

# 1953

Duck Nesting Survey Report, Raymond Fleetwood

The Director, Washington, D. C.

Aug. 14, 1953

Regional Director, Albuquerque, New Mexico

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Nesting Study Report - Monte Vista Refuge

Enclosed is the report on the nesting survey of the Monte Vista Refuge made by Mr. Fleetwood from June 3 to July 9.

As a basis for further study, it will be interesting to compare this report with future reports on the relationship between cover, predators, and other factors affecting the nesting of waterfowl.

John C. Gatlin

Enc.

cc: Mr. Bryant w/copy of report

# Duck Nesting Survey of the Monte Vista National Wildlife Refuge

June 3 - July 9, 1953

The acquisition of the Monte Vista National Wildlife Refuge in the San Luis valley of southern Colorado is another link in the chain of refuges located in the flyways of the United States that is intended to serve as a resting and nesting place for waterfowl. Since this refuge is located in the southernmost breeding ground in the United States, its development and utilization by wildlife will be watched, with interest, by sportsmen and conservationists across the land.

Quantitative knowledge of waterfowl production on the refuge and the various factors affecting this production has been lacking although data from a portion of the refuge area was included in Project 11.1 "Waterfowl Production in the San Luis Valley, Colorado" April 1, 1949 - June 30, 1951. Published by the Colorado Cooperative Wildlife Research Unit.

During the period June 3 - July 9, 1953, the writer was engaged in a duck nesting survey on the refuge and lands under option, for the purpose of determining present production and the effects of cultural practices and other decimating factors on this production. Production was determined by periodical counts of nests and broods in all cover types on the refuge that were believed to be utilized by ducks. In a few places, especially meadows and greasewood, strips twenty-five feet in width were covered and a thorough search was made for nests on each strip.

The study area on the refuge was quite different from those set up throughout the San Luis valley by the the Colorado Cooperative Research Unit. Hard-stem bulrush Scirpus aquaticus, Cattail Typha latifolia and Typha angustifolia were two of the major vegetative types on that project. These two types are virtually absent on the Monte Vista refuge, in so far as duck nesting is concerned. There are a couple of stations for Scirpus aquaticus on the refuge and lands under option. Soft-stem bulrush Scirpus validus is the principal species found on the refuge and adjacent lands and it is generally found growing in ditches and wet places east of highway #15. Only small, scattered clumps occur on the Spring creek tract so an attempt should be made to extend plantings on this tract as it is an important nesting area. The growing stems are relished by stock and the constant utilization which prevents the plants from storing food for future growth probably is the reason why the species does not have a wider and more extensive distribution on the refuge.

Another vegetative type covered in Project 11 was native range. On the refuge this type is represented by some rather extensive areas and many smaller patches of natives shrubs such as greasewood Sarcobatus vermiculatus, rabbit-bush Chrysothamnus sp. together with the grasses, salt grass Distichlis stricta, alkali sacaton Sporobolus airoides and scratch grass Muhlenbergia asperifolia. These areas are remnants of a vast cover type that originally covered most of the valley floor. When water is distributed over these areas and the water table is raised, the shrubs eventually die and then we have a native hay meadow, a complex mixture of grasses, sedges, rushes and forbs. This is the most extensive type found on the refuge with native range next.

Time has not permitted identification of all the grasses, sedges, rushes and forbs that compose the native hay meadows but in the wetter portions of these

meadows we find spikerush Eleocharis macrostachya which is the tallest of the two spikerushes found on the refuge. This species has longer spikes and the stems are compressed. Needle spikerush Eleocharis acicularis has weak needle-like stems that are not compressed. The spikes are also shorter than in the preceding species. Associated with the spikerushes is a sedge Carex diandra, a slender, sharply triangular stemmed sedge with the narrowest leaf blades of any sedge found on the refuge, seldom do they exceed 1.5 m.m. It makes its best growth around the numerous wells on the refuge, often reaching a height of two and one half feet and is often blown down by strong winds. the pistillate flowers and staminate flowers are borne on separate plants and generally the staminate plants are taller and have the appearance of being blighted. In the drier portions of the meadows we find black rush Juncus ater commonly called "wire grass" by the haymen. Rushes can be distinguished from grasses and other grass-like plants by the complete flowers. Sedges, grasses and spikerush do not have complete flowers. The nesting survey revealed that this species is the most important nesting type for mallards on the refuge as 56.9 % of the mallard nests were found in this cover. The survey also revealed that most of the early nests were placed in the dead stems of black rush since the stiff stems lodged in mats provided nesting material and concealment. Hence it is important, as a management practice, that an effort be made to keep this species from being grazed to closely so that nesting cover will be available for the early pairs of nesting ducks. As spring advances, the green stems push up through the dead material and ducks find this combination to their liking for nesting purposes. This species can become so tall and dense to serve as nesting sites and this was clearly revealed by the use of the peripheries of patches of this species. This species is commonly found on low dikes or embankments thrown up to control or divert water over the meadows and mallards often locate their nests in these places. Vegetation on the dikes and ridges is subjected to grazing so their usefulness to waterfowl will depend upon the amount of control or regulation of grazing. In ditches along meadows and pastures there occurs a bluish-tinged sedge Carex laxiflora with long and soft leaves. This species has long stolons and the several spikes are brownish at maturity. This species together with an unidentified sedge with wide leaves furnish good nesting cover for ducks as was revealed by the survey around the head of Spring creek.

Another rank plant growing in ditches, sloughs and other wet places is a bulrush Scirpus rubrotinctus which has many small heads in a compound umbel. Stations for this species are restricted to a few places so it is not of much value to waterfowl. It was found in the ditch along the south boundary of the refuge approximately one fourth mile east of highway #15. Mention should be made of some grasses found in the meadows, namely; tufted hairy grass Deschampsia cespitosa which has purplish, shining inflorescences that makes up a conspicuous

part of some meadows. The most abundant stand was in the pasture where the musk-farm was formerly located. It is common around the head of Spring creek. Where the grass is thick enough it provides fair nesting cover as 5.7% of the nests were placed in it. Other grasses are blue grass Poa secunda, alkali grass Puccinellia distans, little barley Hordeum jubatum, short-awn foxtail Alopecurus acutellus which is not to be confused with foxtail (Hordeum jubatum). Short-awn foxtail has slender, awnless spikes similar to timothy but the stems are shorter and weaker. Perhaps the most conspicuous grass on the refuge is manna grass Glyceria elata, a robust, somewhat succulent grass that is found growing in ditches. It may reach waist height and it has wide leaves with the tips keeled like a boat. Since it is usually found in ditches that carry much water

when the ducks are nesting, it is of no use as nesting cover. American slough grass Backmannia exaristata is distributed through the meadows. During the second week of July, alkali cordgrass Spartina gracilis started blooming and became conspicuous along Spring creek. The last named grass does not get thick so it is of little value to waterfowl. Mention should be made of salt grass Distichlis stricta which form the major portion of the ground cover on knolls covered with greasewood. Generally the grass is grazed so closely that it does not afford concealment cover for ducks. Due to the early irrigation of these meadows prior to cutting starting about July 1, they are not preferred nesting sites for ducks. During the survey period only seven mallard and one cinnamon teal nests were found in meadows that were mowed. Usually the nests were located on low knolls or high spots in the meadows. Of 135 nests found or observed by the writer, 25.2% were located along ditches, streambanks, laterals and roads that separate or surround meadows. Pasture lands contained more nests than meadows and it might be stated that former pasture lands from which cattle had been excluded contained more duck nests, than pasture lands being grazed at the present. The large pasture around the former muskrat farm on the Sheridan tract contained a dozen nests while the protected area on the Spring creek area had 36 or more nests. The protected area on the Sheridan tract including the slough north of Mr. Plank's residence and northwest of the corral also had 24 or more nests. The greasewood - salt grass covered knolls in the meadows and pastures were not utilized as nesting sites by many ducks. This was probably due to the scant cover and when nests were found on knolls, the nests were usually under a greasewood. It seems that cattle bed and trample the vegetation on these knolls during the winter months and as a result ducks look elsewhere for nesting sites.

While on the subject of meadows, mention should be made of arrow grass Triglochin palustrum and Triglochin maritima poisonous plants that are distributed throughout the meadows. The latter species grows in clumps from 6 - 12 inches high and has dark green, rounded leaves coming out from the base. The flower stalks are slender 12- 30 inches long and the small, greenish flowers are arranged closely along the stalks. They grow along the edges of sloughs and in especially wet salty places. On the refuge the thickest stand was found around the feed boxes in the southwest corner of Lum meadow. At Russell lake this species forms a definite zone around the hard-stem bulrush. It is poisonous at any period of its growth even after cutting the leaves are poisonous. The capsules containing the seeds are eaten by ducks so its value to waterfowl may range from fair to good on the refuge. Triglochin palustrum is a shorter, weak stalked plant with fewer leaves and flowers. The capsules are 3 - 5 times as long as they are thick. Due to the alkaline conditions on the refuge we may want to increase Triglochin maritima if it is determined that the capsules are taken by ducks.

In Spring creek and many of the ditches maretail Hippuris vulgaris, a semi-submerged aquatic with emergent tips and narrow tapering leaves in whorls gives the plant a bottle-brush appearance. When left emergent by receding waters, the plant continues to thrive as long as the soil remains moist. The value to ducks is generally slight but somewhat better in the north and northwest sections of the United States. The seeds (drupes) are eaten.

Probably all the ditches with water have white water buttercup Ranunculus aquatilis growing in them. The seeds of this species mature early in the summer so their use by wildlife is slight. The plant has fine, flaccid leaves and usually distinct leaf-stalks. The flowers are white, numerous and just above the water. Chara is usually associated with the white water buttercup. Floatingleaf pondweed Potamogeton natans occurs in many of the ditches and is recognized by the numerous oval, floating leaves. The submerged leaves are reduced to bladeless leaf stalks. The seeds are eaten by ducks and its value is fair to good. An unidentified pondweed Potamogeton is found growing in running water on the refuge but the best growth was seen in Spring creek. It had flower buds when the nesting survey work was terminated. It probably is a species that produces large seeds. Associated with this unidentified pondweed is horned pondweed Zannichellia palustris, an aquatic that produces seeds that are eaten by ducks. Vegetative portions are also eaten. Its value ranges from fair to good. The leaves occur in pairs rather than singly as in wigeongrass Ruppia, a species that was not observed on the refuge. Duckweed Lemna minor, an aquatic was observed on a number of ponds where the water was still. The green, oval to elliptical plant body about one-eighth inch long, has a single, slender, white rootlet on the lower side. Other plants utilized by waterfowl which were found and collected on the refuge or under option were: bur reed Sparganium eurycarpum also an unidentified species of burreed, prairie bulrush Scirpus paludosus, arrowhead Sagittaria arifolia?, common three-square bulrush Scirpus americanus and water-cress Sisymbrium nasturtium-aquaticum.

Some obnoxious weeds and shrubs observed on the refuge and adjacent lands were: pigweed Amaranthus retroflexus, licorice Oxyrrhiza lepidota, lamb's quarter Chenopodium album, Rassia hysopifolia?, Russian thistle Salsola pastifera, Aster adonidifolius, perennial peppergrass Lepidium draba, fanweed Thlaspi arvense, spreading yellow cress Radicula sinuata, willow-leaved dock Rumex crispus, prickly lettuce Lactuca virosa, silver weed Argentina anserina, sunflower Helianthus scaberrimus, bee plant Peritoma zosterifolia. Many other plants usually classed as weeds could be listed but the above species are the most abundant weeds on the refuge. Fields only recently left to themselves are almost completely filled with sunflowers and yellow sweet clover. If these fields are allowed to lie idle for many years they will revert to the greasewood association the original type in the central part of the San Luis Valley. Fields of heavy water-soaked soils soon grow to black rush Juncus acutiflorus, alkali sacaton, salt grass, silver weed Argentina anserina but in time they will revert to greasewood. Grazing, especially over-grazing, delays the return to original conditions. It was observed that Rassia hysopifolia? is one of the first plants to come in on soils that have been disturbed or moved. This is especially noticeable along the Resettlement canal and the new course of Spring creek through the Berry tract.

#### Waterfowl Production

During the period June 3 - July 9 the writer succeeded in finding 147 nests of four species. The nests either contained eggs or egg shells, the latter, of course, indicating that the eggs had been destroyed by predators, farm machinery or desertion. Of this number, 87 or 59.1% had been destroyed

by predators prior to the finding of the nest. Out of 147 nests found, 53 contained from one to full clutches of 11 eggs; 27 or 50.9% of the nests found with eggs were later destroyed by predators. Out of the 147 nests 114 or 77.5% of them were destroyed by predators and 6 or .4% of the nests were destroyed by machinery used in haying operations, thus 120 or 81.6% of the nests were destroyed by predators and machinery. Out of 53 nests that contained eggs when found, 9 are known to have hatched successfully. This resulted in 75 ducklings for an average of 8.3 birds per brood. This average is high because four broods of cinnamon teal with 10 each is included in the figure. Thirteen nests were being incubated on the last day of the survey which was July 9, with a total of 99 eggs.

The 147 nests contained 962 eggs and 722 eggs were destroyed by predators in other words nearly 77% of the eggs were destroyed before hatching.

### Predators

With 77.6% of the duck nests being destroyed before hatching, we should be able to place the guilt for this tremendous loss upon a particular species but here again we must consider prejudices and suspicions as the predator may be the species that we have the most prejudices against. We do know that there are several animals on the refuge that may be responsible for the predation, namely; skunk, magpie, coyote, weasel, mink, muskrat, thirteen-striped ground squirrel, Saguache mountain vole Microtus pennsylvanicus modestus, crow, raven, marsh hawk, horned owl, duck hawk and a few other Raptores. During the survey work, so few of the Raptores were seen, that they can be eliminated as a class although individuals take ducklings occasionally. The crow and raven are seldom seen on the refuge during the nesting season so the damage that these few birds do, is negligible. The magpie is rather numerous in the refuge area and has a preference for brushy fence rows, woodland and thickets. Predation in such areas is probably high although the writer did not catch a single magpie in the act of destroying eggs. Magpies were especially numerous along the Monte Vista canal west of the Spring creek tract and along the Empire canal through the Berry land. Some of the eggs found in nests look as though they had been pecked by the magpie yet some of these same eggs were messy and had down sticking to the shell indicating that the skunk was the predator. The down in many of the nests was torn up and mixed with the nesting material. It is difficult to believe that magpies would do this. There was one mallard nest located on the bank of the Resettlement canal without concealment whatsoever. The nest was being incubated the last day of the survey although it was in plain view of magpies and skunks that travelled along the canal and fence row. One destroyed nest contained scats probably those of the coyote so it is believed that it destroyed this nest. Then too, nest found destroyed in tall and thick sedges and bulrush were so well concealed for magpies to find them so the skunk must have been the predator. During the survey work at least twenty skunks were observed by the refuge manager and the writer. One evening the refuge manager shot and killed a skunk and when he fired a cinnamon teal flew off her nest located within six feet of him. The writer resorted to a



more primitive weapon - a rock, to kill a young skunk. There are many dens along Spring creek, Resettlement canal and the Monte Vista canal. For the past few year the skunk fur has not been worth much and as a result, trappers have stopped taking the pelts so the area is infested. It is the writer's opinion that an extermination program will have to be initiated on the refuge to reduce the number of skunks before duck production can be stopped up. While this program is in progress, an effort should be made to reduce the Saguache mountain vole population around upper Spring creek as it might be possible that this rodent destroys some of the duck nests as their run-ways were observed on the edges of nests. Much of the rabbit bush in this area has been damaged by the gnawings of these rodents. The thirteen-striped ground squirrel which is generally found on the drier areas of the refuge may destroy duck eggs but further field work is necessary to determine the role it has nest predation. The mink, weasel and muskrat may occasionally destroy eggs or ducklings. The muskrat is believed to destroy ducklings according to statements made by individuals who have lived in the area for years.

#### Herbarium Specimens

During the course of the survey at least 150 specimens of the more common plants found in the area were collected and pressed. Identifications of 28 plants were made by Dr. H. D. Harrington, Department of Botany, Colorado Agricultural and Mechanical College.

Specimens of the vole and harvest mouse were sent to the National Museum for identification and Mr. Charles O. Handley, Jr., Assistant Curator of Mammals identified them as the Saguache mountain vole Microtus pennsylvanicus modestus and harvest mouse Reithrodontomys megalotis astecus. The latter specimen was added to the National Museum Collection as a transfer from the Fish and Wildlife Service and given catalog number 296746. This record probably represents an extension of range in Colorado of this subspecies.

#### Refuge Bird Check-list

A refuge bird check-list was prepared by the writer and was based upon observations made during the field work from June 3 - July 9, 1953. A few records and observations made by the refuge manager, Charles R. Bryant are indicated by the initials C. B. Sixty-seven species are listed on the Check-list and 42 of these are known to nest on and adjacent to the refuge. See attached Check-list.

Respectfully submitted by,

Raymond J. Fleetwood  
July 22, 1953



## Duck Broods

During the survey, 21 broods of ducks were observed on or near the refuge. The 21 broods contained 95 ducklings ranging from class 1 to class 2, the majority of the ducklings were class 1. Accurate counts were obtained on 14 broods of mallards comprising 80 class 1 ducklings. This is an average of 5.7 ducklings per brood, which is somewhat less than the average clutch of 7.8 eggs. for 44 completed nests. Broods were observed on Spring creek and on ditches that contained water, the most of them being on the Berry tract. Two half grown mallards were killed by a mower on the Sheridan tract but where the ground is rough the mower sickle would probably pass over very young ducklings without injuring them. No doubt, a few of these broods came from the nine nests under observation that hatched but the majority of the broods came from nests that were not under observation. It is safe to say that 25 broods are known to have come off during the survey.

A flock of approximately 30 ducks, principally mallards with the majority of them being drakes were seen on Spring creek several times. The hens in the flock may have been hens that had made nesting attempts only to have their nests destroyed by predators.

## Pheasant Nesting

During the field work, 16 ring-necked pheasant nests were found. Of these nests, one had hatched when the nest was found. The hen was still incubating the eggs in another nest. The other 14 nests were destroyed by predators and predation on the pheasant nests, is higher than on duck nests because the pheasant nests are not concealed as well as the duck nests. No young pheasants were seen during the course of the survey on the refuge although a flock of half grown birds were seen on the Getz land.

## Barn Owl and Marsh Hawk Nests.

The refuge appears to be a favorite nesting site for the barn owl as 6 nests containing 26 eggs were found during field work. Four of the nests containing 15 eggs were destroyed by predators. Nine young hatched from the twelve eggs contained in the other two nests, this is a hatching success of 33-2/3%. There was another nest that hatched, as a young owl was observed.

Five marsh hawk nests were found on the refuge and the nests contained 22 eggs. Two nests containing 8 eggs produced 6 young as two of the eggs were infertile. Two nests were destroyed, one by a predator and the other by a man. The fifth nest was still being incubated at the end of the survey period. Both species nested on the ground, the barn owl's nest being a depression in the ground while the marsh hawk made a nest two to four inches high. No food was observed around the nests of the two marsh hawk nests that hatched but at the barn owl nests with young, the carcasses of a Wilson's phalarope and Sagumche mountain vole were seen.

Location of nests according to natural features, Monte Vista Refuge  
June 3 - July 9, 1953

	Nests on or near ditches, streambanks canalbanks, dikes, roads	Nests in grasswood which may be in meadow or pastureland	Nests in rabbit-bush now protected from grazing	Nests in meadows and pasturelands	Total
Mallard	32	33	5	55	125
Gadwall	0	0	0	1	1
Chimney teal	2	0	0	6	8
Green-winged teal	0	0	0	1	1
Total	34	33	5	63	135
%	25.2	24.4	3.8	46.6	100

Vegetative types not considered in this tabulation as some of the nests were found in rush growing between the grasswood bushes. These would be placed in the rush column on the tabulation of vegetative types. This might be considered in relation to cultural use.

CHECK LIST OF BIRDS

MONTE VISTA NATIONAL WILDLIFE REFUGE, MONTE VISTA, COLO.

great blue heron	Avocet, nesting
American egret	Black-necked stilt, C.B.
Snowy egret	Wilson's phalarope, nesting
Black-crowned night heron, nesting	Mourning dove, nesting
American bittern, nesting	Barn owl, nesting
mallard, nesting	Horned owl, nesting
Gadwall, nesting	Belted kingfisher, C.B.
Baldpate	Red-shafted flicker, nesting
Pintail, nesting	Alder flycatcher, nesting
Green-winged teal, nesting	Wood pewee
Blue-winged teal	Horned lark, nesting
Cinnamon teal, nesting	Violet-green swallow
Shoveller	Barn swallow, nesting
Red-tailed hawk, C.B.	Cliff swallow, nesting
Swainson's hawk, nesting	Magpie, nesting
Golden eagle	Raven
Marsh hawk, Nesting	crow, nesting
Duck hawk	Marsh wren, nesting
Sparrow hawk	Sage thrasher, nesting
Ring-necked pheasant, nesting	Robin, nesting
Sandhill crane, C.B.	mountain bluebird
Sora, nesting?	Starling, nesting
Killdeer, nesting	Warbling vireo, nesting
Wilson's snipe, nesting	Yellow warbler, nesting
Spotted sandpiper, nesting	Yellow-throat, nesting.
Solitary sandpiper	English sparrow, nesting
Greater yellow-legs, C.B.	Meadowlark, nesting
Western sandpiper	Yellow-headed blackbird, nesting
	Red-wing blackbird, nesting

Bullock's oriole

Brewer's blackbird, nesting

Cowbird, nesting

House finch

Pine siskin

Eastern goldfinch

Lark bunting, nesting

Savannah sparrow, nesting

Vesper sparrow, nesting

Song sparrow, nesting

Prepared by Raymond J. Fleetwood  
Biologist, U.S. Fish and Wildlife Service  
July 22, 1953

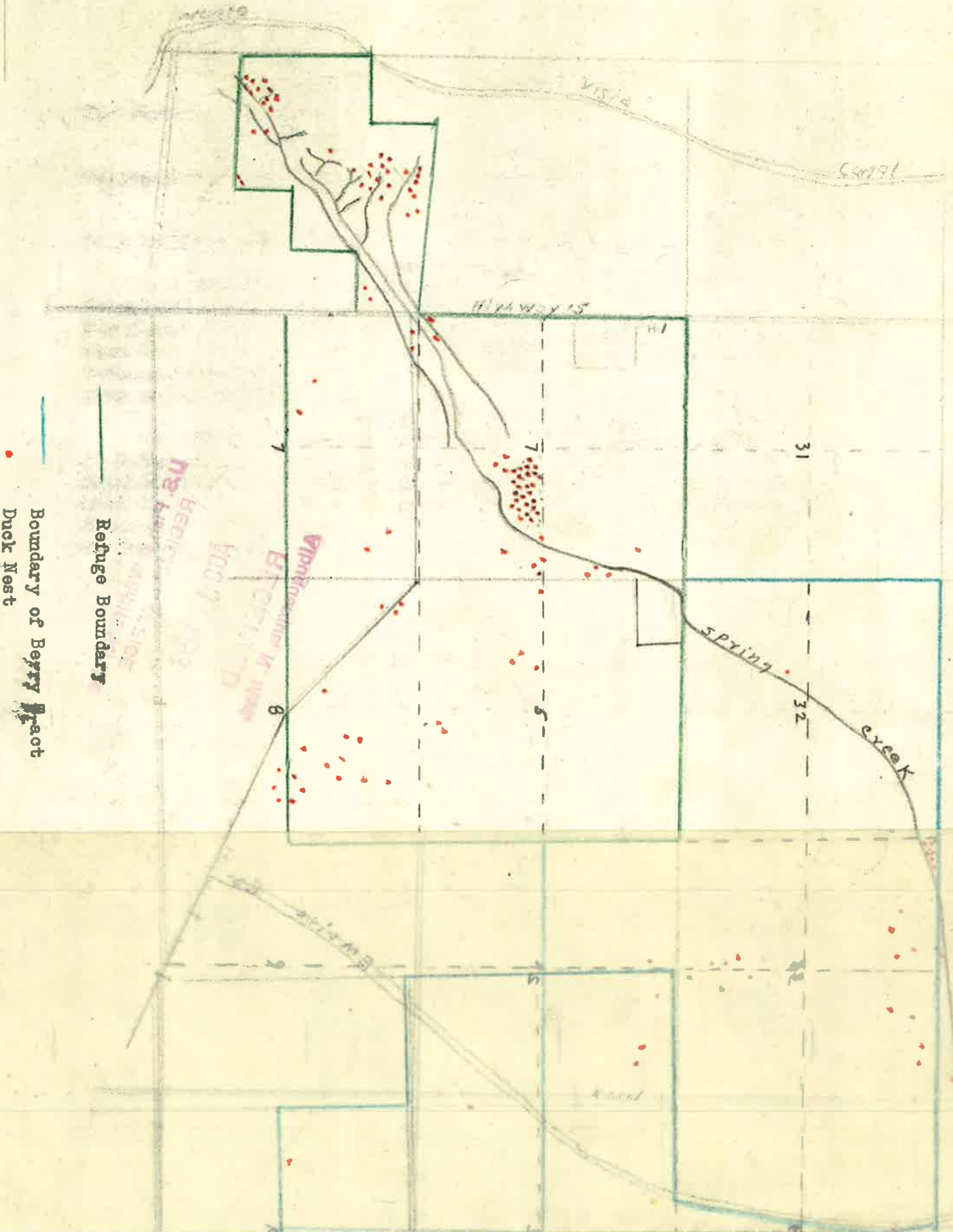
Species not observed by Fleetwood but listed on the Check-list indicated by the initials C. B. standing for Charles Bryant.

Nesting based on nests found or fledglings observed.

All the species with the exception of those with the initials C.B. observed by Fleetwood between June 2 - July 9, 1953.

Several other species observed at Monte Vista but they are not shown in the list.

LOCATIONS OF DUCK NESTS, MONTE VISTA REFUGE JUNE 3 - JULY 9, 1965



Data on Duck Nests, Monte Vista Refuge, June 3 - July 9, 1953

	Hallard	Pittell	Cadwal	Cum. Total	Green-w. Total	Total
No. nests found with eggs, destroyed eggs of predators, machinery and deserted eggs	137	0	1	8	1	147
No. of eggs	881*	0	8	67	6	962
No. of active nests destroyed by predators after finding	25	0	1	1	0	27
No. eggs destroyed by predators in the nests	164	0	8	6	0	178
No. of active or occupied nests found **	44	0	1	7	1	53
No. eggs in nests	344	0	8	59	6	417
No. nests destroyed by haying operations	5	0	0	1	0	6
No. eggs destroyed by haying operations	27	0	0	5	0	32
No. nests already destroyed by predators when found	86	0	0	1	0	87
No. eggs destroyed by predators	536	0	0	8	0	544
No. nests still being incubated 7/9/53	11	0	0	1	1	13
No. eggs being incubated July 9, 1953	85	0	0	8	6	99
No. nests hatched when found	4	0	0	0	0	4
No. eggs hatched when found(est.)	25	0	0	0	0	25

\* Includes 344 eggs in 44 nests by actual count  
27 eggs in nests destroyed by mowers

371 eggs, the balance, 510 eggs arrived at by considering that 85 destroyed nests had an average of 6 eggs each

\*\* Does not include the nests destroyed by mowers

Clutch size of all mallard nests, Monte Vista Refuge, June 3 - July 9, 1953

(Average clutch of 44 completed clutches - 7.8

Eggs and Nests	Complete Clutches of Known Size					Under 6 Eggs when Destroyed, Deserted hatched or at last visit	Hatched Before Found Clutches
No. Eggs	6	7	8	9	10		
No. Nests	8	11	10	11	4	83	4

Clutch size of cinnamon teal nests

(Average clutch of 7 completed clutches - 8.8

No. Eggs	6	7	8	9	10		
No. Nests	1	0	2	0	4	1	0



Fate of mallard nests and eggs; Final data, 123 nests.

Nest and Eggs	Final Data			Causes of Failure to Hatch			
	Hatched	Failed to Hatch	Total	Predators	Deserted	Haying Operations	Stock
No. Nests	10	113	123	105	4	3	1
%	8.2	91.8	100	92.9	3.5	2.6	1.0 100
No. Eggs	70	689	759	637	25	18	9
%	9.2	90.8	100	92.5	3.6	2.6	1.3 100

Marsh hawk  
Marsh hawk  
Marsh hawk

4  
4  
4

3 young; 1 infertile egg at last visit July 9  
4 eggs lost to predator  
4 eggs destroyed by a party living on refuge

Monroe Vista Refuge, June 3 - July 9, 1953

Species	Number of Eggs	Fate of Eggs
Cinnamon teal	10	10 eggs hatched
" "	10	10 eggs hatched
" "	6	6 eggs lost to predator
" "	10	10 eggs hatched
" "	10	10 eggs hatched
Gadwall	8	8 eggs hatched
" "	8	8 eggs hatched
" "	5	5 eggs and hen destroyed by mowar
" "	8	8 eggs lost to predator
Green-winged teal	6	6 eggs still being incubated at last visit July 9
" "	7	eggs lost to predator
Ring-necked pheasant	11	eggs lost to predator
" "	11	eggs deserted
" "	10	3 eggs broken; 7 eggs deserted
" "	7	eggs destroyed by predator
" "	4	fate unknown as nest was not visited again
" "	7	eggs lost to predator
" "	9	4 eggs lost to predator; 6 eggs deserted
" "	7	eggs lost to predator
" "	7	eggs lost to predator
" "	7	eggs lost to predator
" "	7	eggs lost to predator
" "	7	eggs lost to predator
" "	4	eggs lost to predator
" "	2	eggs lost to predator
" "	6	eggs hatched; 2 infertile eggs
Black-crowned night-heron	1	egg lost to predator
" "	5	5 eggs hatched
" "	4	4 eggs lost to predator after nest had been saved from mowar
Barn owl	3	3 eggs lost to predator
Barn owl	7	7 eggs lost to predator
Barn owl	3	3 eggs lost to predator
Barn owl	2	2 eggs lost to predator
Barn owl	7	5 young; 2 unhatched eggs on last visit July 9
Barn owl	5	6 young; 1 unhatched egg on last visit July 9
Marsh hawk	7	3 young had left nest by June 24
" "	6	1 egg rolled from nest; 5 being incubated July 9

# Office Memorandum • UNITED STATES GOVERNMENT

TO : Charles R. Bryant, P. O. Box 566 Monte Vista  
Colo. DATE: August 3, 1953

FROM : Biologist, Bosque del Apache Refuge, San Antonio, N. Mex.

SUBJECT: Refuge Specimens and Nesting Notes.

Enclosed are the duck nesting notes and the Quarterly Report of the Colorado Cooperative Wildlife Research Unit for April - June 1949.

The plant specimens that were identified by Dr. H. D. Harrington along with eighteen others that were sent to Dr. Harrington for identification were brought to the Bosque Refuge. Upon receipt of identifications, the entire set will be labeled and forwarded to you.

AUG 7 - 1953

*Raymond J. Fleetwood*  
Raymond J. Fleetwood

CC: Regional Director

# Office Memorandum • UNITED STATES GOVERNMENT

TO : Charles R. Bryant  
Monte Vista Refuge, Monte Vista, Colo.  
FROM : Biologist, Bosque del Apache Refuge  
San Antonio, New Mexico  
SUBJECT: Duck Nesting Survey.

DATE: August 19, 1953

Enclosed are a number of prints and negatives taken of objects on the Monte Vista refuge during the nesting survey. Thought that you might want to use some of the better ones for your Narrative Report due at the close of August.

Some spikerush collected above the broken down bridge on the Berry tract was too immature to be identified so sometime you are going through here stop at the bridge, walk up the creek about 500 feet and collect additional clumps, roots and all and send them to me.

The wiry, narrow-leaf sedge that grows so rank around the wells on the refuge has been identified by Dr. Harrington as *Carex simulata*. A wide leaf sedge generally found along ditches and other wet places on the refuge was identified as *Carex nebraskensis*. The other rush collected on the refuge was identified as *Juncus saximontanus*. The aquatic that you thought was *Thalia* has been identified as water plantain *Alisma plantago-aquatica*. The smartweed collected on the refuge was identified as *Polygonum lapathifolium*.








Will get the plants collected on the refuge mounted and labelled before sending them to you.

  
Raymond J. Fleetwood

CC: Regional Director

Nesting Study Notes, Monte Vista Refuge, Colo.  
June 3 - July 9, 1953

Key of symbols:

-  Nest contained eggs when found
-  Nest hatched successfully during the study period
-  Clutch still being incubated when study was terminated
-  Nest had been destroyed when found
-  Neste deserted
-  Nest or clutch had hatched before the nest was found.
-  Broods observed

AUG 7 - 1953



No.	date	Species	Status	Cover	Time & on	Status of bird	Remarks
1	6-4-53	Mallard	eggs Not seen 100% egg	dead + green Juncus, general stand			picture 100-8
2	6-4-53	Mallard	1 egg 8.3.46 999-78	dead + green Juncus, gen. stand	999 6-24 909 9.45, 6-24	9999-7-1 7-11-7-8	Nest 100' from shrubs 20' SW of nest. 1. flew when approached within 20'
3	6-4-53	Mallard?	dest. shells in nest	dead + green Juncus, gen. stand			55' West of Nest #2
4	6-4-53	Barn owl	3 eggs gone	nest on ground in Juncus	leg. not broken off in nest 6-24		100' of nest #3. Piet. 100-8 depression, lined with grass sods egg shells in nest broken in middle
5	6-4-53	Mallard?	dest.	nest in Juncus, gen. stand			shells in many pieces
6	6-4-53	Mallard?	dest.	dead Juncus			no shells. Nest 50' from shrubs
7	6-4-53	Mallard?	clst.	dead Juncus			5 eggs 6-10 300' from fence, 180' from water bird on flew when I was within 15' of nest
8	6-4-53	Mallard	6 eggs	dead tuft of unidentified grass Mistletoe around thick	9.51 dest 7-1		8 eggs 6-10 110' from water, 105' SW of #8 on 100' dest 7-1
9	6-4-53	Mallard	8 eggs	dead tuft of unidentified grass with some Juncus about	10:07 am dest 7-1		8 eggs 6-10 Ran thru grass, flopping wings grass canopy over nest
10	6-4-53	Quintal	10 eggs white	dead tuft of unidentified grass with some Juncus about	10:07 am dest 7-1		100' from #10
11	6-4-53	Pheasant	did not finish prob. new	dead tuft of grass, some Juncus	10:12		shells in nest, split in middle
12	6-4-53	Pheasant	could not find	dead Juncus amended creosote			Juncus among dead chicu
13	6-4-53	Mallard?	dest.	dead Juncus			50' of fence
14	6-4-53	Mallard	4 eggs	Juncus	9:15		shells in nest 6-24 nest under leaning wire fence
15	6-4-53	Mallard?	dest.	Juncus, patchy.			shells of 2 eggs in nest. 20' of fence
16	6-4-53	Mallard?	dest.	" "			100' of fence
17	6-4-53	Mallard?	dest.	" "			shells in nest
18	6-4-53	Mallard?	dest.	" "			shells in nest
19	6-4-53	Mallard	dest.	under clump of chicu, some Juncus around			shells in nest
20	6-4-53	Marsh Hawk	18 eggs than others. 399 downy	cat tail patch			nest 10' on ground, exposed
21	6-5-53	Mallard	7 eggs	Juncus among dead grease weed	9:14 7 eggs located		OK 6-24 30' from fence, 300' from nest when she flew
22	6-5-53	Mallard	2 eggs	Juncus			25' E. of nest 2.1. may be destroyed 90' from fence
23	6-5-53	Marsh Hawk	6 eggs	Juncus, not breaking			30' S. of No. 2. 2. birds flying about - dead
24	6-5-53	Mallard	9 eggs	Juncus, not breaking nest not covered by veg.			65' from chicu, 40' from marsh Hawk nest



No.	date	Species	Status	Cover	Time from	Status Prob.	Remarks
x 25	6-5	Mallard?	dest.	Nest under Juncus + Chiao Tuncus lodged against bush			2 shells in nest
x 26	6-5	Mallard?	dest.	Juncus, slough			10' of fence. 0.99 split lengthwise NE Johnsons
x 27	6-5	Mallard?	dest.	Juncus + Chiao bush			shells in nest
x 28	6-5	Mallard?	dest.	Juncus + dead Chiao			shells in nest. 5' of fence NE Johnsons, slough of least 4 eggs in nest when destroyed 121 from #29
x 29	6-5	Mallard?	dest.	" " slough NE Johnsons			shells in nest. 14' from #29, slough NE Johnsons
x 30	6-5	Mallard?	dest.	det + green Juncus			shells in nest. 10' of fence NE Johnsons
x 31	6-5	Mallard?	dest.	fin Sedge + Juncus, slough NE Johnsons			4 eggs of least 3 shells in nest. 22' of fence
x 32	6-5	Mallard?	dest.	Juncus			Got within 10' of G. did not fly
x 33	6-7	Pheasant	8954	deedsedge + grass		800 nest 6-8 did not fly dest 6-8	100' NE of #33. Sink about.
34	6-7	Barn owl	800 9:00 7 eggs	dead grass		dest 6-17-53 skunk	100' from #34. No down in nest. rat holes around edge of ditch. 2 1/2' above water. Series of 3 springs
x 35	6-7	Mallard?	dest. shells in nest	depression. Nest of dead grass			100' of spring creek Flew when within 10'
x 36	6-5-53	Mallard	8932, 7 eggs dead grass + dead stems in 1st to sunflowers	deedsedge on a small sedge, 5' above grass		dest 6-17-53 noted T-1	Wet sooty place
x 37	6-5-53	Mallard	81010, 8 eggs dead sedge on a small sedge, 5' above grass	dead sedge + cattail. nest of dead grass			could not find 2 y y f. spring creek.
x 38	6-5-53	Mallard	dest. shells in nest	dead sedge + cattail. nest of dead grass			Mouse runs through spring creek.
x 39	6-5-53	R.F. Mallard Brood					Mouse runs through spring creek.
x 40	6-5-53	Mallard?	dest.	nest under clump of rabbit bush shells in nest			Mouse runs through spring creek.
x 41	6-5-53	Mallard?	dest.	Nest under clump of rabbit bush shells in nest			Mouse runs through spring creek.
x 42	6-5	Mallard?	5 eggs when dest.	Nest in dead grass + Juncus			Mouse runs through spring creek.
x 43	6-5	Mallard?	dest.	dead grass, very thin. 2 shells in nest			Mouse runs through spring creek.
x 44	6-5	Mallard	8 eggs	Nest under rabbit bush, dead grass around base of bush		800 9:00 7 eggs dest 6-8	100' from fence by trout hatchery
x 45	6-5	Mallard	dest.	Nest between 2 clumps of rabbit bushes			shells in mouse trail 100' from fence. 0.10 of 4
x 46	6-5	B.C. Night Heron	1 egg	Nest of sticks on dead cattails + in dead cattails. Spring creek tract.			Nest on ground
x 47	6-8	Mallard?	dest.	high patch of grass + dead. in depression. Under a cottonwood. shells in nest. short grass between clumps			pasture with a barrel N.W. of Johnsons house
x 48	6-8	Mallard?	dest.	Nest in pure stand of Juncus after			shells around nest 100' N. of cattail patch cottonwood



49	6-8	Mallard - dead	8.15-10.4995	Nest in pure stand of Juncus at edge of ditch.	Had 1 egg 7-8	2305 7995	Pure stand of Juncus
50	6-8	Mallard ?	dest. shells in nest	Nest under grease wood. some grass & Juncus around bush.	1 egg 7-8	7995-7-1	on edge of fence. 1 Johnson pasture. 150' W of fence.
51	6-8	Mallard	10 eggs	Nest under dead grease wood in edge of green Juncus. sedge around bush.			1st pasture on Sheridan tract. 1/2' from fence along Redman tract.
52	6-8	Mallard ?	1 egg in nest	Nest in alkali weed (Bassia) 8' of water	dest 7-1		Water about 1/2' deep. 1 egg in nest. was on E of fence. Sheridan tract. 1st grazing unit. East of canal. 1/2' from fence.
53	6-8	Pheasant	1 egg. prob. pheasant	Nest under creosote wood. No grass or Juncus around clumps of grease wood.	1 egg 7-8		down fence E. of band in the recent pasture. Sheridan tract.
54	6-8	Mallard	6 eggs	Nest under grease wood, in 1/4' area of 200' w. grass or Juncus between clumps	Had 1 egg 6-30		in same pasture as 53
55	6-8	Pheasant ?	1 egg	Nest under grease wood. 100' from pasture with muskrat farm. water.			South of well - trees with muskrat nests.
56	6-8	Pheasant ?	1 egg. 3 broken	Nest under dead Juncus at edge, 8' from S. R. F. boundary.			South of muskrat farm.
57	6-9	Mallard ?	dest. 3 shells in 1st of nest	Nest under creosote wood in clumps of grease wood in large patch of ditch. Some grass around shrubs	Skunk ?		Some fields are creosote, 1/2' from S. R. F. boundary. 1st of field. 1 egg in nest.
58	6-9	Mallard	scratching for nest in middle of 3 clumps of creosote wood. No nesting material. Some Juncus around				road, into Johnsons
59	6-9	Mallard	dest. shells in nest	Alkali weed along side road by bridge.			60' of water, 125' from grease wood
60	6-9	Pheasant ?	shells in nest	dead sedge, thick			150' of water, some to ditch.
61	6-9	Mallard ?	dest.	Nest in dead Juncus. No shells about mud down on nest.			50' of sedge meadow
62	6-9	Pheasant ?	1 egg	Nest in clump of creosote, shrubs and clumps of Juncus			Mouse trails across ditch.
63	6-9	Pheasant	dest.	Nest between creosote and clump of Juncus 2' of ditch. shells in rest of nest			
64	6-9	Pheasant	1 egg. 3 broken	Nest in dead Juncus. No shells in nest. 3 eggs nearly ready to hatch			feathers within 3 ft. of nest 1 egg something had caught when spent
65	6-10-53	Mallard	3 eggs	Nest on edge of clump of dead Juncus at edge of clump 8' in diameter	dest. prob.		54 paces E. of fence
66	6-10-53	Mallard	6 eggs	Nest on edge of clump of dead Juncus. 18 ft. diam. several clumps of Juncus with grass interspersed.	skunk		39 paces from South fence. 50' or 100'
67	6-10	Mallard ?	dest. 3 eggs	Alkali weed. Bassia. slope of ditch. Rec. Canal	dest. prob.		37 paces W. of 1st
68	6-10	Pheasant ?	dest.	Nest in dead Juncus. No down in nest. shells large then feet, in out of nest.	skunk		80 paces from W. fence. 50' or 100'
69	6-10	Mallard	3 eggs	Nest in dead Juncus	dest. 6-24		150' from fence. then goes west thru field. Sheridan tract.
70	6-10	Mallard	2 eggs	Nest under creosote wood. 50' from edge of grass			150' from fence. then goes west thru field. Sheridan tract.
71	6-10	Mallard	10 eggs	Nest in clump of dead Juncus. 3' of main ditch	dest. 6-24		150' from fence. then goes west thru field. Sheridan tract.
72	6-11	Mallard	9 eggs	Nest in clump of dead Juncus. 3' of main ditch			150' from fence. then goes west thru field. Sheridan tract.



	date	Species	status	COVER	time on nest	status of this visit	Remarks
X 73	6-11	Mallard ?	1 egg, 3 shells, 1 egg not found	didn't find nest, closely stocking lot			NE field of berry. West of rd that runs N. & S.
74	6-11	Pheasant ?	3 shells broken long thin 3/4"	Nest in dead junco between fence & Empire. Berries, berry land.			No. East. pasture. of berries.
X 75	6-12	Mallard ?	4 eggs, 3 shells	Nest in junco. Narrow leaf sedge			
76	6-12	Mourning Dove	4 eggs ✓	Nest in dead and alive junco after			
X 77	6-12	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Nest under creosote wood in big potato bog			Pat farm
X 78	6-12	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Green junco 13" tall.			Mudhen m. large eggs
X 79	6-12	Mallard ?	1 egg, 2 shells	Nest in green junco after edge of shrub.			Looked like shells had been pecked.
X 80	6-12	Mallard ?	1 egg, 2 shells	Nest in tussock of green junco after			265' W. of boundary
X 81	6-12	Mallard ?	1 egg, 2 shells	Nest in clump of green junco 1' h. 94			Shedden tract.
(82)	6-15	Mallard ?	1 egg, 2 shells	Nest in dead junco. 5' surrounded by green junco	6 eggs 7-9		Embryos 4 of started to form
X 83	6-15	Duck ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Nest under green wood. 100' N. of shed. About 1 1/2' E. of green wood. Nest close to Res. canal.	8 eggs 7-9		Shedden tract. pasture muskrat farm
(84)	6-15	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Nest in green sedge. 3' high. 1' wide. Shedden tract.	8 eggs 7-9		Shedden tract.
X 85	6-15	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Under clump of 3 green woods on hammock			25' N. of fence. E. of stocking lot
X 86	6-17-53	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Self grass between clumps of Chic			Nedden. 400' E. of public 15.
X 87	6-17-53	Duck ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Dead sedge. 1' high. 1' wide. Shedden tract.			115' N. of boundary fence
88	6-17-53	Mourning Dove	1 egg, 2 eggs, 1 shell, 1 egg not found	Platform in cattail sedge			2' high. 1' wide. Under chick
(89)	6-17-53	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Dead wide leaf sedge in a sedge place			2' high. 1' wide. Under chick
X 90	6-18-53	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Dead broad leaf sedge. Some cattail around. Wet boggy	11:55 AM		2' high. 1' wide. Under chick
X 91	6-19-53	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Dead broad leaf sedge. Some cattail around. Wet boggy			2' high. 1' wide. Under chick
X 92	6-19-53	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Dead cattail. 1' wide sedge. Some cattail around. Wet boggy			2' high. 1' wide. Under chick
X 93	6-18	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Dead cattail. 1' wide sedge. Some cattail around. Wet boggy			2' high. 1' wide. Under chick
X 94	6-18	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Dead cattail. 1' wide sedge. Some cattail around. Wet boggy			2' high. 1' wide. Under chick
(95)	6-18	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Dead cattail. 1' wide sedge. Some cattail around. Wet boggy			2' high. 1' wide. Under chick
(96)	6-18	Mallard ?	1 egg, 2 eggs, 1 shell, 1 egg not found	Dead cattail. 1' wide sedge. Some cattail around. Wet boggy			2' high. 1' wide. Under chick



	date	Species	Status	Cover	Time	St of nest	Remarks
97	6-18	Mallard?	dest.	Wetshocky deep broad leaf sedge, dead sedge around in cattail around		st of nest	110' from fence 5' S E of mowed
98	6-18	in teal	80m 1055 10 egg	Wet in green broad leaf sedge, wet seep, shaly area, near by the sedge starts. Nest in the sedge, also near some dead sedge.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
99	6-18	in teal	8115 6 eggs	low area of fine sedge. Spring 6' above nest in patch of dead sedge. 1 egg. Nest in sedge in patch of dead sedge.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
100	6-18	Mallard	8230 9 eggs	Nest in hole at base of hay pile 3 1/2' high.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
101	6-18	Am. Bittern	8238, 5 eggs	nest in Scirpus validus, 3' high nest made of round stem on ground		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
102	6-18	Mallard	1 egg, 1 egg	high spot in cattail swamp. nest in dead sedge, 1 egg, 1 egg		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
103	6-18	Mallard	10 eggs, 1 egg	Nest in tuft of green sedge, 2' above water		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
104	6-19	Mallard	8113, 1 egg	slough of middle sedge, 2' of water, shaly, boggy, dead green sedge, in canopy with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
105	6-19	Mallard?	dest.	Wet in green sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
106	6-19	Mallard?	dest. 25 shells	thick clump of bunch grass, dead, but some green, 4' high, in sedge, 1 egg, 1 egg		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
107	6-19	Mallard?	dest. 25 shells	dead green broad leaf sedge 18" high, much dead sedge on ground		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
108	6-19	Mallard	dest. 6 eggs	Nest in dead sedge, forms canopy		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
109	6-23	Mallard	dest. 6 eggs	Nest in single clump of grass, dead, but some green, 4' high, in sedge, 1 egg, 1 egg		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
110	6-23	Mallard	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
111	6-23	Barnowl	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
112	6-23	Phoebe	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
113	6-23	Phoebe	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
114	6-23	Mallard	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
115	6-23	Mallard	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
116	6-23	Mallard	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
117	6-23	Mallard	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
118	6-23	Mallard	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
119	6-23	Mallard	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.
120	6-23	Mallard	dest. 6 eggs	Nest in dead sedge, 15" high, fine sedge around with willow.		dest 6-26	250' from fence. Same dist. from fence. good cover. Sp. out of nest.



Date	Species	Status	Cover	Time	Notes	Remarks
12-1	6-23	Pheasant	Nest in dead + green Juncus	Dest 9-1	Triangle corner on sloped land formed by spruce where it leaves Berry	
12-2	6-23	Mallard	Nest in dead + green Juncus 4 1/2' of North fence			
12-3	6-23	Mallard	Nest in dead + green Juncus 12 1/4' high good cover	Dest 7-2	Same as above	
12-4	6-23	God Wall	Nest in dead + green Juncus 12 1/4' high good cover			
12-5	6-23	Mallard?	Nest in dead + green Juncus 12 1/4' high good cover			
12-6	6-23	Pheasant	Nest in dead broad leaf sedge, some green around			
12-7	6-23	Mallard	Nest in dead Juncus, some green			
12-8	6-23	Barn owl	Dead + green Juncus. Water in nest. Some			
12-9	6-23	Mallard	Nest in green sedge, dead in bottom of nest			
13-0	6-23	Mallard	Nest in dead Juncus, green growing up thru			
13-1	6-23	Mallard	Nest in fine sedge and nesting material			
13-2	6-23	Mallard	Nest in green Juncus			
13-3	6-23	Lin teal	Nest in fine sedge + Juncus 16" high. No canopy			
13-4	6-23	Mallard?	dest. No shells			
13-5	6-24	Mallard	Nest in Eleocharis + Juncus in meadow, patch of			
13-6	6-24	Pheasant?	Nest in green Juncus, 12' of fence, 6' of			
13-7	6-24	Lin teal	Nest in dead + green fine sedge, dead stems of			
13-8	6-24	Mallard?	Nest in dead Juncus, 50' of fence, 12' of 137			
13-9	6-24	Mallard?	Nest in dead Juncus, with leaf sedge, good			
14-0	6-24	Mallard?	Nest in green Juncus 30' of fence Rodmen			
14-1	6-24	Am Bittern	Nest in green Juncus 20' of fence			
14-2	6-25	Mallard	Nest 100' of stacking lot in Juncus, fine sedge			
14-3	6-25	Mallard?	dest.			
14-4	6-25	Mallard?	dest. shells			
14-5	6-26	Barn owl	Nest by dead greenwood in thick Juncus			



No.	Date	Species	Status	Locality	Time of day	Notes	Remarks
145	6-26	Mallard	Imm. ♂	Barren 100' high nest at base of 1st growth of corn clump of green Junos. old 1900s be worn	9:45 AM		SE corner of pasture green woods off No. 1
146	6-26	Barn owl	♀	Nest in in Junos SE corner of field Where H. 145 is located. 6' N. of ditch			No marker
147	6-26	Mallard	2 eggs close by mowed	Not known. meadow that was mowed by Mr. Johnson south of his house			No marker
148	6-26	Mallard	2 eggs cold	Meadow that Mr. Johnson mowed found by mowed			No marker
149	6-26	Mallard?	dest.	Nest in Junos 15" high. shells in nest 10' of ditch & water.			Nest close to easternmost blind spring & 1st tree adjacent to 2nd blind stand of 5 stems & 1 bush.
150	6-26	Mallard	Breed by both adults & ♀.	SP. K. V. 54. sedge wet place on Shedden tract.			
151	6-26	Lincoln	Breed by both adults & ♀.	Dike road, sedge wet place on Shedden tract. Ad. fed with good stand of sedge. stems & bush.			
152	6-24	Mallard	Breed by both adults & ♀.	Ditch, pasture E. of Corn. Pasture Shedden tract. North of meadow where not before.			
153	6-30	Mallard	Breed by both adults & ♀.	Spring creek, close to blind near 1st hatchery			
154	6-30	Mallard	Breed by both adults & ♀.	Pond at former muskrat farm. expanded primarily feathers in shed. 1st of 2.			
155	6-30	Ditch	Good 3 eggs class 1	Pond in sedge. 1st of 2. 1st of 2. 1st of 2.			
156	6-30	Mallard	Good 3 eggs class 1	Residual. No. of muskrat farm. Shedden land.			
157	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. Under growth of thistle & willow. Good cover			
158	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 12" high. dense growth of willow in Junos. Uniform cover good			
159	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
160	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
161	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
162	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
163	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
164	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
165	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
166	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
167	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
168	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
169	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
170	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
171	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
172	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
173	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
174	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
175	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
176	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
177	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
178	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
179	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
180	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
181	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
182	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
183	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
184	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
185	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
186	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
187	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
188	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
189	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
190	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
191	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
192	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
193	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
194	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
195	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
196	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
197	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
198	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
199	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			
200	6-30	Mallard	Good 3 eggs class 1	Nest in green Junos. 22" high. surrounded by 700' from SE. corner of tract & post. w/ 1st of 2. 1st of 2. 1st of 2.			



No.	Date	Species	Status	Owner	Location	Notes
163	7-3-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
163	7-6-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
163	7-6-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
164	7-6-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
165	7-3-53	Cin teal	dest. by	West green house	6' from ditch	status of the was its
165	7-6-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
166	7-6-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
167	7-7-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
168	7-7-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
170	7-7-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
170	7-7-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
171	7-7-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
172	7-7-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
172	7-7-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
173	7-8-53	Cin teal	dest. by	West green house	6' from ditch	status of the was its
174	7-8-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
175	7-8-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
176	7-8-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
177	7-8-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
178	7-8-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
179	7-8-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
180	7-8-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
181	7-8-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
182	7-8-53	Mallard	dest. by	West green house	6' from ditch	status of the was its
183	7-8-53	Mallard	dest. by	West green house	6' from ditch	status of the was its