

# HALF-CENTURY RECORD OF THE BREEDING BIRDS OF THE FORTINE AREA, MONTANA: NESTING DATA AND POPULATION STATUS

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I have studied the birds of northwestern Montana for more than half a century (1920-73) during my residence as a rancher near Fortine, in Lincoln County. Information on the spring migration pattern there has been published previously (Weydemeyer 1973). The present paper, listing the breeding birds of the area and summarizing information on more than 4000 nests and about 2000 broods of young out of the nest, provides data on nesting dates, and for some species, information on size of egg clutches or broods of young; the relative abundance of each species, and in many cases definite changes in the breeding population, are noted.

A basic list of 154 species includes 25 that are regular permanent or summer residents and doubtless breed, but for which actual nesting data have not been obtained. In a few cases, but only if records from the Fortine area are also given, data from adjacent localities within a radius of 100 miles are included. A supplemental list names 19 additional species that breed in nearby localities and may possibly do so in the Fortine area.

The "Fortine area," as arbitrarily designated herein, is that portion of Lincoln and Flathead counties lying within a 20-mile radius of my ranch. The ranch itself, with headquarters one mile NNE of Fortine, lies at an elevation of about 3000 ft in the glaciated, largely timbered Tobacco Valley, 15 miles S of the United States-Canadian border and 54 miles E of the Montana-Idaho line. The area includes Transition, Canadian, and Hudsonian Zone habitats.

As discovery of nests has to a considerable degree resulted from chance rather than from planned study, more information has been obtained for commoner valley birds than for those that are scarcer, more secretive, or confined to mountain habitats. Thus, the number of nests or broods listed for any species is not an accurate measure of its relative abundance in the area.

In the following summary of actual nesting data, no attempt has been made to establish for each species a time pattern of nesting progress. Thus, egg dates are not estimated from records of young in nests; in some cases

the earliest date for young may precede that for when eggs were actually seen. In the case of multiple records, extreme dates are identified as to year by numbers in parentheses.

Admittedly, it is not possible to afford a true picture of the relative breeding numbers of most species by means of the commonly employed adjectives used below. To present as accurate a picture as possible, descriptions relate to numbers present in preferred habitats rather than in the total area.

*Gavia immer*. Common Loon. Rare, numbers decreasing. Young about two-thirds grown seen as early as 6 June (1942).

*Podiceps grisegena*. Red-necked Grebe. Rare. Nest with eggs, 25 May 1936. Regular at Ninepipe Refuge (near Ronan, Lake County), young observed during June and July.

*Podiceps auritus*. Horned Grebe. Rare. Nearly-grown young, 29 July and 25 August 1929.

*Podiceps nigricollis*. Eared Grebe. Uncommon. Nest with four eggs 15 June 1930. Variable dates shown for 19 broods of young on the water (two to five birds each, seven in two cases); nearly grown young as early as 12 June (1932), young perhaps a week old as late as 30 August (1936). Variation in ages is shown among broods on any one lake in one season.

*Aechmophorus occidentalis*. Western Grebe. Rarely breeds at Fortine. Third-grown young, 1 July 1923 and 22 July 1922. Becoming commoner in adjacent areas to the south; one observation, 17 broods of young, one-third to one-half grown, at Ninepipe Refuge on 11 July 1969.

*Podilymbus podiceps*. Pied-billed Grebe. Uncommon. Nest with five eggs 26 May 1940. Dates on 15 broods of young in the water vary greatly: range, third-grown young 18 June (1933) to half-grown 6 August (1967). Nearly grown young observed at Ninepipe Refuge as early as 11 July (1969).

*Botaurus lentiginosus*. American Bittern. Uncommon, decreasing. Record of 10 nests in hayfields: five eggs 4 June 1940; newly hatched young 8 July 1927; for third-grown young, dates range from 22 July (1940) to 1 August (1944).

*Anas platyrhynchos*. Mallard. The commonest breeding duck. Dates for eggs range from 9 May (1941) to 19 June (1927). Dates on 201 broods in the water show a range for young judged to be less than one week old from 12 May (1940) to 28 July (1971). Of this age, 3 broods were recorded during the period of 1 to 15 May; 17 broods, 16 to 31 May; 27 broods, 1 to 15 June; 13 broods, 16 to 30 June; 6 broods, 1 to 15 July; one brood 28 July. The 126 broods counted ranged from 2 to 14, the average being 7.

*Anas acuta*. Pintail. Breeds rarely at Fortine, though commonly southward. Records of seven

broods in the water indicate a range in hatching dates from late May to mid-June. One brood nearly grown, 12 July 1931.

*Anas crecca*. Green-winged Teal. Formerly a common breeder at Fortine but numbers show a drastic reduction in recent years. Dates on eggs range from 11 May (1928) to 23 June (1923). Dates on 43 broods in the water show a wide range: young judged to be less than one week old, 13 May (1946) to 15 August (1928). Of this age, three broods were seen during the period of 13 to 31 May; seven broods, 1 to 15 June; five broods, 16 to 30 June; three broods, 1 to 15 July; three broods, 12 to 15 August. The 31 broods counted ranged from 4 to 15, the average being 8.

*Anas discors*. Blue-winged Teal. Uncommon. Dates for eggs range from 13 June (1935) to 31 July (1961). Data on young in the water indicate that usual hatching dates range through June. Nearly grown young observed by 6 August (1967).

*Anas cyanoptera*. Cinnamon Teal. Rare, decreasing. Have a few July dates for small young.

*Anas americana*. American Wigeon. Common, increasing. Dates on 19 broods in the water (3 to 15 in number, average 7) indicate a rather uniform hatching period during the first 20 days of June.

*Anas clypeata*. Northern Shoveler. Rare or casual breeder. Thirteen young appearing to be less than one week old seen 31 May 1971.

*Aythya americana*. Redhead. Increasing; began nesting at Fortine about 1932, has become fairly common. Eggs, 12 June 1932. Dates for 27 broods in the water (5 to 10 in number, average 7) show a range for young judged to be less than one week old from 12 June (1938) to 28 July (1971).

*Aythya collaris*. Ring-necked Duck. Uncommon, increasing. Not regularly present in summer until recent years. First young seen in 1970, three broods in 1971, two in 1972, five in 1973. These indicated a range in hatching dates from about 20 June to 15 July. Broods 2 to 12 in number, average 6.

*Aythya valisineria*. Canvasback. Breeds rarely. Three broods, 1-2 weeks old, seen 22 July 1973.

*Aythya affinis*. Lesser Scaup. Only one Fortine area breeding record: 11 young perhaps two weeks old, with two adult females and two adult males, 15 July 1972.

*Bucephala clangula*. Common Goldeneye. Abundant, ranking close to Mallard in numbers. A female probably incubating eggs was flushed from a cavity 27 May 1945. Data on 169 broods of young on the water show that nesting normally extends over a period of 6-8 weeks. Dates for young judged to be less than one week old range from 5 May (1973) to 11 July (1971). Of this age, 12 broods were recorded during the period of 5 to 31 May; 32 broods, 1 to 13 June; 12 broods, 16 to 30 June; and 3 broods, 1 to 11 July. Sighting on 6 August 1967 of young judged to be 2 weeks old.

As small young commonly consort in groups (as many as 45 swimming with one adult female), it is not always possible to determine brood numbers. The 98 broods counted with reasonable accuracy ranged in numbers from 1 to 18, the average being 9. Late season broods generally have fewer young than early ones. (As adult females cannot always be distinguished from those of *B. islandica* after mid-June, a few of the late season broods included in the above summaries may be young of that species. If so, inclusion would affect the general pattern of dates and brood numbers only slightly.)

*Bucephala islandica*. Barrow's Goldeneye. Common. Data on 46 broods indicate a shorter nesting period than that of *B. clangula*. Young left a nest 18 June 1935. Dates for young less than one week old in the water range from 29 May (1934) to 15 July (1972). Eight broods on one lake in 1938 were nearly uniform in size. The 44 broods counted ranged from 4 to 11 in number, with an average of 8.

*Bucephala albeola*. Bufflehead. Fairly common, increasing. Dates for young judged to be less than one week old range from 11 June (1971) to 5 July (1970); nearly grown young have been seen as early as 12 July (1970). Brood numbers ranged from 1 to 12, with an average for 32 broods of 5.

*Histrionicus histrionicus*. Harlequin Duck. Rare. Young in the water observed during July and August.

*Oxyura jamaicensis*. Ruddy Duck. Fairly common. Dates for eggs range from 12 June (1932 and 1938) to 1 July (1923); as many as 19 eggs found in one nest. Broods in the water averaged eight in number. Data on 39 broods show a wide range of dates: young one-third grown as early as 14 June (1931), and young perhaps 10 days old as late as 30 August (1931).

*Lophodytes cucullatus*. Hooded Merganser. Breeds rarely. Five records for young in the water indicate hatching dates in early June. Five young about two-thirds grown with an adult female of this species seen on 12 July 1970 appeared to be Hooded Merganser-Bufflehead hybrids.

*Mergus merganser*. Common Merganser. Uncommon. Data on seven broods (8 to 12 young) indicate an early nesting season: young one-third grown by 14 June; fully grown young by 19 July (1931).

*Accipiter gentilis*. Goshawk. Rare, decreasing. Immature young on the wing observed 8 and 25 August 1922 and 15 August 1942.

*Accipiter striatus*. Sharp-shinned Hawk. Decreasing to rare in recent years. Young left a nest by mid-June. Fully grown flying young seen 2 August (1931 and 1932).

*Accipiter cooperii*. Cooper's Hawk. Decreasing to uncommon in recent years. Flying young seen 2 August 1924.

*Buteo jamaicensis*. Red-tailed Hawk. Decreasing to uncommon in recent years. Records on five nests: one under construction, 3 April 1936; dates for young approximately half-grown range from 29 May (1921) to 2 July (1925).

*Buteo swainsoni*. Swainson's Hawk. Formerly rare, not seen in summer for about 30 years. Fully grown young seen 22 August 1931.

*Aquila chrysaetos*. Golden Eagle. Uncommon.

*Haliaeetus leucocephalus*. Bald Eagle. Uncommon.

*Pandion haliaetus*. Osprey. Becoming rare. Young of undetermined age seen in nests in June.

*Falco peregrinus*. Peregrine Falcon. Rare.

*Falco columbarius*. Merlin. Formerly uncommon, now rare.

*Falco sparverius*. American Kestrel. A regular breeder, but seriously decreasing in numbers in recent years. The 17 nests recorded were not examined for the specific stage of nesting. The general pattern as inferred from behavior of adults and sightings of young: eggs laid early May to early June; young fed in the nest, 16 June to 20 July; young left nests as early as 20 July.

*Dendragapus obscurus*. Blue Grouse. Fairly common, but much less so than 30-50 years ago. Hatching dates of 55 broods range from 10 June (1973) to 15 August (1933) in the valley; as early as 28 June

(1928) at 6500 ft altitude. Brood numbers from 1 to 10.

*Canachites canadensis*. Spruce Grouse. Fairly common. Records on 22 broods of young out of the nest indicate hatching times from about 20 June to 20 July. Broods usually 4 to 6 in number, rarely as many as 10.

*Bonasa umbellus*. Ruffed Grouse. Fairly common. Dates for eggs from 1 May (1921) to 5 June (1936). Records on 28 broods of young out of the nest indicate hatching dates usually during June but sometimes as late as 10 July.

*Pedioecetes phasianellus*. Sharp-tailed Grouse. Has become rare.

*Phasianus colchicus*. Ring-necked Pheasant. Introduced birds nested at Fortine during 1940-1942. Hatching dates varied widely from early June to early August. Brood numbers ranged from 6 to 20.

*Perdix perdix*. Gray Partridge. Introduced birds nested at Fortine during 1933-1945. Records on 26 nests and broods showed hatching dates varying from 25 June (1941) to 31 July (1935).

*Meleagris gallopavo*. Turkey. Introduced. Young have been reported.

*Porzana carolina*. Sora. Rare. Young judged to be 3 or 4 days old seen 11 July 1930.

*Fulica americana*. American Coot. Common, decreasing locally. Data on 107 nests: dates for eggs (as many as 14 in a nest) range from 17 May (1931) to 1 July (1923). Of 132 broods of young on the water, the earliest was observed 17 May (1931); 60 broods seen 3 August 1930 ranged in age from about 10 days to nearly grown.

*Charadrius vociferus*. Killdeer. Common. For 23 nests with full clutches of eggs, dates range from 15 April (1956) to 4 July (1928), the majority being during May. For 64 broods out of the nest with young judged to be less than a week old, dates were 3 May (1928) to 4 July (1928).

*Capella gallinago*. Common Snipe. Uncommon. Nest with four eggs 11 June 1963; young perhaps 10 days old, 24 July 1970.

*Actitis macularia*. Spotted Sandpiper. Common. Dates on eggs (nine nests) range from 9 June (1922) to 18 July (1955). Young out of the nest seen as early as 10 June (1934).

*Steganopus tricolor*. Wilson's Phalarope. Rare. Eggs, 18 June 1970. Small young in the water, 26 June (1965) to 13 August (1922).

*Chlidonias niger*. Black Tern. Rare, numbers decreasing. Dates for eggs range from 7 June, 6 nests (1922), to 1 July, 18 nests, most with three young, or two young and one egg (1923). Young appearing to be fully grown seen 6 August 1967.

*Zenaida macroura*. Mourning Dove. Uncommon. Dates for eggs range from 25 June (1936) to 21 July (1937).

*Bubo virginianus*. Great Horned Owl. Rare. A nest under observation in 1928 was thought to contain eggs by 8 April; large young in a nest, 15 April 1972; flying young, 14 June 1924.

*Glaucidium gnoma*. Pygmy Owl. Regular for many years, now rare.

*Strix nebulosa*. Great Gray Owl. Very rare. Three young appearing to be fully grown observed 31 July 1931.

*Aegolius acadicus*. Saw-whet Owl. Rare.

*Chordeiles minor*. Common Nighthawk. Formerly common, but much reduced in numbers during the last quarter-century. Egg dates for 17 nests are well

scattered through July: extremes 26 June (1937) to 26 July (1942).

*Archilochus alexandri*. Black-chinned Hummingbird. Uncommon.

*Selasphorus rufus*. Rufous Hummingbird. Fairly common. Dates for eggs (10 nests) range from 3 June (1930) to 25 June (1922); earliest hatching date 10 June (1928). Young left one nest 10 July 1932.

*Stellula calliope*. Calliope Hummingbird. Uncommon, decreasing. Dates for eggs (six nests) range from 5 June (1931) to 11 July (1920); earliest hatching date, 11 June (1931). A bird in Glacier National Park was lining a nest 30 May 1938.

*Megaceryle alcyon*. Belted Kingfisher. Fairly common, nests seen.

*Colaptes auratus*. Common Flicker. Common. Dates on 67 nests show these ranges: eggs, 29 April (1928) to 10 June (1928); young in the nest, 6 May (1928) to 9 July (1930). Earliest date for flying young, 20 June (1962).

*Dryocopus pileatus*. Pileated Woodpecker. Rare. Excavation of one nesting cavity extended from early March to the end of May. One nest cavity was being prepared 28 April, young left the nest 5 July (1928). Another record of flying young, 21 July 1931.

*Asyndesmus lewis*. Lewis' Woodpecker. Fairly common at Fortine during earlier years, but uncommon after about 1945, and absent the last several years. Data on 36 nests: preparation of nest site generally begun during last half of May, eggs incubated during June; dates for young in the nest range from 22 June (1933) to 4 August (1944); flying young seen as early as 15 July (1934).

*Sphyrapicus varius*. Yellow-bellied Sapsucker. Fairly common. Data on 25 nests: egg dates range from 26 May (1923) to 3 June (1923); young in nest, 18 June (half-grown, 1922) to 11 July (1973); young on the wing as early as 28 June (1932).

*Sphyrapicus thryoideus*. Williamson's Sapsucker. Very rare. A nesting cavity was being excavated 12 and 19 June 1973.

*Dendrocopos villosus*. Hairy Woodpecker. Fairly common, but much reduced in numbers during the last quarter-century. Records on 17 nests: eggs hatched 29 May 1921; young in nest, dates range from 18 May (1928) to 26 June (1921). Flying young seen as early as 28 June (1931) in the valley and 27 July (1921) in the Hudsonian Zone.

*Dendrocopos pubescens*. Downy Woodpecker. Uncommon, decreasing. Flying young observed 22 July 1923 and 1 July 1972.

*Picoides arcticus*. Black-backed Three-toed Woodpecker. Observed regularly until about 1940, but since has become very rare. Dates for young in the nest, 25 May 1923 and 4 June 1932.

*Picoides tridactylus*. Northern Three-toed Woodpecker. Regular until about 1940, now rare. I have a few records of flying young during late July and August. A nest containing nearly grown young observed at Lake McDonald, Glacier National Park, 23 June 1937.

*Tyrannus tyrannus*. Eastern Kingbird. Fairly common. Records on 34 nests (many over water): eggs, dates range from 5 June (1934) to 22 July (1965); young in the nest, 12 June (1934) to 2 August (1954); flying young as early as 11 July (1934).

*Tyrannus verticalis*. Western Kingbird. Uncommon, decreasing. Nests in construction by 2 June; egg dates 26 June (1967) to 10 July (1933); flying young by 22 July (1929).

*Empidonax traillii*. Willow Flycatcher. Uncom-

mon. A few nesting records in June: nest half constructed 19 June 1936; eggs 26 June 1921; young hatched 27 June 1937.

*Empidonax minimus*. Least Flycatcher. Rare and irregular.

*Empidonax hammondi*. Hammond's Flycatcher. Considered rare. A pair observed feeding young in nest on 19 July 1973.

*Empidonax oberholseri*. Dusky Flycatcher. Recorded as common until 1940, scarce in 1941, and since has become rather rare. Data on nine nests: range in dates for eggs, 14 June (1922) to 20 July (1930); flying young, earliest 14 July (1940).

*Contopus sordidulus*. Western Wood Pewee. Fairly common. Fortine dates: eggs, 13 July 1973; young in nest, 1 August 1954; young flying, 15 July 1972. Lake McDonald, nest completed 29 May 1938; young in nest, Flathead Lake mid-June, Libby 29 June (1933).

*Nuttallornis borealis*. Olive-sided Flycatcher. Fairly common.

*Tachycineta thalassina*. Violet-green Swallow. Uncommon. Nests have been completed by 15 May, occupied by young during June and early July. Young have left nests by 1 July (1965); second brood young by 30 July (1956). One cranny over the front door of my house was occupied (by successive generations?) for nearly 30 years; during at least 2 years, second broods were raised.

*Iridoprocne bicolor*. Tree Swallow. Common. The following summaries are based on partial to complete data on about 450 nests in the Fortine area. First nesting, undisturbed, ranges: construction of nest begun, 56 nests, 9 April to 9 May; first egg laid, 48 nests, 15 May to 2 June, average 24 May; complete sets of eggs, 111 nests, 20 May to 12 June, average 30 May; dates young left the nest, 66 broods, 23 June to 10 July, average 2 July. In cases where nesting progress was disrupted, first eggs laid as late as 25 June; young left the nest as late as 3 August.

Irregularly, in some years a few pairs have raised a second brood. My notes record 34 successful attempts (in a few cases young have perished from heat or parasitism). Earliest date for a first egg is 4 July. Dates on which young have left the nest (17 records) range from 4 to 19 August.

Number of eggs laid, 115 nests: 4 sets of 3, 10 of 4, 28 of 5, 52 of 6, 20 of 7, 1 of 8. Second nesting egg sets have averaged somewhat smaller than first clutches.

*Riparia riparia*. Bank Swallow. Fairly common. Little specific data were obtained on about 700 nests observed, colonies of 3 to 150. Nest preparation has begun as early as 10 May. Definite egg dates range from 12 June (1935) to 6 July (1923). Dates for young still in the nest range as late as 2 August (1924).

*Stelgidopteryx ruficollis*. Rough-winged Swallow. Formerly common, but scarce since about 1940. Dates on 126 nests: construction begun as early as 8 May (1931); dates for eggs (generally six to eight) range from 14 June (1928) to 3 July (1937). Earliest date for flying young, 2 July (1934).

*Hirundo rustica*. Barn Swallow. Breeds commonly; has increased since about 1935. Most pairs, if first nesting is not interrupted, raise two broods each season; young of second broods leave nest at a later date than young of any other species in the area.

A summary of dates on more than 150 nests follows: nest construction usually begun during the last half of May or early June; earliest date, two nests in

construction 9 May (1969). Ranges in dates, first brood: eggs, 20 May (1934) to 4 August (1940); young left nest, 30 June (1940) to 27 August (1937). Ranges, second brood: eggs, 4 July (1934) to 27 August (1935); young left nest, 26 August (1967) to 15 September (1930).

Complete egg clutches for first broods have nearly always been five, occasionally four; for the second nesting, three to five. Frequently, a nest used for 2 or 3 years; seldom was a new nest built for the second nesting in one season.

*Petrochelidon pyrrhonota*. Cliff Swallow. Common. Partial data obtained on more than 175 nests show a wide range of dates for nesting progress. Nests constructed during May, June, and July; earliest date, completed by 1 May (1939). Confirmed dates for eggs have ranged from 9 June (1933) to 17 July (1945). Only two records of probable second nesting; for both, two broods were raised in same nest. Young of one brood left the nest 29 August (1937).

*Perisoreus canadensis*. Gray Jay. Regular, fairly common.

*Cyanocitta stelleri*. Steller's Jay. Regular, fairly common.

*Pica pica*. Black-billed Magpie. Common fall to spring, but rarely breeds locally. One record at Fortine: 1966, nest constructed in early May, young left before 1 July.

*Corvus corax*. Common Raven. Common, increasing in numbers. Flying young seen as early as 8 June (1972).

*Corvus brachyrhynchos*. Common Crow. Common. Nest construction generally begun in April. Earliest date for eggs, 10 May (1921); but young in the nest seen as early as 5 May (1923), and young on the wing by 15 June (1923).

*Nucifraga columbiana*. Clark's Nutcracker. Common but erratic. Nests under construction observed as early as 2 March (1935); earliest date for eggs, 18 March (1928); earliest date for flying young, 12 April (1934).

*Parus atricapillus*. Black-capped Chickadee. Common. Earliest dates: nest under construction, 14 April (1941); eggs, 26 May (1973); young in the nest, 24 June (1944).

*Parus gambeli*. Mountain Chickadee. Common. Earliest dates: young in nest, 28 May (1938); young left nest, 17 June (1973).

*Parus hudsonicus*. Boreal Chickadee. Rare. Young on the wing seen 13 July 1941.

*Parus rufescens*. Chestnut-backed Chickadee. Rare, irregular.

*Sitta carolinensis*. White-breasted Nuthatch. Uncommon, decreasing. Preparation of nest observed as early as 6 April (1928); flying young, 28 June 1931.

*Sitta canadensis*. Red-breasted Nuthatch. Fairly common. Earliest dates: digging cavity, 3 April (1938); young in nest, 29 May (1921); young left nest, 15 June (1972).

*Sitta pygmaea*. Pigmy Nuthatch. Rare or casual. Adults seen carrying food to young in a nest, 24 July 1921.

*Certhia familiaris*. Brown Creeper. Regular but rare.

*Cinclus mexicanus*. Dipper. Uncommon. Twelve occupied nests observed, but no dates for eggs obtained. Dates for young in the nest varied from 20 June (1926) to 15 July (1934), but flying young seen as early as 6 June (1934).

*Troglodytes aedon*. House Wren. Common breeder at Fortine until about 1960; unexplainably absent

since. Data on 44 nests: construction begun as early as 11 May (1928); egg dates in May and June; young in nest, 7 June (1924) to 30 June (1934). A few records of second nesting: earliest, young by 21 July (1947); young in the nest as late as 20 August (1939).

*Troglodytes troglodytes*. Winter Wren. Uncommon. Flying young seen as early as 26 June (1924).

*Telmatodytes palustris*. Long-billed Marsh Wren. Uncommon from 1921 to about 1941, rare or absent since. Dates for 29 occupied nests: earliest date for completed nest, 26 May (1940); dates for eggs range from 7 June (1941) to 1 July (1923).

*Salpinctes obsoletus*. Rock Wren. Rare.

*Dumetella carolinensis*. Gray Catbird. Common, decreasing. Ranges in dates: eggs, 9 June (1932) to 22 June (1922); young in the nest, 11 June (1932) to 30 July (1927).

*Turdus migratorius*. American Robin. Abundant. Nesting pattern is irregular due to frequent destruction of nests and eggs by predators; second broods are commonly raised. The following summary is from data on about 300 nests at Fortine. Extreme dates, first brood: eggs, 29 April (1968) and 12 July (1921); young in nest, 9 May (1969) and 17 July (1941); date young left the nest, 22 May (1969) and 2 August (1945). Second nesting: earliest date for eggs, 1 June (1938); range of dates at which young left the nest, 22 June (1939) to 31 July (1928).

*Ixoreus naevius*. Varied Thrush. Never numerous, being reduced in numbers due to extensive timber cutting in its mountain habitat. Nest with four young perhaps 3 days old, 3 July 1922; an earlier date, nest complete but contents not visible, 19 May 1940.

*Catharus guttatus*. Hermit Thrush. Has become scarce due to logging operations in high mountain basins. Nest with three eggs, 2 July 1922; one containing young perhaps 4 or 5 days old, 28 July 1957.

*Catharus ustulatus*. Swainson's Thrush. Once common, but decreasing in numbers in recent years. Data on 16 nests: egg dates range from 12 June (1921) to 20 July (1938). Earliest date for flying young, 24 June (1933).

*Catharus fuscescens*. Veery. Scarce but regular.

*Sialia mexicana*. Western Bluebird. Fairly common until about 1935, rare or absent since. Data on 14 nests: egg dates range from 8 May (1934) to 26 June (1921); earliest date young left the nest, 9 June (1924); latest date for young in the nest, 7 July (1931); second nesting, earliest egg date, 11 July (1932); young in another nest hatched 23 July (1935) and grown young left a nest 28 July (1934).

*Sialia curruoides*. Mountain Bluebird. Common. The following summary covers data on 141 nests. For first brood, range of dates for eggs is 28 April (1930) to 30 June (1922); for young in the nest, 14 May (1930) to 30 June (1922); earliest date at which young left the nest, 22 May (1948). Second brood: egg dates range from 27 May (1948) to 23 June (1928); latest date at which young left the nest, 4 August (1930). An example of early nesting: construction begun 15 April, eggs laid 28 April to 1 May, young hatched 14 May, left the nest 4 June; eggs for second nesting laid 14 to 18 June, young left the nest 18 July (1930).

*Myadestes townsendi*. Townsend's Solitaire. Fairly common earlier, decreasing to rare during last 20 or 25 years. Flying young fed by adults: several dates, earliest 14 July (1928).

*Regulus satrapa*. Golden-crowned Kinglet. Rare.

Dependent young out of the nest, 2 August 1931 (two broods) and 23 August 1932.

*Regulus calendula*. Ruby-crowned Kinglet. Common. Range of dates for young in the nest, 15 May (1932) to 15 July (1923). Five of seven young flew from a nest 9 July 1922. Dependent flying young observed as late as 30 July (1933).

*Anthus spinoletta*. Water Pipit. Irregular in alpine areas.

*Bombycilla cedrorum*. Cedar Waxwing. Fairly common. Data on 21 nests: ranges, nest being constructed, 10 June (1936) to 27 July (1961); eggs, 20 June (1965) to 20 July (1921); flying young seen as early as 1 August (1937) at Fortine and 25 June (1924) at Libby.

*Sturnus vulgaris*. Starling. Began nesting at Fortine in 1960, now common. Nesting appears to be starting earlier in more recent years; two broods are sometimes raised. Ranges in dates: eggs, 1 May (1972) to 15 May (1965); young in nest, 2 June (1965) to 8 July (1963); young left the nest, 10 June (1972) to 10 July (1966).

*Vireo solitarius*. Solitary Vireo. Fairly common in earlier years, has been dwindling in numbers for the past 15 or 20 years. Dates for young in the nest, at Fortine, 15 June 1928 and 25 June 1938; at Libby, 28 June 1933.

*Vireo olivaceus*. Red-eyed Vireo. Fairly common. Nests are built in June (earliest completed by 10 June 1928). Range for egg dates, 29 June (1923) to 8 July (1973); but dependent young able to fly seen as early as 20 June (1928). Most young leave nests in early July.

*Vireo gilvus*. Warbling Vireo. Common. Egg dates range from 25 June (1922) to 15 July (1957); flying young seen as early as 8 July (1922).

*Vermivora peregrina*. Tennessee Warbler. Rare or casual.

*Vermivora celata*. Orange-crowned Warbler. Uncommon, decreasing.

*Vermivora ruficapilla*. Nashville Warbler. Rare. I have three records of flying young in July (1921 and 1928).

*Dendroica petechia*. Yellow Warbler. Fairly common. Data on 21 nests: ranges in dates, eggs 7 June (1937) to 30 June (1944); young in nests, 21 June (1932) to 3 July (1931). Flying young, earliest 22 June (1969).

*Dendroica coronata*. Yellow-rumped Warbler. Fairly common, but decreasing in numbers. Young in nest, 2 July 1922; earliest date for flying young, 2 July (1931).

*Dendroica townsendi*. Townsend's Warbler. Rare. Fully grown, flying young seen 6 August 1965.

*Seiurus noveboracensis*. Northern Waterthrush. Fairly common. Several dates for dependent, flying young range from 1 July (1923) to 30 July (1933).

*Oporornis tolmiei*. MacGillivray's Warbler. Fairly common. Dates for eggs (three to five in number) range from 24 June (1928) to 6 July (1923); earliest dates, young in nest 28 June (1928), flying young 22 July (1923).

*Geothlypis trichas*. Common Yellowthroat. Common. Data on seven nests: egg dates range from 3 June (1930) to 24 June (1943); young in the nest, 11 June (1936) to 22 June, just hatched (1923). Flying young noted as early as 30 June (1921).

*Wilsonia pusilla*. Wilson's Warbler. Rare. On 3 July 1938 adults were seen carrying food, probably to young in a nest.

*Setophaga ruticilla*. American Redstart. Fairly common. Ranges in nesting dates: eggs, 13 nests, 12 June (1938) to 10 July (1921); young in nest, 9 July (1921) to 16 July (1937). Earliest date for flying young, 30 June (1941).

*Passer domesticus*. House Sparrow. Fairly common.

*Dolichonyx oryzivorus*. Bobolink. Rare, but regular locally. Dates for young in the nest: one-third grown, 25 June 1940; week old, 6 July 1938. Dates for young out of the nest barely able to fly range from 6 July (1946) to 12 August (1937).

*Sturnella neglecta*. Western Meadowlark. Common. Data on 36 occupied nests: ranges in dates, eggs, 30 April (1931) to 23 June (1942); young in nest, 28 May (1933) to 20 July (1927, 1929, 1935). Dates for young out of the nest barely able to fly range from 30 May (1936) to 16 July (1938). Some evidence of second nesting. Mortality due to haying operations is frequent.

*Xanthocephalus xanthocephalus*. Yellow-headed Blackbird. Fairly common earlier, declining to rare in recent years. Data on 58 nests: ranges in dates, eggs, 28 May (1939) to 23 June (1929); young in the nest, 12 June (1931) to 18 June (1933). Dependent, flying young seen as late as 2 August (1931).

*Agelaius phoeniceus*. Red-winged Blackbird. Fairly common. Egg dates range from 27 May (1941) to 15 June (1941). Young in the nest recorded as early as 7 June (1922); flying young as early as 20 June (1945).

*Euphagus cyanocephalus*. Brewer's Blackbird. Common, increasing. Ranges in dates, 35 nests: eggs, 15 May (1957) to 20 June (1954); young in nest, 20 May (1965) to 21 June (1966). Earliest date for flying young, 3 June (1967).

*Molothrus ater*. Brown-headed Cowbird. Fairly common.

*Piranga ludoviciana*. Western Tanager. Fairly common, decreasing. Egg dates 13 and 22 June 1928. Earliest date for flying young, 7 July (1929) at Fortine, 28 June (1933) near Libby.

*Passerina amoena*. Lazuli Bunting. Uncommon. Flying young seen by 20 July (1936).

*Hesperiphona vespertina*. Evening Grosbeak. Uncommon, erratic. Dependent, flying young seen 26 and 30 July 1933.

*Carpodacus cassinii*. Cassin's Finch. Uncommon, decreasing. Flying young seen by 21 June (1938) at Fortine and 25 June (1924) at Libby.

*Picolina enucleator*. Pine Grosbeak. Uncommon, erratic. Flying young seen 27 July 1921.

*Spinus pinus*. Pine Siskin. Abundant, but somewhat irregular. Because of marked variation in spring arrival dates (March to June), nesting dates also vary widely. Earliest date, eggs, 4 April, young left the nest before 2 May (1972). Most nesting takes place during June; dependent, flying young as late as 24 July (1972).

*Spinus tristis*. American Goldfinch. Formerly common, now rare.

*Loxia curvirostra*. Red Crossbill. Irregular, varying from rare to common in different nesting seasons. Flying young observed in August.

*Loxia leucoptera*. White-winged Crossbill. Rare, erratic. Flying young seen in August.

*Passerculus sandwichensis*. Savannah Sparrow. Uncommon but regular. Dates for eggs range from 27 June (1936) to 14 July (1921); for young in the nest, 29 June (1936) to 31 July (1923 and 1927). Dates for young out of the nest barely able to fly range from 17 July (1933) to 7 August (1930).

*Poocetes gramineus*. Vesper Sparrow. Fairly common. Ranges in dates for 33 occupied nests: eggs, full clutch, 30 May (1958) to 25 July (1935); young in nest, 20 June (1921) to 31 July (1923 and 1935); young just able to fly, 15 June (1930) to 27 July (1937).

*Junco hyemalis*. Dark-eyed Junco. Formerly abundant, much reduced in numbers for about the past decade. Ranges in dates, 48 active nests: eggs, 1 May (1972) to 3 August (1930); young in the nest, 10 May (1930) to 3 August (about 2 days old, 1930). Range in dates for dependent young out of the nest, 4 June (1932 and 1937) to 5 July (1971).

*Spizella passerina*. Chipping Sparrow. Common, but decreasing in numbers. Ranges in dates, 36 nests: eggs, 26 May (1923) to 14 July (1941); young in nest, 16 June (1928) to 22 July (1965). Dates for dependent, flying young range from 15 June (1930) to 18 September (1930).

*Zonotrichia leucophrys*. White-crowned Sparrow. Uncommon.

*Passerella iliaca*. Fox Sparrow. Fairly common. Egg dates in the valley, 24 June to 5 July (1922); at timberline, Glacier National Park, 4 July 1934. Small young in the nest, upper Canadian Zone, 3 July 1928; flying young, valley, by 12 June (1939).

*Melospiza lincolni*. Lincoln's Sparrow. Uncommon.

*Melospiza melodia*. Song Sparrow. Fairly common. Ranges in dates, 16 nests: eggs, 5 May (1947) to 12 July (1927); young in nest, 16 May (1939) to 14 July (just hatched, 1927). Flying young seen as early as 21 May (1928).

#### POSSIBLE ADDITIONAL BREEDING SPECIES

As no systematic study of all sections of the 1250 square mile "Fortine area" has been attempted, it is possible that several species of birds not listed above may breed in local, restricted areas. To afford a more complete picture of the breeding population of the general region, the following list is included. Most of the species named have been observed in the Fortine area during the breeding season, and all are reported to breed within 80 miles of its borders in habitats that are similar to those included within the "core" section.

Unless otherwise credited, observations and records cited are those of the author. The observed status of each species in the Fortine area is given, followed by breeding information from adjacent localities. Distances given are approximate, measured from the nearest point on the Fortine area boundary.

*Branta canadensis*. Canada Goose. Occurs occasionally in summer. Observed nesting about 50 miles south. Reported nesting along the Kootenai River (in the Fortine area) before construction of the Libby Dam and reservoir.

*Anas strepera*. Gadwall. Observed only as a rare migrant. Reported to breed at the Ninepipe Refuge, 80 miles south (Hand 1969); in Glacier Park, 35 miles east (Bailey 1918); and in adjacent British Columbia to the north (Godfrey 1966).

*Aix sponsa*. Wood Duck. Recorded only as a rare spring migrant. Young reported near the head of Flathead Lake, 40 miles southeast (Silloway 1901);

reported to breed in several areas southward (Hand 1969). Breeds in northern Idaho, about 40 miles west (Burleigh 1972) and in Glacier Park, 30 miles east (Parratt 1964).

*Circus cyaneus*. Marsh Hawk. Occurs commonly in spring, late summer, and fall, and irregularly during the nesting season and in winter. Breeds not far to the south and west.

*Larus delawarensis*. Ring-billed Gull. Observed occasionally at all seasons. Reported to nest at the Ninepipe Refuge (Hand 1969).

*Otus asio*. Screech Owl. Thought to be a rare permanent resident. I have late summer and winter records, but none during the nesting season. Listed as a permanent resident in Lincoln County by T. H. Rogers (1960, unpubl. data).

*Surnia ulula*. Hawk-Owl. Observed in winter and as late as May 6. Reported in summer and thought to breed in Glacier National Park (Bailey 1918).

*Strix varia*. Barred Owl. Observed in the fall. P. D. Skaar (pers. comm.) has assembled several recent Glacier Park summer records.

*Asio otus*. Long-eared Owl. Observed in mid-August and early winter. Listed by Rogers (1960, unpubl. data) as a rare summer resident of Lincoln County. Hand (1969) cited several summer occurrences in localities not far south.

*Asio flammeus*. Short-eared Owl. Observed occasionally April through November. Hand (1969) cited numerous summer records in adjacent areas southward.

*Cypseloides niger*. Black Swift. Casual occurrences in the Fortine area recorded in May, June, and September. Regular summer resident in Glacier Park to the east and the Cabinet Range to the west; may nest in alpine habitat in the Whitefish Range, Fortine area.

*Chaetura vauxi*. Vaux's Swift. Observed in the Fortine and Libby areas. Listed as a rare summer resident of Lincoln County by Rogers (1960, unpubl. data), and as a common summer resident in an adjacent Idaho County (Burleigh 1972). Nests in the McDonald Valley, Glacier Park (Parratt 1964).

*Aeronautes saxatalis*. White-throated Swift. Observed in summer in the Cabinet Mountains and in Glacier Park; one record at Fortine.

*Empidonax difficilis*. Western Flycatcher. Observed rarely in summer at Fortine and in Glacier Park, more commonly at Libby. A pair found nesting in the Cabinet Mountains (30 miles southwest).

*Bombycilla garrulus*. Bohemian Waxwing. Early summer records were cited by Saunders (1921). Said to nest rarely in extreme northern Idaho, about 35 miles west (Burleigh 1972); a nest reported from Glacier Park (P. D. Skaar, pers. comm.).

*Icterus galbula*. Northern Oriole. Observed in May and June. A summer resident in areas not far south.

*Pheucticus melanocephalus*. Black-headed Grosbeak. Observed occasionally from May to September. Listed as a breeding bird within 60 miles to the

south (Hand 1969), west (Burleigh 1972), and north (Godfrey 1966).

*Pipilo erythrophthalmus*. Rufous-sided Towhee. Noted only in spring and fall months, but listed as an uncommon summer resident of the county by Rogers (1960, unpubl. data). Breeds at short distances to the north and south.

*Spizella breweri*. Brewer's Sparrow. Mixed flocks of adults and young thought to be of this species have been observed in summer in several Hudsonian Zone areas in the Whitefish Divide (Fortine area), but identification not confirmed. Reported by Godfrey (1966) to occur as far south as Elko, British Columbia, only 20 miles north of the Fortine area boundary.

## SUMMARY

A list of 154 species of birds that breed in the Fortine, Montana area provides information on nesting dates, clutch and brood numbers, and changes in population that have occurred during a period of 53 years. Records are summarized on approximately 4000 occupied nests and about 2000 broods of young out of the nest, largely obtained in an area of about 700 square miles surrounding Fortine. A separate listing of 19 species that may breed in the area gives information on occurrences there and cites breeding records from localities not more than 80 miles distant.

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