

BIRDS OF THE SOUTHERN WILLAMETTE VALLEY, OREGON

By GORDON W. GULLION

INTRODUCTION

In 1917 Alfred C. Shelton published "A Distributional List of the Land Birds of West Central Oregon." This paper was the culmination of several years' active field work in Lane County in the southern Willamette Valley of Oregon under the auspices of the University of Oregon. Between 1917 and 1940 some field work was carried on by various persons in this area but very few published notes appeared as a result of this work. Gabrielson and Jewett's "Birds of Oregon" (1940) added much to the knowledge of the avifauna of the state as a whole and recorded several more species from the southern Willamette Valley, but most of their data on Lane County were derived from Shelton's work.

From 1938 to 1942 and again from 1946 to mid-1948, the present author actively pursued field work in the area, spending a total of 496 days in the field. In addition Mr. Ben H. Pruitt of Thurston, Oregon, has kept daily records of all the birds observed about his farm since September, 1945, representing a total of 1161 days as of June 23, 1949. In addition, Dr. Fred Evenden, Jr., formerly of Oregon State College, made several trips into the area, contributing some valuable records.

This paper is primarily a summary of the material contained in the notes of Evenden, Pruitt and the author. It is particularly hoped that a summary of data to date may stimulate local residents and western naturalists to more concentrated study of the fauna of western Oregon.

In addition to the notes of Evenden and Pruitt, the original field notes of Shelton, now in the possession of the Department of Biology of the University of Oregon, have been carefully studied and have yielded some valuable records. Unfortunately, two sources of data often referred to by Shelton have disappeared in the past thirty years. Certain original field notes formerly in the possession of the University of Oregon Museum of Zoology and the private collection of W. A. Kuykendall can not be located at the present time.

Further scattered notes have been contributed by Dr. R. R. Huestis and Dr. J. Hugh Pruett of the University of Oregon, by Mr. William Siegmann of Junction City, by Mr. John W. McKean of the Oregon State Game Commission, by Mrs. John Radmore of Springfield, and by Mrs. G. S. Beardsley, Mrs. Cora Saunders, Mrs. Helen Kilpatrick, Mrs. Lawrence Burgh and Mr. Ray Wiseman, all of Eugene. Mr. Stanley G. Jewett of Portland, Oregon, furnished several notes and identified several specimens for the author. Dr. Alden H. Miller and Dr. Frank A. Pitelka of the Museum of Vertebrate Zoology at the University of California have made many technical suggestions and assisted in other ways.

The author wishes sincerely to thank these workers who have done much to make this paper possible.

THE ENVIRONMENT

The area covered by this report consists of approximately 775 square miles in the center of Lane County, Oregon (see map, fig. 1). Elevations range from about 320 feet near Junction City to 600 feet along the foot of the Coast Range and to 1,000 feet on the Coburg Hills and in the Cascade foothills. This region is the southern end of a distinct physiographic province called the Puget Sound-Willamette Valley Lowland by Atwood (1940; see Smith, 1940, for complete discussion) which extends through much

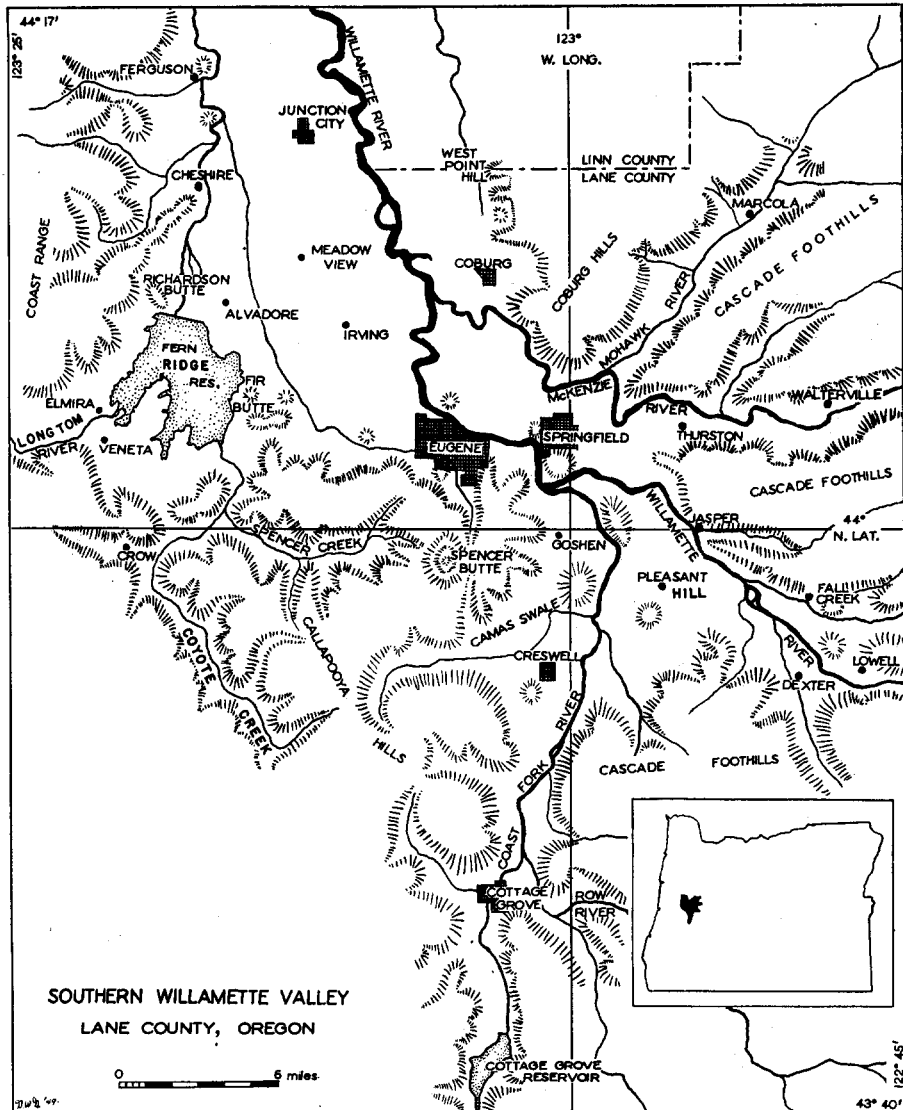


Fig. 1. Map of the southern Willamette Valley, Lane County, Oregon.

of western Oregon and all of western Washington. In Oregon this trough is bounded on the seaward side of the Coast Range and on the interior by the Cascade Range. Moisture-laden, marine air masses cross a 2000-foot range before spilling into this region and then come up against a 6000-foot range before moving farther inland.

These physical features cause sufficient precipitation that all major streams in the area flow with considerable volume throughout the year. Annual flooding in the past has produced a fairly level flood plain in the valley floor.

A characteristic of this valley greatly affecting the flora and fauna is the natural levee along the Willamette River. This feature causes numerous tributary streams to flow for considerable distances in the nature of "Yazoo" streams before they are able

to join the major river (Smith, 1940). The area has many small marshes and scattered flood plain and ox-bow lakes as a result of this. During much of the winter many square miles of the valley floor are covered with a few inches of water.

Scattered throughout the valley are dome-shaped, basaltic buttes which vary from small humps 20 or 30 feet high and a few hundred feet long to large domes several hundreds of feet high and two or three miles long. The soil on these buttes is of shallow residual nature with numerous rock outcroppings while the valley soils are generally of transported origin.

Two recently constructed flood-control dams have locally altered the physical character of this area. The Cottage Grove Dam on the Coast Fork River south of Cottage Grove holds a summer pool of 1158 surface acres and a winter pool of 293 surface acres. This lake, filled for the first time in 1943, is of minor importance from the standpoint of bird life because of its steep banks and deep water. However, the Fern Ridge Dam near Alvadore has produced a major ecological association previously absent in this area. This dam, completed in 1941, holds a summer pool of 9360 surface acres and a winter pool of 1480 acres. From late August until early May about 7800 acres of soft mud are available for wintering shore-birds. The 27 miles of summer shore line, mostly in low grassy fields, provides nesting facilities for several species of birds.

Atwood (1940) places this area in the range of the Marine West Coast element of the Humid Mesothermal Climates. It lies in the *Csb* climate of Köppen, that is, the region is humid, with a January mean temperature of more than 32°F. and a July mean temperature of less than 71°F.; there is a summer drouth with a 3:1 or greater ratio of January mean precipitation to that of August (Hopson, 1935).

Eugene has an annual average temperature of 52.3°F., with the average lowest temperature for the coldest six weeks at 34°F. and the average highest temperature for the hottest six weeks at 80°F. Minimum and maximum recorded temperatures have been -4° and 105°F. The growing season (killing frost to killing frost) averages 205 days, the prevailing wind direction is northwest, and the average annual precipitation is 37.88 inches, with 6.7 inches being in the form of snow. The area has an average of 148 days during which 0.01 inches or more of precipitation falls; these days may be considered as overcast. These averages represent periods of from 36 years (U. S. Weather Bureau, 1930) to 40 years (Wells, 1941).

The 2000-foot summit of the Coast Range between this valley and the Pacific Ocean leaves much of the area in a rain shadow. The western side of the valley has an annual rainfall of about 30 inches which increases toward the east to about 45 inches at Walterville (Detling, 1948). Cottage Grove has an average of 42.82 inches of rainfall annually. This variation in the amount of rainfall across the valley results in a considerable variation in vegetation types. Although Peck (1941) believes the valley was originally covered by coniferous forest, it has been altered so much in historic times that climax vegetation is scarce on the valley floor.

The western and southern parts of the valley floor are covered by oak woodland, a subclimax association (Detling, 1948) consisting of Garry oak (*Quercus garryana*), black oak (*Quercus kelloggii*), madrone (*Arbutus menziesii*), poison oak (*Rhus diversiloba*), and wild rose (*Rosa nutkana*). In some areas along the north side of the Callapooya Hills there are nearly pure stands of black oak, whereas considerable numbers of yellow pines (*Pinus ponderosa*) are found in the Veneta and Elmira areas and a fairly pure stand occurs in the Spencer Creek area.

Farther east across the valley, where the soil is sandy or loamy and the rainfall a little more abundant, the flora is somewhat more luxuriant. Along the Willamette and

McKenzie rivers are extensive areas of black cottonwood (*Populus trichocarpa*), interspersed with Oregon maple (*Acer macrophyllum*), an occasional alder (*Alnus rubra*), cascara (*Rhamnus purshiana*) and in some places numerous incense cedars (*Libocedrus decurrens*). The understory of this association consists of nine-bark (*Physocarpus capitatus*), Indian peach (*Osmaronia cerasiformis*), western hazel (*Corylus californica*) and western valley syringa (*Philadelphus gordonianus*).

On the better soils away from the streams a few extensive pure stands of the climax Douglas fir (*Pseudotsuga taxifolia*), the lower montane forest of Detling (1948), still remain. A few grand firs (*Abies grandis*) are scattered through this forest while the understory consists of vine maple (*Acer circinatum*), Oregon grape (*Berberis aquifolium*), western flowering dogwood (*Cornus nuttallii*) and red-flowering currant (*Ribes sanguineum*).

On clay or adobe soils, especially in the Long Tom-Coyote Creek basin, are growths of Oregon ash (*Fraxinus oregona*), black hawthorn (*Crataegus douglasi*), western chokecherry (*Prunus demissa*), serviceberry (*Amelanchier florida*), snowberry (*Symphoricarpos albus*), wild rose and occasionally Garry oak. On the dry south sides of the basaltic buttes Garry oak largely replaces the ash while poison oak joins this xeric brush association. This association is nearer to Jepson's (1925:8) definition of "soft chaparral" than any other local vegetation type.

On the surrounding hills is a Douglas fir forest. Until recently this was nearly an unbroken belt of magnificent timber but during the last decade intensive lumbering has greatly reduced the virgin forest and now many areas are covered by young second-growth fir that is too dense for undergrowth to survive. Under the older forest is a moist association including the species found under the firs on the valley floor and in addition dense growths of salal (*Gaultheria shallon*), mountain Oregon grape (*Berberis nervosa*), western hazel and sword fern (*Polystichum munitum*). In recently logged-off or burned-over areas, the bracken fern (*Pteridium aquilinum*) is about the first pioneer plant. Later the area becomes covered with hazel, currant, cascara, dogwood, Indian peach, syringa, nine-bark, ocean spray (*Holodiscus discolor*) and goat's beard (*Aruncus sylvestris*). Finally the Douglas fir seedlings become established and soon crowd out the shrubby plant life.

Fence rows, always an important bird habitat, consist of both wild blackberry (*Rubus thyrsanthus*) and evergreen blackberry (*Rubus laciniatus*), serviceberry, black hawthorn, wild rose, snowberry, and often poison oak.

There are many large acreages devoted to the fruit industry in this area. The largest orchards are of cherry, apple and filbert trees, with smaller areas of prunes, peaches and pears. These fruit trees provide many favorable nesting sites and abundant food for several species of birds. The ground not covered by one or another of the previously named groups of trees is devoted to dwellings and industry, to truck farms, to various grass crops and to pasture or hay.

The extensive cattail (*Typha latifolia*) marsh around the Fern Ridge Reservoir creates a habitat otherwise missing in this area.

Merriam (1898) placed the southern Willamette Valley in his Pacific Coast faunal area which seems to be the equivalent of the "Humid Division" of the Transition zone of Bailey (1936) and later authors. Pitelka (1941) included this area in his Moist Coniferous Forest Biome and Dice (1943) includes it in the Oregonian Biotic Province.

Although Gabrielson and Jewett (1940) think that Upper Sonoran areas are present in this valley, I have seen no truly Austral associations such as found in the Central Valley of California or even in the nearby Umpqua Valley. There is quite a bit of Bailey's

semiarid (or semihumid) Transition Zone in this region, especially in the rain shadow along the base of the hills at the west and south edges of the valley proper. Elsewhere the area seems to pertain to the humid Transition Zone. Merriam (1898:25) attempts to summarize the local situation when he speaks of the Willamette-Puget trough as follows: "Such an extensive overlapping of Boreal and Austral faunas does not occur elsewhere in North America, and for the evident reason that no area approaching it in extent has so equable a temperature."

SPECIES ACCOUNTS

In the accounts to follow, terms with very definite meanings will be used to indicate the seasonal status and the relative abundance of the species. An attempt has been made to give definite meanings to the several words generally used loosely to describe these matters. The following define seasonal status:

Resident—known or assumed to breed in the area.

Visitor—present as non-breeding birds only.

Migrant—present only as transients enroute to breeding or wintering grounds.

Permanent—recorded continuously in every month of the year.

Summer—recorded continuously from June 1 to July 31 but not continuously through the winter period.

Winter—recorded continuously from December 15 to February 15 but not continuously through the summer period.

Fall—any part of the period from about July 15 to about December 15.

Spring—any part of the period from about February 15 to about June 15.

Nomadic—permanent residents, always in flocks, that move about the countryside from one food supply to another, nesting in whatever locality the breeding season finds them.

Straggler—occurring irregularly as single birds or flocks, but always at one definite season.

Erratic—occurring irregularly as single birds or flocks irrespective of the season.

Using the data available from 1666 recording days, it has been possible to determine the relative abundance of the various species. These calculations are based on the number of days a species was recorded expressed as a percentage of the days when the species might have been recorded. The "possible record days" include only those days on which the proper habitat was visited by the observer during the season of normal occurrence for that particular species. The symbols (10/100—10%) in the species accounts indicate the "record days" (10) as compared to the possible record days (100) and indicate a frequency of observation of 10 per cent. The several abundance categories are based upon the percentage figures, with a distribution as follows:

Abundant—recorded on 70 per cent or more of the possible record days.

Very common—recorded on 45 to 69 per cent of the possible record days.

Common—recorded on 18 to 44 per cent of the possible record days.

Uncommon—recorded on 6 to 17 per cent of the possible record days.

Rare—recorded on less than 6 per cent of the possible record days.

A 10-20-40-20-10 per cent breakdown of total species was used to arrive at the preceding data, with 94 per cent representing the most abundant species. By using this breakdown it seems probable that other workers, using various field techniques for recording daily observations, could develop data permitting a comparison of two widely separated areas. There are shortcomings in this method of indicating abundance. For example, a species in which 2000 individuals occur with a frequency of 90 per cent rates less abundant than a species in which 10 individuals occur with a frequency of 94 per cent. Also, inconspicuous species, as the creepers or owls, may be given a lower frequency than they truly deserve. But, despite these drawbacks, it is felt that this method will indicate the likelihood of an observer seeing a given species in this area.

The extreme dates represent the earliest and latest known seasonal records for the

entire period covered by this paper. The breeding records include the period from the earliest observed nest building to the latest date for fledglings incompletely feathered or being cared for by their parents.

Several abbreviations are used: UOMZ refers to materials belonging to the University of Oregon Museum of Zoology, now in the care of the Department of Biology at that university; OSGC refers to the Oregon State Game Commission; ENHS refers to the Eugene Natural History Society.

Published records are cited in the usual manner. For certain unusual records the observer responsible is indicated; those of the author are designated by the letter G, those of Ben H. Pruitt by P, and those of Fred Evenden by E. Most extreme dates and breeding records are not acknowledged in an attempt to reduce the length of this paper. In the instances where the present status of a species deviates markedly from that indicated by Shelton (1917) a comment is made.

With a few exceptions, no mention of subspecies will be made in view of the nature of the records upon which the paper is based. Those who object to this policy can refer to Alden H. Miller's statements concerning the identification of geographic races in the field (Grinnell and Miller, 1944:7). Those wishing the subspecific treatment are further referred to Gabrielson and Jewett (1940).

Scientific nomenclature generally follows the American Ornithologists' Union Checklist of North American Birds (1931) and its seven supplements, except where Grinnell and Miller (1944) present logical arguments to the contrary. The vernacular nomenclature is that of Grinnell and Miller, except where the species concerned are conspecific with Eurasian forms; then an attempt is made to show the Holarctic relationship of those forms.

Gavia immer. Common Loon. Status uncertain. Five records: two on Fern Ridge Reservoir, December 27, 1942 (Heustis); one immature on Cottage Grove Reservoir, June 16, 1946 (G); one on July 25, two on September 25 and December 15, at Fern Ridge Reservoir in 1948 (P).

Gavia stellata. Red-throated Loon. Rare winter visitor. Four records on Fern Ridge Reservoir: two, December 21 and 24; one, December 29, 1946; one, December 26, 1947 (G).

Colymbus caspicus. Eared Grebe. Uncommon winter visitor (5/63—8%). Extreme dates: October 5, 1946, and March 13, 1938. Scattered records of one to ten birds through the season. Most of local records for the Horned Grebe (*Colymbus auritus*) are probably referable to this species (ENHS, 1949).

Aechmophorus occidentalis. Western Grebe. Common winter visitor (21/91—23%). Extreme dates: September 14, 1947, and June 27, 1948. Records of 1 to 16 birds well distributed through the season.

Podilymbus podiceps. Pied-billed Grebe. Common permanent resident (26/96—27%). Records of 1 to 13 birds well distributed through the year. Nesting records: downy young, Cottage Grove Reservoir, June 16, 1946; nest with two eggs, Fern Ridge Reservoir, June 12, 1947 (G).

Pelecanus erythrorhynchos. White Pelican. Abundant summer visitor on Fern Ridge Reservoir (56/69—81%). Extreme dates: April 18, 1949, and December 15, 1948. Records of 1 to 109 birds; most frequent from mid-May to mid-September.

Phalacrocorax auritus. Double-crested Cormorant. Common permanent resident (48/110—34%). Records of 1 to 65 birds, mostly in period from May to September. Nesting at Fern Ridge Reservoir: June 12 to August 3.

Ardea herodias. Great Blue Heron. Abundant permanent resident (104/120—86%). Records of 1 to 60 birds evenly distributed through the year. No breeding records available.

Casmerodius albus. Common Egret. Becoming a very common summer visitor to Fern Ridge area (14/29—48%). First local record: May 3, 1947 (G). Extreme dates: May 3, 1947, and October 21, 1949. Records of one to four birds, mostly in July, August and September.

Butorides virescens. Green Heron. Common summer resident (308/768—40%). Extreme dates:

March 24, 1941, and November 12, 1947. Breeding records: May 6 to July 20. Records of 1 to 7 birds; most frequent from early May to mid-August. Unusual record: December 27, 1942 (Heustis).

Botaurus lentiginosus. American Bittern. Very common summer resident in Fern Ridge marshes (21/44—48%). Extreme dates: March 27, 1949, and October 7, 1948. Records of 1 to 14 birds are evenly distributed through the season. One breeding record: fledgling bird, July 19, 1949 (P). Shelton (UOMZ) recorded birds in the Long Tom marsh area (now Fern Ridge Reservoir), March 27, 1914.

Cygnus columbianus. Whistling Swan. Spring and fall migrant; abundance uncertain. Four records (P): 50 in migration, Thurston, April 11, 1947; 13 birds, November 27 and 30, 1948, December 20, 1949, Fern Ridge Reservoir.

Branta canadensis. Canada Goose. Very common spring and fall migrant and winter visitor (49/80—61%). Extreme dates: September 28, 1947, and May 13, 1949. Migration peaks: April 20 to May 10 and October 15 to 30. Winter records of 1 to 2500 birds at Fern Ridge evenly distributed through the season.

As winter visitors, at least two races seem identifiable. From mid-October until late March about 500 light-breasted birds are present. In late November large dark-breasted birds move into the area, tripling the Fern Ridge population by mid-January and outnumbering the lighter forms about two to one. Jewett (1932) records a western Canada (white-cheeked) goose (*B. c. occidentalis*) taken near Eugene "during the fall of 1928" by Robert Park. This race is dark-breasted.

Philacte canagica. Emperor Goose. Winter straggler. One record: Jasper, October 7, 1923 (Gabrielson and Jewett, 1940).

Anser albifrons. White-fronted Goose. Very common fall migrant; common spring migrant. Migration: fall, August 20, 1949, to November 26, 1947, peak of up to 2700 birds about October 20; spring, February 28, 1949, to May 13, 1949, peak between April 25 and May 5. Unusual records: Fern Ridge, December 28, 1947 (G); January 2, 1949 (P).

Chen hyperborea. Snow Goose. Common fall migrant and winter visitor (12/67—18%). Extreme dates: October 13, 1947, and May 13, 1949. Peak of fall migration, October 20 to 30. No spring movement recorded. Records of 1 to 9 birds evenly distributed through the winter.

Anas platyrhynchos. Mallard. Abundant permanent resident (97/121—80%). Summer records average 8 to 15 birds, but winter records range as high as 5000 birds. Breeding records: May 15 to August 3.

Anas cyanoptera. Cinnamon Teal. Common summer resident (18/61—29%). Extreme dates: May 10, 1949, and November 16, 1947. Records of 1 to 6 birds well distributed, but up to 60 birds have been observed in late August and early September. Breeding record: a pair with nine downy young, Fern Ridge Reservoir, July 28 and August 3, 1946 (G).

Anas discors. Blue-winged Teal. Common spring and fall migrant (11/44—25%). Migration: spring, May 10, 1949, to June 12, 1947; fall, July 14, 1948, to October 11, 1942. Records of 1 to 24 birds scattered through these periods. May be a summer visitor or resident (see McAllister, 1949).

Anas crecca. Green-winged Teal. Common migrant and winter visitor (41/103—40%). Extreme dates: July 30, 1948, and May 28, 1948. Migration peaks: September 25 to October 25 and March 15 to April 20. Records of up to 2500 birds evenly distributed through the winter.

Anas acuta. Pintail. Common migrant and winter visitor (48/114—42%). Extreme dates: July 19, 1949, and June 16, 1946. Migration peaks: September 25 to October 10 and during mid-April. Records of up to 260 birds evenly distributed through the winter.

Anas strepera. Gadwall. Common fall migrant (9/47—19%). Records of 1 to 40 birds extend from August 20, 1949, to December 29, 1946, with peak abundance in mid-October. Shelton (UOMZ) recorded this species from the Long Tom Marsh on November 29, 1915. There are no spring records.

Mareca penelope. European Widgeon. Winter straggler. One record: a bird taken, Long Tom Marsh (now covered by Fern Ridge Reservoir), December 16, 1926, and seen by Jewett in a Eugene taxidermist's shop later that month.

Mareca americana. Baldpate. Common winter visitor and spring migrant (19/87—21%). Extreme dates: August 9, 1949, and May 28, 1948. Spring migration peak: March 15 to 25. Scattered fall and winter records of 1 to 26 birds; frequent spring records of up to 200 birds.

Spatula clypeata. Shoveller. Common spring and fall migrant (33/76—43%). Migration: spring,

February 28, 1949, to June 13, 1948, peak in mid-April; fall, August 10, 1946, to December 29, 1946, peak about September 30. Fall flocks reach 200, spring flocks range up to 22.

Aix sponsa. Wood Duck. Common permanent resident (130/343—38%). Records of up to 30 birds are evenly distributed through most of the year, but with flocks of up to 90 birds from August 15 to October 10. Breeding records: May 15 to August 3. Unusual record: a flock of 90 birds, Fern Ridge Reservoir, December 7, 1947 (E).

Aythya collaris. Ring-necked Duck. Uncommon fall migrant (4/32—12%). Fall migration: September 30, 1948, to December 29, 1946, peak in mid-October. Thirty-eight is the largest flock reported. Ten birds, March 16, 1947 (G) is the single spring record.

Aythya valisineria. Canvasback. Uncommon winter visitor (3/43—7%). Extreme dates: October 5, 1947, and February 13, 1948. Flocks of up to 105 birds have been observed.

Aythya sp. Scaup Duck (probably mostly Lesser). Uncommon winter visitor (15/92—16%). Extreme dates: July 25, 1948, and May 10, 1949. Records of 2 to 35 birds scattered through the winter. A concentration of 320 birds on March 30, 1947, may indicate spring migration activity; otherwise little evidence of extensive migration through this valley.

Bucephala clangula. Common Golden-eye. Winter straggler. Five records of up to five birds: December 6, 1945, Thurston (P); December 16, 1945, December 30, 1948, and March 28, 1949, Fern Ridge Reservoir (P); January 2, 1949, Eugene (Saunders).

Bucephala albeola. Buffle-head. Winter straggler. Four records: two, December 7, 1947, one, December 28, 1947, three, February 13, 1948, Fern Ridge Reservoir (G); eleven, April 4, 1948, "near Junction City" (Siegmann).

Oxyura jamaicensis. Ruddy Duck. Uncommon winter visitor (14/81—17%). Extreme dates: August 17, 1948, and April 19, 1948. Records of 1 to 30 birds scattered through the winter.

Lophodytes cucullatus. Hooded Merganser. Uncommon permanent resident (13/109—12%). Records of 1 to 6 birds scattered through the year. Two breeding records at Fern Ridge Reservoir: June 25, 1947 (E); June 26, 1949 (P).

Mergus merganser. Common Merganser. Uncommon permanent resident (17/121—14%). Scattered records of 1 to 125 birds; most frequent in winter. Breeding records: May 28 to late July.

Cathartes aura. Turkey Vulture. Very common summer resident (147/222—66%). Extreme dates: March 2, 1940, and October 26, 1945. Records of 1 to 10 birds; most frequent from early April to late August. Migration: spring peak, mid-April; fall peak of up to 280 birds, mid-September to early October. One breeding record: a downy young near summit of Spencer Butte, July, 1942 (G). Shelton (1917) considered this species a permanent resident.

Accipiter gentilis. Goshawk. Winter straggler. Nine records: Eugene, December 18, 1915, taken by Arthur Brown (UOMZ), January 21, 1940 (G); Thurston, January 7 and 10, April 6, and December 24, 1945, February 1 and May 31, 1946 (P); Fir Butte, December 28, 1947 (P).

Accipiter striatus. Sharp-shinned Hawk. Common permanent resident (64/353—18%). Records of 1 or 2 birds scattered evenly through the year. No winter influx evident. No breeding records available.

Accipiter cooperii. Cooper Hawk. Uncommon permanent resident (34/530—6%). Records of single birds scattered through the year. No winter influx evident. No breeding records available. (See also Gullion, 1947e.)

Buteo jamaicensis. Red-tailed Hawk. Common permanent resident (196/731—27%). Records of 1 to 17 birds evenly distributed through the year. No migratory influx evident. Breeding records: May 18 to June 19.

Buteo swainsoni. Swainson Hawk. Fall and spring migrant of uncertain abundance. Fall records: September 1, 1949, to November 30, 1945 (P). Two spring records: April 20, 1916, specimen by D. D. Dickinson (UOMZ); March 9, 1948 (P). Most records are for single birds.

Aquila chrysaetos. Golden Eagle. Spring and fall straggler. Ten spring records of 1 or 2 birds: March 27, 1946, to June 14, 1939. Two fall records: October 1, 1946, December 3, 1948 (P).

Haliaeetus leucocephalus. Bald Eagle. Status uncertain. Records of 1 to 3 birds frequent from February 23, 1947, to May 13, 1949, with other records scattered through the year.

Circus cyaneus. Marsh Hawk. Very common permanent resident (65/127—51%). Records of

1 to 6 birds evenly distributed through the year. No breeding records available. "Reported of irregular occurrence" by Shelton (1917).

Pandion haliaetus. Osprey. Uncommon summer resident (9/97—9%). Extreme dates: April 6, 1949, and October 17, 1949. Records of one or two birds evenly distributed through the summer. Breeding records: April 22 to June 23.

Falco mexicanus. Prairie Falcon. Winter straggler. Eight records: one collected, February 5, 1938, Eugene (G); February 26, 1945, March 15, and November 24, 1946, Thurston (P); April 4, 1948, Meadow View (G); June 1, 1948, October 8 and 17, 1949, Thurston (P).

Falco peregrinus. Peregrine Falcon. Common winter visitor (19/104—18%). Extreme dates: August 3, 1946, and June 21, 1945. Records of 1 to 4 birds most frequent in fall, tapering off through the winter. (See also Gullion, 1947d.)

Falco columbarius. Merlin. Uncommon winter visitor (16/105—15%). Extreme dates: August 3, 1949, and June 16, 1946. Records of 1 or 2 birds scattered through the winter. A bird collected near Elmira, December 21, 1946, was identified as *F. c. suckleyi* (Black Merlin) by Jewett. Most local birds seem to be as dark as this specimen.

Falco sparverius. Sparrow Hawk. Very common permanent resident (230/357—64%). Records of 1 to 30 birds are evenly distributed through the year. Little evidence of fall or spring influx. Breeding records: May 27 to June 18.

Dendragapus obscurus. Blue Grouse. Status uncertain; valley apparently below normal altitudinal range. Two records: three males "hooting," Cottage Grove Reservoir, June 16, 1946 (G); one bird, West Point Hill, June 19, 1948 (P, G).

Bonasa umbellus. Ruffed Grouse. Rare permanent resident. Six records of 1 to 3 birds scattered through the year. Breeding records: Coburg Hills, May 6, 1920 (UOMZ); West Point Hill, June 19, 1948, downy young (P, G).

Colinus virginianus. Bob-white. Exotic. Common permanent resident (31/128—24%). Records of 1 to 25 birds; most numerous from April to July, but records evenly distributed otherwise. Breeding records: July 15 to August 15. Spring census in 1949, estimate for area, 7.3 birds per 100 acres (OSGC, 1949).

Lophortyx californica. California Quail. Exotic. Uncommon permanent resident (13/123—10%). Records of 1 to 4 birds scattered through the year. Young birds are seen in June. Spring census in 1948, estimate for area, 1.0 birds per 100 acres (OSGC, 1949). Recent liberations: 34 birds in 1933 and 117 birds in 1948 (McKean).

Oreortyx picta. Mountain Quail. Rare permanent resident. Six records of 1 to 12 birds scattered through the year. One breeding record: set of 11 eggs, Cottage Grove, June 12, 1932, taken by W. E. Griffie. On February 23, 1947, Pruitt and Gullion flushed a mixed covey consisting of 12 Mountain Quail and three California Quail from the east shore of the Cottage Grove Reservoir.

Perdix perdix. European Partridge. Exotic. A total of 401 birds released locally between 1925 and 1932 (McKean). The last definite record is from Thurston: "four birds in summer of 1942, no exact date" (P).

Phasianus colchicus. Ring-necked Pheasant. Exotic hybrids. Abundant permanent resident (249/349—71%). Records of up to 161 birds distributed evenly through the year. Breeding records: April 21 to September 29. Spring census in 1949, estimate for this area, 14.7 birds per 100 acres (OSGC, 1949). (See also Gullion, 1947d.)

Chrysolophus pictus. Golden Pheasant. Exotic. Sixteen were released in this area in 1930 (McKean). No subsequent records.

Numida meleagris. Guinea Fowl. Exotic. In 1929 and 1930 a total of 278 released in timbered areas surrounding the valley floor (McKean). No subsequent records.

Meleagris gallopavo. Wild Turkey. Exotic. In 1930, 52 birds were released in timbered areas surrounding the valley floor (McKean). No subsequent records.

Grus canadensis. Brown Crane. Uncommon spring and fall migrant. Migration: spring, April 6 to 17, 1947, peak of 500 birds, April 13, 1949 (Saunders); fall, September 14, 1947, to October 12, 1949. Seventeen birds constitute the largest fall flock. (See also Gullion, 1948c.)

Rallus limicola. Virginia Rail. Common summer resident (7/25—28%). Extreme dates: May 24, 1949, and September 30, 1948. Records of 1 to 7 birds evenly distributed through the season. Breeding

records: August 3 to 29. Shelton (UOMZ) recorded birds at Long Tom Marsh, March 22, 1914, and April 9, 1915.

Porzana carolina. Sora. Status uncertain. Four records at Fern Ridge Reservoir: one, June 25, and two, August 29, 1947 (E); four, July 19, and nine, August 3, 1949 (P).

Fulica americana. American Coot. Common permanent resident (46/109—42%). Records of 1 to 150 birds evenly distributed through the year. One breeding record: Fern Ridge Reservoir, July 15, 1948, downy young (P).

Charadrius hiaticula. Ringed (Semipalmated) Plover. Fall migrant of uncertain abundance. Extreme dates: July 28, 1946, and October 19, 1946. Records of 1 to 22 birds from Fern Ridge mud-flats.

Charadrius vociferus. Killdeer. Abundant permanent resident (291/349—83%). Records of 500 to 1500 birds; most frequent from late July to late April. Breeding records: March 30 to June 5.

Squatarola squatarola. Black-bellied Plover. Common fall migrant (8/44—18%). Migration: August 3, 1946, to December 26, 1947, peak of up to 91 birds in mid-October.

Capella gallinago. Holarctic Snipe. Common permanent resident (52/121—43%). Records of 1 to 75 birds; most frequent from July to March. Courtship flight at Fern Ridge, June 12, 1947, is the only indication of local breeding (G).

Numenius americanus. Long-billed Curlew. Rare fall migrant. Four records: three, August 13, 1948, Thurston; four, July 30 and August 8, 1948, one, August 20, 1949, Fern Ridge Reservoir (P).

Numenius phaeopus. Holarctic (Hudsonian) Curlew. Status uncertain. Two records of single birds at Fern Ridge Reservoir: August 8, 1947 (E); June 13, 1948 (G).

Actitis macularia. Spotted Sandpiper. Common summer resident (56/181—31%). Extreme dates: March 25, 1941, and November 11, 1938. Records of one to five birds most frequent from early May to late August. Breeding records: July 8 to 27. Unusual records: one, Thurston, January 30 to February 5, 1947 (P); one, near Meadow View, December 26, 1947 (G).

Tringa solitaria. Solitary Sandpiper. Status uncertain. Three records of single birds: Thurston, April 28 and 30; Fern Ridge Reservoir, August 20, 1949 (P).

Totanus melanoleucus. Greater Yellow-legs. Very common fall migrant (24/51—47%); common spring migrant (3/13—23%). Migration: fall, July 13, 1946, to December 28, 1947, with most records from July to mid-October; spring, March 23, 1947, to May 28, 1948, with records of up to 20 birds evenly distributed in this period.

Totanus flavipes. Lesser Yellow-legs. Rare fall migrant. Nine records, Fern Ridge Reservoir: 3 to 60 birds, July 30 to October 11, 1948; 2 to 18 birds, August 3 to 20, 1949 (P).

Erolia melanotos. Pectoral Sandpiper. Common fall migrant (9/24—38%). Migration: August 24, 1946, to October 19, 1946, peak of up to 16 birds in late September and early October.

Erolia bairdii. Baird Sandpiper. Common fall migrant (4/15—26%). Migration: August 3, 1946, to September 14, 1947, with records of 1 to 7 birds.

Erolia minutilla. Least Sandpiper. Abundant fall migrant (53/61—87%); uncommon spring migrant (4/27—15%). Migration: fall, July 15, 1948, to December 29, 1946, with peak in early August, but records of up to 800 birds as late as December 28; spring, February 7, 1948, to April 18, 1949, with no peak evident.

Erolia alpina. Red-backed Sandpiper. Common winter visitor (17/81—21%). Extreme dates: September 18, 1948, and May 10, 1949. Records of 2 to 700 birds evenly scattered through the winter, no peaks evident.

Limnodromus griseus. Dowitcher. Very common spring and fall migrant (29/63—46%). Migration: fall, July 15, 1948, to December 28, 1947, the peak in early October; spring, April 29, 1945, to June 11, 1948, the peak about May 10. Fall flocks up to 200 birds, spring flocks to 40 birds. Unusual record: eight, Fern Ridge Reservoir, January 12, 1947 (G).

Ereunetes mauri. Western Sandpiper. Common fall migrant (32/103—31%), uncommon winter visitor and spring migrant. Extreme dates: July 13, 1946, and May 16, 1947. Fall migration peaks in mid-August, with records of 2000 birds; no spring peak.

Steganopus tricolor. Wilson Phalarope. Status uncertain; probably uncommon spring migrant. Eight records of 1 to 18 birds between May 10, 1949 (P) and June 12, 1947 (G).

Lobipes lobatus. Northern Phalarope. Very common fall migrant (8/15—53%). Migration:

August 17, 1946 and 1948, to October 1, 1940. Fall records of 1 to 30 birds evenly distributed through season. One spring record: four birds, May 13, 1949, Fern Ridge Reservoir (P).

Larus hyperboreus. Glaucous Gull. Hypothetical. Published record (ENHS, 1948) believed incorrect.

Larus glaucescens. Glaucous-winged Gull. Winter straggler. Five records at Fern Ridge Reservoir: one, April 5, 1947 (G); five, January 2, eight, February 28, five, March 8, 1949 (P); December 26, 1949 (ENHS, 1950).

Larus occidentalis. Western Gull. Fall and spring straggler. Six records at Fern Ridge Reservoir: April 28, 1946; four, March 30, one, April 5, 1947; five, August 8 and 29, 1947; two, November 16, 1947.

Larus californicus. California Gull. Winter straggler. Seven records at Fern Ridge Reservoir: twenty, February 28, 1947; one, March 30, three, April 5, 1947; September 28, 1947, June 11, 1948, three, September 2, 1949; three, December 26, 1949. One, Thurston, December 15, 1946.

Larus delawarensis. Ring-billed Gull. Common permanent visitor (36/99—36%). Not believed to breed locally. Records of 1 to 50 birds most frequent in March and October to December.

Larus philadelphia. Bonaparte Gull. Uncommon fall migrant (5/31—16%). Migration: October 5, 1947, to December 28, 1947, with records of up to 45 birds. Four spring records: two, May 21, 1926; one, June 12, 1947; one, February 7, 1948; one, May 13, 1949.

Sterna forsteri. Forster Tern. Fall straggler. Five records: one, October 1 to 5, 1940, Eugene (G); eight, October 10, two, October 11, 1948; four, September 10, two, September 29, 1949, all Fern Ridge Reservoir (P).

Hydroprogne caspia. Caspian Tern. Status uncertain. One record: two birds, Fern Ridge Reservoir, July 19, 1949 (P).

Chlidonias niger. Black Tern. Common summer visitor (8/25—32%). Extreme dates: May 10, 1949, and August 8, 1948, with records of 1 to 6 birds evenly distributed through the season. Although no definite local nesting records are known, the viciousness of an attack staged against Pruitt on July 25, 1948, led him to suspect the existence of a nearby nest. However, he was unable to locate one.

Columba fasciata. Band-tailed Pigeon. Common summer resident (62/215—29%). Extreme dates: February 28, 1949, and October 13, 1947. Migration peak: spring, early May; fall, mid-September. Records of 1 to 200 birds; most frequent from early May to late September. One breeding record: fledgling, June 1, 1949, Thurston (P).

Zenaidura macroura. Mourning Dove. Very common permanent resident (212/349—61%). Records evenly distributed through the year; in winter flocks up to 46 birds; in summer scattered breeding pairs. Breeding records: April 26 to August 27. "Summer visitant" only, Shelton (1917).

Coccyzus americanus. Yellow-billed Cuckoo. Summer straggler. One record: Eugene, June 30, 1915 (Shelton, UOMZ).

Tyto alba. Barn Owl. Rare permanent resident (43/1075—4%). Records of 1 to 4 evenly scattered through the year. Breeding records: June 9 to July 6. Two specimens collected locally in December, 1912, and Shelton noted the species in Eugene, October 15, 1914 (UOMZ).

Otus asio. Screech Owl. Uncommon permanent resident (25/188—13%) on basis of records; may be more common. Records scattered through the year. Fledglings seen in late July and in August, but no definite dates available.

Bubo virginianus. Horned Owl. Uncommon permanent resident (120/1063—11%); may be more common. Records of 1 to 3 birds scattered through the year; most frequent in the fall. Breeding records: March 11 to July 22.

Nyctea scandiaca. Snowy Owl. Winter straggler. One record: a bird shot at Fern Ridge Dam, November 9, 1946, by W. H. Cannon (Jewett). Shelton (1917) considered it an "irregular winter migrant."

Glaucidium gnoma. Pygmy Owl. Permanent resident of uncertain abundance. Four records: Spencer Butte, February 23 and 27, 1914 (Shelton, UOMZ); Walterville, February 27, 1938 (G); Thurston, December 6, 1947 (P). It seems certain that these owls are more common than these records indicate, but there is no evidence to support this belief.

Speotyto cunicularia. Burrowing Owl. Present records based mainly on one bird occupying the same roost for at least five consecutive winters near Meadow View. Extreme dates for this bird: November 16, 1947, and February 13, 1948. Other records: one bird, Meadow View, October 15, 1914,

several individuals in fields south of Alvadore, December 19, 1914 (Shelton, UOMZ); one bird, October 30, 1949, three miles east of Creswell (P). Shelton (1917) said, "Found sparingly . . . probably resident." (See also Gullion, 1948b.)

Strix occidentalis. Spotted Owl. Status uncertain. Two records: Spencer Butte, June, 1914 (Jewett); a record listed by Shelton (1917) but details lost with certain long-vanished UOMZ field notes.

Strix nebulosa. Great Gray Owl. Status uncertain. Jewett records one specimen taken locally, but the only datum given is the date, December 17, 1925, when he saw it mounted in a Eugene taxidermist's shop.

Asio otus. Long-eared Owl. Status uncertain. Three records: Long Tom Marsh (now Fern Ridge Reservoir), December 9, 1914, Shelton (UOMZ); Thurston, January 1 and 30, 1949 (P).

Asio flammeus. Short-eared Owl. Uncommon permanent resident (11/66—17%). Records of 1 to 6 scattered through the year. One breeding record: June 14, 1948 (Gullion, 1948e).

Aegolius acadicus. Saw-whet Owl. Status uncertain. One record: University of Oregon campus, March 15, 1920, collected by H. W. Prescott (UOMZ).

Chordeiles minor. Booming Nighthawk. Common summer resident (65/192—34%). Extreme dates: March 9, 1945, and October 9, 1940. Records most frequent from early June to late August. Migration: spring, mid-June; fall, begins in late July, the peak in early September, with flocks of as many as 300 birds. One breeding record: eggs, near Eugene, July 16, 1948 (P).

Nephoecetes niger. Black Swift. Status uncertain. Eight records at Thurston (P): two, August 18, 1948; 80, May 5, two, May 19, two, June 2, four, August 7, two, August 8, one, September 16 and 19, all in 1949.

Chaetura vauxi. Vaux Swift. Common migrant and summer visitor (142/513—27%). Extreme dates: April 21, 1949, and October 11, 1949. Migration: spring, up to 100 birds, late April and early May; fall, flocks to 5000 birds, mid-August to late September. Scattered summer records of 1 to 19 birds. Local breeding status uncertain. Considered "somewhat rare summer visitant" by Shelton (1917).

Selasphorus rufus. Rufous Hummingbird. Abundant summer resident (550/766—72%). Extreme records: March 8, 1941, and September 29, 1946. Records most frequent from late March to early September. Migration: spring, none evident; fall, mid-July to mid-September, peak in late August, with records of up to 60 birds. Breeding records: April 29 to June 3.

Megasceryle alcyon. Belted Kingfisher. Common permanent resident (113/435—26%). Records of 1 to 10 birds evenly distributed through the year. No breeding records available.

Colaptes cafer. Red-shafted Flicker. Abundant permanent resident (394/435—91%). Records of 1 to 201 birds evenly distributed through the year. Breeding records: March 31 (Gullion, 1949) to June 6. A winter influx is evident, beginning about the first of October and lasting until early March. During this influx a number of *Colaptes auratus* x *C. cafer* hybrids are recorded from this area. One to three hybrid birds have been recorded regularly between the extreme dates of September 27, 1948, and April 3, 1949.

Dryocopus pileatus. Pileated Woodpecker. Uncommon permanent resident (16/192—8%). Records of single birds evenly distributed through the year. One breeding record: nestlings, two miles south of Coburg, June 6, 1948 (P, G).

Balanosphyra formicivora. Acorn Woodpecker. Common permanent resident (48/127—38%). Records of 1 to 24 birds evenly distributed through the year. Breeding records: March 28 to July 13. This species reaches its northernmost limit on the south side of Richardson Butte, west of Alvadore. Shelton's list (1917) fails to include this species, but Neff (1928) lists it from the Eugene and Cottage Grove areas. There are four local skins taken March 23, May 5 and 23, 1920 (UOMZ).

Asyndesmus lewis. Lewis Woodpecker. Common winter visitor (29/102—28%). Extreme dates: August 15, 1947, and May 24, 1920 (UOMZ). Bulk of records are for fall migration, but scattered records are for winter and spring months. Migration: fall, peak with flocks of up to 70 birds in first week of September; spring, peak with flocks of 30 birds in late April and early May.

Sphyrapicus varius. Yellow-bellied Sapsucker. Common permanent resident (73/228—32%). Records of 1 to 4 birds evenly distributed through the year. Breeding records: June 1 to July 4.

Sphyrapicus thyroideus. Williamson Sapsucker. Hypothetical. Published record (ENHS, 1948) believed incorrect.

Dendrocopos villosus. Hairy Woodpecker. Uncommon permanent resident (64/535—12%). Records of 1 to 16 birds scattered through the year. Breeding records: June 7 to July 28.

Dendrocopos pubescens. Downy Woodpecker. Uncommon permanent resident (65/503—13%). Records of 1 to 6 birds scattered through the year. Breeding record: June 19, 1947.

Tyrannus verticalis. Western Kingbird. Rare spring migrant (2/37—5%). Extreme dates: April 23, 1949, and July 4, 1949. Records of one or two birds scattered through the season. One fall record: Thurston, August 30, 1949 (P). Unusual record: Eugene, February 28, 1947 (Gullion, 1948a).

Myiarchus cinerascens. Ash-throated Flycatcher. Status uncertain. Four records of 1 or 2 birds at Thurston: June 8 and 10, 1948; May 18, July 20, 1949 (Pruitt, 1949).

Sayornis saya. Say Phoebe. Uncommon spring migrant (13/141—9%). Extreme dates: February 11, 1945, and May 22, 1947, peak about March 20. Two fall records: December 20, 1914 (Shelton, UOMZ); September 7, 1948 (P). Shelton (1917) considered it a "winter migrant" and Evenden has recent records that may indicate a status of rare winter visitor.

Empidonax traillii. Traill Flycatcher. Very common summer resident (176/344—51%). Extreme dates: May 3, 1947, and September 29, 1947. Records of 1 to 18 birds; most frequent from late May to early September. Breeding records: June 11 to July 31.

Empidonax hammondi. Hammond Flycatcher. Status uncertain. Ten records at Thurston (P): one, June 2 and September 8, 1948; 1 or 2 birds on eight dates between April 30 and June 10, 1949.

Empidonax wrightii. Wright Flycatcher. Status uncertain. Fifteen records at Thurston (P): one, September 28, 1948; 1 or 2 birds on 14 dates, May 18 to June 7, 1949.

Empidonax difficilis. Western Flycatcher. Common summer resident (94/352—28%). Extreme dates: April 17, 1949, and September 28, 1948. Records of 1 to 15 birds most frequent from early May to late August. Breeding records: May 23 to August 16.

Contopus richardsonii. Wood Pewee. Common summer resident (233/536—43%). Extreme dates: May 7, 1946, and September 17, 1946. Records of 1 to 25 birds; most frequent from mid-May to early August. Peaks of migration: spring, late May; fall, early August. Breeding records: July 4 to August 23. Unusual record: Spencer Butte, February 22, 1914 (Shelton, UOMZ).

Nuttallornis borealis. Olive-sided Flycatcher. Uncommon summer resident (27/168—16%). Extreme dates: May 3, 1949, and September 6, 1948. Records of 1 to 6 birds well scattered through the summer. Breeding records: June 2 to 19. Unusual record: Spencer Butte, February 22, 1914 (Shelton, UOMZ). See also Gullion, 1950).

Eremophila alpestris. Horned Lark. Common permanent resident (42/112—37%). Records of 1 to 118 birds; most frequent from May to late August, scarce during the fall. No breeding records available.

Tachycineta thalassina. Violet-green Swallow. Very common summer resident (409/629—65%). Extreme dates: February 25, 1947, and October 18, 1939. Records of 1 to 60 birds from mid-March to mid-July. Migration: spring, late February to mid-May, peak in last week of April; fall, late July to mid-October, peak about August 30, with up to 4000 birds recorded. Breeding records: March 24 to July 23 (Gullion, 1947b).

Iridoprocne bicolor. Tree Swallow. Very common summer resident (351/624—56%). Extreme dates: February 15, 1947, and October 12, 1947. Records of 1 to 20 birds; most frequent from early March to mid-September. Migration: spring, late February to late May, peak about May 1; fall, late July to early October, peak in early September. Breeding records: March 16 to August 3 (Gullion, 1947b).

Riparia riparia. Bank Swallow. Rare summer visitor. Seven records of 1 to 3 birds scattered between March 30, 1947, and August 26, 1949. Shelton (1917) included this species as a summer visitor but doubted many of the breeding records. Whether he knew of any authentic local breeding records is not presently known.

Stelgidopteryx ruficollis. Rough-winged Swallow. Common summer resident (155/655—24%). Extreme dates: February 23, 1947, and September 19, 1945. Records of 1 to 26 birds most frequent from early April to mid-July. No migration movement evident. Breeding records: May 30 to July 10.

Hirundo rustica. Barn Swallow. Uncommon summer resident (82/535—15%). Extreme dates:

April 24, 1947, and October 5, 1946. Most records from early May to mid-September. Migration: no spring peak evident; fall, late August to late September, peak of up to 2000 birds, mid-September. Breeding records: June 12 to July 28. Unusual record: January, 1947 (Gullion, 1948b).

Petrochelidon pyrrhonota. Cliff Swallow. Common summer resident (128/340—38%). Extreme dates: March 22, 1949, and September 20, 1949. Most records from mid-April to mid-August. Migration: no spring peak evident; fall, mid-July to late August, peak in mid-August. Breeding records: May 13 to June 4.

Progne subis. Purple Martin. Common summer resident (71/367—19%). Extreme dates: April 20, 1949, and September 20, 1948. Most records from early May to last of August. Migration: spring peak in early May; fall, late July to late August, peak about mid-August. One breeding record; nestlings, June 24, 1945, south of Dexter (P).

Perisoreus canadensis. Canada Jay. Status uncertain, although Shelton (1917) considered this species a not uncommon winter visitor. Two records known: two birds collected, Eugene, April 10, 1920, by H. W. Prescott (UOMZ); five birds, eight miles west of Creswell, September 27, 1947 (G). A. H. Miller has examined the two skins at the University of Oregon. One bird (UOMZ no. 2757) is of the race *P. c. griseus* (Gray Canada Jay), while the other (UOMZ no. 2758) is darker, much like *P. c. obscurus* (Southwestern Canada Jay) from the Tillamook area of the Oregon coast and Humboldt County in northern California.

Cyanocitta stelleri. Steller Jay. Common permanent resident (123/347—35%). Records of 1 to 69 birds most frequent from mid-September to mid-March. No breeding records known.

Aphelocoma coerulescens. Scrub Jay. Common permanent resident (22/115—19%). Records of 1 to 13 birds evenly scattered through the year. Two breeding records in 1949 based on fledglings: Fern Ridge area, August 20; northeast of Springfield, August 28 (P). Shelton (1917) states: "Very common fifteen to twenty years ago, but now seldom ever seen."

Pica pica. Black-billed Magpie. Fall straggler. Two records: one, October 26, 1946, two miles north of Elmira; one, September 27, 1947, Pleasant Hill (G). Shelton (1917) lists this species as an "irregular migrant" on the basis of the lost Kuykendall collection.

Corvus corax. Holarctic Raven. Uncommon permanent resident (82/916—9%). Records of 1 to 30 birds most frequent from late September to late February. No breeding records known.

Corvus brachyrhynchos. American Crow. Abundant permanent resident (249/302—82%). Records evenly distributed through the year; up to 40 birds recorded from early May to early September, increasing to flocks of up to 5600 through the winter months. Breeding records: June 23 to July 25.

Parus atricapillus. Black-capped Chickadee. Very common permanent resident (205/355—58%). Records of 1 to 167 birds evenly distributed through the year. No winter influx evident. Breeding records: April 5 to July 12.

Parus rufescens. Chestnut-backed Chickadee. Uncommon permanent resident (19/152—12%). Records of 1 to 30 birds most frequent from mid-September to late March. No breeding records available.

Psaltriparus minimus. Bush-tit. Uncommon permanent resident (13/93—14%). Records of 2 to 56 birds evenly distributed through the year. Breeding records: March 30 to June 19.

Sitta carolinensis. White-breasted Nuthatch. Common permanent resident (137/457—30%). Records of 1 to 18 birds evenly distributed through the year. Breeding records: March 12 to August 3.

Sitta canadensis. Red-breasted Nuthatch. Uncommon permanent resident (67/410—16%). Records of 1 to 26 birds most frequent from mid-September to late April. No breeding records available.

Certhia familiaris. Brown Creeper. Uncommon permanent resident (7/44—16%). Records of 1 to 5 birds scattered through the year. Breeding record: nestlings, May 18, 1942, Pleasant Hill (Kilpatrick).

Chamaea fasciata. Wren-tit. Status uncertain. Three records of single birds: Walterville, March 6, 1938 (G); one mile northeast of Crow, June 12, 1946 (G); west side of Cottage Grove Reservoir, June 23, 1948 (E, P, G).

Cinclus mexicanus. American Dipper. Status uncertain. Two records: one, Walterville, March 13, 1938 (G); adult and immatures, Fall Creek, May 31, 1948 (Radmore).

Troglodytes aëdon. House Wren. Uncommon summer resident (109/712—15%). Extreme dates: April 18, 1949, and October 7, 1947. Records of 1 to 6 birds scattered through the summer. Breeding

records: May 9 to August 3. Shelton (1917) knew of February records and believed this species might winter locally. There are several skins from Eugene taken March 2, 1920 (UOMZ).

Troglodytes troglodytes. Winter Wren. Very common permanent resident (314/607—52%). Records of 1 to 29 birds; most frequent from early October to late March. One breeding record: Thurston, May 31, 1945 (P).

Thryomanes bewickii. Bewick Wren. Common permanent resident (65/253—26%). Records of 1 to 16 birds; most frequent from October to May, but also frequent in the summer. Breeding records: April 22 to September 14.

Telmatodytes palustris. Long-billed Marsh Wren. Common permanent resident (20/90—22%). Records of 1 to 15 birds scattered through the year. Two breeding records: nests, Fern Ridge Reservoir, June 11, 1948 (E), June 20, 1948 (G).

Salpinctes obsoletus. Rock Wren. Rare fall migrant (or straggler?). Six records of one bird each at Thurston: December 1, 1945; November 13, 1946; August 10 and 11, 1947; August 21 and September 8, 1948 (P). Shelton (1917) cites a breeding record for Spencer Butte, but no date is given.

Turdus migratorius. American Robin. Abundant permanent resident (312/355—88%). Records of 1 to 40 birds scattered through the summer, with up to 800 birds being recorded during winter influx from mid-October to early April. Breeding records: April 6 to September 18. A bird banded at Eugene, February 12, 1948, was taken in the Hoopa Valley, Humboldt County, California, December 14, 1948 (G).

Ixoreus naevius. Varied Thrush. Very common winter visitor (477/1072—45%). Extreme dates: September 19, 1946, and May 2, 1939. Records of 1 to 20 birds evenly distributed from mid-October to late March. Concentrations of up to 200 birds occur during the infrequent snowfalls.

Hylocichla guttata. Hermit Thrush. Common winter visitor (143/321—44%). Extreme dates: September 20, 1947, and April 26, 1946. Records of 1 to 10 birds most frequent from mid-November to early April. Hermit Thrushes breed in the Cascades to the east of this area and Jewett observed several birds on Spencer Butte between June 16 and 21, 1914.

Hylocichla ustulata. Swainson Thrush. Very common summer resident (357/748—48%). Extreme dates: April 4, 1948, and October 1, 1947, and 1948. Records of 1 to 18 birds most frequent from early May to late July. Migration: spring peak, late May; fall peak, mid-September. Breeding records: May 16 to July 29.

Sialia mexicana. Mexican Bluebird. Uncommon permanent resident (56/365—15%). Records of 1 to 111 birds most frequent from late October to late March. Breeding record: one pair, two broods, July 2 and July 23, 1929 (Kilpatrick).

Sialia currucoides. Mountain Bluebird. Winter straggler. Five records of 1 to 10 birds: March 15, 1939, Walteville; February 23, 1947, Cottage Grove Reservoir; March 2, 1947, Fern Ridge area; February 2 and 13, 1948, Eugene (G). Occurrence apparently determined by severity of mountain storms.

Myadestes townsendi. Townsend Solitaire. Rare winter visitor. Single birds, extreme dates: December 29, 1946, and April 1, 1948, with most records in February and March. Unusual record: Eugene, mid-May, 1946 (G).

Poliophtila caerulea. Blue-gray Gnatcatcher. Status uncertain. Two records: six birds, Thurston, April 26, 1949 (P); one bird, May 26 to June 2, 1949, at Ray Wiseman home in Eugene (P). (See also Pruitt, 1950.)

Regulus satrapa. Golden-crowned Kinglet. Common permanent resident (119/472—25%). Records of 1 to 200 birds mostly from early September to mid-May; summer records infrequent but evenly distributed through the season. Breeding records: June 2 to August 24.

Regulus calendula. Ruby-crowned Kinglet. Very common winter visitor (437/854—51%). Extreme dates: September 20, 1947, and May 13, 1948. Records of 1 to 138 birds most frequent from mid-October to mid-April.

Anthus spinoletta. Water Pipit. Very common winter visitor (88/162—54%). Extreme dates: August 17, 1946, and April 16, 1944. Records of 1 to 600 birds most frequent from mid-September to mid-February. Migration: fall, mid-September to mid-October, peak about October 1; spring, late March and early April.

Bombycilla garrulus. Holarctic Waxwing. Winter straggler. One record: February 4, 1932, J. H. Pruitt and Huestis, independently observed flocks in the Eugene area.

Bombycilla cedrorum. Cedar Waxwing. Common nomadic permanent resident (493/1479—33%). Records of 1 to 200 birds most frequent from mid-May to early October. There may be some winter egress. Breeding records: May 28 to September 14.

Lanius excubitor. Boreal Shrike. Winter straggler. Nine scattered records of single birds. Extreme dates: October 6, 1949, and March 30, 1949. Shelton (1917) considered it an "irregular and erratic winter visitant."

Sturnus vulgaris. European Starling. Exotic. Status uncertain. First local record: 22 birds, December 26, 1947, near Meadow View (G). Subsequent records: 30, February 7 and 20, April 4, 1948, near Alvadore (G); about 800 birds, December 30, 1948, near Alvadore (P); 39 records of 4 to 600 birds, November 12 to December 31, 1949, Thurston (P). Pruitt, speaking of the winter of 1949-50, says "small flocks are pretty general all over the Eugene area, including Fern Ridge."

Vireo huttoni. Hutton Vireo. Common permanent resident (9/44—20%). Records of 1 to 6 birds scattered through the year. Breeding records: July 5 to 23.

Vireo solitarius. Solitary Vireo. Common summer resident (195/623—31%). Extreme dates: April 11, 1940, and October 13, 1938. Records of 1 to 11 birds most frequent from late April to late June. Some evidence of fall migration in early September. Breeding records: April 21 to July 25.

Vireo gilvus. Warbling Vireo. Common summer resident (176/561—31%). Extreme dates: April 12, 1947, and October 2, 1948. Records of 1 to 20 birds most frequent from mid-May to mid-August. Migration: spring, mid-May; fall, none evident. Breeding records: June 6 to August 13.

Vermivora celata. Orange-crowned Warbler. Common summer resident (184/574—32%) and probably rare winter visitor. Records of 1 to 8 birds of the summer population extend from March 29, 1947, to October 5, 1946. Four winter records: Eugene, January 11 (Gullion, 1947c), February 21, 1947; January 13 and 20, 1948 (G). The bird found on January 20 was collected and identified by Jewett as *V. c. celata* (Eastern Orange-crowned Warbler). Migration: spring, April 10 to mid-May, peak about May 1; fall, early to late September, peak about mid-September. Breeding records: June 13 to July 7.

Vermivora ruficapilla. Nashville Warbler. Common spring and fall migrant (104/413—25%). Migration: spring, April 6, 1941, to May 29, 1946, peak in early May; fall, July 5, 1949, to September 17, 1946, peak in late August. Shelton (1917) did not include this species.

Dendroica petechia. Yellow Warbler. Very common summer resident (485/728—67%). Extreme dates: April 2, 1946, and September 30, 1948. Records of up to 25 birds most frequent from late April to late August. Little evidence of a migration influx. Breeding records: May 15 to July 25.

Dendroica coronata. Myrtle Warbler. Uncommon spring and fall migrant (27/245—11%). Migration: spring, February 9, 1947, to May 9, 1948, peak in early April; fall, October 5, 1946, to November 15, 1946, no peak evident.

Dendroica auduboni. Audubon Warbler. Common permanent resident (124/369—34%). Records of up to 100 birds evenly distributed through the year. Migration: spring, late March to late April, peak in mid-April; fall, no movement evident. Breeding records: April 24 to July 29.

Dendroica nigrescens. Black-throated Gray Warbler. Common summer resident (83/242—34%). Extreme dates: March 31, 1946, and October 10, 1947. Records of 1 to 10 birds; most frequent from mid-April to mid-September. Migration: no spring peak evident; fall peak in mid-September. Breeding records: June 14 to July 25.

Dendroica townsendi. Townsend Warbler. Status uncertain, probably an uncommon spring and fall migrant and a rare winter visitor. Records of 1 to 30 for every month except July. Extreme dates: August 18, 1949, and June 20, 1949. Migration: spring, early April; fall, late September. From December 8 to 28, 1947, groups of up to 30 birds were observed daily in Eugene (G). Burgh had birds feeding daily on a window feeding tray from January 12 to April 15, 1948; from November 14, 1948, to "about April first" in 1949. Pruitt recorded a singing male at Thurston, June 3, 1949. Shelton (1917) did not list this species.

Dendroica occidentalis. Hermit Warbler. Status uncertain, probably a common summer resident. Present records only suggestive, due to lofty habitat and general obscurity of this bird. Present records: Cottage Grove Reservoir, June 16, 1946, breeding (G); June 23, 1948 (E, P, G); West Point Hill, June 19, 1948, breeding (P, G); nine records of 1 to 6 birds, Thurston, May 6 to June 18, 1949 (P). Considered "not uncommon" by Shelton (1917).

Oporornis tolmiei. Tolmie Warbler. Common summer resident (133/437—30%). Extreme dates: April 17, 1949, and November 2, 1946. Records of 1 to 12 birds most frequent from first of May to late August. Little evidence of migratory influx. Breeding records: June 12 to 17.

Geothlypis trichas. Yellow-throat. Very common summer resident (39/65—60%). Extreme dates: March 30, 1947, and October 18, 1946. Migration: no spring peak evident; fall, mid-July to mid-October, peak in mid-September. Breeding records: July 30 to August 3.

Icteria virens. Chat. Very common summer resident (284/632—45%). Extreme dates: April 28, 1946, and September 30, 1940. Records of 1 to 5 birds most frequent from mid-May to late July. Breeding records: June 11 to July 25.

Wilsonia pusilla. Pileolated Warbler. Common summer resident (114/528—22%). Extreme dates: April 21, 1947, and October 25, 1948. Records of 1 to 10 birds most frequent from early May to mid-September. Migration: spring, late April to late May, peak in mid-May; no fall influx evident. Breeding records: May 30 to July 24.

Passer domesticus. House Sparrow. Exotic. Very common permanent resident (122/261—47%). Records of 1 to 281 birds evenly distributed through the year. Breeding records: March 1 to May 25. Shelton (1917) did not list this species.

Sturnella neglecta. Western Meadowlark. Very common permanent resident (160/258—62%). Records of 1 to 203 birds scattered evenly through the year. No winter influx evident. Breeding records: May 28 to June 14.

Xanthocephalus xanthocephalus. Yellow-headed Blackbird. Very common summer resident (21/32—66%). Extreme dates: April 19, 1948, and September 18, 1948. Records of up to 140 birds mostly from the Fern Ridge Reservoir. One record from Springfield of a pair with five fledglings, July 7, 1947 (P). Breeding records: May 10 to July 7. (See also Gullion, 1948*d*.) Shelton (1917) did not list this species.

Agelaius phoeniceus. Red-winged Blackbird. Very common permanent resident (80/117—68%). Records of 1 to 2800 birds evenly distributed through the year. No variation in local populations evident with changing seasons. Breeding records: May 24 to July 15.

Icterus bullockii. Bullock Oriole. Summer straggler. Three recent records: two males, Thurston, May 8, 1946 (P); three birds, Eugene, July 11, 1946 (Saunders); a pair, Springfield, May 15, 1948 (Radmore). Shelton (1917) said: "Summer visitant . . . breeds at suitable points." The basis for this statement is unknown. One local skin, June 17, 1916 (UOMZ).

Euphagus cyanocephalus. Brewer Blackbird. Abundant permanent resident (316/355—89%). Records of up to 2000 birds frequent from early October to early April; summer records seldom exceed 50 birds. Breeding records: April 29 to July 9.

Molothrus ater. Brown-headed Cowbird. Summer straggler. Eight records of 1 to 3 birds: Eugene, mid-May, 1946, May 15, 1948 (G); Thurston, April 17 and 21, May 3 and 31, December 8, 1949 (P); Fern Ridge Reservoir, May 28, 1949 (P). Two fledglings: June 10 to July 23, 1946, Eugene (G). Shelton (1917) did not include this species. (See also Gullion, 1947*a*).

Piranga ludoviciana. Western Tanager. Common summer resident (150/456—33%). Extreme dates: April 27, 1946, and September 22, 1946. Records of 1 to 10 birds most frequent from mid-May to late August. Migration: spring, mid-May; fall, mid-August to mid-September, peak in late August. Breeding records: June 6 to 19.

Pheucticus melanocephalus. Black-headed Grosbeak. Common summer resident (262/598—44%). Extreme dates: April 25, 1946, and September 16, 1948. Records of 1 to 10 birds most frequent from mid-May to mid-August. No migratory influx evident. Breeding records: June 14 to July 23.

Passerina amoena. Lazuli Bunting. Very common summer resident (217/436—50%). Extreme records: April 28, 1946, and September 11, 1948. Records of 1 to 21 birds most frequent from early May to mid-August. No migratory influx evident. Breeding records: June 2 to August 25. Unusual record: Thurston, March 15, 1947 (P).

Hesperiphona vespertina. Evening Grosbeak. Common nomadic permanent resident (250/1287—19%). Records of 1 to 104 birds grouped at irregular intervals during the several years, with every month represented by records some time between 1939 and 1949. Nomadic behavior confuses records to a certain degree. Breeding records: June 19 to July 26.

Carpodacus purpureus. Purple Finch. Very common permanent resident (341/740—46%). Rec-

ords of 1 to 75 birds evenly distributed through the year. Normally little population variation is evident locally, but during the unusually wet winter of 1947-48 these finches became very scarce. During this winter a bird banded at Eugene, January 2, 1947, was taken at Lodi, San Joaquin County, California, about February 29, 1948 (G). Breeding records: April 21 to July 31.

Carpodacus mexicanus. House Finch. Very common permanent resident (278/598—46%). Records of 1 to 102 birds evenly scattered through the year. Breeding records: April 4 to July 25. Shelton (1917) did not include this species.

Acanthis flammea. Common Redpoll. Winter straggler. One record: a skin, Eugene, December 16, 1914 (UOMZ). Shelton (1917) said: "Rare and irregular winter visitant."

Spinus pinus. Pine Siskin. Common permanent resident (145/821—19%). Records of 1 to 400 birds most frequent from October to May. Breeding records: April 25 to September 12.

Spinus tristis. American Goldfinch. Very common permanent resident (185/356—52%). Records of 1 to 157 birds evenly distributed through the year. No seasonal variation evident. Breeding records: June 9 to July 13.

Spinus psaltria. Arkansas Goldfinch. Rare permanent resident (63/1235—5%). Records of 1 to 24 birds scattered through the year. Breeding records: May 28 to July 31. Shelton (1917) listed this species as a "fairly common summer visitant."

Loxia curvirostra. Red Crossbill. Erratic nomadic resident. Twenty-nine records of 2 to 100 birds in January (1947, 1948); May (1949); June (1948); July (1947); August (1949); September (1945, 1949); October (1949); November (1949); December (1945, 1949). Breeding records: two nests, August 28 to September 12, 1949, Thurston (P). Shelton (1917) said: "Of very irregular and erratic distribution."

Pipilo maculatus. Spotted Towhee. Abundant permanent resident (310/357—87%). Records of 1 to 79 birds evenly distributed through the year. Breeding records: April 25 to July 23.

Passerculus sandwichensis. Savannah Sparrow. Very common permanent resident (62/118—52%). Records of 1 to 100 birds evenly distributed through the year. Migration: mid-April to mid-May, peak in late April; fall, mid-September to mid-October, peak in late September. An influx of very dark birds is evident during the winter. No breeding records known.

Poocetes gramineus. Vesper Sparrow. Common summer resident (26/64—41%). Extreme dates: March 30, 1947, and November 1, 1946. Records of 1 to 15 birds most frequent from mid-April to mid-October. Little evidence of migratory influx. Breeding records: May 13 to July 7. Unusual records: one, Eugene, January 7, 1939 (G); Fern Ridge area, four, December 29, 1946 (G); Fern Ridge area, two, January 2, 1949 (P).

Chondestes grammacus. Lark Sparrow. Status uncertain, may be rare winter visitor, with summer stragglers. J. H. Pruett reported (in the spring of 1948) having a single bird of this species at his feeding station in Eugene for "two or three months every winter for the last four or five years." Six additional records for single birds: Goshen, July 22, 1927 (Gabrielson and Jewett, 1940); Fern Ridge area, July 13, 1946 (G); Springfield, May 6, 1948 (Radmore); Fern Ridge area, August 8 and 17, 1948 (P); Eugene, April 23, 1949 (J. H. Pruett). Shelton (1917) did not list this species.

Junco hyemalis. Slate-colored Junco. Winter visitor of uncertain abundance. Many records of 1 or 2 birds at Thurston (P): January 2 to March 11, 1947; October 21, 1947, to March 28, 1948; December 9, 1948, to March 23, 1949; November 20, 1949, to January 9, 1950. One bird was observed in Eugene, January 12, 1949 (Wiseman). Shelton (1917) did not include this species.

Junco oreganus. Oregon Junco. Permanent resident, common in summer, abundant in winter (862/966—90%). Winter influx lasts from early October to late April, with records of up to 1193 birds; abundant through this season. Breeding birds retire to surrounding coniferous forests, with records of 1 to 10 birds evenly scattered through the season. Breeding records: May 9 to August 25.

Spizella arborea. Tree Sparrow. Status uncertain. Four records of single birds: Thurston, May 17, 1947, and November 6, 1948 (P); Springfield, November 20, 1948 (Radmore); Eugene, January 2, 1949 (ENHS, 1949).

Spizella passerina. Chipping Sparrow. Very common summer resident (541/782—69%). Extreme dates: March 25, 1947, and October 12, 1946. Records of 1 to 20 birds most frequent from late April to mid-September. Migration: spring, early April to early May, peak in mid-April; fall, early August to late September, peak in late August. Breeding records: April 26 to August 10.

Zonotrichia leucophrys. White-crowned Sparrow. Common permanent resident (441/1149—38%). Records of 1 to 65 birds scattered evenly through the year, with definite migratory influx: spring, late March to early May, peak in mid-April; fall, early September to early October, peak in late September. Breeding records: June 1 to August 28.

Zonotrichia coronata. Golden-crowned Sparrow. Abundant winter visitor (903/1208—75%). Extreme dates: August 26, 1947, and May 22, 1940. Records of 1 to 102 birds most frequent from late September to early May. Migration: spring, early to mid-May; no fall peak evident.

Zonotrichia albicollis. White-throated Sparrow. Winter straggler. One record: one bird, 16 dates between November 6, 1940, and April 18, 1941, Eugene (G).

Passerella iliaca. Fox Sparrow. Very common winter visitor (584/970—60%). Extreme dates: September 18, 1946, and April 18, 1939. Records of 1 to 36 birds; most frequent from mid-November to mid-April. No migratory influx evident.

Melospiza lincolni. Lincoln Sparrow. Common migrant and winter visitor (77/244—32%). Extreme dates: August 15, 1946, and June 4, 1946. Records of 1 to 8 birds scattered through the season. Migration: fall, early September to early October, peak in late September; spring, early April to early May, peak in late April. A bird taken at Fern Ridge Reservoir, March 28, 1948 (G), was identified by Jewett as *M. l. gracilis* (Northwestern Lincoln Sparrow). Shelton (1917) did not record this species from the valley.

Melospiza melodia. Song Sparrow. Abundant permanent resident (252/269—94%). Records of 1 to 145 birds scattered evenly through the year. No migratory influx evident. Breeding records: February 28 to August 13.

SUMMARY

The preceding list gives the status of 212 species of birds that occur in the Willamette Valley of western Oregon. In addition two species are included on the basis of records the author believes incorrect and should be considered hypothetical. Ten of these species are exotic and the occurrence of 32 native species has not been previously recorded in literature. Twenty-seven additional species have been recorded since the publication of the "Birds of Oregon" (Gabrielson and Jewett, 1940). Most of these later records have been contained in the Christmas bird counts of the Eugene Natural History Society (1947 to 1950). Since 1917 at least 28 native species have been added to the local list from among the 37 families discussed by Shelton. Most of the new records are for species either typically Austral in distribution or coastal forms never before recorded from localities in the Willamette Valley.

Of the 115 species present during the breeding season, at least 109 species are known to, or very probably do, breed within the limits of the area. There are three more species that may possibly breed locally. Seventy-one species are permanent residents or visitors, 42 species occur only during the summer, 25 species occur only in winter, 24 species are known only as migrants whereas 21 species are known only as stragglers or erratic visitors. For 27 species, data are insufficient to ascertain their proper status.

The local breeding birds are overwhelmingly Transition zone species, whereas most of the winter visitors are Boreal species that have moved south to avoid severe northern winters. Most of the local migrants are either Boreal or Transition zone breeding species moving to their breeding or wintering grounds. It seems certain that the avifauna of this area is more closely linked with more northerly areas than with the areas east of the Cascades or the valleys of southwestern Oregon. The few Austral species occurring locally as "migrants," stragglers or as of uncertain status, are undoubtedly the result of the inevitable wandering of single individuals of species which occur regularly and often abundantly a few hundred miles to the east or south of this area. In some parts of the southern Willamette Valley conditions are favorable for the breeding of certain Austral species, but there is no extensive Austral fauna linking this area with a California fauna as is found in the Umpqua and especially the Rogue River valleys to the south.

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