

MONTE VISTA NATIONAL WILDLIFE REFUGE
NARRATIVE REPORT
SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER
1958

PERSONNEL:

Charles E. Bryant, Refuge Manager
Don E. Redfearn, Assistant Refuge Manager
Robert W. Stegman, Foreman (Mixed Gang)
Mrs. V. Fay Pope, Clerk-Typist
Wesley E. Parker, Maintenanceman
Paul A. Plank, Maintenanceman
Elmer G. Olson, Maintenanceman

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I. GENERAL

A. Weather Conditions.

Weather conditions tabulated below were received from the Bureau of Reclamation station, located in Monte Vista, Colorado, approximately six miles North of the Refuge.

	<u>Snowfall</u>	<u>Precipitation</u>	<u>Max. Temp.</u>	<u>Min. Temp.</u>
September	-	0.82"	82°	26°
October	-	0.73	74	8
November	5"	0.27	65	-13
December	7	0.28	61	-17
Total	12"	2.10" Extreme	82°	-17°

Comparative figures for 1953, 1954, 1955, 1956 and 1957 are listed:

1957	8½"	1.81	78	-22
1956	8	0.41	82	- 8
1955	½	0.49	82	-10
1954	8	1.51	84	-21
1953	21	2.21	82	-19

Weather conditions for the period were normal except for unusually warm weather during the early part of December. The first frost of the year was received on September 17, with the low of 17° below zero being reached on December 31.

Snowfall during the period was normal but the early snow received on November 17, did not remain on the ground very long as normally would be the case. The only other snow received was on December 29, when 7 inches was received at the weather station but only 4 inches was received at the refuge.

The frost conditions were present again this year during the early part of November and field work such as plowing and fence construction had to be curtailed.

Snowfall in the surrounding mountains is considerably below normal with only 36" being present on Wolf Creek Pass which normally at this time would have at least 90".

B. Habitat Conditions.1. Water.

Water conditions, as far as direct flow is concerned, has been non-existent throughout the period. The springs

on upper Spring Creek are just maintaining the creek itself with very little water being available for early fall irrigation of the meadows. The greater part of the artesian wells on the area continue to flow throughout the period with the exception of those located on the extreme south side of the property. The deeper artesian wells on the property have held up very well throughout the period as sufficient water has been present to keep all of the pool areas open which are normally used by our wintering waterfowl.

Very little pumping was attempted during the period other than furnishing water to cattle being grazed in Unit 2 and Unit 30.

2. Food and Cover.

Food and cover conditions throughout the property have been very good this year, primarily due to the abundance of water that was present last period. Crop conditions were very good this year and production of barley was above normal.

A small amount of acreage was harvested in Unit 28 and Unit 26 so that we would have feed for replanting during the coming spring and ~~we would~~ have sufficient feed for our decoy goose flock.

By the end of the period waterfowl had taken most of our field crops and were beginning to move out of the area into adjoining fields. No artificial feeding was made during the period except for our decoy goose flock in Unit 31, with a small amount of feed put out for pheasants during the snow which occurred in November.

II. WILDLIFE

A. Migratory Birds.

Waterfowl present on the area at the start of the period was almost twice the number present during the same period last year. This increase is probably due to the high nesting production that occurred in the valley this year.

A very steady population of birds was present during the month of September but immediately increased upon opening of the shooting season and continued to increase thereafter until the week of November 23-29, when we reached a peak population of 61,000 birds, this being a small increase over last year's peak population which was reached at the same time.

Waterfowl use days also increased this year, primarily because of the increase in numbers in Green-winged Teal and Blue-winged

Teal present on the property. The total use days by the Mallard population which would normally show a high increase was slightly below that of last year. Mallards continue to be high in our wintering population with ~~awr~~ peak of 60,100 birds being present on November 23.

Cadwall, Baldpate, Pintail, Cinnamon Teal, Shoveler, Redhead and Ruddy ducks using the property were comparable in numbers to those present for last year and no significant changes in population numbers were noted.

With 40% of the area being open to waterfowl hunting this year the upper part of Spring Creek again became the favorite wintering spot for our waterfowl. Some use by the wintering birds was made of the closed portion on the East side of the property but this use was limited as all water had to be cut off from that unit during the latter part of the period so that ditches and dikes could be reworked and repaired.

Waterfowl using the area before the hunting season started were feeding almost entirely on aquatics present in the pool areas and very little use of our fields was had at this time.

Complaints were received from Mr. Gatz and Mr. Riegenbach, who are located North of the refuge before the shooting season started but as these fields were being combined this problem was cleared up very easily.

Upon the opening of the waterfowl season on October 10, the birds started using refuge fields almost entirely and the larger part of the population continued to feed in these fields throughout the period but we did have small flights moving out to adjoining fields when snowfall was present during November and the latter part of December.

Two complaints were received from farmers who live South of the refuge and this problem was present throughout the hunting season but neither owner was caused much damage as cherry bombs were put out as the need arose.

The feeding pattern was very unusual this year inasmuch as the birds developed a midday flight and to our knowledge were not feeding on moonlight nights. Therefore the birds moving out to fields other than those on the refuge were subject to hunting pressure.

Coot populations showed a slight increase this year but the peak population of 510 birds which was reached during the week of October 14-20, was slightly under the peak population reached last year. Use by these birds was almost entirely restricted to the two larger pool areas in Unit 10 and Unit 20.

No geese visited the area during the period but it is again our understanding that approximately 400 birds were present in the south end of the valley.

The young birds produced on the area during the last period are apparently still present in the decoy goose pen. These birds have been noted very little outside of this immediate area.

Sandhill Crane populations on the area this period were almost the same as those present a year ago. The arrival and departure times were generally the same. These birds used Units 10, 15 and 16 up until the time that the shooting season opened and then they shifted out to Units 7 and 9 which were closed to waterfowl hunting. Feeding by these birds was almost entirely on barley fields which had been harvested and adjoin the property on the north side.

Other water and marsh birds and shore birds that visited the refuge are listed: Pied-billed Grebe, Great Blue Heron, Snowy Egret, Black-crowned Night Heron, American Bittern, Sora Rail, Killdeer, Wilson's Snipe, Long-billed Dowitcher, Avocet and Wilson's Phalarope.

In the early part of September our Mourning Dove population reached a peak of 150 birds which was an increase over last year's population by the normal migration of birds into the area during the last part of September did not materialize for the second year in a row.

It was reported that a large number of Doves were present north of the Rio Grande River but the migration pattern may have shifted to that area and the birds are not moving through this part of the valley as they did when the refuge was first started.

One Whistling Swan was noted on the refuge during the week of November 23-27.

B. Upland Game Birds.

The Pheasant populations have almost doubled during the past year as very good nesting success was had last period and food and cover conditions have been excellent. The closed area of the refuge picked up large numbers of birds from adjoining areas during the hunting season and these birds ~~were~~ ^{are} still present. Cover conditions outside the refuge property have been considerably better this year and pheasant populations have been on the increase throughout the valley.

Additional information as to hunting pressure and kill will be included in the hunting portion of this report.

C. Big Game Animals.

No big game animals have been noted on the refuge this period.

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

Muskrat populations are believed to have increased during the past year and they are observed throughout the refuge area quite frequently. As the muskrat trapping season fell within the hunting season this year we did not attempt to take any rats on the area but we may have to do so during the coming year.

The Skunk population seems to be very steady and our poisoning program apparently is keeping these animals in check.

No Coyotes were noted on the area this period.

Cottontail and Jack Rabbits were very numerous during the early part of the period and still are quite common throughout the property. This population was decreased during the hunting season to more reasonable numbers. Jackrabbit populations in the immediate vicinity of the refuge has been decreased by local hunters who are getting 25¢ each for these animals.

Without question our Weasel population on the area is on the increase but total numbers are still low.

Badger are still noted on the area but numbers do not appear to be on the increase.

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

Predaceous birds such as the Golden Eagle, Duck Hawk, Horned Owl, Magpie, Raven, Crow, Bald Eagle, Rough-legged Hawk, Short-eared Owl, Swainson's Hawk, Marsh Hawk, Sparrow Hawk, and Red-tailed Hawk were seen frequently during the period. Very little increase in population numbers were noted in many of the species mentioned above with the exception of the Magpie which increased to approximately 400 birds during the latter part of the period. Control work has been started and numbers will be cut down considerably before our nesting season begins.

F. Fish.

No increase has been noted on the Carp, or Sucker population which is present in some of our larger pool areas.

The State Game and Fish Department furnished Rainbow Trout for the Kids Fishing Pond in Unit 25. Use of this pool was not

heavy during the period but it was used very heavily during the last period.

G. Reptiles.

With the cold weather that prevailed throughout the period very few Carter Snakes were noted on the area and no Rattlesnakes were observed.

H. Disease.

No disease problems have been noted this period but one bird was forwarded to the Bear River Research Laboratory which we thought at the time might have died with Fowl Cholera.

Wounded birds in the shooting area have been noted quite frequently but these birds are being picked up by the Golden and Bald Eagles at present.

The lead poisoning which was present in the upper Spring Creek area is apparently causing very little damage now as the inspection of this area reveals no sick birds other than those which have been wounded by shooting.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development.

On September 16, we were notified by Mr. Barclay that the bids which had been issued on the large siphon to be installed under the Empire Canal had been received but that the bids were too high and no award was made. Therefore, the job would have to be completed by refuge personnel. Plans for this were made and the siphon job was started on September 22 and completed on September 30. The cost of the job was within the limitation which had been set up in our budget.

A new sheet piling structure was installed on the Meadow Ditch which is the take-out lateral in Spring Creek and is located in Unit 8. The rectangular wier on the discharge side was made up so that water could be measured through this structure.

An irrigation control dike was ^{constructed} ~~forwarded~~ in Unit 30 so that water could be better spread on this unit and also the control dike could be used to store water for cattle which are being grazed in this unit.

Approximately 400 yards of gravel was hauled for repair of structures and dikes in Unit 8.

One siphon was installed in the Gets property which carries water under the Empire Canal to lands purchased from the Gets brothers.

Maintenance work included complete repair to the bed of the International combination stake and dump truck.

Structures in Units 6 and 26 were repaired by hauling and placing rock around the intake and discharge ends.

Buildings painted on the outside included the barn and potato cellar, now used for equipment storage, at Quarters #7; Quarters #7 and the oil house at refuge headquarters.

Cabinets and storage shelves were built and installed in Quarters #1, #2, #4, #6 and the office building.

B. Plantings.

1. Aquatics and Marsh Plants.

No plantings of aquatic or marsh plants were made during the period.

Water levels in pools in Units 11 and 20 were pulled down during the period so that maintenance and construction work could be made and it is expected that some of our aquatic plants may have suffered from this.

2. Trees and Shrubs.

On September 18, forty Blue Spruce which were taken from the Rio Grande Forest were planted at headquarters, Quarters #1, #4 and #7. These trees seem to be in good shape at this time and it is expected that none will be lost.

Trees planted in Unit #3 and #4 during 1954 made fairly good growth this year.

Windbreak plantings made by the original owner of the land at Quarters #7 made fair to good growth this year and should provide some wind protection during the coming spring.

3. Upland Herbaceous Plants.

No plantings were made for this year.

4. Cultivated Crops.

In September 480 bushels of barley in Units 26 and 28 was harvested.

During the period 340 acres of sweet clover was plowed, with approximately 300 acres being disced and land planed so that it would be ready for planting during the spring months.

Sweet clover which was planted on 286 acres during the last period will be left until the fall of 1960 when this crop will be plowed under for green manure.

Getting our land ready for planting during the fall months will give us a lot better opportunity to get good stands on our grain fields and at the same time will allow us to make use of early water, which would not be the case if we waited ^{UNTIL} the spring months to prepare the land for planting.

C. Collections and Receipts.

1. Seed or other Propagules.

480 bushels of trebi-barley was harvested in September.

Grain received from other units included 100 bushels of rye and wheat mixture, 80 bushels of sweet clover and 140 bushels of milo.

At the present time we have on hand 800 bushels of trebi-barley, 25 bushels of rye and wheat mixture which will be transferred to the Pathfinder Refuge and 80 bushels of sweet clover.

No seed of any type will be available for transfer this year as all will be needed for planting our refuge farm lands and feeding of the refuge goose flock.

2. Specimens.

No specimens were taken during the period.

D. Control of Vegetation.

Soil sterilent was placed around the potato building at our headquarters unit and the two storage buildings at Quarters #7.

Weeds and vegetation were cleaned out by mechanical means around all other buildings and pump houses.

Approximately 8 miles of small irrigation ditches were cleaned during the early part of the period so that growth will not be present in them when our spring water is received.

E. Planned Burning.

No planned burning was made during the period nor is any recommended.

F. Fires.

A small fire was discovered in the furnace room at Quarters #7 on the morning of December 31. The estimated damage to the furnace room and controls which govern the stoker was approximately \$75. The cause of the fire can be attributed to the firing chamber on the furnace and this has been corrected at this time.

No grass fires occurred during the period even though vegetation was very rank throughout most of the refuge area and use of the hunting area was quite heavy at this time.

IV. RESOURCE MANAGEMENT

A. Grazing.

Range conditions have been very good throughout the period. No changes were made in our grazing practices during the period except that some of the areas which would normally have been hayed were grazed this year as hay was not in demand.

A total of 10 grazing permits were in effect during the period covering 1627.56 A.U.H.s of cattle on 3,386 acres, having a total cash revenue of \$2,441.37.

B. Haying.

No haying permits were in effect during the period but NR-8 which is attached will show that 7 permits were in effect last period on 1197 acres, the total tonnage cut being 605½, with a total cash revenue of \$3,633.00.

Some of the haying units which would normally be hayed are not in demand this year and as we stated above were grazed. Therefore these units will be put under a grazing program rather than a haying program.

Due to the lack of demand for haying, the total tons of hay harvested this year as compared with last year's production would be less than half.

C. Fur Harvest.

No fur harvest was made on the refuge this period as very little trouble around structures and dikes was being experienced from muskrats and we did not want trapping in the area open to hunting or in the closed area where our birds were protected.

D. Other Uses.

One Beekeeping Permit was in effect during the period for 50 hives of bees in Unit 33.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Progress Report.

No field investigations were carried on during the period but upon receiving approval of our water management plan which has recently been submitted we will set up transects throughout various pool areas so that vegetation and waterfowl response can be determined seasonally from pre-established transects.

VI. PUBLIC RELATIONS

A. Recreational Uses.

No recreational facilities are available on the refuge other than the Kids Fishing Pond, which again has received quite a lot of use this year.

We are not planning any extensive recreational facilities but do believe that at least one campground should be provided on the East side of the refuge and this will be covered in our Recreational Plan in the near future.

B. Refuge Visitors.

9/2, 3, 4 Mr. Lloyd Gunther, Assistant Refuge Supervisor, R.O.
 9/8 Mr. Robert Moser, Assistant Administrative Officer, R.O.
 9/9, 10 Mr. Austin Beard, Realty Assistant, R.O.
 9/16 Mr. George Barclay, Refuge Supervisor, R.O.
 10/10 Mr. Allen Niemeyer, Game Management Agent, Lamar, Colo.
 11/5 Mr. Les Weigand, SCS, Monte Vista
 11/8, 11 Mr. George Barclay, Refuge Supervisor, R.O.
 Mr. Ted Conrardy, Realty Supervisor, R.O.
 11/12 Mr. Art Adams, River Basins, Denver
 11/28 Mr. Marcus Nelson, Asst. Refuge Supervisor, R.O.

12/1 Mr. Ray St. John and Mr. Estenheimer, Lands, R.O.
12/2 Mr. Ray St. John, Realty Officer, R.O.
12/3 Mr. Ray St. John, Realty Officer, R.O.
12/3 Mr. Allen Neimeyer, Game Agent, Lamar
12/3, 4 Mr. Malcolm Miller, Engineer, R.O.
12/4 Mr. Leland Bacus, Asst. District Agent, PRC, Denver.
12/6, 7, 8 Mr. Charles Hayes, Dist. Supervisor, Game Agents, Denver.
Mr. Allen Neimeyer, Game Agent, Lamar.
12/11 Mr. Maynard Cummings, PRC, Denver.

Several visits were made by Mr. Dick McDonald, State Warden, Monte Vista; Mr. Jim Dempsey, Asst. Park Ranger, Sand Dunes Nat'l. Monument, Alamosa; Mr. Norton Miner, District Agent, PRC, Monte Vista; and several personnel of BLM office from Canon City, Colo.

C. Refuge Participation.

Programs were presented to the following groups:
11/6 Valley Rod and Gun Club, Alamosa, 30 present
11/10 Valley Agricultural Group, at Mosca Community Hall, 40 present
11/19 Alamosa Lions Club, 82 present

Several news articles appeared in the local newspapers concerning public hunting on the area. The papers were very complimentary.

In addition to the programs listed the refuge staff has had close contact with State and Federal enforcement agencies and several of the meetings held by the Valley Rod and Gun Club have been attended.

D. Hunting.

During the latter part of September we received notification that the proposal for 40% of the refuge to be opened, ^{to hunting} had been published in the Federal Register. We immediately started posting of the area and six parking areas were set up for access to the open area by hunters.

The waterfowl season opened on October 10, and the area was used quite heavily during the first five days of the season with kills averaging approximately 2.50 birds per man day of hunting. Weekend hunters continued to show up in fair numbers throughout the season but week day use was at a minimum. At the end of the period it was estimated that 1157 waterfowl hunters had used the area and that the average daily bag limit per man was 1.76 birds.

The waterfowl hunt has been very satisfactory this year and hunters in the locality have been more than pleased with opening the area to shooting. Final tabulation will be made in next period's

report when the waterfowl season closes.

The same area opened to waterfowl was open to Pheasant and Rabbit hunting on the 8th, 9th and 10th of November. Two hundred and seventy-eight hunters used the area during the three days and killed a total of 148 Pheasants and 206 Rabbits. Hunting pressure on the refuge was not as heavy this year as last year as the Pheasant ^{populations} in the valley as a whole were a lot higher in number this year.

We did not issue permits to the Pheasant hunters as we did last year but let them enter the property at the designated parking areas, which did not give us as much control as we would have liked to have, but generally the hunt was very satisfactory to all concerned.

E. Violations.

Mr. George Wright, Colorado Springs, Colorado, exceeded bag limit by 1 bird, fine \$20.

Mr. H. C. Wilkerson, Canon City, Colorado, exceeded bag limit by 3 birds, fine \$30.

Mr. Charles W. Jordan, Buena Vista, Colorado, possession of illegal game, fine \$15.

Mr. Milo Wilson, Jr., Monte Vista, Colorado, hunting after legal hours in Conejos County, fine \$15. Apprehended by Bryant.

Mr. Richard T. Eekles, Monte Vista, Colorado, hunting after legal hours in Conejos County, fine \$15. Apprehended by Bryant.

Generally speaking the hunters using the property complied with all of the rules and regulations which were set up for hunting on the property. We did have other violations occur but generally these were of a minor nature and the violators were not apprehended. To our knowledge none of our refuge signs were shot up this period which has been the case every year that the refuge has been closed to hunting.

VII. OTHER ITEMS

A. Items of Interest.

Quite a lot of time has been spent this period in handling depredation complaints in the immediate vicinity of the refuge. Five complaints were received during the period, two of the complaints were received during the early part of the period which is unusual

as we usually do not have birds feeding out into fields this early in the year. As these crops were being harvested by mechanical means the problem was easily solved in a relatively short time. The other three complaints received were from men who were cleaning up unharvested pea fields by sheep and hogs. As these men were taking a long time in their harvest the problem existed throughout the latter half of November and December but as hunters were using the fields quite often and by the use of cherry bombs no appreciable amount of damage was experienced.

No hazing permits were issued to the men concerned as we felt it would be better for refuge personnel to handle this problem rather than to have the hunters see late shooting go on in these fields.

Safety meetings have been held monthly throughout the period and no accidents were reported this period.

As we have stated before local people were very pleased to see the refuge open to hunting and cooperation with everyone concerned has reached a new high this year.

B. Photographs.

Photographs reported on this period were taken by Mr. Robert Stegman, Foreman (Mixed Gang).

Submitted by:

Date: January 9, 1959

Charles R. Bryant
Refuge Manager

Reviewed:

Roll 33
Picture 1

9-25-58



Installing siphon under Empire Canal.

Roll 33
Picture 2

9-25-58



Dredline raising section of siphon tube under Empire.

Roll 33
Picture 3

9-25-58



36" vertical riser on siphon end under Empire.

Roll 33
Picture 4

9-25-58



Raising end section of siphon to swing in place.

9-25-58 Roll 33 Picture 5



Raising end section of siphon to swing in place.

9-25-58 Roll 33 Picture 6



Setting end of siphon into place.

Ro 11 33
Picture 7

9-25-58



Bolting bands to hold sections of siphon together. Bryant and Olson in picture.

Ro 11 33
Picture 8

9-25-58



Same as above. Bryant, Redfearn and Olson in picture.

Roll 33
Picture 9

9-25-58



Showing Parker operating sump pumps during siphon installation.

Roll 33
Picture 12

11-25-58



Approximately 10,000 ducks rising from Spring Creek, Unit #1.

Roll 33
Picture 14

11-25-58



Ducks rising from open spring area in Unit #1.

Roll 33
Picture 15

11-25-58



Same as above.

Roll 33
Picture 16

11-25-58



Ducks over Unit #1.

Roll 33
Picture 19

11-29-58



Ducks over Unit #1.

TABULATION OF PUBLIC USE

Refuge Monte Vista Refuge

	Visitor Days This Period	Visitor Days To Date C.Y.
Hunting Use (Where permitted)	<u>1435</u>	<u>1435</u>
Fishing Use	<u>100</u>	<u>800</u>
Miscellaneous (All other uses)	<u>600</u>	<u>2080</u>
Estimated total use, all types	<u>2135</u>	<u>4255</u>

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

REPORT ON PHOTOGRAPHIC EXPOSURES.

NOTE.—This form is to be prepared from field memoranda and forwarded with all films, whether developed or undeveloped. If developed negatives are submitted, the proper roll number and exposure number should be put on the edge of each negative—in ink. It is important to give adequate information regarding each exposure—date taken, locality, name of refuge if appropriate, and what the picture is intended to illustrate, if not obvious.

Author Robert W. Stegman, Foreman Date submitted January 9, 1959

Address Monte Vista Refuge, Colorado Films issued or purchased _____, 19____

PERMANENT NUMBER (LEAVE BLANK)	TEMPORARY NUMBER		DESCRIPTION OF VIEW, DATE TAKEN, LOCALITY, AND PURPOSE (USE MORE THAN ONE LINE FOR EACH, IF NECESSARY)
	ROLL	EXPO- SURE	
	33	1	Installing siphon under Empire Canal
	33	2	Dragline raising section of siphon tube under Empire
	33	3	36" vertical riser on siphon end under Empire
	33	4	Raising end section of siphon to swing in place.
	33	5	Raising end section of siphon to swing in place.
	33	6	Setting end of siphon into place.
	33	7	Bolting bands to hold sections of siphon together. Bryant and Olson in picture.
	33	8	Same as above. Bryant, Redfearn and Olson.
	33	9	Showing Parker operating swap pumps during siphon installation.
	33	10	Ducks in air and geese on ground. Goose pen Unit #1.
	33	11	Ducks rising from spring area. Unit #1.
	33	12	Approximately 10,000 ducks rising from Spring Creek. Unit #1.
	33	13	Ducks over Unit #1 during waterfowl census.
	33	14	Ducks rising from open spring area. Unit #1.
	33	15	Same as above.
	33	16	Ducks over Unit #1.
	33	17	Same
	33	18	Same
	33	19	Same
	33	20	Same

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

REPORT ON PHOTOGRAPHIC EXPOSURES

NOTE.—This form is to be prepared from both immediate and forwarded series of film, whether developed or undeveloped. It contains information on the
subject, the person, the number and exposure number should be put on the film of each exposure as it is taken. It is intended to be used in connection with the
negative, contact sheet, master copy, or original, and when necessary to indicate in figures, if not in words.

Author: Robert H. Stearns, Jr. Date submitted: January 2, 1950
Title: Rocky Mtn. National Park, Colorado Film issued or purchased: 10

PERMANENT NUMBER (PLEASE PRINT)	TEMPORARY NUMBER		DESCRIPTION OF VIEW, DATE TAKEN, LOCALITY, AND PURPOSE (USE MORE THAN ONE LINE FOR EACH, IF NECESSARY)
	ROLL	EXPOSURE	
	11	1	Immediate right corner, rocky desert
	11	2	Vertical view, summit of rocky peak, rocky desert
	11	3	90° vertical view, on rocky and rocky desert
	11	4	Vertical view, summit of rocky peak, rocky desert
	11	5	Vertical view, summit of rocky peak, rocky desert
	11	6	Vertical view, summit of rocky peak, rocky desert
	11	7	Vertical view, summit of rocky peak, rocky desert
	11	8	Vertical view, summit of rocky peak, rocky desert
	11	9	Vertical view, summit of rocky peak, rocky desert
	11	10	Vertical view, summit of rocky peak, rocky desert
	11	11	Vertical view, summit of rocky peak, rocky desert
	11	12	Vertical view, summit of rocky peak, rocky desert
	11	13	Vertical view, summit of rocky peak, rocky desert
	11	14	Vertical view, summit of rocky peak, rocky desert
	11	15	Vertical view, summit of rocky peak, rocky desert
	11	16	Vertical view, summit of rocky peak, rocky desert
	11	17	Vertical view, summit of rocky peak, rocky desert
	11	18	Vertical view, summit of rocky peak, rocky desert
	11	19	Vertical view, summit of rocky peak, rocky desert
	11	20	Vertical view, summit of rocky peak, rocky desert

W A T E R F O W L

REFUGE Monte Vista Nat'l. Wildlife Refuge

MONTHS OF September TO December, 1958

Species	(2) Weeks of reporting period										
	: 8/31-9/6 : 9/7-13 : 9/14-20 : 9/21-27 : 9/28-10/4 : 10/5-11 : 10/12-18 : 10/19-25 : 10/26-11/1 : 11/2-8										
	: 1	: 2	: 3	: 4	: 5	: 6	: 7	: 8	: 9	: 10	
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	54	54	54	54	54	54	54	54	54	54	54
Cackling	1	1	1	1	1	1	1	1	1	1	1
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	2575	2785	2785	2710	2710	9450	8990	16400	16400	31695	
Black											
Gadwall	440	510	510	410	410	220	285	325	325	110	
Baldpate	350	10	10	50	50	50					
Pintail	424	380	380	660	660	300	845	2175	2175	600	
Green-winged teal	245	1025	1025	1050	1050	375	730	475	475	1635	
Blue-winged teal	60	140	140	220	220	150	100	75			
Cinnamon teal	265	125	125	520	520	200	280	100	100	200	
Shoveler		205	205								
Wood	90	65	65	80	80	50	50	25	25	10	
Redhead											
Ring-necked				6							
Canvasback							2				
Scaup											
Goldeneye											
Bufflehead				80	80	40				1	
Ruddy	25	25	25							10	
Other											
Coot:	260	510	510	360	360	350	200	200	200	175	

Int. Dup. Sec.,

Wash., D. C. 20540

3 -1750a

Cont. NR-1
(Rev. March 1953)WATERFOWL
(Continuation Sheet)

REFUGE Monte Vista Nat'l. Wildlife Refuge

MONTHS OF September TO December, 1953

(1) Species	(2) Weeks of reporting period										(3) Estimated waterfowl days use	(4) Production : Broods: Estimated : seen : total
	11	12	13	14	15	16	17	18	19	20		
Swans:												
Whistling												
Trumpeter												
Geese:												
Canada	54	54	54	54	54	54	54	54	54	54	6,804	
Cackling	1	1	1	1	1	1	1	1	1	1	126	
Brant												
White-fronted												
Snow												
Blue												
Other												
Ducks:												
Mallard	31695	45000	60100	43750	43750	34550	34550	15500			2,833,845	
Black												
Gadwall	110	110	100	70	20						27,545	
Baldpate											1,330	
Pintail	600	600	300	400	400	300	300	150			61,025	
Green-winged teal	1635	1500	500	200	200	150	100	25			88,438	
Blue-winged teal											9,030	
Cinnamon teal											2,170	
Shoveler											18,165	
Wood												
Redhead											4,400	
Ring-necked											42	
Canvasback												
Scaup											14	
Goldeneye											7	
Bufflehead											70	
Ruddy											1,925	
Other												
Coot:											24,115	

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	7	1	
Geese	6,930	55	
Ducks	3,068,004	61,000	
Coots	24,115	510	

SUMMARY

Principal feeding areas Habitat Units 2 & 3

Principal nesting areas None during period

Reported by

Charles R. Bryant, 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

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge... ~~Nonte-Vista Nat'l Wildlife Refuge~~ Months of ~~September~~ to ~~December~~ 195~~8~~

(1) Species Common Name	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production		(6) Total
	Number	Date	Number	Date	Number	Date	Number Colonies	Total Nests	Estimated Number
<u>I. Water and Marsh Birds:</u>									
Pied-billed Grebe	10	9-1	90	9-1	5	10-22			30
Great Blue Heron	10	9-1	10	9-1	1	12-23			20
Snowy Egret	25	9-1	25	9-14	20	10-5			40
Black-crowned Night Heron	100	9-1	100	9-1	25	10-22			400
American Bittern	10	9-1	10	9-1	6	10-23			80
Sandhill Crane	13	9-1	800	10-23	8	11-12			2000
Sora Rail	10	9-1	10	9-1	Still present				
<u>II. Shorebirds, Gulls and Terns:</u>									
Killdeer	50	9-1	50	9-1	5	11-30			300
Wilson's Snipe	10	9-1	50	11-16	Still present				100
Long-billed Dowitcher	200	9-21	200	9-21	200	9-21			200
Avocet	100	9-1	100	9-1	50	11-8			600
Wilson's Phalarope	100	9-1	100	9-1	50	9-27			200

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove	150	9-1	150	9-1	2
White-winged dove					Still present
IV. Predaceous Birds:					
Golden eagle	1	9-30	2	10-19	Still present
Duck hawk	3	9-30	7	11-23	Still present
Horned owl	6	Resident			
Magpie	150	9-1	400	12-28	Still present
Raven	25	10-12	30	12-28	Still present
Crow	25	11-2	100	12-28	Still present
Bald Eagle	6	11-30	8	12-28	Still present
Houghlegged Hawk	4	9-1	4	9-1	Still present
Sparrow Hawk	5	9-1	5	9-1	Still present
Marsh Hawk	25	9-1	40	10-6	Still present
Short Eared Owl	10	9-1	55	11-6	Still present
Swainson's Hawk	3	9-1	4	11-8	Still present
Red-tailed Hawk	1	9-1	1	9-1	1

INSTRUCTIONS

Charles E. Bryant, Refuge Manager

(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 refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

UPLAND GAME BIRDS

Refuge Monte Vista Nat'l. Wildlife Refuge Months of September to December, 1950

(1) Species	(2) Density		(3) Young Produced	(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
	Cover types, total acreage of habitat	Acres per Bird			Number Broods Obs'd.	Estimated Total	Hunting For Re- stocking For Research		
Ring-necked Pheasant	9,683 acres brushland, meadow land & agricultural lands.	30		50-50	117			2700	Pertinent information not specifically requested. List introductions here. Cover and food conditions on the area have been excellent during the period.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- | | | |
|-----|-----------------|---|
| (1) | SPECIES: | Use correct common name. |
| (2) | DENSITY: | <p>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.</p> |
| (3) | YOUNG PRODUCED: | <p>Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.</p> |
| (4) | SEX RATIO: | <p>This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.</p> |
| (5) | REMOVALS: | <p>Indicate total number in each category removed during the report period.</p> |
| (6) | TOTAL: | <p>Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.</p> |
| (7) | REMARKS: | <p>Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.</p> |

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

DISEASE

Refuge Monte Vista Nat'l. Wildlife Refuge Year 19 58

Botulism

Lead Poisoning or other Disease

Period of outbreak None
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 None

Species affected _____

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

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks _____

PUBLIC USE

Refuge Monte Vista Nat'l. Wildlife Refuge Calendar Year 1958

Total Use Visitor-Days	Hunting Use	Fishing Use	Miscellaneous Use
4,235	1,435	800	2000

Where practical, by means of occasional spot checks, or other methods, show by percent and visitor-days the breakdown of the above figures and other related information:

Hunting (on refuge lands):	Percent	Visitor-Days	Acres	Miscellaneous:	Percent	Visitor-Days
Waterfowl	81	1162	3930	Recreation *	5	100
Upland Game	19	278	3930	Official	30	600
Big Game				Economic Use	40	800
Supervised by refuge	X by State	No. of blinds		Other	25	500

Comments:

Opening the refuge to hunting was very well received by the hunters in this locality.

Hunting (off
refuge lands): Estimated man-days of hunting on lands
adjacent to the refuge 400 (These figures
should not be included in hunting-use totals above).

Fishing:

Acres of ponds or lakes 1 acre and miles of streams

 open to fishing.

*(including picnicking, swimming, boating,
camping, viewing wildlife, and photographing)

Figure 1. Illustration of the study design.

with every practical, by means of occasional spot checks, or other means, about 5 percent and about 5 to 10 percent of the total information:

Superficial by Refuse	% by State	No. of Bldgs	Value
Big Game			
Blank Game	10	875	2320
Two-Wheel	10	112	2422
Refuge Lands (on square)	Percent	Value-Days	Acres

...of 1960, and in 1961 and 1962.

ACRES OF BONDAGE OR LIVES
AND MILLIONS OF AFRICANS

INT.-DUP. SEC. 2002. MAR. 2002. D.C. 2002

*tucllgn's brntckng, smtunng, postng,
csmptng, vtemng wyltne, and pnotogrsptng)

PLANTINGS
(Marsh - Aquatic - Upland)

Refuge Monte Vista Nat'l. Wildlife Refuge Year 1958

Species	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount & Nature of Propagules	Date of Planting	Survival	Cause of Loss	Remarks
Blue Spruce	Hedgerows, Qtrs. #1, 4 & 7		Total Plants 40		9-13	Good	None	Trees taken from Rio Grande Forest.

TOTAL ACREAGE PLANTED:

Marsh and aquatic.....
Hedgerows, cover patches.....
Food strips, food patches.....
Forest plantings.....

Fish and Wildlife Service Branch of Wildlife Refuges
CULTIVATED CROPS - HAYING - GRAZING

Refuge Monte Vista Nat'l. Wildlife Refuge County Rio Grande State Colorado

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return		Total Acreage Planted	Green Manure, Cover and Water-fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested	Unharvested			
Barley & Sweet Clover All planted by Refuge Personnel			35	480 bu.	251	8,040 bu.	286
						Sweet clover planted 1957, plus acreage received under purchase	391
						Fallow Ag. Land	340

No. of Permittees: Agricultural Operations None Haying Operations 7 Grazing Operations 10

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
Alfalfa	105	45	\$630.00	1. Cattle	631	1627.58	2,441.37	3,386
				2. Other	Beckkeeping Colony		11.50	50 Hives
				1. Total Refuge Acreage Under Cultivation				677
Hay - Wild	500	1152	\$3003.00	2. Acreage Cultivated as Service Operation				677

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 Monte Vista Nat'l. Wildlife Refuge Months of January through December, 195 8

(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		Seed	Feed	Surplus
Barley, Spring "Trebil"	1573	480	2053	175	600	478	800	600	200	0
Rye & Wheat Mixture		100	100			75	25			25*
Sweet Clover		80	80			0	80	80	0	0
Nillo		140	140			140	0			
Transferred 150 bu. barley to Bitter Lakes.										
25 bu. barley to Kirwin										
Received Rye & Wheat Mixture from Salt Plains Refuge										
Nillo & Sweet Clover from Kirwin										

(8) Indicate shipping or collection points _____

(9) Grain is stored at Monte Vista Refuge.

(10) Remarks _____

*See instructions on back.

to be transferred to Pathfinder Refuge.

REFUGEE 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 Monte Vista Nat'l. Wildlife Refuge Year 1958

Species	Collections			Receipts		Total Amounts on Hand	Amount Surplus
	Amount	Date or Period of Collection	Method	Unit Cost	Amount	Source	
Barley "trebi"	400 bushel	October	Combines	6.50 per acre			0
						Interior Duplicating Section, Washington 25, D.C. 84267	

PUBLIC USE

Refuge Moose Lake Refuge, Colorado

Calendar Year 1958

Total Use Visitor-Days	Hunting Use	Fishing Use	Miscellaneous Use
<u>4,235</u>	<u>1435</u>	<u>7000</u> <u>7005th</u> <u>800</u>	<u>1400</u> <u>600</u> <u>scat. Oct. Nov. Dec.</u> <u>2000</u>

Where practical, by means of occasional spot checks, or other methods, show by percent and visitor-days the breakdown of the above figures and other related information:

Hunting (on refuge lands):	Percent	Visitor-Days	Acres
Waterfowl	<u>81</u>	<u>1162</u>	<u>3930</u>
Upland Game	<u>19</u>	<u>278</u>	<u>3930</u>
Big Game			
Supervised by refuge <u>X</u> by State		No. of blinds	

Miscellaneous:	Percent	Visitor-Days
Recreation *	<u>5</u>	<u>100</u>
Official	<u>30</u>	<u>600</u>
Economic Use	<u>40</u>	<u>800</u>
Other	<u>25</u>	<u>500</u>

Hunting (off
refuge lands):

Estimated man-days of hunting on lands adjacent to the refuge 400 (These figures should not be included in hunting-use totals above).

Fishing:

Acres of ponds or lakes 1/2 acre and miles of streams

open to fishing.

Comments:

Opening the refuge to hunting was very well received by the hunters in this locality.

*(including picnicking, swimming, boating, camping, viewing wildlife, and photographing)

