

Title

Birds of the NTS This report lists the collection records and status of bird species found on NTS

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BIRDS OF THE NEVADA TEST SITE

by

C. LYNN HAYWARD, MERLIN L. KILLPACK AND
GERALD L. RICHARDS

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BIRDS OF THE NEVADA TEST SITE

During the course of ecological studies conducted at the Atomic Energy Commission test site since 1959 in the vicinity of Mercury, Nevada, collections and observations of the birds of the area were made. Although the work on birds was somewhat incidental to other phases of the study, a considerable amount of information nevertheless was assembled, and it would seem to be desirable to publish it at this time. Most of the collecting and observing was done during 1961 and 1962, at which time about 900 specimens were collected and prepared as study skins and several thousand individual observations were recorded.

The overall project at Mercury was carried on under a contract (AT(11-1)786) between the Atomic Energy Commission and Brigham Young University. Dr. Dorald M. Allred of the Department of Zoology at Brigham Young University was the principal investigator and served as general supervisor of the project. Clive D. Jorgensen, who was at the time the immediate director of the work at the site, made some of the collections and observations of the birds. The work of the authors was as follows: Hayward did some collecting and observing at the site during the summer of 1960 and has been responsible for cataloguing and identifying the specimens and for writing most of this manuscript. Killpack and Richards, both of whom worked at intervals on the site, were responsible for most of the field collecting and recording, particularly during the 1961 and 1962 seasons. Killpack has also done most of the work on the bibliography. Prior to the time of this project, W. H. Rickard made some observations on the nesting of birds at the test site. His data were available to us through his publication (1961). Richards (1962) has published a short paper on the wintering of certain birds in the area. Our own information has been recorded on IBM cards and reproduced so as to indicate numbers, seasonal occurrence, and habitat relations for each species. This information has been used extensively in preparing this report. Considering the fact that the study of birds was somewhat of a sideline to other aspects of the project a remarkable amount of data was assembled. It is especially important that most of the species known to occur in the area are represented by collected specimens.

Allred, Beck and Jorgensen (1963) have described in considerable detail the principal biotic communities of the Nevada Test Site. They have also included a list of the known species of birds and indicated their habitat preferences. For this reason it will not be necessary here to comment extensively on the biotic communities and their ecological significance. It may be desirable, however, to point out certain features of the physical and biotic habitats that influence the distribution and occurrence of the avifauna of the area.

Considering the generally desert condition of the area, it is rather remarkable that so many different kinds of water and shore birds have been recorded. Nearly all of these birds are transients and their occurrence is dependent upon the availability of open water, which is variable from season to season and from year to year. The playa basins of Frenchman and Yucca Flats sometimes contain considerable water. In fact, the basin at Frenchman Flat was partially dammed off and during the winter of 1960-61 and the following summer contained a lake several feet deep. Run-off from local cloudbursts frequently collects in these basins, and the water may remain for several weeks or months. Nearly all of the common species of local and transient water birds stop on these lakes. Most of the kinds of shore and wading birds that ordinarily migrate across the area also stop for varying lengths of time at the playa lakes. At wells 3B and 5B there are small reservoirs which contain water most of the time and also attract a few water and shore birds. Over the entire test site there are a few small natural springs including Topopah Spring, Tippipah Spring, White Rock Spring and Cane Springs.

Although these springs and reservoirs are limited both in size and in number, they represent scattered oases in an otherwise waterless area, and often attract large concentrations of small land birds that come in especially in the evening to feed and drink. Most characteristic of these aggregations are horned larks, mourning doves, and nighthawks. In addition to these large, conspicuous concentrations of certain species there is a steady stream of small passerines as well as large birds in and out of the spring areas. This is particularly evident at Cane

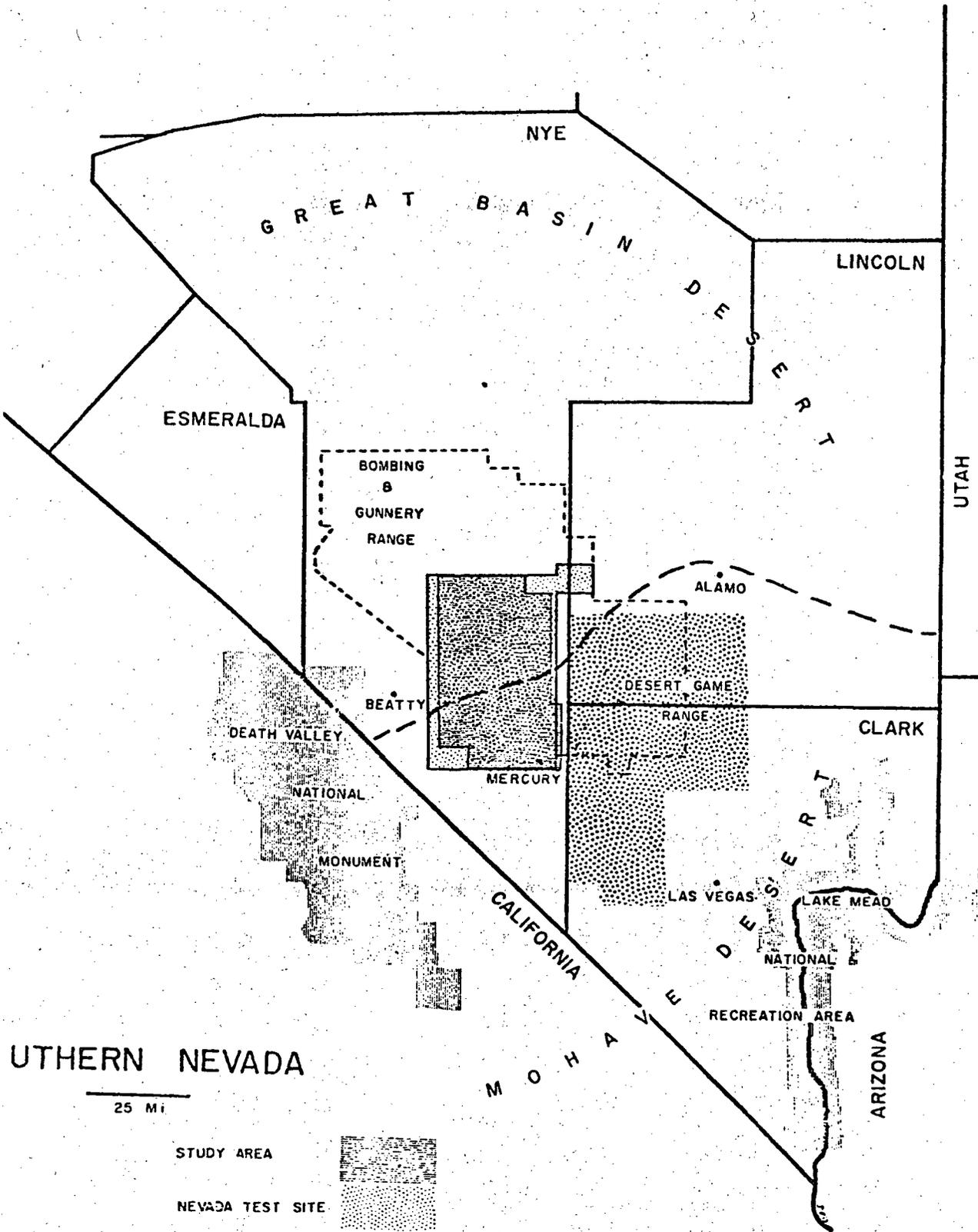


Fig. 1 Map of Southern Nevada

Springs, where there is some cover as well as water. These water sources, small as they are, are responsible for the presence of many species of birds that would not otherwise find the habitat suitable to their survival.

The atomic testing activities and the building of roadways within the test site have resulted in localized changes in the natural desert vegetation that undoubtedly have influenced the numbers and distribution of certain kinds of birds. When the natural desert vegetation is destroyed, either by an atomic explosion or by road building or other construction work, it is typically replaced within a short time by Russian thistle (*Salsola kali*). This weed serves as a source of food and cover for many small birds, notably the house finch, which feeds on it in great flocks, especially during the winter. It seems likely that this species is far more abundant in the area, owing to these community modifications, than it otherwise would be. Utility poles along the roadways serve as convenient perches for several kinds of hawks, falcons and the raven, as well as some other species.

From the point of view of the avifauna, the natural, undisturbed communities fall into two general types. The higher plateau areas exemplified by Rainier Mesa and Pahute Mesa are characterized by a predominance of Pinyon-Juniper woodland in which such species as the piñon Jay (*Cymnorhinus cyanocephalus*), Mountain Chickadee (*Parus gambeli*), Plain Titmouse (*Parus inornatus*), Solitary Vireo (*Vireo solitarius*), and Black-throated Gray Warbler (*Dendroica nigrescens*) are characteristic residents. The lower type, occupying wide valleys typified by Frenchman, Yucca and Jackass Flats, is vegetated predominantly by a variety of low growing shrubs in which can be recognized several distinct types of plant communities. The Nevada Test Site occupies an area which lies in a position of transition between what has been called the Southern Desert Shrub Biome and Northern Desert Shrub Biome (Fautin, 1946) or the Lower Sonoran and Upper Sonoran Life Zones (Merriam, 1910). As would be expected, elements of both of these major communities are to be found in the flora and fauna of the test site area. Typical resident birds of the Southern Desert Shrub include the Lesser Nighthawk (*Chordeiles acutipennis*), Costa's Hummingbird (*Calypte costae*), Ladder-backed Woodpecker (*Dendrocopos scalaris*), Cactus Wren (*Campylorhynchus bruncicapillum*) and LeConte's Thrasher (*Toxostoma lecontei*). All of these are present at the Nevada Test Site. The Sage Thrasher (*Oreoscoptes montanus*), Green-

tailed Towhee (*Chlorura chlorura*), and Brewer's Sparrow (*Spizella breweri*), typical resident birds of the Northern Desert Shrub, also occur. During the breeding season the Southern Desert Shrub element seems to be predominant in these lower valleys.

In winter the open and warmer valleys afford a suitable feeding ground for thousands of small passerine birds, many of which move in from higher altitudes or more northern latitudes. Typical of these wintering birds are the Sage Sparrow (*Amphispiza belli*), House Finch (*Carpodacus mexicanus*), several kinds of juncos (*Junco caniceps*, *Junco oreganus*, *Junco hyemalis*), Mountain Bluebird (*Sialia currucoides*), Starling (*Sturnus vulgaris*), White-crowned Sparrow (*Zonotrichia leucophrys*), and Horned Lark (*Eremophila alpestris*). Some of these, such as the House Finch and Horned Lark, are continuously resident in the area but occur in greater numbers during the winter season.

In this paper the kinds of birds known from the Nevada Test Site will be treated individually under two or three principal headings depending upon the kind and amount of information available to us and the status of each species. Collection records are indicated in each case where specimens are available, and general comments will be made on sight records. Although many thousands of sight records are available to us, we have not attempted to make use of these to indicate populations except in a very general way, since the data were assembled rather haphazardly and do not appear to be statistically reliable. Data assembled relative to seasonal occurrence appear to present a rather accurate picture of aspection in the birds, and this information will be summarized for each species. From the information at hand it is possible to draw some conclusions as to the general habitat relations of the several species, but there is a need for more uniform observation and data recording on this particular subject. Whenever more than one subspecies is present in the area, or is likely to occur there, a brief analysis of the taxonomic relationships of the specimens available is given. The present paper reports on about 192 kinds of birds of which six are presumably new records for Nevada. The new records are as follows: American Golden Plover (*Pluvialis dominica*); Pectoral Sandpiper (*Erolia melanotos*); a race of Hermit Thrush (*Hylocichla guttata oromela*); a race of Swainson's Thrush (*Hylocichla ustulata ustulata*); Lapland Longspur (*Calcarius lapponicus lapponicus*); and Purple Finch (*Carpodacus purpureus californicus*).

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A selected bibliography of the papers known to us that deal with the birds of the test site and southern Nevada is included. No attempt is made to cite all published records for each species except in a limited number of cases where the occurrence is unusual. Some of the sources included in the bibliography are not specifically cited in the report. The names of the birds and the order of their presentation follow the 1957 A.O.U. "Check-list of North American Birds" with a few exceptions.

Our appreciation is extended to the personnel of the Atomic Energy Commission, who granted financial support to the project and to their personnel at Mercury who furnished space, vehicles and other items necessary for the work

there. We are also grateful for the constant support of Dr. Donald M. Allred, the general supervisor and principal investigator of the entire project, and to his field supervisors, Clive D. Jorgensen, Dr. J. Richard Murdock, and Leland White, who collected specimens or made observations that were of great value. In addition, we appreciate the cooperation of Dr. Philip S. Humphrey and Dr. John Aldrich of the U.S. National Museum, who made the collection of that institution available to us for the identification of some of the doubtful specimens. We also are grateful for the assistance of Dr. William H. Behle, University of Utah, for the identification of the Horned Larks and Red-winged Blackbirds.

ACCOUNTS OF THE SPECIES

Podiceps caspicus (Hablizl)
Eared Grebe

Collection records: Four specimens, March 3, October 4, September 22, 1961; December 14, 1960.

Status: The Eared Grebe is an irregular winter visitant and was noted particularly on the small reservoir at Well 5B. Specimens were observed as early as September 22 and as late as March 3.

Aechmophorus occidentalis (Lawrence)
Western Grebe

Collection records: Three specimens, November 11, 16, June 9, 1961.

Status: Only the three birds collected were seen on the test site. Two were collected on water at Frenchman Playa, and one sick bird was picked up along one of the roadways.

Podilymbus podiceps (Linnaeus)
Pied-billed Grebe

Collection records: One specimen, April 1, 1961.

Status: Eight sight records were made for this grebe. Present evidence indicates that it is a spring and autumn transient occurring on the playa lakes and at Well 5B. The earliest spring record is for March 26, while the latest autumn record is for September 11.

Pelecanus erythrorhynchos Gmelin
White Pelican

Collection records: None.

Status: A small flock was seen April 10, 1961, circling over water at Frenchman Playa. None was seen to light and there are no other records of this species for the test site.

Ardea herodias treganzai Court
Great Blue Heron

Collection records: One specimen, August 14, 1961.

Status: The Great Blue Heron is probably to be regarded as a casual and irregular visitor at the Nevada Test Site. Records are available for March, August and September with the earliest being March 10 and the latest September 10. The one specimen taken was collected at Frenchman Playa, and there are four sight records for the same locality.

Butorides virescens anthonyi (Mearns)
Green Heron

Collection records: One specimen, October 24, 1961.

Status: Only the one record of the specimen collected is available to us. This bird was sick and unable to fly. Although the Green Heron is reported to nest in southern Nevada (A.O.U. Check-list, 1957, p. 44), we have not found any indication of breeding on the test site.

Casmerodius albus egretta (Gmelin)
Common Egret

Collection records: One specimen, April 29, 1961.

Status: A Common Egret was seen on several different occasions between April 27 and April 29, 1961, in company with snowy egrets. It was seen first at Well 5B, and presumably the same one was collected later at Yucca Playa.

Leucophoyx thula brewsteri (Thayer and Bangs)
Snowy Egret

Collection records: Two specimens, July 29, 1960; April 23, 1961.

Status: The Snowy Egret is a consistent summer resident at the test site although it does not breed there. It is seen about the playa lakes and around the wells from April into September.

Nycticorax nycticorax hoactli (Gmelin)
Black-crowned Night Heron

Collection records: One specimen, May 7, 1961.

Status: This species seems to be an uncommon spring visitor at the test site. Besides the single collection noted above three sight records are available between April 14 and May 7 at Yucca Playa.

Ixobrychus exilis hesperis Dickey and van Rossem
Least Bittern

Collection record: One specimen, May 19, 1961.

Status: The specimen collected was the only one recorded during our study. It was taken at Yucca Playa. The larger measurements of beak and wing place our specimen definitely with the race *hesperis* rather than *exilis* (Gmelin.) The Least Bittern seems to be an uncommon visitor to southern Nevada. Crater (1939) has published sight records for Hemenway Wash and St. Thomas, Clarke County, for August and September (1935). Alcorn (1940) has published a record for Fallon, Churchill County, farther to the north.

Plegadis chihi (Vieillot)
White-faced Ibis

Collection record: One specimen, May 13, 1961.

Status: Three birds were together at Frenchman Playa when the above specimen was collected. This is the only record available to us from the test site area.

Branta canadensis (Linnaeus)
Canada Goose

Collection record: One specimen, December 6, 1959.

Status: The Canada Goose is an uncommon visitor on the test site. Two records for March 26 and December 6 are available at which time birds were seen on the playa lakes. The one specimen collected was sick and unable to fly.

Anas platyrhynchos Linnaeus
Mallard

Collection records: Two specimens, April 4, and November 15, 1961.

Status: Mallards were irregular visitors from November 11 to April 4. They were observed mostly on the playa lakes but were also encountered occasionally on the reservoirs. The birds were most abundant in March.

Anas acuta Linnaeus
Pintail

Collection records: Two specimens, August 17, 1960, and October 4, 1961.

Status: Pintails appear to visit the test site during autumn and spring migration. We have no records for May, June or July or for December and January. The playa lakes are the favored resting places for these ducks.

Anas carolinensis Gmelin
Green-winged Teal

Collection records: Three specimens, March 3, October 7, 1961; February 14, 1962.

Status: Green-winged Teal may be seen on the playa lakes and reservoirs rather regularly from August into May. The concentrations are greatest during spring and autumn migration and especially in February and March. They may also be regarded as occasional winter visitors.

Anas discors Linnaeus
Blue-winged Teal

Collection records: Three specimens, April 28 and October 8, 1961.

Status: This bird is an irregular visitor that may appear at most any month of the year. We

have records for every month except February, March and September. The greatest numbers were seen in May. They were only about 10% as common on the test site as the Green-winged Teal.

Anas cyanoptera Vieillot
Cinnamon Teal

Collection records: Six specimens, March 31, April 1, 7, 16, 1961; April 13, 1962.

Status: The Cinnamon Teal seems to be primarily a spring migrant through the test site area. Most of the records are from March 31 into June with the greatest concentration in April. There is a possibility that a pair may have nested at Cane Springs during the summer of 1959. However, the frequent visits of people at the spring undoubtedly would discourage the regular breeding of the ducks at that place.

Mareca americana (Gmelin)
American Widgeon

Collection records: Three specimens, March 28, October 9, November 5, 1961.

Status: These ducks are regular but rather uncommon spring and autumn migrants. They may be seen on playa lakes and reservoirs from mid-March into May and again in October and November.

Spatula clypeata (Linnaeus)
Shoveler

Collection records: Three specimens, May 4, November 3, 1961; April 11, 1962.

Status: Shovelers are known to occur rather sparingly on the reservoirs and playa lakes as spring and autumn transients. Our records are from March 8 into May and from October into early November.

Aythya americana (Eyton)
Redhead

Collection records: Three specimens, June 28, 1960; March 3, 26, 1961.

Status: This duck is a rare visitor at playa lakes and reservoirs. Besides the collection records, nine sight records are available from February 10 to April 23.

Aythya affinis (Eyton)
Lesser Scaup

Collection record: One specimen, April 10, 1961.

Status: The Lesser Scaup is an uncommon spring migrant seen on playa lakes and on reservoirs. We have nine records, all between April 10 and April 22.

Bucephala clangula (Linnaeus)
Common Goldeneye

Collection records: None.

Status: We have only one sight record for December 17, 1961.

Bucephala albeola (Linnaeus)
Bufflehead

Collection records: Three specimens, March 29 and November 11, 1961.

Status: The Bufflehead is a fairly common spring and fall migrant, where it is to be seen on playa lakes and reservoirs at the wells. We have 32 records for March and April and for September through November.

Melanitta perspicillata (Linnaeus)
Surf Scoter

Collection records: Two specimens, October 22, 23, 1961.

Status: Only the two specimens collected have been seen on the Nevada Test Site. Published records for Nevada include its occurrence at Soda Lake in October and November, 1940 (Alcorn 1941:119). Alcorn obtained three specimens during this period.

Oxyura jamaicensis (Gmelin)
Ruddy Duck

Collection records: Three specimens, April 4, 7, 1961.

Status: The Ruddy Duck is a fairly common spring and autumn migrant. It is seen on playa lakes and on reservoirs from mid-March into May and again in October and November.

Mergus serrator Linnaeus
Red-breasted Merganser

Collection records: None.

Status: We have only one sight record for May 12, 1961.

Cathartes aura teter Friedmann
Turkey Vulture

Collection records: One specimen, June 26, 1961.

Status: The Turkey Vulture is a common spring and summer resident at the test site. Our records extend from April 13 to September 12. It was most commonly seen in the Yucca Flat area.

Accipiter striatus velox (Wilson)
Sharp-shinned Hawk

Collection records: None.

Status: We have four sight records of this hawk for April, September and December. Most of them were seen at Cane Springs. At this place one was observed to capture a Western Tanager.

Accipiter cooperii (Bonaparte)
Cooper's Hawk

Collection records: Two specimens, July 28, 1960; May 6, 1961.

Status: There are 24 records of Cooper's Hawk for the test site area. It seems to be more common than the Sharp-shinned. The records are scattered from January 2 to October 8, but most of them were for the summer months. Many of the birds were seen in the Pinyon-Juniper on the mesas, but they also frequently visited Cane Springs.

Buteo jamaicensis calurus (Cassin)
Red-tailed Hawk

Collection records: Two specimens, October 9, November 6, 1959.

Status: The observations of this species were rather evenly distributed throughout every month of the year, and it may therefore be considered a permanent resident. It was observed over all of the types of communities and was common.

Buteo swainsoni Bonaparte
Swainson's Hawk

Collection records: Four specimens, April 30 and May 23, 1961; August 6, 9, 1960.

Status: Records of observation extend from February 17 to November 17, but most of the birds were seen from April through August. Swainson's Hawks were most frequently seen perching on utility poles along the roadways, especially in Yucca Flat. Rickard (1961) mentions a nest containing 2 eggs and 2 young in a Joshua tree, but gives no exact locality or date.

Buteo lagopus s. johannis (Gmelin)
Rough-legged Hawk

Collection record: One specimen, February 15, 1960.

Status: The Rough-legged Hawk was recorded in the test site area from November 2 to May 6. It was regarded as the most common hawk in late winter and early spring, perching on utility poles, especially at Yucca Flat. On several occasions pellets were found to contain remains of Jerusalem crickets.

Buteo regalis (Gray)
Ferruginous Hawk

Collection records: One specimen, November 11, 1959.

Status: This species is regarded as a rather uncommon and irregular visitor at the test site. Nine scattered sight records are available from September 5 to June 14. The birds were most frequently seen perched on utility poles in Yucca Flat.

Aquila chrysaetos canadensis (Linnaeus)
Golden Eagle

Collection records: Two specimens, July 28, 1960, and June 30, 1961.

Status: There are 49 sight records of the Golden Eagle scattered rather evenly through all the months of the year. The species is regarded as an uncommon permanent resident in the area, although no nesting sites have been located.

Circus cyaneus hudsonius (Linnaeus)
Marsh Hawk

Collection records: None.

Status: One hundred twenty-six sight records were made, distributed through all the months of the year except June. The greatest number of recordings were made from October through March.

Pandion haliaetus (Linnaeus)
Osprey

Collection records: None.

Status: The osprey was seen flying over the tree tops on the mesa, May 6, 1961. Two sight records are also available for the Frenchman Flat area September 5 and 12, 1961.

Falco mexicanus Schlegel
Prairie Falcon

Collection records: Two specimens, November 26 and December 10, 1960.

Status: The Prairie Falcon is a rather common permanent resident of the test site. It nests

in the cliffs around the mesas. On June 26, 1961, a nest was examined that contained two young with pin feathers. Mourning Dove feathers were found in the nest. The young were out of the nest and flying by July 19.

Falco sparverius sparverius Linnaeus
Sparrow Hawk

Collection records: Six specimens, November 6, 1959; April 3, 13, February 12, October 24, 1961.

Status: Sparrow Hawks were common in the test site area every month of the year but were most abundant in April. There was conclusive evidence that they nested in the ledges around the margins of the mesas although no nests were actually examined.

Lophortyx gambelii gambelii Gambel
Gambel's Quail

Collection records: Ten specimens. February 11, 1960; May 14 and November 10, 1961.

Status: Gambel's Quail is a permanent resident in the Pinyon-Juniper woodland and around all of the springs. Occasionally the birds have been seen far removed from water on the open desert.

Alectoris graeca (Meisner)
Chukar

Collection records: Three specimens, August 1, 1960; November 14, 1961.

Status: These birds, introduced into the area, are now well established as permanent residents and are very abundant on the mesas and around the springs. Killpack observed a large number of birds at Topopah Spring. Young birds were seen on June 1, 1962.

Fulica americana americana Gmelin
American Coot

Collection records: One specimen, October 26, 1961.

Status: The American Coot was an uncommon and irregular visitor at the test site. Birds were seen in March, July, September, November, and December at well reservoirs and on playa lakes.

Charadrius semipalmatus Bonaparte
Semipalmated Plover

Collection records: Four specimens, April 23, 29 and May 2, 1961.

Status: This species is known at the test site only as a spring migrant from March 30 to May 13. Birds were seen on playas at Yucca Flat and around the edges of well reservoirs. Several published records for the Truckee and Reno area are available (Christensen and Trelease, 1941; Johnson, 1954). Alcorn (1946) and Marshall (1951) reported specimens from Lahontan Valley. The only records known to us for southern Nevada are those for Lake Mead reported by Grater (1939).

Charadrius alexandrinus nivosus (Cassin)
Snowy Plover

Collection records: Two specimens, March 30 and April 2, 1961.

Status: We have 35 records of this species for the test site with the earliest record March 30 and the latest May 13. Most of the records were for April. There is no evidence of breeding or autumn migration in the area. Birds were found around the playa lakes.

Charadrius vociferus vociferus Linnaeus
Killdeer

Collection records: Three specimens, July 29, 1960; March 16, 1961.

Status: The killdeer is a common bird at the test site and has been recorded every month of the year except December. Birds are most abundant in March and April and again in August, September, and October. Whether or not they breed in the area is unknown to us. It seems likely that they are principally spring and autumn migrants. They occur regularly at playas and around the well reservoirs, but they are occasionally seen on the open desert.

Eupoda montana (Townsend)
Mountain Plover

Collection records: Three specimens, September 12, 16, 1961.

Status: The Mountain Plover is known to us as an autumn migrant. The species has apparently been rarely recorded for Nevada. The only published record of which we are aware is that of Alcorn (1941:119) when he collected three specimens in November at Carson Lake Pasture near Fallon. We know of no previous records for southern Nevada.

Pluvialis dominica dominica Müller
American Golden Plover

Collection records: Two specimens, September 14, 1961.

Status: The occurrence of the Golden Plover at the Nevada Test Site is known only from the two specimens collected. The birds were taken at Frenchman Flat Playa. We have not been able to find any other published record of this species for the state of Nevada.

On the basis of the lesser amount of yellow spotting on the back and the shorter beaks our specimens definitely belong to the subspecies *dominica*.

Squatarola squatarola (Linnaeus)
Black-bellied Plover

Collection records: None.

Status: We have only one sight record for May 6, 1961.

Capella gallinago delicata (Ord)
Common Snipe

Collection records: Four specimens, October 11, 1960; March 25 and October 9, 1961; March 28, 1962.

Status: The Common Snipe is a rather uncommon spring and autumn transient. It has been recorded in the area from March 17 to April 8 and again from September 18 to October 25. Observations have been made at Cane Springs, at playa lakes and around the well reservoirs.

Actitis macularia (Linnaeus)
Spotted Sandpiper

Collection records: Six specimens, May 2, 23, 15 and September 4, 1961; May 11, 1962.

Status: Spotted Sandpipers migrate in fairly large numbers through the test site in spring and autumn, especially in April and May. There are also often records of occurrence in summer when they may be seen on playas or around well reservoirs.

Tringa solitaria cinnamomea (Brewster)
Solitary Sandpiper

Collection records: Two specimens, April 23, 28, 1961.

Status: This species is an uncommon spring and autumn transient at the test site. Six records are available for April 23 to 28 and again August 11 to 27. The birds were seen around playa lakes.

According to the A.O.U. Check-list (1957) it is possible that either the races *solitaria* or *cinnamomea* could occur as transients in Nevada. Comparing our specimens with series of both races in the U.S. National Museum makes it clear that they are *cinnamomea*. Late summer adults of *cinnamomea* can be easily distinguished on the basis of the buffy rather than white spotting on the back. The narrower dark tail bands of *cinnamomea* in comparison with the wider ones of *solitaria* are also distinctive. The wing measurements of our specimens also fall more nearly within the range of *cinnamomea*.

Totanus melanoleucus (Gmelin)
Greater Yellowlegs

Collection records: Three specimens, March 18 and April 14, 1961.

Status: Fairly common spring and autumn transients around playa lakes and well reservoirs. We have 39 records from March 18 to May and again from August to October 9. This species is much more common in the area than the Lesser Yellowlegs.

Totanus flavipes (Gmelin)
Lesser Yellowlegs

Collection records: Two specimens, August 21 and October 10, 1961.

Status: The Lesser Yellowlegs is an uncommon transient in spring and fall. We have five records scattered from March 9 to May 7 and again from August 21 to October 10. All were seen at the playa lakes.

Erolia melanotos (Vieillot)
Pectoral Sandpiper

Collection record: One specimen, October 3, 1961.

Status: A rare migrant in the test site area. Only the one specimen collected was seen. To our knowledge this is the first record of the Pectoral Sandpiper for Nevada.

Erolia bairdii (Coues)
Baird's Sandpiper

Collection records: Three specimens, April 9, August 12, September 30, 1961.

Status: This species is an uncommon spring and autumn transient. We have a total of 9 records for April 9 and again for August 4 to October 6. The birds were seen mostly at the playa lakes but occasionally at the well reservoirs.

Erolia minutilla (Vieillot)
Least Sandpiper

Collection records: Twelve specimens, March 18, 29, April 7, 16, 22, 23, October 26, 1961.

Status: This is a common spring and autumn transient species in the test site area. We have records of its occurrence from February 11 to October 3 except for June and September. The largest concentrations are in April and May at which time small flocks occur at the playa lakes.

Erolia alpina pacifica (Coues)
Dunlin

Collection records: Two specimens, May 13 and October 10, 1961.

Status: The Dunlin or Red-backed Sandpiper is a rare spring and autumn migrant at the test site where it was seen and collected at the playa lakes. In addition to the collection records, we have a sight record of three individuals for April 1. Linsdale (1951) cites only 4 records for Nevada, all of which are for the northern and central parts of the state.

Limnodromus scolopaceus (Say)
Long-billed Dowitcher

Collection records. Four specimens, March 26, 29, April 15, 1961; April 11, 1962.

Status: Long-billed Dowitchers appear to be uncommon spring and autumn migrants when they are seen at the playa lakes and the well reservoirs. In addition to the birds collected, one was seen on August 1, 1961.

Micropalama himantopus (Bonaparte)
Stilt Sandpiper

Collection records: None.

Status: Seven birds were observed at one of the playa lakes, October 8, 1961. Linsdale (1951) indicates only one other record for Nevada by Slipp (1952:62) between Hazen and Jahala, July 30, 1939.

Ereunetes mauri Cabanis
Western Sandpiper

Collection records: Ten specimens, April 15, 27, 23, 1961.

Status: The Western Sandpiper is perhaps the most common of the small transient shorebirds to visit the test site area. We have num-

erous records from April 15 into May and again from July to October 8. It was found exclusively around the playa lakes.

One of our specimens collected on April 22, 1961, has an exceptionally short bill, placing it well within the range of *E. pusillus*. However, on the basis of the distinctly brown back and heavier and more extensive streaking of the underparts, we have placed it with *E. mauri*.

Limosa fedoa (Linnaeus)
Marbled Godwit

Collection record: One specimen, July 20, 1961.

Status: The Marbled Godwit was a rare visitor at the test site during the period of this study. Only the one specimen collected was observed. Linsdale's (1951) summary of the Nevada records indicates that this species is not common in the state although it is a consistent visitor.

Himantopus mexicanus (Müller)
Black-necked Stilt

Collection record: One specimen, April 27, 1961.

Status: This species is an uncommon spring and autumn transient around the playa lakes. We have a total of six records from April 27 through May and again on September 16.

Recurvirostra americana Gmelin
American Avocet

Collection records: Two specimens, March 29 and August 5, 1961.

Status: Avocets are rather common spring and autumn transients at the playas, especially Yucca Flat. One hundred eighty recordings were made for this species from March 7 into May and again from August to November 22.

Steganopus tricolor Vieillot
Wilson's Phalarope

Collection records: Nine specimens, April 29 and 30, and May 3, 4, 11, 1962; May 5, 1962.

Status: A fairly common transient in spring and autumn around playa lakes and well reservoirs. We have a total of 44 records from April 29 to May 11 and again on August 12. By far the greater number of recordings are for April and May.

Lobipes lobatus (Linnaeus)
Northern Phalarope

Collection records: Three specimens, May 14, July 5 and September 3, 1961.

Status: Northern Phalaropes are rather uncommon spring and autumn migrants seen at playa lakes, well reservoirs, and occasionally at Cane Springs. We have 34 records mostly from May 14 to May 22 and from September 3 to September 19.

Larus californicus Lawrence
California Gull

Collection records. None.

Status. The California Gull is a somewhat common, although irregular visitor to the test site, where it was seen on the playa lakes from March 7 into April and again in October. The species was far more common in the spring than in autumn. We have no records for summer or winter.

Larus delawarensis Ord
Ring-billed Gull

Collection record: One specimen, March 12, 1961.

Status: We have numerous records for this gull from March 12 into June and again from September to November 15. It was seen on the playa lakes, frequently in company with the California Gull.

Larus philadelphia (Ord)
Bonaparte's Gull

Collection records: Three specimens, April 15, May 3, October 23, 1961.

Status: These gulls are uncommon spring and autumn migrants. They were seen at Yucca Flat. An occurrence at Mead Lake was reported by Grater (1939:30).

Zenaidura macroura marginella (Woodhouse)
Mourning Dove

Collection records: Four specimens, May 21, 22, June 14, 29, 1961.

Status: Several thousand recordings were made for this species from April 2 to November 1. Birds were most abundant in April, May and June. It was common to see large numbers, estimated to be as many as 5,000, come into water sources in the evening. During the heat of the day in midsummer, many would go into caves, particularly at Tippihah Spring, where some would die or become incapacitated.

Nests were most commonly found in *Yucca* trees or on the ground in the *Colcogyne* community. Nests were found as follows: June 29 with week-old young; June 23 with young; June 15 with eggs.

Coccyx californianus (Lesson)
Roadrunner

Collection records: Three specimens, June 15, August 6, October 12, 1961.

Status: Fairly common permanent residents in the area. They seemed to occur most commonly in *Yucca*, *Colcogyne* and *Larrea* communities, although one was seen on the mesa in Pinyon-Juniper. A nest containing four eggs was found in an old abandoned bomber south of Yucca Flat. It was built in the engine and contained four eggs on April 12, 1961.

Bubo virginianus occidentalis Stone
Great Horned Owl

Collection record: One specimen, November 13, 1959.

Status: In addition to the specimen collected, one sight record for December 17 is available. The species seems to be a rare winter visitor at the test site.

Although the resident race of the Horned Owl in southern Nevada is supposed to be *pallescens* (A.O.U. Check-list, 1957), our single specimen is much closer in wing length (378mm) and coloration to *occidentalis* when compared with specimens from central Utah. Gabrielson (1949) recorded a specimen that he referred to the subspecies *lagophonus* from northern Nye County (Potts).

Speotyto cunicularia hypugaea (Bonaparte)
Burrowing Owl

Collection records: Three specimens, July 7, 1961; June 16 and July 27, 1962.

Status: The Burrowing Owl is a permanent resident at the test site. It has been noted in the *Colcogyne* and *Yucca* communities and is more common in open country where the vegetation is not in a dense growth.

Asio otus wilsonianus (Lesson)
Long-eared Owl

Collection records: Five specimens, December 4, 1960; January 25, 1960; September 6, October 7 and January 30, 1961.

Status: We have a total of 10 records of this owl from September 6 to March 31. There are

no observations for April through August, indicating that it may be a winter visitor only. However, more careful investigation may show that it breeds in the Pinyon-Juniper community or in scrub oak. Specimens that have been observed were found mostly in the scrub oak of the small canyons and also at Cane Springs.

Asio flammeus (Pontoppidan)
Short-eared Owl

Collection records: One specimen, April 11, 1961.

Status: This owl is an uncommon visitor at the test site. Besides the collection record we have one sight record for February 13. Birds were seen in the *Coleogyne* community.

Phalaenoptilus nuttallii nuttallii (Audubon)
Poor-will

Collection records: Two specimens, July 20, 1961.

Status: The Poor-will is a rather common summer resident on the mesas and in small canyons adjacent to them. There are no records for the low desert communities.

Chordeiles minor hesperis Grinnell
Common Nighthawk

Collection records: Two specimens, June 16 and July 20, 1962.

Status: Judging from confirmed records available the Common Nighthawk is rather rare in the test site area. However, it may occur more frequently than we know in flocks of the much more abundant Lesser Nighthawk, which feed commonly over the well reservoirs and playa lakes during the summer.

The two specimens collected are nearly identical with examples of the subspecies *hesperis* from the Great Basin in Utah and are undoubtedly of that race.

Chordeiles acutipennis texensis Lawrence
Lesser Nighthawk

Collection records: Eighteen specimens, July 7, 10, 28, 29, 1960; May 20, June 18, July 1, 1961.

Status: The Lesser Nighthawk is a common summer resident at the test site, where it is most frequently seen feeding over well reservoirs and playa lakes in the evening. Birds have been recorded from June 18 to August 8 but

are most abundant in June and July. We have no information on the daytime habits of this species in the area.

Aëronautes saxatalis saxatalis (Woodhouse)
White-throated Swift

Collection records: Two specimens, August 1, 1960.

Status: We have 27 sight records from April to August 1, with the greatest number being seen in May. Birds are fairly common on the mesas and high ridges, but rarely occur over the lower open deserts.

Calypte costae (Bourcier)
Costa's Hummingbird

Collection records: Seven specimens, March 22, April 15, May 13, June 12, 15, 1961; July 23, 1962.

Status: Costa's Hummingbird is the most common hummer in the area. There are numerous records extending from March 22 to July 23. The birds are most often encountered around the springs, particularly Cane Springs and Tip-pipah Spring. On April 28, 1962, a nest containing two eggs was located in an *Atriplex canescens* bush on a steep bank at Cane Springs.

Selasphorus platycercus (Swainson)
Broad-tailed Hummingbird

Collection records: None.

Status: We have only 2 sight records for this species. It was observed at Cane Springs, September 8, 1961.

Selasphorus rufus (Gmelin)
Rufous Hummingbird

Collection records: Two specimens, July 23, 1962.

Status: Only the two collection records noted above are available. The birds were taken in a burned Pinyon-Juniper area where they were feeding at blossoms of *Pentstemon* and *Gilea*.

Megaceryle alcyon caurina (Grinnell)
Belted Kingfisher

Collection records: None.

Status: Two sight records were made on April 6 and April 20, 1961.

Colaptes cafer collaris Vigors
Red-shafted Flicker

Collection records: Four specimens, October 24, 1960; October 7, 20, 1961; April 13, 1962.

Status: The Red-shafted Flicker was recorded for every month of the year except January. It is regarded as a permanent resident in Pinyon-Juniper on the mesas. It was also frequently seen perching on utility poles along the roadways and at Cane Springs.

Asyndesmus lewis (Gray)
Lewis' Woodpecker

Collection records: Two specimens, May 1, 1961; May 6, 1962.

Status: This species is presently known only as a spring and early summer transient. It has been recorded from May 1 to June 29. It was noted at Cane Springs and in the Pinyon-Juniper on the mesas.

Sphyrapicus varius nuchalis Baird
Yellow-bellied Sapsucker

Collection records: Five specimens, June 23, 1960; September 28, 29, October 4, 1961.

Status: This sapsucker appears to be a spring and fall transient although further field work may reveal that it nests in the Pinyon-Juniper of the mesas. Most of our observations have been made in the autumn at Cane Springs, where the birds stop for brief periods.

Dendrocopos villosus (Linnaeus)
Hairy Woodpecker

Collection records: Two specimens, November 14 and January 29, 1961.

Status: Hairy Woodpeckers are permanent residents in the Pinyon-Juniper community of the mesas. They have been noted from March through August and again in November and January. They have been noted only in the Pinyon-Juniper community of the mesas.

There are insufficient data to indicate the breeding subspecies in the test site area. Linsdale (1951, p. 237) states that *leucothorectis* is resident in the southern part of Nevada at higher elevations. Of our two specimens, one is clearly *leucothorectis*. The other has a wing measurement (131 mm) that falls within the range of *monticola* however, it lacks the white spots on the wing coverts and the bill is shorter than

in typical *monticola*. It is possible that this individual is intermediate between the two races and has drifted farther south in the winter.

Dendrocopos scalaris cactophilus (Oberholser)
Ladder-backed Woodpecker

Collection records: Four specimens, June 12, 1961; July 23 and August 3, 1960.

Status: This woodpecker is an uncommon spring and summer resident in *Yucca* and *Coleogyne* communities and occasionally in oakbrush at the base of the mesas. We have recorded it from March 18 to August 3.

Tyrannus verticalis Say
Western Kingbird

Collection records: Seven specimens, April 12, 24, May 7, June 12, 14, 15, 1961.

Status: We have more than 200 records of the Western Kingbird from April 12 to September 11. They are common summer residents in the *Yucca-Coleogyne* community and occasionally are found on the mesas in Pinyon-Juniper. In the latter area a nest was found May 27, 1962, about 12 feet up from the ground in a dead pinyon.

Tyrannus vociferans Swainson
Cassin's Kingbird

Collection records: Eight specimens, May 7, June 27, July 2, 1961; July 20, 24, 1962.

Status: Records of Cassin's Kingbird from Nevada seem to be rather few. Grater (1939: 221) reported two individuals at Saint Thomas, June 28, 1938. We found the species to be a fairly common summer resident in brushy canyons and in the Pinyon-Juniper. Besides the collection records indicated above, we have 42 sight records between May 6 and August 22. Young birds were found in the Pinyon-Juniper on July 20.

Myiarchus cinerascens cinerascens (Lawrence)
Ash-throated Flycatcher

Collection records: Four specimens, May 27, 1960; April 29, May 7, 26, 1961.

Status: This species was a common summer resident in a small canyon in oakbrush and in the Pinyon-Juniper on the mesas. A few were also seen at Cane Springs. The records extend from April 6 to August 24 but the birds were most common in May and June.

Sayornis nigricans semiatra (Vigors)
Black Phoebe

Collection records: Four specimens, July 28, 1960; May 28, August 9, 1961.

Status: Black Phoebes are uncommon summer residents around the wells and at Cane Springs. Our records extend from March 31 into May and again in July and August.

Sayornis saya saya (Bonaparte)
Say's Phoebe

Collection records: Eleven specimens, July 27, 1960; May 10, 24, February 7, April 14, June 2, 15, 1961; March 13, 1962.

Status: This phoebe is a very common resident in all types of communities at the test site. We have records for every month of the year except October and December. It is likely that some individuals remain in the area as permanent residents although we have found them to be more common in March through June. A nest containing 4 fresh eggs was found at Mid Valley, May 27, 1961, on a ledge about 5 feet up. An old nest was also found at Cane Springs and another in a cave at Tippipah Spring on July 27, 1962.

Empidonax hammondii (Xantus)
Hammond's Flycatcher

Collection records: Three specimens, April 30, May 21, 1961; May 13, 1962.

Status: Owing to the difficulty in making sight identifications of the *Empidonax* flycatchers the status of this species in the area is somewhat in doubt. However, it is believed to be a fairly common summer resident in the Pinyon-Juniper and Oakbrush communities.

Empidonax oberholseri Phillips
Dusky Flycatcher

Collection records: Nine specimens, April 30, May 7, 11, 13, 23, June 4, 1961; April 28, May 6, 1962.

Status: The Dusky Flycatcher is at present known only as a spring transient through the test site area.

Empidonax wrightii Baird
Gray Flycatcher

Collection records: Fourteen specimens, April 29, May 2, 7, 13, 24, 26, July 2, 1961; April 28, June 5, 1962.

Status: It is likely that the Gray Flycatcher

is a summer resident in the Pinyon-Juniper and Oakbrush communities of the mesas and small canyons. Since *E. oberholseri* and *E. wrightii* are difficult to separate in the field, we have not attempted to record sight data.

Contopus sordidulus veliei Coues
Western Wood Pewee

Collection records: Twelve specimens, July 27, 1960; May 11, 20, 23, 24, 26, June 2, 4, 16, 1961; May 5, 1962.

Status: The Wood Pewee is a common migrant in May and is resident in summer in oakbrush of the small canyons and in the Pinyon-Juniper of the mesas. Records are available from May 5 to September 7. During the peak of migration in May these birds are occasionally seen in the *Yucca-Coleogyne* community of the lower deserts.

Nuttallornis borealis (Swainson)
Olive-sided Flycatcher

Collection records: Four specimens, May 24, 26, June 2, September 18, 1961.

Status: The Olive-sided Flycatcher is a rather uncommon migrant at the test site in spring and autumn. The earliest record is for May 24 and the latest September 18. There are no records for July but 12 recordings were made for late August. Birds were seen in the Pinyon-Juniper of the mesas and in oakbrush of the small canyons.

Pyrocephalus rubinus flammeus van Rossem
Vermilion Flycatcher

Collection record: One specimen, July 22, 1962.

Status: Only the one record of the specimen collected is available. The collection was made in Pinyon-Juniper on the east rim of the mesas.

Eremophila alpestris (Linnaeus)
Horned Lark

Collection records: Twenty-five specimens, January 28, June 9, July 27, December 2, 9, 1960; January 3, 28, February 24, April 22, May 20, July 1, 1961; March 18, July 16, 1962.

Status: The Horned Lark is a permanent resident in all of the lowland desert communities. Although it has been recorded for every month of the year, it is most abundant in large flocks from October through March. In summer, large concentrations of the birds were seen

around well reservoirs in the evening when they came in to drink. Young birds were frequently caught in mammal traps in the *Atriplex confertifolia* community, which seems to be their preferred nesting habitat.

The subspecific status of the horned lark population at the Nevada Test Site is of considerable interest. From the information at hand it seems rather clear that neither the wintering nor breeding birds are of the race *utahensis*, which is supposedly the breeding subspecies of the eastern Great Basin. Both young and adult test site specimens are on the whole decidedly lighter, less grayish and brighter on the upper parts than Great Basin specimens. Only one of our specimens approaches characteristic *utahensis*. Most of our wintering specimens appear to be identical with the race *leucolaema* from eastern Utah. Our breeding specimens are rather paler than the latter race and are temporarily assigned to the race *ammophila*, the breeding range of which includes southwestern Nevada (A.O.U. Check-list, 1957, p. 357).

Tachycineta thalassina lepida Mearns
Violet-green Swallow

Collection records: Five specimens, April 2, June 30, 1961; May 12, 1962.

Status: This species is fairly common at the test site in spring and summer. We have recorded it from March 11 to August 8, when it is most often seen feeding over water at playa lakes and reservoirs. The birds were also occasionally seen in the Pinyon-Juniper in July, and there is a possibility that they nest there.

Iridoprocne bicolor (Vieillot)
Tree Swallow

Collection records: Two specimens, April 2, 23, 1961.

Status: The Tree Swallow is an uncommon spring transient through the test site, where it was seen feeding over and near open water. We have 18 records from March 28 to April 25.

Riparia riparia riparia (Linnaeus)
Bank Swallow

Collection records: One specimen, May 13, 1961.

Status: The Bank Swallow is an uncommon spring transient and summer visitor. We have 15 records made on May 12 and 13 and on July 30. It was observed feeding over and near open water.

Stelgidopteryx ruficollis serripennis (Audubon)
Rough-winged Swallow

Collection record: One specimen, April 12, 1961.

Status: We have 14 records of this species, all in spring, from March 8 to May 11. They were seen feeding near and over open water.

Hirundo rustica erythrogaster Boddaert
Barn Swallow

Collection records: None.

Status: The Barn Swallow is an uncommon spring and autumn transient at the test site. We have a total of 17 sight records from April 22 to June 6 and again from September 10 to October 7. The birds were seen around open water.

Petrochelidon pyrrhonota (Vieillot)
Cliff Swallow

Collection records: None.

Status: Twelve sight records are available from April 23 to May 24 and again on August 9. We have no records for June and July. Lacking specimens we have not been able to determine the subspecific status although on the basis of known distribution it could be either *P. p. pyrrhonota* or *P. p. hypopolia*.

Cyanocitta stelleri (Gmelin)
Steller's Jay

Collection records: None.

Status: Steller's Jay appears to be an uncommon resident of the Pinyon-Juniper and Oakbrush communities. We have 8 sight records for August 22 and 23 and October 25. Owing to the lack of specimens we have been unable to determine the subspecific status of the resident population.

Aphelocoma coerulescens nevadac Pitelka
Scrub Jay

Collection records: Four specimens, August 1, 1960; March 16, May 14, July 2, 1961.

Status: The Scrub Jay is a rather common resident in the Pinyon-Juniper and oakbrush communities. We have recorded it from February 22 to October 10, with the greatest number of records being in May. We have no records as yet for the months of November, December and January.

Pica pica hudsonia (Sabine)
Black-billed Magpie

Collection records: None.

Status: We have only one sight record of the magpie for December 5, 1961.

Corvus corax sinuatus Wagler
Common Raven

Collection records: Five specimens, November 13, December 15, 1959; August 31, October 14, 1960; April 21, 1961.

Status: Ravens are consistent residents of the test site and have been recorded for every month of the year. They are most often seen in pairs along the roadways, but they have also been noted on the mesas and around springs. On June 1, 1961, two nesting sites were located on cliffs bordering the mesa; however, it was not possible to reach the nests for close observation.

Corvus brachyrhynchos hesperis Ridgway
Common Crow

Collection records: None.

Status: The Common Crow is an uncommon winter visitor to the test site. Four records are available from November 5 to December 6. The birds were seen on the mesa and also near the town of Mercury.

Cyanocitta cyanocephala Wied.
Piñon Jay

Collection records: Four specimens, July 31, August 1, 1960; July 7, 1961.

Status: This jay is a fairly common resident of the Pinyon-Juniper on the mesas and in canyons bordering the mesas. Our records extend from April 9 to December 11, although it is likely that the birds also occur during the mid-winter months. Most of our records are for April through August.

Nucifraga columbiana (Wilson)
Clark's Nutcracker

Collection records: Two specimens, September 28, 1961.

Status: This species has been observed uncommonly in the Pinyon-Juniper community. We have only autumn records from September 28 to October 20.

Parus gambeli inyoensis (Grinnell)
Mountain Chickadee

Collection records: Seven specimens, July 3, 1960; March 31, April 15, June 16, July 2, 1961.

Status: Mountain Chickadees appear to be permanent residents in the Pinyon-Juniper community. We have records of them for every month of the year except January, but they were most commonly seen in April through July.

Parus inornatus ridgwayi Richmond
Plain Titmouse

Collection records: Two specimens, March 5 and June 29, 1961.

Status: We have rather few records of this species in comparison with the Mountain Chickadee. We have recorded it from March 5 to June 29 in the Pinyon-Juniper community of the mesas.

Salpinctes obsoletus plumbeus (Baird)
Common Bushtit

Collection records: Five specimens, April 16, May 24, June 16, October 8, 1961.

Status: This bushtit is a common resident at the test site throughout most of the year. We have records for every month except September, November, January, and February. It is found both in Pinyon-Juniper and in the *Grayia-Lycium* community. Young of this species were frequently observed.

Sitta carolinensis tenuissima Grinnell
White-breasted Nuthatch

Collection records: One specimen, May 13, 1961.

Status: The White-breasted Nuthatch seems to be rare in the Pinyon-Juniper community. In addition to the specimen collected, we have one other sight record for May 14.

Troglodytes aedon parkmanii Audubon
House Wren

Collection records: None.

Status: The status of the House Wren for the Nevada Test Site is known only from two sight records, April 29 and August 20, 1961.

Thryomanes bewickii eremophilus Oberholser
Bewick's Wren

Collection records: Four specimens, June 27, July 30, August 20, December 5, 1961.

Status: This wren is fairly common in Pinyon-Juniper on the mesas from April 15 to August 20. It is likely that some individuals remain all winter since we have records for December.

Camphlorhynchus brunneicapillum couesi
Sharpe
Cactus Wren

Collection records: Five specimens, January 5, 1962 and July 23, 25, 1962.

Status: The Cactus Wren seems to be confined exclusively to communities where the yucca is present. In addition to the five specimens collected we have eight sight records for January 3, 1962. The specimens collected in July were young birds of the year. Apparently the species is confined to the *Yucca* and *Yucca-Coleogyne* communities.

Cistothorus palustris aestuarinus Swarth
Long-billed Marsh Wren

Collection records: Two specimens, March 31 and September 29, 1961.

Status: The Marsh Wren is an uncommon spring and autumn transient at the test site. It was seen around the well reservoirs.

The two specimens collected were placed in the subspecies *aestuarinus* rather than *plesius* in the basis of their shorter beaks. One of the specimens has the typical dark crown of *aestuarinus*, but neither of them is as richly chestnut on the back as *aestuarinus*.

Salpinctes obsoletus obsoletus (Say)
Rock Wren

Collection records: Seven specimens, April 16, May 5, June 16, July 24, August 24, 1961.

Status: Rock Wrens are permanent residents in rocky situations in the Pinyon-Juniper and around the mesas. We have recorded them for every month of the year except February and September. However, they are more commonly seen in March through June.

Mimus polyglottos leucopterus (Vigors)
Mockingbird

Collection records: Two specimens, April 15, June 15, 1961.

Status: The Mockingbird has been recorded in the area from April 2 to August 15, with the greatest number of recordings in May and June. It is seen most often in the *Yucca* habitat but

is also found in the small canyons around the borders of the mesas.

Dumetella carolinensis (Linnaeus)
Catbird

Collection records: One specimen, June 6, 1961.

Status: This species seems to be rare at the test site and has been reported only a few times for the state of Nevada. Linsdale (1951) cites only two records. The one specimen obtained by us was taken at Cane Springs and was probably a transient bird.

Toxostoma lecontei lecontei Lawrence
Le Conte's Thrasher

Collection records: Eleven specimens, December 18, 1959; February 12, August 17, December 3, 1960; May 2, 3, 4, June 1, 29, July 10, 1961; February 12, 1962.

Status: We have records of this thrasher for every month of the year. Most of the records are for June. In winter they seem to move about in small flocks in a nomadic fashion. They appear to be equally at home in all of the types of desert communities but were never seen on the higher mesas.

Oreoscoptes montanus (Townsend)
Sage Thrasher

Collection records: Nine specimens, March 5, 22, April 12, May 20, 21, September 14, 1961; January 16, 1962.

Status: A few sage thrashers apparently winter in the test site area, but they are more commonly seen in early spring (March and April). There is some evidence of nesting. The preferred habitat seems to be *Grayia-Lycium* and *Larrea*, but they also occur in sage and in Pinyon-Juniper.

Turdus migratorius propinquus Ridgway
Robin

Collection records: Four specimens, October 19, 1960; May 24, 26, 1961; January 1, February 27, 1962.

Status: Robins were recorded in the area from January 1 to July 2 and again from October to November 14. Although a few birds winter at the test site, they are more common as spring and autumn migrants. Most of the records were for Cane Springs and the mesa.

Hyllocichla guttata oromela Oberholser
Hermit Thrush

Collection records: Five specimens, April 29, October 12, 1961; April 28, May 5, 1962.

Status: The Hermit Thrush is known only as a spring and autumn transient through the test site area. The earliest record is for April 28 and the latest October 20.

All our specimens were identified by Dr. John W. Aldrich as belonging to the race *oromela*. This race was not recognized in the A.O.U. checklist (1957) and was not included by Linsdale (1951) in his list of Nevada birds.

Hyllocichla ustulata ustulata (Nuttall)
Swainson's Thrush

Collection records: Two specimens, June 6, 1961; May 12, 1962.

Status: Swainson's Thrush is at present known only as a spring transient. Specimens were collected at Cane Springs and Tippipah Spring.

On the basis of the distinct olive brown rather than the olive or more grayish upper parts our two specimens are definitely of the race *ustulata* rather than *swainsoni*. Compared with *swainsoni* our specimens also have brighter and more buffy throats and upper breasts and their under tail coverts are decidedly buffy rather than whitish. In his list of Nevada birds Linsdale (1951) lists only the races *swainsoni* and *almae* from the state. The latter subspecies is now considered to be a synonym of *swainsoni* (A.O.U. Check-list, 1957). Our record of *ustulata* may therefore be considered as an additional subspecies for Nevada.

Sialia mexicana bairdi Ridgway
Western Bluebird

Collection record: One specimen, May 21, 1961.

Status: This species is an uncommon bird found thus far only in the Pinyon-Juniper of the mesas. We have only 16 records from March 31 to May 21 and again in November.

Sialia currucoides (Bechstein)
Mountain Bluebird

Collection records: Six specimens, March 16, April 26, 27, May 23, 1961; June 14, 1962.

Status: We have many records of the Mountain Bluebird from November to July 2. They were most abundant in March through May. In

winter they were seen in the lower deserts along the roadways, but in spring they were more common in the Pinyon-Juniper of the mesas. We have no positive record of their nesting and no observation records for August through October.

Myadestes townsendi townsendi (Audubon)
Townsend's Solitaire

Collection records: Four specimens, October 5, 1959; April 23, 24, September 28, 1961.

Status: Solitaires are considered to be spring and autumn migrants through the test site area. We have records from April 23 to June and from September to October 25. Birds have been noted only in the Pinyon-Juniper of the mesas.

Poliptila caerulea amoenissima Grinnell
Blue-gray Gnatcatcher

Collection records. Six specimens, April 25, 30, June 16, July 2, 1961; April 1, 1962.

Status: This gnatcatcher is a common spring and summer resident. Our records extend from April 14 to September 8, although the birds are most abundant in April and May. Their usual habitat is the Pinyon-Juniper of the mesas or the oakbrush of the bordering slopes and canyons. A few were also noted at Cane Springs.

Regulus calendula cineaceus Grinnell
Ruby-crowned Kinglet

Collection records: Four specimens, April 9, 24, 30, October 28, 1961.

Status: Our records of the Ruby-crowned Kinglet extend from October 5 to May 7 with most of the records in April. The bird is considered to be an uncommon winter resident and a common spring and autumn migrant. Most of the records are for Cane Springs.

Anthus spinoletta (Linnaeus)
Water Pipit

Collection records: Ten specimens, April 7, 16, March 30, May 13, September 29, October 8, November 1, 1961; January 26, 1962.

Status: Pipits are common spring and autumn migrants in the area and a few remain throughout the winter. The periods of most common occurrence are from March into May and from September through November. They are seen near the playa lakes and around the well reservoirs.

The subspecific composition of the test site population based upon the ten specimens avail-

able to us seems to consist of both *A. s. alticola* and *A. s. pacificus*. Seven out of the 10 seem to be *alticola* and the remaining 3 are placed in *pacificus*. However, it seems difficult to separate these two in the nonbreeding plumage. The three specimens assigned to *pacificus* were taken in late fall and winter; all of those save one that are placed in *alticola* were collected in the spring. The underparts of *alticola* are somewhat brighter buff and the streaks on the breast and flanks are less extensive and individually paler and narrower. Judging from specimens of *alticola* taken in northern Utah in the autumn there is a tendency for the streaks to be larger, darker, and more extensively distributed at that season and to gradually wear away during the winter. However, the bright buffy ground color of the underparts seems to remain fairly constant toward spring. There is still a possibility that the three specimens called *pacificus* are actually young *alticola* that have not yet had the streaking reduced; however, the fact that the ground color of the underparts is paler has indicated that they are closer to *pacificus*. Linsdale (1951) has indicated that *pacificus* is the wintering subspecies in Nevada.

Bombycilla cedrorum Vieillot
Cedar Waxwing

Collection records: Six specimens, March 16, October 23, 1961; May 13, June 5, 1962.

Status: We have a total of sixteen records from March 16 to October 23, with most of them in May and June. This waxwing seems to be an irregular visitor at Cane Springs, Tippihah Spring, and on the mesa.

Phainopepla nitens lepida Van Tyne
Phainopepla

Collection record: One specimen, May 6, 1961.

Status: We have record of only the one specimen which was collected at Cane Springs.

Lanius ludovicianus Linnaeus
Loggerhead Shrike

Collection records: Fifteen specimens, August 24, November 19, 1959; June 9, July 27, 1960; March 7, April 15, 25, May 21, June 28, 1961; February 14, March 7, June 5, 1962.

Status: We have many records including every month of the year, but shrikes were most commonly seen in March through June. The

birds were observed in all of the types of plant communities. Nesting activity was observed as follows: A nest containing 6 eggs was found in an *Antriplex confertifolia* about 3 feet up from the ground, April 28, 1962; another, also containing 6 eggs was located at Tippihah Spring in a *Purshia tridentata* about 4 feet up, April 28, 1962; another nest containing young about a week old was found on May 5, 1962. These young were banded on May 12.

The subspecific status of the breeding population is somewhat in doubt. The race *nevadensis* proposed by Miller is not recognized in A.O.U. Check-list (1957) and is presumably considered to be a synonym of *sonoriensis*. Most of our specimens have the clear white rump and lighter upperparts of *sonoriensis*, but a few adults have the grayish rumps and darker backs more typical of *gambeli*. Measurement of 9 specimens from the test site shows a wing length varying from 98 to 102 mm., with an average of 100.3. This is somewhat smaller than the average of 103.3 accorded to *sonoriensis* (Miller, 1930, p. 155). If the race *nevadensis* is to be discounted, it seems likely from the data at hand that the test site population consists of intergrades between *gambeli* and *sonoriensis*, being closer to *gambeli* in wing measurement but nearer to *sonoriensis* in the white underparts and usually lighter backs.

Sturnus vulgaris Linnaeus
Starling

Collection records: Six specimens, November 19, 1959; July 6, 1960; February 13, March 14, October 18, 1961.

Status: The Starling appears to be primarily a winter and early spring visitor to the test site. It was recorded most often in November but was common in later winter and early spring. Occasional birds also occur in the summer as indicated by the collection made in July. They are most frequently observed in the lower desert communities and were especially common along the roadways at Yucca Flat.

Vireo vicinior Coues
Gray Vireo

Collection records: One specimen, July 7, 1961.

Status: The Gray Vireo has been recorded four times at the test site from May 7 to July 7. It was noted only in the Pinyon-Juniper community.

Vireo solitarius (Wilson)
Solitary Vireo

Collection records: Five specimens, May 13, 26, 1961; April 28, May 12, 1962.

Status: This vireo is a spring and summer resident in the Pinyon-Juniper of the mesas. We have records extending from April 28 to July 2.

Four of our five specimens are of the subspecies *cassinii*, with typical yellowish green flanks and back. The other specimen is of the race *plumbeus*.

Vireo gilvus swainsonii Baird
Warbling Vireo

Collection records: Four specimens, May 24, June 16, July 30, 1961; April 28, 1962.

Status: The Warbling Vireo is a fairly common spring and summer resident, when it is to be found at Cane Springs and in the Pinyon-Juniper of the mesas. It also occurs in the oakbrush in canyons around the mesas.

Vermivora celata orestera Oberholser
Orange-crowned Warbler

Collection records: Ten specimens, April 30, May 6, June 19, September 21, 1961; April 28, 1962.

Status: All of our records of this species were made at Cane Springs. It seems to be mainly a spring and autumn migrant through the area although the June 19 record is rather late for a migrant and may indicate that some remain through the summer.

Vermivora ruficapilla ridgwayi van Rossem
Nashville Warbler

Collection records: Two specimens, August 20, 30, 1961.

Status: Our only knowledge of this species at the test site is from the two collection records noted above. The birds were taken in Pinyon-Juniper and oakbrush.

Vermivora virginiae (Baird)
Virginia's Warbler

Collection records: Two specimens, June 28, July 2, 1961.

Status: We have a limited number of records of Virginia's Warbler extending from April 11 to August 20. They are spring and summer residents in the Pinyon-Juniper of the mesas and in the oakbrush of adjacent canyons.

Dendroica petechia morcomi Coale
Yellow Warbler

Collection records: Seven specimens, April 29, 30, May 14, 10, 20, 21, 1961.

Status: The yellow warbler is a fairly common spring and autumn migrant at the test site. It has been recorded from April 28 to May 6 and again from August 10 to September 19. Birds were most commonly seen at Cane Springs and at Whiterock Spring.

Dendroica coronata (Linnaeus)
Myrtle Warbler

Collection records: Two specimens, March 23, April 16, 1961.

Status: Known only as a spring migrant from the two collection records. Linsdale (1951, p. 243) mentions it as a transient in Nye County.

Dendroica auduboni memorabilis Oberholser
Audubon's Warbler

Collection records: Eight specimens, October 5, 1969; March 24, April 14, 24, 28, June 28, July 2, 1961.

Status: This warbler is a common spring and autumn transient. It is especially abundant in April, when it is found at Cane Springs, in the Pinyon-Juniper of the mesas, and also in the lower desert shrub communities. The collection of one young bird on the mesa in July would indicate that it also breeds in the area.

Our specimens are assigned to the subspecies *memorabilis* rather than *auduboni* on the basis of greater wing length. The Nevada specimens compared with Oberholser's (1921) measurements are as follows:

	Test Site Birds	
	Wing	
<i>D. a. memorabilis</i>	78 (male)	73.6 (fem.)
<i>D. a. auduboni</i>	—	—
	Oberholser (1921)	
	Wing	
<i>D. a. memorabilis</i>	80.5 (male)	73.9 (fem.)
<i>D. a. auduboni</i>	74.9 (male)	71.6 (fem.)

Dendroica nigrescens (Townsend)
Black-throated Gray Warbler

Collection records: Nine specimens, April 30, May 7, 24, 26, June 4, 29, 1961.

Status: This warbler is a common spring and summer resident of the Pinyon-Juniper of the

mesas, where it no doubt breeds. Our collection and sight records extend from April 28 to September 6, with most of the observation being made in May and June.

Dendroica townsendi (Townsend)
Townsend's Warbler

Collection records: One specimen, May 13, 1963.

Status: Townsend's Warbler is an uncommon spring transient through the test site. It was seen at Cane Springs and in sagebrush at the edge of the Pinyon-Juniper. We have six sight records from April 28 to May 13 and in October.

Oporornis tolmiei (Townsend)
MacGillivray's Warbler

Collection records: Six specimens, May 13, 14, 20, June 2, 1961; June 5, 1962.

Status: MacGillivray's Warbler is known to be a spring and autumn transient through the test site area. We have records for May and early June and again for August and September. There are no records for July, but the species may yet be found breeding around some of the springs. The earliest record is for May 4 and the latest for September 10. The birds were seen around Cane Springs and in *Purshia tridentata* and other brush at Tippipah Spring.

The subspecific status of our specimens is somewhat doubtful since both *O. t. tolmiei* and *O. t. monticola* might be found as transients through this area. Our specimens are rather variable in the gray and black of the forward parts, but the yellow underparts and yellowish green of the back are quite uniform and very much like a series of breeding birds from northern Utah. The tail measurements of our small series seem to be decidedly less than those given by Phillips (Auk, 64(2): p. 297, 1947) for *monticola* (50.3 in males as compared to 58.4), but we cannot be sure that our method of measurement was the same as his. Linsdale (1951) lists *monticola* as the resident bird of Nevada.

Geothlypis trichas scirpicola Grinnell
Yellowthroat

Collection records: Ten specimens, April 26, 27, 30, May 9, 19, 20, 21, June 9, 1961.

Status: The Yellowthroat is a spring and autumn transient through the area. It has been found from late April into early June and again in September at Cane Springs and Whiterock

Spring. It is not known to breed at either of these places.

Linsdale (1951) states that *scirpicola* is the resident subspecies of southern Nevada. Our male specimens with respect to smaller size, smaller bills, and greater diffusion of the yellow over the abdomen seem close to *scirpicola* rather than the more northern race, *occidentalis*. However, our females show considerable variation in color from both of the above subspecies in that they have brighter yellow throats, grayish rather than brownish flanks, and paler backs.

Wilsonia pusilla (Wilson)
Wilson's Warbler

Collection records: Ten specimens, April 26, 30, May 11, 23, 27, June 2, 1961.

Status: Wilson's Warblers are rather common spring and autumn migrants. They were recorded from April 26 to June 6 and again in September, but they were most abundant in May. They were seen at Cane Springs and around the well reservoirs as well as in Pinyon-Juniper and oakbrush on the mesas.

From the material at hand it would seem that both *W. p. pileolata* and *W. p. chryseola* migrate through the test site area. Three males of our series exhibit more intense yellow underparts, a tendency toward orange in the forehead, and more yellowish backs characteristic of *chryseola*. Comparative wing measurements seem not to show any consistent pattern in the two races as represented in our material.

Passer domesticus domesticus (Linnaeus)
House Sparrow

Collection records: Three specimens, January 30, March 26, 1961.

Status: We have records of the House Sparrow at the town of Mercury and around the wells from October into June. We have no records for July, August, or September.

Sturnella neglecta neglecta Audubon
Western Meadowlark

Collection records: Two specimens, December 8, 1959; May 3, 1961.

Status: The meadowlark seems to be primarily an autumn, winter and spring resident at the test site, when it occurs in small numbers in sagebrush and other lower desert shrub communities. Our earliest records are for mid-September and our latest for mid-May.

Xanthocephalus xanthocephalus (Bonaparte)
Yellow-headed Blackbird

Collection records: Four specimens, April 16, 26, 29, May 31, 1961.

Status: This blackbird is an irregular transient at the test site. Our earliest record is for March 31 and our latest September 19. The birds were most common in April and May but a few were noted in June, July, and August. They were seen around the wells and springs and on the playas.

Agelaius phoeniceus (Linnaeus)
Redwinged Blackbird

Collection records: Nine specimens, July 28, October 13, 1960; May 20, October 8, 1961; March 16, April 1, 1962.

Status: The Redwinged Blackbird is the most common icterid at the test site. We have records for all months of the year except December, January and June. Birds are most abundant in April and again in October; at other times only scattered records were made. During the height of their migration they are common in flocks around the wells and springs and near water on the playas.

According to the A.O.U. Check-list (1957) any of the races *fortis*, *nevadensis*, and *sonoriensis* might occur at one time or another in southern Nevada. Most of the birds at the test site are transients, and we have not as yet been able to determine the breeding subspecies if any in that area. Our small series of females show considerable variation as to coloration and size of the beak. The length of the exposed culmen varies from 15.3 to 18.7 millimeters. Few reach the minimum of this measurement for females of either *fortis*, *nevadensis* or *sonoriensis* and none reaches the maximum of these races given by Bishop (1938, Trans. San Diego Soc. Nat. Hist., 9 (1): 1-4). For the present, therefore, it is thought best to leave the subspecific identity of the test site specimens in doubt.

Icterus parisorum Bonaparte
Scott's Oriole

Collection records: Seven specimens, July 27, 1960; June 19, 27, 28, 1961; April 28, 1962.

Status: Our records extend from April 15 to August 9. Scott's Oriole is consistently present at the test site in spring and summer, when it appears to occupy a variety of habitats. It has been observed in *Yucca*, Pinyon-Juniper, sagebrush, and the mixed vegetation around springs.

Icterus bullockii bullockii (Swainson)
Bullock's Oriole

Collection records: Six specimens, July 28, 1960; May 4, 7, 14, July 26, 1961.

Status: Bullock's Oriole is a fairly common spring and summer resident at the test site. We have records from April 14 to September 9, with most of them being in May. The birds were most commonly seen at Cane Springs, in the Pinyon-Juniper of the mesas, and in oak-brush vegetated canyons.

Euphagus cyanocephalus (Wagler)
Brewer's Blackbird

Collection records: Three specimens, April 16, 26, 1961.

Status: This blackbird is a common bird at the test site in spring and autumn, when it is most often seen around the wells and springs. Large numbers were observed in April and again in September and October. They were sparse during the summer months and seemingly absent in winter.

Molothrus ater obscurus (Gmelin)
Brown-headed Cowbird

Collection records: Eighteen specimens, August 27, 28, 1959; July 28, 1960; April 6, 16, 26, 30, 1961; April 28, 1962.

Status: Our records for the cowbird extend from April 6 to November 27, with the greatest numbers being in April and May. Birds were seen around springs and wells and also in the Pinyon-Juniper.

Our specimens are somewhat intermediate in size between *M. a. artemesiae* and *M. a. obscurus*. However, they have the shorter and more slender bills characteristic of *obscurus* and on that basis are referred to that subspecies.

Piranga ludoviciana (Wilson)
Western Tanager

Collection records: Eleven specimens, July 28, August 1, 1960; May 14, 24, 26, June 1961; May 27, 1962.

Status: Western Tanagers have been recorded for the test site from May 13 to September 8 although they are most common in May and September. They are frequently seen in the Pinyon-Juniper of the mesas, and a few may nest there. They are also present at Cane Springs and other springs of the area.

Pheucticus melanocephalus melanocephalus
(Swainson)
Black-headed Grosbeak

Collection records: Seven specimens, May 20, June 4, 30, July 7, 1951.

Status: Our records of the Black-headed Grosbeak extend from April 11 to October 4. Birds are more common in May and June. They inhabit the oakbush around the mesas as well as the Pinyon-Juniper. They were also frequently seen at Cane Springs.

Guiraca caerulea interfusa Dwight and Griscom
Blue Grosbeak

Collection record: One specimen, May 21, 1961.

Status: The Blue Grosbeak seems to be an uncommon visitor to the test site. We have a total of 20 records all from the vicinity of Cane Springs and all for May.

Passerina amoena (Say)
Lazula Bunting

Collection records: Nine specimens, April 30, May 2, 7, 12, June 19, July 2, September 13, 29, 1961; May 12, June 6, 1962.

Status: This species is a fairly common spring, summer, and early autumn resident. Our records extend from April 30 to September 29, but most of them are for May and June. The birds are most commonly seen around Cane Springs, but they are also found in the Pinyon-Juniper of the mesas where there is some evidence of nesting.

Hesperiphona verpertina brooksi Grinnell
Evening Grosbeak

Collection records: Two specimens, October 24, 25, 1961.

Status: The Evening Grosbeak is a rare autumn and winter visitor at the test site. Birds have been noted around the wells and in the Pinyon-Juniper.

Carpodacus purpureus californicus Baird
Purple Finch

Collection records: Two specimens, October 24, 25, 1961.

Status: This species appears to be a rare autumn and spring transient. It has been noted

only in the Pinyon-Juniper of the mesas. Neither Linsdale (1951) nor Gullion, *et al.* (1959) have included this species in their lists of Nevada birds.

Carpodacus cassinii Baird
Cassin's Finch

Collection records: Twelve specimens, April 15, 27, May 21, 23, 26, 27, June 16, October 25, November 14, 1961.

Status: Cassin's Finch is a fairly common resident in the area in spring, summer, and autumn. Our records extended from March 18 to November 14, with the greatest numbers noted in March through June. The birds are almost invariably seen in Pinyon-Juniper but have been recorded occasionally in *Larrea*.

Carpodacus mexicanus (Muller)
House Finch

Collection records: Thirty-nine specimens, October 1, November 18, 1959; December 9, 1960; January 20, 25, 30, 31, February 15, 17, March 10, 11, 19, 26, April 23, 29, May 10, 11, 19, June 15, November 12, 1961.

Status: The House Finch is an abundant resident at the test site throughout the year. Birds are especially abundant in winter, when large flocks are mostly restricted to disturbed areas where Russian thistle is predominant. In summer these birds scatter into the Pinyon-Juniper and *Yucca* where they nest. We have the following nesting records: On May 26, 1961, a nest containing five young recently hatched was found in the top of a *Yucca* about 7 feet from the ground; on June 1, 1961, a nest containing four eggs was found in a juniper.

Moore (Proc. Biol. Soc. Washington, 52:105, 1939) proposed the name *solitudinis* for the Nevada race of House Finch mainly on the basis of less extensive distribution of red in the male. However, his name was not accepted in the A.O.U. checklist (1957), and the name *frontalis* has usually been applied to the Nevada population (Linsdale, 1951). Our series of males taken mostly in winter and early spring show a great amount of variation in both the extent and shade of red. Some of the brighter specimens are near Nopal Red of Ridgeway but range to Peach Red in one specimen. In another group where the coloring is usually far less extensive the color is near Zinc Orange or Ochraceous-orange. In one specimen the throat, forehead, and rump are Yellow Ocher, and there is a distinct grayish brown band across the upper breast.

Spinus pinus pinus (Wilson)
Pine Siskin

Collection records: Five specimens, October 19, 1960; March 30, April 30, November 1, 1961.

Status: The Pine Siskin is an autumn, winter and spring resident of the area. Our records extend from October 19 to April 30, when the birds were seen in the Pinyon-Juniper of the mesas and around Cane Springs. We have no evidence of summer occurrence.

Spinus tristis pallidus Mearns
American Goldfinch

Collection records: Three specimens, February 15, 17, April 30, 1961.

Status: Three birds have been noted at the test site, mainly in winter and early spring, when they occur in flocks in disturbed areas in the desert where Russian thistle is predominant. In spring there are often heavy concentrations around the wells.

Spinus psaltria hesperophilus (Oberholser)
Lesser Goldfinch

Collection records: Two specimens, April 28, 29, 1962.

Status: The occurrence of this bird at the test site is known only from the two collection records. The specimens were taken at Cane Springs.

Chlorura chlorura (Audubon)
Green-tailed Towhee

Collection records: Seven specimens, April 28, May 13, 21, 23, 24, June 1, 16, 1961.

Status: Our records of this species extend from April 15 to November 14, with the greatest numbers occurring in May. The birds inhabit the Pinyon-Juniper of the mesas and the oakbrush in canyons around their borders.

Pipilo erythrophthalmus montanus Svarth
Rufous-sided Towhee

Collection records: Six specimens, January 4, 16, May 24, 26, October 8, 1961.

Status: This towhee seems to occur the year around in the Pinyon-Juniper of the mesas and in areas where oakbrush is predominant. These birds are, however, rather uncommon.

Passerculus sandwichensis nevadensis Grinnell
Savannah Sparrow

Collection records: Twelve specimens, March 11, 22, 30, 31, April 7, 27, May 6, 26, September 6, 1961; March 9, 1962.

Status: Our records extend from March 11 into May and again from mid-September to October 28. We have no evidence of the presence of this species in winter or summer. It has been noted on the playas and in desert shrub communities near water.

Poocetes gramineus confinis Baird
Vesper Sparrow

Collection record: One specimen, March 13, 1961.

Status: Our records of the Vesper Sparrow are rather unevenly scattered between March 13 and September 10 except in the month of June. We regard them as transients through the test site area. They have been noted around the wells, at Cane Springs, and in several types of desert shrub communities.

Chondestes grammacus strigatus Swainson
Lark Sparrow

Collection records: Six specimens, April 9, 25, 27, May 2, 13, 1961.

Status: Most of our records for this species are from April 9 to May 27. We have a single record for August. Our present evidence indicates that they are principally spring migrants through the test site. We have observed them in brushy areas near springs and on the mesas where there is a mixture of Pinyon-Juniper and sagebrush.

Amphispiza bilineata deserticola Ridgway
Black-throated Sparrow

Collection records: Fourteen specimens, April 20, 26, 27, 28, June 22, 29, July 27, 1960; March 15, June 2, 12, 1961; June 29, 1962.

Status: The Black-throated Sparrow is a common spring and summer resident of the test site. We have abundant records of its occurrence from March 18 to August 22, with the highest concentration in April, May and June. Rickard (1961) mentions its nesting in shrubs on the test site and we have records of young birds of the year. The birds inhabit all of the types of desert shrubs and also occur less commonly in the Pinyon-Juniper of the mesas.

Amphispiza belli nevadensis (Ridgway)
Sage Sparrow

Collection records: Twenty-two specimens, October 1, 23, 1959; December 3, 1960; January 9, 23, 29, 30, February 1, 17, April 27, October 1, 1961; January 9, April 24, 1962.

Status: Our records of the sage sparrow extend from mid-September to May. The species is one of the most common wintering birds in the area; during the winter it is found in the several types of desert shrub communities. The greatest concentrations occur in December and January.

Junco hyemalis cismontanus Dwight
Slate-colored Junco

Collection records: Two specimens, October 23, 25, 1961.

Status: The Slate-colored Junco is apparently rare at the test site. Only the two collection records and one or two other sight records are indicated in our data. Judging from the records summarized by Linsdale (1951) there are relatively few indications of its occurrence in Nevada. The specimens collected were taken on the mesa in Pinyon-Juniper.

Junco oregonus (Townsend)
Oregon Junco

Collection records: Seven specimens, March 16, April 23, October 8, 1961; January 26, March 2, 18, 1962.

Status: During the winter large flocks of juncos occur on the test site, principally in the Pinyon-Juniper of the mesas. We have records from October 7 to April 14, but they are most abundant in October and November.

Since various species and subspecies usually flock together, it is difficult to give an accurate indication of the relative abundance of the several kinds. However, our observations indicate that the great majority of them are *J. oregonus*. In our material we have representatives of both *J. o. montanus* and *J. o. mearnsi*, with the former apparently being the more common.

Junco caniceps caniceps (Woodhouse)
Gray-headed Junco

Collection records: Four specimens, May 26, June 16, September 29, 1961.

Status: We have a small number of records of the junco, all of which are for spring and summer. Birds have been found in the Pinyon-

Juniper of the mesas, and there is some indication that they may nest there.

Spizella passerina arizonae Coues
Chipping Sparrow

Collection records: Six specimens, April 24, 25, May 9, 23, June 4, 27, 1961.

Status: Chipping Sparrows are common in spring and summer in the Pinyon-Juniper of the mesas and are often frequently found at Cane Springs. We have records from April 14 to November 6, but most of them are for April and May when migration is at its highest. Immature specimens were collected on the mesa, indicating that the birds nest there.

Spizella breweri breweri Cassin
Brewer's Sparrow

Collection records: Eight specimens, April 14, June 4, 16, 19, 28, 1961; April 14, 1962.

Status: We have numerous records of this species between February 10 and September 9. The birds are most abundant in April, May and June. Their favored habitat seems to be in areas where sagebrush is predominant. Young have been taken, indicating that they should be listed among the breeding birds of the area.

Spizella atrogularis evura Coues
Black-chinned Sparrow

Collection record: One specimen, July 2, 1961.

Status: We have only the one record of this species on the test site. It was taken from a thicket of scrub oak on the mesa. Linsdale (1951) indicates that the Black-chinned Sparrow is not common in Nevada and is known only from the southern part of the state.

Zonotrichia leucophrys (Forster)
White-crowned Sparrow

Collection records: Seventeen specimens, November 5, 1959; October 19, 1960; February 1, 15, 17, 20, March 6, 9, September 21, October 13, 1961; April 28, 1962.

Status: White-crowned sparrows are in residence in large numbers from September through May. During this period they are found around the springs and wells and in all types of desert shrubs. They are especially common in the *Larrea* community.

Both *Z. l. gambeli* and *Z. l. oriantha* are

present in the wintering flocks. Of our 17 specimens 12 are *gambeli* and 5 are *oriantha*. From the material at hand there would appear to be no seasonal separation of the two races.

Zonotrichia atricapilla (Gmelin)
Golden-crowned Sparrow

Collection record: One specimen, April 28, 1962.

Status: The occurrence of this species at the test site is known only from the single specimen cited above. Records of this bird in Nevada seem to be rare (Linsdale, 1961). Gullion (1959) recorded the first specimen from southern Nevada which was taken 26 miles southeast of Overton, March 31, 1943.

Melospiza lincolni (Audubon)
Lincoln's Sparrow

Collection records: Six specimens, March 4, 6, 14, 22, April 30, 1961.

Status: Lincoln's Sparrow is a regular spring migrant at the test site, when it was seen near the wells and at Cane Springs from March 18 to April 30. We also have one sight record for October 11.

The subspecific position of our six specimens is somewhat in doubt owing to the fact that some of them were not sexed, making wing measurement data of little value. In color they

seem to be identical with breeding birds from central Utah. However, such wing measurements as are available indicate that our Nevada series averages a little smaller in this measurement than our series of *alticola*. This would indicate that they may be migrating *lincolni*.

Melospiza melodia montana Henshaw
Song Sparrow

Collection records: Two specimens, January 9 and November 15, 1961.

Status: This bird appears to be an uncommon winter resident in the area. In addition to the collection records we have three sight records for January 30, March 31 and October 19. Most of the individuals were seen at Cane Springs and near the wells, but was noted at Frenchman Playa in a flock of sage sparrows.

Calcarius lapponicus lapponicus Linnaeus
Lapland Longspur

Collection records: One specimen, October 10, 1961.

Status: The occurrence of the Lapland Longspur at the test site is known only from the single specimen listed above. Linsdale (1951, p. 247) records *C. l. alascensis* from the Carson City, Nevada, area. As far as we are aware our record of *C. l. lapponicus* is the first recorded for the state. The specimen was taken near water on the playa at Frenchman Flat.

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