

Overwintering Lawrence's Goldfinches in the Sierra Nevada Foothills, Central California

Peer-Reviewed Paper

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Seasonal variation in the distribution of Lawrence's Goldfinch (*Spinus lawrencei*) is inconsistent and irregular, and thus not well-understood (Watt et al. 2016). Its occurrence is highly erratic, such that it has long been considered among the most erratic of all species of birds (Tyler 1913, Granholm 1990). The species typically breeds in the foothills surrounding the Central Valley of California, as well as parts of southern California and northern Baja California. It is considered a year-round resident only in far southwestern California and northern Baja California. Individuals from most of the species' breeding range (northern and central California) usually depart breeding grounds prior to the onset of winter.

The seasonal movements of migratory Lawrence's Goldfinch individuals are somewhat unpredictable, and the winter range of this species is erratic, varying from year-to-year. Outside of its breeding range, the species reportedly winters, albeit irregularly and often in an irruptive manner, in parts of southern California, northern Baja California, southern Arizona, southern New Mexico, northwestern Mexico, and far western Texas (Watt et al. 2016). There are multiple winter records of Lawrence's Goldfinches from throughout much of its breeding range (Watt et al. 2016), including the Sierra Nevada (Beedy and Pandolfino 2013), but these most likely can be attributed to transient nomads. Beedy and Pandolfino (2013) reported the species as rare in the Sierra foothills during winter, and considered it the only fringillid that vacates the Sierra entirely during winter. Gaines (1988) reported Lawrence's Goldfinches as absent from Yosemite National Park (including the surrounding foothills) during winter. In the *Birds of North America* treatment of the species, Watt et al. (2016) presented no account of wintering populations from the Sierra Nevada. So enigmatic is this bird's winter range that they considered obtaining knowledge on its overwintering areas a priority for future research on the species.

Here I report on Lawrence's Goldfinches residing continuously throughout winter of 2016-17 in the Sierra Nevada foothills of Central California, far outside the species' typical winter range.

STUDY AREA

The study site is in the western foothills of the Sierra Nevada approximately 8 km (5 mi) west of Coarsegold, Madera County, California, about 30 km (18 mi) south of Yosemite National Park (approximately 37° N, 119° W) at an elevation of 400 m (1,200 ft). Habitat at the site is dominated by blue oak (*Quercus douglasii*). Other common tree and shrub species include interior live oak (*Q. wislizeni*), valley oak (*Q. lobata*), gray pine (*Pinus sabiniana*), buckbrush (*Ceanothus cuneatus*), whiteleaf manzanita (*Arctostaphylos viscida*), blue elderberry (*Sambucus nigra*), poison oak (*Toxicodendron diversilobum*), and chamise (*Adenostoma fasciculatum*). Understory vegetation is dominated by a variety of annual Mediterranean grasses. Filaree (*Erodium* sp.), fiddleneck (*Amsinckia* sp.), and popcorn flower (*Plagiobothrys* sp.) typically appear in late February to early March. A seasonal stream that typically flows from late autumn through midsummer transects the site. Cattle and horse grazing are the primary land-use practices in the area.

METHODS

From January 2016 through April 2017, I routinely (typically 3-7 times a week) monitored the site for avian diversity. Birds were observed with 10x50 binoculars, and observations were recorded in standard field note fashion. Following my initial winter sighting of Lawrence's Goldfinches (28 December 2016; see RESULTS AND DISCUSSION), I began to intensely monitor the site for this species to ascertain its winter status here. I focused on the presence or absence of the species, and made special efforts to record accurate counts of individuals. When possible, I took photographs of individuals.

RESULTS AND DISCUSSION

No Lawrence's Goldfinches were observed from January through mid-October in 2016. On 14 October 2016, four Lawrence's were sighted among an equal number of Lesser Goldfinches (*Spinus psaltria*). I recognized this record as seasonally atypical and assumed these birds to be aberrant migrants. On 28 December 2016, however, six individuals appeared at the site. The following day, the group had grown to 12 individuals. No survey was conducted on 30 December, but on 31 December I observed a large flock of approximately 100-125 individuals. Many members of this flock disappeared from the site by the following day, but a significant number remained. Lawrence's Goldfinches were observed during all surveys conducted from 28 December 2016 to 10 March 2017 (n=40). The specific dates and results of these surveys during which Lawrence's were observed are depicted in Figure 1. Surveys conducted thereafter (n=33) on 13-16 and 19-25 March, and 1-8, 10-13, 21-30 April yielded no Lawrence's. The mean number of individuals noted on the 40 positive surveys (using the low estimate of 100 for 31 December) is 12.8.

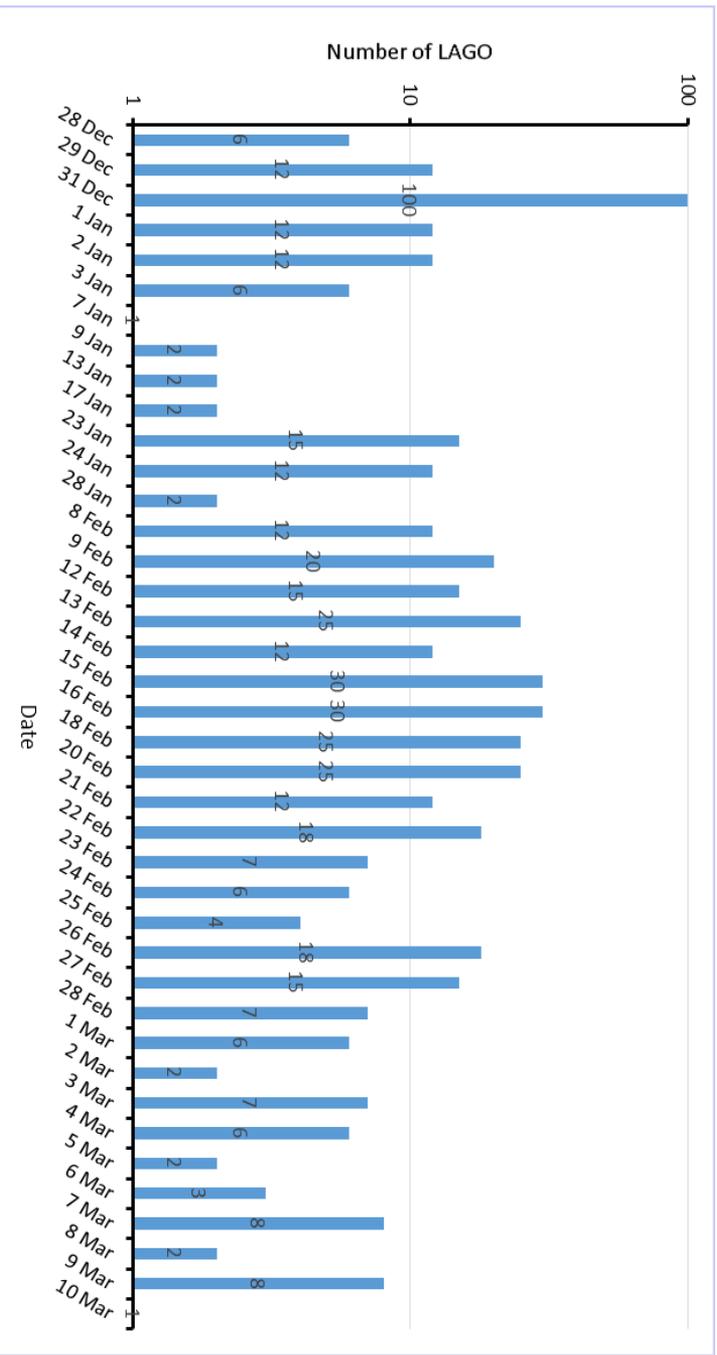


Figure 1. Results of 40 consecutive avian surveys in the Sierra Nevada foothills, California, during the winter of 2016-2017 that were positive for Lawrence's Goldfinch (LAGO). The number shown for 31 December (100) is a conservative figure based on an estimate of 100-125 individuals. Numbers superimposed on graph bars represent actual LAGO counts, whereas lengths of bars are shown on a \log_{10} scale.

Both male and female individuals were seen during all surveys that resulted in more than one Lawrence's.

Most of the Lawrence's Goldfinches noted during these winter observations were seen roosting in large, leafless blue oak trees (Figure 2). These birds frequently were seen perching or foraging among large flocks (>25 individuals) of Dark-eyed Juncos (*Junco hyemalis*) and Lark Sparrows (*Chondestes grammacus*), and occasionally among small groups (3-6 individuals) of Lesser Goldfinches. Similar aggregations with other species have been reported for Lawrence's Goldfinches (Linsdale 1950, Miller and Stebbins 1964, Coutlee 1968a, 1968b). On many occasions throughout the winter, Lawrence's Goldfinches were observed on or near a 50 lb mineral/salt block that had been set out for livestock that graze at the site. The birds fed on salt debris on the ground surrounding the block, as previously reported (Peterson 1942), and consumed salt directly from the block. Lesser Goldfinches and House Finches (*Haemorhous mexicanus*) also occasionally consumed salt from the ground and directly from the block alongside Lawrence's Goldfinches.



Figure 2. Flock of Lawrence's Goldfinches perched in a dormant blue oak on 12 February 2017. Flock overwintered in the foothills of the Sierra Nevada near Coarsegold, California, during the winter of 2016-2017, far outside this species' typical winter range.

Photo by Franklin D. Yancey, II

Interestingly, no Lawrence's Goldfinches were documented during the species' breeding period (spring/summer) prior to these winter observations. Moreover, the wintering flock appears to have abruptly departed from the site immediately before the onset of the subsequent breeding season, just as males were beginning to display intense singing behavior. This departure is somewhat enigmatic considering the study site is well within this bird's normal breeding range, and the vegetative conditions there appear to be ideal as breeding habitat for the species (Linsdale 1950, Beedy and Pandolfino 2013, Watt et al. 2016). Lesser Goldfinches seemed to increase in number and consistency at the site at about the time the Lawrence's disappeared. Lessers are known to displace Lawrence's from perches, food, and nesting areas by chasing, pecking, and exhibiting aggressive displays (Coutlee 1968a, 1968b). Thus, it is conceivable that such agonistic behavior could have led to the sudden emigration of Lawrence's from the site prior to nesting. However, Lawrence's also are known to successfully share nesting sites with Lessers (Linsdale 1957).

The phenomenon of a Lawrence's Goldfinch flock overwintering throughout the season in the Sierra Nevada foothills has not previously been reported in the published literature. In mid-late February 2013, I also observed large numbers of Lawrence's at the site reported here. However, no individuals were noted during January or March. Large numbers of Lawrence's Goldfinch also were reported at a foothills site near the Sacramento-Amador county line during late February and early March 1999. However, a mid-winter January survey at the same site yielded no Lawrence's Goldfinches (John Trochet, unpublished data).

The multiple winter eBird records that exist from the Sierra foothills seemingly represent discontinuous occurrences, and there are only five isolated and scattered historical eBird accounts of the species in the Sierra foothills from January. Historical Christmas Bird Count (CBC) records of Lawrence's Goldfinch from 12 foothill CBC circles are relatively uncommon as well. Furthermore, CBCs reveal very little about the potential of continuous overwintering birds because they occur only during early winter or late autumn. In essence, inferences made from previous accounts, eBird records, and CBC data provide no documentation of continuous overwintering by Lawrence's Goldfinches in the Sierra foothills. My observations clearly indicate Lawrence's Goldfinches resided in the Sierra Nevada foothills continuously throughout the winter of 2016-2017.

This occurrence of overwintering Lawrence's Goldfinches in the Sierra foothills of central California may be an isolated winter event, similar to those reported elsewhere for the species. Alternatively, this phenomenon could be the result of changing trends in the seasonal distribution of the species. Previously reported unusual winter events typically have occurred in areas

east and southeast of the species' breeding range (Lockwood 2014, Watt et al. 2016), although rare records of large winter flocks within the species' breeding range have been reported (e.g., in Santa Clara County along the central California coast; Bousman 2007). Winter irruptions in Lawrence's Goldfinches are thought to be driven, in part, by annual fluctuations in precipitation (Watt et al. 2016), and the winter of 2016-2017 was abnormally wet. Pandolfino (2015), however, has noted that specific triggers of individual irruptive events in birds in general are highly variable and difficult, if not impossible, to determine. Further observation and research is necessary to determine if the persistence of Lawrence's Goldfinches in the Sierra Nevada foothills throughout the winter of 2016-2017 represents an isolated event, or instead is a developing trend in the winter distribution of the species.

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Lawrence's Goldfinch (*Spinus lawrencei*). 6 September 2016. San Benito, Co., California. Photo © Daniel A. Brown