

Vertebrate Fauna of the San Joaquin Experimental Range, California: a 50-year checklist

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Introduction

Since research began at the San Joaquin Experimental Range, Madera County, California, in the 1930's, the relationships between wildlife, vegetation, and cattle have been integral parts of the research program. In cooperation with individuals and other organizations, the Pacific Southwest Forest and Range Experiment Station has participated in and encouraged studies of many basic biological subjects. Agencies and institutions that have taken part include the U.S. Fish and Wildlife Service, California Department of Fish and Game, University of California, and California State University, Fresno. A list of the publications from 50 years of research at the Experimental Range is currently being prepared as a CATI publication to update the lists by Sanderson and Duncan (1966) and Duncan (1975). The new list includes about 350 publications.

The San Joaquin Experimental Range lies in the lower Sierra Nevada foothills of central California. Elevations range from 700 to 1,700 feet on the 4,500 acres. Soils (Ahwahnee and Visalia series) are of granitic origin, and have low capacity for storing water. Winters are mild and moist; summers are hot and dry. Rainfall averages about 19 inches, with extremes of less than 10 and more than 30 inches. The Experimental Range is in the annual plant-oak woodland type, and includes grassland, savanna, and occasionally dense stands of trees and brush. Larson et al. (1985) updated prior flora lists and included mosses and lichens for the first time.

The zoologically oriented studies on the Experimental Range have dealt chiefly with life histories of major rodent species, their impact on range forage, food habits and management of quail, and food habits of predators. Until recently, most recorded occurrences of birds were the result of occasional observations by scientists and technicians - not from formal studies.

This report updates earlier checklists of vertebrate fauna of the Experimental Range (Childs and Howard, 1955 and Newman and Duncan, 1973) and provides additional information and new species sighted. The earlier lists are now out of print. Specimens of most species are in a collection at the Experimental Range. Only species seen within the Range boundary are included in this updated list.

Scientific names used are in accordance with these sources: fish - Kimsey and Fisk (1960); amphibians and reptiles - Stebbins (1966); mammals - Ingles (1965); birds - American Ornithologists Union (1983).

FISH (7)

The occurrence of fish at the Experimental Range depends on introduction into artificial ponds. Two dry years (1971-72) in a row caused the one reservoir with a fish population to become dry. In 1973, no fish populations occurred on the Range except mosquito fish in a few large concrete water troughs. At that time large-mouth bass, bluegill, red-ear sunfish, Sacramento perch, and mosquito fish were stocked in an experiment designed to provide baseline fish production data from different sized foothill ranch ponds. Preliminary results have been reported by Eckman (1974), Harp (1976), and Newman, et al. (1976). The very dry years of 1976 and 1977 resulted in ponds drying up on the Range.

Checklist of Fish

Mosquito Fish	(<u>Gambusia affinis</u>)
Large-mouth Bass	(<u>Micropterus salmoides</u>)
Hitch	(<u>Lavinia exilicauda</u>)
Green Sunfish	(<u>Lepomis cyanellus</u>)
Bluegill	(<u>Lepomis macrochirus</u>)
Red-ear Sunfish	(<u>Lepomis microlophus</u>)
Sacramento Perch	(<u>Archoplites interruptus</u>)

AMPHIBIANS (8)

The semi-arid conditions in the foothill belt of California are not suitable for a large or varied amphibian population. One introduced species, the bullfrog, is found in reservoirs. Two Anurans, the Pacific tree frog and the Western spadefoot toad, are the most abundant members of this group (Cohen and Wood 1953).

Checklist of Amphibians

California Newt	Western Toad
Tiger Salamander	Pacific Tree Frog
Slender Salamander	Red-legged Frog
Western Spadefoot Toad	Bullfrog

California Newt (Taricha torosus sierrae).

Rare: Kenneth A. Wagnon recalls observing the California newt occasionally in the 1930's. Although no newts were seen in 1950-51, two specimens were taken in spring 1952. Several were seen in spring 1963 by Don A. Duncan.

Tiger Salamander (Ambystoma tigrinum californiense).

Rare: Found in limited numbers near the dams in the headquarters area. On February 22, 1952, eggs were found where the horse pasture dam used to be. Several albino larvae were

taken in 1950-51. One found by William H. Kruse in headquarters area July 10, 1963. One or two seen most years by Don A. Duncan since 1963.

Slender Salamander (Batrachoseps a. attenuatus).

Uncommon: Found under rocks and logs in the wet season.

Western Spadefoot Toad (Scaphiopus h. hammondi).

Abundant: The spadefoot breeds in vernal pools and intermittent streams in varying numbers depending on weather conditions in early spring. Singing begins in late January with most egg production in March. Albino larvae are occasionally found (Childs, 1953).

Western Toad (Bufo boreas halophilus).

Common: These toads may be found foraging at night. Eggs were found on February 22, 1952, where the horse pasture dam used to be.

Pacific Tree Frog (Hyla regilla).

Rare: Found in wet areas throughout the year where it breeds in streams and vernal pools.

Red-legged Frog (Rana aurora draytoni).

Rare: One was observed in October 1951. The yellow-legged frog (Rana boylei) has not been observed at the Range, although both of these species were present at O'Neals, 3 miles away, in the 1950's.

Bullfrog (Rana catesbeiana).

Common: Formerly abundant before the destruction of the horse pasture dam in 1951 (Cohen and Howard, 1958), Howard (1950). Now thriving in the small stock reservoirs; one pond, in the fall of 1984, had approximately 100 adults and thousands of young bullfrogs.

REPTILES (19)

Reptiles appear well suited to the climate of the Experimental Range as indicated by their numbers and diversity of kinds. Two lizards - Gilbert skink and Western fence lizard - and two snakes - Pacific gopher and Pacific rattlesnake - are the most abundant species.

Checklist of Reptiles

LIZARDS (6)

Western Fence Lizard
Side-blotched Lizard
Pacific Coast Horned Lizard
Gilbert Skink
Whiptail Lizard
Southern Alligator Lizard

TURTLES (1)

Pacific Mud Turtle

SNAKES (12)

Western Ring-neck Snake
Western Yellow-bellied Racer
California Striped Whipsnake
Pacific Gopher Snake
King Snake
Mountain King Snake
Long-nosed Snake
Sierra Nevada Garter Snake
Giant Garter Snake
Red-sided Garter Snake
California Spotted Night Snake
Pacific Rattlesnake

LIZARDS (6)

Western Fence Lizard (Sceloporus o. occidentalis).

Abundant: The first lizard to become active in the spring, generally on warm days in February or March. Found around buildings, rock outcrops, and trees.

Side-blotched Lizard (Uta stansburiana hesperis).

Common: Found in sandy areas where escape burrows are present.

Pacific Coast Horned Lizard (Phrynosoma coronatum frontale).

Rare: Observed in the later 1930's, but only one has been recorded in recent years (1966).

Gilbert Skink (Eumeces g. gilberti).

Abundant: This species and the whiptail lizard are taken abundantly in drift traps. The skink appears to be active only from April to June in dense vegetation.

Whiptail Lizard (Cnemidophorus tigris mundus).

Common: Found in sparse vegetation and along roads; active during the entire summer.

Southern Alligator Lizard (Gerrhonotus multicaudatus webbi).

Rare: Only a few have been recorded in the headquarters area. One collected May 28, 1961 by Jack N. Reppert on patio of guest rooms. One found at northern edge of Experimental Range by Don A. Duncan, May 2, 1973.

TURTLES (1)

Pacific Mud Turtle (Clemmys marmorata).

Uncommon: Presence of the reservoirs allows a few introduced individuals to reproduce themselves.

SNAKES (12)

Western Ring-necked Snake (Diadophis amabilis pulchellus).

Rare: A few have been recorded along the swale in headquarters area. One collected February 20, 1961 under rocks in Range Unit 5-1 by Don A. Duncan. One seen in Range Unit 9 in 1962 by Stanley L. Anderson.

Western Yellow-bellied Racer (Coluber constrictor mormon).

Uncommon: Taken occasionally in drift traps in headquarters area.

California Striped Whipsnake (Coluber lateralis).

Common: Widespread on the Range.

Pacific Gopher Snake (Pituophis c. catenifer).

Abundant: Widely distributed over the Experimental Range perhaps more abundant than the rattlesnake (Howard 1949).

King Snake (Lampropeltis getulus californiae).

Common: Found in small numbers on the Experimental Range. One found ingesting a rattlesnake and photographed by Stanley E. Westfall in 1972.

Mountain King Snake (Lampropeltis zonata).

Rare: One found dead on road in 1965 by Don A. Duncan; live specimen found in Range Unit 5-3 in April 1967 by Duncan.

Long-nosed Snake (Rhinocheilus l. lecontei).

Rare: Drift trap records indicate a greater abundance of this snake than was once believed.

Sierra Nevada Garter Snake (Thamnophis elegans couchii).

Common: Found along streams (Fitch 1941).

Giant Garter Snake (Thamnophis elegans gigas).

Rare: First seen March 1972, in pond in Range Unit 9. Specimen captured, identified, and released May 21, 1972 by Don A. Duncan. Thomas F. Newman observed one attempting to swallow a 5-inch bluegill at the reservoir in Range Unit 9 on July 2, 1972. Listed as a "Rare" species in California (Leach and Fisk 1972).

Red-sided Garter Snake (Thamnophis sirtalis tetrataenia).

Common: Limited to moist areas.

California Spotted Night Snake (Hypsiglena torquata nuchalata).

Rare: Recorded in rock outcrops in walls of wells.

Pacific Rattlesnake (Crotalus viridis oreganus).

Abundant: A thorough study of the habits of this species has been made. A population of one per acre is estimated (Fitch 1949; Fitch and Glading 1947; Fitch and Twining 1946; Fitch and Wagon 1947).

MAMMALS (38)

Most of the mammalian investigations have concerned rodents because these animals occur in great numbers and also because their impact on forage production may have economic significance.

Checklist of Mammals

Virginia Opossum	California Pocket
Broad-footed Mole	Mouse
Adorned Shrew	Heermann Kangaroo
Yuma Myotis	Rat
California Myotis	Muskrat
Western Pipistrelle	Southern
Red Bat	Grasshopper
Pallid Bat	Mouse
Mexican Free-tailed Bat	Western Harvest
Raccoon	Mouse
Long-tailed Weasel	Deer Mouse
Spotted Skunk	Brush Mouse
Striped Skunk	Pinon Mouse
Badger	Dusky-footed
Gray Fox	Wood Rat
Coyote	California Meadow
Mountain Lion	Mouse
Bobcat	House Mouse
Beechey Ground Squirrel	Yellow-haired
Merriam Chipmunk	Porcupine
Gray Squirrel	Black-tailed Hare
Botta Pocket Gopher	Audubon Cottontail
San Joaquin Pocket Mouse	Mule Deer

Virginia Opossum (Didelphis v. virginiana).

Common: One was recorded in an owl pellet (Fitch 1947b). First live animal reported by Donald L. Neal, December 1, 1957. Second live record by Jack N. Reppert, June 10, 1958. Several live animals have been seen since 1960.

Broad-footed Mole (Scapanus l. latimanus).

Rare: Two specimens were taken in gardens at headquarters in March 1953. Moles are fairly common in the headquarters area; surface burrows are apparent, other permanent burrows 1-2 feet deep, but animal not often seen. Probably lives deep and under large boulders during dry spells. Five specimens taken by T. L. Yates in 1977 (at Texas Tech) one more in 1979 (at Albuquerque).

Adorned Shrew (Sorex o. ornatus).

Rare. One was caught in a drift trap on April 1, 1951. The specimen is located at the University of California Museum of Vertebrate Zoology, Berkeley. Two were found dead in the

headquarters building patio in 1978.

Yuma Myotis (Myotis yumanensis sociabilis).

Common: Found at night in barns and around adobe buildings.

California Myotis (Myotis c. californicus).

Common: Habits are the same as the Yuma myotis.

Western Pipistrelle (Pipistrellus hesperus merriami).

Common: This early evening flyer was first collected in June 1950.

Red Bat (Lasiurus borealis teliotis).

Rare: Recorded only in an owl pellet by Fitch (1947b).

Pallid Bat (Antrozous pallidus pacificus).

Abundant: Not recorded on the Range by J. T. Wright in 1937, but the pallid bat is now an abundant night roosting bat in the barns and adobe buildings. Jay C. Quast observed them flying out of holes in a blue oak at dusk during summer 1949. Studies on this species have been conducted by Sherman F. Wood and Henry E. Childs, Jr. Dr. T. L. Yates and students found them foraging on Jerusalem crickets, indicating that they were foraging on the ground.

Mexican Free-tailed Bat (Tadarida mexicana).

Common: Only a few records in early spring have been obtained while they were night roosting with the pallid bat.

Raccoon (Procyon lotor psora).

Common: Widespread over the Range along swales.

Long-tailed Weasel (Mustella frenata xanthogenys).

Rare: One was captured in the drift traps on May 6, 1950.

Spotted Skunk (Spilogale gracilis phenax).

Rare: Two, both road kills, found in 1951-52.

Striped Skunk (Mephitis mephitis occidentalis).

Uncommon: A few individuals have been trapped or seen.

Badger (Taxidea taxus neglecta).

Common: Although badgers are not often seen - even at night - their diggings indicate they are present. One killed on the

entrance road in 1973 was given to the Biology Dept., C.S.U., Fresno.

Gray Fox (Urocyon cinereoargenteus townsendi).

Rare: Few foxes have been seen in recent years. Childs and Howard (1955) listed this species as common, but only three separate sightings were reported in 1971 and 1972. On January 28, 1973, Thomas F. Newman saw an individual near the stone bridge on the entrance road.

Coyote (Canis latrans).

Common: No control effort has been made since 1960. Coyotes have been commonly seen and heard in recent years. No cattle have ever been reported killed by coyotes. Calves dying from other causes have been scavenged by coyotes. Fitch (1948b) reported on the coyote at the Experimental Range.

Mountain Lion (Felis concolor californica).

Rare: Several sight records have been made since 1934. A few deer kills have been made on the Experimental Range by mountain lions. Latest sighting was in December 1983 by Steve Bruggeman in R.U. 10.

Bobcat (Lynx rufus californicus).

Common: Frequently sighted now. No control effort has been made since 1960. Population is thought to be increasing. No cattle losses from bobcats have ever been reported. A bobcat was seen feeding on a small fawn in August 1976; whether the bobcat killed the fawn is not known.

Beechey Ground Squirrel (Spermophilus beecheyi fisheri).

Abundant: This species is very important ecologically and possibly economically on foothill rangelands. Many investigators have studied the life history of this animal, including Fitch 1947c, 1948c; Fitch and Bentley 1949; Horn and Fitch 1946; Howard 1951, 1959; Howard and Wagnon 1951; Howard, Wagnon, and Bentley 1959. More recently the movements, population dynamics, and food habits of these squirrels and their relationship to cattle grazing, along with some of the smaller mammals, were studied in cooperation with the U.S. Fish and Wildlife Service (Cockerham 1975; Schitoskey 1973, 1975; Schitoskey & Woodmansee 1978). No control measures have been applied since 1962.

Merriam Chipmunk (Eutamias m. merriami).

Uncommon: This species seems restricted to rock outcrops where brush or fallen trees are found. J. T. Wright indicates that it may have been more abundant in former years. Seems to be rather common in suitable habitat. Frank

Schitoskey (pers. commun.) reported in 1973 chipmunks were more common than the San Joaquin pocket mouse. Canaday (1975) studied energy requirements.

Gray Squirrel (Sciurus g. griseus).

Uncommon: The gray squirrel is found in association with digger pines. It is probably exposed to greater predation here than in most parts of its range because of the necessity of moving from tree to tree on the ground.

Botta Pocket Gopher (Thomomys bottae mewa).

Abundant: Howard and Childs (1959) reported, "This species perhaps surpasses the ground squirrel for the title of the most destructive rodent on rangelands, because they occur in much greater numbers. It was found that 32 per acre reduced forage by 25 percent.... An aboveground dispersal has been demonstrated by the drift trap study." Others who have reported on the species are Howard (1952a, 1952b, 1953), Maynard (1979), Morejohn and Howard (1956), and Ratliff and Westfall (1971).

San Joaquin Pocket Mouse (Perognathus i. inornatus).

Common: appears to be common where vegetation is sparse.

California Pocket Mouse (Perognathus californicus ochrus).

Uncommon: Only irregularly taken.

Heermann Kangaroo Rat (Dipodomys heermanni tularensis).

Common: At one time very abundant. A change from "perhaps 30 per acre to only one," during the period 1935 through 1946 was reported (Fitch 1948a). Frank Schitoskey reported this species is even less abundant than one per acre from study results in 1972-73.

Muskrat (Ondatra zibethica).

Rare: Three were seen on the reservoir in Range Unit 9 during 1971. Two were killed September 10, 1971; a dead muskrat was seen at the reservoir on July 2, 1972. One live one seen July 8, 1972.

Southern Grasshopper Mouse (Onychomys torridus tularensis).

Rare: Reported only in association with Lotus scoparius in the big canyon below headquarters. An attempt to find them in this area in the summer of 1952 was unsuccessful.

Western Harvest Mouse (Reithrodontomys megalotis longicaudus).

Uncommon: Found in the swale areas in ungrazed pastures.

Deer Mouse (Peromyscus maniculatus gambeli).

Abundant: The deer mouse is found in open grazed pastures away from rocks or brush.

Brush Mouse (Peromyscus b. boylei).

Abundant: Found generally in rock outcrops (Howard 1957).

Pinon Mouse (Peromyscus truei gilberti).

Abundant: This species is most abundant in ungrazed brush. An idea of the relative abundance of the three species of Peromyscus may be gained from the following summary of total catch in standardized trap lines in two grazed pastures and in the ungrazed Natural Area during October 1951, April and October 1952, and April 1953. The numbers caught were P. boylei, 43; P. truei 20; P. maniculatus, 11; Perognathus inornatus, 6; Dipodomys, 5; Neotoma, 2; Riethrodontomys, 1; Eutamias, 1; Total 89.

Dusky-footed Wood Rat (Neotoma fuscipes streator).

Common: The wood rat is widely found in brush and rock outcrops.

California Meadow Mouse (Microtus californicus mariposae).

Uncommon: The meadow mouse is restricted to ungrazed areas where it may become abundant. A cyclic peak in abundance was observed in 1951. In 1972 and 1973 Frank Schitoskey reported no captures of this species with intense trapping effort in suitable habitat.

House Mouse (Mus musculus).

Rare: Only an occasional individual was taken in the headquarters area.

Yellow-haired Porcupine (Erethizon dorsatum).

Rare: One was reported some years ago by Kenneth A. Wagnon and one was found dead on the entrance road in June, 1953. No live animals reported since 1960.

Black-tailed Hare (Lepus c. californicus).

Uncommon: Occasional individuals are seen.

Audubon Cottontail (Sylvilagus audubonii vallicola).

Abundant: It is widely distributed over the Experimental Range, often seen in numbers in the evenings during summer on lawns around headquarters (Fitch 1947a; Herman and Jankiewicz 1943).

Mule Deer (Odocoileus hemionus).

Common: Apparently deer have greatly increased in numbers since 1934. Horn and Fitch (1942) did not mention deer as occurring on the Experimental Range. Childs and Howard (1955) estimated the resident population at about a dozen animals, with no apparent migrants. Deer continued to increase during the 1960's until the population is now probably in excess of 100 animals.

BIRDS (176)

Newman and Duncan (1973) provided a list of the birds recorded at the San Joaquin Experimental Range (hereafter SJER) during the first 36 years since its establishment in 1934. Most data represented results of only occasional observations by scientists and technicians, combined with a number of collected specimens. Since 1977, intensive studies of bird communities in the pine-oak woodlands at SJER (see Hejl 1981, Verner 1984, Verner and Ritter 1985) have resulted in the addition of many new records, making the compilation of a new list desirable. Most field studies addressed winter, spring, and breeding bird assemblages. Field work between July and October has been limited, so data during this period are incomplete.

The following list is based in part on the record of observed birds at SJER and in part on the larger experience of ornithologists with the avifauna of oak-pine woodlands in that portion of the western foothills of the central Sierra Nevada. It is designed to serve as (1) a framework for assessing the knowledge we have of the local pattern of species' distributions through the cycle of the seasons, (2) a baseline against which future changes in the avifauna may be measured, and (3) a basis for comparison with other areas. For a general account of birds and bird assemblages in oak-pine woodlands see Verner (1980) and Verner and Boss (1980).

The following define abundance categories used:

Irregular--present in some years but not in others, or in numbers that vary markedly from year to year.

Common--may be detected 50% to 100% of the time over most of SJER.

Uncommon--may be detected 10% to 50% of the time over most of SJER.

Rare--may be detected 10% or less of the time over most of SJER.

Locally common--detected 50% to 100% of the time in habitats with restricted distribution at SJER.

Locally uncommon--detected 10% to 50% of the time in habitats with restricted distribution at SJER.

Locally rare--may be detected 10% or less of the time in restricted habitats.

Accidental--Only one to a few records at SJER; no regularity.

Casual--nonresident, nonmigrant visitors that occur infrequently and in low numbers, typically as strays

from preferred habitats nearby.

NOTE: Abundance designations assume visits to appropriate habitat in the proper season; they allow crude quantitative comparisons only.

The following define seasons of occurrence as used here:

Permanent resident--the species (not necessarily the individual) remains the year around and normally breeds at SJER.

Summer resident--the species is present during most or all of the summer period and normally breeds at SJER; some summer residents arrive as early as February; some may remain as late as October.

Winter resident--the species is present during most or all of the winter period only; some winter residents may arrive as early as August; some may remain as late as May.

Migrant--a transient only, usually occurring in spring (any period from February-May) and/or fall (any period from the end of July-November).

NOTE: Whenever sufficient information was available, we included the observed arrival and departure dates of seasonally occurring species, notes on sighting dates, and observer's initials for unusual observations and nesting information. Species marked with an asterisk (*) are known to nest on the SJER. References to research done on individual species at SJER are cited. Nomenclature and the sequence of species in this list follow the American Ornithologists' Union Check-List of North American Birds (1983), which varies from those in older field guides and reference books.

Initials of observers:

SLA - Stanley L. Anderson	JCL - John C. Lovio
JRB - Jay R. Bentley	TFN - Thomas F. Newman
DB - Dawn Breese	KLP - Kathryn L. Purcell
RFB - Robert F. Buttery	JCQ - Jay C. Quast
DAD - Don A. Duncan	LVR - Lyman V. Ritter
FG - Frank Gibson	FHS - Frank H. Starkey
BG - Ben Glading	JV - Jared Verner
ELH - Ellen L. Hammond	JRW - Jeffery R. Waters
KH - Keith Hansen	SEW - Stanley E. Westfall
RH - Robert Hansen	AW - Arlene Wilkinson
ZL - Zev Labinger	JTW - J. T. Wright

Checklist of Birds

Pied-billed Grebe	Dunlin
Eared Grebe	Common Snipe
American White Pelican	California Gull
Least Bittern	Rock Dove
Great Blue Heron	Band-tailed Pigeon
Great Egret	*Mourning Dove
Green-backed Heron	Greater Roadrunner
Black-crowned Night-heron	Common Barn-owl
Greater White-fronted Goose	*Western Screech-owl
Snow Goose	*Great Horned Owl
Canada Goose	Northern Pygmy-owl
*Wood Duck	*Long-eared Owl
Green-winged Teal	Common Nighthawk
*Mallard	Common Poorwill
Blue-winged Teal	Black Swift
Cinnamon Teal	Vaux's Swift
Gadwall	White-throated Swift
American Wigeon	*Anna's Hummingbird
Canvasback	Rufous Hummingbird
Redhead	Belted Kingfisher
Ring-necked Duck	Lewis' Woodpecker
Greater Scaup	*Acorn Woodpecker
Bufflehead	Yellow-bellied Sapsucker
Hooded Merganser	Red-breasted Sapsucker
Common Merganser	*Nuttall's Woodpecker
Ruddy Duck	Downy Woodpecker
*Turkey Vulture	Hairy Woodpecker
California Condor	*Northern Flicker
Osprey	Olive-sided Flycatcher
Black-shouldered Kite	Western Wood-Pewee
Bald Eagle	Willow Flycatcher
Northern Harrier	Hammond's Flycatcher
Sharp-shinned Hawk	Dusky Flycatcher
*Cooper's Hawk	Gray Flycatcher
Swainson's Hawk	Western Flycatcher
*Red-tailed Hawk	*Black Phoebe
Rough-legged Hawk	Say's Phoebe
*Golden Eagle	*Ash-throated Flycatcher
*American Kestrel	*Western Kingbird
Merlin	Horned Lark
Prairie Falcon	Purple Martin
Chukar	*Tree Swallow
Common Peafowl	*Violet-green Swallow
Wild Turkey	Northern Rough-winged Swallow
*California Quail	*Cliff Swallow
Virginia Rail	*Barn Swallow
American Coot	Steller's Jay
Sandhill Crane	*Scrub Jay
*Killdeer	Clark's Nutcracker
Greater Yellowlegs	American Crow
Solitary Sandpiper	*Common Raven

- *Plain Titmouse
- *Bushtit
- *White-breasted Nuthatch
- Brown Creeper
- Rock Wren
- *Canyon Wren
- *Bewick's Wren
- *House Wren
- Winter Wren
- Ruby-crowned Kinglet
- *Blue-gray Gnatcatcher
- *Western Bluebird
- Mountain Bluebird
- Townsend's Solitaire
- Swainson's Thrush
- Hermit Thrush
- American Robin
- Varied Thrush
- Wrentit
- Northern Mockingbird
- *California Thrasher
- Water Pipit
- Cedar Waxwing
- *Phainopepla
- Loggerhead Shrike
- *European Starling
- Solitary Vireo
- *Hutton's Vireo
- Warbling Vireo
- Orange-crowned Warbler
- Nashville Warbler
- Yellow Warbler
- Chestnut-sided Warbler
- Yellow-rumped Warbler
- Black-throated Gray Warbler
- Townsend's Warbler
- Hermit Warbler

- MacGillivray's Warbler
- Common Yellowthroat
- Wilson's Warbler
- Yellow-breasted Chat
- Western Tanager
- Black-headed Grosbeak
- Lazuli Bunting
- Green-tailed Towhee
- Rufous-sided Towhee
- *Brown Towhee
- *Rufous-crowned Sparrow
- Chipping Sparrow
- Brewer's Sparrow
- Vesper Sparrow
- *Lark Sparrow
- Black-throated Sparrow
- Savannah Sparrow
- Fox Sparrow
- Song Sparrow
- Lincoln's Sparrow
- Golden-crowned Sparrow
- White-crowned Sparrow
- Dark-eyed Junco
- *Red-winged Blackbird
- *Western Meadowlark
- *Brewer's Blackbird
- *Brown-headed Cowbird
- *Northern Oriole
- Purple Finch
- *House Finch
- Red Crossbill
- Pine Siskin
- *Lesser Goldfinch
- *Lawrence's Goldfinch
- American Goldfinch
- Evening Grosbeak
- *House Sparrow

* Nesting documented at SJER.

ANNOTATED LIST

Pied-billed Grebe (Podilymbus podiceps).

Uncommon winter resident: Observed on reservoirs.

Eared Grebe (Podiceps nigricollis).

Rare migrant: One seen on reservoir in Range Unit 9 on 8 October 1958 (RFB); may have occurred irregularly since then.

American White Pelican (Pelecanus erythrorhynchos).

Accidental: One record--40 birds flying over on 30 March 1953.

Least Bittern (Ixobrychus exilis).

Accidental: A female was trapped and released on 16 April 1950.

Great Blue Heron (Ardea herodias).

Casual: Occasionally seen by reservoirs, in horse pasture swale, or flying overhead. A pair nested successfully in a large digger pine at a pond just south of the Range boundary in 1984. Observed several times catching and eating pocket gophers some distance from water (DAD).

Great Egret (Casmerodius albus).

Casual: Formerly found at the horse pasture dam in summer, but has not been recorded since September 1951.

Green-backed Heron (Butorides striatus).

Accidental: One seen at reservoir in Range Unit 9 on 18 April 1957 and 18 May 1958 (RFB).

Black-crowned Night Heron (Nycticorax nycticorax).

Accidental: One was heard calling in flight on 7 October 1952.

Greater White-fronted Goose (Anser albifrons).

Accidental: One record of 35 passing over SJER on 7 December 1951.

Snow Goose (Chen caerulescens).

Accidental: A flock of 25 observed on 12 December 1967 (DAD). One seen flying over on 8 February 1982 (LVR).

Canada Goose (Branta canadensis).

Irregular migrant: Most records are of flocks passing over SJER, but occasionally flocks have been seen feeding in open areas.

*Wood Duck (Aix sponsa).

Irregular permanent resident: A pair successfully nested at reservoir in Range Unit 9 in the spring of 1971; nesting was confirmed there again in 1985 (JRW), and another probably nested along the tributary to Cottonwood Creek north of the corrals in 1985 (JV).

Green-winged Teal (Anas crecca).

Accidental: Seen on the reservoir in Range Unit 9 on 5 December 1972 (DAD).

*Mallard (Anas platyrhynchos).

Irregular permanent resident and uncommon migrant: Mallards formerly bred near the horse pasture dam area. Pairs have been found nesting along intermittent streams at SJER, but they seldom succeed.

Blue-winged Teal (Anas discors).

Accidental: A group was reported at the horse pasture dam 8 March 1937 (BG).

Cinnamon Teal (Anas cyanoptera).

Rare winter resident: Several seen in February 1965, on the reservoir in Range Unit 9, and occasional birds seen there during winters of 1970-72.

Gadwall (Anas strepera).

Rare winter resident: Occasionally seen on reservoir in Range Unit 9 during winter of 1970-71.

American Wigeon (Anas americana).

Rare winter resident: Occasionally seen on reservoirs during winters of 1970-72.

Canvasback (Aythya valisineria).

Rare winter resident: Several seen on ponds in both Range Units 9 and 61 in February 1975 by DAD.

Redhead (Aythya americana).

Casual in winter: Five or six were seen on the reservoir in

Range Unit 9 in winter (JRB), and a dozen were seen there on 21 January 1979 (DAD).

Ring-necked Duck (Aythya collaris).

Uncommon winter resident: Six were seen in March 1952; seen often on the reservoir in Range Unit 9 in the 1970's and 1980's.

Greater Scaup (Aythya marila).

Accidental: A flock of 20 was seen on 24 February 1952.

Bufflehead (Bucephala albeola).

Rare winter resident: A pair recorded passing over SJER on 21 January 1980 (LVR).

Hooded Merganser (Lophodytes cucullatus).

Casual: Three seen in February and March 1952; several seen on reservoirs in the 1960's and 1970's. A female was seen on the reservoir in Range Unit 9 on 25 March 1985 (JCL, ELH).

Common Merganser (Mergus merganser).

Casual: A flock of five was seen on 5 February 1952.

Ruddy Duck (Oxyura jamaicensis).

Casual: One male was collected on 4 June 1937.

*Turkey Vulture (Cathartes aura).

Uncommon migrant and summer resident: Nests have been found in rock outcrops in May 1951, 1977, 1979. Migrating flocks of more than 500 birds have roosted overnight during September or October, but spring numbers are never so large. Ritter (1983) reported on nestling growth rates at one nest.

California Condor (Gymnogyps californianus).

Accidental: A flock of six to nine individuals was seen on 30 August 1950 (Cohen 1951).

Osprey (Pandion haliaetus).

Accidental: Two recorded at a neighbor's reservoir in spring 1968 were occasionally seen flying over SJER (DAD). One was seen overhead 10 and 14 April 1978 (JV and LVR) and on 19 April 1985 (ELH).

Black-shouldered Kite (Elanus caeruleus).

Casual: One was seen on 13 March 1978 (JV) and another on 23 April 1981 (DB).

Bald Eagle (Haliaeetus leucocephalus).

Rare winter resident: Recorded once by Fitch et al. (1946). Reported on 27 January 1957 (RFB), on 27 December 1970 (DAD), and on 28 December 1972 (DAD, FHS, and TFN). During the winter of 1984-1985, three were seen by JCL and two by ELH. Sightings are probably of birds in transit between bodies of water.

Northern Harrier (Circus cyaneus).

Casual: One was seen on 28 November 1950. One reported in 1970 and another on 24 April 1971 (DAD). An immature was observed on 17 November 1981 (LVR).

Sharp-shinned Hawk (Accipiter striatus).

Uncommon winter resident: Recorded from 12 September to 25 April.

*Cooper's Hawk (Accipiter cooperii).

Uncommon permanent resident: Numbers increase in fall and winter. Habits of this species at SJER were reported by Fitch et al. (1946).

Swainson's Hawk (Buteo swainsoni).

Casual: One bird seen flying over on 16 May 1978 (JV); known to breed within 4.6 km of SJER.

*Red-tailed Hawk (Buteo jamaicensis).

Common permanent resident: Its habits were reported in detail by Fitch et al. (1946).

Rough-legged Hawk (Buteo lagopus).

Accidental: One was recorded on 26 September 1951 and another on 20 March 1952.

*Golden Eagle (Aquila chrysaetos).

Rare permanent resident: Known to have nested successfully at SJER in the spring of 1981 (DB, KH, KLP, and LVR), and again in 1985 (ZL, ELH).

*American Kestrel (Falco sparverius).

Uncommon to rare permanent resident: More common in winter.

Merlin (Falco columbarius).

Casual in winter: One female (a darker subspecies) was seen along the entrance road on 13 November 1984 (JCL).

Prairie Falcon (Falco mexicanus).

Casual: Ten records during the winter period only, extending from 6 October to 27 April.

Chukar (Alectoris chukar).

Accidental exotic: One seen May 1972 (DAD); probably a release from a neighboring ranch.

Common Peafowl (Pavo cristatus).

Accidental exotic: Two adult females were seen on 7 July 1971 (SLA and DAD).

Wild Turkey (Meleagris gallopavo).

Accidental exotic: Introduced into nearby area (Raymond) by the California Department of Fish and Game in the late 1960's. One was seen on 19 April 1972 (DAD and TFN) and another on 6 May 1972 (DAD). Two sightings by SLA in April 1975. A female remained near headquarters during much of the spring of 1984 (JV).

*California Quail (Callipepla californica).

Common permanent resident: Nesting occurs from May to mid-August. Much of the work serving as the basis for quail management in California was done at SJER (Emlen and Glading 1938; Glading 1938a, 1938b, 1941; Glading et al. 1940; Herman and Glading 1942; Herman et al. 1942; Herman and Chattin 1943; Glading and Saarni 1944; Philpot et al. 1958; Duncan and Shields 1966; Shields and Duncan 1966; Duncan 1968, 1971, 1980; Browning 1977; Newman 1978; Grenfell et al. 1980).

Virginia Rail (Rallus limicola).

Accidental: One specimen has been taken.

American Coot (Fulica americana).

Rare winter resident: Seen occasionally on reservoirs during 1970-71. Recorded in an owl pellet (Fitch 1947b). An irregular migrant at a reservoir adjacent to the NE corner of SJER.

Sandhill Crane (Grus canadensis).

Accidental: A flock of eight was seen overhead on 8 March 1982 (LVR).

*Killdeer (Charadrius vociferus).

Uncommon permanent resident: Nests with eggs reported on 28 February, 3 April, 29 May, and 1 June 1952 and commonly since.

Greater Yellowlegs (Tringa melanoleuca).

Casual migrant: One bird seen along intermittent stream near rock bridge on entrance road on 17 April 1985 (DAD).

Solitary Sandpiper (Tringa solitaria).

Accidental: One bird seen along intermittent stream north of the corrals on 19 and 26 April 1985 (ELH, JCL).

Dunlin (Calidris alpina).

Casual: Observed by JTW in April, 1937.

Common Snipe (Gallinago gallinago).

Accidental: Two records in March (LVR).

California Gull (Larus californicus).

Accidental: One seen flying over on 2 May 1980 (LVR).

Rock Dove (Columba livia).

Casual: Three small flocks seen flying over--28 March 1978 (LVR); 20 April 1978 (LVR); and 22 March 1982 (DB).

Band-tailed Pigeon (Columba fasciata).

Irregular: Common in some years when acorns are plentiful. Flocks of 50-3000 birds were seen in mid-March, 1980 (LVR). Records fall between 21 January and 15 June.

*Mourning Dove (Zenaida macroura).

Common summer resident; irregular in winter: Nesting begins in late March and continues to late August.

Greater Roadrunner (Geococcyx californianus).

Uncommon permanent resident: More often heard than seen. Probably breeds but no definite record.

Common Barn-owl (Tyto alba).

Common permanent resident: No definite nesting record, but several hollow oaks have been found full of pellets of this species, suggesting at least regular roosts. This species, as with some other owls that occur at SJER, is much more common than is apparent from the usual bird observations, because of their nocturnal habits. For example, barn-owls were detected on 14 of 15 "owling" runs during the winter of 1984-85 (JCL).

*Western Screech-owl (Otus kennicottii)

Common permanent resident: Begins courting in late winter throughout SJER, especially in more heavily wooded drainages.

*Great Horned Owl (Bubo virginianus).

Common permanent resident: A pair was observed in courtship as early as 28 January 1980 (LVR). It was detected on 15 of 15 "owling" runs in the winter of 1984-85 (JCL). Detailed accounts of the horned owl at SJER are provided by Fitch (1940, 1947b) and Howard (1958).

Northern Pygmy-owl (Glaucidium gnoma).

Rare winter resident: Birds have been heard calling between 22 January and 15 May. A dead bird was found 8 November 1971 (TFN), and a live one was captured in a mist net near headquarters on 20 December 1984 (DB). One was calling in Range Unit 10 on 22 March 1985 (ELH, JCL), and one was heard in Range Unit 9 on 24 April 1985 (ELH). Prefers more heavily wooded areas with more pines.

*Long-eared Owl (Asio otus).

Irregular permanent resident: A brood of six fledglings was observed several times during May 1981 (DB, LVR, and JV).

Common Nighthawk (Chordeiles minor).

Irregular migrant: Recorded in April, May, and October in small numbers.

Common Poorwill (Phalaenoptilus nuttallii).

Irregular winter resident; uncommon migrant: One was reported calling in August 1949 (JCQ). On several occasions, a single bird was seen in the same general location in the natural area from 27 March to 24 April 1978, and from 12 March to 1 May 1981; others were flushed occasionally during the same periods in Range Unit 6 (LVR and JV). Heard and seen on several occasions in March and April 1985 (ELH, ZL, JCL, JRW).

Black Swift (Cypseloides niger).

Rare migrant: One seen on 9 May 1961 (RFB).

Vaux's Swift (Chaetura vauxi).

Rare migrant: Six records of small groups flying over between 24 April and 16 June, and a single bird seen on 12 September 1977 (JV).

White-throated Swift (Aeronautes saxatalis).

Casual: Nine records of birds flying overhead, from February to May.

*Anna's Hummingbird (Calypte anna).

Uncommon permanent resident: In late winter these birds concentrate around blooming manzanita bushes.

Rufous Hummingbird (Selasphorus rufus).

Rare migrant.

Belted Kingfisher (Ceryle alcyon).

Casual: Previously considered a permanent resident.

Lewis' Woodpecker (Melanerpes lewis).

Irregular winter resident: Sporadic in occurrence from year to year; when present, their numbers vary from week to week. Hundreds were present at SJER in the winter of 1964-1965.

*Acorn Woodpecker (Melanerpes formicivorus).

Common permanent resident: Very abundant and frequently observed. Acorn storing habits often damage buildings, power poles, and fence posts.

Yellow-bellied Sapsucker (Sphyrapicus varius nuchalis).

Accidental: One bird was seen in the Natural Area on 17 December 1984 (JCL), and presumably the same bird was seen there several times during March, 1985 (JRW).

Red-breasted Sapsucker (Sphyrapicus ruber).

Uncommon winter resident: Recorded from 31 August to 23 April in more heavily wooded areas.

*Nuttall's Woodpecker (Picoides nuttallii).

Uncommon to rare permanent resident: A notably territorial species, often seen in blue oaks and digger pines.

Downy Woodpecker (Picoides pubescens).

Rare fall and winter resident: Seven records--26 July 1952, 15 January 1953, 12 September 1977, 1 February 1978, 15 March 1978, 10 February 1982, and 29 January 1985.

Hairy Woodpecker (Picoides villosus).

Irregular winter resident: probably a rare breeder: Occurs sporadically throughout SJER from November to as late as 19 May. A pair excavated a cavity on the Natural Area in the spring of 1985 and were observed in apparent courtship behavior (JRW); although nesting was not confirmed.

*Northern Flicker (Colaptes auratus).

Uncommon permanent resident; more numerous in winter: A "Yellow-shafted Flicker" was seen 1 February 1982 (DB and KH).

Olive-sided Flycatcher (Contopus borealis).

Rare spring migrant: Recorded from April to 6 June.

Western Wood-Pewee (Contopus sordidulus).

Uncommon spring migrant: Recorded from 23 April to 16 June.

Willow Flycatcher (Empidonax traillii).

Rare spring migrant: Two documented records: 22 May 1981 (RH) and 18 May 1985 (JCL). Field identification of Empidonax flycatchers during migration is difficult because they exhibit subtle color differences, they remain quiet, and they occur in atypical habitat. Detailed field notes on plumage characteristics and behavior should be kept to document the occurrence of all Empidonax species.

Hammond's Flycatcher (Empidonax hammondii).

Rare spring migrant: Nine records between 13 April to 22 May.

Dusky Flycatcher (Empidonax oberholseri).

Rare spring migrant: Several records between 12 April to 22 May. Dusky and Hammond's Flycatchers are probably more regular spring migrants than indicated by their records.

Gray Flycatcher (Empidonax wrightii).

Uncommon spring migrant: Specimens taken 19 and 21 April 1937; observed regularly during standard bird counts in April 1985 (ELH, ZL, JCL).

Western Flycatcher (Empidonax difficilis).

Rare spring migrant: Three records--22 April 1981 (JV),
24 April 1981 (LVR), and 18 May 1981 (RH).

*Black Phoebe (Sayornis nigricans).

Locally uncommon permanent resident: Nests in culverts.

Say's Phoebe (Sayornis saya).

Uncommon winter resident: Single birds were recorded from
3 September to 15 March. They roost commonly in protected
places around the headquarters and forage in open areas
throughout SJER.

*Ash-throated Flycatcher (Myiarchus cinerascens).

Common summer resident: Recorded from 4 April to 15 September
Nest building first noted 28 April.

*Western Kingbird (Tyrannus verticalis).

Locally common summer resident: Recorded from 23 March to
September. No nests have been reported, but the species
undoubtedly nests at SJER. A bird was seen carrying food on
23 April 1985 (ELH), and a pair was seen mobbing a common
raven that was carrying a nestling bird on 24 April 1985
(ZL).

Horned Lark (Eremophila alpestris).

Casual: Recorded once in a drift trap. Seven observed
overhead on 10 November 1980 (LVR).

Purple Martin (Progne subis).

Accidental during migration: A flock was recorded on 22 May
1948. Not recorded again until a single bird was seen on 17
April 1985 (ZL and JCL) and three were seen on 18 April 1985
(ZL).

*Tree Swallow (Tachycineta bicolor).

Locally uncommon migrant and summer resident: Considered a
resident in 1937 by JTW; not recorded between 1951 and 1985,
when a pair was seen at the reservoir in Range Unit 9 (ELH,
JCL); this pair later nested (ZL).

*Violet-green Swallow (Tachycineta thalassina).

Common summer resident: Recorded from 1 March to 12
September; numbers reduced in late summer when birds move up
into the Sierra Nevada.

Northern Rough-winged Swallow (Stelgidopteryx serripennis).

Rare migrant: Two records--26 April 1953; and 10 birds overhead on 19 March 1980 (LVR).

*Cliff Swallow (Hirundo pyrrhonota).

Rare spring migrant; considered a summer resident prior to 1960: Nested successfully in the headquarters building in May, 1958. Recent records are of small flocks flying overhead between 23 April and 15 May.

*Barn Swallow (Hirundo rustica).

Rare summer resident: Observed from 17 April to July. Nesting was documented in 1952, and a nest, probably of the previous season, was found in an old mine shaft in March, 1985 (JCL).

Steller's Jay (Cyanocitta stelleri).

Irregular winter resident: Observed during the winters of 1966, 1972, 1973, and 1980, with records falling between 29 October and 20 April.

*Scrub Jay (Aphelocoma coerulescens).

Common permanent resident: Young birds have been found in the nest as early as 31 March. Wilkinson (1953) described some nesting activity of these birds at SJER.

Clark's Nutcracker (Nucifraga columbiana).

Casual in winter: One observed from 15 September to 28 October 1950. Widespread invasions occurred in California in 1950 (Davis and Williams 1957).

American Crow (Corvus brachyrhynchos).

Accidental: Three records of birds overhead--one on 17 April 1978 (JV), two on 10 March 1982 (LVR), and one on 20 March 1982 (DB).

*Common Raven (Corvus corax).

Now an uncommon permanent resident: Ravens are commonly detected because their calls are loud, but their numbers at SJER are low. First recorded on 21 April 1952 and recorded every year since 1965. A flock of 12 birds was seen on 17 November 1981 (LVR). A pair carrying nest material on 5 May 1981 (DB), and courting adults and adults with young juveniles observed near the waterfalls downstream from the corrals, in the spring of 1983, 1984, and 1985 (ZL, JCL) indicate local nesting.

*Plain Titmouse (Parus inornatus).

Common permanent resident: Nest building underway by mid-March. Copulation first observed 8 March 1983 (LVR). Parents noted feeding fledglings by late April.

*Bushtit (Psaltriparus minimus).

Locally common permanent resident: Nest building has been observed as early as 18 January 1953 (AW). Nest building reaches a peak about mid-March. Territories appear to be abandoned sometime in May or June, with loose flocks of birds wandering around SJER or moving up into the Sierra Nevada.

*White-breasted Nuthatch (Sitta carolinensis).

Uncommon permanent resident: Although commonly detected because of their frequent loud calls, these birds are not abundant at SJER. Nest building begins in early March, and they have been seen feeding young by 24 April.

Brown Creeper (Certhia americana).

Irregular winter resident: Recorded between 17 November and 22 April.

Rock Wren (Salpinctes obsoletus).

Locally uncommon permanent resident: This species probably nests in suitable rocky ravines; records are scanty because little birding has been done in its preferred habitats.

*Canyon Wren (Catherpes mexicanus).

Locally uncommon permanent resident: Observed nest building on 8 March 1983 (LVR) and on 23 April 1985 (ELH).

*Bewick's Wren (Thryomanes bewickii).

Common permanent resident: A nest with newly hatched young was found as early as 19 March 1978 (JV).

*House Wren (Troglodytes aedon).

Irregular summer resident: Recorded from 24 March thru June, when they apparently move upslope into the Sierra Nevada as the foothills become too dry. Nesting was observed in 1978 and 1983 following wet winters. Absent as breeders on two 50 acre study plots in 1978 and 1980, this was probably the most abundant breeder on those same plots in 1985 (LVR, JV, and JRW).

Winter Wren (Troglodytes troglodytes).

Accidental: One bird seen on 10 March 1981 (LVR).

Ruby-crowned Kinglet (Regulus calendula).

Common winter resident: Recorded between 3 October and 9 May.

*Blue-gray Gnatcatcher (Polioptila caerulea).

Uncommon summer resident: Records fall from 19 March thru June. Nest building first noted 21 April 1978 and 24 April 1981 (LVR).

*Western Bluebird (Sialia mexicana).

Common permanent resident; numbers increased in winter: Earliest nest building recorded on 14 March 1978, 23 March 1980, and 8 March 1983 (LVR).

Mountain Bluebird (Sialia currucoides).

Casual in winter: Recorded in two years--a flock of six on 31 December 1951, and a flock of four on 25 April 1971 (DAD).

Townsend's Solitaire (Myadestes townsendi).

Rare and irregular in winter: One record--a single bird on 19 April 1978 (JV).

Swainson's Thrush (Catharus ustulatus).

Rare spring migrant: Six records between 21 March and 31 May.

Hermit Thrush (Catharus guttatus).

Common migrant and winter resident: Seen between 11 November and 15 May.

American Robin (Turdus migratorius).

Uncommon migrant and winter resident: Recorded between 14 October and 12 May.

Varied Thrush (Ixoreus naevius).

Irregular winter resident: Records fall between 21 October and 11 March, with most records occurring from November through January.

Solitary Vireo (Vireo solitarius).

Uncommon spring migrant: Recorded between 18 April and 22 May.

*Hutton's Vireo (Vireo huttoni).

Locally common permanent resident: Nest building observed on 14 March 1978 and 9 March 1982 (LVR).

Warbling Vireo (Vireo gilvus).

Uncommon spring migrant; rare fall migrant: Spring records fall between 18 April and 22 May. The only fall record was on 31 August 1977.

Orange-crowned Warbler (Vermivora celata).

Common spring migrant; rare fall migrant: Spring records fall between 24 February and 18 May. Three fall records-- 12 September, 4 and 14 October.

Nashville Warbler (Vermivora ruficapilla).

Common spring migrant: Recorded between 19 March and 18 May.

Yellow Warbler (Dendroica petechia).

Rare spring migrant: Recorded between 20 April and 4 June.

Chestnut-sided Warbler (Dendroica pennsylvanica).

Accidental: One record--31 May 1981 (DB, FG, and KH).

Yellow-rumped Warbler (Dendroica coronata).

Common winter resident: Observed between 26 September and 30 April, but may be irregular in some years. Both "Audubon's" and "Myrtle" warblers occur, but the latter subspecies is only accidental.

Black-throated Gray Warbler (Dendroica nigrescens).

Uncommon spring migrant; rare fall migrant: Spring records fall between 19 March and 8 May. One fall record, 18 October.

Townsend's Warbler (Dendroica townsendi).

Common spring migrant: Recorded from 14 April to 22 May.

Hermit Warbler (Dendroica occidentalis).

Uncommon spring migrant: Recorded from 24 April to 8 May.

MacGillivray's Warbler (Oporornis tolmiei).

Uncommon spring migrant: Recorded from 12 April to 17 May.

Common Yellowthroat (Geothlypis trichas).

Rare spring migrant: One was collected on 7 April 1952.

Wilson's Warbler (Wilsonia pusilla).

Common spring migrant; rare fall migrant: Spring records fall between 3 April and 22 May. One fall record--12 September.

Yellow-breasted Chat (Icteria virens).

Rare spring migrant: One was collected on 10 May 1937.

Western Tanager (Piranga ludoviciana).

Rare migrant: Spring records occur from 28 April to 15 May. Two fall records--31 July and 16 September 1952.

Black-headed Grosbeak (Pheucticus melanocephalus).

Common spring migrant; rare fall migrant: Formerly considered a rare summer resident, recorded between 10 April and 8 August 1952. Recent spring records fall between 9 April and 22 May. One fall record--two birds on 8 August 1973 (TFN and SEW).

Lazuli Bunting (Passerina amoena).

Rare spring migrant: Most records fall between 18 April and 18 May; one late record on 20 June 1978 (JV).

Green-tailed Towhee (Pipilo chlorurus).

Rare spring migrant: Two records--29 April 1937 and 1 May 1981.

Rufous-sided Towhee (Pipilo erythrophthalmus).

Common winter resident: Records fall between 20 September and 9 May.

*Brown Towhee (Pipilo fuscus).

Common permanent resident: Nest building first observed on 17 March with peak nesting occurring about mid-April. Nests often parasitized by brown-headed cowbirds (LVR and JV) and eggs often taken by scrub jays (JV).

*Rufous-crowned Sparrow (Aimophila ruficeps).

Rare permanent resident; numbers may increase in winter: A

nest with four eggs was found in the Natural Area on 4 May 1981 (LVR); another with four young estimated to be 3 or 4 days old was found in Range Unit 9 on 22 April 1985 (JCL).

Chipping Sparrow (Spizella passerina).

Rare migrant: Spring records fall between 17 March and 17 May. Fall records occur during September and October.

Brewer's Sparrow (Spizella breweri).

Accidental: Two records--24 April 1981 (JV) and May 1981 (RH and LVR).

Vesper Sparrow (Pooecetes gramineus).

Accidental: One was collected on 12 October 1951.

*Lark Sparrow (Chondestes grammacus).

Uncommon permanent resident: Numbers increase in winter. A nest under construction was discovered on 24 April 1985 (ELH), and a bird was seen carrying nesting material in Range Unit 4 on 8 April 1985 (JCL).

Black-throated Sparrow (Amphispiza bilineata).

Accidental: One bird was seen in Range Unit 6 on 16 April 1985 (JRW).

Savannah Sparrow (Passerculus sandwichensis).

Rare migrant; casual in winter: One was collected on 13 May 1937 and another on 21 October 1952. One was seen on 14 December 1953 (AW) and three were seen on 21 January 1980 (LVR). One was seen on 19 and 24 April 1985 (ELH, ZL).

Fox Sparrow (Passerella iliaca).

Irregular migrant and winter resident: Records fall between 14 November and 24 April.

Song Sparrow (Melospiza melodia).

Casual: One record--12 April 1981 (JV).

Lincoln's Sparrow (Melospiza lincolni).

Rare winter resident: Recorded from early October to 17 May.

Golden-crowned Sparrow (Zonotrichia atricapilla).

Common winter resident: Recorded from 10 September to 16 May.

White-crowned Sparrow (Zonotrichia leucophrys).

Common winter resident: Recorded from 3 September to 7 May.

Dark-eyed Junco (Junco hyemalis).

Common winter resident: Recorded from 3 September to 8 May. A "slate-colored" form was observed on 31 December 1951, and several "pink-sided" forms were seen with a flock of "oregons" in the winter of 1984-85 (ELH and JCL).

*Red-winged Blackbird (Agelaius phoeniceus).

Irregular summer and winter resident: Breeds in some years at horse pasture swale near headquarters and along stretches of the intermittent stream northeast of the corrals. Disperses from SJER with summer dry conditions.

*Western Meadowlark (Sturnella neglecta).

Uncommon permanent resident: Abundant in winter but nests sparingly in the spring.

*Brewer's Blackbird (Euphagus cyanocephalus).

Uncommon permanent resident, with marked reduction of numbers in summer: Formerly nested in the headquarters area, but no recent breeding evidence.

*Brown-headed Cowbird (Molothrus ater).

Common summer resident: Records of adults fall between 23 March and 20 May. Evidence of nest parasitism only of the brown towhee.

*Northern Oriole (Icterus galbula).

Uncommon summer resident: Recorded from 23 March to 19 August.

Purple Finch (Carpodacus purpureus).

Irregular winter resident: Most records fall between 3 October and 19 April. A lone bird was seen on 8 June 1978 (JV).

*House Finch (Carpodacus mexicanus).

Uncommon permanent resident, with reduced numbers in winter: Nest building in a eucalyptus tree near headquarters was noted on 13 March 1985 (ELH and JCL).

Red Crossbill (Loxia curvirostra).

Irregular winter resident: Flocks were seen or heard on six

days between 29 November 1984 and 29 January 1985 (DB, ELH, and JCL), probably as part of a concurrent statewide invasion.

Pine Siskin (Carduelis pinus).

Irregular: Few records--a flock in May 1952; a flock of 18 on 30 March 1981 (DB); three birds on 22 May 1981 (RH), and seen on several days in late March 1985 (JRW).

*Lesser Goldfinch (Carduelis psaltria).

Irregular in winter, uncommon spring migrant and summer resident: Records fall between 16 November and 17 May. Nests were found under construction on 25 April (ZL) and 29 April 1985 (JCL) at two locations in Range Unit 7.

*Lawrence's Goldfinch (Carduelis lawrencei).

Irregular summer resident: Recorded as early as 23 March. A pair was feeding young in a live oak on the Natural Area on 10 April 1985 (JRW).

American Goldfinch (Carduelis tristis).

Casual: Two records--a single bird on 22 March 1982 (DB) and three birds on 24 April 1985 (ELH).

Evening Grosbeak (Coccothraustes vespertinus).

Irregular: Eight records--13 birds on 23 November 1977 (LVR); a small flock on 30 November 1981 (DB); two on 29 and 30 November, and six on 1 December 1982 (KH); a flock heard on 12 December 1984 (JCL); 20 seen on 20 December 1984 (DB, JCL), and one on 24 April 1985 (JCL).

*House Sparrow (Passer domesticus).

Uncommon permanent resident around headquarters.