

OURAY

NARRATIVE REPORT

JANUARY - DECEMBER 1965

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OURAY NATIONAL WILDLIFE REFUGE

January 1, 1965 to December 31, 1965

Personnel

H. J. Johnson . . . . . Refuge Manager

Gerald B. Gill . . . . . Assistant Refuge Manager  
E.O.D. January 18, 1965. Transferred from Monte Vista

Norma A. Richardson . . . . . Clerk Typist

Lewis A. Littleton . . . . . Maintencenceman

Alex L. Barney . . . . . Maintencenceman  
Resigned May 24, 1965 (Temporary)

Harold Dudley . . . . . Maintencenceman  
June 7, 1965 to December 29, 1965 (Temporary)

Verdell C. Marx . . . . . Y.O.C. Summer Trainee  
June 21, 1965 to August 17, 1965

Dennis Jensen . . . . . Laborer (Temporary)  
June 7, 1965 to August 26, 1965

## NARRATIVE REPORT

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### I. GENERAL

#### A. Weather Conditions.

The data included in the following table were obtained from the weather station originally located at Ouray, Utah. Tending said station became the responsibility of refuge personnel on January 5, 1965, following retirement of the past post master-weatherman. The station was moved to headquarters on February 10.

	<u>Snowfall</u>	<u>Precipitation</u>		<u>Temperatures</u>	
		<u>This Month</u>	<u>Normal</u>	<u>Max.</u>	<u>Min.</u>
January	11.5"	.79"	.41"	49°	-14°
February	.5	.13	.36	45	+12
March		.03	.40	69	- 6
April		1.21	.60	84	24
May		1.10	.70	86	30
June		2.27	.71	93	40
July		1.60	.52	97	42
August		.65	.73	99	40
September	15.0	2.31	.61	86	24
October		.79	.61	84	23
November		.39	.38	65	7
December	4.0	*1.00	.28	**44	** - 5
Total:	31.0"	12.27"	6.31"	Extremes 99	-14

\* More than half of December's precipitation was from rain, with snowfall making up .43" of the total.

\*\* The maximum and minimum temperatures for December were taken from the Vernal airport records as our minimum thermometer was not functioning properly at the time.

The total precipitation for the year was almost double the yearly normal. Most of this was received in the form of rain during the spring and summer months. However, an unusual 15 inch snowfall in September added 2.31 inches of moisture to the total.

The ground remained frozen and unworkable from November, 1964 up to about April 5, 1965, at which time we were able to begin our farming operations. The first killing frost of 1965 came in mid-September and halted development of the refuge corn crop before it had fully matured.

## B. Habitat Conditions.

### 1. Water.

The past year was one of the best water years experienced in the Uintah Basin for many years. The high mountains supported deep snows with excellent moisture content. As the weather warmed and the snow began to melt, floods became a threat to certain parts of Utah. At three different times the Green River rose and began flooding into some of the adjacent bottomlands. However, just when heavy flooding was indicated, cooling weather caused high water in the river to settle back down. When the flood stages had all passed, instead of devastation, the refuge had been left with several natural pools which proved highly beneficial to waterfowl. These flood ponds were located in Leota Bottom (approximately 400 acres), Sheppard Bottom (80 acres), Wood Bottom (320 acres), Wyasket Bottom (600 acres), and Johnson Bottom (180 acres). Wood Bottom still has a pool area of nearly 140 acres.

With the advent of spring and summer came the rains, several of which were torrential. These left wash-outs in access roads that could only be crossed with a four-wheel drive vehicle. The Leota Bottom West Feeder Canal, left unprotected against run-off from the nearby benches, was severely eroded in places.

At the close of the period Pelican Lake had been filled to capacity with little, if any, previously stored water being used during the irrigation season. In addition, most of the storage reservoirs in the higher elevations are near capacity.

The snow pack in the mountains at this writing tends to indicate another good water year in 1966.

### 2. Food and Cover.

Natural cover was abundant and was highly utilized by various species of wildlife according to their needs. Grasses, wild flowers, and other forbs flourished, yielding temporary gardens from comparatively barren desert lands. During installation of vegetation study transects the high, dense vegetation in some areas hindered crew members who were trying to maintain a straight line of sight.

Natural food was equally plentiful. In flooded portions of the refuge, the receding waters left behind expansive stands of smartweed and "wild millet." Dense growths of sunflower and smartweed occurred in the recently completed Leota Unit as a result of the accumulated rain and snow run-off. An abundant natural food supply had a hand in bringing about a rather poor dove banding success; baited sites were all but ignored for natural feeding areas.



About five acres of corn left standing from the 1964 crop was cut in late March, 1965, for spring migrants. The corn had been heavily used by deer prior to cutting, leaving only about one-fourth of the production for waterfowl.

Croplands under cultivation this year consisted of 42 acres of wheat and 40 acres of corn. Of the 42 acres of wheat, approximately six acres were cut in mid-August for fall migrants. Although a number of birds were on the refuge at the time, the grain was unused until the field was flooded by irrigation. Shortly after turning water onto the field, approximately 1700 ducks (mostly Mallard) and 170 geese were feeding in it. The remaining 36 acres were cut in November. All the corn was left standing to be cut in the spring. Forty acres of fall wheat planted in mid-September have provided a ready source of green browse for geese using the area. Beginning on April 1, dikes L1, L2, L4, Main L and Main L2 in Leota Bottom were seeded with a combination of wheat (60 lbs./acre), brome grass seed (10 lbs./acre), Ranger Alfalfa seed and yellow clover seed (each 5 lbs./acre) to prevent erosion and washing. Due to ample moisture the wheat sprouted, headed out, and matured to provide an excellent food source. Had our pump been installed and water placed in the impoundments, the number of birds using the refuge could have been greatly increased. We were disappointed when the other species, which we planted for premanent cover, failed to grow.

## II. WILDLIFE

### A. Migratory Birds.

#### 1. Waterfowl.

After a seemingly endless winter, the captive geese began to get "spring fever" about the last of February as evidenced by several pairing attempts. The first noticeable group of migrants made its appearance in mid-March with 346 ducks (200 Mallards, 100 Pintail, 10 Redhead, 20 Canvasback, 10 Goldeneye, and 6 American Merganser).

On March 21, the captive propagation flock of Canada Geese (143 birds) was released. After testing their wings (with some birds being killed flying into power lines) most of these birds lost little time in pairing and departing the headquarters area for more suitable nesting sites along the river and other water areas.

The spring migration reached a high of 1043 ducks and 180 geese near the latter part of March. The duck numbers by species were: 245 Mallards, 34 Gadwall, 44 Widgeon, 620 Pintails, 62

Green-winged Teal, 20 Redhead, 17 Scaup, and 1 Goldeneye. By the first part of April most of the spring migrants had moved on toward their northern breeding grounds.

On April 8, two Snow Geese made an appearance on the refuge. They remained with a group of Canada Geese for about three weeks before departing.

Production this year was about double that of 1964. A total of 98 ducklings in 14 broods and 26 goslings in 6 broods were observed. While a long way from the proposed production goal of 15,000 ducks and 1,000 geese per annum, it is a start.

Fall migration saw a considerable increase over the preceding spring in the number of birds using the area. The refuge peaks were reached during the fall period with 8500 ducks (7800 Mallards and 700 Pintails), 500 Canada Geese, two Snow Geese, and 19 Swans using the area at one time or another. Although the peak population for Pintails on the refuge was higher this year than last (700 birds compared to 300), these birds seemed to be fewer in numbers over-all. The peak number of Pintails on Pelican Lake was 900 in 1965 and 10,000 in 1964.

As mentioned, a peak of 19 swans were seen on Wood Bottom Pond in late October of this year. According to past records, this is the first time these birds have been observed on the refuge. However, they have been reported on Pelican Lake in past years. Though no positive identification was made, it is felt that all swans recorded were Whistling Swans rather than Trumpeters. There are two reasons for this assumption: 1) A very large build-up of Whistlers was recorded on Bear River Refuge (approximately 30,000), and 2) The total population of Trumpeters is comparatively small.

Total waterfowl use was considerably greater this year, compared to 1964 figures. Table 1 gives a comparison of waterfowl use for the past three years. Table 2 presents a monthly peak of waterfowl by species.

Of the five flooded areas within the refuge, Wood Bottom Pond was apparently the most attractive to Coots. Here the population peaked at 200 on October 5 and remained at this figure throughout the month. Use-day figures for Coot jumped from 2,905 in 1964 to 22,121 in 1965. The creation of desirable habitat in bottomland flooded by the river can account for this (the acreages and locations of these water areas was mentioned earlier under Habitat Conditions). Probably of more importance, these pool areas remained longer than they have in the past. Wood Bottom, at present has a pool area of approximately 140 acres; more water than it has ever had before at this time of year.

WATERFOWL USE DAYS BY QUARTER

1963, 1964, 1965

	January - April			May - August			September - December			Total		
Year	Swans	Geese	Ducks	Swans	Geese	Ducks	Swans	Geese	Ducks	Swans	Geese	Ducks
1965	0	*10,252	33,059	0	*12,684	42,511	294	*30,982	290,437	294	*53,918	366,007
1964	0	1,169	70,658	0	574	11,753	0	6,185	126,110	0	7,928	208,521
1963	0	504	1,579	0	952	9,429	0	8,610	211,517	0	10,066	222,525

\* Includes captive geese released March 21.

TABLE 1.

MONTHLY PEAK BY MAJOR SPECIES

	<u>Swan</u>	<u>Can Geese</u>	<u>Mlds</u>	<u>Gdwl</u>	<u>Bpate</u>	<u>Ptail</u>	<u>GW Teal</u>	<u>BW Teal</u>	<u>C Teal</u>	<u>Red</u>	<u>Can</u>	<u>Gold Eye</u>
<u>January</u>												
1965		93	600									
1964												
1963												
<u>February</u>												
1965		100	600									
1964												
1963		22	50									
<u>March</u>												
1965		180	350			620	62			20	20	10
1964		45	2700		200	300	100					
1963							150				30	
<u>April</u>												
1965		162	100			70	25	25	15			
1964		31	2400	50	50	25	100	30	25			
1963		14	700			400	400	75	25			
<u>May</u>												
1965		107	78	77	9	41	14	29	24	4		
1964		12	160	50		75	75	5	10			
1963		15	125	4		75	31	2	25			
<u>June</u>												
1965		120	537	58	5	24	123	12	28	9		
1964			45	4				4	2			
1963		14	127	4		50	15	4	20			
<u>July</u>												
1965		79	380	39		100	118	16	40	40		
1964		17	36	73		2		5	15			
1963			18	12		15	6	5	12			
<u>August</u>												
1965		197	655	71	1	88	203	42	80	3		
1964		30	325	22	8	20	20		16			
1963		43	8	11		7	8					
<u>September</u>												
1965		292	1400	250	10	70	90	250	100			
1964		83	1060	15	100	50	50	50	100			
1963		200	350	6	11		2					
<u>October</u>												
1965	11	357	6500	100	450	705	130	103	50	1		
1964		94	3000	100	500	100	100	100			40	
1963		85	3350	50	150	100	500		10			
<u>November</u>												
1965	19	343	7812			900				10		
1964		47	2000			200	100	100			50	
1963		146	4800	50		300	150		15			
<u>December</u>												
1965		502	200									
1964		64	500									
1963		34	1600									

TABLE 2.

2. Cranes.

The first flight of north-bound Sandhills appeared at the refuge on April 1 of this year. The 41 birds in this group remained on the refuge for only one day. In addition to being the first group seen, these birds established the peak for the species this year. The first south-bound flight was noted on September 29 when ten individuals stopped to catch their breath and grab a bite to eat before completing their journey. The last cranes to be seen on the refuge were a group of 25. They were observed October 14 in Sheppard Bottom.

3. Mourning Doves.

An estimated peak of 4450 doves were using the area by the last week in August. An unusual observation of six doves was made on December 23.

A rather poor banding success of 104 doves was reached this year compared to 700 banded in 1964. It is felt that a late start in banding combined with excellent production of natural foods contributed to this comparatively minor success.

4. Other Waterbirds.

The flooded areas on the refuge not only enhanced waterfowl numbers, but several different species of marsh and shore birds found conditions also to their liking. Great Blue Herons and Killdeer were most prominent with the following birds also appearing in appreciable numbers: Phalaropes, Avocets, Black-crowned Night Herons, Sandpipers, and Greater Yellowlegs. It is interesting to note that, while most of the water and marsh birds remained into October and November, most of the shorebirds departed about mid-September coincident to a 15-inch snowfall received at about that time.

B. Upland Game Birds.

1. Ring-necked Pheasant.

With Assistant Manager Gill attending the Refuge Manager's Training Course in Minnesota and farming operations getting underway in April, the pheasant count was neglected; therefore, population figures for the year were gathered by means of observation.

The refuge population was approximately 300 in the spring prior to the nesting season. Production appeared to be good with 15 broods observed averaging eight young per brood. At the end of August the population was estimated at about 500. This figure carried through to the end of the year.

Census by observation was made quite difficult by unusually dense vegetation; consequently, population figures may be somewhat inaccurate.

2. Chukar Partridge.

Assistant Manager Gill observed 15 birds in the rocky escarpments to the west of Leota Bottom.

3. Sage Grouse.

No observations during the year.

4. Gambel's Quail.

No observations during the year.

C. Big Game Animals.

1. Mule Deer.

The deer population this year showed a rather steep decline from last year, dropping from a peak of 400 in 1964 to approximately 60 animals at the beginning of 1965. In July the population dropped to about 20. In addition to dense vegetation, the wet conditions brought a great number of mosquitoes. With ample food and water in the uplands, it seems the deer left the refuge to escape the discomfort brought on by the mosquitoes.

Toward the beginning of rifle deer season (opening October 23) the deer began to reappear. Finally, on December 24, Assistant Manager Gill and Temporary Maintenceman, Harold Dudley, using Mr. Dudley's horses, rode Sheppard and Leota Bottoms to census deer. Although only four deer were observed, tracks were numerous. From these tracks it was estimated that the refuge supports a present population of 200.

An estimated 50 fawns were born on the refuge.

Results of the refuge deer hunts will be related in the Public Relations part of this report.

2. Antelope.

Though infrequently seen, Pronghorns seem to use the refuge on an "on and off" basis primarily for watering purposes. A high of nine animals were seen at Wyasket Bottom in October.

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

Beaver are the only fur bearers of any significance on the refuge. While not extensive, a few do reside on the area within the confines of the Green River. Trapping is allowed on the river under the Game and Fish Department's control and will benefit the refuge by keeping this species under control. No accurate population figures are available; however, it is believed that no more than ten animals are staying within the refuge proper.

Raccoon, skunk, and badger are present, but not in large enough numbers to pose a problem. Wherever any or all three appear to be

concentrated, the area is trapped to assure no excessive buildups. It is believed that one of the above predators is responsible for the loss of four goose nests near headquarters.

Two Raccoons were trapped from one of the corn fields during the period.

Two Bobcats, and the tracks of several others, were observed during the period. The refuge population is estimated at about five.

Mr. Lee Wardle, son-in-law of the Littletons, claimed to have seen a young Mountain Lion near headquarters on July 15. It was night when he saw the animal, and he was only able to catch a glimpse of it in the headlights of his automobile. When Assistant Manager Gill returned with Mr. Wardle to investigate, the Cat was not to be found.

Jackrabbits seem to be numerous, as indicated by many tracks and several observations. Cottontails, on the other hand, have been observed only on a few occasions.

During the year several observations were made on such species as White-footed Mice, Meadow Mice, and Kangaroo Rats.

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

Most of the same species seen in 1964 were observed this year. These include: Bald and Golden Eagles, Red-tailed Hawks, American Rough-legged Hawks, Marsh Hawks, Prairie Falcons, Sparrow Hawks, and a few Peregrine Falcons.

Bald and Golden Eagles were not too numerous on the refuge at the end of the period; however, as high as eight Bald Eagles had been noted sitting on the preimeter ice of Pelican Lake before the reservoir became completely frozen over.

A first sighting for the refuge was made by Maintenceman Lewis Littleton of a Caracara Hawk (Polyborus cheriway auduboni) in Wyasket Bottom on February 16. Mr. Littleton was accompanied by Mr. Raymond St. John of the Regional Office at the time, and Mr. St. John agreed with the identity of the bird. The normal range for this species is Mexico, extending into Southern Texas and rarely getting into Southern New Mexico. It also gets into Arizona, but is uncommon there.

Magpies are common to the area, and a poisoning program against them is continued as a part of the refuge Animal Control Plan.

F. Other Birds.

Nothing to report.

G. Fish.

Fishing on that part of the river within the refuge is very minimal with only five visitor use-days out of 167 total being accounted for by fishermen. Fishing pressure will probably never be very great due to Flaming Gorge Reservoir and other good fishing areas in the nearby mountains being more desirable. However, the Indian people of Ouray do spend a good deal of time fishing the river at the Ouray Bridge.

H. Reptiles.

A few garter snakes and two bull snakes were seen.

I. Disease.

Nothing to report.

## III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development.1. Contracts.

Sterling Construction Co., Farmington, New Mexico, fulfilled the agreements of Contract No. 14-16-0002-428 by completing 150,865 cubic yards of dike, one culvert, eight concrete check structures, six Armco drainage structures, three Armco cross drain structures, and about 3.1 miles of canal. The work had been temporarily suspended on June 17 due to wet conditions and was resumed on June 28. The project was completed on August 19 at a total cost of approximately \$124,000.00. The only remaining work to be done in Leota Unit is construction of L10 dike and installation of a pump.

Contract No. 14-16-0002-434 was issued to Robbins Construction Company, Duchesne, Utah, for the clearing of approximately 340 acres of land in Leota Bottom. The project was completed on July 28, 1965. Here, also, work was temporarily suspended on June 24 and resumed on July 27. Total cost was \$4,815.40.

Contract No. 14-16-0002-442 was let to Moon Lake Electric Company, Vernal, Utah, for the construction of two miles of power line to the Leota Bottom Pump Site at an approximate cost of \$5,500.00.

Finally, contract No. 14-16-0002-487 was granted to Utility Engineers, Incorporated, Salt Lake City, Utah, for the collection, assembly, and testing of a pumping unit capable of discharging 1,000 g.p.m. to 12,000 g.p.m. at a fixed TDH of 22 feet. Installation of the pump at the Leota Unit Pump Site by said contractor is also part of the contract agreement.



Water distribution into the Leota Impoundments has been delayed pending completion of this contract.

2. Equipment.

In the early part of May, Ouray received two very useful pieces of equipment (Caterpillar 12 Road Grader, and Caterpillar D6 Dozer), which were transferred from Bear River Refuge. In addition, we received a Minneapolis Moline utility tractor in September from Quivira Refuge.

Three pieces of refuge equipment required major repairs during the year. The International Farm Tractor was worked on three different times, resulting in an almost complete overhaul. A worn clutch in the D4 Caterpillar was replaced. Finally, the Adam Road Grader received a valve job and two new fuel injectors.

The breakdown of our farm tractor forced us to rent a neighboring farmer's tractor to get our corn planted.

3. Diking.

Robbins Construction Company, Duchesne, Utah, constructed approximately 7,000 linear feet of dike along the Leota Bottom West Main Feeder Canal. The purpose of this dike was to prevent further erosion to the west bank of the canal by run-off waters. The above company was low bidder on an informal bid circulated throughout the area.

As a result of high water and flood threat from the river, an emergency flood control dike was constructed by refuge personnel and equipment around the well and pump which supply domestic water to the headquarters area.

Heavy run-off occurring this year caused considerable gulleying on the benchlands to the west of the Leota Unit. Other areas on the refuge also bore erosion scars of varying degrees. As a result, refuge personnel and equipment were used to construct and rip-rap a gulley check dike above Leota Bottom. Three more dikes were staked for construction.

4. Roads.

Refuge personnel and equipment were used in the construction of approximately 1.5 miles of road to provide more expedient access to impoundments and control structures within the Leota Unit. To complement the road construction, approval was granted to install vehicle crossings, one each, in the three canals, and a water gap in the West Canal Protection Dike. The water gap will by-pass waters collected behind the dike into L10 pool and will also facilitate use of this dike as a roadway. The vehicle crossings were of two parallel 24-inch culverts with concrete headwalls at each crossing.

B. Plantings.

1. Aquatic and Marsh Plants.

None.

2. Trees and Shrubs.

An assortment of ornamental trees and shrubs were planted at refuge headquarters to help minimize erosion inflicted by wind and rain. In addition, these plants rendered the headquarters landscaping more complete.

3. Upland Herbaceous Plants.

None.

4. Cultivated Crops.

Approximately 122 acres of refuge farm land were planted this year with spring wheat (42 acres), corn (40 acres), and fall wheat (40 acres). The spring wheat yielded between 70 and 80 bushels to the acre; whereas the corn, which was halted in a premature stage of development by frost, yielded only 30 bushels to the acre. The fall wheat had just been irrigated before freezing and was being browsed by geese.

C. Collections and Receipts.

1. Seed or Other Propagules.

The only collection made during the period was about 10 lbs. of Smartweed seed. This was collected at the request of Fish Springs Refuge and given to them for their use.

2. Specimens.

None.

D. Control of Vegetation.

1. Mechanical.

One of the primary pest plants afflicting the refuge is Salt Cedar (Tamarix gallica). This year three methods of mechanical control were tried.

Mowing was the most reliable, if done when the plant was small, and before it had flowered. While this method does not eliminate the plant, it checks further spread. Mowing was accomplished on approximately 240 acres in Leota Bottom.

Plowing cut the Salt Cedar below the ground level. Thus, it was more effective in eliminating the plant than was mowing. However, this method was comparatively slow and could only be used where the ground was tillable. Fifty-five acres in Leota Bottom were plowed.

Finally, disking proved most ineffective. A large, heavy duty one-way disc was used, but it would not stay in the ground and tended to slip sideways instead of cutting. This left many plants standing and alive, and only a few were cut out. Only four acres were disced before this method was abandoned.

Any future mechanical control of Salt Cedar will probably be accomplished by mowing.

2. Chemical.

This means of control was exercised on both Salt Cedar and Cottonwood stump sprouts (suckering). A 50-50 mixture of 2,4-D ester and 2,4,5-T was used at the rate of 2 lbs. per acre acid equivalent. The carrier used and rate of application were 1 lb. of the chemical mixture to 50 gallons of diesel for Salt Cedar, and 1 lb. of the chemical to 25 gallons of water and 25 gallons of diesel for Cottonwood. Approximately 300 acres in Leota Bottom were treated with a total of 24 gallons of chemical (12 gallons 2,4-D and 12 gallons 2,4,5-T).

The spray program was conducted from July 19 through August 26 with a resulting 100% kill on Cottonwood. The Salt Cedar treated was a mature stand and showed very little kill from the treatment. In the future Salt Cedar treatment will be mostly confined to young plants, which should be more susceptible to chemical control.

E. Planned Burning.  
None.

F. Fires.  
None

#### IV. RESOURCE MANAGEMENT

A. Grazing.

The following table lists all grazing permits in effect this year. The new permits issued during the year are starred with an asterick (\*).

<u>Permittee</u>	<u>AUM's</u>	<u>Acres Grazed</u>	<u>Location</u>	<u>Dates Effective</u>
Ray Sprouse (Permit 36517)	325	2840	Unit G-5	11/1/64 to 4/30/65
Gale G. Wilkins (Permit 36518)	180	1100	Unit G-6	12/1/64 to 2/28/65

<u>Permittee</u>	<u>AUM's</u>	<u>Acres Grazed</u>	<u>Location</u>	<u>Dates Effective</u>
*Larue Pickup (Permit 36519)	245	1320	Units G-3 and 4	6/1/65 to 12/31/65
*Gale G. Wilkins (Permit Ouray NWR-1-65)	483 (65 head cattle and 4 head horses)	660	Unit G-1	9/15/65 to 4/15/66
*Ray Sprouse (Permit Ouray NWR-3-65)	325	2840	Unit G-5	11/1/65 to 4/30/66

B. Haying.

One permit was issued during the year to Gale G. Wilkins for the taking of alfalfa hay from 20 acres of hay land in Sheppard Bottom. This permit (36520) designated the period of use from 7/6/65 to 9/30/65. Only one cutting of alfalfa was taken yielding 22.65 tons. See Form NR-10.

C. Fur Harvest.

Beaver trapping within the refuge was conducted only on the Green River by private trappers. Because Beaver are protected by State law, trapping of the river comes under the local Game and Fish Department's jurisdiction. Since their records do not break the river down into specific sections, the number of Beaver taken from the refuge is not known.

D. Timber Removal.

The special use permit for timber removal issued to Ivan Anderson last year was still in effect this period. Mr. Anderson completed cutting in Leota Bottom and began in Sheppard Bottom this year. To date approximately 246,000 board feet of timber have been removed from 550 acres. See Form NR-11.

E. Commercial Fishing.

None.

F. Other Uses.

A no-charge special use permit (Ouray NWR-4-65) was issued to Emer Henline for cutting and removal of as much as 20 cords of dead and down cottonwood timber. The areas to which the permit applied were Leota Bottom and that portion of Sheppard Bottom under Government ownership.

The following Real Property items were sold on informal bid:

<u>Property Number</u>	<u>Description</u>	<u>Tract</u>	<u>Sold To</u>	<u>Amount Paid</u>
33	4-room wood frame house	13a	Ervin D. Young	\$35.00
34	2-room log house	13a	Ray Barney	10.00
36	2-room wood frame house	13a	Dee Brough	25.00
46	1-room wood frame house	49a	Ervin D. Young	10.00

## V. FIELD INVESTIGATION OR APPLIED RESEARCH

### A. Progress Report.

#### 1. Captive Goose Flock.

All of the 143 captive geese were released on March 21 of this year. Many of them spread to various parts of the Green River to begin nesting activities. However, four nests were found near the Goose Pen at refuge headquarters. Three of these were destroyed by predators, but the fourth nest was spared and three young goslings were hatched from it. A fifth nest was found on an island in Wood Bottom Pond about 40 yards from a producing oil well. Four goslings were hatched from this nest.

With the fall migration over, 100 geese still remain on the refuge. It would appear that these are a majority of those released in March. Before acquiring any more geese, we will try to determine the effect of those already released.

#### 2. Vegetation Study Transects.

During the summer, six transects were installed in six Leota Bottom units (L1, L4, L5, L6, L8, and L9). Each transect consists of a line of steel fence posts spaced approximately 200 yards apart. Each post is marked with the ground elevation at that point. The transects will serve two purposes; 1) nesting surveys, and 2) analysis of vegetative composition. Vegetative composition will be correlated with differences in ground elevation and with the water elevation in the impoundments. Aquatic plant growth will be related to water depth.

The initial running of these transects was conducted this year and will be continued in forthcoming years.

### 3. Nesting Islands.

A chain of nesting islands was created in Unit L6 by cutting through an unused dike in several places with the refuge D6 Dozer. This was done to provide more habitat for nesting geese.

The dike mentioned had been constructed in 1964 to retain flood waters which threatened to inundate the construction area in Leota Bottom.

Old tires filled with hay were placed on some of the islands to make them more attractive nesting sites.

A comparison will be made between island nesting and mainland nesting to determine which is the more preferred site.

## VI. PUBLIC RELATIONS

### A. Recreational Uses.

Hunting on the refuge during archery and rifle deer seasons accounted for the most visits to the area (228). Visits classified as miscellaneous were next with 207. Under this category, 97 of the 207 visits were for recreation such as sightseeing, bird-watching, picnicing, etc.

### B. Refuge Visitors.

Al Heggen	2/12, 4/27	District Supervisor, Utah Game and Fish, Courtesy
J. Austin Beard	2/15, 3/29, 8/23	R. O., Branch of Realty, Land Acquisition and Courtesy
Mike Hilton	2/16	Moon Lake Electric, Vernal Power line on refuge.
R. B. St. John	2/16, 6/28, 10/28	R. O., Branch of Realty, Appraisal
Harvey Combs	2/23	R. O., Engineering
Malcolm Miller	2/23	R. O., Engineering
Pete H. Santee	3/2	AA, Ashley National Forest Courtesy
Tex Sweatfield	3/2	Vernal Rod & Gun Club Courtesy

Jack Allred	3/2	Vernal Rod & Gun Club Courtesy
Jay Cordary	3/5, 5/24, 7/13	R. O., Branch of Realty Courtesy
Marcus C. Nelson	3/11, 8/12, 9/30	R. O., Branch of Refuges Meeting and Inspection
Charles A. Bostich	4/2	R. O., Engineering Inspector
Ted M. Conrardy	4/27, 10/28	R. O., Branch of Realty Business
Robert G. Yoder	5/10	Fish Springs NWR Pick up Air Boat
R. B. Anderson	7/12	Realty Specialist, GSA Survey Federal Space
Ronald P. Ogden	8/2, 9/16	River Basin Studies Salt Lake City, Courtesy
Perry Cowles	8/4	R. O., Engineering Survey
Ernest Morris	8/4	R. O., Engineering Survey
William Godby	8/12, 11/30	R. O., Engineering Courtesy, Jones Hole Trip
William Stabler	8/12	R. O., Engineering Courtesy, Jones Hole Trip
John Thompson	8/12	R. O., Engineering Courtesy, Jones Hole Trip
Robert Throesen	8/12	R. O., Fisheries Courtesy, Jones Hole Trip
William Blanchard	8/12	National Elk Refuge Visit
W. M. Horn	8/25	Landman, Gulf Oil Corp. Waterline R.O.W.
Arthur E. Covalt	8/27	Crescent Lake NWR Courtesy
Harvey Combs	8/31, 11/30	R. O., Engineering Survey Ouray, Jones Hole Trip

O. W. Morris	9/14	Div. Wildlife Service, Salt Lake, Courtesy
Paul W. Burchell	9/14	Chief Petroleum Engineer, Utah Oil & Gas Problems re oil contamination on Refuge
Thomas Martinez	9/28	R. O., Engineering Test for Leach Field
M. G. Sheldon	9/30	R. O., Refuge Biologist Visit
Clark G. Webster	9/30	Bureau of Sport Fisheries & Wildlife, Washington, D.C. Visit
William N. Grooms	10/1	Utility Engineers, Inc. Salt Lake, Pump Contract
E. T. Nitzschke, Jr.	10/28	Solicitor, Albuquerque Business
Frank Wetzel	10/28	Office of U.S. Attorney, Salt Lake, Business
Phillip B. Summers	11/16	Div. Fishery Services Business
Larry C. Peterson	11/16	Div. Fishery Services Business
David Kimbrell	12/2	R. O., Branch of Realty Govt. Quarters Rent Survey

C. Refuge Participation.

Manager Johnson met with local BLM officials to discuss the BLM's new programs and procedures arising from the classification of the Multiple-Use Act.

Manager Johnson and Assistant Manager Gill attended the noon meeting of the Vernal Rod and Gun Club directors on January 18.

Refuge personnel attended the election of officers meeting of the Ouray Park Irrigation Company on February 1.

Manager Johnson presented copies of "Waterfowl Tomorrow" to the Ute Indian Tribe and to Mr. B. H. Stringham.



Manager Johnson attended a two-week Supervisor's Training session in Denver, Colorado, from March 8 to 19.

Refuges Supervisor Marcus Nelson and Assistant Manager Gill attended an inter-agency meeting of the Forest Service, BLM, Bureau of Reclamation, National Park Service, Utah and Colorado Game and Fish Departments, and our Bureau to discuss recreation use on the Green River.

Assistant Manager Gill attended the Refuge Manager's Training Course in Arden Hills, Minnesota, from March 29 to April 30.

Manager Johnson presented a slide talk dealing with refuges to the Whiterocks School, Whiterocks, Utah, on April 26.

Manager Johnson presented the film "Fishing The West" to Explorer Scout Troop No. 237, Vernal, Utah, on May 18.

Assistant Manager Gill attended a law enforcement briefing session in Salt Lake City, Utah, on September 14.

Manager Johnson has served in the capacity of President of the Randlett-Ouray Lions Club, President of the "Friday 12" Bowling League, and Leader of Explorer Scout Troop No. 237 during the year.

Maintenanceman Littleton has been a member of the "Friday 12" Bowling League, and Tail Twister for the Randlett-Ouray Lions. Assistant Manager Gill has been Secretary-Treasurer of the Randlett-Ouray Lions.

D. Hunting.

This year the refuge was opened to both archery and rifle hunting of deer.

To those hunters desiring to test their skills with bow and arrow, the hunting during archery season (August 28 to September 12) was highly disappointing. The few deer present on the refuge were difficult to hunt because of the dense vegetation and the discomfort dealt the hunters by numerous mosquitoes. Forty hunters expended 171 man hours on the refuge during archery season, but no deer were taken.

The rifle season, though shorter than the archery season, afforded a brighter picture as far as deer kill. The season began on October 23 and ran through November 2. By this time the deer were coming back, the mosquitoes were gone, and more hunters turned out, all of which resulted in a more profitable hunt. The refuge population at this time was approximately 100 animals.

An estimated 175 hunters spent 1100 man hours pursuing their favorite sport. The result was 24 bucks, 20 does, and four fawns being taken. Three of the 24 bucks were in the 200-230 pound class.

Though the refuge was closed to waterfowl (October 9 to January 6) and pheasant (November 6 to 14) hunting, refuge personnel conducted patrol work during both seasons.

E. Violations.

None.

F. Safety.

Regular monthly safety meetings were held during the year with all personnel in attendance.

New employees were carefully reminded to "think safety" in each work project assigned them.

## VII. OTHER ITEMS

A. Items of Interest

Assistant Manager Gerald B. Gill and his family took up residence at the refuge on January 16. Mr. Gill replaced Keith Hansen, who transferred to Laguna Atascosa Refuge in Texas.

Mr. and Mrs. Alex Barney became the parents of a new baby boy at 4:00 a.m. on January 19. However, the child was premature and only lived until 4:00 p.m. of the same day.

Temporary Maintenceman Alex Barney resigned his position on May 24 for more lucrative employment.

Messrs. Harold Dudley, Dennis Jensen, Gale Wilkins, and Dee Brough were hired in various capacities under temporary appointments during the year. Mr. Verdell Marx was employed under the President's Youth Opportunity Campaign on June 21, and terminated his appointment on August 17 to start college.

Credit is given Manager Johnson, Maintenceman Littleton, and Clerk Norma Richardson for their help in assembling this report. Mrs. Richardson did the typing of the Narrative.

B. Photographs.

Photographs follow the NR forms.

Prepared By:

Submitted By:

Gerald B. Gill  
Gerald B. Gill  
Assistant Refuge Manager

H. J. Johnson  
H. J. Johnson  
Refuge Manager  
DER

Reviewed By:

John L. Gatlins  
~~Associate~~ Regional Director  
Date: 2/8/64

Reviewed By:

\_\_\_\_\_  
Date: \_\_\_\_\_

WATERFOWL

REFUGE Curay National Wildlife Refuge

MONTHS OF January 1 TO April 30, 19 65

(1) Species	(2) Weeks of reporting period									
	1/1 & 2	3 & 9	10 & 16	17 & 23	24 & 30	1/31 & 2/6	7 & 13	14 & 20	21 & 27	2/28 & 3/6
<b>Swans:</b>										
Whistling										
Trumpeter										
<b>Geese:</b>										
Canada	90	93	90	85	47	45	28	100	41	30
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<b>Ducks:</b>										
Mallard	300	300	300	300	600	600			6	67
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
<b>American Merganser</b>							2		10	6
<b>Coot:</b>										

3 -1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL  
(Continuation Sheet)REFUGE Ouray National Wildlife RefugeMONTHS OF January 1 TO April 30, 19 63

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	3/7-13 : 11	14-20 : 12	21-27 : 13	28-4/3 : 14	4-10 : 15	11-17 : 16	18-24 : 17	25-30 : 18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	60	68	180*	160	156	162	108	65	10,231		
Cackling											
Brant											
White-fronted											
Snow					2	2	2		21		
Blue											
Other											
Ducks:											
Mallard	200	350	245	20	50	20	90	100	23,292		
Black											
Gadwall											
Baldpate											
Pintail	100	230	620	50	50		10	70	7,840		
Green-winged teal		15	62		25			24	848		
Blue-winged teal					25	20			312		
Cinnamon teal						15			103		
Shoveler						6		20	162		
Wood											
Redhead	18	18	20						280		
Ring-necked											
Canvasback	20								140		
Scaup											
Goldeneye	18		1						77		
Bufflehead											
Ruddy											
Other											
American Merganser	6	6	5						245		
includes 143 ex-captives released into the wild.											
Coot:			1			20	20	20	539		

(over)



	(5)	(6)	(7)
	Total Days Use	Peak Number	Total Production
Swans	:	:	:
Geese	10,232	180	:
Ducks	33,059	2,664	:
Coots	533	30	:

SUMMARY	
Principal feeding areas	Refuge farm fields - flooded bottomlands.
Principal nesting areas	River bank and islands.
Reported by <u>H. J. Johnson by Gerald B. Kill</u> H. J. Johnson, Refuge Manager	

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.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number 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 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).

3-1751  
Form NR-1A  
(Aug. 1952)

MIGRATORY BIRDS

(Other than Waterfowl)

Refuge Curry National Wildlife Refuge Months of January 1 to April 30 1955

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>										
Great Blue Heron	4	3/25	8	4/22	Still present					
Sandhill Crane	41	4/1	41		Seen only once					
II. <u>Shorebirds, Gulls and Terns:</u>										
Killdeer	2	3/18	12	4/1	Still present					
Yellow Legs	2	3/23	2	3/23	Seen only once.					

(over)



(1)	(2)		(3)		(4)	(5)			(6)
III. <u>Doves and Pigeons:</u>									
Mourning dove	10	3/28	500	4/15	Still present on Refuge.				
White-winged dove									
IV. <u>Predaceous Birds:</u>									
Golden eagle	3	1/18	6	2/6	3	3/13			
Duck hawk									
Horned owl									
Magpie									
Raven									
Crow									
Bald Eagle	2	1/18	5	2/13	3	3/13			
Red-Tailed Hawk	2	1/23	6	4/25	Still present				
Swainson's Hawk	1	1/18	3	4/17	Still present				
A. Rough-legged Hawk	1	1/18	4	4/10	Still present				
Ferruginous Hawk	1	4/3			Seen only once				
Marsh Hawk	1	1/18	1		Seen through January				
Prairie Hawk	1	1/30	1		1	3/13			
Sparrow Hawk	1	2/6	10	4/25					
					Reported by <u>Gerald B. Hill</u>				

**M. J. Johnson, Refuge Manager**

#### INSTRUCTIONS

(See Sec. 7532, Wildlife Refuges Field Manual)

- (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 Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (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 species days use (average population X no. days present) of refuge during the reporting period.



3-1752  
Form NR-2  
(April 1946)

UPLAND GAME BIRDS

Refuge Ouray National Wildlife Refuge Months of January 1 to April 30, 1965

(1) Species	(2) Density		(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'd. Estimated Total	Percentage	Hunting For Re- stocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Tree-Brush Complex River Islands; Agriculture Bottom- lands, 3,750 acres	12				300	
Chukar Partridge	Benchland Brush Rocky Escarpments					20 *	
Sage Grouse	Benchland Brush					*	
Gambel's Quail	Tree-Brush Complex; Benchland Brush					12*	
			* No observations during period.				

## INSTRUCTIONS

### 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.

3-1754

Form NR-4

(June 1945)

## SMALL MAMMALS

Refuge Ouray National Wildlife Refuge Year ending April 30, 65

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs					(5) Total Popula- tion
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed
								Permit Number	Trappers Share	Refuge share			
Badger Striped Skunk White-tailed Jackrabbit Desert Cottontail Kit Fox Coyote Bobcat White-tailed Prairie Dog Beaver Raccoon													*

\* List removals by Predator Animal Hunter

\* List removals by Predator Animal Hunter

REMARKS: \* There are no large populations of any of the species listed.

H. J. Johnson, Refuge Manager

Reported by \_\_\_\_\_

## INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. 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, bottom land 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) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.



W A T E R F O W L

REFUGE Ouray National Wildlife Refuge

MONTHS OF May 1 TO August 31, 19 65

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
	:	:	:	:	:	:	:	:	:	:
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	47	84	98	107	120	118	94	52	43	53
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	10	55	78	49	36	52	35	32	537	380
Black										
Gadwall	40	38	77	42	32	37	58	44	29	39
Baldpate	5	8	4	9		5	3	1		
Pintail	20	24	41	12	14	24	18	15	4	42
Green-winged teal		8	14	6		123	110	52	30	59
Blue-winged teal		29	28	3	2	12	4	9	9	16
Cinnamon teal	5	22	24	4	4	22	18	28	18	20
Shoveler	30	14	39	8	6	54	28	10	4	12
Wood										
Redhead	2		4	4	4	3	3	6	9	
Ring-necked										
Canvasback										
Scaup			2	1						
Goldeneye										
Bufflehead	1	1								
Ruddy				2						
Other										
Coot:	80	80	85	60	126	133		56	120	195

W A T E R F O W L

REFUGE Curay National Wildlife Refuge

MONTHS OF May 1 TO August 31, 19 65

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada	47	84	98	107	120	118	94	52	43	53
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard	10	55	78	49	36	52	35	32	537	380
Black										
Gadwall	40	38	77	42	32	37	58	44	29	39
Baldpate	5	8	4	9		5	3	1		
Pintail	20	24	41	12	14	24	18	15	4	42
Green-winged teal		8	14	6		123	110	52	30	59
Blue-winged teal		29	28	3	2	12	4	9	9	16
Cinnamon teal	5	22	24	4	4	22	18	28	18	20
Shoveler	30	14	39	8	6	34	28	10	4	12
Wood										
Redhead	2		4	4	4	3	3	6	9	
Ring-necked										
Canvasback										
Scaup			2	1						
Goldeneye										
Bufflehead	1	1								
Ruddy				2						
Other										
<u>Goat:</u>	80	80	85	60	126	133		56	120	195

3-1751  
Form NR-1A  
(Aug. 1952)

MIGRATORY BIRDS  
(Other than Waterfowl)

Refuge Ouray National Wildlife Refuge Months of May 1 to August 31 1965

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>										
Western Grebe	1	5/6	5	5/22-28	3	6/24				
* Great Blue Heron	4	3/25	18	8/28-9/4	Still present					
Eared Grebe	2	5/13	6	5/22-28	6	5/27				
Pied-billed Grebe	1	5/20	4	5/22-28	Still present					
Snowy Egret	2	5/20	16	6/12-18	Still present					
Black-crowned Night Heron	4	6/3	32	8/21-27	Still present					
American Bittern	1	6/10	1	6/5-11	1	6/10				
White Pelican	1	8/26	1	8/21-27	Still present					
II. <u>Shorebirds, Gulls and Terns:</u>										
* Killdeer	2	3/18	260	6/5-11	Still present				10 observed	
Sandpiper	1	5/6	47	8/21-27	Still present					
Phalarope	20	5/6	175	8/21-27	Still present					
Avocet	3	5/13	60	8/14-20	Still present					
* Yellow legs	2	3/25	31	8/21-27	Still present					
Ring-billed Gull	2	8/5	8	8/28-9/4	Still present					
Dowitcher	30	8/19	30	8/14-20	Still present					
Black-necked stilt	10	8/19	10	8/14-20	Still present					
* First sighting January 1 to April 30 reporting period.										

(over)

(1)	(2)		(3)		(4)	(5)		(6)
III. <u>Doves and Pigeons:</u>								
Mourning dove	10	3/28	4450	8/26	Still present	60 nests found	120	based on 2 young per nest
White-winged dove								
IV. <u>Predaceous Birds:</u>								
Golden eagle								
Duck hawk	1	6/10	2	8/5	Still present			
Horned owl	1	5/13	4	8/19	Still present			
Magpie	2	8/2	75	8/26	Still present			
Raven								
Crow								
Turkey Vulture	1	5/6	6	6/10	Still present			
Marsh Hawk	2	8/26	2	8/26	Still present			
Prairie Hawk	1	1/30	3	7/22	Still present			
* Red-tailed Hawk					Still present			
* Swainson's Hawk					Still present			
* A. Rough-legged Hawk					Still present			
* Ferruginous Hawk					Still present			
* Sparrow Hawk					Still present			

Reported by Gerald B. Gill

Gerald B. Gill, Asst. Refuge Manager

\* First seen & peak number during last period.

#### INSTRUCTIONS

(See Sec. 7532, Wildlife Refuges Field Manual)

- (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 Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (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 species days use (average population X no. days present) of refuge during the reporting period.



3-1750b  
Form NR-1B  
(Rev. Nov. 1957)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Ouray National Wildlife For 12-month period ending August 31, 1965

Reported by Gerald B. Gill Title Assistant Refuge Manager  
Gerald B. Gill

(1) Area or Unit Designation	(2) Habitat		(3)	(4)	(5)	
	Type	Acreage	Use-days	Breeding Population	Production *	
Leota Bottom	Crops	0	Ducks	12,474	20	8
	Upland	3,172	Geese	1,624		10
	Marsh	674	Swans			
	Water	634	Coots	560 **	2	
	Total	4,480	Total	14,658		
-----						
Sheppard Bottom	Crops	100	Ducks	152,095	68	37
	Upland	2,212	Geese	26,390	162	3
	Marsh	283	Swans			
	Water	285	Coots	1,232 ***		
	Total	2,880	Total	179,717		
-----						
Wyasket Bottom	Crops	0	Ducks	3,899	44	8
	Upland	3,425	Geese	119		
	Marsh	438	Swans			
	Water	217	Coots	196		
	Total	4,080	Total	4,214		
-----						
Wood Bottom	Crops	0	Ducks	10,318	165	35
	Upland	130	Geese	931	2	5
	Marsh	540	Swans			
	Water	50	Coots	10,045	126	
	Total	720	Total	21,294		
-----						
Johnson Bottom	Crops	0	Ducks	18,151	10	10
	Upland	607	Geese	1,274		8
	Marsh	68	Swans			
	Water	205	Coots	0		
	Total	880	Total	19,425		
-----						
Brennan Bottom	Crops	0	Ducks	56	4	
	Upland	781	Geese	154		
	Marsh	90	Swans			
	Water	89	Coots	0		
	Total	960	Total	210		
-----						
Refuge Totals	Crops	100	Ducks	196,993	311	98
	Upland	10,327	Geese	30,492	164	26
	Marsh	2,093	Swans			
	Water	1,480	Coots	12,033	128	Unknown
	Total	14,000	Total	239,518		

\* Actual number of young seen.

\*\* 14 use days for American Merganser.

\*\*\* 231 use days for American Merganser.

(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.



3-1752

Form NR-2

(April 1946)

## UPLAND GAME BIRDS

Refuge Ouray National Wildlife Refuge

Months of

May 1

to August 31

19 65

[illegible]

## INSTRUCTIONS

### 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.

W A T E R F O W L

REFUGE Ouray National Wildlife Refuge

MONTHS OF September TO December, 19 65

(1) Species	(2) Weeks of reporting period									
	9/5-11	9/12-18	9/19-25	9/25-10/1	10/2-8	10/9-15	10/16-22	10/23-29	10/30-11/5	11/6-12
	1	2	3	4	5	6	7	8	9	10
Swans:						1	2	11	19	9
Whistling										
Trumpeter										
Geese:										
Canada	120	120	292	122	230	357	135	135	100	262
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	257	257	1400	1400	2350	6500	5700	600	2350	6030
Black										
Gadwall	21	21	200	250	100					
Baldpate	10	10			100	450	50			
Pintail	10	10	70		101	100	705			900
Green-winged teal	8	8		90	50	40	130			
Blue-winged teal	19	19		250	103	35				
Cinnamon teal	20	20		100	50					
Shoveler										
Wood										
Redhead					1					
Ring-necked										
Canvasback										10
Scaup										
Goldeneye										
Bufflehead										
Ruddy							5			
Other										
Am. Merganser										6
Coot	130	130	140	150	200	200	150	200	200	50

3-1750a  
 Cont. NR-1  
 (Rev. March 1953)

W A T E R F O W L  
 (Continuation Sheet)

REFUGE Ouray National Wildlife Refuge

MONTHS OF September TO December, 19 65

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods seen Estimated total	
	11/13-19 11	11/20-26 12	11/27- 13 12/3	12/4-10 14	12/11-17 15	12/18-24 16	12/25-31 17	18			
Swans:											
Whistling									294		
Trumpeter											
Geese:											
Canada	202	341	398	500	400	350	350		30,898		
Cackling											
Brant											
White-fronted											
Snow	2	2	2	2	2	2			84		
Blue											
Other											
Ducks:											
Mallard	7812	1566	200	200					256,354		
Black											
Gadwall									4,144		
Baldpate									4,340		
Pintail	703	100							18,893		
Green-winged teal									2,282		
Blue-winged teal									2,982		
Cinnamon teal									1,330		
Shoveler											
Wood											
Redhead									7		
Ring-necked											
Canvasback									70		
Scaup											
Goldeneye											
Bufflehead											
Ruddy									35		
Other											
M. Merganser			6						84		
Coot:	30	20							11,200		
					(over)						



	Total Days Use	Peak Number	Total Production	SUMMARY
Swans	294	19		Principal feeding areas <u>40 acres of cut wheat and 40</u>
Geese	30,982	502		<u>acres of fall wheat (green browse) -- refuge croplands</u>
Ducks	290,437	8515		<u>near headquarters in Sheppard Bottom.</u>
* Coots	11,284	200		Principal nesting areas _____

Reported by Gerald B. Gill  
**Gerald B. Gill, Assistant Refuge Manager**

**\* Includes 84 use-days by American Merganser.**

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.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number 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 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).

3-1751

Form NR-1A  
(Aug. 1952)

## MIGRATORY BIRDS

(Other than Waterfowl)

Refuge Ouray National Wildlife Refuge Months of January to December 1955

(1) Species Common Name	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production		(6) Total
	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young Estimated Use
<b>I. Water and Marsh Birds:</b>									
Western Grebe	1	5/6	5	5/22-28	1	10/28			
Great Blue Heron	4	3/25	45	9/18-24	5	12/2			
Eared Grebe	2	5/13	6	5/22-27	6	5/27			
Pied-billed Grebe	1	5/20	4	5/22-18	2	11/18			
Snowy Egret	2	5/20	16	6/12-18	2	10/21			
Black-crowned Night Heron	4	6/3	32	8/21-27	2	10/7			
American Bittern	1	6/10	1	6/5-11 & 10/16-28	1	10/28			
White Pelican	1	8/26	1	8/21-9/2	1	9/2			
Sandhill Crane	41	4/1	41	4/1-2	25	10/14			
<b>II. Shorebirds, Gulls and Terns:</b>									
Killdeer	2	3/18	260	6/5-11	5	11/10			10 observed
Sandpiper	1	5/6	47	8/21-27	16	9/9			
Phalarope	20	5/6	175	8/21-27	40	9/9			
Avocet	3	5/13	60	8/14-20	10	9/9			
Yellowlegs	2	3/25	31	8/21-27	4	9/9			
Ring-billed Gull	2	8/5	8	8/28-9/4	5	9/9			
Dowitcher	30	8/19	30	8/14-26	30	8/26			
Black-necked Stilt	10	8/19	10	8/14-20	3	9/2			

(over)



(1)	(2)		(3)		(4)		(5)		(6)
III. <u>Doves and Pigeons:</u>									
Mourning dove	10	3/28	4450	8/26-9/3	6	12/23	60	*120	
White-winged dove							Nests found	Based on 2 young 1 nest average	
IV. <u>Predaceous Birds:</u>									
** Golden eagle	3	1/18	6	2/6-12	1	11/4			
*** Duck hawk	1	2/25	6	4/10-16	1	8/12			
Horned owl	1	1/28	2	2/13-19	1	5/19			
Magpie	350	1/18	350	1/18-22	Still present				
Raven									
Crow									
** Bald Eagle	2	1/18	5	2/13-19	1	12/2			
*** Vulture	1	5/6	6	6/5-11	2	9/10			
Red-Tailed Hawk	2	1/28	6	4/25-5/1	Still present				
** A. Rough-legged Hawk	1	1/18	4	4/10-16	1	12/23			
*** Marsh Hawk	1	1/18	4	10/2-8	Still present				
*** Prairie Hawk	1	2/4	3	7/17-23	1	12/23			
*** Sparrow Hawk	1	2/11	12	9/19-25	2	11/11			
Burrowing Owl	1	1/28	1	1/23-28	1	1/28			
Reported by						Gerald B. Gill			

\* This number is undoubtedly low, but any other figure would be a guess without

\*\* Primarily a winter and spring resident.

#### INSTRUCTIONS

(See Sec. 7532, Wildlife Refuges Field Manual)

(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:

\*\*\* Primarily a summer and fall resident.

I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen:

The first migration record for the species for the reporting period.

(3) Peak Numbers:

Estimated number and inclusive dates when peak population of the species occurred.

(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 species days use (average population X no. days present) of refuge during the reporting period.

(April 1946)

## UPLAND GAME BIRDS

Refuge **Oursay National Wildlife Refuge**Months of **September**

to **December** , 19 **65**

[illegible]

# INSTRUCTIONS

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.

3-1753  
Form NR-3  
(June 1945)

BIG GAME

Refuge Ouray National Wildlife Refuge Calendar Year 1965

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
			Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
Common Name	Cover types, total Acreage of Habitat	Number												
Mule Deer	All refuge types; Primarily timbered bottom- lands	50	48									200	200	
Antelope	Seen primarily on the east side of the river in bench- land brush. Use the refuge in an off-and-on-basis.											9		

Remarks:

Reported by Gerald B. Gill  
Gerald B. Gill. Assistant Refuge Manager



## 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 Louisiana 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) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: 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 RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

3-1755

Form NR-5

60701

## DISEASE

Refuge Ouray National Wildlife Refuge Year 19 65Botulism NoneLead Poisoning or other Disease None

Period of outbreak \_\_\_\_\_

Period of heaviest losses \_\_\_\_\_

## Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

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.) \_\_\_\_\_

Condition of vegetation and invertebrate life \_\_\_\_\_

Remarks \_\_\_\_\_

Kind of disease \_\_\_\_\_

Species affected \_\_\_\_\_

Number Affected Species	Actual Count	Estimated
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number Recovered \_\_\_\_\_

Number lost \_\_\_\_\_

Source of infection \_\_\_\_\_

Water conditions \_\_\_\_\_

Food conditions \_\_\_\_\_

Remarks \_\_\_\_\_

PUBLIC RELATIONS  
(See Instructions on Reverse Side)

Refuge OurayCalendar Year 1965

## 1. Visits

a. Hunting 228      b. Fishing 14      c. Miscellaneous 207      d. TOTAL VISITS 449

## 1a. Hunting (on refuge lands)

TYPE	HUNTERS	ACRES	MANAGED BY
Waterfowl			
Upland Game			
Big Game	216	14,108*	BSP&W
Other (Beaver Trapping)	12	1,600	Utah State Fish & Game

Number of permanent blinds 228Man-days of bow hunting included above 14

Estimated man-days of hunting on lands adjacent to  
refuge 50

## 1b. Fishing (area open to fishing on refuge lands)

TYPE OF AREA	ACRES	MILES
Ponds or Lakes		
Streams and Shores	1,600	7.5

## 1c. Miscellaneous Visits

Recreation 97      Official 100  
Economic Use 10      Industrial 20

## 2. Refuge Participation (groups)

TYPE OF ORGANIZATION	On Refuge		Off Refuge	
	NO. OF GROUPS	NUMBER IN GROUPS	NO. OF GROUPS	NUMBER IN GROUPS
Sportsmen Clubs				
Bird and Garden Clubs				
Schools				
Service Clubs			1	12
Youth Groups			1	8
Professional-Scientific	1	4		
Religious Groups	2	5		
State or Federal Govt.	64	84		
Other				

## 3. Other Activities

TYPE	NUMBER	TYPE	NUMBER
Press Releases	2	Radio Presentations	
Newspapers (P.R.'s sent to)	1	Exhibits	
TV Presentations		Est. Exhibit Viewers	

3-1756 \* Includes 1,655 acres of land leased from Ute Indian Tribe - subject to season set by the tribe and tribal hunting permits.  
(Rev. 4/63)

## 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 1a: 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 1c: 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 1c and 1. In "Off Refuge" column include only those group meetings in which refuge employees actually participate. EXCLUDE these from Items 1c and 1.

Item 3: Exhibits - INCLUDE displays, fairs, parades, and exhibits OFF the refuge; EXCLUDE those ON.



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

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Ouray National Wildlife Refuge County Uintah State Utah

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
			Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
Spring Wheat			2.5	167 bu.	39.5	2923 bu.	42	42	42
Corn					40	1200 bu.	40	40	40
Fall Wheat					40	—	40	40	40
								Fallow Ag. Land	10

No. of Permittees: Agricultural Operations None Haying Operations 1 Grazing Operations 3

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
Alfalfa	22.65	20	\$150.85	1. Cattle	154	1025	\$307.50	4820
				2. Other Horses	4	28	8.40	660
				1. Total Refuge Acreage Under Cultivation				132
Hay - Wild				2. Acreage Cultivated as Service Operation				132

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.

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 Cultivated Crops, 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.

# REFUGE GRAIN REPORT

Refuge Ouray National Wildlife Refuge

Months of January through December, 1965

(1) VARIETY*	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED OR SUITABLE USE*		
				Transferred	* Seeded	Fed	Total		Seed	Feed	Surplus
Spring Wheat	130 bu.	61 bu.	191 bu.		61 bu.	130 bu.	191 bu.	** 167 bu.		167 bu.	
Corn Hybrid 544	0	5 bu.	5 bu.		5 bu.			0			
Fall Wheat	0	59 bu.	59 bu.		59 bu.			0			

(8) Indicate shipping or collection points \_\_\_\_\_

(9) Grain is stored at Granary - refuge headquarters.

(10) Remarks \* The amounts seeded were grown and the mature crop left standing or cut to afford waterfowl foods.

\*\* This amount was harvested from refuge crops planted in the spring.

\*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.

3-1759  
Form NR-9  
(April 1946)

COLLECTIONS AND RECEIPTS OF PLANTING STOCK  
(Seeds, rootstocks, trees, shrubs)

Refuge Ouray National Wildlife Refuge Year 1965

Species	Collections				Receipts		Total Amounts on Hand	Amount Surplus
	Amount	Date or Period of Collection	Method	Unit Cost	Amount	Source		
Smartweed Seed	10 lbs.	10/26/65	Picked heads by hand.	No charge	--	--	None	None
Collected at the request of Fish Springs Refuge for their use.								
<div>Interior Duplicating Section, Washington 25, D.C. 84267</div>								

LYING AND GRAZING

Refuge Ouray National Wildlife Refuge Year 1965

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Harvested	Period of Use From - To	Rate	Total Income	Remarks
Gale G. Wilkins	36520	Sheppard Bottom	20	-	22.65	7/6/65 9/30/65	6.66/T	150.85	
Gale G. Wilkins	Ouray NWR-1-65	Johnson Bottom	660	483	--	9/15/65 4/15/66	.30/AUM	144.90	
Ray Sprouse	Ouray NWR-3-65	Sheppard & Leota Bottoms	2840	325	--	11/1/65 4/30/66	.30/AUM	97.50	
Larue Pickup	36519	Wyasket & Wood Bottoms	1320	245	--	6/1/65 12/31/65	.30/AUM	73.50	

Totals:

Acreage grazed 4820      Animal use months 1053      Total income Grazing 315.90  
 Acreage cut for hay 20      Tons of hay cut 22.65      Total income Haying 150.85



TIMBER REMOVAL

Refuge Ouray National Wildlife Refuge Year 1965

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 Cut
Anderson, Ivan	36514 Amended, 2 amend- ments.	Leota, Sheppard, and Wood Bottoms	1,000 approximate	458,000 B.F.	1.00		Everything above 6" base diameter to be felled.	Cottonwood

Total acreage cut over 550

Total income

No. of units removed B. F. 246,000

Method of slash disposal Downed !

Cords

Ties

Logs

Received full payment in February, 1964.



ANNUAL REPORT OF PESTICIDE APPLICATION

Proposal Number Ouray-1	Reporting Year 1965
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INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

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)
7/19-8/26	Cottonwood (suckering) and Salt Cedar	Leota Bottom	300	2,4-D ester and 2,4,5-T; 50-50 mixture	12 gal. 2,4-D 12 gal. 2,4,5-T	2 lb. per acre acid equivalent	1 lb. of chemical to 50 gal. diesel for Salt Cedar; 1 lb. of chemical to 25 gal. water and 25 gal. of diesel for Cottonwood	Spray

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

The refuge spraying program was conducted from July 19 through August 26. Kill on cottonwood regrowth was 100%. Very little kill was noted on the mature Salt Cedar treated; but since we will be primarily concerned with young growth of this pest, we anticipate higher kills in the future.

HABITAT CONDITIONS



Spring floods hindered  
some operations by  
inundating access roads.  
(Shamrock Oil Well  
in Wood Bottom.)



April, May, June, July,  
and August showers  
brought flowers that---



---almost engulfed  
vehicles which left  
the beaten paths.

# WILDLIFE

A few fortunate hunters  
were able to get a fellow  
like this in their sights  
during rifle deer season.



Banding doves in  
Sheppard Bottom.



The refuge Goose  
Pond was a favorite  
resting spot for  
Canada Geese using  
the area.

SEPT 1965



DEVELOPMENT



Spraying Cottonwood stump sprouts in  
Leota Bottom.



SEPT 1965

Construction of the West Canal Protection Dike in  
Leota Bottom. (Robbins Construction Company equip-  
ment doing the work.)



SEPT 1965



Panoramic view of a recently constructed gulley check dike above Leota Bottom.

SEPT 1965



Same dike as seen looking across the top. Note rip-rap on down stream slope of spillway.

SEPT 1965



View of down stream slope of spillway in  
gulley check dike above Leota Bottom.

JAN 1966



Open footings and a lot of reinforcing steel  
mark the beginning of a water gap constructed  
in the West Canal Protection Dike.

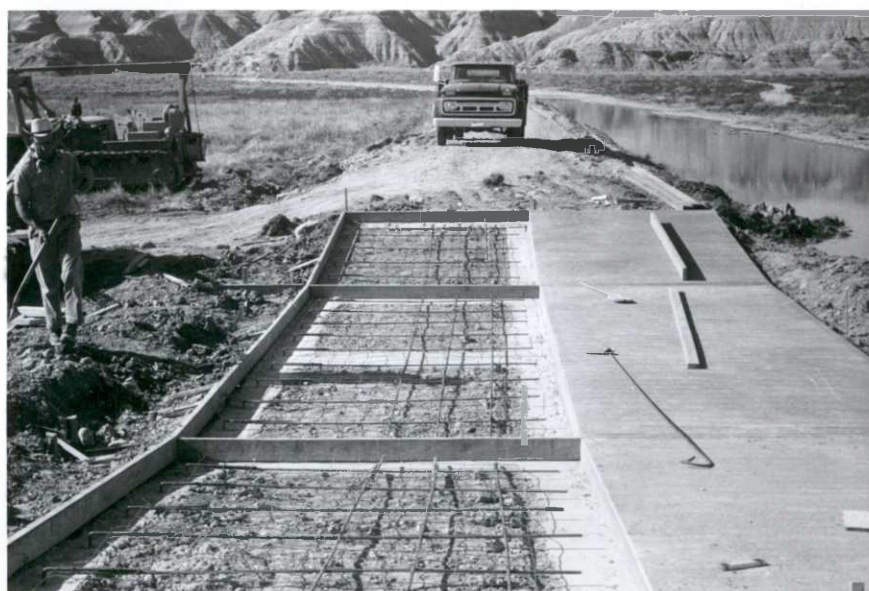


JAN 1966



Pour the concrete and the foundation is set for the slab.

JAN 1966



Set the forms, tie the steel, pour the concrete, and you have a workable spillway-roadway (half of it anyway!).



# Lack of Federal Funds Slows Refuge Growth

By H. J. Johnson  
Manager, Ouray National  
Wildlife Refuge

Hopes for rapid and systematic development of Ouray National Wildlife Refuge were dashed during the waning hours of the first session of the 89th Congress when an appropriation of \$125,000 sought by Utah's Congressmen on behalf of the refuge, was removed from the Department of the Interior's supplemental budget.

**THE LATEST** word from the Bureau of Sport Fisheries and Wildlife Regional Office in Albuquerque, New Mexico, is that the Bureau's budget for Fiscal Year 1967 contains no funds for development at Ouray.

Many improvements were made during the summer. Sterling Construction Company, Farmington, New Mexico, completed a contract for 15,750 linear yards of dike, 3.1 miles of canal, and associated water control structures.

Moon Lake Electric Association, Vernal, constructed two miles of canal, and associated water control structures.

Moon Lake Electric Association, Vernal, constructed two miles of power line to the Leota Bottom pump site.

Robbins Construction Company, Duchesne, piled, burned and buried debris from 340 acres within the Leota Bottom impoundment area during June and July. In August this company also constructed 7,000 feet of protective dike on an equipment rental basis under the refuge's soil and moisture conservation program.

**THE FISCAL** year 1966 budget provided \$95,000 for construction. This has, or will be, expended in the Leota Bottom Unit for installation of a large, electric powered, variable speed pump capable of delivering 12,000 to 25,000 cubic feet of water per second; construction

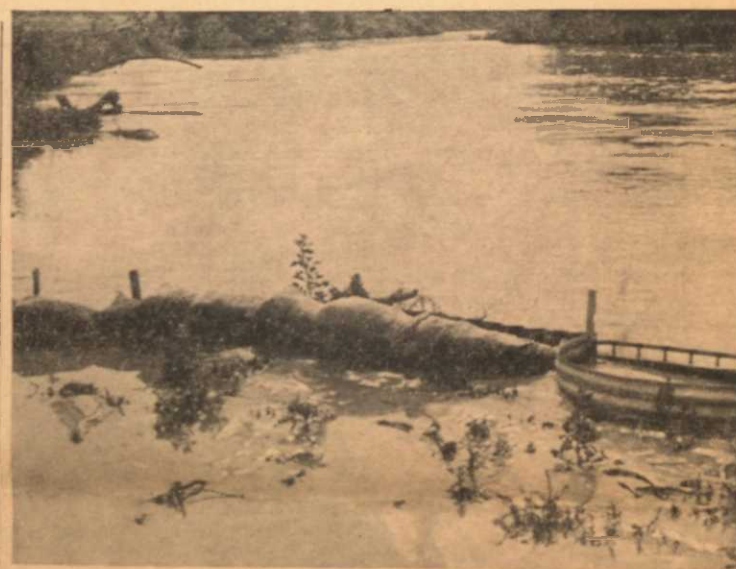
of an additional 1,500 yards of dike; gravel surfacing of that portion of the dike system incorporated into the road network; construction of four water crossings, and construction of a service building at the Sheppard Bottom headquarters complex. The service building, dike, and graveling remain to be accomplished in the spring.

Refuge personnel raised 42 acres of wheat and 40 acres of corn as wildlife feed. An excellent stand of wheat was obtained, averaging over 80 bushels to the acre. A short growing season affected the corn, with the mid-September snowstorm terminating its growth. Less than 30 bushels to the acre was the result. The local and migrating waterfowl made heavy use of the wheat crop. The poor corn crop was left standing in the fields to be made available to the birds next spring.

**THE DECOY** goose flock, birds acquired from the Bear River Refuge, Brigham City, as goslings, and reared in captivity at Ouray to form the nucleus of a nesting flock, were all released into the wild on March 1 to nest. They found refuge conditions to their liking and have refused to migrate south with their wild brothers.

For the first time since its inception, Ouray Refuge was opened to rifle as well as archery deer hunting. Archers were unsuccessful, none finding the heavy vegetative cover and hordes of mosquitoes to their liking. Rifle nimrods were more successful, removing 24 bucks three in the 200-230 pound class, 20 does, and four fauns.

An ice-jam on the Green River caused minor flooding of the Leota Bottom in mid-February. Since this threatened existing dikes and canals, it occasioned considerable worry for some 48 hours until a shift in current alleviated the danger. Anxiety prevailed again in June when high water invaded the



**LAST JUNE** high water threatened this pump structure and it had to be sandbagged to keep the flood waters out. This is at Leota pump site.



**FLOOD WATERS** threaten to delay construction last spring at Ouray National Wildlife Refuge. High water laps at a dike after it was raised two feet at Leota Bottom.

premises. Hasty erection of an additional 1½ feet of crest on the L-9 dike kept the encroaching waters from inundating the construction side and all ended well.

As a result of this flood two undeveloped units of the refuge were inundated.

They provided excellent waterfowl habitat thereafter and serve to reaffirm the past value and excellent potential of these sites for a waterfowl refuge.

## PERSONNEL CHANGES:

Gerald B. Gill transferred from the Monte Vista National Wildlife Refuge, Colo. to be Assistant Manager at Ouray Refuge in Januray. He resides on the refuge with his wife, Kathy,

and their three children.

Maintenanceman Alex Barney resigned his position in May for more lucrative employment.

Harold Dudley, Gale G. Wilkins and Dee Brough, all from the Randlett-Ouray area, were employed temporarily in various capacities. Dennis Jensen, Randlett, and "Corky" Marx, Roosevelt, were employed under the President's Youth Opportunity Campaign as summer trainees. Both resumed their formal education in the fall.

## New Refuge in Region:

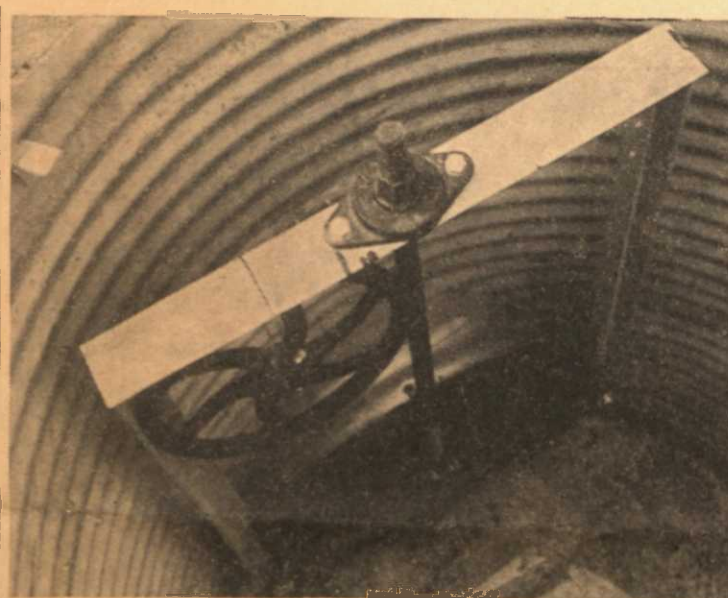
The scope of the refuge manager's duties was doubled in August when the Bureau of Sport Fisheries and Wildlife concluded the purchase of the Ran-

dolph and Leonard property on the Green River in Moffat County, Colo. to initiate the Brown's Park National Wildlife Refuge. For time being this area is to be administered from the Vernal office.

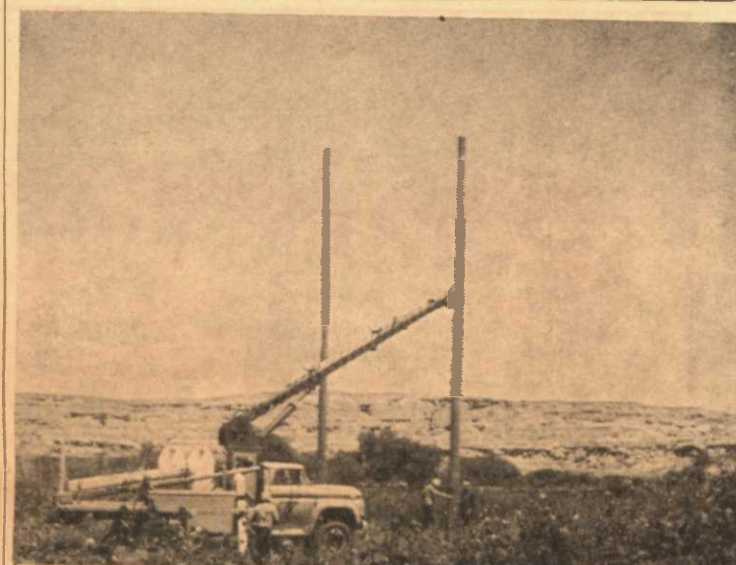
Existing power lines, pumps and canals made it possible to flood a portion of the area immediately after it was acquired and several hundred waterfowl have been making good use of the flooded areas.

This refuge will not be developed for several years. Its purpose is the same as the Ouray Refuge, that is, to provide nesting habitat for the production of 1,000 Canada Geese and 15,000 ducks annually. Development and management of the areas will be similar.

Thursday, December 16, 1965 THE VERNAL EXPRESS -7



**STRUCTURES** as this allow complete control of water in all ponds of the Leota Bottom Unit of the wildlife refuge. This type of water control will make the refuge one of the best waterfowl production areas in the southwest.



**MOON LAKE** Electric Company, Inc., sets power pole in Leota Bottom unit pump site on Ouray National Wildlife Refuge.