonated. It contained 140 tons of nitro-methane compared with the largest of last year which was 40 tons. The crater created by this change measured some 100 yards inside and 200 yards long. It was termed a "success" by Army officials and planning for the 1968 season got underway immediately following this year's effort.

Burkholder was active all year on a group study of the local high school. His committee, appointed by the school board, toured various high schools in the state, conducted surveys, and eventually reported their findings and recommendations to improve the present school system.

A portion of the U.L. Bend Waterfowl Production Area was purchased during this reporting period. The Bureau is scheduled to take possession July 1, 1968. The remaining 5,764 acres of private land and 35,000 acres of associated public lands are still being negotiated, however, this acquisition has received approval.

Gibbons received a \$25 incentive award for submission of an idea to improve safety.

Retired Refuge Manager Fred Staunton received the Meritorious Service Award during a ceremony at Lewistown, honoring both Fred and his wife, Margaret. (See Photo Section)

Charles Kananen, Heavy Equipment Operator, and Mike Jones, sone of Harold Jones, Foreman at Slippery Ann Station, were both married during this reporting period.

Bruce Stollberg, Refuge Manager from March to May, returned to his former position in Resource Planning in the Central Office. Bruce injected some good ideas into the operation despite his short tenure here at the Charles Russell National Wildlife Range. (See Photo Section)

Mrs. Shirley Carlson, clerk-typist at headquarters, terminated her employment in order to assure a proper environment for her expected baby. She was replaced by Mrs. Betty Minnich, who recently moved to Lewistown and was formerly employed by the Soil Conservation Service in Salina, Kansas.

Mr. Frank R. Martin, Refuge Manager, reported for duty July 2, 1967. Frank transferred from the Region III Regional Office, but is not a newcomer to Montana. Staff members were pleased to note that most of his recent vacations were spent in Montana and he has a familiarity with the area and its problems that is usually associated with someone who has had a long personal involvement.

B. Photographs

A section of photographs is included following the NR forms. Several hundred photographs were taken during the year. This made it possible to complete the CMR briefing book and we provided 51 black and white enlargements (8x10) to the Regional Office.

C. Credits

All of the technical staff were involved to various degrees in writing the report. The typing was done by Mrs. Wicks and Mrs. Minnich. Manager Martin edited the entire report.

SIGNATURE PAGE

Submitted by:

TrankMulartum
(Signature)

Refuge Manager
(Title)

Date: _____January 24, 1968

Approved, Regional Office:

Date: 3-11-6 8

(Signature) (Craw

Upf Rey Devertos

3-1750 Form NR-1 (Rev. March 1953)

WATERFOWL

L SS C			Weeks	of r	(2) eport	ing n	eriod			
and the same of th		1/5-14	1/15-21	1/22-28	:1/29-2/4:	2/5-11 :	2/12-18 :	2/19-25:	2/26-3/4	3/5-1
Species :		2 :	3 1	4	: 5 :	6 :	7 :	8 :	9	: 10
wans:	1		1	1			1	1		T
Whistling										
Trumpeter	River Fro	zen								
eese:	1									
Canada	100	100	100	100	100	100	100	100	150	200
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
ucks:										
Mallard	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	12,500	10,000
Rlack	15	15					15	15	10	5
Cadwall										
Baldpate										
Pintail										1.00
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Vood										
Redhead						201				
Ring-necked						The state of the s				
Canvasback										
Scaup										
Goldeneye	150	150	150	150	150	150	150	150	150	200
Bufflehead										
Ruddy										
Other Merganser	200	300	300	300	300	300	200	200	200	200
Total Ducks	15,365	15,465	15,450	15,450	15,450	15,450	15,365	15,365	12,860	10 506

Cont. NR-I (Rev. March 1953)

WATERFOWL (Continuation Sheet)

REFUCE Charles M. Russell National Wildlife Range January TO April . 19 67 MONTHS OF (2) (3) Weeks of reporting period : Estimated : Production : 3/12-18:3/19-25:3/26-4/1: 4/2-8:4/9-15:: 4/16-22: 4/23-29 (1) waterfowl :Broods:Estimated : 11 : 12 : 13 : 14 : 15 : 16 : 17 : 18 : seen : total Species days use Swans: Whistling Reservoir Frozen-----Trumpeter River Frozen Geese: Canada 265 365 700 250 250 26,460 550 250 Cackling Brant White-fronted Snow 250 1.750 Blue Other Ducks: Mallard 14,000 12,000 4.000 3.000 9.500 15,000 23,000 1,561,000 Black 5 10 665 Gadwall 650 300 200 13.650 100 500 Baldpate 100 500 1 500 1.600 1_000 400 200 37,100 Pintail 6,000 1.000 3,500 8.800 2,000 1,000 600 161,000 Green-winged teal 100 300 400 350 200 100 10,150 Blue-winged teal 75 350 150 75 7,350 200 200 Cinnamon teal 2,380 130 25 15 75 20 75 Shoveler 250 650 15,750 350 450 500 Wood Redhead 31,325 1.500 900 75 1,300 100 600 Ring-necked 25 3,255 120 120 75 50 75 Canvasback 50 2,450 10 50 100 75 50 15 Scaup 150 17,710 30 350 600 700 500 200 Goldeneye 200 250 350 350 350 250 175 24,325 Bufflehead Ruddy Other Merganswer 250 30,800 225 275 300 250 250 350 7,195 21,330 | 37,910 26,020 18,250 11,070 1,918,910 Total Ducks 5,630 Coot: 100 150 1,750 (over)

	(5) Total Days Use :	C (6) (7) Peak Number: Total Production	SUMMARY
Swan	:	0 :	Principal feeding areas orain fields adjacent to open river
Gees	26,460	700 :	below Ft. Peck Dam through period and similiar areas on river above reservoir 3/19 and reservoir its self 4/19.
Duck	1,918,910	37,910:	Principal nesting areas River islands and stock pend
Coot	a 1,750 :	150 :	areas adjacent to Reservoir.
			Reported by Gibbons, Peck & Burkholder
(1)	Species:	In addition to the birds listed reporting period should be added to those species of local and n	on form, other species occurring on refuge during the ed in appropriate spaces. Special attention should be given national significance.
(5)	Weeks of Reporting Period:	Estimated average refuge popula	ations.
(3)	Estimated Waterfowl Days Use:	Average weekly populations x no	mber of days present for each species.
(1)	Production:	breeding areas. Brood counts	should be made on two or more areas aggregating 10% of the aving no basis in fact should be omitted.
(5)	Total Days Use:	A summary of data recorded under	or (3).
(6)	Peak Number:	Maximum number of waterfowl pre	sent on refuge during any census of reporting period.
(7)	Total Production:	A summary of data recorded under	or (4).

3-1751 Form NR-1A (Nov. 1945)

MIGRATORY BIRDS (other than waterfowl)

Refuge Charles H. Kussell NW Kange

Months of January toApril 195 67

(1)		2)		3)		4)		(5)		(6)
Species	First		Peak N			Seen		roduction		Total
Common Name	Class Number	A Date	Class Number	Date .	Qlass Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Great Blue Heron	2	03/24/67	100	04/30/67	summer	resident				
White Pelican	1	04/20/67	250	04/30/67		residents				
Double-crested Cormorant	8	04/04/07	400	04/30/67		resident				
Western Grebe	1	04/28/67	200	04/30/67		residents				
II. Shorebirds, Gulls and Terns:			1.000	01/20/167		ne of dept				
California Gull	1	03/15/67		04/30/67		resident resident				
killdeer	12	03/15/67	200 50	04/30/67	summer 1	04/28/67				
Long-billed Curlew	12	04/13/07	50	04/30/07	•	04/20/07				
		1		(over)						

_	(2)		3)		(5)	(6)
1	04/08/67	10,000	04/30/67	summer residents		
		40	03/25/67	permanent resident		
1	03/20/67	10.000				
		20	04/15/67	permanent resident		
		1,500		permanent resident		
10			04/20/67	migrant		
10						
1			04/30/67			A
3	04/18/67	16	04/30/67	summer residents		2
Í				D.1	7 71 11 11	5 N - 4 - V 11
	1	1 04/08/67 1 03/20/67 10 04/01/67 10 01/01/67 1 03/27/67	1 04/08/67 10,000 1 03/26/67 1 20 1,500 10 04/01/67 50 10 01/01/67 75 1 03/27/67 200	1 04/08/67 10,000 04/30/67 40 03/25/67 1 03/26/67 1 03/28/67 20 04/15/67 1,500 10 04/01/67 50 04/20/67 10 01/01/67 75 04/05/67 1 03/27/67 200 04/30/67	1 04/08/67 10,000 04/30/67 summer residents 40 03/25/67 permanent resident migrant permanent resident 10 04/01/67 75 04/05/67 15 04/30/67 15 04/30/67 10 03/27/67 200 04/30/67 permanent resident summer resident summer resident summer resident summer resident	1 04/08/67 10,000 04/30/67 summer residents 40 03/25/67 permanent resident 1 03/26/67 1 03/28/67 migrant 20 04/15/67 permanent resident 1,500 permanent resident 10 04/01/67 50 04/20/67 migrant 10 01/01/67 75 04/05/67 15 04/30/67 1 03/27/67 200 04/30/67 permanent resident

INSTRUCTIONS

(1) Species:

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gavilformes to Ciconiiformes and Gruilformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

Refuge Charles M. Russell Na Range Months of January

(1) Species	(2) Density		(3) Young Produced	(4) Sex Ratio	R	(5) emova	ls	(6) Class D	(7) Remarks
Common Name	Cover types, total acreage of habitat		Number broods obs'v'd. Estimated Total	Percentage	Hunting	For Restocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Pheasant Turkey Turkey	Population static of	low*						100 2,000	*opecies dependent on hottom rands along river and below fort leck dam. Inis habitat reduced due to rising lake levels.
Sharptail Srouse Uropean Partriuge	repulation up from							3,000	Note: Severe spring snow storms continuing into May will probably reduce all upland bird populations.
					**				

Best possible image.

Best possible image.

3-175 Form NR-4 (June 1945)

SMALL MAMMALS

Refuge Charles M. Russell Na Range

Year ending April 30, 1967

(1) Species	(2) Density			Ram	(3) evals			D	isposi	(4)	Fure			(5)
	Class D							Share	e Trapp	oing	Refuge	Donated	Mura	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Bunting.	Fur Rarvest	Predator Control	For Re-	For Re-	Permit Number	Trappers	Refuge	Total Ref	Furs Done	Wura Destroyed	
ded Fox doyote dobcat dadger deast Weasel dlack-footed Ferry dink accoon abbits (2 species dorcupine rairie Dog kunk deaver	Increasing east - sta Increasing slightly Decreased to a low let No measurable change t populations. None of these species are ab ant on GMR. Population low Increasing slightly Increasing slightly Increasing otable population	vel in f			250 10 15 90 12		and distribution of the control of t	T-7418 T-7416	.i.ali	fe ser	vices			Common Common Common Common Very rare Rare Occasions Common Common Common Common Common

REMARKS: Except for Beaver no formal cencusing techniques are used. Information is attained by general field observation and impressions received from discourse with local residents and others frequenting the refuge area.

Actual census periods. Remai restinated by interpolation.

WATERFOWL

REFUGE Charles M. R	USSELL NAC	FOURT MYTCH	riie wange			MONTHS OF	Mey	TO _	August	_, 19_67
) 	1	Weeks	of r	(2) e p o r t	ing n	eriod			
(1)	1/30-5/6	5/7-13	5/11-20	5/21-27	5/28-6/3	6/1:-10		6/18-24:	6/25-7/1:	7/2-8
	1 :	2 :	3 :	4 :			7 #	8 *:	9# :	
Swans:	1 1	1					1	1		
Whistling										-
Trumpeter										
Geese:										
Canada	250	300	400	500	650	900	1,500	1,800	2,200	2,200
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:			100.00	-	-	-			-	
Mallard	2,000	750	750	700	700	700	800	800	800	800
Black										
Gadwall	200	150	150	150	150	120	120	120	120	120
Baldpate	350	300	250	250	300	300	300	300	300	300
Pintail	500	200	300	200	200	200	200	200	200	200
Green-winged teal	150	100	100	1,00	80	80	80	80	80	80
Blue-winged teal	200	150	3.30	120	120	120	120	100	3.00	100
Cinnamon teal	25	25	25	25	20	20	20	20	20	20
Shoveler	550	350	350	500	500	550	550	550	550	550
Wood										
Redhead	50	10	10	20	20					
Ring-necked	25									
Canvasback	20	20								
Scaup	3.00	75	75	50	50	20	20			
Goldeneye	300	200	200	250	150	150	150	150	150	150
Bufflehead	350	7.00	75	50	50	35	30	30	30	30
Ruddy	100	50 100	GO.	. 20	20	438	150	20	20	20
/6/A/Common Mergan-			400	400				20 450	450	450
TOTAL DUCKS SEP	5,01,5	2,910	2,895	2,855	2,760	2,765	2,860	2,820	2,820	2,620
Coot:	100	100	100	100	100	100	100	100	100	100

Cont. NR-1 (Rev. March 1953)

WATERFOWL (Continuation Sheet)

				75							19_67
	V	7/15-22:	of:	(2) repor 7/30-8/5: (ting	8/13-19:	8/20-26:	8/27-31	waterfowl	: Production: Broods:	tion Estimate total
Swans:	y s	menta of	data res	orded uno	Er (3),					T	
Whistling										-	
Trumpeter	07.04	OTTO HEAD	59 to 12	CONTRACTOR AND ADDRESS.	BATTER TO	PANES IN	THE REAL	100 pa -00	F-1969	-	
Geese:	2,000	1,000	500	250	200	200	250	300	107,800	10	1,00
Canada	29000	2,000	200	630	GUU	200	6,74	300	2013000	- spor	- cyoro
Cackling Brant			-							+	-
White-fronted	-	-		-	-	-	THE PERSON	-	-	-	-
Snow										1	1
										-	-
Blue Other	200	-	-		-					+	
Ducks:										1	
Mallard	700	600	500	450	450	500	500	600	91,700	25	200
Black			-	7 7							
Gadwall	120	120	150	200	250	250	100	50	18,180	5	700
Baldpate	300	350	350	1,00	100	150	350	200	40,250	5	50
Pintail	200	200	200	220	250	300	300	200	29,690	6	150
Green-winged teal	50	50	60	3.00	500	500	500	500	22,330	1	20
Blue-winged teal	100	150	200	200	1:00	1,000	2,000	1,200	38,570	7	200
Cinnamon teal	50	20	20	30	30	FiG.	-020	A CONTRACTOR OF THE PARTY OF TH			10
Shoveler	550	600	600	500	lioo	200	100	50	56,000	1	50
Wood											
Redhead									1,190		
Ring-necked Canvasback		2							105		
Scaup					527.00	Date Date:	of the later		280	-	
Goldeneye		eta .							2,730	-	
Bufflehead	20	50	20			-	-		21,210	-	-
Ruddy	20	20							2,205	-	-
WWW Common Mergan	- 1.50	1,00	7.00	300	200	100	100	100	hh,100	-	-
TOTAL DUCKS	2,630	2,560	2,500	2,100	2,880	3,340	2,970	2,920	369,250	50	780
Total Days Us	1 Pask:	Number 4	Total Pr	odue tron			50	2000050	11,550		20
Coot:	100	100	100	1.00	100	50	50	50		-	
				(ove	X*)						

Total Days Use	(6) Peak Number :	(7) Total Production	SUMMARY	25°300
wans -0-	-0-	-0-	Principal feeding areas Stock pond ba	ys of Fort Peck
leese 107,800	2,200	1,00	Lake and adjacent grain fields.	
ucks 369,250	5,015	780	Principal nesting areas Island and 1	and areas adjacent
oots 11,550	1.00	20	to the lake and river.	102
Wood. Technisa			Reported by Chibbons & Burkholder	
Cinnenon teal Shoreler				Team I was
Binch Gedneyll	reporting pe	riod should be adde	on form, other species occurring on ref d in appropriate spaces. Special attent ational significance.	ion should be given
- Cody - C	reporting pe	riod should be adde	d in appropriate spaces. Special attent ational significance.	
2) Weeks of Reporting Period:	reporting pe to those spe Estimated av	riod should be adde	d in appropriate spaces. Special attent ational significance.	ion should be given
2) Weeks of Reporting Period:	reporting pe to those spe Estimated av	riod should be adde cies of local and r erage refuge popula	d in appropriate spaces. Special attent ational significance.	ion should be given
2) Weeks of Reporting Period: 3) Estimated Waterfowl Days Use:	reporting per to those specific to those specific available availa	riod should be added cies of local and receive refuge populations x number of young products. Brood counts as	d in appropriate spaces. Special attent ational significance.	ints on representative
2) Weeks of Reporting Period: 3) Estimated Waterfowl Days Use: 4) Production:	Estimated av Average week Estimated nu breeding are breeding hab	riod should be added cies of local and receive refuge populations x number of young products. Brood counts as	d in appropriate spaces. Special attent ational significance. tions. tions. ced based on observations and actual count hould be made on two or more areas aggreing no basis in fact should be omitted. r (3).	ion should be given that on representative gating 10% of the
2) Weeks of Reporting Period: 3) Estimated Waterfowl Days Use: 4) Production:	Estimated av Average week Estimated nu breeding are breeding hab	riod should be added cies of local and recorded under the state of young productions. Brood counts so that. Estimates has data recorded under the state of young productions.	d in appropriate spaces. Special attent ational significance. tions. tions. ced based on observations and actual count hould be made on two or more areas aggreing no basis in fact should be omitted. r (3).	ion should be given ints on representative gating 10% of the

REPORT CLASSIAN No. Bearold Retioned villable Mango

CM Russell NW Range (ot Refuge

MIGRATORY BIRDS
(other than waterfewl)
Months of

Thru xx August to

x 67

(1) Species	(2) First Seen	(3) Peak Numbers	(4) Last Seen	(5) Produc	tion	(6) Total
Species	First Seen	reak Numbers	Last Seen	Number Total		Estimate
Common Name	Number Date	Number Date	Number Date	Colonies Nest	*	Number
I. Water and Marsh Birds: Western Grebe Eared Grebe Common Loon Double-crested Cormorant White Pelican Great Blue Heron	Last Period	200 08-67 75 08-67 20 07-67 1,200 08-67 750 08-67 225 08-67	Still Present Still Present Still Present Still Present Still Present Still Present	h Unk	nown	250 100 20 2,000 750 350
II. Shorebirds, Gulls and	of 1811 Edition	MUCTIONS and Wall Checker	TMI hand a negat to the street and an animal and an animal and animal and animal and animal and animal anim	brova spiro	120108	2/(2)
Terns: California Gull Franklin Gull Common Tern Long-billed Curlew Killdeer Upland Plover Mountain Plover	Last Period 50 05-02-67 2 05-02-67 Last Period Last Period 2 05-16-67 1 05-20-67	10,000 d8-67 7 1,500 d7-67 7 1,50 d7-67 1,50 d7-67 800 d7-67 800 d7-67 7 1,0 d7-67 7 300 d7-67	Still Present Still Present Still Present 11 06-03-67 Still Present Still Present Still Present	Unk	nown nown nown	15,000 2,000 500 220 1,000 40 450
	beareans near	deles de l'Assesse de los des les les les les les les les les les l	007 101 Proces	เขางา (ระดีสารและ)	edises is	(h)
	g edd an aub ea	(over	e and to reduce i	Early Dated Total	: Int	T (3)

(1)	(2)	<u> </u>	3) (4)	7	(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White winged dove	Last Period	110,000	08-67 Still Present	appeal Mit II)	80,000	200,000
(5) (5)	A STATE OF THE STA	(A) E Jenj	Coak Numbers	(S)	(1)	
IV. Predaceous Birds: Golden eagle Duck hawk Horned owl Magpie Raven Crow Sparrow Hawk Osprey Marsh Hawk Red Tailed Hawk	Last Period Last Period Last Period Last Period Last Period Last Period 1 05-04-67 2 05-20-67	20 2,000 150 14 25 25 15	Permanent Resident Permanent Resident O7-67 Still Present O8-20-67Still Present O8-67 Still Present O7-67 Still Present O7-67 Still Present	Burkho	Unknown Unknown Unknown Unknown 7 Unknown Unknown Unknown Unknown	2,800

INSTRUCTIONS

(1) Species:

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II. Shorebirds, Gulls and Terns (Charadriiformes)

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(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge <u>during the period</u> concerned.

INT.-DUP. SEC., WASH., D.C.

3-1750b

UNITED STATES

Form NR-1B Idaliava tood DEPARTMENT OF THE INTERIOR Compount begalades III (Rev. Nov. 1957) The state of FISH AND WILDLIFE SERVICE TO BE SERVICE TO SERV

end at belivery of BUREAU OF SPORT FISHERIES AND WILDLIFE SALES About the

ALT AND OF REFUGE HABITAT HE TO TROUBLE HABITAT

Reported by	. W. Gibbons	Title	Assistant Re	fure Manager	eers (1)
(1) Area or Unit Designation	(2) Habitat Type Acr	esoldourg d	(3) Use~days	(4) Breeding Population	(5) Production
n gam belitafei	Crops as end	600 Ducks	2,089,789	8 7	35
sedut types	Upland 19	Geese	25,572	7	1h
nibial report	Marsh Water 6	Swans	Machine Company of the Company of th	0	-
y be submitte their desorin	Total 27	920 Coots	State Contract Contra	1	1
Transep Trans	10031	130 Total	2,121,170	15	53
	Crops	950 Ducks	222,338	1/3	202
Leaved a discreel	Upland 96	010 Geese		10	20
nd agricultur		300 Swans			
guigi alway		380 Coots	Section 2015 Section 2015	1	Ja.
-dua faccas	Total 160	60 Total	238,301	574	226
- Horizonos	Crops	Gan Ducks			
Are and see see	THE RESIDENCE AND ADDRESS OF THE PERSON NAMED IN COLUMN 1 AND THE	OMORNITARIO OMORNITARIO	CHEADWOOD CONTRACT OF THE PARTY OF	21	204
tabool equi	Marsh	ponentin a	Commence of the Party of the Pa		
to relation	Water 110	and the same of			-
g energent	Total 266	Marian and a second	35.5 A 5.5 T. S.	dia.	101
		63 65 ED CD CD	C) CS 00 00 00 00 00	60 00 00 00 00 00	
asers redsu	Crops La en	Ducks	173,605	3).	77
son and exten	Upland 216	Bellingstone .		-	MONEY OF BUILDING
Isaligy of an	Marsh	60 Swans	ab allo Abili go	-	
sysiq wolls	Water 11	San		0	
hrub and tree	Total 263	oio Total	187.080	7.1.	71
	0 = = = = = = =				
	Upland 70	600 Ducks	ONC	7	36
eldissoq sa	Marsh	Geese Swans	Commence of the Control of the Contr	000000000000000000000000000000000000000	mitter and the special section of the section of th
- Frien pagett	Water	Coots		-	
	m 1 7 modeling	Total	and the second s	-	***
				00 00 mm to co oo	
Inclusion of		821, Ducks	31.0.237	layes re Us	-BRI (E)
			26,178	37	35
VI	Marsh	120 Swans	Mar Horayman Ti		The state of the s
-	Water 23	610 Coots		2	E.
	Total 132	600 Total	381,221	10	11,2
	Crops	ode Ducks			
	Tra'l and	O	mountefelia grandita	29	133
- nnresista FF3 o	Marsh	Swans	The second secon	50	100
"ogtAILSTIL	Water	Coots		-	-
	Total 77	200 Total		80	237

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) Area or Unit: A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) Breeding
 Population: An estimate of the total breeding population of each
 category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

3-1750b

UNITED STATES

Form NR-1B realists and DEPARTMENT OF THE INTERIOR AND INC. DEVELOGES AND (Rev. Nov. 1957) FISH AND WILDLIFE SERVICE AND WARD TO THE SERVICE

and all behavorg ad BUREAU OF SPORT FISHERIES AND WILDLIFE aggles abadding

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge C. M. Russell IW Range	For 12-month period ending August 31, 19							
Reported by C. W. Gibbons	Title	Title Assistant Refuge Manager						
(1) (2)	ided	(3)	(4)	(5)				
Area or Unit Habitat			Breeding					
Designation Type Acreage		Use~days	Population	Production				
cam bellateb Crops = 2,610	Ducks	201,326	18	97				
segut tatted Upland 172,100	Geese	112,050	8 116	531				
moger VIII Marsh w bebrase	Swans	none Jimy nos	G CHICAGON AND AND AND AND AND AND AND AND AND AN	The state of the s				
oddindra ad wir Water and 7,600	Coots	guller do 429	1	3				
Total rebeile their descrip	Total	316,805	135	331				
Crops 11,509	Ducks	3,871,630	160	780				
Isomo GRAND Upland 791,826	Geese	271,005	200	1,00				
TOTALS Marsh o 2,110	Swans	ed green forag						
antyl minera Water 11 293, 115	Coots	58,100	6	20				
Total 1,101,620	Total	h,200,735	366	1,200				
Through sent Crops setulant	Ducks	urt of each ye	q					
isboot eggs oUpland non lo eat	Geese	Licosi gnibool						
for dud of Marsh of basine	Swans	skah ertenda i	W.					
-aler edd to Water noo bas egyd	Coots	orld amethyllor	14					
desgrame gmiTotalwolfade to	Total	n eldeda viev.						
	Ducks	5 05 00 05 00 05 05		NO CO NO SD 600				
Crops Upland	Geese		Michigan Control of Co					
a construction of the cons	Swans	Oliver de de la constitución de	CONTRACTOR CONTRACTOR CONTRACTOR					
Marsh Water Water	Coots	Then TRATAN-MAC	-	-				
cond bas durada Total	Total	del deep , seal		***************************************				
CO C			45 W CS 49 KD CD					
secvit wor II Crops sedant tes er	Ducks	satrauten be	GUIDADRO-III-DEDIGORDADA	000000000000000000000000000000000000000				
of drawing an Upland and Inches	Geese	ndinos na minos	GIOMON/PROMINENT AND ADMINISTRATION OF THE PERSON OF THE P	ONTO RECEIVE THE PARTY OF THE P				
vd bedremeig Marsham aldelreve	Swans	DS TO LOT IN THE SEC	(M2)	-				
Water Total	Coots	MONOMENTAL	CHICAGO CONTRACTOR CONTRACTOR	CONTRACTOR DELICATION CONTRACTOR DELICATION				
	m = n	# 63 C3 C3 68 C3 E3		00000000000000000000000000000000000000				
Tantana and Crops of Calabian	Ducks	e-days in com	agra : Us	(3) Usa-d				
data serge Upland bits move	Geese	natur notaritor	The second secon					
Marsh Lang move of	Swans	dell nordenno	CHIPCHICAS	SECURIOR PROPERTY				
Water Total	Coots		CHEMICALINATION	-				
	Total			99999				
Crops	Ducks	tegory of bir	60	Citizen Consultation				
Upland	Geese		-					
and digital of Marsh a source to	Swans	TRUCK BRANKEY	E INDEED	mpar /c/				
Water	Coots	-	OKCUPATION AND ADDRESS OF THE PARTY OF THE P	-				
Total	Total	-						

(over)

INSTRUCTIONS

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- (4) Breeding
 Population: An estimate of the total breeding population of each
 category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

Thru

to August

, 19 67

Refuge C.M. Russell NW Range

Months of May

				0.	Lass D				-#- SORIH SDU	Form MR-2 - UPLAND GA
(1) Species	(2) Density	(3) Young Produced		(4) Sex Ratio	R	(5) emova	ls	(6) Total	(7) Remarks	
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Restocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Grey Partridge	ot remain the design of the de	Lamene Lamene brul nl be	Trune	Unk	bluore sequences of prices of the sequences of the sequen	H OH H OH H OH H OH H OH H OH H OH H OH	Con don . mbrisi etc.	land to land to land land land	3,000	Population—increase over last year.
Sharp-tailed Grouse	d should be besed at the street actual us Remarks.	distriction district of ordinal for	15	Unk	on reprinted	erfe ede e tor	d dor	at an	h,000	Population-increase over last year.
Sage Grouse	o fardos bus enoida	Viesdo	20	Unk	g produc nica ng habitat.	inore Ebeer	do ni d evi	elaca Nadra	l1,000	Population—increase over last year.
Ring-necked Pheasant	s, etc. Include d	bearant during	0	Unk	each catego	alton dalli	eelli va li daun	251	100	Population—decrease over last year.
Merrians Turkey	orner cropping street	er odd	5	70	her out goth	y te	lemma J Likel Jay	sdož sbža	160	Population—increase over last year.
	covered in surveys, equasized,	d area cally	ton an	haing Jon	determina po information	od I does	esu i	oride Testi	indiante d	*SERVICE (L)
				DIE 2017	ed blunda be	sovos	bolt	eq ec	d ol sidan	ilqqa amusloo vino *

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1)	SPECIES:	Use	correct	common	name.

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series

size of sample area or areas should be indicated under Remarks.

Nc. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and

- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

FORT MR-

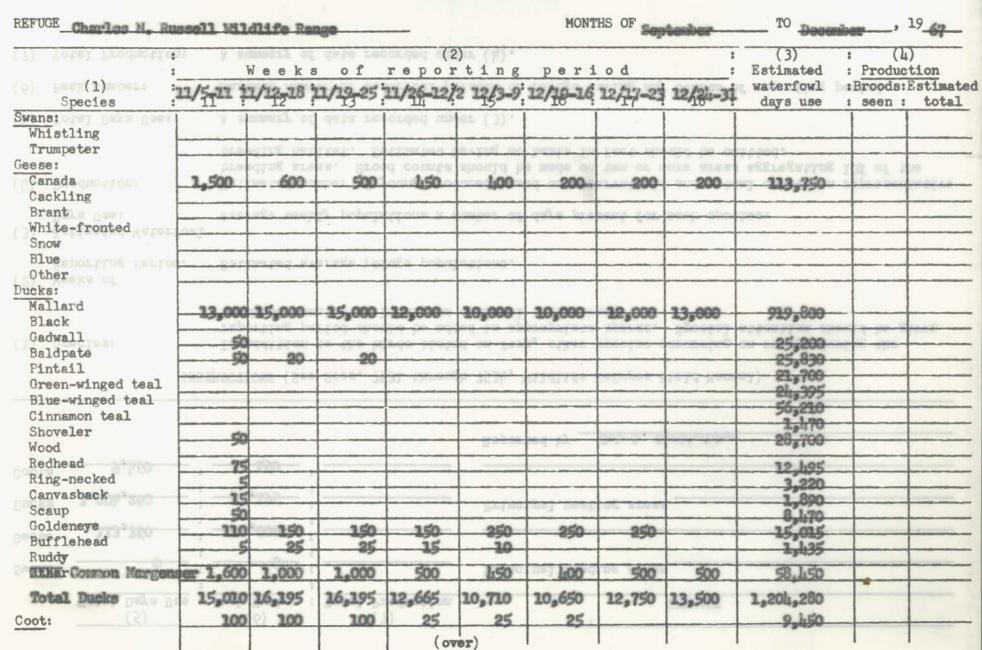
^{*} Only columns applicable to the period covered should be used.

WATERFOWL

:			Weeks	of	(2)	t. 1 n g	perio	d		
(1) : Species :	9/1-2	9/3-9	9/10-16		THE RESERVE OF THE PERSON NAMED IN	10/1-7	10/8-14		10/22-28	10/29-11/
wans:									1	T
Whistling			+	-		-	-	+	+	+
Trumpeter eese:		<u> </u>	+	 	-	-				
Canada			des			1				1
Cackling	350	350	500	750	1,000	2,000	2,000	1,750	1,500	2,000
Brant			+			-	-		-	-
White-fronted		-		-	+	-				-
Snow			-		+					+
Blue			-		1	1	+	-	1	
Other			1		1				1	
ucks:					1		_			1
Mallard	600	750	750	800	1,000	1,500	1,000	1,000	8,500	12,500
Black			Total San		-	-		0,9000	9,500	463300
Gadwall	100	250	300	350	1,50	650	300	350	1.00	100
Baldpate	200	300	300	500	350	550	350	1,00	350	300
Pintail	300	450	1,50	1,50	1,00	1,00	200	150	150	150
Green-winged teal	500	600	700	600	1,00	350	150	100	50	35
Blue-winged teal	1.1:00	1,600	2,000	1.000	1.500	300	150	-50	20	10
Cinnamon teal	20	20	1:0	J ₁ O	70	20	-	20		20
Shoveler	300	200	300	500	650	750	1.00	1,00	1,00	350 -
Wood						120	400	ctoo	600	320
Redhead				30	300	300	250	300	275	275
Ring-necked					75	75	75	85	85	60
Canvasback						180	225	50	50	170
Scaup				10	175	180	225	200	200	170
Goldeneye			50	60	85	100	135	135	135	135
Bufflehead					35	30	30	30	-	
Ruddy	700	9.00	-	888	APA	000	000	000	ada	400
xoungCommon Margense	r 100	1.00	150	200	250	250	250	250	350	500
Total Ducks	2 200	0. 1286	F 010	1 000	F 760	F 100		6 400		-1
	3,320	1,270	5,040	4,520	5,760	5,490	3,565	6,500	10,965	14,935
oot:	50	50	50	1.00	125	125	150	150	100	75

Cont. NR-1 (Rev. March 1953)

WATERFOWL (Continuation Sheet)



Total Days Use :	(6) (7) Peak Number: Total Production	SUMMARY
Swans	• :	Principal feeding areas
Geese 113,750 :	2,000-	
Ducks 1,201,280	16,195	Principal nesting areas
Coots 9,450 :	150-	
Cipenmon teal Shoveler Wood		Reported by Bob L. Burkholder
Queen-erused lead INST	RUCTIONS (See Secs. 7531 through	7534, Wildlife Refuges Field Manual)
(1) Species:		on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be given ational significance.
(2) Weeks of Reporting Period:	Estimated average refuge popula	tions.
(3) Estimated Waterfowl Days Use:	Average weekly populations x nu	mber of days present for each species.
(4) Production:	breeding areas. Brood counts s	ced based on observations and actual counts on representative hould be made on two or more areas aggregating 10% of the ving no basis in fact should be omitted.
(5) Total Days Use:	A summary of data recorded under	
(6) Peak Number:	Maximum number of waterfowl pre	sent on refuge during any census of reporting period.
(7) Total Production:	A summary of data recorded under	

Form NR-1A (Nov. 1945)

MIGRATORY BIRDS

19567 of bas seved .III

Refuge Charles M. Russell Wildlife Range Months of September to December

000,053		31/15	1.5	130	D00,3	b hours	DS JEEL PO	g dove	монтиби
(1) Species	(2 First		Peak N	3)		4) Seen	(5) Product	evob begni	Total
							Number Total	# Total	Estimate
Common Name	Number	Date	Number	_ Date	Number	Date	Colonies Nests		Number
Water and Marsh Birds:			F	GEV.	E SE	SULT.	ar Buotanex		Golden Duck hi
Common Loon	1	12/3	10	11/12	1	12/3	Bestdent	Lwo	1
Western Grebe	Last Per	iod	200	11/12	50	12/3	-		250
White Pelican		not no	3,500	9/1	125	11/17 12/3	850		1,000
Double-Crested Cormoran Great Blue Heron	10 11	# 2\cr	1,000	9/1	1	10/3	A STATE OF STATE OF	200	150
08	125	Juntari	Time	CEVS	10 3	08/0	1 5	o.Eur	E Bifell
200				05/2	E LOSE	bolm	T moisses	10007	derall
61 61		10/22	S	17/3	300			March 1	Caravina :
02		2/07	bedily	En 900	0 00	11		Die ment	
Supplied des	J. Sell. v.	betrone		10,50					
1									
					INSTRUCT				
Character of Culta and a	String	Hist, 19	.U. Check	n the A.C			Detto edl egu	:aeise	(1) Sp
Shorebirds, Gulls and of Terns: bobbs od bluode									
Killdeer si bas Isaal 1	n anioens				pling!s		printe spaces.		7 000
Mountain Plover	Last	Period	1,000	9/1	I. flater	10/15	significance.		1,000
Upland Plover	radr(m for	erns Wh	30	9/1	II. shore	9/20			50
California Gull		enbilowne	200	8/20	10	12/3			500
Franklin Gull			5,000	8/20	IV. Freda	12/3			5,000
Common Tern	n pegran	m moss	500	9/1	ad) 70)	11/17	Mor Jerin ent	neel Seen	500
	1000110	1100 0000							
time.	To Isvas	ni bellm	II s al j	es presen	the speci	To Tedmi	The greatest m	ak Numbers:	
	, bearead,	season or	cing the	pecies du	tor the s	broost (goler last refug	at Seen:	(A)
ptouno	Innton be	is smolte	vrezdo en	based he	nubora so	00v 30 70	Estimated number	eduction:	(5) Pe
10311000	200000	SHOEV D	12230 110	DOLLA DO	and Si				
	ing the pe	fuge duri	ng the re	(over)	of the sp	nedmun	Estimated total	iint	

(1)		(2)		2(3) H YROTA		(4)		(5)		(6)	
I. <u>Doves and Pigeor</u> Mourning dove	Last	Period	85,000	to adjust of 1/6	delication (11/15	N. Husse	e Carles	Refug	120,000	
White-winged dow	Production	пе	Last S	218	(3) Pesk Numb	пе	(2) First Se		(l) ecies	ra S	
Total Estimate	umber Total #										
V. Predaceous Birds	lenies lests:	Date	Tedmu	Date		Date 1			эмаИ пол		
Golden eagle Duck hawk	Yearlong 1	11/12	50	11/30	Still	Present 11/12	In	:ab11	densM be	and the second s	
Horned owl Magpie	Resident	2/3	1,000	12/30	Still	Present	ast Perto	2	Crebe	1,000	
Crow Buteo spp.	None Previous	Period	150	10/22 9/26	15	10/22		Sjawyourse	elican Greeted C Lue Herog	150 200	
Bald Eagle	1	10/30	10	12/30	Still	Present				20	
Marsh Hawk	Previous	Period	150	12/30	11	17				200	
Osprey	11	11	25	9/1	1	10/22				19 500	
Sparrow Hawk Burrowing Owl	11	11	300 50	9/1 none	2 sighted	10/2				500	
				1		Reporte	d by Bob I	. Burkhol	der		

INSTRUCTIONS

(1) Species:

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gavilformes to Ciconilformes and Gruilformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

WATERFOWL HUNTER KILL SUL

Refuge Charles M. Russell National Wildlife Range

Year 1967_

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Weeks of	No. Hunters	Hunter		Total	Crippling	Total	Est. No.	Est. Total
Hunting	Checked	Hours	Waterfowl Species and Nos. of Each Bagged		COLUMN TWO ISSUES	Kill	of Hunters	Kill
Sept. 2 - Sept. 10	1	1	(1) Bluewing teal, (1) Greenwing teal				2	ž.
Sept. 30 -	el bir	2 2	complete their day's and expect their sees and clych their day's and clych their days are made at the control of the control o	ovad 2d	s ason O mor	1 112	5	5
Oct. 7 -	1	2	then the 25 percent goal camet be achieved. (None)	,bebo	some Stolle	munter	nito*	0
Oct. 14 -	2	2	(1) Mallard, (1) Shoveler	2	1	3	6	9
0et. 20	Green-		easing order of numbers bagged, Samula ent dwall (11), Widgeon (6), Cook (8), Canada C	(0.6), G	headhead .		Pilm	
0et. 27	0	0	(None)	O Teles 1				2
Nov. 3	2	1	(3) Mallard, (1) Canada goose			1		12
Nov. 1 - Nov. 10	3	3	(1) Mallard, (1) Gadwall, (1) Widgeon	-	2 2 200		20	16
Nov. 11 -	3	1	(1) Mallard	-(1	miles) peris	2	8	5
			ercent. Column 9 - Column B x Column 7.	00.1 od	projected	elums l	TEM (6)	
Nov. 18 - Nov. 24	Ž;	5	(3) Mallard, (2) Shoveler	5	1	6	12	18
Nov. 25 - Dec. 1	12	1.6	(18) Mallard	18	8	26	1,0	86
	p)-8/(c)							
	08-01/01							R. C. C.
			(over)					

INSTRUCTIONS

- (1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.
- (2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.
- (3) Record the total number of hours the hunters spent hunting on the refuge.
- (4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Greenwinged Teal (1).
- (5) Record total numbers of waterfowl bagged.
- (6) Record total numbers of waterfowl reported knocked down but not recovered.
- (7) Total of Columns 5 and 6.
- (8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).
- (9) Kill sample projected to 100 percent. Column 9 = $\frac{\text{Column 8}}{\text{Column 2}} \times \text{Column 7}$.

WATERFOWL HUNTER KILL SUL

Refuge Charles M. Russell National Wildlife Range (Page 2)

Year 1967

(1) Weeks of Hunting	(2) No. Hunters Checked	(3) Hunter Hours		(4) and Nos. of Each Bagged	The second second second	(6) Crippling Loss	(7) Total Kill	Est	8) . No.	(9) Est. Tota Kill
Dec. 2 - Dec. 8	15	20	(2h) Mallard	w the same pattern.		pow avisand	ar, Sun	lati	22	
Dec. 9 - Dec. 13	of no.	ation sin	miolal shift .galue	m of 25 percent of refuge completed their day's has the week and in each area	even od	r onorid mon	2 vino 1	edT) data	(25	0
TOTALS	1,1,1	53		hen the 25 percent goal or resentative data.	69	25 110	10 86	ddy	11,8	285
And the			ting on the refuge.	rs the hunters spent hunt	ed to z	edmun Indo	elf bro	Red		
	ard (61), Green-	ry: Mall cose (3)	Cook (h), Canada C	wasing order of numbers bedwall (11), Widgeon (6),	in dec (16), G	basdball .	s waterf sail (36 ped Teal	Pin		
				.beggad Iwo	rieter 1	a manhers o	stot but	Rac	(5)	
	14.5		betavoper Jon Jud :		reder 1	a eredmun I	aded by	Rec	(8)	
- 6					6.	luma 5 and	of do	Tot	(7)	
	gnibul	week, in		unters who hunted on the	n 2).	unLo3) bests	ono ero.	lumi		
			m 8 x Column 7.	ercent. Column 9 = Colum	to 100	bejostorq	ofquae 1	CEX	(6)	
			L. H.							
	10348-60									
				(over)				1		

INSTRUCTIONS

- (1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.
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- (9) Kill sample projected to 100 percent. Column 9 = $\frac{\text{Column 8}}{\text{Column 2}} \times \text{Column 7}$.

Refuge Charles M. Russell Wildlife Range Months of September to December , 19 67

(1) Species	(2) Density	in re	You Produc	ng ced	(4) Sex Ratio		(5) emova	ls	Total	Remarks
the dis	occurring in limit	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Restocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sharp-tailed He grouse serves	dature. Examples: attemland hardwoods lights Management; should be based or Survey method us Remarks.	neral and, b and in W and the areas areas ander	2	50	of another and another	20	owbru ode base troo I	nd bi	3,500	Poor hunting - late, cold spring reduced reproduction.
Ring-necked phea	sants whose hose enough	observa	no.2	1.00	produced, b	10	10 m	edmur	E COL shed	Very little hunting pressure since birds were few in numbers
Merriam's turkey	s, etc. Include da	galrui	5 bever	300		20 mi	ava edmur	Last	1000 Lindicate to	Montana Fish & Game Dept. planted 18 turkeys in Pines Area (Ft. Peck) - only 2 were
seasons,	ort period. This m singe during certail	qer edi t edi c	uring ig int	de de	ing the relu us those mig	ar us	riko a	Lader Liden	Estimated include re	reported during big game seasons.
Also	covered in survey.	i area cally r	ns no.	Jalu s do	etermine pop	od Jus	used orkin	bonds ner p	Indicate m	All estimates made from field observations, aerial surveys and reports from local residents and hunters.
				used	ed blivone b	meya	o ho.	seq e	di oi elde:	* Only columns appli
1613										

INSTRUCTIONS BY THE FEBRUARY ME SERVER BY 198

Form NR-2 - UPLAND GAME BIRDS.*

(7) REMARKS:

residents and hunters.

(1) SPECIES:	Use correct common name. (4) (5) (5) (1) Lador slewowsh Sec Supply Ytiened sectors
(2) DENSITY:	Applies particularly to those species considered in removal programs (public
Pertinent information n specifically requested list introductions here	hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area
Poor hunting - late, col spring reduced repreduct	of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
(3) YOUNG PRODUCED:	Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
(4) SEX RATIO:	This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
(5) REMOVALS:	Indicate total number in each category removed during the report period.
(6) TOTAL:	Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

include other pertinent information not specifically requested.

Indicate method used to determine population and area covered in survey. Also

* Only columns applicable to the period covered should be used.

BIG GAME .

Refuge Charles M. Russell Wildlife Range Calendar Year 1967

(1) Species	(2) Density	(3) Young Froduced			ove (jt)	URTEN 1s			(5) sses	In	(6) troductions	Estima Total P	ted lefuge	(g) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For	Predation	Disease	Winter	Number	Source	At period of Greatest use	As of Dec.	H F
Nule deer	Timbered "Breaks" - coulees	1,500	600	noo noo nli	70 FY	cover fue e, r	100	1000	s add	to at	water property of the property	3,000	2,000	fi5:100
White-tailed deer	River bottoms above lake an below dam	d 1140	30	i ne latera liranti	110	gane Igane In San	5	385 185	g stud Tenst And s	101 1	ev of black o astrono br nyla ameria h	400	350	30:100
Elle	Both of above 300,000A	11,0	1.58	19 3	me	i to	ra di	(UE)	Lador	Do do	athal (GI	700	570	50:100
Antelope	Bench lands 100,000A	300	20	(Tab	da	so at	700	lestes	Into	1124	othal	1,500	250	50:100
Big horn shoop	Timbered breaks - 7,000A (including sheep enclosure)	12	24	70	THE TAX	recei	100	imi to	nery d	part of	do no dono	80	78	h1:100
	.lexuose was secured.	mort you	100	70	Sint	tox h	10	100	on of	021	othni : 81	principaliti		- 75
0.5	on the refuge at period of t	aolosos .R	120	10	ma un	date als	og	bol	satue abourd	ndi Jei	apië Smita	DOWN LATON KOLZALIJIOS		
doct	f cach species as determined	resises t	bn	100	Ten.	to s	30	かなり	ng ed.	0.21	15515	: JEPAN ARR	(8)	

Remarks:

Illegal kills

Bob L. Burkholder Reported by

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisians white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMCVALS: Indicate total number in each category removed during the year.
- (5) LCSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE
 POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIC: Indicate the percentage of males and females of each species as determined from field observations or through removals.

DISEASE

Refuge Charles M. Russell National Wildlife Range Year 19.67

Botulism	Lead Poisoning or other Disease
Period of outbreak None Period of heaviest losses Losses: (a) Waterfowl (b) Shorebirds (c) Other	Species affected Number Affected Species Actual Count Estimated
Number Hospitalized No. Recovered % Recovered (a) Waterfowl (b) Shorebirds (c) Other Areas affected (location and approximate acreage)	Number Recovered Number lost Source of infection Water conditions
Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.	Food conditions
Condition of vegetation and invertebrate life	Remarks

PUBLIC RELATIONS

(See Instructions on Reverse Side)

1.	Visits a. Hunting 1	2,200	b. Fishin	g_ 50,000	c. M	Miscellaneous 808,050	d. T	OTAL VISITS	870,2	50
	Hunting (on refuge la	ands)	TOTAL Re	greation, Offi	2.	. Refuge Participation (gr		efuge	000	Raftuca
	TYPE	HUNTERS	ACRES	MANAGED BY	1		NO. OF		-	
	Waterfowl	375	13,000	FWS and		TYPE OF ORGANIZATION	GROUPS		NO. Of GROUPS	GROUPS
	Upland Game	1,000	138,000	Mont F&G	o di	Sportsmen Clubs	- Into an		7	480
	Big Game	33,500	678,000	Mont F&G	within	Bird and Garden Clubs	napary,	nless esta	Mile I	
	Other INCIN	HE CTON, D	x, and su	dlar hunting		Schools	1	1 4	10	1,600
								1		1 ele
	Manuged hunts	Basin: 68 (5)	None		F. I	Service Clubs	na na a grang	nt of blin	10	450
	Number of permane	ent blinds	for each t		E T	Service Clubs Youth Groups	na na agumi	nt of blin	3	75
	Number of permane	ent blinds nunting incl	uded above	Abe 6,000 THE	once		or free			
	Number of permane Man-days of bow l Estimated man-day	ent blinds hunting incl ys of huntin	uded above g on lands a	6,000	Mental Blek Blek	Youth Groups	r de tem	cton there	3	75
	Number of permane Man-days of bow l Estimated man-day	ent blinds hunting incl ys of huntin	uded above	6,000	Mental Blek Blek	Youth Groups Professional-Scientific	r de tem	cton there	3	75
	Man-days of bow leading to be refuge Fishing (area open to	nunting incl ys of huntin asis for e	uded above ig on lands a stimate refuge land	adjacent to	maric Mena Once Once	Youth Groups Professional-Scientific Religious Groups	nicedean	per car)	3	75 100 25
	Man-days of bow leading to be refuge Fishing (area open to	ent blinds hunting incl ys of huntin asis for e o fishing on	uded above g on lands a stimate refuge land	de d	THE OLD THE PROPERTY OF THE PR	Youth Groups Professional-Scientific Religious Groups State or Federal Govt. Other	rujevičevi	they stop per car)	3 1 1 2	75 100 25 100
	Number of permane Man-days of bow l Estimated man-day refuge Fishing (area open to TYPE OF	ent blinds hunting incl ys of huntin asis for e o fishing on AREA	uded above ig on lands a stimate refuge land ACRES 225,50	de d	THE OLD THE PROPERTY OF THE PR	Youth Groups Professional-Scientific Religious Groups State or Federal Govt. Other	TOL CLEAN	they stop per car)	3 1 1 2	75 100 25 100
lb.	Number of permane Man-days of bow l Estimated man-day refuge Fishing (area open to TYPE OF Ponds or Lakes Streams and Shore	ent blinds hunting incl ys of huntin asis for e o fishing on AREA	uded above ig on lands a stimate refuge land ACRES 225,50	de d	THE OLD THE PROPERTY OF THE PR	Youth Groups Professional-Scientific Religious Groups State or Federal Govt. Other Other Activities		they stop per car)	3 1 1 2 1 1	75 100 25 100 20
lb.	Number of permane Man-days of bow l Estimated man-day refuge Fishing (area open to TYPE OF	nunting incl ys of huntin asis for e o fishing on AREA	uded above ig on lands a stimate refuge land ACRES 225,50	6,000 adjacent to assiss	THE OLD THE PROPERTY OF THE PR	Youth Groups Professional-Scientific Religious Groups State or Federal Govt. Other Other Activities TYPE NUMBER Press Releases	ER Rad	TYPE	3 1 1 2 1 1	75 100 25 100 20

INSTRUCTIONS

Item 1: Total of a, b, and c, equal d.

"Visit" - definition. Any person who is on refuge lands or waters during a day or part thereof for the purpose of: hunting, fishing, bird-watching, recreation, business or economic use, official visit, or similar interest. INCLUDE - those who stop within the refuge while traveling on a public highway because of an interest in the area. EXCLUDE - persons engaged in oil or other industry not directly related to the refuge, persons using refuge as most direct route or principal avenue of traffic, and those boating on navigable rivers or the Intercoastal Canal, unless they stop to observe wildlife on the refuge.

Computing visits. Where actual counts are impractical, "sampling" is used with midweek and weekend samples varied by season or weather. A conversion factor of 3.5 (of passengers per car) is used when accurate figures are not available. Each refuge will develop a conversion factor for boats based on range of usage. Count a camper once for each 24-hour period or fraction thereof.

Item la: Acres - of refuge open for each type of hunting.

Managed hunts require check in and out of hunters, issuance of permits, or assignment of blinds.

Other - INCLUDE crow, fox, and similar hunting.

Lands adjacent to refuge. Normally considered within 1 mile or less of boundary, unless established sampling procedures cover a wider area. For big game hunting, the distance may be greater.

- Item 1b: Acres of streams open to fishing, if practical; otherwise just miles open. Information on "shores" is primarily for coastal fishing.
- Item lc: Recreation. INCLUDE photography, observing wildlife, picnicking, swimming, boating, camping, visitor center use, tours, etc. TOTAL Recreation, Official, and Economic Use visits under Item 1.

Industrial. INCLUDE persons engaged in industry, i.e., oil industry or factories. EXCLUDE these
from Item 1.

- Item 2: INCLUDE the "On Refuge" groups in Items lc and l. In "Off Refuge" column include only those group meetings in which refuge employees actually participate. EXCLUDE these from Items lc and l.
- Item 3: Exhibits INCLUDE displays, fairs, parades, and exhibits OFF the refuge; EXCLUDE those ON.

JR--PORTLAND, OREGON

Refuge Charles M. Russell National Wildlife Range Year 19 67

1000	us, r	ootsto	cks, tre	eceipts es, sh			(Plant Marsh - Aqua)		
Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source		(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Los
								7-1				
			1		1	1	1	1	l	1	1	1
	(Lbs.,	(Lbs., C bus., or	(Lbs., C bus., or	(Lbs., C Method bus., or or	(Lbs., C Method bus., or or	(Lbs., C Method Total bus., or or Amount	(Lbs., C Method Total bus., or or Amount Location of	(Lbs., C Method Total Seeding bus., or or Amount Location of or	Amount (2) (Lbs., C Method or Amount Location of Or Yards of	Amount (2) (Lbs., C Method or Amount Location of Or Yards of Nature of	Amount (2) (Lbs., C Method bus., or or Amount Location of Or Yards of Nature of	Amount (2) (Lbs., C Method or Amount Location of Or Yards of Nature of

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		and aqu			
			ver patc	hes	
			food pate		
		planti		-	
		•		-	The second secon

(3) Use "S" to denote surplus

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INTERIORPORTLAND, OREGON

3-1758 Form NR-8 (Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

	Perm	nittee's	Gove	rnment's 5	hare or	Return	1 1 1 1	Green Ma		1
Cultivated Crops	Share	Harvested	Har	vested	Unha	rvested	Total Acreage	The state of the s	nd Water- owsing Crops	Total
Grown	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons	Planted	Type and		Acreage
Sharecropped Barley Winter wheat Winter wheat seeded Fall - 1967	101	0-Flooded	Leafed Dynames		*18h 16 47	1,000 bu. 560 bu.	285 16 47	None		0
efuge Farmed	our bed in	The se	AND THE		15	300 bu.	15	District of the second		
harden a	rages fu	stall bas core acre specto bes	of - hobo	of burney	Tops	one yers	The the Year plant of the Park	Fallow A Sharecr Refuge	opped	195
lo. of Permittees:	Agricultur	ral Operation	ons	5	Haying	Operations	6	_ Grazing	g Operations	6
	8 8 8	H H H	Cash		GRAZING	Numb		AUM'S	Cash	ACREAGE
Hay - Improved (Specify Kind)	Tons Harvested	Acres	Revent	ie i	8 31	Anim	als	10/0/0		
		Acres 321	Revent	o 1 d	Cattle	License	5 5 13	M N		
(Specify Kind)	Harvested	1 6 5	Revent	1.	Cattle Other	5 1 5 0 4	5 5 13	A STATE OF THE PARTY OF THE PAR		
(Specify Kind)	Harvested	1 6 5	Revent	1.	Other	5 1 5 0 4	ed by BL	10 A		576**

DIRECTIONS FOR PREPARING FORM NR-8 CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

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Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under <u>Cultivated Crops</u>, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

3-1758 Form NR-8 (Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

State Montana Refuge Charles M. Russell National Wildlife Rangeounty Petroleum - 1967

	Perm	ittee's		rnment's S			98	Green M		T
Cultivated Crops Grown	国民区	Harvested Bu./Tons	Har	Bu./Tons	1 1	Bu./Tons	Total Acreage Planted		nd Water- owsing Crops d Kind	Total Acreage
Sharecropped: Bar	ley barrens of many contracts	ciob Leadypa (Los y ben El bywygen garing cye 2 grass clobe eng cyn w tony graeting globs - gb	C BIT WOLDERS bywojeg*	orops, estimate of crops particular of crops of the color	*38	320 bu.	Strager barrons property of the control of bed by more than one the bed bed by the control of th	Non- the series of the series	shared on a calshyar-da	HVŽINO - OBVRZBO SVRINO RODA MIT-U
	The period	edaW bes	q - pubo	To the of the control	off, topm	Mays of the part o			Ag Land opped farmed	**61
ه اقب	Company of the Compan		100	N. H. T. Fr. Gal	8 3 8	H.S.E.R.C	2 5 5 5	merne	TO COR WINDOW	900
o. of Permittees:	Agricultur	al Operation	ons	2	Haying	Operations	2		g Operations	2
Hay - Improved (Specify Kind)	Agricultur Tons Harvested	al Operation	Cash Reven		Haying GRAZING	Operations Numb	per			2 ACREAGE
Hay - Improved	Tons	P. L. P. L. L. P. L.	Cash	ue	5 5 5	Numb Anin	per	Grazin	g Operations	2
Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash	lue l.	GRAZING	Numb Anin	per lals	Grazin	g Operations	2
Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash	lue l.	GRAZING Cattle Other	Numb Anin	er wals ensed by E	Grazin	Cash Revenue	2

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Fish and Wildlife Service Branch of Wildlife Refuges

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Cultivated	The Parket of th	hittee's Harvested		rnment's Sh		Return	Total	Green M	anure, nd Water-	
Crops Grown	19 a	Bu./Tons	B TE	B B B G B		Bu./Tons	Acreage Planted		owsing Crops	Total Acreage
harecropped Barley Winter Wheat Winter Wheat Seeded- Fall 1967 **Alfalfa (Seed) Barley-Alfalfa **Willet-Alfalfa	150 71 92	560 bu	91. 50	2,550 bu	48 57 58 26 44	885 bu 1,655 bu - 520 bu	159 57 58 2 97 136	Barley-Waterfo	arley-Alfalfa over Crop arley-Alfalfa sterfowl Browsing rop illet-Alfalfa over Crop	
efuge Farmed Corn Millet	Tage St	(continue	on nec	ct page)	13	1,0h0 770	13	Fallow	Ag. Land	TO OHON
No. of Permittees: Ag	ricultur	ral Operatio	ns	3 5 5 3 5	Haying	Operations	0 2 10	_ Grazin	g Operations	
	Tons rvested	Acres	Cash		RAZING	Numb Anin	0.000	AUM'S	Cash Revenue	ACREAGE
4 5		1 2 5 6	Tag on bo	1.	Cattle	S 1 S 3	3516		100	
930		E PER CALL	of Pa	2.	Other	A FE SIA	8 do	416	3 2	
		S C C C	8	S H S Q R	Fig. D	II, let li A	as Wadaa (244-44		
400				1.	Total R	efuge Acres	ge under	Jultivati	on	

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CULTIVATED CROPS - HAYING - GRAZING

Cultivated	22/5217000	ittee's Harvested		nment's Si		Return rvested	Total	Section Control of the Control of th	nd Water-		
Crops Grown	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons	Acreage Planted	fowl Br	owsing Crops d Kind	Acreage	
Refuge Farmed cont Barley-Alfalfa Barley-Millet	d mater field acts	oreally Creps - 8	12	7 tons	12	160	12 12	Fries one county of		2 8087 H3-9	
burboses quart	Visitariaque de cais visitaria de cais	Section and Marcattowill best to the case of the case	re galodae pro	To single to the to the to single to eide	posedal ano	comm ess cino d birods siles ners under the ners trades	the rett of the color of the co	Fallow Sharecro		185	
o. of Permittees:	lgricultur	al Operation	ons	5	Haying	Operations	5_	Grazin	g Operations	5	
Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash	the second second	RAZING	Num! Anir	ber	AUM'S	Cash Revenue	ACREAGE	
0	1,354	773 16	Lete	1.	Cattle	Tricens	ed by	BIM	328		
Alfalfa Sudan		71	IA A	2.	Other	9 8 6 3	10		Si Si		
Alfalfa Sudan Barley-Alfalfa ##fillet-Alfalfa	19 98 0	136	1 8								
Sudan Barley-Alfalfa		136	2007	1.	Total R	efuge Acrea	age Under	Cultivation	on	733	

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Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

	THE COLUMN TWO CONTRACTOR	ittee's	-	rnment's S			1 5 5	Green M		1
Cultivated	Share	Harvested	Har	vested	Unha	rvested	Total Acreage	200 C 200 C 200 C C C C C C C C C C C C	nd Water- owsing Crops	Total
Crops Grown	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons	Planted	Type an	PROBLEM DOWNERS - CONTRACTOR DAY	Total Acreage
Sharecropped Barley Corn Sorghum Refuse Farmed	114	3,784	29	8140	4.5	31.5 22.5	14.5 4.5	Religion and		UNSTRO 1 MB=0
Barley Proso millet	Calfrage and a table and a table and	ne chob results the The These chocks and the Choks the C	12	250	28	560 150	40 15	no'l hedgirin		- HEXTER - C
beograp	ados to	The edition of the test	red - be	Jemes Los por but but but side side side side side side side side	100 mm	Party of Control of Co	paned district of the second s	Fallow Sharecry Refuge	Ag. Land	75
No. of Permittees:	Agricultur	al Operation	ons	The second	Haying	Operations	4 2 6 6	_ Grazin	g Operations	A HE SEE
or retuin toess:						the same of the sa		DEFERENCE -	1 0 1	
Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash	St. 20. Lot out 100.0	GRAZING	Numb Anin		AUM'S	Cash Revenue	ACREAGE
Hay - Improved	The second secon	Acres	1 100	ue	Cattle	the time the same of the same	nals		The same of the sa	ACREAGE
Hay - Improved (Specify Kind)	Harvested	1 612	1 100	1.		Anin	nals		The same of the sa	ACREAGE
Hay - Improved (Specify Kind)	Harvested	1 612	Reven	1. 2.	Cattle	Anin	ed by BI	M	Revenue	ACREAGE 347*

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REFUGE GRAIN REPORT

DAT - NO AND SACH DIE ATEND

(1)	(2) On Hand	(3) RECEIVED	(4)		GRAIN DI	5) SPOSED OF		(6) On Hand	Propose	(7) D OR SUITABL	E Use*
VARIETY*	BEGINNING OF PERIOD	During Period	TOTAL	Transferred	Seeded	Fed	Total	END OF PERIOD	Seed	Feed	Surplus
lippery Ann Alfalfa Barley Crested Wheat Western Wheat Prose Millet Canadian Clover Velvet Lawn Mixtur Winter Wheat Oats Corn	140 bu 600 bu 500 1b 250 1b 50 bu 50 1b 150 bu 142 bu	2,550	3,150 500 325 50 50 280 150 142	1 _{2,100}	5 15 50 100 10 - 80	600 10 90 15	50 100 20 0 80 150 15	145 1435 1450 225 30 50 200 0 27	15 135 150 225 30 50 200	300	400
ort Peck Barley Prose Millet	2,630 2h	h,260*	6,890 2lı	unk bo	200	3,050	3,250	3,6h0	14	3,640	
eadquarters Barley	1,015	such aypo to the control of the cont	1,015	red May a med May a cueb tey details so	heat, dure cann, etc.	315	pring when ing as corn, ing as corn,	700	opuppio	700	
10 per		So lb, ryo- In compute and type	- Vá làs, cam - Vá làs, cam ag voleme o	Ernaries	or bodies- multiply to	he cubit of		Company 6 C) by 0.8 be	An and	1	

(8) Indicate shipping or collection points _____

(9) Grain is stored at Grain bins at Fort Peck. KEEDGE CHYIM BEHOKL

(10) Remarks Transferred to Fort Peck Transferred to Bowdoin for depredations feeding. *Received from Slippery Ann, Medicine Lake Refuge, Lewistown Office and Fort Peck Sharecroppers.

^{*}See instructions on back.

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

3-1761 Form NR-1_ (2/46)

TIMBER REMOVAL

Refuge Charles M. Russell Wildlife National Range Year 195767

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cu
None								
						-		
								tr.

Total acreage cut over	Total income
Cords	Method of slash disposal

Refuge

Charles M. Russell I ional Wildlife Range - West Unit
Proposal Number Reporting Year

ANNUAL REPORT OF PERSTICIDE APPLICATION

=	INSTRUCTIO	NS: Wildlife Refuges Ma	nual, secs. 3252d, 3394b and	3395.				19	67
	Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	June 6	Fanweed & grease wood	Tr 8 & 9	20	2,4-D Amine	6 gal.	l ¹ / ₂ lb a.e./	1:100 Water	Power Sprayer
2.	June 8	Russian thistle	Equipment Storage Area Tr. 7	1	Banzober	50 lbs.	50 lb/acre	None	Broadcast Seeder
3.	June 16	Fanweed & grease wood	Tr. 8 & 9	15	2,4-D Amine	4 gal.	log lbs a.e/	1:100 water	Power Sprayer
1.	June 16	Russian thistle & Fireweed	Roadsides & Air- strip-Slippery Ann	5	2,4-D Amine	2/3 gal.	la lbs. a.e/	1:100 water	Power Sprayer
5.	June 19	Russian thistle & Fireweed	Roadsides-Slippery Ann	7	2,4-D Amine	2 gal.	lare lbs. a.e/	1:100 water	Power Sprayer
5.	June 20	Fireweed, bind- weed, Canadian thistle	Tr. 7 & 8	18	2,4-D Amine	5 gal.	lar lbs. a.e/	1:100 water	Power Sprayer
7.		Fireweed, bind- weed, Canadian	Tr. 7 & 8	7	2,4-D Amine	2 gal.	$1\frac{1}{2}$ lbs. a.e./	1:100 water	Power Sprayer

^{10.} Summary of results (continue on reverse side, if necessary)

- 1. Est. Log kill
- 2. Est. 80% kill
- 3. Est. 40% kill
- 4. Est. 80% kill
- 5. Est. 80% kill
- 6. Est. 90% kill
- 7. Est. 90% kill

(Continue on next page)

Charles M. Russell No onal Wildlife Range - West Unit (1-ge 2)

Proposal Number Reporting Year

ANNUAL REPORT OF PERSTICIDE APPLICATION

Date(s) of pplication	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
June 22	Canadian thistle	Tr. 646	7	2,4-D Amine	2 gal.	l lbs a.e/	1:100 water	Power Sprayer
	Canadian thistle	Tr. 646	80	2,4-D Amine	23 gal.	l ¹ / ₂ lbs a.e/ acre.	1:100 water	Power Sprayer
June 29	Fireweed	Around buildings & corrals Tr 646	1	Ureabor	50 lbs.	50 lbs./acre	None	Broadcas Seeder
July 21		Around buildings at TR. 15	1	Ureabor	50 lbs.	50 lbs/acre	None	Broadcas Seeder
Aug. 29	Greasewood seed- lings	Tr. 8 & 9	35	2,4-D Amine	10 gal.	lar lbs a.e/	1:100 water	Power Sprayer

^{10.} Summary of results (continue on reverse side, if necessary)

^{8.} Est. 50% kill

^{9.} Est. 50% kill 10. Est. 100% kill 11. Est. 90% kill 12. Est. 30% kill

Refuge

Fort Peck

Proposal Number Reporting Year

ANNUAL REPORT OF PERSTICIDE APPLICATION

_1	NSTRUCTIO	NS: Wildlife Refuges Mar	nual, secs, 3252d, 3394	b and 3395.				1967	
_	Date(s) of application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
L.	June 19	Fanweed, mustard pigweed	Tr. 62D(a)	24	2, L-D Amine	11 gal.	2 lb. a.e/ acre	1:75 water	Power Spraye
2.	June 23	Fanweed, mustard pigweed	Tr. 68D	143	2, h-D Amine	18 gal.	2 lb. a.e./	1:75 water	Power Spraye
	June 30	Fanweed, mustard pigweed	Tr. 70D	55	2,4-D Amine	10 gal.	1 lb. a.e./	1:150 water	Power Spraye
1.	July 6	Fanweed, mustard pigweed, milk- weed	Tr. 71D	42	2,4-D Amine	16 gal.	2 lb. a.e./	1:75 water	Power Spraye
	July 6	Fanweed, mustars pigweed, milkweed	Tr. 66D	h	2,4-D Amine	1.5 gal.	2 lb. a.e./	1:75 water	Power Spraye

^{10.} Summary of results (continue on reverse side, if necessary)

- 1. Est. 90% kill
- 2. Est. 75% kill
 3. 15 acres 30% kill
 40 acres 70% kill
 4. Est. 80% kill
 5. Est. 80% kill



Lloyd Ramelli



Frank Martin



Marvin Kaschke



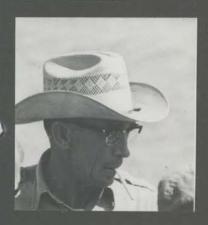
Charles Gibbons



Linda Wicks



Charles Peck



Harold Jones



Bob Burkholder



Dean Gilbert



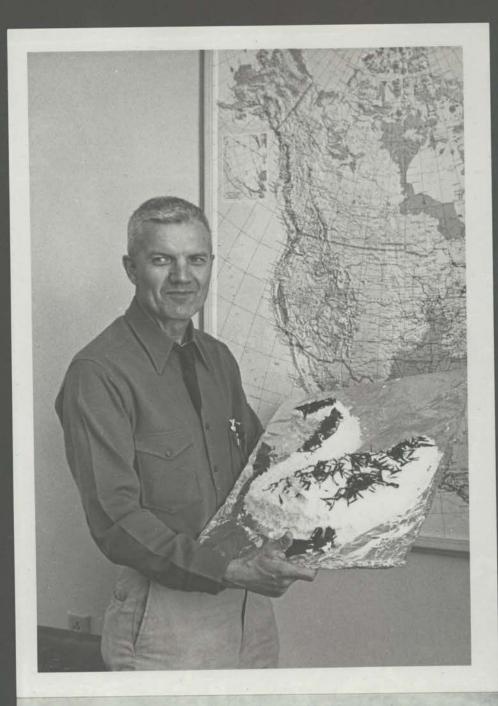
Lynes Kilby



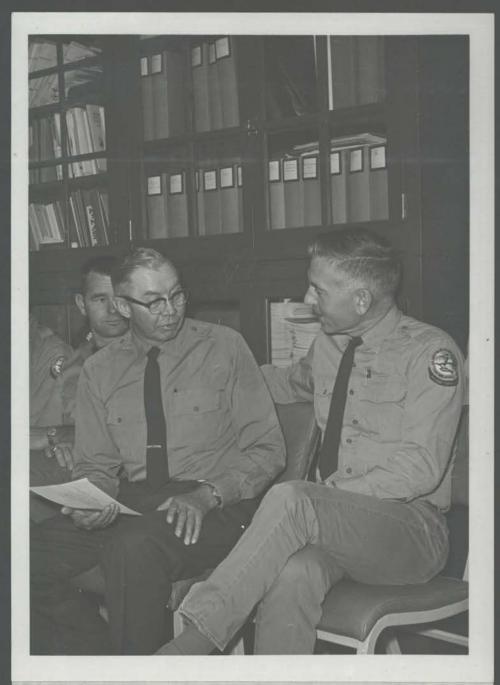
Sam Sage



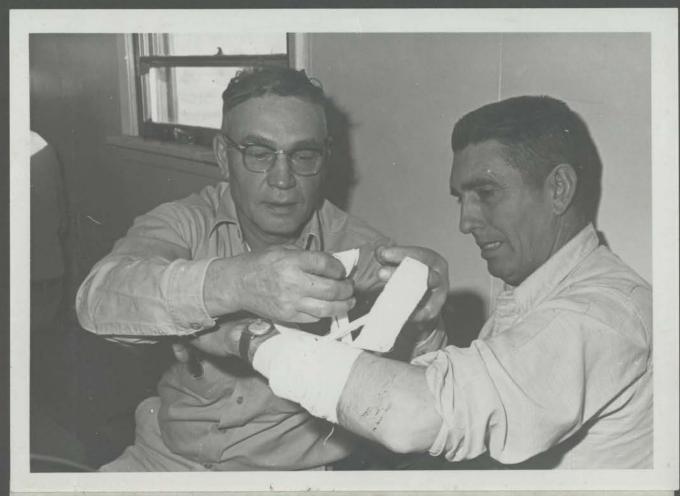
Gerald Sullivan



Bruce Stollberg was presented with a cake shaped like a goose at a farewell party at refuge head-quarters on May 19. Photo No. 67-409, 5/19/67 FRM



Former Manager Fred Staunton was presented with the Meritorious Service Award by Assistant Supervisor George Wiseman at a ceremony in Lewistown on October 10, 1967. Photo No. 67-1137,10/22/67 FRM



Joe Zupec, Maintenanceman III, practices bandaging Bill Davis, Operator, General, during first aid class at Camp Charlie in October. Photo No. 67-1236, 10/31/67 LRR



This sign, identifying the Nichols Coulee RCA and marking the entrance road, was erected in August. Photo No. 67-997, 7/15/67 FRM



Mallards totaling 1,014 were banded in Duck Creek below Fort Peck Dam during the winter months. While banding, weights were taken to determine the supplement feed requirements. Approximately 15,000 mallards wintered in the Fort Peck area. Corps of Engineers photo-2/67



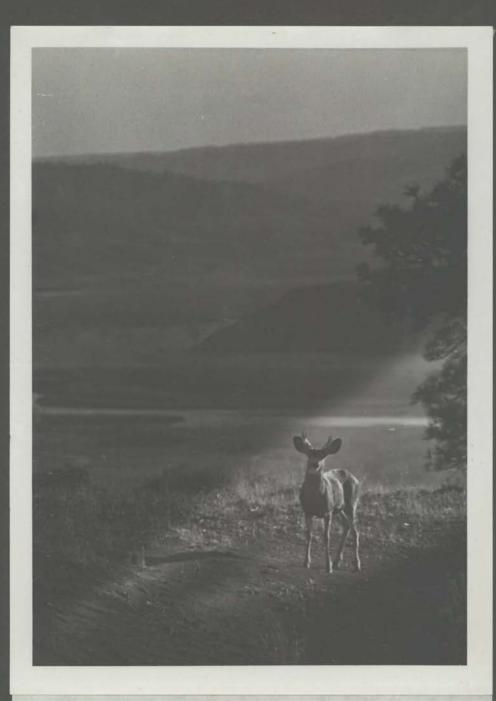
Don Fortenberry, Bureau Biologist assigned to black-footed ferret studies, explains to Lloyd Ramelli some of the characteristic signs left by ferrets. Photo No. 67-1222, 10/22/67 FRM



Marvin Kaschke collects a sample of red water along shoreline of Missouri River several miles below the Slippery Ann substation. The Northern Prairie Research station analyzed a small sample and reported it as possibly paint or lacquer. Photo No. 67-746, 7/21/67, FRM



An elk hunter in the Burnt Lodge Wilderness study area is questioned by Charles Peck. Photo No. 67-1446, 12/3/67 FRM



Mule deer buck photographed in the 2,000 acre bighorn sheep enclosure. Deer jump into area and are herded out several times each year. Photo No. 67-1364, 11/17/67, FRM



These two North Dakota archers each killed an elk on the east end of the Range. Nineteen of the 21 elk killed by archers were taken in the east end. Corps of Engineers photo 10/67

Local youth receives YOC training. . .



CORRY O'BRIEN, Lewistown, operates a spray gun while employed at the Charles M. Russell National Wildlife Range. Frank R. Martin, manager of the Wildlife Range, said Corry is being trained under the Summer Youth Opportunity Campaign. Corry

is getting experience in working with other people, and learning to safely operate various tools and equipment and to develop proper work habits. He plans to go to Miles City Junior College this fall. U. S. Fish and Wildlife Photo.

SATELLITE NATIONAL WILDLIFE REFUGES Hailstone, Halfbreed, Mason, War Horse, Wild Horse, and Yellow Water

NARRATIVE REPORT January - December 1967

I. GENERAL

A. Weather Conditions

Moisture conditions were below the normal average for much of southwestern and south central Montana. Moisture received during the winter and spring months was above normal but summer precipitation dropped well below the average.

Temperature extremes were consistent with past years. The high recorded in August was 96° and the low recorded in December was -12° .

The weather statistics listed below were obtained from the U.S. Weather Bureau Station at Billings, Montana. They reflect weather conditions more closely for Hailstone and Halfbreed Refuges than for Lake Mason, War Horse, and Yellow Water. Weather reports from Roundup, Montana better represent weather conditions at Lake Mason and War Horse, however, these records are not available for this report.

2	19	967	P	recipita	tion		Snowfal	1
-	Max.	Min.	1965	1966	1967	1965	1966	1967
January	38	22	.66	.43	.36	8.0	6.3	6.1
February	44	24	1.18	.32	.39	13.9	3.6	3.7
March	41	21	.90	1.58	1.55	11.4	17.3	16.2
April	50	29	1.18	1.10	1.63	3.4	2.5	11.4
May	61	39	1.89	.84	1.84	3.5	Tr	7.7
June	70	51	2.30	1.56	5.18	-	-	-
July	87	58	1.28	1.45	.37	-	-	-
August	86	56	3.50	1.09	.54	-	-	-
September	74	49	2.17	2.46	.66	5.6	-	-
October	60	39	.09	.50	1.04	***	Tr	-
November	44	29	.66	1.07	.50	6.3	12.0	5.1
December	34	16	.74	.95	.79	10.1	10.3	9.0
Totals			16.55	13.35	14.85	62.2	52.0	59.2

B. Habitat Conditions

1. Water

Water levels were maintained in five of the refuges as a result of better moisture conditions prevailing through April, May, and June. Wild Horse became dry in June and Lake Mason was almost dry due to upstream water diversions until July. Fall rain brought water levels

up and all areas except Wild Horse contained water at the close of the year. Halfbreed Refuge filled in May for the first time since 1963. Lake Mason went into the year with a low water level and did not gain much in water until fall months when it filled to about three-fourth's capacity. Lake Mason could have filled to capacity in the spring had not the upstream diversions of water occurred, resulting in a total lost of production this year. This is not a new situation at Mason but one which is under continuing investigation and, hopefully, an equitable solution can be found.

War Horse and Yellow Water have been more stable in water levels over the years than the other refuges and in 1967 both maintained good levels. Water levels were ample to fulfill wildlife needs except as noted.

Food and Cover

Aquatic vegetation was sufficient in the water areas with the exception of Lake Miller and Wild Horse. Wildlife use of all areas continued until freeze-up.

Grass and forb production was excellent this year due to better moisture conditions. Heavy grazing by livestock operations left most areas in poor condition by late summer. The Bureau has no control over grazing on Hailstone, Halfbreed, and Lake Mason as they are easement refuges. War Horse, Yellow Water, and Wild Horse Refuges are LU lands transferred to the BSFW and managed under cooperative agreement with the BLM. Livestock use on these areas is difficult to control due to the complex land ownership and unfenced areas.

Cereal grains on private lands in the proximity of each refuge greatly assist in maintaining waterfowl populations in those areas.

II. WILDLIFE

A. Migratory Birds

Most satellite areas were ice-free by April. Low water levels, however, plagued Lake Mason. Halfbreed was dry during this period. The remaining areas sustained 13,000 ducks during the April peak and 8,000 of these were using War Horse. Production was normal on War Horse, Yellow Water, and Hailstone but Lake Mason was down and Wild Horse nonexistent as a result of being dry. Halfbreed produced well for the first time in many years due to an early June run-off that filled this lake and the entire adjoining Wheatland Basin. The fall peak totaled 46,000 ducks and 17,000 coots despite the fact that other water areas in Central Montana were more abundant than during normal years of average precipitation. A long mild fall period precluded concentrations of migrants.

B. Upland Game Birds

Sightings of upland birds were sporadic. Production was lower than last year as a result of the long wet spring. Overgrazing by livestock with the resultant loss of cover and habitat probably affects upland game bird populations more than any other factor. Species represented are ring-necked pheasant, Hungarian partridge, sage grouse, and sharp-tailed grouse. Numbers of individual species vary as use is not restricted to refuge boundaries.

C. Big Game Animals

Antelope used all areas this year with an increase in numbers noticeable at Halfbreed. Mule deer were observed only at War Horse and Wild Horse but occur occasionally on the other areas as well.

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

Coyote and fox populations are reported as increasing in Central Montana. These animals use the refuge areas but increases are not noticeable.

With water levels so erratic on Lake Mason and Halfbreed, fur animals are seldom observed. Skunks, on the other hand, are quite common. Some muskrat activity was noted at Lake Mason but not in sufficient quantity to encourage a harvest.

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

Sights of golden eagles occurred only at Yellow Water and Hailstone this year. Marsh hawks, red-tailed hawks, sparrow hawks and Swainson's hawks were seen either on or in the general vicinity of each refuge. No production of hawks or eagles is known to occur on the refuge areas. One golden eagle nest located on the King Ranch three miles north of Yellow Water hatched 1 fledgling from 2 eggs.

F. Other Birds

Again this year about 300 long-billed curlews were using a portion of Halfbreed Lake Refuge just prior to the fall migration. The buildup at Halfbreed occurs nearly every year but has increased the past two years. White pelicans and double-crested cormorants rotated between Yellow Water and War Horse Refuges during the spring and early summer. No production was recorded for these birds.

G. Fish

Yellow Water and War Horse Lakes furnish all the sport fishing for the satellite refuges. At Yellow Water good catches of rainbow trout and

bullheads were made while bass fishing at War Horse Lake was excellent. The <u>Billings Gazette</u> reported War Horse Lake as the "hottest fishing spot in Montana." This publicity increased the regular heavy public use of the area. Good catches of 1-3 pound large mouth bass were made throughout the ice-free period. Fishing here furnishes an important recreational outlet for local people including Billings residents. On weekends it is common to count 25 to 30 vehicles and 3 to 5 boats on the area. During the week, 2 to 5 vehicles are average.

H. Reptiles

Nothing of particular interest.

I. Disease

None noted.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

No development work was undertaken on the satellite refuges this year. Boundary posting on Lake Mason, Halfbreed, and Hailstone was accomplished with many new signs and posts installed. The public hunting area of Lake Mason was posted this fall prior to the waterfowl season.

IV. RESOURCE MANAGEMENT

A. Grazing

The Bureau-controlled lands at Lake Mason, War Horse, Wild Horse, and Yellow Water are grazed by local ranchers under permit from the BLM. Overgrazing is prevalent on all these lands and most noticeable adjacent to the lakes and marshes. Wildlife habitat could be improved by reducing grazing. However, with the areas unfenced and checkerboard land ownership, grazing reductions are difficult.

VI. PUBLIC RELATIONS

Public hunting pressure at Lake Mason was light even though good water-fowl numbers remained until freeze-up. Only Lake Mason has a public hunting area. Limited hunting occurs adjacent to most of the other refuges for waterfowl as well as resident wildlife. Halfbreed is an exception as the private land surrounding the refuge is closed to hunters. Halfbreed and Hailstone do hold geese that feed in grainfields located in Wheat Basin and furnish excellent hunting.

The state game warden at Roundup, Montana reported two violations at Lake Mason for hunting waterfowl in the closed area. The warden at Columbus reports apprehending a hunter at Halfbreed Refuge for hunting antelope. These are the only known violations occurring this year.

VII. OTHER ITEMS

A. Items of Interest

The water rights investigation at Lake Mason and Halfbreed continued with close cooperation from the Field Solicitor's Office in Billings. Obtaining a dependable water supply is the most important factor limiting production of these two refuges but to date this has been impossible due to demands of upstream water users.

Field investigations were completed at War Horse to determine land ownership and water rights status. About 1,200 acres of private land surround War Horse and if purchased by the Bureau, would give us complete control of the lake as well as land adjacent to the shoreline.

WATERFOWL

FUGE Hailstone L					7.51		OF January			
	:		Weeks	of r	(2) e p o r t	ing	period			
	:1/1-7	: 1/8-14	:1/15-2i : 3	1 1/22-28	1/29-2/4	2/5-11	12/12-18 :	2/19=25	2/26=3/4	3/5-11
wans: Whistling	Frozen									+
Trumpeter		-	-							
ese:	-	+								-
anada	1									1
Cackling							-			
Brant		+								
hite-fronted										1
now	1									
Slue										
ther										
cks:										
fallard										
lack										
adwall	-	-								-
Baldpate		-								-
Pintail			 	-			-		-	-
Green-winged teal	-	1								-
Blue-winged teal	-	-		-			-			-
Stnnamon teal	-									-
lood		+				-				
Redhead	-	+					-			-
ing-necked	-	-								-
anvasback	-	+	+	-			-			-
caup	-	+	+	-						-
Goldeneye	-	-								-
Bufflehead	-	+	-	-						
Ruddy	-	1	-			-				-
ther		1	1	1						
	1	1	1	-			1			
ot:				1						
101									-	

Best possible image.

Cont. NR-1 (R March 1953)

WATERFOWL (Continuation Sheet)

	*	Weeks	0.5		2) rting	per	iod		: (3) : Estimated	: (4) : Production
	3/12-18:	3/19-25	3/26-4/1	4/2-8 14	: 4/9-15 : 15 *	4/16-22	: 4/23-29 : 17	: 18	: waterfowl	:Broods:Esti
wans:	1			5	7	0	0	1	84	
Whistling					1		-	-	- 04	
Trumpeter	-						+	-	+	+
Canada	rrozen			2	2	0	0		28	
Cackling			-		1		1	-		
Brant					-	-	1			-
White-fronted	-				1		-			1
Snow			-		1				-	
Blue							1		-	
Other					1					
cks:							1			1
Mallard		550	550	500	35	35	35		11,935	
Black								-		
Gadwall					50	50	50	-	1,050	
Baldpate		20	20	20	10	10	10		630	
Fintail		500	500	250	40	40	40	-	9,590	
Green-winged teal		50	50	40	10	10	10		1.190	
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup					30	40			490	
Goldeneye						-	-	-		
Pufflehead					-	-	-			
Ruddy	-				+		-		-	
Other Total Ducks	-	1,120	1.120	810	175	185	145	-	24,885	
oot:										
7000	*D. wiesla	of Actua	1 Canaus		+	All othe	er period:	(Class	4)	
	(Class		Lensus	(0	ver)	1	1	1	1	1

	(5)	(6) (7) Peak Number : Total Production	SUMMARY
Swar	15	7	Principal feeding areas Inlet slough and adjacent
Gees	se		grain fields.
Duck	24.885	1.120	Principal nesting areas Lake saure and adjacent
Coot	0 :	-0	range lands.
			Reported by Gibbons - Burkh lder
(2)	Species: Weeks of Reporting Period: Estimated Waterfowl	In addition to the birds listed	
127	Days Use:	Average weekly populations x num	ber of days present for each species.
(F)	Production:	breeding areas. Brood counts sh	ed based on observations and actual counts on representative could be made on two or more areas aggregating 10% of the ring no basis in fact should be omitted.
(5)	Total Days Use:	A summary of data recorded under	(3).
(6)	Peak Number:	Maximum number of waterfowl pres	ent on refuge during any census of reporting period.
(7)	Total Production:	A summary of data recorded under	(4).

Interior Duplicating Section, Washington, D. C. 1953

:								(2)				,					
(1)				Week	8	of	rej		1 n		er 1	o d		1			-
Species :	1	:	2		2	4		5			7			*		:]	10
wans:		1			1		1		1		1		1	1		1	
Whistling					l									1			
Trumpeter																	
eese:		TI	nis Lak	e was u	ry t	hrougho	ut th	e enti	re re	porti	g per	iod s	tarting				
Canada						ough 4-					6			1		1	
Cackling	-	-			-	ough 1	30,07		1								
Brant		-					-		1					-		1	-
White-fronted		-			-		+-		1-					-		1	
Snow		-			-		+-		-		-		-	-	-	-	-
Blue		-			-		-							1	-		-
Other		-			-		_		+	-	-			-		1	and the same
ucks:		-			-		-									1	
Mallard							1							1			
Black		-			-		-		-		_			-	-	1	-
Gadwall	-	-			-		+		-		-			-	-	1	_
		-			-		-		-		-	-		+		+	-
Baldpate			-		-		-		1		-			-		1	-
Pintail		-			-	-	-		-		-		-	-		+	-
Green-winged teal		-			-		-		-	-	-		-	-	-	-	-
Blue-winged teal		-			-		-		-			-	-	-	-	-	-
Cinnamon teal		-	-	-	-		-		-		-			-		-	
Shoveler		-			-		-		+		-			+		+	
Wood		-					-		-		-	-		-		-	-
Redhead			-		-				-		-		-	-		-	-
Ring-necked					-				-					-		-	_
Canvasback									-					_	-	-	-
Scaup												_				-	
Goldeneye															-	-	-
Bufflehead																-	
Ruddy																	
Other														1			_
							1										
l l					1									1			
oot:		1			1						1		1				

3-175	50		
BETO	NR-	1	
Rev.	. 1	ch	1953)

REFUGE Mason Comp	lex					MONTHS OF	January	TO	April	, 19 ₆₇
	:		W = 1	s .of r	(2)	1 0 0 0				
		:1/8-14	:1/15-21	\$.01 P	: 1/29-2/4	: 2/5-11	2/12-18	2/10-25	: 2/26-3/4	* 3/5-11
Species	: 1	: 2	: 3	: 4	: 5	: 6	: 7	8	: 9	: 10
Swans:	1				1	1	1	1	1	1
Whistling	Frozen									
Trumpeter										
Geese:	1	-								
Canada						1				
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard										
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Vood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
			1	1	1	1				
Coot:				-						
			-	-		-		-	-	-
	1						Ī			

WATERFOWL (Continuation Sheet)

4.0

	Week		repor	ting			:	(3) Estimated	: (la	tion
	3/12-18 : 3/19-25 11 : 12	3/26-4/1	4/2-8	4/9-15*	4/16-22	4/23-29:	18 :		: seen :	Estimate
Swans:			Dry****	0	0	0		42		
Whistling	Frozen	3	3	0	-			44	-	
Trumpeter					-	1				
Canada		1	1			1				
Cackling		+	-		1	1			-	
Brant		-	-						-	
White-fronted						1				
Snow		-	1			1				
Blue		1	-						-	
Other		1								
vcks:					1					
Mallard		225	220	220	200	200		7,455		
Black		- Infeed	to the total and	The Standard						
Gadwall				100	150	250		3,500		
Baldpate		25.	100	150	200	150		4.375		
Fintail		250	300	330	300	150		9,310		
Green-winged teal				250	300	250		5,600		
Blue-winged teal						50		350		
Cinnamon teal										
Shoveler				50	7.5	100		1,575		
Wood										
Redhead						50		350		
Ring-necked										
Canvasback										
Scaup			300	400	300	200		8,400		
Goldeneye										-
Bufflehead		1		1						
Ruddy							-			
CANAGE Total Ducks		500	920	1,500	1,525	1,400		40,915		
					1					
A:										
oot:	Periods of actua	-	-	-	-				-	

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
ลากร	42	3		Principal feeding areas Aquatic veretation and adjacent
rie	0	0		_rain_tields
PB	40,915	1,525		Principal nesting areas
ita	0 :	<u> </u>		
				Reported by oibbons-burkholuer

INSTRUCTIONS (See Jacc. 7531 through 7536, Wildlife Feriges Field Manual)

(Openies:

in addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

weeks of

Reporting Feriod:

Estimated average refuge populations.

stimated Waterfowl

Days Use:

Average weekly populations x number of days present for each species.

Production:

Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

I lotal Days Use:

A summary of data recorded under (3).

eak Number:

Maximum number of waterfowl present on refuge during any census of reporting period.

Total Production:

A summary of data recorded under (4).

I terior Duplicating Section, Washington, D. C. 1953

			Week	s of r	(2) eporti	ng p	eriod			
(1) Species		: 2	: 3	The same of the sa	5 :		7		9 :	10
ans: Whistling	1/1-7	1/8-14	1/15-21	1/22-28	1/29-2/4	2/5-11	2/12-18	2/19-25	2/26-3/4	3/5-11
Frumpeter		1								
sei										
anada ackling	Frozen									
Brant	-		+	-						
hite-fronted	†		 	1						
now										
lue	-									
ther	-		-	-			-			
allard										
Black										
adwall			-							
aldpate intail		-	-							
reen-winged teal	-		-	-	-					
lue-winged teal		1	 							
innamon teal										
hoveler			-							
ood edhead			+							
ing-necked	 	-	+	-			-			
anvasback			1							
caup										
oldeneye										
ufflehead uddy			+							
ther	-		1							
10000 TO 10000		1	1	1				HATTER AND THE REAL PROPERTY AND		

Cont. NR-1 (Rev. March 1953)

WATERFOWL (Continuation Sheet)

EFUGE War Horse I	ake					MONT	THS OF	January	TO Apr	19 67
	:	Weeks	of	rapor		peri	o d	:	Estimated	: (4) : Production
(1) Species	3/12-18	3/19-25:	3/26-4/i	4/2-8	4/9315	4/16-22 16	4/23-29:	18 :	waterfowl days use	:Broods:Estimate
wans:		1			1	0	0		7	
Whistling							-			-
Trumpeter		-								-
Geese:	Frozen				2	2	2		42	
Canada	rrozen					- 4	2		42	
Cackling		-								
Brant	-							-		
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard			100	350	350	350	350		10,500	
Black										
Gadwall			150	500	700	800	800		20,650	
Baldpate			.50	500	700 _	700	500		17,150	
Pintail			150	300	400	400	300		10.850	
Green-winged teal			30	50.	700	500	400		11.760	
Blue-winged teal										
Cinnamon teal										
Shoveler	-									
Wood								-		
Redhead			300	3 500	4.200	3,500	3,000		101,500	-
Ring-necked		-	300	3,300	4.200	3.500	2.000		101,500	
Canvasback		-	20	350	350	500	300		10.040	
Scaup		-	40	330	700	500	200		9.800	
Goldeneye	-		200	100	700	200	200		The state of the s	
Bufflehead			200	100	1	-	-		2,100	
Ruddy	-				-	50	100		1,050	
XXXXXX Total Ducks			1,000	5 1,50	8,100	7,300	5,950		196,000	
Annual Total Ducks	1		1,000	3,030	0,100	7,500	3,750		170,000	1
Coot:						200	300		3,500	
7	Periode	of Actual	Census	(Class/B)	All oth		-	D)		

	(5) Total Days Use	(6) Peak Number	al Production	SUMMARY
SWARB				Principal feeding areas acquatic veget tion in lake
Gaesa	42	2		and adjacent grain rields.
Ducks	196,000	8,100		Principal nesting areas same as above
Coots	3,500	300		
				Reported by Gibbons-Burkholder

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of
 Reporting Period: Estimated average refuge populations.
- Days Use: Pverage weekly populations x number of days present for each species.
- Production: From ted number of young produced based on observations and actual counts on representative breeding areas. From counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

Best possible image.

CDINGS III I	T .					MONTHE	-			
EFUCE Wild Horse	Lake					MONTHS O	F Januar	ry TO	April	_, 19_
6 6			W = = 1		(2)					
(1)	1/1 7	1/9 1/	Weeks	01 T	eport	1 ng p	eriod	0 111 0 0		
Species :	1	1/0-14	: 1/15-21	1/22-28	1/29-2/4	2/3-11	32/12-18	: 2/19-25	:2/26-3/4	: 3/4-1
wans:			: 3	4 1	. 5 3	0	: /	: 0	: 9	: 10
Whistling	rrozen									
Trumpeter	Frozen									
eese:	 					-	-		-	-
Canada	1		1	1				1	1	1
Cackling			-					1		-
Brant	-		-						-	-
White-fronted			+				-	-	1	
Snow							+	-	-	-
Blue		-	-					-	+	
Other		 	 				-	-	-	+
ucks:	-		+							-
Mallard								1	1	1
Black	-	1	-				-	-	+	-
Gadwall		-	1				-	-	-	1
Baldpate			1				1			1
Pintail								-		1
Green-winged teal		—	1						1	1
Blue-winged teal		1	1				1	1		1
Cinnamon teal			1				1		1	1
Shoveler							-			-
Wood	-							1	—	-
Redhead									1	
Ping-necked										
Canvasback	1						1			1
Scaup			1				1	-	1	1
Goldeneye							1		1	
Bufflehead			1							
Ruddy										
Other										
							1			
ot:			1					1	1	1

Pev. March 1953)

WATERFOWL (Continuation Sheet)

FIGE Wild Horse L	E Wild Horse Lake						MONTHS OF January			, 1967
	: 3/12-18 :		3/26-4/1: 13*:		ting 4/9-15 : 4	1/16-22:	4/23-29:		: (3) : Estimated : waterfowl : days use	: (4) : Production :Broods:Estimate : seen : total
ins: Thistling Trumpeter	Frozen		0	0	0	0	0	ry	0	
ese: lanada lackling			0	0	. 0	0	0		0	
Brant White-fronted Bnow Blue										
)ther :ks: fallard			25	50					525	
Black Badwall			75	100	30	30 50	30 30		1,855	
Baldpate Pintail Breen-winged teal Blue-winged teal			300	400 50	30	20	40 20		5,530	
Shoveler						50	30 -		560	
ledhead ling-necked lanvasback Scaup Foldeneye										
Bufflehead Ruddy Wohen Total Ducks			400	600	200	250	150		11,200	
<u>ot</u> :	*Periods	f actual	Census (C	lass B) A	all other	periods	(Class D)			

	Total Days Use :	(6) (7) Peak Number: Total Production	SUMMARY
Swan	s <u> </u>		Principal feeding areas Shallow lake bottom and adjacent
Gees	• 0		rain fields.
Duck	11,200	600	Principal nesting areas None-area is dry prior to nesting
Coot	s <u>0</u> :	0 :	
			Reported by Gibbons-Burkholder
	INST	RUCTIONS (See Secs. 7531 through	7534, Wildlife Refuges Field Manual)
(1)	Species:		on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be given ational significance.
(2)	Weeks of Reporting Period:	Estimated average refuge popular	tions.
(3)	Estimated Waterfowl Days Use:	Average weekly populations x nu	mber of days present for each species.
(4)	Production:	breeding areas. Brood counts si	ced based on observations and actual counts on representative hould be made on two or more areas aggregating 10% of the ving no basis in fact should be omitted.
(5)	Total Days Use:	A summary of data recorded under	r (3).
(6)	Peak Number:	Maximum number of waterfowl pre-	sent on refuge during any census of reporting period.

A summary of data recorded under (4).

(7) Total Production:

REFUGE Yellow water	Lake					MONTHS C	F January	TO	April	, 1967
	:		Week	s of r	(2)	ing	eriod			
(1) Species	: 1/1-7 : 1	:1/8-14 : 2		11/22-28 1 4					: 2/26-3/4	: 3/5-11 : 10
Swans: Whistling Trumpeter Geese: Canada Cackling Brant White-fronted Snow Blue Other Ducks: Mallard Rlack Gadwall Raldpate Pintail Green-winged teal Elue-winged teal Cinnamon teal Shoveler Wood Redhead Ring-necked Canvasback Scaup Goldeneye Bufflehead Ruddy Other	Frozen-									
Coot:		-								

Cont. N (Rev. March 1953)

WATERFOWL (Continuation Sheet)

REFUGWellow Water Lake MONTHS OF January TO April , 19 67 (3) : (4) Weeks of reporting period Estimated : Production (1) : 3/12-18:3/19-25:3/26-4/1:4/2-8 : 4/9-15 : 4/16-22: 4/23-29: : waterfowl :Broods:Estimate : 11 : 12 : 13 : 14 : 15 : 16 : 17 : 18 : days use : seen : total :Broods:Estimated Species Swans: Whistling Trumpeter Geese: 12 Frozen-----12 11 10 10 385 Canada Cackling Brant White-fronted Snow Blue Other Ducks: Mallard 100 100 50 50 50 2,450 Black Gadwall 100 100 100 100 100 3.500 Baldpate 50 100 150 150 150 4.200 Fintail 300 300 50 50 50 5.250 Green-winged teal 30 50 50 910 Blue-winged teal Cinnamon teal Shoveler 70 70 70 1,470 Wood Redhead 100 700 Ring-necked Canvasback 50 200 250 200 100 5.600 Scaup Goldeneye 300 300 150 100 50 6.300 Bufflehead Ruddy OftenTotal Ducks 1_000 1.100 770 30,380 850 620 Coot: 10 20 210 * Periods of Actual Census (Class B) All other periods (Class D)

	725		72					
	(5) Total Days Use :	Peak Number ots	(7) al Production	SUMMARY				
Swan	s <u> </u>	0 :		Principal feeding areas ake shore & inlet				
Gees	385	12						
Duck	30,380	1,100 :		Principal nesting areas Lake shore, inlet and adjacent				
Coot	3 210	20 :		range lands.				
				Reported by Gibbons & Burkholder				
(1)	Species:	In addition to the reporting period	e birds listed should be adde	on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be given eational significance.				
(2)	Weeks of Reporting Period:	Estimated average	refuge popula	tions.				
(3)	Estimated Waterfowl Days Use:	Average weekly po	pulations x nu	mber of days present for each species.				
(4)	Production:	Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.						
(5)	Total Days Use:	A summary of data	recorded unde	r (3).				
(6)	Peak Number:	-Maximum-number of	waterfowl pre	sent on refuge during any census of reporting period.				

(7) Total Production: A summary of data recorded under (h).

3-1751 Form NR-1A (Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge Satellites Months of January to April 193 67

(1) Species		2) Seen	Peak N	3)		4) Seen		(5) Production	n	(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total #	Total Young	Estimated
I. Water and Marsh Birds:										
None										
Shorebirds, Gulls and Terns:										
Wildhorse Avocet Curlew (long bill)	20 15	04/12/67		04/30/67 04/30/67		04/30/67 04/30/67				
Mason - Talbot Wilson Phalarope	100	04/12/67		04/30/67		04/30/67				
Longbill Curlew	7	04/12/67	25	04/30/67	25	04/03/67				
Wild Horse Western Grebe	20	04/12/67	200	04/30/67	200	04/30/67				
				(over)						1

(over)

(1)	(2)	(3)	(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove	2 04/19/67 50	04/30/67 4 04/12/67		
IV. Predaceous Birds: Golden eagle Duck hawk Horned owl Magpie Raven Crow	Permanent Resident 5	03/15/67 year-long reside		
		Reported	by Burkholder & Gibbons	1

INSTRUCTIONS

(1) Species:

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

UPLAND GAME BIRDS

Refuge Satellites	Months of January to April ,	19	67
0		-	-

(1) Species	(2) Density		(3) Young Produced	(4) Sex Ratio	R	(5) emova	ls	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd. Estimated Total	Percentage	Hunting	For Restocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasants Same Prouse Sharptail Grouse Buropean Part- ridge	Population down Population down Population down Opulation down								All species use areas on an on-off basis. No basis for estim ting populations. Cold wet spring resulted in decrease in numbers of all upland bird species. Class "D" Information.
				Best possil	ole i	mage	э.		

3-175	4
Form 1	VR-4
(June	1945

 ALC: N	9.9	20.00	242.6 4	-
 SAM AL	LL	DA DE	BREG &	

Refuge Satellites	Year	ending	April	30,1967
-------------------	------	--------	-------	---------

(1) Species	(2) Density	(3) Removals				(4) Disposition of Fure					(5) Total			
	Class D	Acres Per Animal m				50		Share Trapping			Refuge	Donated		Popula-
	Cover Types & Total		Hunting Fur Harvest	edator	For Re-	For Re-	Permit	Trappers	Refuge	Total Ref Furs Ship		Fure	tion	
Common Name	Acreage of Habitat	Animal	Hu	器器	G P	Man and	Fe 60	Number	She	Rei	To	Furs	De D	Class D
Coyote	Population increasing													Common
otriped Skank	Population decreasing													Common
Maite-tailed Jackrabbit	Population decreasing													Common
Cottontail	Population decreasing													Common
dadger	Population decreasing													Common
														a
* List removals b	y Predator Animal Hunter	*												a

REMARKS: No differences noted among any of the seven satellite areas.

		Burkholder & Gibbons
Reported	by	

s Actual coasus periods. Remainder estimated by in polation.

35	Weeks : 5/11/300 : 5/11/300	20	(2) eport 5/25-6/3		90	90	360	300
35	3.5	20	5/83-6/3 90	80	90	90	360	
35	3.5	200	50	80	90	90	360	
30	30	30	20					3.00
30	30	30	20					3.00
30	30	30	20					300
30	30	30	20					300
30	30	30	20					3.00
30	30	30	20					3.00
30	30	30	20					3.00
30	30	30	20					300
30	30	30	20					3.00
30	30	30	20					300
		A STATE OF THE PARTY OF THE PAR		700				
		A STATE OF THE PARTY OF THE PAR		75/5	-	AND ADDRESS OF THE PARTY OF THE	CARLEST AND ADDRESS OF THE PARTY OF THE PART	
1,0	10	Euro:		4550	20	30	3-0	495
the sufficiently actived well to recognize the first term		EO:	10	8/5	55	15	55	55
5	5	20	20	30	35	2/0	50	123
60	50	30	30	30	30	3.0	20	30
50	90	50	50	500	50	50	620	30
		50	C)S	500	50	50	50	50
								De Seul Sant
3.0	20	50	30	10	hS	30	20	30)
The second secon	10	_30	255	245	20	25		
290	210	233	285	350	370	370	965	365
10	20	3.0						
	30 29b	10 h0 290 aho	50 kg 30 290 2kg 239	80 k0 30 25 290 2k0 230 285	50 h0 30 25 25 290 250 230 205 350	10 10 30 25 25 26 29 210 230 205 350 370	1 10 10 30 25 25 25 25 25 25 25 25 25 25 25 25 25	1 50 10 30 25 25 25 25 25 25 25 25 25 25 25 25 25

Cont. NR-1 (Rev. March 1953)

WATERFOWL (Continuation Sheet)

(1) : Species :	7/9-25	Week	13 :	repor	ting		0 d	18	(3) Estimated waterfowl days use		
Swans: Whistling	A s	CENTA O	data re-	tordad un	lor (3) ,						
Trumpeter	010	SOLDE DE	TOTAL W	10780 000 I	15 5 7 100 100	DESCRIPTION OF	7000 00		TO SOUTH THE SAME		
Geese:	COLUM	eding ar	an. Bro	ed counts	ahou 50 b	20 or	PHO 35	OLG 25	100 to 100	ICE OF F	po
Cackling										1	PAGINE -
Brant		raile mon	på Johns	ropono se a	-	400 100		coop obs	700-	-	-
White-fronted Snow	043									-	-
Blue BELLTIN LALTO	1 990	100 /00 R	OLEKO, LEI	of a John	TRATABLE !						
Other Ducks:		-								+	-
Mallard	300	300	300	350	200	500	200	500	32,630	5	50
Black	93	55	- 50	3.00	300	300	300	200	6,790	-	
Gadwall Baldpate	50 M	165	50	50	- 50	90	50	50	5,775	-	300
Pintail	- 50	50	50	60	80	90	300	300	5,805	L	
Green-winged teal	10 50	90	300	350	200	250	150	3.00	6,200		-
Blue-winged teal Cinnamon teal				ing/si	Since .	630	400	2000	y ₅ 000	3	50
Shoveler	50	90	90	50	50	50	50	50	h,970		
Wood Redhead			-							-	-
Ring-necked		-									
Canvasback					Dal an				2,899		
Scaup Goldeneye									-9-02	-	-
Bufflehead					1000				0.000		-
Ruddy Total Diegs	355	-365	600	650	- 830	200 000	250	700	2,270	13	250
Coot: (5)	1 1500)	(c)	Total Pi	oduc tion			50	200	5*570		
				(ov	mr)						

	(5) Total Days Use	(6) : Peak Number : T	(7) otal Production	SUMMARY
Swans	»Ja	eOe	«O»	Principal feeding areas Inlat slough and adjecent
Geese	190 L	20	»O»	grein fields.
Ducks	57,575	Sho	250	Principal nesting areas Take shore and adjacont range
Coots	2,210	300	nOn-	2mdn.
				Reported by Olibbons & Burkhalder
OLAN:	-Applied real INS	STRUCTIONS (See S	ecs. 7531 through	n 7534, Wildlife Refuges Field Manual)
(1) S	pecies:	reporting peri	od should be adde	d on form, other species occurring on refuge during the ed in appropriate spaces. Special attention should be given national significance.
Contract of the Contract of th	eeks of eporting Period:	Estimated aver	age refuge popula	
	stimated Waterfowl		populations x m	umber of days present for each species.
(Jeezer	roduction:	breeding areas	. Brood counts	should be made on two or more areas aggregating 10% of the aving no basis in fact should be omitted.
(5) T	otal Days Use:	A summary of d	ata recorded unde	er (3).
(6) P	eak Number:	Maximum number	of waterfowl pre	esent on refuge during any census of reporting period.
(7) T	otal Production:	A summary of d	ata recorded unde	er (4).

estinated by interpolation.

REFUGE Helibrood &	dio					MONTHS OF	Hay	TO	August	, 19 67
					(2)					
	1/30-5/6	5/7-23 0	Weeks 5/21-20	of r	e port: 5/28-6/3	ing p	6/11-17: 7	6/18-26	6/25-7/1	7/2-8
Swans: Whistling Trumpeter Geese: Canada										
Cackling Brant White-fronted Snow Blue Other										
Ducks: Mallard Black Gadwall	Lebe dry	throughout					20	300	200	300
Baldpate Pintail							30	50 50	300 300	200
Green-winged teal Blue-winged teal Cinnamon teal Shoveler Wood Redhead Ring-necked Canvasback Scaup Goldeneye									100	200
Bufflehead Ruddy Other							30	200	500	800
Coot:										

WATERFOWL (Continuation Sheet)

REFUGE Halfbrood Lai	10				MONT	THS OF _	lay	TO Suguet , 19 67			
Species :	7/9-15 :	Week	s of	1/1	ting	peri	0/20-20				
Swans: Whistling Trumpeter	V 4		data re	orded un	or (3),						
Geese: Canada Cackling	p1,0	ding are	ale, Pro	d counts	should t	n made on	two or	ote stee	AEGINGALING AEGINGALING	ik of 1	
Brant White-fronted Snow	24.5		ph bolony	igoro u i		quin las	sant for				
Other Ducks:				alle bakes	-						
Mallard Black	350	360	1,00	£00	1/00	1,00	500	500	27,530	4	50
Gadwall Baldpate Pintail	360 320	360 320	500 900	500 300	\$00 \$00	\$30 530	\$000 900	500 500	20,300	3	30 75
Green-winged teal Blue-winged teal Cinnamon teal Shoveler	360	300	1,00	900	2,000	3,000	600	200	33,010	3	to
Wood Redhead					- gabox	191 JŘ					
Ring-necked Canvasback Scaup					Princ	2007 2002	155 9209				
Goldeneye Bufflehead		4									
Ruddy	3,200	2,000	2,000	3,600	2,800	2,300	2,000	1,600	305,230	27	3.95
Coot: (2)	e : Pank	jernipat.	Total P	oduction.				stieta			
				(07	er)					1	

(5) Total Days Use	(6): Peak Number: T	(7)	SUMMARY
Swans	0	0	Principal feeding areas
Geese	0	0	
Ducks 105,210	2,300	290	Principal nesting areas
Coots	0	0	
			Reported by Gibbons & Buristolder
(2) Weeks of Reporting Period: (3) Estimated Waterfo		age refuge popula	ations.
Days Use:			mber of days present for each species.
frumpeter feerer	breeding areas	. Brood counts s	should be made on two or more areas aggregating 10% of the wing no basis in fact should be omitted.
(5) Total Days Use:	A summary of d	ata recorded unde	
(6) Peak Number:	Maximum number	of waterfowl pre	sent on refuge during any census of reporting period.
(7) Total Production:	A summary of d	ata recorded unde	or (4).

* Actual cameus periods. Resetador estimated by interpolation.

REFUGE MANOR	lbot Leke					MONTHS OF	Her	TO _	August	, 19
(-)	14/30-5/6	h.	leeks	of r	(2) e p o r t	ing p	eriod			
(1)	IN SOMONO	38.8483 13	of animals :	DASSESSE.	2\50*0\3	t olympia :	OFILMST:	chinest.		
Species Swans:	: 1 :	2 :	3 :	4 :	5	: 6 :	7 :	8 :	9 :	10
Whistling	1 1					1				
Trumpeter									-	-
Geese:	-			-		-				
Canada	;									
Cackling						-				
Brant						-				
White-fronted	-					-				
Snow	-					-				
Blue	-					-				
Other	-									
Ducks: Mallard	65	65	50	àS.	80	30			300	200
	100	463	3765	8637	190	30			300	300
Black Gadwall	320	320	200	200	300	495	25%	700	0.00	2.00
	193	320	200	QUIF	2000	20	50	30	250	100
Baldpate	300	25	200	20	55	20	50	20	200	200
Pintail	250	280	50	907	30	39	90	323	500	250
Green-winged teal	90	50	20	467	327	-		-		150
Blue-winged teal	200	au-	ADUI .	5	22.7	30	45	25	50	200
Cinnamon teal	90	203	20	20	7.00					
Shoveler	30	SULF.	200	203	20	-			200	200
Wood	20	20				-				
Redhead	60	367				-				
Ring-necked		-				-				
Canvasback	30	20	100	5						
Scaup	20	50	10							
Goldeneye						-				
Bufflehead										
Other Poral Ducks	80	30	-		-	-	-			-
Other	865	650	510	305	570	530	570	200	800	1,500
		300		20			-		50	2/50
Coot:		200		1000					30	200
		1	1			1			1	

Cont. NR-(Rev. March 1953)

WATERFOWL (Continuation Sheet)

(1) Lorer Lloquerro (1) Species	7/9-25:		o f 7/23-23 13 :	(2 repor	ting	peri	o d	0/27-31	(3) Estimated waterfowl days use	: Production : Broods:	tion Estimate total
Swans: Whistling Trumpeter	y is	menty of	data rec	oxgeg mos	or (3).						
Geese:	(III.0)	ding hab	Mat. Bi	blastes 1	AVIES HO	beats in	Cap the	1.0	RESTREMANDE	-	
Canada	224	ding are	181 9501	d counts	should b	83	ано (35)	490		THE OF A	
Cackling	2000	satted nu	Miner of a	ONLIN DICE	ned bee	o de obe	DALAN LY CITE	And ages	ny depuga ou	A LUCY CO.	Sud-Sum.
Brant White-fronted	0.00	and an artist	d boloms	PERMIT	diament or	organ Total	marte For	alleren arrest	VALUE -	-	-
Snow Snow	2,075	TOTAL SERVICE	TO PARTY I	121000							
Blue										-	-
Other Dollard Lairo	2 280	OWESO CA	erese ter	mile bolim	SETONS.					-	
Ducks:											-
Mallard	300	300	500	600	2,000	2,300	1,500	2,000	57,366	3	50
Black		woss she	0198 0/ 1	ocur vur	unergount.	arhu/Lrc	A 000°				
Gadwall	5200	690	crog 000	2,000	2,900	1,600	L. CON	2,000	77,590	in of the	1 AU 30
Baldpate	190	200	100	Total 600	008 10	3,000	3,000	000 \$ 000	10,300	a al Apo	30
Pintail	300	300	100	100	500	900	3,000	3,000	32,025		50
Green-winged teal	1,0	350	200 A20	T CASA	U 10 600	1,350	EpiXIU-	To Republic	ರಿತಿರಿಕರ		200
Blue-winged teal	3.00	100	300	330	500	1,300	2,500	500	30,335		50
Cinnamon teal	-	-	200,2700	20.00	- Charles	2000	1.00	20000	200 0000	-	-
Shoveler Wood	200	500	250	300	300	300	1,00	500	50,160	-	20
Redhead					Trapos.	090 08	300	200	2,310	-	-
Ring-necked				-			2000	600	67300	-	
Canvasback		-					50	200	1,575	-	-
Scaup						The Park	THE STAGE	- Access	350		-
Goldeneye									all after	_	
Bufflehead											
Ruddy Tyras Ducks									230		
Other Tring Touch	1,00	1,900	-5*600	3,200	5,200	7,750	9,350	-9,000	325,220	5	700
Coot: Jarey pake n	300	100	500	ogno 500	500	500	500	600	28,190		50
Coot:		0)		3							
				(OV	100						

Coots	(5) Total Days Use :	(6) Peak Number:	(7) Total Production	SUMMARY
Swans	eOn .	wQw :	=O=	Principal feeding areas Acquatio vegetation in
Geese	756	1.8	=O+	lake and adjacent grain fields.
Ducks	325,220	9,100	3,80	Principal nesting areas Late shows onergent vegetation,
Coots	28,190	600	3,50	inlet canal merch and adjacent renge lands.
				Reported by Oibbons & Burkholder
Shovele		590		
	NEST THE TANK	TRUCTIONS (See	Secs. 7531 through	7534, Wildlife Refuges Field Manual)
(1) Spe	cies:	reporting per	riod should be adde	d on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be given ational significance.
(2) Weel		Estimated ave	erage refuge popula	tions.
	imated Waterfowl		ly populations x nu	mber of days present for each species.
(4) Pro		breeding area	as. Brood counts s	ced based on observations and actual counts on representative hould be made on two or more areas aggregating 10% of the ving no basis in fact should be omitted.
4 14	al Days Use:	A summary of	data recorded unde	r (3).
(6) Peal	k Number:	Maximum numbe	er of waterfowl pre	sent on refuge during any census of reporting period.

Interior Duplicating Section, Washington, D. C.

3-1750 Form NR-1 (Rev. March 1953)

* Actual census periods. Hemsinder cettented by interpolation.

WATERFOWL

REFUGE MANAGE Entre						MONTHS O	F May	TO	August	, 19
(1)	₺/30 - 5/6 :	5/7-13	Weeks	s of r :5/21-27 : 4 s	(2) eport	ing p	eriod	: 8	6/25-7/1	
Swans: Whistling Trumpeter Geese: Canada Cackling Brant White-fronted Snow										
Other Oucks: Mallard Black	25	20	30	5	5	5	5	s	30	2.0
Gadwall Baldpate Pintail Green-winged teal Blue-winged teal	30 30	30 30 20	20 20 20	5 20	5	35	5	3.0	30	30
Cinnamon teal Shoveler Wood Redhead Ring-necked			30	30	5					
Canvasback Scaup Goldeneye Bufflehead										
Other Total Bucks	335	- 80	70	20 85	35	25	20	25	20	20
Coot:	35	25	3.5	35	30	20	5			

Cont. NR-1 (Rev. March 1953)

WATERFOWL (Continuation Sheet)

REFUGE						HOM	THS OF		TO TO		19 67
Species :		Week	s of	repor 1/30-3/5:	ting	per:	l o d	188	(3) Estimated waterfowl days use	: Production : Broods:	tion Estimated total
Swans: Whistling	V 9	denaity of	data re-	conded my	ler (3).					T	
Trumpeter	201.0	nervil inc	TOTAL DE	LECTURE AND TO A	WATER IN		T-2/14 700	WEST 100 100	and delegation		
Geese:	pre-	ading ar	and, Bro	nd nounte	monid t	n stade of	pao or	OLS SLEE	ASSTORALLE.	log of	10
Cackling Brant White-fronted	445	uila ma	gi bobay	-07-00-2-4	temperature ex	quin la	-	ands also	-		
Snow	200									+==	
Other Ducks: Mallard	30	32	30	30	5	-			3,009		S
Black Gadwall		Appell b	1707 700	73 70 99	79 TH B	-	<u> </u>	- 5	1,225	7 10	1000
Baldpate Pintail	35	35	20	20	20	20	20	20	3,600		5
Green-winged teal Blue-winged teal Cinnamon teal	5	5	5	5	50	30	50	90	2,330 700	+=	
Shoveler Wood					Bobos	10.7 10			375		
Redhead Ring-necked									36		
Canvasback Scaup Goldeneye				7	Py1 80	(pa) rest	Do ATHA				
Bufflehead									950		
Other Town 25(35)	-				Entire	Del Tees	DE SLOT		3740		
Total Days U	1 Panic	Number 385	Total P	oduction 32	75	50	75	SUMME	6,333 595		3.0

(5) Total Days Use	(6) : Peak Number :	(7) Total Production	SUMMARY
Swans	»On	=Ox	Principal feeding areas Lake shore near inlet.
Geese	*On	-O-	
Ducks 6,3%	23.5	30	Principal nesting areas elso, alterent range lands.
Coots	35	0	
			Reported by Cabbons & Bushbalder
Oreen-winged teal T	NSTRUCTIONS (See	Secs. 7531 through	n 7534, Wildlife Refuges Field Manual)
(1) Species:	reporting pe	riod should be adde	d on form, other species occurring on refuge during the ed in appropriate spaces. Special attention should be given national significance.
(2) Weeks of Reporting Period:	Estimated av	verage refuge popula	ations.
(3) Estimated Waterfo		ly populations x n	umber of days present for each species.
(4) Production:	breeding are	as. Brood counts	should be made on two or more areas aggregating 10% of the aving no basis in fact should be omitted.
(5) Total Days Use:	A summary of	data recorded unde	er (3).
(6) Peak Number:	Maximum numb	er of waterfowl pre	esent on refuge during any census of reporting period.
(7) Total Production:	A summary of	data recorded unde	er (4).

otual census periods. Hemsind stimated by interpolation.

WATERFOWL

:			231		(2)					
$(1) \qquad \frac{i}{i}$	b/30-5/6	5/7-13	Weeks	of re	port:	lng pe	riod	AABush .	0/25-1/L=1	775.11
Species :	1 :	2 *		L .	5 :	6 :	7 4:	8 :	9 :	10
Swans:	1		1	T	1		1	1	T	
Whistling										
Trumpeter										
eese:	10.00			_	-					
Canada	30		5	2	5	7	32	24	2	
Cackling										
Brant										
White-fronted										
Snow										
Blue									-	
Other							-			
ucks:	1,000	900	250	50	90	200	330	330	130	3.3
Mallard Black	-			-	20		- Indiana	-0,00	400	104
Gadwall	5,000	5,000	900	300	300	200	260	3.60	190	31
Baldpate	3,500	1,500	500	500	500	200	160	350	190	1
Pintail	900	500	200	50	50	50	30	20	50	-
Green-winged teal			300	50	50	20	20	20	20	1
Blue-winged teal					3.90	300	60	60	60	
Cinnamon teal										
Shoveler	300	500	200	300	300	300	90	90	200	20
Wood										-
Redhead	500	500	500	300	200	530	20	30	10	-
Ring-necked										
Canvasback	3.00	50								
Scaup	250	200	300	50	50	267	20			
Goldeneye										
Bufflehead										
Other Total Ducks	500	500	500	200						
Other	0,050	5,650	5,650	1,000	1,050	860	690	690	700	71
oot:	1,500	2,100	500	1,00	300	200	200	200	200	1

WATERFOWL (Continuation Sheet)

REFUGE	010					MONT	THS OF	Hay	TO Augu	st.	19 67
Species :	7/9-15 :	Week	s of 1/23-29:		ting	8/13/19:	8/20-26		(3) Estimated waterfowl days use	: Produ	4) ction :Estimat : total
Swans: Whistling	Y N	motesty of	data rm	orded was	MT (3).						100
Trumpeter Geese:	OT 0	rocking had	L 1245, - 51	ATTER DATE	HARRIE HO	-basic-in	1000		*************************************		
Canada	5	5	27	20	should b	s made on	2/10 DT	OLG TLOT	officety synt	201	3
Cackling											
Brant		000 many	A hologo	PERMIT		900 200	SERE EGE				
White-fronted	083		-							-	-
Snow			-				-			-	-
Blue Other	- 500		-							-	1
ucks:	130	300	200	etan	energy.	Deep	-				
Mallard	530	done	200	500	750	800	900	1,000	17,950	26	280
Black Gadwall	350	250	2:50	300	1993	985	2,000	3,000	72,650	22	3.70
Baldpate	350	250	130	230	800	900	1,000	2,300	61.510	195	90
Pintail	50	30	300	3.90	500	500	500	500	20,290	20	60
Green-winged teal	20-	COLD SERVICE	30	11/50	50	500	1,000	2,000	20,290	2	20
Blue-winged teal	50	60	200	200	350	500	1,900	500	22,320	2	93
Cinnamon teal Shoveler Wood	- 60	80	300	300	100	500_	500	500	22,630	2	50
Redhead	200	220	300	220	_500	600	900	1,000	30,010		
Ring-necked Canvasback								50	3,190	-	-
Scaup			-		Beland	pal cost	-	- 00	h.970	-	-
Goldeneye									418.2.50	-	
Bufflehead											
Buddy Total Bucks	750	000	2,230	1,070	3,600	5,200	2.30	15, 993	10,900		
Other		-	-9-0-	-Bala	aguiro.	night of	Ty.330	0,320	330,000	12	600
Total bays Up		Humber :		oduc til on				SUPPRINCE			
Coot: (2)	200	9) 200	290	300	Sloo	500	500	500	56,350	- 5	100
				(OV	er)			1			1

Total Days Use		7) Production SUMMARY
Swans 0	6	O Principal feeding areas Acquatic vegetation in Lake and
Geese 945	30	3 adjecent grain Sieldo.
Ducks 330,630	7,300 6	Principal nesting areas Same as above.
Coots 56,350	3,500 3/	00
		Reported by Olbhons & Bursholder
Green-winged tend IN	STRUCTIONS (See Secs. 7	531 through 7534, Wildlife Refuges Field Manual)
(1) Species:	reporting period show	dirds listed on form, other species occurring on refuge during the ould be added in appropriate spaces. Special attention should be given local and national significance.
(2) Weeks of Reporting Period:	Estimated average re	fuge populations.
(3) Estimated Waterfow Days Use:		ations x number of days present for each species.
(h) Production:	breeding areas. Bro	young produced based on observations and actual counts on representative od counts should be made on two or more areas aggregating 10% of the stimates having no basis in fact should be omitted.
(5) Total Days Use:	A summary of data re-	corded under (3).
(6) Peak Number:	Maximum number of wa	terfowl present on refuge during any census of reporting period.
(7) Total Production:	A summary of data rec	corded under (4).

3-1750 Form NR-1 (Rev. March 1953)

Actual census periods. Remai or estimated by interpolation.

WATERFOWL

	:		Weeks	ofi	(2) eport	4 n a		,		
(1) Species	1/30-5/6	5/7-33	The second second second		5/28-6/3				6/25-7/1	7/20
Wans: Whistling Trumpeter sese: Canada Cackling										
Brant White-fronted Snow Blue Other										
cks: Mallard Black			50	2.0	20	10	30	3.0	30	3/
Gadwall Baldpate			200	200 20	200	300	60 20	50 20	10 10	20
Pintail Green-winged teal Blue-winged teal Cinnamon teal	500	100	100	30	50	10	30	20	3.0	3.0
Shoveler Wood Redhead Ring-necked			30	10	30	90	80	80	90	20
Scaup Goldeneye Bufflehead Ruddy										
ot:	800	3,00	360	300	240	220	300	180	320	20

Cont. NR-1 (Rev. March 1953)

WATERFOWL (Continuation Sheet)

(a) 19 (1) : 7 Species :	/9-15	Weeks	0 f	repor	ting	9/33/30:	8/20-26	3/27-31	waterfowl	: (4) : Production :Broods:Estimate : seen : total
Swans:	V 7	maurià o	da'ta re-	orded un	ec. (3).					1
Whistling Trumpeter										+
Geese:	024	POTHS STA	ALB., 157'O	or counted	annerer e		2000 07		office for good	
Canada Cackling				one has	-101		\$340 GE		a) combe so	May of the
Brant		cod a stone	A. baham							
White-fronted Snow	سنوت									
Blue Other			ander to		*****					
Ducks: Mallard Black	10	30	5			-			1,015	
Gadwall	707	20	9	75 70 50	44 48 49	beelegees	-	Special	4,165	9 90 9 100
Baldpate	307	30	18 178 B	anda Mante	9 99 600	a conser	-	No. of Concession, Name of Street, or other party of the Concession, Name of Street, or other pa	1,120	7 190
Pintail	30	30							1,960	
Green-winged teal	ne ser una	Trise / See	Backer 77	Til thrisen	A. 7月34	443435 fo.	lathman.	Marial Mari	3,500	
Blue-winged teal										
Cinnamon teal	-	-								
Shoveler Wood	2	2			gebos	rea th			2,310	
Redhead		-		-			-			
Ring-necked		-				-				
Canvasback		-						-		
Scaup Goldeneye					Princ	(be) been	110 1101			
Bufflehead		0 1					-			
Ruddy	- MS	. 6	- 20		527100	they teed	TH 9209		20,070	
Coot: (2)	Pani	Humber :	Total P	roduc tion				SUMME		

	(5) Days Use :	(6) Peak Number : To	(7)	SUMMARY
Swans	0	0	0	Principal feeding areas Shallow lake bottom and adjacent
Geese	0	0	0	grain fields.
Ducks 1	9070	31,0	0	Principal nesting areas Lake dry during mosting
Coots	0	0	0	568500.
				Reported by Olibbons & Burkholder
Pintall Dress-winged	INS	TRUCTIONS (See Se	cs. 7531 through	7534, Wildlife Refuges Field Manual)
(1) Species:		reporting perio	d should be adde	d on form, other species occurring on refuge during the ed in appropriate spaces. Special attention should be given national significance.
(2) Weeks of Reporting	Period:	Estimated avers	ge refuge popula	ations.
(3) Estimated Days Use:	Waterfowl		populations x n	mber of days present for each species.
(4) Production	1:	breeding areas.	Brood counts	should be made on two or more areas aggregating 10% of the aving no basis in fact should be omitted.
(5) Total Days	s Use:	A summary of da	ta recorded unde	er (3).
(6) Peak Number	er:	Maximum number	of waterfowl pre	esent on refuge during any census of reporting period.
(7) Total Prod	duction:	A summary of da	ta recorded unde	

tinated by interpolation.

WATERFOWL

	:		Weeks	ofr	(2) eport	ing	neriod			
	6/30-5/6	5/7-33	5/15-20	5/23-27	5/28-6/3			Charles and the Control of the Contr	6/25-7/2-	7/2-0
wans:	1	1		1	1			1	1	
Whistling			-					-		
Trumpeter	-			-			11			
eese:								1		
Canada	5	h	3.0	10	30					
Cackling			-							
Brant	-									
White-fronted										19
Snow		-								
Blue	-	-	-					-		
Other	-	-		-	-		-			
ucks:	60	50	20	20	20	nn.	2.07	2.07	5.00	
Mallard	-00	300	403	655	600	30	15	15	85	16
Black	200	250	200		200	755	-	-	-	
Gadwall	200	150	The second secon	50	50	50	265	15	10	10
Baldpate	50	25	95	20	20	30	30	30	20	20
Pintail	200	823	20	30	30	303	3.0	20	30	30
Green-winged teal	-	-	-	-	-		-	-	-	-
Blue-winged teal	-	-		-		50	15	35	25	31
Cinnamon teal	750	100	-	-	-		-			
Shoveler	90	80	30	20	50	30	20	30	3.0	
Wood		-					-	-	-	
Redhead		-		-			-	-	-	30
Ring-necked Canvasback	200	30	-	70.0			1	-	-	
	300	20	30	30	30	- 5	5		-	
Scaup	200	73	90	30	20	30	30	-	-	
Goldeneye Bufflehead			-	-	-				-	
	2000	character.	-	200			-	-	-	-
Ruddy TOSAL EDGES	200	200	3.50 530	260	200	165	N. 1915	3.65	75.0	-
Oulet.	300	500	43,202	1000	CONF	405	170	455	350	23
	250	200	150	230	300	200	3.00	200	200	20

WATERFOWL (Continuation Sheet)

(7) Total Production		Weeks	of	repor		peri	lod	:	(3) Estimated	: (4) ction
Species :	7/9-25 :	7/26-22:	7/23-29	1/30-8/9 8	/Swill of	1/23-29	0/20~26	18 :			Estimated: total
Swans: Whistling Trumpeter	4.6	meril or	data res	orded und	(E (3)*				The same of the sa		
Geese: Canada Cackling	p19	egyus erus	sa. Srot	5	30	20	20	20	798	In at	10
Brant White-fronted			A inhap	-							
Snow Blue Other			1000-200	elle bebry						+	
Ducks: Mallard Black	ŁO_	ಹಿಂ	20	200_	200	300	800	8,00	13,300	5	20
Gadwall	20	102	80	70	300	300	300	500	31,120	2	20
Baldpate Pintail Green-winged teal	30	10 une (eve	30	30	50	300	200	200 200 300	5,125 3,500	-	20
Blue-winged teal Cinnamon teal Shoveler	20	30	30	30	350	250	50	50	3,730 350 2,500		3.0
Wood Redhead Ring-necked	200	300	300	200	200	300	3.00	300	6,300		
Canvasback Scaup Goldeneye					pqu	203 1000			2,055		
Bufflehead Buddy Other					130100	1007 1000	TOR GRADI		ls,900		
Total Days Br	: Paak	Impel:	Total Pi	odnation 200	100	3,300	8,230	ENSOLVET	62,370	43	90
Coot: (2)	200	200	220	(OVI	200	300	2,00	1,00	21,900	-	90

Total Days Use	(6) Peak Number :	(7) Total Production	SUMMARY
Swans	-O-	-O-	Principal feeding areas Labo shore and inlet.
Geese 790	20	-0-	
Ducks 62,370	1,500	90	Principal nesting areas Lake shore inlet and edjacent
Coots 25,500	100	90	rango lando.
			Reported by Manage & Durinolder
Pinnell Green-winged teal	NSTRUCTIONS (See	Secs. 7531 through	7534, Wildlife Refuges Field Manual)
(1) Species:	reporting per	riod should be adde	on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be given sational significance.
(2) Weeks of Reporting Period:	Estimated ave	rage refuge popula	tions.
(3) Estimated Waterfo		y populations x nu	mber of days present for each species.
(4) Production:	breeding area	s. Brood counts s	ced based on observations and actual counts on representative hould be made on two or more areas aggregating 10% of the ving no basis in fact should be omitted.
(5) Total Days Use:	A summary of	data recorded unde	r (3).
			- (2).
(6) Peak Number:	Maximum numbe	r of waterfowl pre	sent on refuge during any census of reporting period.

Interior Duplicating Section, Washington, D. C.

3-1751 Form NR-1A (Nov. 1945)

MIGRATORY BIRDS (other than waterfowl)

Months of to August

(1) Species	(2) First S		Peak Nur			4) Seen		(5) duction		(6) Total
Common Name	Number	Date	Number	Date	Number	Date		tal #	Total Young	Estimated Number
Water and Marsh Birds:										
detera Grobe Ante Pelican Brost Blue Heron	2 150	05=05=67 05=05=67 05=20=67	350 350 8	08-67 08-67 08-67	Still F	resent	Unknoun Hone Unknoun			STATE OF THE PERSON OF THE PER
				-104						+
	-									
		betrough								
	molfibs is	RAINT, 102	U. Cheo	COMS the A.C		a meman	SPITES GIVE	DEU .	reles:	
Shorebirds, Gulls and Terns:	holitana a	etc. In	"torn".	"Ilugaes		opo matos	de tette de	710		
Terns:	200	05-05-61	7 250	08-67	90433 1	resent	Unknown			
Celifornia Gull	CLO SOUR MAN	made made the	the same of	- AD - ED	494579 5	to a mariam for	Tintenana.			
Celifornia Gull	Lest P	05-05-67 oriod	7 30	08-67	84111 1 67 175	resent 08-20-61	Unionous Unionous Unionous			3.
California Gull Common Torn Long-billed Gurlew Wilson Phalacopa Killdear	Lost P	05-05-57 oriod oriod 05-05-57	7 30	08-20- 08-67 08-67	Stall 1 67 175 Stall 1 Stall 1	resent resent	Unknown Unknown Unknown			1,
Celifornia Gull Common Tern Long-billed Corlew Wilson Phalarope	Lest P	MATERIAL PROPERTY.	7 30	08-20-	84532 1 67 275 84532 1	08-20-67	THE RESERVE THE PARTY OF THE PA	ar		1,
California Gull Common Torn Long-billed Gurlew Wilson Phalacopa Killdear	Lost P	MATERIAL PROPERTY.	7 30 175 1,000 7 55 7 75	0820- 0867 0867 0867	Stall 1 67 175 Stall 1 Stall 1	resent resent	Unknown Unknown Unknown	ar or		1,
California Gull	Lost Por Los	05-05-69 05-05-69	7 30 175 1,000 7 55 7 75	0867 0867 0867	Stall 67 175 Stall Stall Stall	resent resent	Unknown Unknown Unknown Unknown	ear or to	Augustan	1, (a)
California Gull	Lost N	05-05-69 05-05-69	7 30 175 1,000 7 55 7 75	0867 0867 0867	Stall 1 67 175 Stall 1 Stall 1	resent resent	Unknown Unknown Unknown Unknown	off of	A Substitute	1, (a) (b)

(1)	(2	2)	(:	3)				(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove	Lent Per	iod	250	08-67	Still	Precent		Unknown	19481 .49
	our confliction of			204		100	127 127	8970	508
IV. Predaceous Birds: Golden eagle Duck hawk	Permanen	t Rentdont	5	m pand		it eye	Today	Unknown	mm00 5
Horned owl Magpie Raven Crow	3	05-05-67	15	08-67	8411	Present		Unknown	25
parvou Hault largh Hault	3	05-18-67	10	08-67 08-67	and the second	Present Present		Unknown Unknown	10 10
	v l					Poportos		ns & Burkholder	

INSTRUCTIONS

(1) Species:

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gavilformes to Ciconiiformes and Gruilformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

3-1751 Form NR-1A (Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl) Months of

STREET,

253547

.195.....

Refuge..... (1) (3) (4) (5) (6) (2) Species First Seen Peak Numbers Last Seen Production Total Number Total # Total Estimated Common Name Number Date Number Date Number Date Colonies' Nests Young Number sigss I. Water and Marsh Birds: 08-67 Still Present Ueskingson Western Grebe Leet Perlod 08-67 Galcapus Bouble-created Cornorant 20 03-67 White Pelicen 300 I Present Hone Great Blue Heron Still Present Unionesas 05=05=67 eported by INSTRUCTIONS ta found in the A. L.U. Checklist, 1951 Editio Beman J. errop ed etU (1) Species; II. Shorebirds, Gulls and sto. In addition "Ilugaes" as estel Avote general Terns: bebbs ad bivoda reporting period refuge during th o gairing o Section? Long-billed Curley phi was (800 KETI door 08-67 350 Wilson Phalarope pensherd bus semi 08-67 Ennt The lirst refuge record for the species for the season conterned. (2) First Seen The resteat sumber of the species present in a limited interval of time. (5) Penk Mushats: The last refuse record for the species dring the season concerned (A) Last Seen: Estimated number of young produced based on observations and notuel counts. Estimated total number of the species using the refuge during the period concerned.

Refuge Catallite Areas Mont

Months of May

res August

(1) Species	(2) Density	n at b	(3) Young Produced	(4) Sex Ratio	(5) Removals		(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd. Estimated Total	Percentage	Hunting	For Restocking	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Grey Partridge Sharptail Group Rage Groupe	e. Survey method us	Lavore chasi it is dilato sono o conu		and of an independent of the contract of the c	ods, ods, ota	but pob in inside te, etc., a be used a and cou ple eras	No. 7 should	Small numbers of these four species use the areas on an on-and-off basis.
Phoasant	thions and sobual co	heasen	turier,	ig labitat. urily to will le.	ibes mlug dalk	selligs	In represent	Actual numbers aren't known. Production this season is good, but figures are un- available.
v seemons.	the report period.	or end	and during	der out poly	u in	dinun Inda	d bedantast	(antor (a)
onla	dovered in survey.	era b	Misecs Son	noldamiolni	JEN	nijang se	include oth	(7) REMARKS:

Form NR-2 - UPLAND GAME BIRDS.*

(1)	SPECIES:	Use	correct	common	name.
-----	----------	-----	---------	--------	-------

- (2) DENSITY:

 Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

^{*} Only columns applicable to the period covered should be used.

MIGRATORY BIRDS

(other than waterfowl)

Refuge CMR Satellite Months of Sept.

to December

III. Doves and p. 75cel

(1) Species	First	2) Seen	Peak Nu		Last	Seen		(5) Production	taged dove	
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimate Number
Eared Grebe Western Grebe White Pelican Double-Crested Cornorant	n n	Period "" ""			5 35 75 10	10/5 11/15 10/5 11/15	-		owl owl	habitod bontoli 50 bontoli 50 bon
not Lock and	y Role E.	betrogel	1							
Shorebirds, Gulls and Terns:	addition	etc. In	"term",	n the A.C	erms as '	general	blovA .	rebro	ecles:	(1) S
Wilson Phalarope California & Ring-Biller Gulls	Last 10 on se	Period Form Carl Williams	be given h Birds lls and 1 ons (Colu	n should and Mars birds, Gu and Pins	ref 20 I	9/30	e spaces ficance.	talig		20 10 50
rmes and predaceous Passerifornes)					for the	ge record	wlet jeti	T)m I	rst Seen:	
time,					the speci				ak Number	
	.berreon	season co	ent guin	pecles du	e edf 101	broost s	guter fac	The L	nt Seen:	
counts.	d actuals	ations an	on observ	beend be	ng produc	gov 10 79	dmun beja	mijel	nelipubo	
			80							

Character and an arrange of the control of the cont	(1)	(;	(5)	(3)		DIM (4			(5)		(6)
White-winged dove (5) Interest fator	II. Doves and Pigeons:	medicana	os	The same of the sa		Tenjo)			C. SD. e	Refug	(QPST :A)
CV. Predaceous Birds: Golden eagle Duck hawk Horned owl Magpie Raven Crow	White-winged dove		Period	7 7		1001		3.77			150
Golden eagle Duck hawk Horned owl Magpie Raven Crow			0.00	Last S	2190	Peak Num	ле	First St		90199	
Golden eagle Duck hawk Horned owl Magpie Raven Crow			Date C	Tedmult	Date	Number	Date	reduul		emaN non	Com
Magpie Raven Crow	Golden eagle	Year Long	Resident						rabits	I dataM S	. 10
Crow sassand between a farment	Magpie		11/10				bolt	#		eder Oderbo man lan	50
	Control of the last of the las	0 0							awrows	D befood	20
						1 1	+				
							Pononto	d by Bob. L	Donalds - 7	A	

INSTRUCTIONS

(1) Species:

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gavilformes to Ciconiiformes and Gruilformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

Refuge Satellite Areas

Months of September

to December , 19 67

(1) Species	(2) Density	Produced Ratio			(5) emova		Total	(7) Remarks	
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd. Estimated Total	Percentage		For Restocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sage Grouse	a should be based of Survey method na	W ni ba shindi saraa	riculture nbole liste Figures st bive sampl	pee should of the as to observing ag- dard type ay- dard type ay- e possible. In representa eas should b	ada, Staid Wist its c	mos I	but in bu	50 10 10 25	All birds use the areas on an on-off basis.
Sage Grouse Pheasant Hungarian Par	on Isudos bna enote tridge	svieedo	ased upon	produced, b	ymou stbet	to n	number Statis	bedenisal ingeprese	(3) YOUNG PRODUCED:
Sage Grouse Pheasant	s, etc. Include da	dneesse	d farted b	rily to wild	ldsI.	lies)		oeqs 30 dT	(4) SEX RATIO:
Sage Grouse	the report period.	galwi	y removed	each cabegor	nl s	bed mun	Late	60	(S) BEMOVALE:
Pheasant Ild Horse Sage Grouse	ort period. This m singe during certai	the rep	ge during rating int	ing the rolu us those mig	m re	dawn d	fado:	bedended er ebugal	(6) TOTAL:
Pheasant Sage Grouse Pheasant	covered in survey.	arsa i rally r	na no Jalu 11 toeda do	etermine pop	od Jin	beer nitin	boda g rea	to ebusioni 10	(7) REMARKS:
			used	ed bloods be	MENC	o bel	raq e	do of elder	* Only columns appl4
									a contract of
1613		-							

Refuge Sabellibe Areas

TO PI INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1)	SPECIES:	Use correct common name.	(4) Sex		(2) Density	(1)
(2)	DENSITY:	Applies particularly to t	hose species	considered		Species lic
	Pertinent information appointment introduction	hunts, etc.). Detailed d numbers. Density to be ex information is to be pref number of acres in each c information need not be r	pressed in a aced by a stover type for epeated exce	cres per an atement fro and on the pt as signi	imal by cover types. Thi m the refuge manager as t refuge; once submitted, t ficant changes occur in t	s o the his he areas round
	t saw shaid IIA ad 110-do no no	of cover types. Cover ty information but not so mu swamp, upland hardwoods, grass prairie, etc. Stan No. 7 should be used wher observations and counts of size of sample area or ar	ch as to obs reverting ag dard type sy e possible. on representa	cure the ge riculture l mbols liste Figures su tive sample	meral picture. Examples: and, bottomland hardwoods d in Wildlife Management bmitted should be based of areas. Survey method us	spruce , short Series n actual
(3)	YOUNG PRODUCED:	Estimated number of young in representative breeding		ased upon o		unts dord oyed dramanis
(4)	SEX RATIO:	This column applies prima other species if available		turkey, ph	easants, etc. Include da	ta on force of I
(5)	REMOVALS:	Indicate total number in	each categor	y removed d	uring the report period.	War Horse Sage Grouse
(6)	TOTAL:	Estimated total number us include resident birds pl				
(7)	REMARKS:	Indicate method used to dinclude other pertinent i				Also denesord wolfer parous east denesord

^{*} Only columns applicable to the period covered should be used.

BIG GAME

Refuge Satellite Areas

Calendar Year 67

(1) Species			(14) Removals			(5) Losses		(6) Introductions		(7) Estimated Total Refuge Population		(g) Sex Ratio		
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter	Number	Source	At period of Greatest use	As of Dec.	
Hailstone Antelope	rigino fulfated on Mirode of Course	2	ins	a ber	30	n vos	10	300	n sele render t	nt :	hood sugara Lab the dag	20	12	50:100
Halfbreed Antelope	t served innegeneral Served I	3	N N	i at	10	are i	100	ALIANA STATE	2 19	- No.	lithing same	15	15	50:100
Lake Mason Antelope War Horse	signse la sain bue back build	25	-	1450 1450	N N	quie o hou	No.	10	deserving to the state of the s	100 M	o symmoo ba	125	125	50:100
Antelope Mule Deer	Tugui.	6	150	ng s	wo	30	pop du	aer	Laras	Do Ze	niigh 1000	30 15	20	50:100 50:100
Antelope Mule Deer	test edd whiteb	5 2	10%	rate	de	10 21	15/05		Jaro	934	ellal	25 10	20	50:100
Yellow Water Antelope Mule Deer	boutton and doors dollar	6 2	134	10	118	ne ye	100	a to	ors d	astar wall	doss .	20	15	50:100
	t to to tree to equiter and on	upostaus 31.	don bell	20	ma y A	e in in	ma		olazde uzund	infli	Erect	MARK IATON MELILARISM		
govi	f esch apecies as determined	legales of	bs sv	0.5	(ne	Sa e	100 P	10.00	og all	10 mg 2	odini Mari	:DITAS ATO		

Remarks:

Reported by

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisians white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMCVALS: Indicate total number in each category removed during the year.
- (5) LCSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE
 POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIC: Indicate the percentage of males and females of each species as determined from field observations or through removals.

me afri

Charles M. Russell National Wi. ife Hange

Refuge Satellite Areas

Year 19. 67

Botulism	Lead Poisoning or other Disease
Period of outbreak None Noted Period of heaviest losses	Kind of disease None Noted Species affected
Losses: (a) Waterfowl (b) Shorebirds (c) Other Actual Count Estimated	Number Affected Species Actual Count Estimated
Number Hospitalized No. Recovered % Recovered (a) Waterfowl (b) Shorebirds (c) Other Areas affected (location and approximate acreage) Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.	Number lost
Condition of vegetation and invertebrate life	Remarks

Charles M. Russell National 1 llife Range

PUBLIC RELATIONS

(See Instructions on Reverse Side)

•	Visits a. Hunting	280	b. Fishing	6,000	c. Miscellaneous 2,200	d. TO	FAL VISITS 8,480	
	Hunting (on refuge 1	lands)	TOTAL No	creation, Offi	2. Refuge Participation	2 2 2	nge 7° Off	Refuge
	TYPE	HUNTERS 250	ACRES 6h0	MANAGED BY	TYPE OF ORGANIZATION	lvo onl	NUMBER IN NO. Of GROUPS GROUPS	NUMBER IN
	Upland Game	10	640	FWS	Sportsmen Clubs	m. Informa	2	325
	Big Game	10	640	FWS TWS	Bird and Garden Clubs		mless establish	9
	Other	DE -10	640 m	FWS	Schools			
pon	Number of permar Man-days of bow Estimated man-da refuge3	hunting incluys of huntir	luded above	ijacent to	Youth Groups Professional-Scientific Religious Groups	F par Senger Cod or free	per car) ta n factor for tion thereof.	
b.	Fishing (area open t	Life on th		MILES	State or Federal Govt.		rpul arol co	
	Ponds or Lakes Streams and Shor	milar inte nuse of an related t	900	Yellow Water Warhorse	3. Other Activities TYPE NUM	MBER	TABE ON a Public her industry	NUMBER
	Miscellaneous Visits Recreation			300	Press Releases Newspapers (P.R.'s sent to)	Radio	Presentations oits	
				IMOLE	TV Presentations	Ret	Exhibit Viewers	

INSTRUCTIONS

Item 1: Total of a, b, and c, equal d.

"Visit" - definition. Any person who is on refuge lands or waters during a day or part thereof for the purpose of: hunting, fishing, bird-watching, recreation, business or economic use, official visit, or similar interest. INCLUDE - those who stop within the refuge while traveling on a public highway because of an interest in the area. EXCLUDE - persons engaged in oil or other industry not directly related to the refuge, persons using refuge as most direct route or principal avenue of traffic, and those boating on navigable rivers or the Intercoastal Canal, unless they stop to observe wildlife on the refuge.

Computing visits. Where actual counts are impractical, "sampling" is used with midweek and weekend samples varied by season or weather. A conversion factor of 3.5 (of passengers per car) is used when accurate figures are not available. Each refuge will develop a conversion factor for boats based on range of usage. Count a camper once for each 24-hour period or fraction thereof.

Item la: Acres - of refuge open for each type of hunting.

Managed hunts require check in and out of hunters, issuance of permits, or assignment of blinds.

Other - INCLUDE crow, fox, and similar hunting.

Lands adjacent to refuge. Normally considered within 1 mile or less of boundary, unless established sampling procedures cover a wider area. For big game hunting, the distance may be greater.

- Item 1b: Acres of streams open to fishing, if practical; otherwise just miles open. Information on "shores" is primarily for coastal fishing.
- Item lc: Recreation. INCLUDE photography, observing wildlife, picnicking, swimming, boating, camping, visitor center use, tours, etc. TOTAL Recreation, Official, and Economic Use visits under Item 1.

Industrial. INCLUDE persons engaged in industry, i.e., oil industry or factories. EXCLUDE these from Item 1.

- Item 2: INCLUDE the "On Refuge" groups in Items lc and 1. In "Off Refuge" column include only those group meetings in which refuge employees actually participate. EXCLUDE these from Items lc and 1.
- Item 3: Exhibits INCLUDE displays, fairs, parades, and exhibits OFF the refuge; EXCLUDE those ON.

INTE

I, Visits

INTERIOR -- PORTLAND, OREGON

3-1757 Form NR-7 (Rev. June 1960)

NONAGRIC. A. L COLLECTIONS, RECEIPTS, AN.

ANTINGS

Refuge	Satellite Areas	Year	19	67	
--------	-----------------	------	----	----	--

	(See		ns and Re			Plantings (Marsh - Aquatic - Upland)							
Species	Amount (Lbs., bus., etc.)	1	Method or Source	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules		Survival	Cause of Loss		
None													
						110							

(1) Report agronomic farm crops on Form NR-8	Remarks:
(2) C = Collections and R = Receipts	
(3) Use "S" to denote surplus	
Total acreage planted:	
Marsh and aquatic	
Hedgerows, cover patches	
Food strips, food patches	
Forest plantings	

3-1758 Form NR-8 (Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING Stillwater-Husselshell,

Refuge Satellite Areas County and Petroleum State Montana Government's Share or Return Green Manure, Permittee's Share Harvested Harvested Unharvested Total Cover and Water-Cultivated fowl Browsing Crops Total Crops Acreage Acres Bu. Tons Acres Bu. Tons Acres Bu. Tons Type and Kind Planted Grown Acreage None on Satellites. Fallow Ag. Land No. of Permittees: Agricultural Operations --Haying Operations --Grazing Operations 15 Hay - Improved GRAZING Number AUM'S Tons Cash Cash ACREAGE (Specify Kind) Harvested Acres Revenue Animals Revenue 1. Cattle 14,421 450 3800 \$1254 2. Other 1. Total Refuge Acreage Under Cultivation 2. Acreage Cultivated as Service Operation Hay - Wild

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under <u>Cultivated Crops</u>, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

3-1750 Form NR-1 (Rev. March 1953)

WATERFOWL

	: (2) : Weeks of reporting period										
(1) Species	9/1-2	9/3-9	9/10-16		9/21:-30	10/17			10/22-28	10/29-11/	
Swans: Whistling Trumpeter						-			Frosen	-	
Geese: Canada Cackling	20	20						50			
Brant White-fronted Snow											
Blue Other Ducks:		 		+		+==	-		+	-	
Mallard Black	200	1,00	450	500	500	600	800	500	-		
Gadwall Baldpate	3.00 50	200	75 300	1,000		The second second	800 600	the second second second second second		1	
Pintail Green-winged teal	3,00	100	150	300		500	800				
Blue-winged teal Cinnamon teal	100	350	300					—	-	-	
Shoveler Wood	50	75	75	3.00	50			1			
Redhead Ring-necked Canvasback				500	1,500	1,1,00	1,00	500			
Scaup Goldeneye Bufflehead											
Ruddy Externotal Ducks	700	1,375	1,750	2,700	h,100	h,600	1,000	1,500	-		
Coot:	2,00	500	1,100	1,000	1,000	1,500	2,000	2,000			

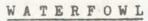
Cont. NR-1

(Rev. March 1953) WATERFOWL (Continuation Sheet)

Charles M. Russell National Wildlife Range MONTHS OF September TODecember , 1967 REFUGE Hailstone (2) (3) (4) : Estimated Weeks of reporting period : Production 11/5-11 11/12-18 12/19-25 11/26-12/2 12/3-9:12/10-16:12-17-2312/2h-31: waterfowl :Broods:Estimated : 11 : 12 : 13 : 14 : 15 : 16 : 17 : 18 : days use : seen : total (6) Ponk(1) mbert Species Swans: Whistling Frozen Trumpeter princip symmes p Geese: CTUE WISTER DECK Canada Cackling Brant White-fronted Snow Blue bon graff henre Other Ducks: 28,350 Mallard 3.00 Black 34,825 Gadwall 50 17,500 Baldpate 13,300 Pintail 14,350 Green-winged teal 5,250 Blue-winged teal Cinnamon teal 2,450 Shoveler Wood 30,100 Redhead Ring-necked Canvasback 140 20 Goldeneye Bufflehead Ruddy -146,265 170 WKWE Total Ducks Total Days Use : Peak Sumber : Total Pr bduc til on 64,400 Coot: (2) (over)

(5) Total Days Use	(6) e : Peak Number : '	(7) Total Production		SUMMARY	61,200	
Swans	0		Principal feeding area	8	700'570	
Geese 980	50					
Ducks 116,265	l _{1,600}		Principal nesting area	8	370	
Coots 64,400	2,000				- Andreas	
			Reported by Bob L. B	urkholder		
Pintell Steen-winged teal	INSTRUCTIONS (See	Secs. 7531 through	7534, Wildlife Refuges I	Field Manu	al)	
(1) Species:	reporting per	iod should be adde	on form, other species of in appropriate spaces. ational significance.			
(2) Weeks of Reporting Period:	Estimated ave	rage refuge popula	tions.			
(3) Estimated Waterfo		y populations x nu	mber of days present for	each spec	ies.	
(4) Production:	breeding area	s. Brood counts s	ced based on observations hould be made on two or made on fact shows the contract of the contr	nore areas	aggregating 10	
(5) Total Days Use:	A summary of	data recorded unde	r (3).			
(6) Peak Number:	Maximum number		sent on refuge during any	census o		riod.
(7) Total Production:	A summary of	data recorded unde	r (4).			
REFUCE Halletons					J. mage - 14th	

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			Weeks	of	(2) report	ting p	eriod			
	9/1-2	9/3-2	9/19-16	9/17[23	9/24530	10/167	10/8-14	10/15-21	10/22-28	10/29-11/1
Swans: Whistling Trumpeter									Frozen	
Geese:	-		+			 		+		
Canada	i		•			20	58	69	1	1
Cackling	-		 	+	+	20	50	61	+	-
Brant			1			+	-	+	1	+
White-fronted	1		†	1		1		-	1	1
Snow			 		1	1	1		1	1
Blue										
Other										
Ducks:										
Mallard	500	900	950	1,000	1,000	1,500	1,500	1,200		
Black			-		-	1	-3200	-,		
Gadwall	-	100	125	1,500	2,000	1,500	1,000	1,000		
Baldpate	1,00	1,00	350	1,00	500	500	500	500	-	-
Pintail	500	300	250	350	350	100	1,000	500	-	
Green-winged teal	-	100	250_	300	300	200	100		-	
Blue-winged teal Cinnamon teal	200	500_	750	1,500	200	+		-	-	-
Shoveler	-		-				-			-
Wood			125	100	150	150	150	150	-	
Redhead			+		+	++		-	-	-
Ring-necked	-	-	700	800	1,000	1,000	750	-	-	-
Canvasback	-		+	 		1	1	-		-
Scaup	-		-	-	-	1	1		-	-
Goldeneye	-		-	-	1	1		-	-	-
Bufflehead			†		1	1				
Ruddy										
EXECUTO TO Ducks	1,600	2,300	3,500	5,950	5,500	5,250	5,000	3,350		
Coot:	100	100	700	800	1,000	1,000	1,000	1,500		

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Cont. NR-1

(Rev. March 1953) WATERFOWL (Continuation Sheet)

REFUCE Halfored Charles M. Russell National Wildlife Range MONTHS OF September TO December . 197 (1) Total Production A summery of data recorded (5) r (4), (4) (3) Weeks of reporting period : Estimated : Production 11/5-11 11/12-18 21/19-25 11/26-12/2 12/3-9:12/10-16 12/17-23 12/21-31 waterfowl :Broods:Estimated : 11 : 12 : 13 : 14 : 15 : 16 : 17 : 18 : days use : seen : total (o) perm(1)mpaza Species Swans: Whistling Frozen Trumpeter Geese: ED! DLOG g poming DECEMBER OF STREET OLO BLOUD Canada 1,113 Cackling Brant White-fronted Snow Blue population of the same Other Ducks: 59,850 Mallard Black Gadwall 50,575 24,990 Baldpate 20 25,550 Pintail Green-winged teal 8,750 Blue-winged teal 22,050 Cinnamon teal 5,375 Shoveler Wood Ring-necked Redhead 29,750 Canvasback 11:0 Scaup Goldeneye Bufflehead Ruddy 227,430 OBBET Total Ducks a0Total Days Des 1 Feat Number : Total Fractuction 43,540 Coot: (over)

(5)	(6) (7)		
	Peak Number : Total Production	SUMMARY	18.96
Swans 0	0	Principal feeding areas	sstVirm .
Geese 1,113	61		
Ducks 227,430	5,950	Principal nesting areas	20
Coots 13,50	1,500		
		Reported by Bob L. Burkholder	
DEMON-RIVERS PART INST	TRUCTIONS (See Secs. 7531 through	7534, Wildlife Refuges Field Manu	nal)
(1) Species:	In addition to the birds listed reporting period should be adde to those species of local and n	on form, other species occurring d in appropriate spaces. Special ational significance.	on refuge during the attention should be given
(2) Weeks of Reporting Period:	Estimated average refuge popula	tions.	
(3) Estimated Waterfowl Days Use:	Average weekly populations x nu	mber of days present for each spec	ies.
(4) Production:	breeding areas. Brood counts s	ced based on observations and actu hould be made on two or more areas ving no basis in fact should be om	aggregating 10% of the
(5) Total Days Use:	A summary of data recorded unde	r (3).	
(6) Peak Number:	Maximum number of waterfowl pre	sent on refuge during any census of	f reporting period.
(7) Total Production:	A summary of data recorded unde		

	:		11		(2)	No.				
(1)	9/1-2	9/3-9	Week	s of 1	:9/24-30	10/1-7	10/8-14	:10/15-21	:10/22-28	:10/29-1
Species	1 1	2	: 3	: 4	: 5	: 6 :		: 8	The second secon	: 10
wans:	1			1	I			1_	1	1
Whistling			+			-		Frozen -		
Trumpeter	-	-	-					 		-
eese:	52	75	100	150	170	200	100	1	1	
Canada	26	12	100	150	110	200	100	1	-	
Cackling Brant	-	-	+						-	-
White-fronted			-	-				-	-	
Snow					8				+	-
Blue	-	-	+		- 6	+		-	1	-
Other			+		+	+		+	+	+
ucks:			+	-				 	-	1
Mallard	2,000	2,100	2,125	2,200	2,000	1,700	1,500			
Black	2,000	2,200	6,200	1.000	1 2,000		-1255	1		1
Gadwall	2,000	2,100	1.750	2,700	3,000	3,500	4,400	1		
Baldpate	1,500	3,000	3,750	5,000	6,500	5,000	L.000			
Pintail	2,000	2,000	2,125	1,500	1,000	500				
Green-winged teal	1,000	1,000	1,000	1,000	1,500		600			
Blue-winged teal	200	- The second second	125		1		600			
Cinnamon teal										
Shoveler	500	500	625	800	750	800	1.000			
Wood										
Redhead	250	500	1,000	1,200	1.250	1,500	500			
Ring-necked										
Canvasback	100	200								
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Dither Total Ducks	9,550	11,400	12,500	14,400	16,000	13,000	12,600		1	
										1
oot:	800	2,500	4,000	4,500	4,000	3,000	3,000			

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WATERFOWL (Continuation Sheet)

				ll Nationa							
(1) Species	11/5-11	Weeks 11/12-18: : 12:	s of	repor	ting	peri 12/10-16: : 16 :	o d 12/17-23 17	: 12/2h-31: : 18 :	Estimated	: (4 : Produc :Broods:	Estimated
Swans: Whistling Trumpeter	Frozen			orded was			THE				
Geese: Canada Cackling	pu	steeped no	ma, broo	equines pro	anould b	o made on	two or i	HOLG BLAN	5,929	lik of t	10
Brant White-fronted	CT DATE	-84 -104	A hology	thous a s							
Snow Blue Other	X BS	- Indeed to	Lefte Je	of a holo					56	+	
Mallard Black	- 40		1749-05-1			at Free	-		95,375		
Gadwall Baldpate	- 39	THE PEOP		7 2707		No open			136,150 201,250	3 7 7 7 7	
Pintail Green-winged teal Blue-winged teal	2752 201301	Sole (ase	Senet-12	33 (Percent)	e <u>1831 -</u>	संत्रद्वारक		1018 31 014	63,875 h2,700 6,h75		
Cinnamon teal Showeler Wood					golica				34,825		
Redhead Ring-necked									h3,h00		
Canvasback Scaup Goldeneye		60			Perly	gel neer	MS. Daniel		2,300 1,20 70		
Bufflehead Ruddy Other Total Ducks		70			Pelin		THE REAL PROPERTY.		626,6b0		
Total Days U	iso : Gan		Total Pr	not/sabo				SUPPLY	152,810		

(5) Total Days Use :	(6) (7) Peak Number: Total Production	SUMMARY
Swans	0	Principal feeding areas
Geese 5,985	200	
Ducks 626,600	1,600	Principal nesting areas
Coots 152,810	1:,500	
		Reported byBob 5. Burkholder
(1) Species: (2) Weeks of Reporting Period:	In addition to the birds listed	
(3) Estimated Waterfowl Days Use:		mber of days present for each species.
(4) Production:	breeding areas. Brood counts s	ced based on observations and actual counts on representative hould be made on two or more areas aggregating 10% of the ving no basis in fact should be omitted.
(5) Total Days Use:	A summary of data recorded unde	
(6) Peak Number:		sent on refuge during any census of reporting period.
(7) Total Production:	A summary of data recorded unde	

(1) 9/1-2 9/2-9 5/10-16 : 9/17-23 9/2h-30 10/1-7 :10/8-1h : 10/15-21:10/22 Species : 1 : 2 : 3 : h : 5 : 6 : 7 : 8 : 9 Swans: Whistling Trumpeter Geese: Canada					(2)					:
Swans: Whistling Frozen Trumpeter Geese: 12 Canada 12 15 Cackling Brant White-fronted Snow Blue 0 Other Ducks: 0 Mallard 10 h0 15 12 h0 20 Black Gadwall 5 30 9 15 15 30 15	the state of the s		0/8-14 : 10/15	0/1-7 :1	7/24-30 1	9/17-23	9/10-16 :	/2-9	9/1-2 9	
Cackling Drant Drant	1	1								Wans: Whistling
Brant White-fronted Snow Blue Other Ducks: Mallard 10				15	12					eese:
Show Blue Other Ducks:										
Other Ducks: Mallard Black Gadwall Baldpate Pintail Creen-winged teal Blue-winged teal Cinnamon teal Shoveler Wood Redhead Ring-necked Canvasback Scaup										
Mallard 10 10 15 12 10 20 Black 6										777.77.77.77
Gadwall 5 30 Baldpate 15 30 Pintail 20 30 Green-winged teal 50 h0 20 Blue-winged teal 20 30 10 100 Cinnamon teal 30 10 100			20	J ₁ O	12	15	110	10		Mallard
Pintail 20 10 20 Blue-winged teal 20 30 10 100 Cinnamon teal 30 10 100 100 Shoveler Wood 8 10 100									5	Gadwall
Blue-winged teal 20 30 10 100							30	15	20	Pintail
Shoveler Wood Redhead Ring-necked Canvasback Scaup								30	And in case of the last of the	Blue-winged teal
Ring-necked Canvasback Scaup										Shoveler Wood
Scaup										Ring-necked
Goldeneye Bufflehead										Scaup Goldeneye
Ruddy XXXXXXX Total Ducks 95 55 120 135 12 40 20			20	40	12	135	120	55	95	Ruddy

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WATERFOWL (Continuation Sheet)

(1) Epecies		Weeks	of	repor	ting			3 12/2h-31	(3) Estimated waterfowl days use	: (L : Produc :Broods: : seen :	tion Estimated
ling	rozen	ment of	Prozen -	olged and	mr (3).	-					
eter	07.0	DOTTE TWO	TORRAL CO	CONTRACTOR OF THE		CHEST PARTY			anna t		
	DILE	egypt ore	an, bro	o compa	oponyg p	a made on	JAO OL I	OLS SIST	#EELeEnerus	THE OF R	
a quo ri out	201	CHIM DOOR AND	more of 1	named hard	-				189		
ing											
уа пеат			d bobon	-	-	gride has			-	-	
-fronted	147				-			-		-	
-										-	
porting Tarior		-		elle boby	-						
eks of			-							-	
urd									959	1	H.
-		personal she	STOR ST.	ocal and		elentrio.	eton e.	-	333		
in F		THE PERSON NAMED IN	202 000	23 20 -4	and don app	manufacture.	ananan-	Special	35		
ate	T=-	Adi tion	A STATE OF	ordin 11 nfo	d on Pay	of her	apanias s	STATE OF THE PARTY	315	A 10 1300	
il									240		
-winged teal	MUNICIPAL CONTRACTOR	COSE (See	Sens 78	27 +31 const	P JEJY	N 3 474 Fe	Tafugae 3	Sale Mars	770		
winged teal									1,120		
mon teal											
ler											
					Baron	7 10 10					
ad		-5-									
necked											
sback	-										
					Perlan	mal man	THE ATPLAN				3
neye		-52-									
ehead											
- 0		-0-1						1			
	-				Prof no.	1000	no areas				
	Peak	Hunber :	Total Pi	oduction.				SUMMARY	3,339		
(5)		(10)	7.1								

Total Days Use :	(6) (7) Peak Number: Total Production	SUMMARY
Swans :		Principal feeding areas
Geese 159	25	
Ducks 3,339	135	Principal nesting areas
Coots	i	
		Reported by Bob L. Burkholder
GLEEN-KINES CONT. INST	RUCTIONS (See Secs. 7531 through	7534, Wildlife Refuges Field Manual)
(1) Species:		on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be given ational significance.
(2) Weeks of Reporting Period:	Estimated average refuge popula	tions.
(3) Estimated Waterfowl Days Use:	Average weekly populations x nu	mber of days present for each species.
(h) Production:	breeding areas. Brood counts s	ced based on observations and actual counts on representative hould be made on two or more areas aggregating 10% of the ving no basis in fact should be omitted.
(5) Total Days Use:	A summary of data recorded unde	r (3).
(6) Peak Number:	Maximum number of waterfowl pre	sent on refuge during any census of reporting period.
(7) Total Production:	A summary of data recorded unde	

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	:		Week	s of	report	ingr	eriod			
(1) Species	9/1-2	9/3-9	9/10-16		9/24-30	:10/1-7	:10/8-14 :	10/15-21	10/22-28:	
Swans:		1			T			1		
Whistling Trumpeter	-	-	-	-						
Geese:		-	-	-	-	1	1			
Canada	50	45	37	90	80	90	35	255	300	325
Cackling					1		1			
Brant										
White-fronted										
Snow										
Blue Other						-				
Other Ducks:	-	-	-	-	-	-				-
Mallard	1,500	1,000	270	500	3,000	1,000	1,000	1,000	1,500	3.500
Black	1,500	Lylina		700	- Sunne	- Lylina	- Lpunu	- Laure	\$4200	
Gadwall	2,000	1,900	1,800	2,500	1,000	5,000	5,000	5,000	6,000	6,000
Baldpate	1,000	2,000	3,600	1,,000	5,000	5,000	6,000	6,000	7,500	7,500
Pintail	1,500	500	180	300	500	300	200	1.00	700	700
Green-winged teal	2,1,00	1,000			500	600	500			
Blue-winged teal	200				100					
Cinnamon teal Shoveler	des	-to-	1.70	770						
Wood	500	500	1,50	300	200	300	300	1,00	-	
Redhead	500	7 000	0 700	2 000	2 000	0 500	0.000	1,000	500	500
Ring-necked	500	1,000	2,700	3,000	3,000	2,500	2,000	1900	- 500	200
Canvasback	200	200	1							
Scaup									500	550
Goldeneye			1						500	1,50
Bufflehead				-				V	500	1,00
Ruddy	0.900	9.300	0.000	30 600	71, 200	31. 700	35 000	33 600	17,800	17,700
EXEC Total Ducks	9,800	8,100	9,000	10,600	14,300	14,700	15,000	13,500	1/2000	119100
							1			
Coot:	4,000	5,500	8,000	8,000	7,000	6,000	5,000	4,500	2,500	2,000

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WATERFOWL (Continuation Sheet)

Peak(J)mbertTotal Freduction	:	Weeks	s of	repor	ting				(3) Estimated waterfowl	: (4) : Product: :Broods:E	
Species	11/5-11	11/15-18	11/19-25	11/26-12/	2 75/3-8	12/10-16	12/17-2	3 12/24-31	days use	: seen :	
Swans: Whistling Trumpeter	9/10 Fro	zen	Frozen -	erded wa	er (3) *						
Geese:	CITA	DOTTING BILL	TO BLO	s counts	вроита р	a mada oo	And ed a	OLS STEEL	all traffic and	TO OL AN	
Canada Cackling	300	275	irez es	and has		- 20 - NA			13,174		OCAR-
Brant	240	urge sees	vil. bahem	ENTARIO W.	SHEET AT	media las	DATE STATE	and also	1000		
White-fronted	083							-			
Snow								-			
Other	200	CHELLEG BY	PLEKS IST	rike John	appount.					+-+	
Other		-	-							+	-
Mallard	750	300							70 01.0		
Black	120	The second live	Vac min						79,240		-
Gadwall	3,000	1.200					- Second		303,800		
Baldpate	2,250	900					2000200		355,250		
Pintail	750								10,110		
Green-winged teal		Tonio (o				33 33 5 5		22300	35,000		
Blue-winged teal Cinnamon teal		-	-					-	2,100	-	
Shoveler			-	·				-		-	
Mood					-			-	20,650	-	
Redhead	and									-	
Ring-necked	375	7 100	-						119,525	-	-
Canvasback									2,800		
Scaup	50	450				real man	Dir Greek		10,850		
Goldeneye	375				(A				9,275		
Bufflehead		100							7,000		
Ruddy	-	-	-						1.1:00	-	
Atheriergansers	200	75		h				-	525	-	
Total Ducks	7,550	3,025	Total Pr	oduction				STANIARIS	987,525		
Coot:	1,000	500	-	-					378,000	-	

(5) Total Days Use	(6) (7) Peak Number: Total Production	SUMMARY
Swans	0	Principal feeding areas
Geese 13,17h	325	
Ducks	17,800	Principal nesting areas
Coots 378,000	8,000	
Shoveler		Reported by Bob L. Burkholder
Cimanon teal		
Dreen-Winged teal INS	STRUCTIONS (See Secs. 7531 through	7534, Wildlife Refuges Field Manual)
(1) Species:		on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be given ational significance.
(2) Weeks of Reporting Period:	Estimated average refuge popula	tions.
(3) Estimated Waterfowl Days Use:		mber of days present for each species.
(4) Production:	breeding areas. Brood counts s	ced based on observations and actual counts on representative hould be made on two or more areas aggregating 10% of the ving no basis in fact should be omitted.
(5) Total Days Use:	A summary of data recorded unde	r (3).
(6) Peak Number:		sent on refuge during any census of reporting period.
(7) Total Production:	A summary of data recorded unde	

RELACE MORPOSEO CALLED TO THE PARTY OF THE P

(1) :		- 3	Weeks	of r	(2)	4				
Species :	:				eport:	The same of the sa	Control of the last of the las		: :	
	1 :	2	: 3	: 4	: 5 :	6 :	7 :	8	: 9 :	10
ans:	1		1	1					1	
Whistling			-	-				-		
Trumpeter			-					3		
ese:				Lalen dwe	in July 196	6 and down	no this non	world no v	ho free	
Canada				nere or 3	are areas and	o entre mera	ng erro reb	or mrite h	daabus	
Cackling Brant			+		-					
White-fronted			-						-	
Snow			-	-	-				-	
Blue	-		-	-					-	
Other			-		-				+	
cks:			-	-					-	
Mallard			1						1	
Black				-					-	
Gadwall			1	1						
Baldpate										
Pintail T		and will also be a second								
Green-winged teal										
Blue-winged teal										
Cinnamon teal							41			
Shoveler										
lood			1							
Redhead										
Ring-necked										
Canvasback										
caup			-							
Goldeneye				-	-				1	
Bufflehead				-	-		-	-		
Ruddy									1	
cher									-	
					1					

	:		Week	s of	(2)	1 n a	period			
(1) Species	9/1-2	:9/3-9	9/10-16	9/17-23		10/137	The State of the S	ADDRESS OF THE PARTY OF THE PAR	10/22-28	10/29-11/
Swans: Whistling Trumpeter										
Canada Cackling Brant	30	15				10	.2	25	75	100
White-fronted Snow Blue Other										
Oucks: Mallard Black	450	250	150	100	100	100	100	150	150	150
Gadwall	200	700	50				50	150		
Baldpate	200 150		150	-			30	80		
Pintail	250	100	100	100	100		-	50	100	100
Green-winged teal Blue-winged teal	150	200	150	50	25	150	100	-	-	+
Cinnamon teal	100	200	150		25	+	-	-	-	+
Shoveler Wood			+	100	50	1				
Redhead Ring-necked	150		-	-	-				100	150
Canvasback	1		1		1				25	25
Scaup									50	60
Goldeneye Bufflehead									50	75
Ruddy North Total Ducks	1,450	800	600	350	300	250	280	1,30	L75	560
Coot:	1,00	350	600	1,50	200	200	200	250	300	100

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WATERFOWL (Continuation Sheet)

Charles M. Russell National Wildlife Range MONTHS OF September To December , 19 67 REFUGE Yellow-Water (7) Total Production y emergia or gree recorded (5) r (1) (3) (4) Weeks of reporting period Estimated : Production (p) Leus(1)mpex: waterfowl :Broods:Estimated 11/5-11 11/12-18 11/19-29 11/26-12/2 12/3-9 12/20-16 12/17-23 12/21-31 days use : seen : total Species Swans: Whistling Frozen Trumpeter Geese: Brood counts should S DIEGO OI Canada 100 2.884 Cackling Brant White-fronted Snow Blue BOLATER LOLI Other Ducks: 160 Mallard 100 13,720 Black Gadwall 3.850 Baldpate 3,920 Pintail 40 20 6,720 Green-winged teal 3,325 Blue-winged teal 3,325 Cinnamon teal Shoveler 1.050 Wood Redhead 2,800 Ring-necked Canvasback 20 1.90 Scaup 770 Goldeneye 60 60 Bufflehead 20 Ruddy Ochuc Mergansers 20 100 840 Total Ducks 300 300 Total Days U Total Production 22,400 100 Coot: (over)

Total Days I	Use : Peak Number : Total Production	SUMMARY
Swans	o Princi	ipal feeding areas
Geese 2,88	300	.100
Ducks 12,66	Princi	ipal nesting areas
INTER-DECEME	00 600	
Clumemon teal Shoveler Wood	Report	Bob L. Burkholder
Pintell Green-winged tenl	INSTRUCTIONS (See Secs. 7531 through 7534, V	Vildlife Refuges Field Manual)
(1) Species:		n, other species occurring on refuge during the propriate spaces. Special attention should be given significance.
(2) Weeks of Reporting Perio	od: Estimated average refuge populations.	
(3) Estimated Water Days Use:	rfowl Average weekly populations x number of	days present for each species.
(h) Production:		ed on observations and actual counts on representative made on two or more areas aggregating 10% of the basis in fact should be omitted.
(5) Total Days Use:	A summary of data recorded under (3).	
(6) Peak Number:	Maximum number of waterfowl present on	refuge during any census of reporting period.
(7) Total Production	on: A summary of data recorded under (4).	

To lon Haller

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