WESTERN BIRDS

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Western Specialty:
Least Bell's Vireo

Photo by Angela Tamayo-Vázquez of Ensenada, Baja California, Mexico:

Least Bell's Vireo (*Vireo bellii pusillus*), Rancho Meling, Baja California, Mexico, 4 June 2024.

Although the breeding range of the endangered Least Bell's Vireo lies largely within the U.S. state of California, a significant fraction extends into the Mexican state of Baja California, and there the species' biology has been studied much less than it has north of the international border. In this issue of *Western Birds*, Angela Tamayo-Vázquez, Anny Peralta-García, David F. Pérez-Cañas, Jorge H. Valdez-Villavicencio, and Andrew McGinn Forde make progress toward addressing that imbalance by reporting on 41 nests at three sites in the foothills of the Sierra San Pedro Mártir. The arroyo willow (*Salix lasiolepis*), also commonly used north of the border, was the most common substrate for these nests. The big sagebrush (*Artemisia tridentata*) was the second most frequent substrate, surprising since it was previously unreported as a site for Bell's Vireo nests. Three other species of shrubs also represented new substrates, highlighting the value of understanding the habitat use of endangered species throughout their ranges.

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Front cover photo by © Jason W. Talbott of Placerville, California: Blue Rock-thrush (*Monticola solitarius philippensis*), Southeast Farallon Island, California, 25 April 2024, representing the first record of this Asian species for California and the third for North America. Highly migratory, this subspecies of the Blue Rock-thrush breeds north to Sakhalin and the southern Kuril Islands and winters south to Indonesia. This and five other additions bring California's state list to 691 species, as summarized in this issue's report of the California Bird Records Committee.

Back cover photo by © Gregor-Fausto Siegmund of Los Angeles, California: Anna's Hummingbird (*Calypte anna*), female and fledgling, Palo Alto, California, 15 March 2023. Birds building cup nests very rarely reuse them in the same season, and among hummingbirds only one case had been reported previously—until Stepfanie M. Aguillón and Gregor-Fausto Siegmund confirmed an Anna's Hummingbird double-clutching in one nest, as they chronicle in this issue of *Western Birds*. In spite of the saving of time and energy gained by reusing a nest, the potential costs of loss to parasites and predators may be too high—and in this case the second brood was indeed lost to predation.

Western Birds solicits papers that are both useful to and understandable by amateur field ornithologists and also contribute significantly to scientific literature. Particularly desired are reports of studies done in or bearing on North America west of the 100th meridian, including Alaska and Hawaii, northwestern Mexico, and the northeastern Pacific Ocean.

Send manuscripts to Daniel D. Gibson, P. O. Box 155, Ester, AK 99725; avesalaska@gmail.com. For matters of style consult the Suggestions to Contributors to *Western Birds* (at https://journal.westernfieldornithologists.org/index.php/westernbirds).

WESTERN BIRDS

Volume 57, Number 3, 2026

THE 50TH ANNUAL REPORT OF THE CALIFORNIA BIRD RECORDS COMMITTEE: 2024 RECORDS

This report is dedicated to the memory of founding committee members Eugene A. Cardiff (member 1970–1976), Alan M. Craig (member 1970–1977), and David F. DeSante (member 1970–1976 and 1979–1981).

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ABSTRACT: From its last report through 2024, the California Bird Records Committee reached decisions on 208 records involving 179 individuals of 70 species and one species pair, endorsing 178 records of 167 individuals. The first accepted records for California of the Stejneger's Scoter (*Melanitta stejnegeri*), White-tailed Eagle (*Haliaeetus albicilla*), Blue Rock-thrush (*Monticola solitarius*), Song Thrush (*Turdus philomelos*), Siberian Pipit (*Anthus japonicus*), and Slate-throated Redstart (*Myioborus miniatus*) are outlined in this report. These additions bring the California list to 691 species. Other especially notable records detailed in this report include those of California's second Xantus's Hummingbird (*Basilinna xantusii*), second Jouanin's Petrel (*Bulweria fallax*), second Oriental Greenfinch (*Chloris sinica*), second Tropical Parula (*Setophaga pitiayumi*), second and third Band-rumped Storm-Petrels (*Hydrobates castro*), third American Woodcock (*Scolopax minor*), and third and fourth Swallow-tailed Kites (*Elanoides forficatus*).

This 50th report of the California Bird Records Committee (CBRC), a committee of Western Field Ornithologists, summarizes evaluations of 208 records involving 179 individuals of 70 species and one species pair. The committee accepted 178 of the 208 records, involving 167 individuals of 62 species and one species pair, for an acceptance rate of 86%. A record is considered accepted if it receives no more than one "not accept" vote from the nine voting members on the grounds of questionable identification, or no more than two "not accept" votes on the grounds of questionable natural occurrence. We consider 25 records of 14 individuals involving 11 species to represent returning or continuing birds. Twenty-seven records, involving 27 individuals of 13 species, were not accepted because the identification was not considered to be substantiated. For two records, involving two individuals of two species, we considered the species correctly identified but did not accept the records because we questioned the birds' natural occurrence. For review, reports of multiple individuals together are given the same record number; we report the total number of accepted individuals, which may be different from the number of accepted records. Most of the records in this report are of birds first documented in 2024, although a few are earlier.

Since the period covered by this report, the committee has accepted the first California records of the Waved Albatross (*Phoebastria irrorata*) and Dark-sided Flycatcher (*Muscicapa sibirica*), the details of which will be published in the next (51st) report. These additions bring the California list to 693 species. The committee is currently evaluating records of the Vega Gull (*Larus vegae*), Herald Petrel (*Pterodroma heraldica*), Eastern Warbling-Vireo (*Vireo gilvus*), and Chihuahuan Meadowlark (*Sturnella lilianae*), as well as introduced populations of Swinhoe's White-eye (*Zosterops simplex*) and the Pin-tailed Whydah (*Vidua macroura*), representing potential additions to the state list.

Species account headings are organized with English and scientific names first, followed in parentheses by the total number of individuals accepted for California (this report included) and the number of new individuals accepted in this report. Accounts summarize records accepted (as applicable), followed by records not accepted because the identification was not established, the date or location was uncertain, or the natural occurrence was questionable (as applicable). A double asterisk (**) following the number of accepted individuals indicates that the species has been reviewed for a restricted period, so the number of accepted individuals does not represent the total number known for the state. When the observer(s) who originally discovered the bird provided documentation, their initials are listed first in italics, followed by the initials of subsequent observers supplying documentation. A symbol following an observer's initials indicates she or he submitted a photograph (†), sketch ($), audio recording (§), and/or video (‡). The absence of a symbol following the observer's initials indicates the submission of written documentation only. Following the initials of the observer(s) is the identifying number assigned by the CBRC's secretary. A (#) precedes a specimen number; we cite the collections of the California Academy of Sciences (CAS), Natural History Museum of Los Angeles County (LACM), and San Diego Natural History Museum (SDNHM) in this report.

As of the CBRC's 43rd report (Singer et al. 2020), age terminology follows that of Humphrey and Parkes (1959) as modified by Howell et al. (2003) and Howell and Pyle (2015). Age determinations largely follow the criteria of Pyle (2008, 2022). If, in the species accounts, we do not specify a bird's age or sex, determining characteristics could not be assessed from the information available. Definitions of abbreviations and additional details regarding minutiae of formatting may be found in the CBRC's previous annual reports and in *Rare Birds of California* (CBRC 2007), both available via the CBRC's website, www.californiabirds.org. Also available through this website are the California bird list, the review list, an online form for submitting documentation of review species, committee news, the CBRC's bylaws, and a form for querying the CBRC's database. Observers are encouraged to submit documentation for all species on the CBRC's review list to the secretary via e-mail (secretary@

californiabirds.org) or the website. Documentation of all records is archived at the Western Foundation of Vertebrate Zoology (www.wfvz.org) and is available for public review by appointment or by contacting the CBRC's secretary.

SPECIES ACCOUNTS

EMPEROR GOOSE *Anser canagicus* (105, 2). The committee inferred that an adult photographed by an unknown observer near Bouldin Island, SJ, in mid-February 2024 (*unknown*†; 2024-017) was the same as one seen approximately 15 km away at Jersey Island, CC, 1–3 Mar 2024 (*SCh* †, EGM, MJR†; 2024-010). Likewise, the committee considered an adult at the Smith River bottoms, DN, 24 Nov 2024 (*TK*†; 2024-114) to be the same as one at Arcata, HUM, 29 Nov–22 Dec 2024 (SHt†; 2024-119); it wintered undetected for 11 weeks before being refound at the Arcata bottoms, HUM, 8 Mar 2025 (*OS*†; 2025-011). Despite there being 105 accepted records for California, the Emperor Goose remains on the CBRC review list because it has averaged only one record per year over the past 25 years.

TAIGA BEAN-GOOSE *Anser fabalis* (0, 0). IDENTIFICATION NOT ESTABLISHED: An adult bean-goose reported as this species was at the Arcata bottoms, HUM, 1 Nov–8 Dec 2024 (2024-106). Most committee members agreed that several field marks, such as the large overall size, long neck, gently sloping forehead and bill, relatively long bill with thin "grin patch," and multiple ratios of bill and head measurements calculated from photos, favored this bird's identification as a Taiga Bean-Goose. Some field marks, however, were more consistent with the Tundra Bean-Goose (*A. serrirostris*), especially the relatively deep-based, broad bill and bill pattern. Additionally, some members expressed conflicting views on whether the grinning patch and size and shape of the neck were a better fit for the Taiga or the Tundra. The wide range of variability in these two taxa, the existence of apparent intermediate and/or hybrid populations, and the opinions of some Japanese and European experts who judged this bird to be a large male Tundra Bean-Goose ultimately resulted in a strong majority of the committee not endorsing the identification as a Taiga Bean-Goose. The CBRC subsequently re-evaluated it as a Taiga/Tundra Bean-Goose (2024-106A; see below).

TAIGA/TUNDRA BEAN-GOOSE *Anser fabalis/serrirostris* (3, 1). An adult at the Arcata bottoms, HUM, 1 Nov–8 Dec 2024 (*GG*†, GAB†, MFd†, RF†, EM†, EGM†; 2024-106A), reviewed and not accepted as a Taiga Bean-Goose (2024-106; see above), was the third unidentifiable bean-goose endorsed in California.

GARGANEY *Anas querquedula* (33, 2). An adult male Garganey in basic plumage at the Clear Creek Wastewater Treatment Plant, SHA, 27 Mar 2024 (BY†; 2024-018) was the first recorded in Shasta County. An adult male in alternate (eclipse) plumage was at the Arcata Marsh and Wildlife Sanctuary, HUM, 15–26 Sep 2024 (RF†; 2024-083). A little over half (18) of California's 33 Garganey records come from the state's interior.

MEXICAN DUCK *Anas diazi* (49, 28). Following review of the 24 records detailed in this report, the committee has nearly completed its review of all known historical records of the Mexican Duck in California. Twenty of the records in this report, representing 25 individuals, were from Lake Havasu or the Colorado River below Parker Dam in San Bernardino County (Table 1). Reports away from the vicinity of Lake Havasu include California's earliest record, of an adult male at Naval Air Weapons Station China Lake, KER, 2 Nov–7 Dec 2001 (*SLS*†; 2001-230) and a pair in alternate plumage at Imperial Dam, IMP, 20 Aug 2014 (*LBH*, *DVP*†; 2014-194).

The 28 accepted Mexican Ducks summarized above, along with the 21 previously endorsed from California, provide a clearer view of this species' status and distribu-

Table 1 Mexican Ducks[a] in San Bernardino County Accepted by the CBRC in This Report

Location, *n*	Date	Record no.	Observers
Lake Havasu			
1	14 Sep 2012	2012-258	*LBH, DVP*
2[b]	18 Oct 2013	2013-294	*DVP*
1[c]	13 Jul 2015	2015-182	LBH, DVP
Parker Dam			
1	1 Nov 2012	2012-259	*LBH*, *DVP*†
1	23 Oct–6 Nov 2014	2014-192	*LBH*, *DVP*†
2	6 Nov 2014	2014-193	*DVP*†
1	21 Nov 2015	2015-185	*DVP*†
Earp			
2[b]	26 Oct 2011	2011-287	*DVP*†
Emerald Cove Resort in Earp			
2	17–30 Aug 2011	2011-288	*LBH*, *DVP*†
1[d]	20 Oct 2011	2011-289	*LBH*, *DVP*†
1	26 Oct 2011	2011-290	*DVP*†
1	29 Oct 2011	2011-291	*DVP*†
1[d]	8 Nov 2012	2012-262	*LBH*, *DVP*†
1	29 Jun–7 Sep 2013	2013-296	*LBH*†, *DVP*†
1	11 Aug 2013	2013-297	*LBH*, *DVP*
1	9–20 Aug 2014	2014-190	*LBH*, *DVP*†
2	18–22 Aug 2014	2014-191	*LBH*, *DVP*†
1	22 Apr 2015	2015-183	*DVP*†
1	16–21 Jul 2015	2015-184	*LBH*, *DVP*†
1	2 Sep–6 Oct 2018	2018-262	*LBH*, *DVP*†

[a]All males unless specified otherwise.
[b]Pair.
[c]Sex unknown.
[d]Female.

tion in the state. Just over half (27) of California's Mexican Ducks have occurred along the Colorado River, primarily in San Bernardino County at or near Parker Dam, but with one record each downstream in Riverside and Imperial counties. This species occurs with decreasing frequency as one moves west and north through the state: ten have been endorsed from the southeastern deserts from the south end of the Salton Sea north to Bishop, Inyo County, six from the coastal slope of southern California between San Diego and Los Angeles counties, and two from the Central Valley as far north as San Luis National Wildlife Refuge (NWR), Merced County. Temporally, the Mexican Duck occurs in California primarily as a post-breeding visitor between late June and mid-December, apparently as a molt migrant (D. Vander Pluym pers. comm.). It is a casual winter visitor and spring migrant, with fewer than one-fourth of California's Mexican Ducks occurring between late December and early June. The committee has endorsed only five records of females; some female Mexican Ducks are not reliably distinguished in the field from female Mallards (*A. platyrhynchos*). IDENTIFICATION NOT ESTABLISHED: The committee deemed the description of a female in alternate plumage at the Emerald Cove Resort sewage ponds in Earp, SBE, 25 Jul 2012 (2012-261) and the description and poor photo of a male at Fort Irwin, SBE, 30 Apr 2024 (2024-032) inadequate for acceptance. An adult male photographed at Cypress Lawn Memorial Park in Colma, SM, 28 Dec 2021 (2021-181) showed several characters typical of the Mallard, suggesting a hybrid with that species.

KING EIDER *Somateria spectabilis* (51, 2). A female in first alternate plumage summered at King Salmon on Humboldt Bay, HUM, 30 May–11 Sep 2024 (*RF*†, CC†; 2024-042), and a female in formative plumage was in Huntington Harbor, ORA, 23–29 Dec 2024 (TAB†, MLB†; 2024-133).

STEJNEGER'S SCOTER *Melanitta stejnegeri* (1, 1). The committee re-evaluated a report, previously not accepted, of a Stejneger's Scoter photographed on Monterey Bay from Zils Road in Watsonville, SCZ, 15 Jan 2014 (2014-187; Benson et al. 2020, including photo). During the current circulation (*JFG*†; 2014-187A; Figure 1), the committee endorsed the identification, establishing the first record for California, the second for the coterminous United States, and the first winter record for North America. A better understanding of the species' identification criteria and input from European experts aided in reversing the committee's previous decision. While the photos are softly focused and manifest some artifacts of lighting, committee members agreed that the combination of field marks shown in the photos, namely, the yellow stripe on the side of the upper mandible, the shape of the knob on top of the bill, and the black flanks, were sufficient to identify this bird as a Stejneger's Scoter. For a more thorough treatment of the species' identification criteria, see Garner et al. (2004), Dunn et al. (2012), Huhtinen et al. (2025), and López-Velasco et al. (2025).

The Stejneger's Scoter breeds from central Russia and northeastern Kazakhstan east across Mongolia and the Russian Far East and winters along the Asian coast from Kamchatka south to eastern China (del Hoyo et al. 2020). In North America, it is a rare spring and summer visitor to Alaska at Gambell and on the coast of the Seward Peninsula (Lehman 2019, P. E. Lehman pers. comm), and it is casual during those seasons on other Bering Sea islands (Gibson and Withrow 2015). Additional North American records include those of a spring migrant along the Sag River on Alaska's North Slope, 4 Jun 2024 (S. Beaudreault, ebird.org/checklist/ S179441993); a fall migrant on St. Paul Island, Alaska, 5 Oct 2013 (D. Gochfeld, ebird.org/checklist/ S15328293); and a spring migrant at Helena Valley Regulating Reservoir, Montana, 11 Apr–15 May 2015 (Jeff Marks pers. comm.).

GROOVE-BILLED ANI *Crotophaga sulcirostris* (15, 1). An adult was at the Aviara Resort in Carlsbad, SD, 30 Oct 2024 (*JMy*†; 2024-107). Twelve of California's 15 Groove-billed Anis have been occurred in fall between 13 September and 1 December.

BLACK-BILLED CUCKOO *Coccyzus erythropthalmus* (17, 0). IDENTIFICATION NOT ESTABLISHED: One was reported from Los Jilgueros Preserve, Fallbrook, SD, 4 Sep 2024 (2024-079). Although the description was consistent with an adult Black-billed Cuckoo, most committee members considered the brief observation and description inadequate for acceptance, especially because nearly all California records of this species have been of immature birds in their first fall, and there have been none since 2008.

RUBY-THROATED HUMMINGBIRD *Archilochus colubris* (33, 2). Two juvenile Ruby-throated Hummingbirds appeared at Keith Hansen's gallery in Bolinas, MRN, the first, a male 28–30 Aug 2024 (SE†; 2024-076), the second, a female 25 Sep 2024 (EC†; 2024-086). Both birds were commencing their preformative molt, with the male showing a single iridescent red gorget feather on the throat.

XANTUS'S HUMMINGBIRD *Basilinna xantusii* (2, 1). California's second Xantus's Hummingbird, an adult male, visited a feeder in residential Bishop, INY, 25–28 Apr 2024 (*DMS*, JLD†, CBH†, RH†, NJO†; 2024-036; Figure 2). This species is endemic to the southern half of the Baja California Peninsula, and there are only two well-supported records of vagrants north of Mexico: at Ventura, VEN, 30 Jan–27 Mar 1988 (1988-065, Hainebach 1992, Pyle and McCaskie 1992) and at Gibsons, British Columbia, 16 Nov 1997–21 Sep 1998 (Toochin 1997, Campbell et al. 2001).

Figure 1. This adult male Stejneger's Scoter, photographed from Zils Road in Watsonville, Santa Cruz County, 15 January 2014 (2014-187A), was California's first.

Photo by John F. Garrett

As the two previous records both involved females that arrived in fall or winter, the Bishop bird is the first male and first spring migrant documented north of Mexico.

COMMON RINGED PLOVER *Charadrius hiaticula* (10, 2). An adult male in alternate plumage was at Abbotts Lagoon, MRN, 5–6 Sep 2024 (TF†, MJR †; 2024-078), and a juvenile was at the Salinas water-treatment plant, MTY, 5–8 Oct 2024

Figure 2. This adult male Xantus's Hummingbird at a residence in Bishop, Inyo County, 25–28 April 2024 (2024-036), represents the second well-supported record for California.

Photo by Nancy J. Overholtz on 27 Apr 2024

(*STu*†§; 2024-140). Following California's first Common Ringed Plover in Yolo County in 2011 (2011-118; Nelson et al. 2013), all nine subsequent state records have been from the coast since 2018. All ten accepted California records are of fall migrants between 16 August and 15 October.

PIPING PLOVER *Charadrius melodus* (5, 1). An adult female at Don Edwards San Francisco NWR, SM, 26 Mar–8 Apr 2024 (EGM†, MJR†; 2024-019) furnished the first record for San Mateo County and northern California. Of the state's four prior Piping Plovers, three occurred along the southern California coast between Los Angeles and San Luis Obispo counties from 1971 to 1980 (CBRC 2007), while the most recent was at the south end of the Salton Sea in 2006 (Heindel and Garrett 2008).

SIBERIAN SAND-PLOVER *Anarhynchus mongolus* (18, 1). A juvenile was at Lake Tolowa, DN, 4 Sep 2024 (*MK*†, *TK*†; 2024-077). Some committee members expressed concern that the recently split Tibetan Sand-Plover (*A. atrifrons*) could not be conclusively eliminated, but still endorsed it as a Siberian since field marks favored this species and the Tibetan is unrecorded in North America. See Schweizer et al. (2023) for identification criteria for discrimination of these two similar species. All California records of the Siberian Sand-Plover have been of fall migrants along the coast between 25 June and 22 October.

WILSON'S PLOVER *Anarhynchus wilsonia* (27, 1). A female in formative or first alternate plumage was found on the beach at Silver Strand, SD, 8 Apr 2024 (*KW*†; 2024-023). Two-thirds (18) of California's records of this species have come from coastal San Diego County, with over half (10) of those in spring between 20 March and 12 May.

UPLAND SANDPIPER *Bartramia longicauda* (37, 1). One at the Baker sewage ponds, SBE, 7 Jun 2024 (*TC*†; 2024-051) was in the spring window of 15 May–28 Jun in which about one-third (14) of California's Upland Sandpipers have occurred. IDENTIFICATION NOT ESTABLISHED: A brief description of one in the Panoche Valley, SBT, 16 Oct 2024 (2024-092) did not eliminate other shorebird species, notably yellowlegs (*Tringa* spp.).

BAR-TAILED GODWIT *Limosa lapponica* (63**, 1). A recently submitted record of a juvenile at the Eel River Wildlife Area, HUM, 2 Oct 1996 (*SEM*†; 1996-181) was endorsed by the committee, which discontinued reviewing records of this species after 2021.

CURLEW SANDPIPER *Calidris ferruginea* (59, 1). An adult in alternate plumage was in south San Diego Bay, SD, 13–23 Jul 2024 (*PEL*, MS†, JTS†; 2024-061). Nearly two-thirds (64%) of the Curlew Sandpipers accepted for California have been fall migrants along the coast.

RED-NECKED STINT *Calidris ruficollis* (30, 1). A juvenile Red-necked Stint was at Point St. George, DN, 25 Aug 2024 (*TK*†; 2024-075). Only four of California's 30 records have been of juveniles, testimony to the more difficult identification of juveniles than of adults in alternate plumage.

LITTLE STINT *Calidris minuta* (44, 2). An adult returned to south San Diego Bay, SD, 26 Aug 2024–29 Apr 2025 (*MS*†; 2024-099) for its seventh consecutive winter (2018-219; Benson et al. 2020), and a different adult in alternate plumage was at the same location 28 Jul 2024 (*NT*†; 2024-064). A juvenile was at the Salinas water-treatment plant, MTY, 26 Sep 2024 (*MAC*†; 2024-090).

AMERICAN WOODCOCK *Scolopax minor* (3, 1). One in formative plumage was found injured at Coronado High School, Coronado, SD, 16 Nov 2024 (MGz†, SHm†, HP†, PU; 2024-111; SDNHM 58026; Figure 3) and transferred to Project Wildlife but did not survive, the furcula having been broken in a collision. There

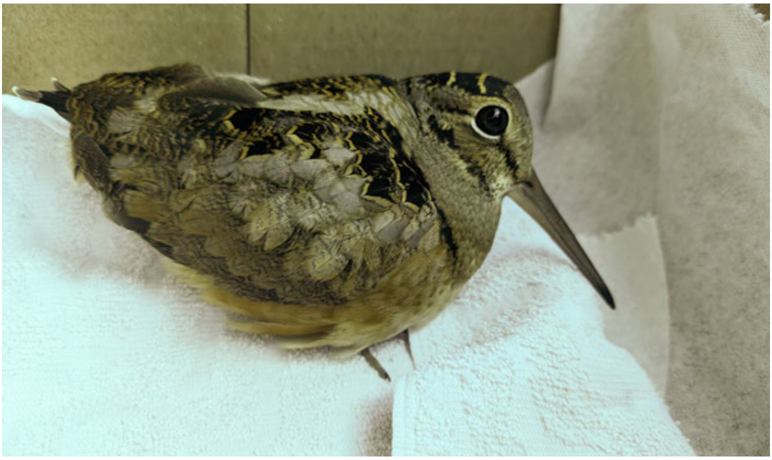

FIGURE 3. California's third American Woodcock was found injured at Coronado High School, Coronado, San Diego County, 16 November 2024 (2024-111) and taken for rehabilitation to Project Wildlife, but it did not survive. It is now a specimen (#58026) in the collection of the San Diego Natural History Museum.

Photo by Sasha Helm

are few records of this species west of the Continental Divide, with one from New Mexico (Dubay and Johnson 2014), two from Arizona (Rosenberg and Core 2024, G. Rosenberg pers. comm.), one from Nevada (Tinsman and Meyers 2016), and now three from California. All three of California's American Woodcocks have occurred in November.

WOOD SANDPIPER *Tringa glareola* (5, 1). A juvenile at the Woodland water-treatment plant, YOL, 9–10 Sep 2024 (*JGr*†, MwF†, JJ†, ZP†, JCS†; 2024-080) was the first for Yolo County and the Central Valley. Three of California's five records have been of juveniles in fall from 9 to 29 September.

SWALLOW-TAILED GULL *Creagrus furcatus* (7, 2). Adults in alternate plumage were at Southeast Farallon Island, SF, 25 Apr 2024 (*HGW*†, *JWT*†; 2024-028) and Bodega Head, SON, 13 Dec 2024 (*SWM*†, MD†, EGM, ANW†; 2024-128). Four of California's seven Swallow-tailed Gulls have occurred in the last three years (2022–2024); though speculative, it is possible that some or all of these four records pertain to the same individual.

BLACK-HEADED GULL *Chroicocephalus ridibundus* (36, 1). An adult undergoing definitive prealternate molt at Clifton Court Forebay, CC, 26 Mar–1 Apr 2024 (*EGM*†; 2024-016) furnished the second record for Contra Costa County.

COMMON GULL *Larus canus* (0, 0). IDENTIFICATION NOT ESTABLISHED: The identification as this species of a first-cycle gull photographed at Pomponio State Beach, SM, 29–30 Dec 2024 (2024-136) failed to garner any support from committee members. Although this bird showed some field marks suggesting *L. c. kamtschatschensis*, namely, the patterns of the upper tail coverts, outermost tail feathers (rectrix 6), tail band, and the apparently long bill, these characters may be within the range of variation of the Short-billed Gull (*L. brachyrhynchus*; A. Ayyash pers. comm.). Additionally, other field marks, including the pattern of the head, breast, and belly, and the daintier overall body structure and bill, were more consistent with the Short-billed Gull. There is much overlap in plumage features between *L. c. kamtschatschensis* and *L. brachyrhynchus* (Adriaens and Gibbins 2016), so any bird accepted by the committee as California's first Common Gull will likely be a stereotypical example of that species, including being noticeably larger than a Short-billed Gull.

RED-TAILED TROPICBIRD *Phaethon rubricauda* (46, 2). Two Red-tailed Tropicbirds 300 km southwest of San Nicolas Island, VEN, 29 Nov 2024 (*MiF*†; 2024-138) were the first accepted from California since 2014. NATURAL OCCURRENCE QUESTIONABLE: An adult was found on a container ship in the port of Los Angeles, LA, 10 Nov 2024 (JeB†, KF†, AG†; 2024-113) and brought to International Bird Rescue in San Pedro. Five committee members did not accept the record because there was no way of knowing when or where the bird landed on the ship en route from China. The tropicbird was rehabilitated and subsequently released at Cabrillo Beach on 26 Nov 2024 (K. Clatterbuck pers. comm.).

SHORT-TAILED ALBATROSS *Phoebastria albatrus* (58, 5). Five Short-tailed Albatrosses were recorded in California in 2024, including birds over Noyo Canyon, 16–19 km northwest of Fort Bragg, MEN, 31 Mar 2024 (*HS*†; 2024-021) and 7 Dec 2024 (*STh*‡; 2024-120); over Pioneer Canyon, 33 km south of Southeast Farallon Island, SF, 28 Jul 2024 (DA†, MJR†; 2024-066); 64 km west-southwest of Point Arena, MEN, 27 Sep 2024 (*BLS*; 2024-087); and 19 km west of the Eel River mouth, HUM, 4 Dec 2024 (*SEM*†; 2024-125). All records were of young birds in juvenile, formative, or second basic plumage. There has been a sharp increase in Short-tailed Albatrosses observed off California in recent years, with 17 accepted records from 2021 to 2024, reflecting the continuing recovery of this endangered species (U.S. Fish and Wildlife Service 2020), which now numbers greater than 7000 individuals (Jonathan Plissner pers. comm.).

BAND-RUMPED STORM-PETREL *Hydrobates castro* (3, 2). An adult, missing a toe on its left foot, was captured in a mist net on Southeast Farallon Island, SF, 19 Oct 2024 (*AdH*†, SB-B, JRT; 2024-098), and another adult, with an intact left foot, was mist netted at the same location, 23 and 26 Nov 2024 (*AdH*†, MLB†, JRT; 2024-115; Figure 4). The Band-rumped Storm-Petrel is a complex that may comprise up to seven cryptic species, including four distinct breeding populations in the Pacific Ocean (Smith and Friesen 2007, Smith et al. 2007, Howell and Zufelt 2019, Taylor et al. 2019). Tail feathers from both birds were collected and deposited at Florida Gulf Coast University, potentially allowing for determination of the source population(s) via DNA and/or stable-isotope analysis. California's only other accepted Band-rumped Storm-Petrel was also an adult captured on Southeast Farallon Island, 10–11 Nov 2017 (2017-130; Singer et al. 2020).

WEDGE-RUMPED STORM-PETREL *Hydrobates tethys* (86, 1). One was photographed over the 58 Bank, 44 km southeast of San Clemente Island, LA, 8 Sep 2022 (DP†; 2022-055).

JOUANIN'S PETREL *Bulweria fallax* (2, 1). One undergoing its second prebasic molt was found emaciated "just north of Golden Gate Park," SF, 27 Dec 2024 (precise distance inland unreported; Peninsula Humane Society†, MV†; 2024-135; Figure 5). It was taken to the Peninsula Humane Society in Burlingame, San Mateo County, but did not survive, and was eventually deposited in the ornithology collection at the California Academy of Sciences (#CAS-ORN 101623). The Jouanin's Petrel occurs in the northwest Indian Ocean (Carboneras et al. 2020), but vagrants have been recorded in the Pacific Ocean four times in the Hawaiian Islands (Pyle and Pyle 2017) and once in California, on Santa Barbara Island, SBA, 1 Jun 2016 (2016-058; McCaskie et al. 2018).

Figure 4. This adult Band-rumped Storm-Petrel captured on Southeast Farallon Island, San Francisco County, on 23 and 26 November 2024 (2024-115) was third of this species recorded in California. Amazingly, the second was captured at the same location the previous month (2024-098; details in text).

Photo by Adrian Hinkle on 26 November 2024

STREAKED SHEARWATER *Calonectris leucomelas* (22, 2). One was briefly seen and photographed 23.3 km west of Point Loma, SD, 14 Jul 2024 (*ARA*†; 2024-062), and one in formative plumage was 10.5 km southeast of Santa Rosa Island, SBA, 10 Aug 2024 (EGM, MLW†; 2024-072).

WEDGE-TAILED SHEARWATER *Ardenna pacifica* (19, 3). Three light-morph Wedge-tailed Shearwaters were documented in California in 2024. One of unknown age near Anacapa Island, VEN, 4 Jul 2024 (*JoB*†; 2024-059) was the first in Ventura County. Adults were 8.2 km northeast of Santa Cruz Island, SBA, 17 Oct 2024 (*JoB*‡, unknown†; 2024-093) and 16.5 km south of Point Fermin, LA, 27 Oct 2024 (*NSa*†; 2024-104), the latter being the first in Los Angeles County. Nearly half (42%) of California's Wedge-tailed Shearwaters have occurred in the last three years (2022–2024), with six from southern California and three from central California, a

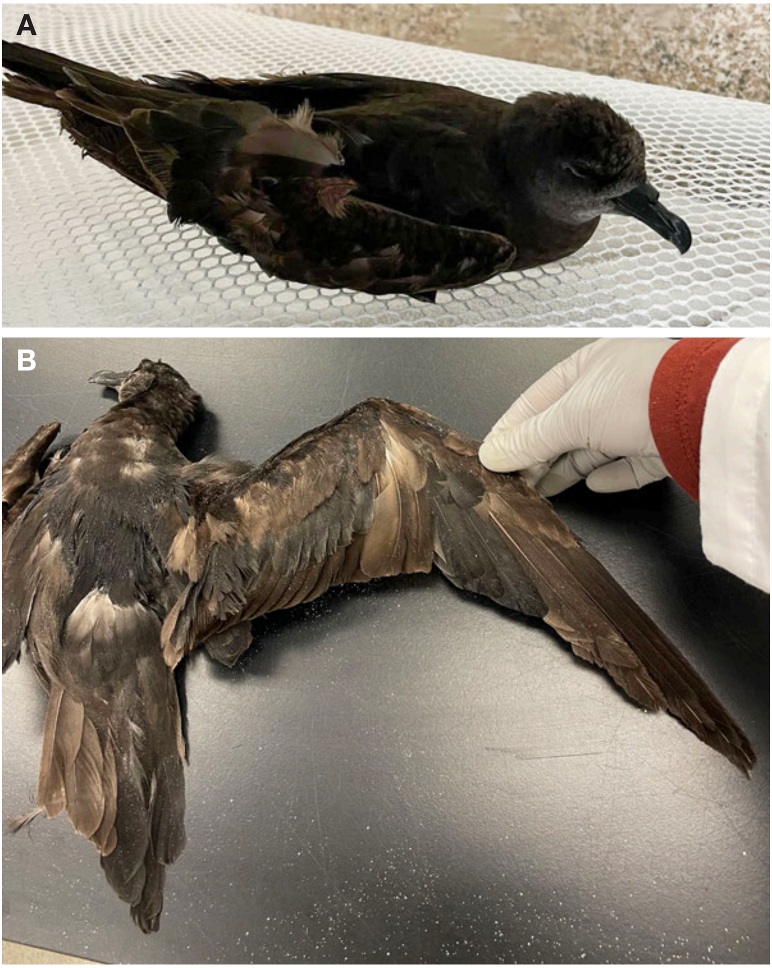

FIGURE 5. (A) California's second Jouanin's Petrel was discovered in poor health near Golden Gate Park, San Francisco County, 27 December 2024 (2024-135). (B) It was prepared as a study skin (#CAS-ORN 101623) at the California Academy of Sciences.

(A) Photo courtesy of Peninsula Humane Society on 27 Dec 2024
(B) Photo by Martha Velez on 17 July 2025

reversal of historical trends. Of California's 19 records of this species, 12 have been of the light morph, seven of the dark morph.

WOOD STORK *Mycteria americana* (2 **, 0). Returning for its fifth consecutive year (2020-043; Benson et al. 2022), an adult summered in the Prado Basin, RIV, 26 Mar–19 Sep 2024 (*JEP*†; 2024-015). The same bird was subsequently seen at multiple locations in San Diego County, 22 Dec 2024–24 Feb 2025 (AlH†; 2024-132), including Poway (22 Dec 2024); Lindo Lake (22 Dec 2024–12 Jan 2025); the San Diego Zoo

Safari Park, San Pasqual (16–18 Jan 2025); Sweetwater Reservoir (21 Jan 2025); and back at Lindo Lake (24 Feb 2025). This bird wintered just across the Mexican border in Tijuana, Baja California, in both 2023–2024 (Erickson et al. 2024) and 2024–2025 (L. Kahle, ebird.org/checklist/S201340674; F. Sánchez, ebird.org/checklist/S214899175).

ANHINGA *Anhinga anhinga* (5, 0). IDENTIFICATION NOT ESTABLISHED: Photographs of one reported from the Arcata Marsh and Wildlife Sanctuary, HUM, 16 Mar 2018 (2018-264) appeared to show a Double-crested Cormorant (*Nannopterum auritum*) or possibly a Neotropic Cormorant (*N. brasilianum*).

GLOSSY IBIS *Plegadis falcinellus* (52, 2). An adult undergoing pre-alternate molt was at the Piute Ponds, LA, 21 Mar 2024 (*JSF*†, CAD†; 2024-014), and an alternate-plumaged adult was at Blythe, RIV, 6 Apr 2024 (*JFi*†; 2024-022). IDENTIFICATION NOT ESTABLISHED: An adult *Plegadis* ibis at Goleta Slough Ecological Reserve, SBA, 3–6 May 2024 (2024-033) was challenging to assess as some photos showed more, others less, of a colorful hue around the facial skin and eye. Ultimately, the committee nearly unanimously decided that the combination of pinkish facial skin, reddish tint to the eye visible in some photos, and contrastingly bright pink ankle joints is not expected in a Glossy Ibis.

ROSEATE SPOONBILL *Platalea ajaja* (155, 1). One undergoing its second pre-basic molt at the Kern Water Bank, 5 km south of Calders Corner, KER, 13 Jan–15 Mar 2024 (*JCS*†, TAB†, MFd†; 2024-001) was deemed to be the same bird later seen at the following locations: San Joaquin River NWR, STA, 27–28 Apr 2024 (*JSm*†, JGa†; 2024-031); Tracy water-treatment plant, SJ, 9 Jul 2024 (*ME*; 2024-067); BeeEss Gun Club near Los Banos, MER, 3 Aug 2024 (*PD*†; 2024-069); Faith Ranch wetlands in Modesto, STA, 27 Sep 2024 (SP‡ 2024-089); and back again at the San Joaquin River NWR, STA, 25 Oct–18 Dec 2024 (HMR†; 2024-103). These records represent the first Roseate Spoonbill documented in the Central Valley.

SWALLOW-TAILED KITE *Elanoides forficatus* (4, 2). Two adults were seen simultaneously, with one photographed, over a residential neighborhood adjacent to Encino Reservoir, LA, 22 Apr 2024 (LKK†‡; 2024-027, 2024-027A). The committee concluded that one of these birds was then resighted in Santa Rosa Valley, VEN, 27 Apr 2024 (*SDC*†, *MMPi*†; 2024-030) and again at Point Reyes, MRN, and Southeast Farallon Island, SF, 3 May 2024 (*MBu*, *JWT*†, HGW; 2024-034). These sightings established the first records for Los Angeles, Ventura, Marin, and San Francisco counties.

WHITE-TAILED EAGLE *Haliaeetus albicilla* (1, 1). A remarkable first for California, an adult was migrating north past Battery Godfrey, SF, 15 Mar 2024 (*JFa*†, *KMa*†; 2024-013; Figure 6). In the White-tailed Eagle, adults are generally sedentary while young birds migrate or wander south in the winter (Vaurie 1965, Brazil 2009, Svensson et al. 2023), making this record even more remarkable.

The White-tailed Eagle breeds from western Greenland across northern Europe to northeast Asia and winters through much of the breeding range and south to Pakistan, northern India, southeastern China, Taiwan, the Korean Peninsula, and Japan (Vaurie 1964, Orta et al. 2023). There have been two sightings in Hawaii (Zaun 2009; C. Pott, ebird.org/checklist/S217743069). In North America, this species is casual in the Bering Sea region of western Alaska and has bred on Attu Island in the western Aleutian Islands (Gibson and Withrow 2015). Away from the Bering Sea, there has been only one well-supported North American report, of one from Kodiak Island in the Gulf of Alaska on 28 Jan 2009 (R. A. MacIntosh, Tobish 2009) Four additional reports, one from New York in 1993 (New York State Avian Records Committee 2006, Brinkley and Byrne 2013) and three from Massachusetts in 1914, 1935, and 1944 (Rines 2009, Garvey and Iliff 2013), were not accepted by their respective state avian records committees.

FIGURE 6. This adult White-tailed Eagle was photographed during a spring raptor watch at Battery Godfrey, San Francisco County (2024-013), on 14 March 2024, establishing the first record for California. The short wedge-shaped white tail, dark undertail coverts, and tawny-colored head are diagnostic.

Photo by John Facchini

COMMON BLACK HAWK *Buteogallus anthracinus* (16, 1). A returning adult (2022-011 et seq.; Benson et al. 2025a) was photographed at Palo Verde Ecological Reserve, RIV, 19 Apr–1 Oct 2024 (*CAD*†, CS-S†; 2024-044), and an adult was belatedly identified from photos from 2.5 km inland along the Santa Margarita River, Camp Pendleton, SD, 8 Jan 2020 (*AJo*†; 2020-211).

GRAY HAWK *Buteo plagiatus* (4, 1). One undergoing its second prebasic molt at Mojave Narrows Regional Park, SBE, 8 Aug 2024 (*BD*†; 2024-071) furnished a first record for San Bernardino County.

SNOWY OWL *Bubo scandiacus* (62, 0). IDENTIFICATION NOT ESTABLISHED: An intriguing report of one briefly seen by an experienced observer from a plane taxiing at Oakland International Airport, ALA, 30 Jan 2024 (2024-006) was not accepted. The bird was reported quickly to the local birding community but could not be refound. Even though this is a highly distinctive species, most committee members were uncomfortable supporting an identification based on such a brief encounter during a year with no irruption in which the closest record was of a single bird from Washington state. Only four Snowy Owls have been accepted from California in the past 25 years (CBRC 2025), and only seven since 1975 (CBRC 2007), all from Humboldt or Solano counties.

CRESTED CARACARA *Caracara plancus* (29, 7). Between December 2023 and May 2024 there was a significant incursion of Crested Caracaras into California with up to six birds documented; other notable incursions occurred from 2006 to 2008 and from 2014 to 2015 (CBRC 2025). Three remained for an extended period, with two of these wandering widely during their stay, as occurred during the 2006–2008 incursion (Nelson and Pyle 2013). These included one in second basic plumage at Stornetta Ranch near Point Arena, MEN, 19 Jan–6 Feb 2024 (*CS*, RB†, TDB†, MFd†, RJK†, LDW†; 2024-003), providing a first Mendocino County record. Another in second basic plumage at the Tijuana River mouth, SD, 28 Jan 2024 (*AW*†; 2024-005) was later seen at the Alta Vicente Reserve in Rancho Palos Verdes, LA, 3 Feb 2024 (LYW†; 2024-007) and along the San Luis Rey River Trail in Oceanside, SD, 19–21

Feb 2024 (AlH†; 2024-009). The third, in formative plumage, was at Hollister Ranch, SBA, 1 Dec 2023 (*EJD*†; 2023-140), then at Lake Los Carneros and near Pershing Park, SBA, 3–5 Mar 2024 (*JCn*, *MBr*†; 2024-011), Coal Oil Point, SBA, 11 Apr 2024 (*AA*; 2024-024), Point Conception, SBA, 20 Apr–2 May 2024 (*AC*†, *JMC*†, RFC, DF, GT; 2024-025) and along Casitas Pass Road 4 km northeast of Rincon Point, VEN 14 May 2024 (*TW*†; 2024-039). Other caracaras that were part of this incursion included one of unknown age at Rohr Park, Bonita, SD, 16 Dec 2023 (*NC*†; 2023-129), one in second basic plumage at Hahamongna Watershed Park, Pasadena, LA, 27 Dec 2023 (*LT*†; 2023-136), and one in formative plumage at Borrego Springs, SD, 14 Mar 2024 (*PM*†; 2024-012). Apart from this incursion, one was seen along the Trinity River 4 km south-southeast of Willow Creek, HUM, 17 Sep 2024 (*JA*; 2024-012).

YELLOW-HEADED CARACARA *Daptrius chimachima* (0, 0). NATURAL OCCURRENCE QUESTIONABLE: A long-staying adult was discovered scavenging at a butcher shop in Lomita, then making intermittent visits to Cabrillo Beach in San Pedro, LA, 26 Apr–26 Aug 2024 (TAB†, ARB, PK†; 2024-038). On its last date, it had wandered onto the grounds of Los Angeles International Airport where it was trapped by the United States Department of Agriculture as part of a raptor-abatement program. It was eventually transferred to the Los Angeles Zoo, where it remains in captivity. There is a prior record of another long-staying Yellow-headed Caracara from coastal Humboldt and Del Norte counties 27 Jul 2007–13 Mar 2008 (2008-169; Pike and Compton 2010) that was also not accepted because of questionable natural occurrence.

The Yellow-headed Caracara is resident across much of northern and eastern South America, and north into Central America to southwestern Nicaragua, showing little migratory movement (Bierregaard et al. 2022). Since the 1980s it has been expanding its range north in Central America via deforested areas and increased pastureland (McCrary and Young 2008), recently reaching southern Mexico with records from coastal Chiapas in 2024 (M. Jensen, ebird.org/checklist/S161865364) and coastal Colima in 2025 (F. Serrano, ebird.org/checklist/S231819137). Additionally, there are recent records from Jamaica (2023; Dobson and Levesque 2023), the Dominican Republic (2024–2025; E. Contreras, ebird.org/checklist/S196762592, ebird.org/checklist/S239007313), the vicinity of Miami, Florida (2023–2025; Pyle et al. 2024), and two from the central Texas coast near Houston and Galveston (2024–2025; B. Carnes pers. comm.). These sightings further suggest that this species is capable of long-distance dispersal, although human-mediated transport or escape from captivity are also viable hypotheses for these birds' arrival. Despite this recent spate of extralimital records, most CBRC members were unwilling to accept the Yellow-headed Caracara in Lomita as a natural vagrant, with dissenting members citing the potential for ship assistance (even if unrestrained) and the absence of records from northern Mexico and the southwestern United States. If a pattern of vagrancy to these regions develops in the future, the committee could re-evaluate this record.

THICK-BILLED KINGBIRD *Tyrannus crassirostris* (40, 6). Adults at Bellevue Memorial Park in Ontario, SBE, 12 Oct 2024–15 Mar 2025 (*TAB*†§; 2024-091) and the Wilson Golf Course in Griffith Park, LA, 7 Nov 2024–11 Apr 2025 (KLG†; 2024-109) were both returning for their third winter (same as 2022-102 and 2022-129, respectively; Benson et al. 2025a). Thick-billed Kingbirds newly discovered in 2024 included adults at Winterhaven, IMP, 20–22 Oct 2024 (PEL†, CAM, GM; 2024-101), Palo Verde, IMP, 22 Oct 2024–10 February 2025 (TAB†§, MLB†§, JLD; 2024-102), and Rancho Cucamonga, SBE, 12 Dec 2024–7 Apr 2025 (*MPz*†, TAB†§; 2024-126). One in formative plumage was at Lynch Canyon Open Space Park southwest of Cordelia, SOL, 8–13 December 2024 (EGM, ZP†; 2024-122) and another undergoing its first alternate molt was at Beacon Hill in Griffith Park, LA, 24 Dec 2024–26 Apr 2025 (ARB†; 2024-144). An adult at Big Morongo Canyon Preserve, SBE, 25 Apr 2021 (*EJ*†; 2021-182), identified from a photograph four years after the observation, was either a previously undetected wintering bird or an exceptionally rare spring migrant.

GREATER PEWEE *Contopus pertinax* (51, 1). One in formative plumage was at Hilltop Park, Chula Vista, SD, 7 Dec 2024–18 Apr 2025 (AlH†, AN†; 2024-121), and an adult along Ennisbrook Nature Trail in Montecito, SBA, 14 Dec 2024–1 Apr 2025 (DVB†; 2024-129) was returning for its second winter (2023-130; Benson et al. 2025b).

EASTERN WOOD-PEWEE *Contopus virens* (28, 9). An exceptional incursion of seven vocal individuals reached the California coast in June 2024, surpassing the five Eastern Wood-Pewees recorded in the state in June 1998 (CBRC 2007). The initial surge of six birds in early June included four in formative plumage at Fort Rosecrans National Cemetery, Point Loma, SD, 5–6 Jun 2024 (AlH†§, BR§; 2024-046) and 9–12 Jun 2024 (*PEL*, JCa†, LC†§, NJD†; 2024-050), Huntington Central Park, ORA, 8–9 Jun 2024 (*LYW*§, TAB†§; 2024-048; Figure 7), and Dominguez Park in Redondo Beach, LA, 9–11 Jun 2024 (DJB†, ARB§; 2024-049). Subsequently, an adult was at Candlestick Point State Recreation Area, SF, 11 Jun 2024 (KLi†§; 2024-053), and a bird of unknown age was at Fairhaven, HUM, 11 Jun 2024 (*FF*§, RF†§, GG†; 2024-054). A later spring migrant in formative plumage was at Davenport SCZ, 29 Jun 2024 (AMR†§; 2024-057). Given the early August date, one singing at Oak Grove

Figure 7. This adult Eastern Wood-Pewee at Huntington Central Park, Orange County (2024-048), was part of a remarkable incursion of this species along the California coast in June 2024.

Photo by Thomas A. Benson on 8 June 2024

Park in Ripon, SJ, 2–5 Aug 2024 (JGa†§; 2024-068) was likely summering. One calling and singing at the fish docks along the Drakes Bay shore of Point Reyes, MRN, 10 Sep 2024 (*EGM*§, *DES*§, MFd†§; 2024-081) established the earliest date for a fall migrant in California by six days (2021-094; Terrill et al. 2024).

ALDER FLYCATCHER *Empidonax alnorum* (15, 3). Spring migrants included a silent bird in formative plumage at Fort Rosecrans National Cemetery, Point Loma, SD, 5 Jun 2024 (*CAM*†, AlH†, PEL, LR†; 2024-047; Figure 8) and a vocalizing adult at Piute Ponds, Antelope Valley, LA, 12 Jun 2024 (*JSF*†§; 2024-055). Differences between the Alder and Willow Flycatcher (*E. traillii*) in the pattern of spacing of the primaries, recently described by Lee and Birch (2025), were critical in evaluating both of these records. Despite the San Diego bird being well-watched and photographed, it remained stubbornly silent. However, the contrasting plumage tones and general structural characteristics pointed towards the Alder, and the spacing of the primaries was consistent with that species, resulting in unanimous support by the committee. From the Piute Ponds, the committee endorsed only the documentation from 12 June as representing the Alder Flycatcher; photographs taken the following day showed a Willow Flycatcher, as identified by the spacing of the primaries and dull, buff wing bars. A vocalizing fall migrant in formative plumage was at the Point Reyes fish docks, MRN, 10 Sep 2024 (*EGM*†§, *DES*§; 2024-082).

WILLOW WARBLER *Phylloscopus trochilus* (1, 0). IDENTIFICATION NOT ESTABLISHED: A *Phylloscopus* photographed at Neary Lagoon, SCZ, 8 Oct 2020 (2020-160) was not endorsed by the committee as a Willow Warbler and was subsequently re-evaluated as a Dusky Warbler (*P. fuscatus*; 2020-160A, see below).

DUSKY WARBLER *Phylloscopus fuscatus* (25, 1). With respect to the bird at Neary Lagoon, SCZ, 8 Oct 2020, originally reported but not accepted as a Willow

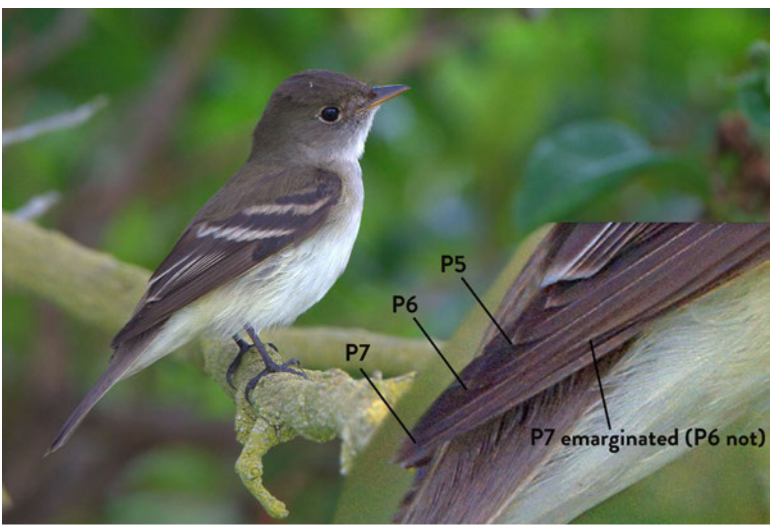

Figure 8. This photo of an Alder Flycatcher at Fort Rosecrans National Cemetery, San Diego County (2024-047), shows that the distance between the tips of primaries 7 and 6 is greater than that between the tips of primaries 6 and 5, supporting the identification as an Alder.

Photo by Curtis A. Marantz on 5 June 2024

Warbler (2020-160; see above), the committee re-evaluated and accepted it as a Dusky Warbler, the fourth for Santa Cruz County (*BRB*†; 2020-160A). The photos appeared to have a greenish cast causing the subject bird to show greenish upperparts and yellowish underparts, therefore inviting confusion with the Willow Warbler. These colors appeared to be an artifact of the photo or lighting, however, and other field marks including the supercilia meeting at a point in front of the bill, the plain wing coverts, secondaries, and evenly colored pink legs and feet helped to confirm the identification as a Dusky Warbler.

WINTER WREN *Troglodytes hiemalis* (53, 5). A spring migrant of unknown age was at La Motte Spring in the Argus Mountains, INY, 6 Apr 2024 (*AM*§; 2024-037). Fall migrants or wintering birds, all in formative plumage, were at Berkeley Meadows, ALA 24 Nov 2024–27 Mar 2025 (*ZD*†§, JCt†, EGM, ER§, EY†§; 2024-116); Muir Beach, MRN, 24–27 Nov 2024 (*LC*†§, EGM§; 2024-117); Camino Corto Open Space, Goleta, SBA, 4 Dec 2024–30 Jan 2025 (*AC*†§, MLB§; 2024-124); and the San Francisco Zoo, SF, 22 Dec 2024 (*AdH*†, ZD†§; 2024-131). IDENTIFICATION NOT ESTABLISHED: A purported returning bird photographed at Dry Creek Regional Park, STA, 26 Jan 2024 (2024-004) was not accepted by the committee. The photos did not conclusively eliminate a Pacific Wren (*T. pacificus*), and the wren apparently did not vocalize. While some Winter Wrens are identifiable by a combination of morphological characters (Freeland et al. 2026), clear audio recordings of the typical single or double-noted call are the most useful documentation for identifying individuals of these two species (Monk and Freeland 2026).

CURVE-BILLED THRASHER *Toxostoma curvirostre* (44, 2). Wintering birds included an adult at the Rio Bend RV & Golf Resort 3 km south of Seeley, IMP, 21 Oct 2024–2 Apr 2025 (GM, JSt†; 2024-100) and a bird in formative plumage at the Baker sewage ponds, SBE, 8 Nov 2024–5 Apr 2025 (*DES*§, JSt†; 2024-108).

BLUE ROCK-THRUSH *Monticola solitarius* (1, 1). California's first and North America's second recorded Blue Rock-Thrush was a stunning adult male of the East Asian subspecies *philippensis* on Southeast Farallon Island, SF, 25–28 Apr 2024 (*JWT*†, ASp, HGW†; 2024-029; Figure 9). Remarkably, this might be the same individual that was photographed on a beach at Hug Point, Oregon (800 km to the north) four days prior (Sanchez and Withgott 2024, Janzen 2025; see also Pyle et al. 2024). The earlier North American Blue Rock-Thrush, also a male of *philippensis*, was photographed in Goldpan Provincial Park, British Columbia on 6 June 1997 (McDonald 1997). It was accepted by the provincial records committee (Davidson 1999) but was not accepted by the ABA Checklist Committee because of concerns about its provenance (Robbins et al. 2003).

The Blue Rock-Thrush is widespread across the Palearctic from southern Europe and northwestern Africa east through much of Asia, and it winters south to the Sahara, Arabia, India, and southeast Asia (Vaurie 1959, Brazil 2009). *M. s. philippensis*, the male of which has chestnut underparts, is the most distinctive of the five described subspecies; it breeds from the Russian Far East south through Korea to northeast China and northern Japan. It winters from the southern part of the breeding range south and west to southeast Asia, the Philippines, Palau, and islands in eastern Indonesia (Collar 2020a). Ship assistance always needs to be considered for long-distance Eurasian migrants with little history of vagrancy to North America. Nevertheless, as *philippensis* undertakes a long-distance migration and has been recorded multiple times as a vagrant to New Guinea, the Cocos (Keeling) Islands, and mainland northeastern Australia (Menkhorst et al. 2017, T. Palliser pers. comm.), the committee considered it to be a viable candidate for natural vagrancy to California.

VEERY *Catharus fuscescens* (17, 2). Two Veeries were well documented in California's Sierra Nevada during June and July 2024. The first, at Lake Tallac, ED,

Figure 9. This adult male Blue Rock-thrush of the East Asian subspecies *Monticola solitarius philippensis*, with its distinctive chestnut underparts, was on Southeast Farallon Island, San Francisco County (2024-029), 25–28 April 2024, furnishing a first California record.

Photo by Jason W. Talbott on 25 April 2024

10–11 Jun 2024 (EGM†, LYW†§; 2024-052), was the first recorded in El Dorado County. The second, a female at the Feather River mouth in Chester, PLU, 16 Jun–20 Jul 2024 (EM†§; 2024-056), built a nest and laid eggs; these eggs proved to be non-viable, but this does provide the first evidence for this species attempting to reproduce in California.

GRAY-CHEEKED THRUSH *Catharus minimus* (27, 2). A Gray-cheeked Thrush in formative plumage at the Point Reyes Lighthouse, MRN, 16–18 May 2024 (*CC*†, RF†, DL†, EGM†; 2024-040) was only the fourth recorded in California in spring; it was significantly earlier than the state's three previous records between 28 May and 11 June. An adult at the 29 Palms Inn, Twentynine Palms, SBE, 19–27 Oct 2024 (*JBo*†, TAB†, MLB†, MAG†, AlH†; 2024-096) was a more typical fall migrant.

WOOD THRUSH *Hylocichla mustelina* (45, 2). In spring, Wood Thrushes are among the latest vagrants to California and are more likely to be found at desert oases than on the coast, thus one in formative plumage at Furnace Creek Ranch, Death Valley, INY, 2 Jun 2024 (CAD†; 2024-043) occurred at a typical date and location. A second Wood Thrush in coniferous forest along the Sherwin Lakes Trail near Mammoth Lakes, MNO, 29 Jun 2024 (*JFi*, *TJH*†; 2024-058), however, was a surprise find away from a traditional migrant trap.

SONG THRUSH *Turdus philomelos* (1, 1). Providing an unexpected first record for California, a Song Thrush was captured and banded on Southeast Farallon Island, SF, 11–12 Nov 2024 (*JRT*, AdH†, NSc§; 2024-110; Figure 10). The Song Thrush breeds across Europe and northern Asia as far east as Lake Baikal in central Siberia and winters from western and southern Europe south to northern Africa, the Arabian Peninsula, and southwestern Asia (Collar 2020b). In North America, there are fewer than 10 records from Alaska, of which three are for 2024, and only

Figure 10. An unexpected addition to California's avifauna, this Song Thrush was at Southeast Farallon Island, San Francisco County, 11–12 November 2024 (2024-110). It represents just the second record of the Song Thrush for the coterminous United States and the third for North America away from Alaska.

Photo by Adrian Hinkle on 12 November 2024

two others away from Alaska: at Saint-Fulgence, Québec, 11–17 Nov 2006 (Auchu et al. 2007) and at Port Angeles, Washington, 12 Jan 2024 (S. Gremel, ebird.org/checklist/S158946747). The California Song Thrush represents one of the state's most extreme examples of long-distance vagrancy; it was in formative plumage, indicating a bird making its first migration.

RUFOUS-BACKED ROBIN *Turdus rufopalliatus* (35, 2). Rufous-backed Robins included an adult in Shelter Valley, SD, 9 Feb–3 May 2024 (*SHs*†; 2024-008) and one in formative plumage at the Palo Verde Ecological Reserve, RIV, 24 Dec 2024–10 Jan 2025 (*KMi*†; 2024-137). California now averages about one Rufous-backed Robin every fall or winter, mirroring a recent trend of increased vagrancy to the southwestern United States.

EASTERN YELLOW WAGTAIL *Motacilla tschutschensis* (22, 2). Two Eastern Yellow Wagtails visited California in fall 2024. An adult male at Ballona Wetlands Ecological Reserve, LA, 21–23 Aug 2024 (*KLa*†, TAB†, MAG†; 2024-073), was the first adult documented in California; the relatively long white supercilium and narrow white submoustachial stripe suggest that it likely belonged to the nominate subspecies. The other, of undetermined age and sex, at Lake Isabella, KER, 22–23 Sep 2024 (*AM*†, *SR*†; 2024-085) was the first recorded in the interior of California or in Kern County. The CBRC acknowledges that most records of this species in California fail to rule out the Western Yellow Wagtail (*M. flava*), formerly regarded as conspecific, but has assumed they represent Eastern Yellow Wagtails on the basis of range and likelihood of occurrence in the state.

SIBERIAN PIPIT *Anthus japonicus* (21, 21). Following the split of the Siberian Pipit and American Pipit (*A. rubescens*) by the American Ornithological Society

(Chesser et al. 2024), the CBRC began evaluating both current and historical records of the Siberian Pipit from California. As of September 2025, the committee has evaluated 36 records, endorsing 22 records of 21 individuals (Table 2), with an additional nine records pending review. The 21 accepted records reveal that this species is a casual fall migrant to coastal California between 9 October and 30 November, with records of 18 birds evenly split between northern and southern California. There is only one accepted record well inland away from the coast, of one at Mystic Lake, RIV, 23 Nov 2001 (2001-232; Lee and Birch 2002). There are two records of wintering (or likely wintering) birds, both from Los Angeles County: the first was at Griffith

TABLE 2 Siberian Pipits Accepted by the CBRC[a]

Location	Date	Record no.	Observers
San Diego Co.			
Tijuana River valley[b]	26 Oct–11 Nov 1991	1991-238	*GM*, REW†
Tijuana River valley	11–13 Oct 2003	2003-215	*GM*, LS†
Kate O. Sessions Park	22–30 Nov 2003	2003-219	GM, BLS†
Tijuana River valley	9 Oct–12 Nov 2014	2014-195	*GM, KR*†
Orange Co.			
Harriet M. Wieder Park	1 Nov 2007	2007-313	*JEP*, *BED*
Riverside Co.			
Mystic Lake	23 Nov 2001	2001-232	*C-TL*
Los Angeles Co.			
Griffith Park	16 Dec 2020–31 Jan 2021	2020-210	*ARB*, TAB†, CAD†, GS†
Griffith Park[c]	4 Nov 2021–21 Feb 2022	2021-180	*ARB*, CAD†, GS†, JCS†
Griffith Park[c]	15 Nov–13 Dec 2022	2022-137	*ARB*, GS†
Ballona Wetlands	21–28 Dec 2024	2024-134	*KLa*†
Ventura Co.			
Casper Road, Oxnard	29 Oct–3 Nov 2001	2001-231	*NL*, ARB$
Arnold Road, Oxnard	30 Oct 2008	2008-235	*DVP*†
San Luis Obispo Co.			
Oso Flaco Lake	19 Oct 2013	2013-298	*TME*†, CAM†
Monterey Co.			
Salinas water-treatment plant	13–15 Oct 2007	2007-312	*OJ*†, *AJS*, *DVP*†, BLS
Salinas water-treatment plant	29 Oct 2008	2008-234	*BLS*†
Salinas water-treatment plant	14 Oct 2023	2023-141	*BLS*†
Salinas water-treatment plant	12 Oct 2024	2024-142	*AJS*, *STu*†
Santa Cruz, Co.			
Wilder Ranch State Park	11 Nov 2014	2014-197	*AMR*
San Mateo Co.			
Redwood Shores	27–30 Oct 2008	2008-236	*RST*, KO†
San Francisco Co.			
Southeast Farallon Island	21–24 Oct 2013	2013-299	*CR*†
Alameda Co.			
Arrowhead Marsh	22–27 Oct 2013	2013-300	*PB*†, CL†, DM†
Oyster Bay Regional Shoreline	24 Nov 2016	2016-157	*NA*†
Mendocino Co.			
Alder Creek Beach	14–16 Oct 2003	2003-221	*JRW*

[a]n = 1 bird unless noted otherwise.

[b]Two individuals.

[c]Returning bird, same as 2020-210.

Park, 16 Dec 2020–31 Jan 2021 (2020-210) and returned for two subsequent winters (2021-180, 2022-137; Figure 11), while the second was at the Ballona Wetlands, 21–28 Dec 2024 (2024-134).

The Siberian Pipit breeds across much of eastern Russia, south to northern Mongolia and northeastern China, and winters in Japan, the Korean Peninsula, and from southern China west to northern India, northern Pakistan, and Israel (Shirihai 1996, Mlodinow et al. 2024). In North America it is a regular migrant in the western Aleutians and on Bering Sea islands (Gibson and Withrow 2015) but is otherwise a casual fall migrant along the Pacific coast. Its arrival in California often coincides with influxes of the Red-throated Pipit (*A. cervinus*; Lee and Birch 2002).

IDENTIFICATION NOT ESTABLISHED: While some or even many historical reports may have been of birds correctly identified, in general these reports lacked substantive documentation. Some reports that were not accepted included substantial documentation, but the written descriptions or photos did not eliminate the American Pipit. As there is considerable overlap in appearance between these two species, the committee accepted only well-described or well-photographed Siberian Pipits that meet multiple identification criteria for this species (see Birch et al. 2024). Reports reviewed and not endorsed by the committee included those from Point Reyes, MRN, 7–18 Oct, 1989 (1991-241; Yee et al. 1992); Irvine, ORA, 25 Oct 1991 (1991-237; McCaskie 1992); Mission Bay, SD, 23 Nov 1991 (1991-239; McCaskie 1992); Abbotts Lagoon, MRN, 26 Jan 1993 (1993-215); Rush Creek Open Space Preserve near Novato, MRN, 25–26 Oct 2001 (2001-233); Las Posas Road sod fields in Oxnard, VEN, 24–26 Oct 2002 (2002-229); Santa Maria sewage-treatment plant, SBA, 17 Oct 2003 (2003-217); Moonglow Dairy near Moss Landing, MTY, 17 Nov 2003 (2003-218); Palo Alto Baylands, SCL, 24 Oct 2009 (2009-263); Zmudowski State Beach, MTY, 1–10 Nov 2014 (2014-196); White Slough water-treatment plant, SJ, 11 Feb 2019 (2019-218); Fiesta Island, Mission Bay, SD, 21 Nov 2019 (2019-219);

Figure 11. This Siberian Pipit (2022-137) returned for three winters between December 2020 and December 2022 to the John Ferraro Athletic Fields at Griffith Park, Los Angeles County. Most of the field marks useful for distinguishing this species from the American Pipit can be seen here: a thick black malar patch, thick and dense blackish streaking across the breast and flanks contrasting with white underparts, blackish median coverts with narrow white tips, and pink legs.

Photo by Naresh Satyan on 2 December 2022 and Santa Cruz Island, SBA, 10 Oct 2022 (2022-139). The CBRC is unable to review two additional published reports because there is no extant documentation: Lake Tolowa, DN, 13 Oct 1989 (Erickson et al. 1990) and Bodega, SON, 10 Nov 1991 (Yee et al. 1992). Several more historical records are still undergoing review and will be addressed in a future report.

ORIENTAL GREENFINCH *Chloris sinica* (2, 1). Written documentation for an Oriental Greenfinch reported from Southeast Farallon Island, SF, 11 Oct 2008 was deemed insufficient to represent a first California record on its initial evaluation in 2009 (2008-161; Pike and Compton 2010). Since then, the pattern of vagrancy in Alaska's Bering Sea region (Kessel and Gibson 1978) has extended more widely in western North America, with five records from Yukon (Yukon Bird Club, /ebird.org/checklist/S123668069), southeastern Alaska (C. Wyatt, ebird.org/checklist/S90307643), British Columbia (Hentze 2017), Oregon (Herlyn 2022), and, following re-evaluation and acceptance of an earlier record, California (1986-450A; McCaskie et al. 2018). Given this, the committee voted at its January 2024 meeting to re-review the 2008 record. Upon re-evaluation, the committee considered the documentation for this record (*MLB*; 2008-161A) sufficient to endorse the bird's identification and natural occurrence, establishing a second record for California. The only two specimens of this species collected in North America are of the northeasternmost, migratory subspecies *C. s. kawarahiba* (Gibson and Withrow 2015).

CASSIA CROSSBILL *Loxia sinesciuris* (0, 0). IDENTIFICATION NOT ESTABLISHED: Large numbers of Red Crossbills (*L. curvirostra*) were encountered at Skylawn Memorial Park in Half Moon Bay, San Mateo County, during a widespread irruption of this species in fall 2023. Within a flock of up to 60 crossbills of several different call types were one or more birds giving flight calls thought to be consistent with the Cassia Crossbill, 26 Oct–16 Dec 2023 (2023-108). This species was considered endemic to the Albion Mountains and South Hills of southern Idaho but has recently been found in Colorado (Gent 2022). Outside experts agreed that field recordings most closely matched those of Cassia Crossbills recorded in the South Hills. After two rounds of voting, however, the majority of the committee concluded that there was too much uncertainty in the variation within crossbills' call types, that the recordings did not precisely match those classic for the Cassia Crossbill, and that details of the birds' morphology (e.g., bill size and shape) were not observed. Some members were also concerned about the likelihood of long-distance vagrancy in an ostensibly sedentary, range-restricted species.

SMITH'S LONGSPUR *Calcarius pictus* (15, 1). A male in formative plumage at "Mount Trashmore," Hayward Regional Shoreline, ALA, 16 Nov 2024 (*KHi*, JCt†, HF†, MJR †, ER†; 2024-112) was the first recorded in Alameda County.

FIELD SPARROW *Spizella pusilla* (27, 5). An unprecedented five Field Sparrows were found in California during 2024, all showing plumage consistent with the western subspecies, *S. p. arenacea*. One in formative or first alternate plumage at Griffith Park, LA, 29 Mar 2024 (*MPy*†; 2024-020) may have wintered locally. The remaining four late fall migrants or winter visitors included three in formative plumage, at Furnace Creek Ranch, INY, 18–21 Oct 2024 (*EI*†, *DES*; 2024-094), at Pillar Point Harbor, SM, 26 Nov 2024–2 Mar 2025 (MLB†, CH†, EGM, JMo†, ASi†, SBT†; 2024-118), and along Indian Reservation Drive near Porterville, TUL, 15–29 Dec 2024 (JSe†; 2024-130), the last furnishing the first record for Tulare County. In addition, a Field Sparrow of unknown age was at Oso Flaco Lake, SLO, 30 Oct 2024 (*HE*†; 2024-105).

LOUISIANA WATERTHRUSH *Parkesia motacilla* (26, 1). An adult Louisiana Waterthrush wintered along a fast-flowing creek in the Santa Cruz Mountains at Mount Hermon, SCZ, 13 Jan–10 Feb 2024 (MFd†, DL†, SBT†; 2024-002). Only six of California's 26 accepted Louisiana Waterthrushes have been wintering or likely wintering birds, this being the northernmost.

GOLDEN-WINGED WARBLER *Vermivora chrysoptera* (93, 1). A male at San Clemente Island, LA, 3 Jun 2024 (*BS*; 2024-045) was a first for this well-watched location.

BLUE-WINGED WARBLER *Vermivora cyanoptera* (58, 1). The only Blue-winged Warbler identified in 2024 was an adult female at Butterbredt Spring, KER, 21 May 2024 (*LYW*†; 2024-041). This site has attracted no fewer than seven Blue-winged Warblers over the years, all in the spring and more than at any other location in California.

TROPICAL PARULA *Setophaga pitiayumi* (2, 1). California's second Tropical Parula, a singing male, was enjoyed by many in Big Dalton Canyon, LA, 12–14 May 2024 (*JX*†, TAB†; 2024-035). Surprisingly, what a majority of the committee inferred was the same individual, was refound at Switzer Picnic Area, LA, 18 Jun–26 Sep 2024 (EGM†, MAS†§, JTS†; 2024-060; Figure 12), just over 30 km northwest of Big Dalton Canyon and also within the San Gabriel Mountains. This bird showed the characters of the west Mexican subspecies *S. p. pulchra* (Xia 2026, Figure 12). California's only other Tropical Parula wintered in Huntington Beach, ORA, 5 Jan–14 Feb 2018 (2018-001; Benson et al. 2020). Xia (2026) determined that the plumage and song of this individual better fit the east Mexican subspecies *S. p. nigrilora* (*contra* Benson et al. 2020). Xia (2026) detailed these records, as well as the distribution of this species and its occurrence in the western United States.

CAPE MAY WARBLER *Setophaga tigrina* (58**, 1). A well-described Cape May Warbler on Santa Rosa Island, SBA, 1–4 Oct 1974 (*LJ*; 1974-502) was found during the initial period in which the committee reviewed this species (1972–1974), but documentation was not submitted to the CBRC until the record's inclusion in an upcoming publication on the birds of the Channel Islands (Collins and Stahl 2026).

SLATE-THROATED REDSTART *Myioborus miniatus* (1, 1). One of the most surprising finds of 2024, the first Slate-throated Redstart for California, was enjoyed by many at Pine Lake Park, SF, 29 Jul–16 Sep 2024 (*DM*†, TAB†, MFd, LL†, GM, JMo†, PP, MJR†, RWR†, ASi†, LST†, SBT†, ANW†; 2024-065; Figure 13). The Slate-throated Redstart occurs in montane forests from northern Mexico to southern Bolivia with 12 described subspecies, which differ widely in ventral coloration. All records for the United States are attributable to the northern nominate subspecies, *M. m. miniatus*, which has deep vermilion red underparts (Harrod and Mumme 2022). While records of this colorful and widespread Neotropical warbler have increased over the past decade in the border region of the southwestern United States, especially in the mountains of southeastern Arizona and western Texas, few would have predicted that the first for California would come from a small urban park in coastal San Francisco in late summer. The bird underwent its second prebasic molt during its stay, and it sang frequently, implying it was a male. Mosur and Freeland (2025) provided a detailed account of this occurrence, including more detailed commentary on the bird's subspecific identification, hypotheses for its arrival in California, and the species' status and distribution in North America.

PYRRHULOXIA *Cardinalis sinuatus* (34, 1). A female patronized a feeder in Yucca Valley, SBE, 15 Jul 2024 (*TS*†; 2024-063).

YELLOW GROSBEAK *Pheucticus chrysopeplus* (0, 0). IDENTIFICATION NOT ESTABLISHED: The report of a Yellow Grosbeak briefly seen and incompletely described from urban Wheeler Park in Claremont, LA, 4 Aug 2024 (2024-070) failed to garner any support from the committee.

FIGURE 12. California's second Tropical Parula was a singing male, shown here at Switzer Picnic Area in the San Gabriel Mountains of Los Angeles County (2024-060). The relatively broad white wing bars indicate the northwestern subspecies *Setophaga pitiayumi pulchra*. Records of the Tropical Parula have been increasing across the southwestern United States in recent years, and this individual extends that trend to its northwesternmost extent.

Photo by Mark A. Scheel on 7 July 2024

FIGURE 13. California's 47th species of New World warbler, this male Slate-throated Redstart was found at Pine Lake Park, San Francisco County, on 29 July 2024 and remained for nearly seven weeks (2024-065). It represents, by far, the northernmost and westernmost occurrence of the Slate-throated Redstart.

Photo by Langtian Lang on 31 July 2024

MISCELLANEOUS

The long-staying Northern Gannet (*Morus bassanus*) first seen at Southeast Farallon Island, SF, 25 Apr 2012 (2012-058; Pike et al. 2014) was still present at the time of preparation of this report in April 2026.

CORRIGENDA

The committee wishes to correct several errors in its 47th (Terrill et al. 2024) and 48th (Benson et al. 2025a) reports. Italic print signifies corrected dates. In the 47th report, a Yellow-billed Loon (2021-099) was at Crescent City harbor, DN, *20 Sep–24 Oct* 2021. A Short-tailed Albatross (2021-060) was in Monterey Bay, SCZ, *17–24* Jul 2021. Only four (not seven) Glossy Ibis were accepted, so the header for this account should read (46, 4). Three (not two) Roseate Spoonbills were accepted, so the header for this account should read (153, 3). In the 48th report, a Little Stint (2022-017; not accepted) was reported at Arcata Bottoms, HUM, on 17 Apr *2022*, and a Yellow-bellied Flycatcher (2022-067) at Point Loma, SD, was present *5*–7 Oct 2022.

The date range of a Yellow-billed Loon (*Gavia adamsii*) at Lake Havasu, SBE (2010-133; Johnson et al. 2012), is extended from 28 Mar 2002 to *4 Mar–8 Apr 2002* on the basis of documentation from Brennan Mulrooney and Nathan Moorhatch, and corresponding to the dates published in *North American Birds* (McCaskie and Garrett 2002). The late date for a Buff-breasted Sandpiper (*Calidris subruficollis*) in the Tijuana River valley, SD (1991-001; Heindel and Garrett 1995), is extended by one day to 17–*24* Nov 1990 on the basis of documentation from Paul Labhart. Likewise, the late date for a Greater Pewee in the Laguna Mountains, SD (2005-069; Iliff et al. 2007), is extended by one day to 11 Jun–*4* Jul 2005 on the basis of documentation from Bob Henry.

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OCCURRENCES OF THREE SPECIES OF GNATCATCHERS IN THE SAN GORGONIO PASS, CALIFORNIA

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ABSTRACT: The San Gorgonio Pass is an important zone of interchange between desert and coastal flora and fauna in southern California. We report multiple recent observations of California Gnatcatchers (*Polioptila californica*) within the pass, apparently persisting since their first documentation in 1908. While the Blue-gray Gnatcatcher (*P. caerulea*) has been documented here for more than a century, the occurrence of the California Gnatcatcher in this area is not widely known and not included in recent distribution maps for this threatened species. We also report the expansion of the Black-tailed Gnatcatcher (*P. melanura*) into the pass in recent decades, forming one of the few zones of overlap between these two species. With its elevational gradients, vegetation mosaics, and shifting species ranges the San Gorgonio Pass serves as a potential refugium from various anthropogenic stressors including climate change. The pass is currently subject to piecemeal development and lacks any significant conservation areas. It deserves more comprehensive conservation planning attention.

In Riverside County, California, at 250–800 meters above sea level, the San Gorgonio Pass is a low east–west trending valley separating the San Bernardino Mountains (elevation 3500 m) to the north from the San Jacinto Mountains (elevation 3285 m) to the south (Figure 1). Although bisected lengthwise by Interstate 10 and urban development, the valley floor retains substantial native habitat, which consists mostly of open scrubland dominated by desert willow (*Chilopsis linearis*), catclaw (*Senegalia greggii*), and deerweed (*Acmispon glaber*), with a greater cover of brittlebush (*Encelia farinosa*) and creosote (*Larrea tridentata*) toward the east end and greater cover of chamise (*Adenostoma fasciculatum*) and black sage (*Salvia mellifera*) toward the west end. Throughout, there are occasional trees, mostly sycamore (*Platanus racemosa*), and succulents, mostly silver cholla (*Cylindropuntia echinocarpa*). Both the northern and southern slopes have steep elevational gradients that transition up to chaparral and eventually coniferous woodland.

The San Gorgonio Pass connects the Coachella Valley and its desert habitats to the east with the Santa Ana River and San Jacinto River valleys in more coastal climates to the west. As such it is a frequent contact zone between closely related species and subspecies, between the low deserts and coastal plain, as well as between the two high mountain ranges. It also serves as an

FIGURE 1. Sites of California Gnatcatcher occurrences in the San Gorgonio Pass cited in the text.

important corridor for faunal interchange between interior desert and coastal habitats and thus may play an important role in a future of shifting climate and vegetation patterns. For instance, the San Gorgonio Pass is likely the conduit for the recent colonization of the upper Santa Ana River, west of the pass, by the Ladder-backed Woodpecker (*Dryobates scalaris*), which was previously resident only to the east of the pass in desert habitats (House et al. 2010), and at Valle Vista to the south, where it formerly occurred in a pocket of desert habitat along with other characteristically desert species (Grinnell and Swarth 1913).

One interesting pairing of species within this contact zone is the Black-tailed Gnatcatcher (*Polioptila melanura*), resident in low-elevation desert scrub to the east, and the California Gnatcatcher (*P. californica*), resident in low-elevation coastal scrub to the west. These two species rarely overlap (Weaver 1998). In 1993 the U.S. Fish and Wildlife Service listed the subspecies of the California Gnatcatcher occurring within the U.S., the Coastal California Gnatcatcher (*P. c. californica*), as a threatened species, but despite extensive research and survey effort before and since, its distribution in some parts of its range remains somewhat uncertain. Although several efforts have attempted to predict the species' distribution in the U.S. (e.g., Atwood 1980, Atwood and Bolsinger 1992, Mock 1998, U.S. Fish and Wildlife Service 2000), new range limits are found regularly (Cooper et al. 2017, Couffer 2019), or may be in flux (Hulton VanTassel et al. 2017). In its 5-year review of the status of the California Gnatcatcher, the United States Fish and Wildlife Service (2010) did not include the San Gorgonio Pass within the range of the species.

Root (1988) and Mock (1998), respectively, correlated the northern limits of the ranges of the Black-tailed and California Gnatcatchers with winter minimum temperatures. They postulated that low winter minimum temperatures increase metabolic stress for these small, resident songbirds, limiting their survivorship and reducing population densities at the range margins. With predicted increases in both maximum temperatures and mean minimum temperatures, these metabolic boundaries may shift to the north and upslope, resulting in shifting distributions in these two species.

On 10 and 24 May 1908, as part of a survey of the San Jacinto Mountains led by Joseph Grinnell, Charles F. Richardson and Walter P. Taylor collected two male California Gnatcatchers near Cabazon, in the central portion of the pass; they are deposited in the Museum of Vertebrate Zoology at the University of California, Berkeley (MVZ 1743, 1744). Richardson and Taylor also found the species farther west, at the base of the San Jacinto Mountains near Banning. They found no Black-tailed Gnatcatchers in the pass during these surveys, the nearest at that time being in low desert at Palm Springs, over 10 km southeast of Whitewater at the east end of the pass (Grinnell and Swarth 1913).

From 2008 to 2012, as part of an effort to resurvey the sites visited by the 1908 Grinnell survey team, the San Diego Natural History Museum conducted extensive surveys within the San Gorgonio Pass (Hargrove et al. 2014). We made three separate visits each to Cabazon, Snow Creek/Whitewater, and Banning, with five days per visit at each site. From 1 May 1908 to 16 June 1908, Taylor and Richardson spent approximately 22 days at Cabazon, 15 days at Snow Creek/Whitewater, and 11 days at Banning. In 1908, "Whitewater" referred to the original Palm Springs train station near the corner of the current Highway 111 and Tipton Road. Here, we distinguish between this site and Whitewater Canyon, which is on the north side of the San Gorgonio Pass, draining the San Bernardino Mountains. We tended to cover Snow Creek and Whitewater concurrently, as Taylor and Richardson did in 1908.

Here we summarize observations of the three gnatcatcher species in the area during those efforts, as well as more recent notable observations by both us and others.

CABAZON

On 16 October 2012, Clark encountered a California Gnatcatcher calling with its characteristic mew vocalization in wash vegetation southwest of Cabazon, about 600 m north of the mouth of Twin Pines Gorge (elevation 520 m, Figure 1, point A1). Several desert-associated shrubs occur here, including catclaw, silver cholla, and California jointfir (*Ephedra californica*).

Later that day, approximately 1100 m to the northwest of the mouth of Twin Pines Gorge, Clark found a pair of California Gnatcatchers on a slope dominated by coastal-associated shrubs, including California sagebrush (*Artemisia californica*) and deerweed (elevation 550 m, Figure 1, point A2, Figures 2–3). The male was calling repeatedly. The same day, Unitt and Hargrove found two apparent immature males about 500 m east of the mouth of the gorge (Figure 1, point A3).

We also found Black-tailed Gnatcatchers, not historically known from anywhere in the pass, repeatedly during our visits to the Cabazon area, with two pairs on 6 January 2010 (Unitt) and up to four per day in the second week of May 2011 (Hargrove). One male and one female Black-tailed Gnatcatcher were collected as vouchers at Cabazon on 6 January 2010 (SDNHM 52494 and 52495). We also found Blue-gray Gnatcatchers during each visit to Cabazon, but no more than one per day and only a single individual during our visit during the breeding season in May 2011.

In his field notes for 24 May 1908, Richardson described the Blue-gray

Figure 2. Habitat of pair of California Gnatcatchers 5 km southwest of Cabazon, California, 16 October 2012, elevation 550 m. The vegetation at this location is dominated by California sagebrush (*Artemisia californica*). View looking south, upslope.

Photo by Kevin B. Clark

Figure 3. View looking east at the same location as Figure 2, 16 October 2012, elevation 550 m. The vegetation at this location is dominated by California sagebrush (*Artemisia californica*), and deerweed (*Acmispon glaber*).

Photo by Kevin B. Clark

Gnatcatcher as “abundant and in pairs” at Cabazon, found a nest containing four young in a “sagebrush,” and collected two specimens (MVZ 1742, 15476). Richardson described the California Gnatcatcher as “not very common” at Cabazon; he and Taylor collected two specimens there (MVZ 1743, 1744).

SNOW CREEK/WHITEWATER

On 4 December 2012, Hargrove heard a single diagnostic “mew” of the California Gnatcatcher near the base of the bajada, or alluvial fan, of Snow Creek (elevation 400 m) (Figure 1, point B). The habitat was dominated by brittlebush, catclaw, deerweed, and cholla.

We encountered both Black-tailed and Blue-gray Gnatcatchers during our visits to Snow Creek, with up to five Black-tailed Gnatcatchers on 11 December 2008 (Unitt), and up to five Blue-gray Gnatcatchers on 31 May 2010 (Hargrove). One Blue-gray Gnatcatcher was collected at Snow Creek as a voucher on 30 March 2010 (SDNHM 52551). We also observed migrating Blue-gray Gnatcatchers at Whitewater with up to 8 per day on 1 April 2010 (Unitt).

In 1908, Richardson and Taylor did not encounter any gnatcatchers at Snow Creek or Whitewater.

WHITEWATER CANYON

This site was not covered in 1908, but some of us have visited it for other surveys. On 6 December 2020, Myers found a pair of California Gnatcatchers in the Whitewater River bed near Red Dome, north of the Whitewater Preserve (Figure 1, point D). This sighting is the northeasternmost of the species in the San Gorgonio Pass area.

On 16 May 2023, Ritt encountered a pair of California Gnatcatchers building a nest in a brittlebush (*Encelia farinosa*) (Figures 4, 5, and 6) in a tributary to Cottonwood Canyon, north of Whitewater (elevation 700 m; Figure 1, point C). This is the same general area where Stephanie Stragier had photographed and recorded a California Gnatcatcher on 2 July 2019 (https://ebird.org/checklist/S58544422) and Caroline Poli had reported up to two pairs of California Gnatcatchers on 3 March 2023 (https://ebird.org/checklist/S130089046). On 23 May Ritt observed a female incubating, establishing what appears to be the easternmost record of this species nesting in California. Scrub within 20 m of the nest was dominated by brittlebush, interspersed with California sagebrush. Mature stands of California sagebrush were located along a wash 100 m southeast of the nesting site, and on multiple visits Ritt saw the pair frequently foraging in the densest and most mature patches of California sagebrush approximately 150–200 m to the southeast in the same wash.

Within the same watershed, Ritt found Black-tailed Gnatcatchers nesting 175 m and 250 m southeast of this California Gnatcatcher nest, and Blue-gray Gnatcatchers nesting 300 m southeast of this nest. Throughout the winter months, all three species of gnatcatchers foraged near each other within the denser vegetation of this wash.

Figure 4. California Gnatcatcher nest in a brittlebush (*Encelia farinosa*) in a tributary to Cottonwood Canyon, north of Whitewater, California, 16 May 2023, elevation 700 m. Scrub within 20 m of the nest was dominated by brittlebush, interspersed with California sagebrush (*Artemisia californica*).

Photo by Steven M. Ritt

BANNING

In 2017 and 2018, Myers recorded the California Gnatcatcher repeatedly near a sand and gravel quarry. For instance, on 3 July 2017 he noted a pair foraging together, along with Black-tailed and Blue-gray gnatcatchers, in the dry wash of the San Gorgonio River. This location was approximately 200 m west of the Morongo Indian Reservation and immediately north of the quarry (Figure 1, point E). On 30 April 2018, he encountered a pair of California Gnatcatchers in coastal sage scrub on a south-facing slope above the riverbed in this area (elevation 760 m). The shrubs on this slope consist of California sagebrush, brittlebush, and California buckwheat (*Eriogonum fasciculatum*). Myers observed the male on this slope on 24 May, 18 June, and 11 July 2018 as well. Black-tailed Gnatcatchers were also frequently seen during surveys of this area from 2017 through 2019, and also apparently nested in the area.

A record in the California Natural Diversity Database (CNDDB FID#59418) by Nathan Moorhatch describes a pair of California Gnatcatchers observed on 19 January 2016 "just e of Banning Airport airstrip & just n of Smith Creek" (Figure 1, point F). The habitat here is described as non-native grassland interspersed with patches of catclaw. Smith Creek flows into the San Gorgonio River just east of this location.

Figure 5. View from a farther distance of the same California Gnatcatcher nest as in Figure 4 in a brittlebush (*Encelia farinosa*) on 16 May 2023, elevation 700 m. Scrub within 20 m of the nest was dominated by brittlebush, interspersed with California sagebrush (*Artemisia californica*).

Photo by Steven M. Ritt

During our Grinnell Resurvey visits to Banning, Unitt found one Black-tailed Gnatcatcher pair 4 km east of Banning on 18 December 2013, and Hargrove found migrating Blue-gray Gnatcatchers, with up to 3 per day on 4 March 2010, but we found no gnatcatchers of any species during our visits in June or July. We detected no California Gnatcatchers on any visit.

In 1908 Richardson and Taylor saw few gnatcatchers at Banning but found at least one Blue-gray Gnatcatcher on 12 June and California Gnatcatchers on 11 and 15 June.

From 1991 through 2025, several other observations of the California Gnatcatcher have been posted to eBird.org and iNaturalist.org from Cabazon to Beaumont. Black-tailed Gnatcatchers have been reported as far west as Banning, and Blue-gray Gnatcatchers from throughout the region.

DISCUSSION

In addition to being a major corridor of migration, the San Gorgonio Pass is the most significant faunal interchange zone in southern California, connecting low-elevation desert and coastal scrub habitats and their associated species along a gradual elevational gradient. As climate patterns shift, this pass will become even more important as species seek out refugia, or expand or contract their ranges in response to increased warming.

Figure 6. Habitat surrounding the California Gnatcatcher nest shown in Figures 4 and 5, in a tributary to Cottonwood Canyon, north of Whitewater, California, 16 May 2023, elevation 700 m. The red arrow indicates the nest's location in a brittlebush (*Encelia farinosa*).

Photo by Steven M. Ritt

Despite its importance for species movement and the documented rare and endangered species in the area, the San Gorgonio Pass has received relatively scant attention with respect to conservation. The pass essentially lacks any natural preserves or other habitat-conservation areas, and it has been subject to piecemeal development and land clearing. On top of these threats, its history of frequent fires poses a threat to various species reliant on mature vegetation.

West of the San Gorgonio Pass, the combination of habitat loss due to development, coupled with wide-ranging and frequent fires, has apparently restricted the distribution of the California Gnatcatcher, resulting in large expanses of former habitat in western Riverside County being unoccupied (Hulton VanTassel et al. 2017). Our surveys from 2008 to 2012 on the west side of the San Jacinto Mountains at Hemet and Valle Vista, sites with robust populations in 1908, found very few individuals—no more than two per day along the wash of the San Jacinto River 0.6 to 3 km north-northeast of Valle Vista. Thus, the California Gnatcatcher's survival at the eastern end of its range in the San Gorgonio Pass represents an important area of population persistence in the face of range contractions in the region.

Atwood (1988:18), listing the known sites of sympatry between the California and Black-tailed gnatcatchers, cited the specimen of the California Gnatcatcher Grinnell collected 2 miles east of Palm Springs in 1904 (Grinnell 1904; MVZ 39293) but concluded that "no extensive contact zone has been documented in this region." Two other specimens of the California Gnatcatcher have been collected near Palm Springs, however (by L. H. Miller in 1916, UCLA 37930; and by J. Mailliard and J. W. Mailliard in 1918, CAS 56641), as have many Black-tailed Gnatcatchers (GBIF 2026). Our documentation of the California Gnatcatcher's persistence at Cabazon, and the Black-tailed Gnatcatcher's expansion to the west in the same area, confirm this as a rare contact zone for the two species, adding to the one in the Aguanga area of southern Riverside County (Weaver 1998) and the one at San Felipe in Baja California (Hamilton and Howell 2002). In 1979 and 1980, even though they covered Cabazon and Snow Creek repeatedly, McKernan et al. (1984) did not record the Black-tailed Gnatcatcher west of the mouth of Blaisdell Canyon at the western extremity of the Coachella Valley, so we infer that its expansion west and upslope into the San Gorgonio Pass was more recent. Similar expansions of the Black-tailed Gnatcatcher upslope have been documented by recent surveys in Joshua Tree National Park and other locations in the Mojave Desert (Hargrove and Unitt pers. obs.). In Arizona, Corman and Wise-Gervais (2005) noted northward and upslope range expansion up the Verde River to Camp Verde since the 1960s. For the Black-tailed Gnatcatcher, Root (1988) defined a winter distributional limit based upon winter minimum temperatures, arguing that metabolic demands become too great in colder climates, limiting survivorship through the winter. Rising winter minimum temperatures (Riddell et al. 2021) may therefore be promoting northward and upslope expansions in the region.

For the California Gnatcatcher, Mock (1998) extended Root's (1988) results on the basis of January mean minimum temperatures in the region, postulating that where January mean temperatures fall below 2.5° C, winter mortality from metabolic stress increases and the California Gnatcatcher cannot persist. According to data from the network of RAWS weather stations from 2011 to 2024, the January mean minimum temperature for Cabazon was 8° C (National Oceanic and Atmospheric Administration 2024), well above the threshold for the California Gnatcatcher's survival.

The extent of habitat suitable for the California Gnatcatcher in the San Gorgonio Pass is relatively limited, in part because of the patchiness of stands of the California sagebrush, a preferred shrub for the species' foraging in Camp Pendleton, California (Clark et al. 2023). Historically, much of the lower slopes of the San Jacinto Mountains on the south side of the pass was covered with dense chaparral, which transitioned at lower elevations into coastal sage scrub dominated by California sagebrush, and then alluvial wash vegetation at the flats, and finally desert scrub to the east (Grinnell and Swarth 1913). As stated by Grinnell and Swarth (p. 316), "[Cabazon] is about at the point where the Pacific flora and fauna gives place to desert species." In recent decades, however, fires in the San Gorgonio Pass have been frequent and extensive, and include the Poppet Fire of 1968, the Cabazon Fire of 1977, the Banning Fire of 1983, a (second) Cabazon Fire of 1985, the Peach Fire of 1988, an unnamed fire in 1989, a (second) Peach Fire in 1995, the Seminole Fire of 1995, the Esperanza Fire of 2006, and the Silver Fire of 2013 (Anderson et al. 2021). The long-term persistence of scrub and chaparral vegetation in the face of such frequent fires is uncertain. In other regions of Riverside

County, frequent fires have contributed to conversion of scrub habitats to grasslands (Minnich and Dezzani 1998), habitats completely unsuitable to any of the gnatcatchers.

The San Gorgonio Pass is also the only location within the U.S. known to support the California Gnatcatcher outside of cismontane southern California, that is, in a watershed not leading to the Pacific Ocean. This California Gnatcatcher population inhabits habitat types distinct from the rest of its U.S. range: desert-edge scrub and wash vegetation also inhabited by the Black-tailed Gnatcatcher. Climate change is predicted to shift rainfall patterns in California, with increased heating and longer droughts reshaping vegetation patterns (Thorne et al. 2016). Therefore, conserving a population of the California Gnatcatcher at the northeastern edge of its range may allow for adaptations to selective pressures in a more arid landscape than the species currently inhabits elsewhere in the U.S.

The San Gorgonio Pass also supports several other birds of conservation concern. At least in the past LeConte's Thrasher (*Toxostoma lecontei*) occurred west to Banning (Gilman 1904, Swarth 2018) but may now be extirpated throughout the pass. The Least Bell's Vireo (*Vireo bellii pusillus*), which was historically common (Grinnell and Swarth 1913), and the Summer Tanager (*Piranga rubra*), a more recent colonist (Unitt 2008), occur in the few patches of riparian trees.

Rojas et al. (2022) analyzed southern California landscapes and found that portions of the San Gorgonio Pass could serve as potential refugia from various anthropogenic stressors, including climate change. The elevation gradients, interplay of desert and coastal climate regimes, and mosaic of habitats suggest the San Gorgonio Pass can play an important role in future conservation in the region, including for the California and Black-tailed Gnatcatchers.

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PHENOLOGY OF THE FIRST REPORTED CASE OF SAME-SEASON NEST REUSE IN ANNA'S HUMMINGBIRD

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ABSTRACT: Natural history observations of rare events can provide invaluable data about the range of variation in a trait or behavior. In birds, these fortuitous observations can help supplement scientific understanding of the timing and location of nesting behavior, events which are often difficult to observe. Reuse of cup nests is thought to be rare, but incidental reports document nest reuse both within and across breeding seasons. A chance instance of a female Anna's Hummingbird (*Calypte anna*) initiating a nest on our balcony in California was an opportunity to make detailed observations of nesting phenology with photos and videos. After successful fledging of this first nest, the same female immediately initiated a second nesting attempt in the same nest. To our knowledge, this is the first documented case of a female Anna's Hummingbird reusing a nest in the same season, and only the second case confirmed through direct observations in any hummingbird species.

An important decision birds must make is when and where to build their nests. In hummingbirds, the phenology of breeding and nesting is associated with the availability of nectar resources (McKinney et al. 2012). Multiple nesting attempts within a single breeding season are common, with later nests often being built near the first because nectar sources are nearby (Baltosser 1989). Within a single breeding season or across breeding seasons, female hummingbirds have been observed building an entirely new nest in the same area (Stiles 1973, Calder et al. 1983, Scarfe and Finlay 2001), reusing an old nest built by a different female (Barnard and Campbell 2007, Ward et al. 2021, Musschenga et al. 2022), or building a new nest atop an old nest (Bendire 1895, Triana and Sandoval 2011).

Reuse of cup nests is thought to occur infrequently. Use and weathering degrade the nests' structural integrity, making them challenging to reuse (Hansell 2000). Nest reuse may also incur fitness costs; for example, parasites from previous use of a nest may decrease the survival of later nestlings (Barclay 1988, Tomás et al. 2007). However, reuse of a nest may provide an energetic benefit by allowing earlier or additional nesting attempts in species such as hummingbirds, in which females perform all aspects of nest construction, incubation, and offspring care (Cockburn 2006).

Anna's Hummingbirds (*Calypte anna*) build nests and lay their two-egg clutch soon after the November–January winter rains (Clark and Russell 2020). Intensive natural history observations have provided important insights into the phenology of their breeding and nesting behavior (e.g., Kelly 1955, Legg and Pitelka 1956, Stiles 1973). We present detailed observations on a seemingly rare event in hummingbirds: within-season nest reuse by the same female. An Anna's Hummingbird nesting on our second-story balcony provided an opportunity for detailed observations of nest construction and

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nestling development. Days after successful fledging of her first brood, the same female laid a second clutch in the same nest. Here, we add to the rich record documenting Anna's Hummingbird nesting behavior by providing detailed photos, videos, and observations of a rare occurrence of nest reuse. In addition, we summarize our observations of nesting phenology, nest construction, and nestling development.

OBSERVATIONS

On 20 January 2023, we observed a female Anna's Hummingbird inspecting an unused metal hook on our second-story balcony in the College Terrace neighborhood of Palo Alto, California (37° 25′ 22″ N, 122° 09′ 02″ W). The hook was located underneath the balcony awning and was protected from the elements. By 22 January 2023 it was clear that the female was beginning to build a nest on the hook. The nearness of the nest (just beyond our sliding glass doors) allowed us to observe nesting phenology in detail (Table 1; Figure 1). All observations were made without disturbing the female or nestlings. Photos and videos were taken with an iPhone 15 Pro or Nikon D60.

First Nesting Attempt

From 22 January to 30 January, we observed the female build her nest with moss, plant material, spider webs, and small feathers (Figure S1 in the file Aguillon_Siegmund_supplement.pdf at https://doi.org/10.5061/dryad.rxwdbrvr2). We include several videos showing the stereotyped behaviors she used to build and shape the nest throughout this process (Files S1–S3 at https://doi.org/10.5061/dryad.rxwdbrvr2). While building, she often sat inside the cup, running her head and bill around the outside. She laid the first egg on 30 January and the second two days later on 1 February between 07:49 (when the nest contained 1 egg) and 08:31 (when it contained 2). We recorded her on the nest at 08:17 making undulating body movements, which we believe was her laying the second egg (File S4). Thus it was 12 days from her first inspection of the site to a full clutch of two eggs. We observed her on the nest at 20:58 on 30 January and believe she incubated her first egg overnight. She did not begin incubating during the day, however, until after laying the second egg. During the early stages of incubation, she continued nest-building behaviors as before (e.g., File S5), including building up the sides of the cup to be more vertical and adorning the outside of the nest with light green lichen (Figure S2).

Visible shadows appeared on the eggs by 14 February and became more pronounced over the following three days (Figure S3). Both nestlings hatched within a 26-hour period between 08:35 on 17 February and 10:12 on 18 February. Egg shells remained in the nest on the morning of 18 February but were absent by the following day. Although we cannot calculate the exact length of the incubation period, it was 19–20 days for the first egg and 18–19 days for the second egg.

Both nestlings fledged on 14 March (25–26 days after hatching), the first before 11:00 and the second between 16:10 and 16:16. Additional detailed observational notes on the behaviors of the female and the nestling that remained in the nest on this day are included in Text S1 at doi.org/10.5061/

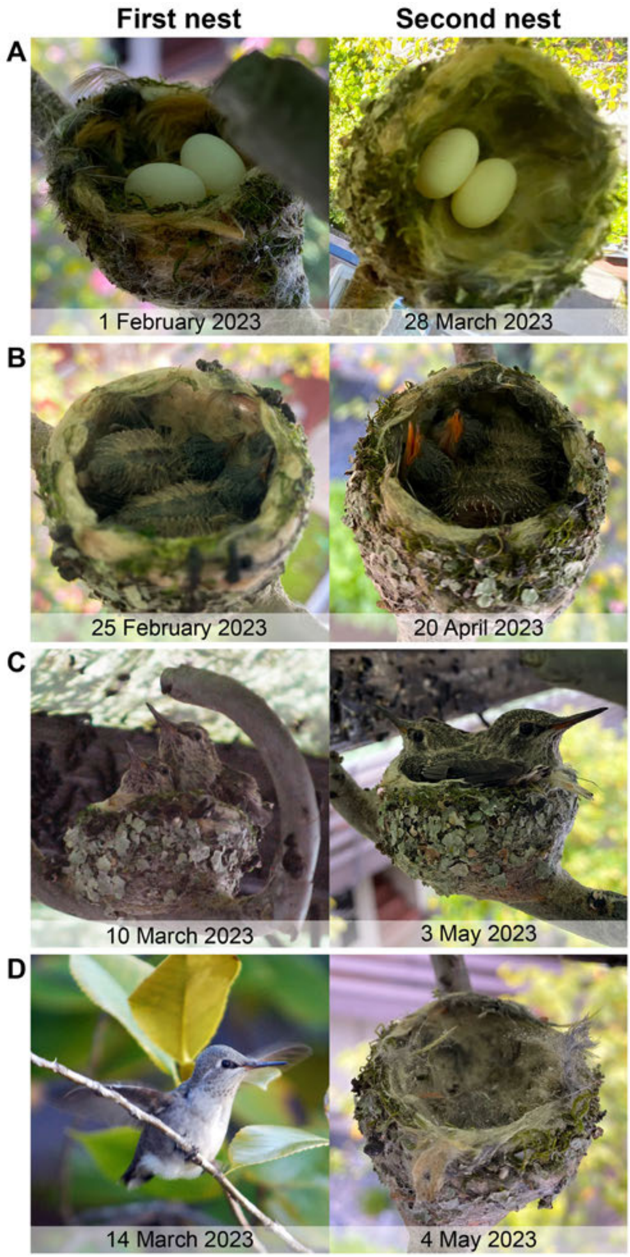

FIGURE 1. Various stages of development of the first and second broods of a female Anna's Hummingbird reusing a nest in Palo Alto, California, in 2023.

Table 1 Phenology of an Anna's Hummingbird Reusing a Nest in Palo Alto, California, in 2023

Event	Date	Details
First attempt		
Nest-site selection	20 Jan	Female inspects nest site.
Initiation of nest building	22 Jan	See Figure S1 and Files S1–S3 at https://doi.org/10.5061/dryad.rxwdbrvr2.
Laying of first egg	30 Jan	By 17:22; female incubates overnight.
Laying of second egg	1 Feb	Between 07:49 and 08:31, likely at 08:17 (see File S4).
Hatching	17–18 Feb	Both nestlings hatch between 08:35 on 17 Feb and 10:12 on 18 Feb.
Fledging	14 Mar	First nestling fledges by 11:00, while the second stays in the edge of the nest. Second nestling fledges around 16:16.
Last sighting	16 Mar	Both fledglings remain in nearby shrubbery being fed by the female (Figure S4).
Second attempt		
Female returns	17 Mar	Female is observed sitting in the nest and performing nest-building behaviors at 16:00.
Laying of second egg	28 Mar	Two eggs found in the nest at 11:11.
Hatching	11–13 Apr	First nestling hatches between 08:20 on 11 Apr and 08:08 on 12 Apr. Second nestling hatches between 17:27 on 12 Apr and 08:15 on 13 Apr.
Depredation of first nestling	3 May	One nestling goes missing from the nest between 07:30 and 17:51. Female continues to return for remaining nestling.
Depredation of second nestling	4 May	Second nestling goes missing from the nest between 07:45 and 08:15. At 08:37 and again at 08:51 the female returns to the nest looking for the nestling.

dryad.rxwdbrvr2. Over the following two days, the two nestlings perched in nearby vegetation (largely still, though sometimes beating their wings), and were regularly fed by the female (Figure S4). When the female returned to the area, the nestlings gave a high-pitched "seet" note to indicate their location, and she flew over to feed them. We did not see the fledglings again after 16 March.

Second Nesting Attempt

On 17 March at 16:00, and for the next 11 days, we observed the female return to sit in the nest for brief periods and perform various nest-building behaviors. Abruptly on 28 March at 11:11, we observed her sitting in the nest for an extended period during a rainstorm. Upon her departure, we noted two eggs in the nest. Because we were not expecting a second clutch, we do not have exact timing of when the first egg was laid. However, the abrupt change in behavior from nest building to incubating on 28 March suggests the second egg was laid on that same morning. We believe the same female laid both clutches for two reasons. First, the nest-building behavior for the second clutch began just a day after our last sighting of the female with her fledglings. As we never observed other female hummingbirds nearby during the entirety of the first nesting attempt, it seems unlikely that a new female could have discovered the empty nest so quickly. Second, the pattern of iridescent feathers visible on the female's throat appeared remarkably similar to those of the earlier female when observed from a similar angle (Figure 2, S5,

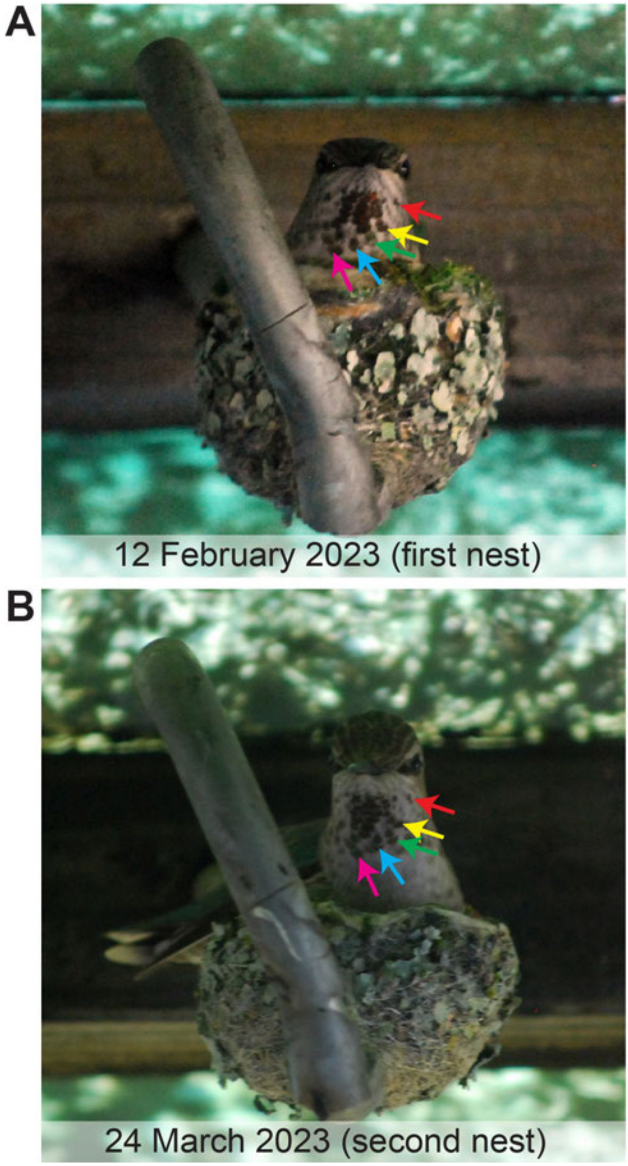

FIGURE 2. A, female Anna's Hummingbird incubating during an initial nesting attempt in Palo Alto, California. B, view from a comparable angle of the female incubating during the second use of this nest. Similar patterns in the iridescent feathers on the throat suggest this is the same individual in both nesting attempts. Colored arrows indicate identifiable feathers in both photos. For the original photos, see Figures S5 and S6 at https://doi.org/10.5061/dryad.rxwdbrvr2.

and S6). Unique throat markings have been used previously to confirm nest reuse in the same season in other hummingbird species (Ward et al. 2021).

Visible shadows appeared on the eggs by 8 April, and the first nestling hatched sometime between 08:20 on 11 April and 08:08 on 12 April. Egg shells remained in the nest on the morning of 12 April but were removed that afternoon, which suggests the egg likely hatched that day. The second nestling hatched between 17:27 on 12 April and 08:15 on 13 April. Only small eggshell shards remained by the following day, suggesting the female removed them rapidly after the nestlings hatched. Although we cannot calculate the exact length of the incubation period of the second clutch, it could have been as short as 16 days (if the first egg was laid one day before the second and hatched first) and as long as 19 days (if the first egg was laid two days before the second and hatched second).

Both nestlings disappeared from the nest in early May: the first between 07:30 and 17:51 on 3 May, the second between 07:45 and 08:15 on 4 May. After the first nestling vanished, the female returned to feed the nestling that remained in the nest. Despite searching the area, we did not find evidence that the nestlings fledged or fell from the nest and instead believe they were depredated. This seems supported by the female returning twice (at 08:37 and again at 08:51) looking for the second remaining nestling in the nest after it disappeared.

Nestling Development

For the first brood, we were able to observe the nestlings most days from 17 to 28 February (days ~1–11) and from 8 to 15 March (days ~19–26). For the second brood, we were able to observe the nestlings most days from 12 April to 3 May (days ~1–21). Both sets of nestlings reached developmental milestones on a comparable timeline.

At hatching, both sets of nestlings were brown to black on their dorsal side; when we observed them partially turned in the nest it appeared that they were pink on their ventral side. Bill color was yellow to yellow-orange. The nestlings had a paired row of downy feathers, neossoptiles, on their dorsal side (Figure 1B). By days 3–4, the nestlings were a more consistent dark color on their dorsal side, and after 7–8 days of development, the bill had started to develop dark patches and feather tracts were visible dorsally and on the head. Contour feathers started to emerge from dorsal feather sheaths by day 9 and from the head on day 11. In the second brood, feathers emerged progressively from the base of the head toward the bill over the next three days. By day 13–15, pin feathers of the primaries and secondaries were growing, and these feathers had started to emerge from their sheaths by day 18 (Figure 1C). In both sets of nestlings, on day 21, feather sheaths were still visible at the base of the bill, and some primaries and secondaries had not yet completely emerged. The second brood disappeared on this day.

In the first nest, we observed the nestlings preening, flapping their wings, and being fed by the female on day 22. By day 23, the nestlings were exploring their nest, including perching on the nest's edge. These behaviors continued in the afternoon on day 24, until shortly before the first nestling fledged. On day 25, we observed the remaining nestling frequently and identified the following behaviors: preening, scratching itself with its feet, defecating, calling with short chirps, beating its wings singly or with sustained wingbeats while in the nest, beating wings to hover just above the nest, perching on the edge of the nest, and actively looking around. At one point, a wind gust pushed the nestling from the nest edge to the bottom of the hook on which the nest was built, and the nestling swung itself back into the nest. Nestlings from the first brood fledged with wing feathers incompletely emerged from sheaths (Figure 1D).

DISCUSSION

To the best of our knowledge, reuse of hummingbird nests within the same season has been reported rarely: it has been confirmed once through repeated observations in the Black-chinned Hummingbird (*Archilochus alexandri*) in Texas (Ward et al. 2021) and potentially once in the Swallow-tailed Hummingbird (*Eupetomena macroura*) in Brazil, identified through community-science observations (Turella et al. 2022). However, reuse of nests—within and across seasons—occurs commonly in Allen's Hummingbird (*Selasphorus sasin*), which regularly constructs new nests on top of old nests (Clark and Mitchell 2020).

Natural history notes such as ours have contributed substantially to the current knowledge about the phenology of Anna's Hummingbird's nesting (e.g., Kelly 1955), though more systematic studies have been essential to generalizing individual observations (e.g., Stiles 1973). Other observers have estimated stages of nesting phenology as follows: nest building for 3 days to 1 month, incubation for 14 to 19 days, and nestling development for 18 to 30 days (reviewed in Clark and Russell 2020). Kelly (1955) described stages of nesting in Alameda, California: nest building took 15 days, eggs were laid 1 and 3 days after the nest was completed, eggs hatched after ~16 days, and nestlings fledged at 25 or 26 days. Legg and Pitelka (1956) studied Anna's Hummingbirds near Santa Cruz, California, from 1953 to 1955 and reported nest building taking from 3 days to a month and egg laying over 2 days. Stiles (1973) observed nesting Anna's Hummingbirds near Los Angeles from 1966 to 1970 and estimated incubation to last 14–19 days, nestling development 18–23 days. Our observations agree with these times, with initial nest building taking about 10 days (though it continued after eggs were laid), eggs hatching after ~16–20 days, and nestlings developing for 24 or 25 days before fledging. Using our detailed observations, we could additionally pinpoint some of these key events to specific times of day. For instance, the second egg in the first nest was laid within the short interval between 07:49 and 08:31 (likely at 08:17), and nestlings from the first nest hatched within a 26-hour period, with the second nestling hatching between 08:35 and 10:12. Moreover, our photography allowed us to describe key aspects of the timing of the nestlings' development.

Several factors could have contributed to this female Anna's Hummingbird reusing a nest. The nest we observed was located in a suburban neighborhood with gardens, ornamental plants, and street trees that may have provided reliable floral resources (though we do not have observations of nectar feeding). California also experienced a historically high level of precipitation in the winter of 2022–2023 (particularly in central and northern California; DeFlorio et al. 2024), which may have increased both floral and insect resource availability during the breeding season we observed. Anna's Hummingbirds often renest near previous nests if flowers in bloom during the first nesting attempt remain available (Stiles 1973), suggesting the high levels of precipitation could have aided the rapid initiation of a second clutch. The awning over the nest protected the female and her nestlings from rain, likely reducing structural degradation of the nesting material. Observations of nest reuse by Black-chinned Hummingbirds in a hardware store suggested that females had a high frequency of nest reuse across seasons after adding minimal new material in part because nests located inside the store were protected from the elements and remained intact (Ward et al. 2021). Similarly, Scintillant Hummingbirds (*Selasphorus scintilla*) built nests on top of each other across seasons on a protected porch (Triana and Sandoval 2011). Intriguingly, ours is the only other confirmed record of a single female reusing the same nest within the same season.

Despite the handful of observations of nest reuse across seasons or building on top of older nests, hummingbirds reuse nests infrequently. For example, Legg and Pitelka (1956) did not report nest reuse or nests built on top of one another in a study of 44 Anna's Hummingbird nests. Stiles (1973) reported that female Anna's Hummingbirds returned to perches regularly and often renested near the first nest, but did not mention reuse of nests.

Nest reuse can incur a variety of costs that likely could make this behavior uncommon. Besides the nest's structural integrity, the persistence of parasites, such as feather mites (Godoy et al. 2013), from previous nesting attempts (Barclay 1988, Tomás et al. 2007) and potential for predation (Otterbeck et al. 2019) are also important factors. If a predator discovers a nest, it may be more likely to prey upon subsequent nests in the same location. Although we observed just a single instance of nest reuse, it is worth noting that the first brood fledged, while the second was depredated. Predation of hummingbird eggs and nestlings is common (Stiles 1973, Baltosser 1986), with avian predators like the California Scrub-Jay (*Aphelocoma californica*) commonly depredating Anna's Hummingbird nests (Stiles 1982).

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CHANGES IN BREEDING BIRD ABUNDANCE AFTER THE KINCADE FIRE, SONOMA COUNTY, CALIFORNIA

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ABSTRACT: Birds' responses to wildfire have been well studied in southern California and the Sierra Nevada, but less attention has been paid to central and northern coastal California, a region with frequent high-intensity fires. Using a combination of data from a structured point-count survey and incidental community-science data (eBird.org), we compare bird species' abundance three years before and after the Kincade Fire, which burned 314.6 km^2, including along Pine Flat Road in Sonoma County, California, in October 2019. The point-count protocol consisted of a 5-minute count at 16 points repeated three times per season in April and May for three years both before and after the fire (except for just a single survey in 2016). Of 42 species modeled, 10 decreased in abundance following the fire, most notably the Band-tailed Pigeon (*Patagioenas fasciata*; 99% by both methods). The Western Meadowlark (*Sturnella neglecta*) colonized, and two, the Red-winged Blackbird (*Agelaius phoeniceus*) and Steller's Jay (*Cyanocitta stelleri*), increased according to both methods. As found in many studies of birds' response to fire, the Lazuli Bunting (*Passerina amoena*) increased sharply, though this was attested by the point counts only. For two species, the Bushtit (*Psaltriparus minimus*) and California Thrasher (*Toxostoma redivivum*), the trend per eBird data was a decline whereas the trend per point-count data was an increase. Trends in the abundances of the remaining 27 species were only weakly related (21 species) or unrelated (5 species) to the fire.

California has a history of frequent fires, resulting in many habitats and communities adapted to or dependent upon fire (Vogl 1973, Harvey et. al. 1980, Keeley 1987, Ostertag et al. 2023). Climate change, in conjunction with a legacy of fire suppression, is predicted to increase the number, size, types, and intensity of fires in the state (Williams et al. 2019, Schweizer et al. 2020, Keeley and Syphard 2021, Li and Banerjee 2021). From direct mortality to habitat alteration, fire affects wildlife in both negative and positive ways (Whelan 1995), depending on the species in question and type and severity of the fire (Fontaine and Kennedy 2012).

Birds' exceptional mobility allows them to respond quickly to disturbances like wildfires, making birds a convenient taxonomic group for assessing changes in habitat (Gregory and van Strien 2010). In landscapes that burn regularly, the availability of habitat for various bird species may be determined in part by the frequency and nature of recent fires (Fontaine et al. 2009), with abundances of some species peaking within a certain range of time post-fire (Hutto et al. 2015). Without high-intensity fire, habitats suitable for some bird species may not be maintained (Hutto et al. 2015). Pyrodiversity, the spatial and temporal variation of fires (Martin and Sapsis 1992), however, does not necessarily correspond to avian community diversity. Community richness can respond differently to fire depending on factors such as habitat type (Jones and Tingley 2022), patch size (Steel et al. 2022), and fire severity (Calhoun et al. 2025). How a fire alters resource availability can also depend on other factors such as rainfall, which can influence how rapidly plant communities regenerate or resprout (Moreno et al. 2011, Nolan et al. 2021), as well as their longer-term growth rates (Hope et al. 2007, Meng et al. 2015, Thomson et al. 2021, Dikshit and Evans 2024).

Bird communities' responses to fire have received more attention in southern California (Lawrence 1966, Mendelsohn et al. 2008, Van Mantgem et al. 2015, Hargrove and Unitt 2018) and the Sierra Nevada (Bock and Lynch 1970, Bock et al. 1978, Fogg et al. 2016, Ray et al. 2025) than in the San Francisco Bay area. Though the responses to fire of many bird species found in the San Francisco Bay area have been studied elsewhere, widespread species can occupy habitats that vary regionally and may respond to wildfire differently (Stillman et al. 2025).

Community-science data from sources such as eBird.org (Sullivan et al. 2009), used in conjunction with data recorded by standardized methods, can help mitigate biases in scientific data, which are not immune to observer variability and taxonomic bias (Binley and Bennett 2023). While the lack of standardized effort in eBird data can complicate accounting for spatial bias (Callaghan et al. 2019, Johnston et al. 2019, Binley and Bennett 2023), eBird hotspots, which are static (though often vague) locations, represent local datasets valuable for trend estimation across years (La Sorte et al. 2024), especially in heavily birded areas (Callaghan and Gawlik 2015).

We used point-count data and eBird observations from 3 years before and 3 years after a large wildfire to understand the response of breeding birds' abundance across a variety of habitats. As the response to fire varies even within species (Fontaine and Kennedy 2012, Rainsford et al. 2021, Stillman et al. 2025), and habitats within the study area vary as well, we present post-fire trends for each species as a case study without testing against explicit predictions of which species we expected to respond positively or negatively to this fire.

METHODS

Study Area

Pine Flat Road is in northeastern Sonoma County, California, in an ecoregion (central California foothills and coastal mountains) with a history of frequent large fires of high intensity (Green et al. 2020, Li and Banerjee 2021, Ostertag et al. 2023). From an elevation of ~67 m, Pine Flat Road climbs 19 km through or along grassland, riparian woodland, oak woodland, mixed evergreen and hardwood woodland, chaparral, and stands of knobcone pine (*Pinus attenuata*), ending at an elevation of 962 m. This area supports some breeding birds that are scarcer at lower elevations and in more developed parts of Sonoma County, such as the Mountain Quail (*Oreortyx pictus*), Northern Pygmy-Owl (*Glaucidium gnoma*), California Thrasher (*Toxostoma redivivum*), Rufous-crowned Sparrow (*Aimophila ruficeps*), and Bell's Sparrow (*Artemisiospiza belli*). Three birds listed as California Bird Species of Special Concern (Shuford and Gardali 2008), the Olive-sided Flycatcher (*Contopus cooperi*), Purple Martin (*Progne subis*), and Grasshopper Sparrow (*Ammodramus savannarum*), breed near Pine Flat Road. In October 2019, the Kincade Fire burned approximately 314.6 km^2 (www.fire.ca.gov/incidents/2019/10/23/kincade-fire/), including most of the habitat along Pine Flat Road (Figure 1), at mixed severity. The fire's severity was high in some areas, especially among dense plant communities susceptible to high-intensity fire such as knobcone pine stands or chaparral (Greene et al. 2024), resulting in the death of most of the canopy. More trees survived the fire in habitats with an open understory (Lumpkin pers. obs.) such as oak woodlands, which are less likely to suffer extensive canopy damage (Green et al. 2020). The Kincade Fire overlapped substantially with the footprint of the Geysers Fire of 2004 (gis.data.ca.gov/datasets/CALFIRE-Forestry::california-fire-perimeters-all), to which the bird community's response was addressed by Kelly (2010).

Point-Count Surveys

Pre-fire, during April and May, 2016–2018, and post-fire, during May 2020–2022, Lumpkin made counts of 5 minutes each at 16 points along Pine Flat Road (Figure 1) for a total of 80 minutes per survey. The direct distances between points ranged from 641 to 1178 m. The transect began at the bottom of Pine Flat Road and spanned 18.2

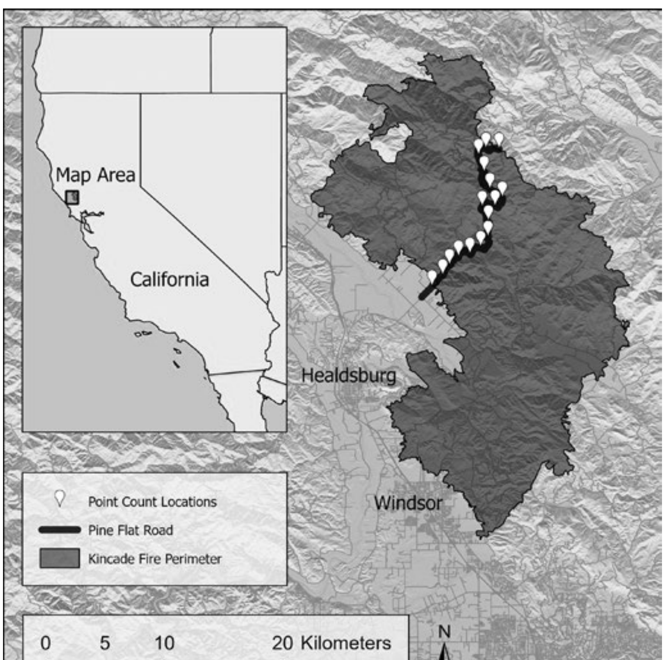

FIGURE 1. Footprint of the 2019 Kincade Fire with locations of point counts along Pine Flat Road, Sonoma Co., California.

km. Surveys began at 08:00 PST, with subsequent points counted at 15-minute intervals. Deviations from this schedule (due to construction or temporary noise interference) did not exceed 17 minutes, with surveys finished by 11:52. The route was run once in 2016, three times each in spring 2017, 2018, 2020, 2021, and 2022.

All birds detected by sight and/or sound within 400 m of each point were recorded and further categorized as being within or beyond 50 m of the point. As the road and the adjacent area that was mechanically cleared of vegetation post-fire made up a large portion of the circle of 50-m radius around each point, we included all detections within 400 m of each point. Because the transect traversed several habitats and had relatively few points per habitat, we summed the total individuals observed on each date across all points and used this value as the response variable in our analysis.

Data from eBird

Our sample of eBird data was restricted to the area around Pine Flat Road with reported locations ranging from 38.6757 to 38.7598° N and from 122.7441 to 122.8061° W. We referenced only checklists representing observations between 1 April and 1 June in the same years as our point-count surveys and only those marked as complete with abundance data (not just presence) for all species (Strimas-Mackey et al. 2023). Also, to parallel the point-count surveys, we used only checklists representing at least 80 minutes, initiated between 07:00 and 10:00 and ended between 08:00 and 12:00 (therefore not exceeding 300 minutes). When multiple suitable eBird checklists had been submitted per day (as occurred three times), we randomly selected one to avoid checklists that might have significant overlap. Checklists recorded by observers associated with the point-count surveys were excluded. We considered only checklists that indicated the "traveling" protocol, to avoid those more likely to represent efforts to find an individual bird or species (for which the "incidental" protocol might have been selected) or observations from one spot likely to represent a small portion of habitat types (for which the "stationary" protocol might have been selected).

Data Preparation

To account for how rainfall may have influenced trends in bird abundance, we calculated the prior year's rainfall by summing averaged monthly rainfall from the prior June through May estimated for the PRISM blocks (PRISM Climate Group, Oregon State University, prism.oregonstate.edu) covered by the study area. As Sonoma County receives most of its rain during the winter (www.weather.gov/wrh/climate?wfo=mtr), we concluded this would be more straightforward than using rainfall totals leading up to the date of a particular survey. Prior-year rainfall ranged from 0.4 to 1.86 m, being greatest in the year preceding 2017 surveys. The mean annual rainfall pre-fire (1.2 m) was double the mean annual rainfall post-fire (0.6 m).

To ensure species potentially undetected pre- or post-fire were included, as long as they were encountered at least a few times overall, we analyzed only those species encountered on at least 25% of survey dates both pre- and post-fire, and of which at least five had been detected on a single day. We considered only species suited to detection and analysis with point-count surveys (e.g., we omitted raptors, with home ranges large enough to overlap multiple points; see Ralph et al. 1993) that are expected to breed in the study area (per Burridge et al. 1995).

ANALYSIS

We treated each eBird checklist or point-count survey as a single instance of sampling of the bird community along the entire length of Pine Flat Road. Because Pine Flat Road is a dead-end road, the point count surveys and (we believe) the eBird checklists we included generally represent efforts spanning various habitats across a large portion of the road. Although we could have partitioned the point-count data by point to evaluate bird abundance at a finer spatial scale, our primary objective was to evaluate the degree of agreement in estimated response to the fire from the two independent sources (eBird and point counts), and we did not have a reliable way to apportion eBird checklists among the multiple sites to match subsets of the count points. We believe that the benefits of analyzing both datasets together, providing coefficients to compare the two approaches' abundance estimates, was a better fit for our objectives than analyzing the two datasets separately, even if different analysis methods might have been a better fit for each approach (e.g., N-mixture models for point counts per Goldstein and de Valpine 2022).

To estimate the total number of individuals per species encountered during a survey, either by point count or eBird, we used generalized linear models (GLM) with a Poisson error distribution. For all species, we constructed a candidate set of 12 models that included all additive combinations of year (to account for underlying trends related to factors we didn't measure), ordinal date (to account for intraseasonal variability in detection rates through the breeding season; Slagsvold 1977, Furnas and McGrann 2018), pre/post-fire (coded as a dummy variable set to 0 for 2016–2018 and 1 for 2020–2022), and prior year's rainfall. Because year and rainfall were correlated (Pearson correlation coefficient −0.61), we omitted models with both of these variables. This base candidate set also included the intercept-only model. For species detected on at least 25% of both kinds of surveys, we also wanted to evaluate the degree to which both overall estimated abundance and the estimated fire effect in the two datasets agreed. Therefore, for these species, we also included all the models described above plus an additive effect of dataset (eBird arbitrarily coded as the reference level), and the dataset × pre/post-fire interaction, for a total of 30 models for those species.

We evaluated the relative support for each model and for the individual predictor variables by comparing second-order values of Akaike's information criterion (AIC_c; Burnham and Anderson 2002). We considered the model with the lowest AIC_c value to be best supported and any models with AIC_c values within 2 units of the best model to be competitive with that top model (Burnham and Anderson 2002, Arnold 2010). Because our main interest was to assess evidence for a change in abundance following the fire from each type of survey, we calculated model-averaged estimates for each dataset at the average values of ordinal date and rainfall and transformed these predictions to percentage change relative to pre-fire modeled abundance. Model averaging by AIC_c weight adjusts each model's coefficients by the relative strength of AIC_c support for that model, so the resulting model-averaged estimates allow combining information from all models while accounting for differences in how well each model fits the data (Mazerolle 2023). For both the models' coefficients and model-averaged estimates, we evaluated the strength and importance of the effects of fire and type of survey by the direction and magnitude of the coefficient or prediction, the degree to which their 95% confidence intervals overlapped zero (Muff et al. 2022), and the degree of agreement between datasets. Good evidence for a species responding to the fire consisted of post-fire confidence intervals for model-averaged predictions not overlapping pre-fire estimates, as well as fire appearing as an informative parameter in the competitive models for the species. We regard support for effect of fire as limited where just one data source's model showed a response, or where post-fire abundance overlapped pre-fire values but fire appeared as a variable in competitive models.

For data management and analysis we used R version 4.4.0 (R Core Team 2021). We fitted generalized linear models with the function "glm" in the package "stats" and averaged the models' predictions by using the package "AICcmodavg" (Mazerolle 2023).

Point Count and eBird Survey Effort

We used data from 16 point-count surveys, of which 7 took place pre-fire and 9 post-fire. The survey's mean ordinal date post-fire was eight days later than pre-fire, because of the inclusion of two April surveys in 2017 and 2018 and surveys starting later than usual in 2020 during the covid-19 pandemic. We used data from 28 eBird checklists, 12 recorded pre-fire and 16 post-fire. The eBird checklists represented a mean observation time of 231.9 min (±standard deviation 50.8) and covered a reported average of 16.6 (±3.7) km of Pine Flat Road. Despite the lack of structured sampling effort, the eBird checklists' mean ordinal date pre-fire and post-fire differed by only 1.7 days.

RESULTS

We modeled abundance for 42 species, 31 of which were represented in the data from both types of surveys, 8 just in the point-count data, and 3 in just the eBird data. Fire appeared as an informative predictor in one or more competitive models for 35 species. The type of survey appeared as relevant factor for all 31 species modeled on the basis of both datasets. The interaction between fire and type of survey was informative for 20 species. (Article with appendices, available at https://journal.westernfieldornithologists.org/index.php/westernbirds/article/view/2027.) Year was relevant in one or more competitive models for 25 species, ordinal date for 24 species, and prior year's rainfall for 10 species (Appendix 2).

Our models based on the two datasets combined showed good support for decreased abundance post-fire of 10 species (Table 1) and increased abundance post-fire for only three, the Red-winged Blackbird (*Agelaius phoeniceus*), Steller's Jay (*Cyanocitta stelleri*), and Western Meadowlark (*Sturnella neglecta*). The Western Meadowlark, however, was not detected on point counts pre-fire, leading to a complete separation of data, so we derive confidence intervals for its post-fire abundance from post-fire data only and do not present coefficients for competitive models in Appendix 1. Among species with good evidence for change in abundance post-fire, average decreases were 9.9 individuals (−70.2%, range −99% [for the Band-tailed Pigeon] to −33%), while average increases were 7.2 (602%, range 142% to 1062% [for the Red-winged Blackbird], Table 2).

We found limited support for the fire's having an effect on 21 species (Appendix 2), even though fire appeared as an informative parameter in a competitive model for 16 of these (Appendix 1). For two species, the Bushtit (*Psaltriparus minimus*) and California Towhee (*Melozone crissalis*), the change in abundance estimated according to the two types of surveys was in opposite directions (Table 1). Six species, the Ash-throated Flycatcher (*Myiarchus cinerascens*), Bullock's Oriole (*Icterus bullockii*), Cassin's Vireo (*Vireo cassinii*), European Starling (*Sturnus vulgaris*), Pileated Woodpecker (*Dryocopus pileatus*), and Violet-green Swallow (*Tachycineta thalassina*), showed no evidence for fire effects.

DISCUSSION

Overall Patterns

We found good evidence of a change in abundance of breeding birds after the Kincade Fire (including concurrence between the point-count and eBird data) for 13 of the 42 species we evaluated. Among these, only three species increased while the other 10 decreased. For the remaining 29 species we found either limited evidence of change (21 species), no evidence of change (six species), or the evidence of the two datasets conflicted (two species).

Many of the species showing strong evidence for response to the Kincade Fire were those associated with habitat types either particularly resilient or susceptible to severe fire. For instance, species associated with open grasslands, which regrow quickly after a fire (Green et al. 2020), such as the Red-winged Blackbird (Yasukawa and Searcy 2020) and Western Meadowlark (Davis and Lanyon 2008), increased post-fire. Several species with preference for greater shrub cover declined. These include the Blue-gray Gnatcatcher (*Polioptila caerulea*, Kershner and Ellison 2012), Orange-crowned Warbler (*Leiothlypis celata*, Gilbert et al. 2020), and Wrentit (*Chamaea fasciata*, Geupel and Ballard 2023), consistent with greater mortality of the canopy in habitats with a closed canopy and shorter vegetation—a result also reported in other studies (Kelly 2010, Fontaine and Kennedy 2012). The sharp increase of the Lazuli Bunting in our point-count data matches increases of this species after fire observed in other studies (Mendelsohn et al. 2008, Kelly 2010, Fontaine and Kennedy 2012, Hargrove and Unitt 2018). Not all species associated with chaparral, however, decreased dramatically. For instance, our data for the California Thrasher provided only weak support for decline in response to this particular fire.

Bird species with broad distributions inhabiting multiple ecoregions can respond either positively or negatively to fires in different regions or habitat types (Stillman et al. 2025), the difference driven by factors such as how plants regenerate after wildfire (Rainsford et al. 2021). For some widespread, adaptable species, such as the Bewick's Wren (*Thryomanes bewickii*), Northern Flicker (*Colaptes auratus*), and Western Bluebird (*Sialia mexicana*), our modeled responses differed from those observed in other studies (Table 1). The habitats along Pine Flat Road occupied by these species might have responded to or recovered from the Kincade fire differently from habitats occupied by those birds in other studies elsewhere in their ranges.

The variety of vegetation alliances along Pine Flat Road offers another potential explanation for responses we observed differing from results of other studies. Species may respond positively to low-severity fire but nega-

Table 1 Comparison of Responses of Birds to the Kincade Fire (2019) with Those to the Geysers Fire (2004), also in Sonoma Co., California, and a Meta-Analysis of 41 Fires[a]

Species	Kincade Fire		Geysers Fire[b]	Meta-analysis[c]	
	Per point counts	Per eBird	Post-fire trend	High severity	Low/moderate severity
Steller's Jay *Cyanocitta stelleri*	increase	increase	increase	decrease	increase
Red-winged Blackbird *Agelaius phoenicus*	increase	increase	no change		
Western Meadowlark *Sturnella neglecta*	increase		no change		
Lazuli Bunting *Passerina amoena*	increase	no change	increase	increase	increase
Mountain Quail *Oreortyx pictus*	increase	no change	increase		
Bushtit *Psaltriparus minimus*	increase	decrease	no change		
California Towhee *Melozone crissalis*	increase	decrease	decrease		
Blue-gray Gnatcatcher *Polioptila caerulea*	decrease	decrease	decrease	no change	decrease
Wrentit *Chamaea fasciata*	decrease	decrease	decrease		
Orange-crowned Warbler *Leiothlypis celata*	decrease	decrease	no change	decrease	decrease
Band-tailed Pigeon *Patagioenas fasciata*	decrease	decrease	no change		
Bewick's Wren *Thryomanes bewickii*	decrease	decrease	no change	increase	no change
Black-headed Grosbeak *Pheucticus melanocephalus*	decrease	decrease	increase	decrease	increase
Acorn Woodpecker *Melanerpes formicivorus*	decrease	decrease	increase	decrease	no change
California Quail *Callipepla californica*	decrease	decrease	increase		
Purple Martin *Progne subis*	decrease	decrease	increase		
Western Warbling-Vireo *Vireo swainsoni*	no change	decrease	no change	decrease	decrease
Western Tanager *Piranga ludoviciana*		decrease	increase	decrease	increase
Dark-eyed Junco *Junco hyemalis*	no change	decrease	no change	decrease	increase
Western Bluebird *Sialia mexicana*	no change	decrease	no change	increase	increase
Northern Flicker *Colaptes auratus*	no change	decrease	increase	increase	increase

(*continued*)

Species	Kincade Fire		Geysers Fire[b]	Meta-analysis[c]	
	Per point counts	Per eBird	Post-fire trend	High severity	Low/moderate severity
House Finch *Haemorhous mexicanus*	no change	decrease	no change		
Lesser Goldfinch *Spinus psaltria*	no change	decrease	no change		
Rufous-crowned Sparrow *Aimophila ruficeps*	no change	decrease	no change		
American Robin *Turdus migratorius*		no change	increase	increase	increase
Mourning Dove *Zenaida macroura*	no change	no change	increase	increase	increase
Northern House Wren *Troglodytes aedon*	no change	no change	increase	increase	increase
White-breasted Nuthatch *Sitta carolinensis*	no change		increase		increase
Violet-green Swallow *Tachycineta thalassina*	no change	no change	increase	increase	decrease
Oak Titmouse *Baeolophus inornatus*	no change	no change	increase		
Bullock's Oriole *Icterus bullockii*	no change		increase		
California Scrub-Jay *Aphelocoma californica*	no change	no change	decrease		
Hutton's Vireo *Vireo huttoni*	no change		decrease		
Pileated Woodpecker *Dryocopus pileatus*	no change		no change	no change	increase
Spotted Towhee *Pipilo maculatus*	no change	no change	no change	decrease	increase
Ash-throated Flycatcher *Myiarchus cinerascens*	no change	no change	no change	decrease	decrease
Cassin's Vireo *Vireo cassinii*	no change		no change	decrease	decrease
Anna's Hummingbird *Calypte anna*	no change	no change	no change		
Western Flycatcher *Empidonax difficilis*	no change	no change	no change		
California Thrasher *Toxostoma redivivum*		no change	no change		
Chestnut-backed Chickadee *Poecile rufescens*	no change		no change		
European Starling *Sturnus vulgaris*	no change		no change		

[a]Lack of an entry indicates species was not modeled on the basis of the dataset specified.

[b]From Kelly (2010).

[c]From Fontaine and Kennedy (2012), analyzing responses to fire across fire-prone habitats in the contiguous United States.

Table 2 Percentage Changes in Estimated Abundance of Each Bird Species Modeled from Point-Count and eBird Data Recorded on Pine Flat Road, Sonoma Co., California, before (2016–2018) and after (2020–2022) the Kincade Fire[a]

	Point Counts			eBird		
Species	% change	Pre-fire abundance	Post-fire abundance	% change	Pre-fire abundance	Post-fire abundance
Band-tailed Pigeon	-99	25.9 [16.4, 41.1]	0.2 [0.1, 0.4]	-99	22.4 [12.3, 39.9]	0.1 [0.1, 0.3]
Wrentit	-84	28.2 [19.6, 39.9]	4.6 [2.8, 7.2]	-84	14.5 [9.4, 22]	2.3 [1.5, 3.5]
Bewick's Wren	-64	11.2 [6.8, 18.1]	4 [2.2, 7.2]	-93	7.6 [4.2, 13.4]	0.5 [0.3, 1.1]
Black-headed Grosbeak	-62	14.6 [10.1, 21.1]	5.6 [3.6, 8.5]	-88	8.9 [5.8, 13.5]	1.1 [0.6, 1.8]
Blue-gray Gnatcatcher	-62	8.4 [5.3, 12.8]	3.2 [1.8, 5.4]	-67	4.7 [2.8, 7.7]	1.6 [0.9, 2.6]
Purple Martin	-61	13.6 [9.1, 20.1]	5.3 [3.3, 8.4]	-73	10.7 [6.7, 16.7]	2.9 [1.7, 4.6]
Rufous-crowned Sparrow	-50	3.9 [1.9, 7.8]	1.9 [0.9, 4.1]	-79	3.1 [1.2, 7.5]	0.7 [0.3, 1.5]
Orange-crowned Warbler	-40	14.7 [11.6, 18.6]	8.9 [6.7, 11.7]	-67	7.4 [5.5, 9.8]	2.4 [1.6, 3.5]
Dark-eyed Junco	-35	5.3 [3.5, 7.9]	3.4 [2.2, 5.3]	-53	4.2 [2.5, 6.6]	2 [1.2, 3.1]
California Quail	-33	16.3 [12.1, 21.9]	10.9 [8, 14.8]	-67	15.7 [11.5, 21.4]	5.1 [3.8, 6.9]
Western Bluebird	-30	3 [1.4, 6.2]	2.1 [1, 4.2]	-87	7.1 [3.5, 14.1]	0.9 [0.4, 1.8]
Northern Flicker	-20	6.2 [4.3, 8.9]	4.9 [3.2, 7.4]	-43	3.6 [2.2, 5.8]	2 [1.2, 3.4]
Spotted Towhee	-19	13.1 [10.3, 16.6]	10.6 [8.2, 13.6]	-23	6 [4.5, 7.9]	4.6 [3.5, 6.1]
Hutton's Vireo	-18	2 [1.1, 3.4]	1.6 [0.8, 3]			
California Scrub-Jay	-17	15.4 [11.9, 19.8]	12.7 [9.6, 16.7]	-18	7.7 [5.8, 10.3]	6.4 [4.9, 8.2]
Oak Titmouse	-15	15.2 [10.4, 21.8]	13 [8.5, 19.3]	-18	2.9 [1.7, 4.6]	2.4 [1.5, 3.6]
Anna's Hummingbird	-12	7.5 [5.2, 10.7]	6.6 [4.5, 9.6]	-37	3.2 [1.9, 5.3]	2.1 [1.2, 3.4]
Violet-green Swallow	-12	4.7 [3.1, 6.9]	4.1 [2.7, 6.3]	-15	2.6 [1.6, 4]	2.2 [1.5, 3.3]
Acorn Woodpecker	-10	57.4 [51.5, 64.1]	51.5 [46.6, 57]	-56	23.2 [20.2, 26.7]	10.2 [8.7, 11.9]
European Starling	-8	4 [2.8, 5.7]	3.7 [2.5, 5.4]			
Western Flycatcher	-3	6.2 [4.2, 8.8]	6 [4, 8.7]	-7	2.2 [1.4, 3.3]	2 [1.3, 3]

(*continued*)

tively when fire kills much of the canopy, as with the Black-headed Grosbeak (Fontaine and Kennedy 2012), which decreased in abundance after the Kincade Fire. While the Kincade Fire would be classified as moderate under the criteria of the Fontaine and Kennedy study, those authors acknowledged an insufficiency of studies describing fires of mixed severity, which more accurately describes the Kincade Fire. The decrease we saw in the Black-headed Grosbeak might be explained by a preference for particular habitat types along Pine Flat Road that experienced high canopy mortality after the Kincade Fire.

While differing representation of habitat types may offer an explanation for the different responses to fire across different regions, the reasons for the differences between trends of birds observed after the Geysers Fire (Kelly 2010) and the Kincade Fire aren't

	Point Counts			eBird		
Species	% change	Pre-fire abundance	Post-fire abundance	% change	Pre-fire abundance	Post-fire abundance
Bullock's Oriole	2	2.1 [1.1, 3.8]	2.1 [1, 4.1]			
Ash-throated Flycatcher	3	3.6 [2.6, 5]	3.7 [2.7, 5.1]	2	2.7 [2, 3.7]	2.8 [2.1, 3.7]
Cassin's Vireo	7	2.8 [1.8, 4.4]	3 [1.9, 4.8]			
Pileated Woodpecker	7	2 [0.9, 4]	2.1 [1, 4.4]			
Northern House Wren	9	7.6 [5, 11.3]	8.2 [5.1, 12.8]	-20	3.3 [1.9, 5.5]	2.7 [1.5, 4.5]
Lesser Goldfinch	13	10.7 [8.3, 13.8]	12.1 [9.9, 14.8]	-67	7.4 [5.6, 9.6]	2.4 [1.8, 3.3]
Chestnut-backed Chickadee	18	3.1 [2, 4.9]	3.7 [2.4, 5.5]			
Mourning Dove	29	9 [6.3, 12.5]	11.5 [8.6, 15.4]	-17	3.6 [2.4, 5.3]	3 [2.1, 4.2]
White-breasted Nuthatch	38	2.3 [1.2, 4.2]	3.2 [1.8, 5.6]			
House Finch	48	2.3 [1, 5]	3.4 [1.6, 6.9]	-72	3.6 [1.7, 7.3]	1 [0.5, 2.1]
Western Warbling-Vireo	61	2.7 [1.4, 4.8]	4.3 [2.5, 7.3]	-75	3.5 [2, 6]	0.9 [0.4, 1.7]
Bushtit	65	4.1 [2.7, 6.2]	6.7 [4.8, 9.2]	-81	3.3 [2.2, 4.9]	0.6 [0.3, 1.2]
California Towhee	100	4.2 [2.6, 6.7]	8.5 [5.6, 12.6]	-38	5.9 [3.7, 9.1]	3.6 [2.4, 5.4]
Steller's Jay	143	4.1 [2.2, 7.4]	10.1 [5.1, 18.7]	142	1.6 [0.7, 3.2]	3.9 [2.2, 6.8]
Mountain Quail	149	2 [1, 3.6]	4.9 [3.3, 7.3]	-19	2.9 [2, 4.4]	2.4 [1.6, 3.5]
Lazuli Bunting	684	1.6 [0.8, 3.2]	12.9 [8.1, 19.9]	18	2.6 [1.5, 4.6]	3.1 [1.9, 5]
Red-winged Blackbird	1,109	1.5 [0.8, 2.7]	17.7 [10.8, 28.5]	1,016	0.4 [0.2, 0.9]	4.8 [2.9, 7.9]
Western Meadowlark[b]		0	3.5 [2.4, 5.1]			
Western Tanager				-97	7 [2.6, 18.6]	0.2 [0.1, 0.6]
American Robin				-38	2.9 [1.5, 5]	1.8 [1, 3.1]
California Thrasher				-37	2.7 [1.5, 4.6]	1.7 [1, 2.9]

[a]Numbers in parentheses specify confidence intervals.

[b]To generate valid confidence intervals for the Western Meadowlark, because of a complete separation of data, we estimated that species' abundance from post-fire detections only.

obvious. The footprints of these fires overlapped, and both would be appropriately classified as of mixed severity (MTBS.gov). The spatial distribution of bird-counting effort after the Geysers fire differed from ours, likely biasing surveyed habitat types and sampling of canopy mortality in a way that might have changed how the local bird community appeared to respond to each. Regardless of the mechanism, this difference suggests caution is warranted in forecasting how birds will respond to fire across their ranges.

Differences between Results from Point Counts and eBird

We found generally good agreement in estimated fire effects between our point counts and eBird data, with the direction of the fire's effect agreeing for about twice as many species for which it disagreed. Birds' abundance, however, was consistently lower when estimated from eBird data than from point-count data (mean across all years of eBird data was 55.6% of point-count abundance, range 18.7–158.5%; see mostly positive dataset coefficients in Appendix 1). For the 11 species for which the fire's effects according to the two datasets differed, the post-fire change was generally less negative when estimated from the point-count data than from the eBird data (Table 2). For both species according to which the fire's effects ran in opposite directions (the Bushtit and California Towhee), the point-count data implied a positive effect but the eBird data implied a negative effect.

The consistency of this difference across species associated with a variety of habitats and belonging to a variety of guilds suggests no obvious single ecological explanation for its cause. Rather, we suspect that some unaccounted-for difference in sampling style between the two field methods could be responsible for the differences in estimated abundance and fire effects. Point-count surveys entailed stopping at 16 locations along Pine Flat Road. It's likely that eBird users averaged fewer stops, resulting in fewer individuals being recorded per visit, thus implying lower overall abundance. For species such as the Lazuli Bunting, which was evenly distributed along Pine Flat Road after the fire (Lumpkin pers. obs.), eBird users making fewer stops and not walking long distances along the road would likely encounter proportionally fewer individuals. Additionally, some eBird contributors may have been focused on seeing particular species (Rosenblatt et al. 2022) or searching certain habitats, potentially obscuring declines of species concentrated in those habitats (which we suspect may have been the case with the California Thrasher). These birders may have consequently sampled the range of habitats along Pine Flat Road less evenly, thus depressing the total number of birds encountered within and across species.

Other Factors

Birds may be more easily detected in burned habitats where the vegetation is sparse (Einoder et al. 2018, Lee et al. 2023). Post-fire increases of flocking species (as we observed in the point-count data for the Bushtit) may be due in part to increased detectability of more individuals in each flock. Nevertheless, we opted to keep flocking species in our analysis because we were interested in evaluating changes to the full bird community. The broader landscape may also have influenced bird populations both pre- and post-fire. Pine Flat Road meets the eastern edge of the Kincade Fire's footprint (Figure 1), beyond which unburned chaparral is likely to have served as refuge for species such as the California Thrasher associated with that habitat.

As well-studied as birds and fire seem to be, inconsistent agreement between some of our results and those other studies, particularly of the overlapping Geysers Fire, highlights the importance of continued evaluation of local ecological consequences of fire. Effective stewardship of habitat for biodiversity and resilience calls for particular attention to factors influencing a fire's behavior.

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NOTES

LEAST BELL'S VIREO NESTS IN THE SIERRA SAN PEDRO MÁRTIR, BAJA CALIFORNIA

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ABSTRACT: Surveys for the Least Bell's Vireo (*Vireo bellii pusillus*) during 18 field trips to four localities near the west base of the Sierra San Pedro Mártir in Baja California, Mexico, yielded detection of 42 individual vireos and 41 nests, 15 in various stages of use and 26 old. Arroyo willow (*Salix lasiolepis*) was the plant most frequently found supporting these nests, and the big sagebrush (*Artemisia tridentata*) was second, even though it has not been reported previously as a site of Least Bell's Vireo nests. Other plants newly identified as supporting nests of this vireo were the single-whorl burrobrush (*Ambrosia monogyra*), hoary coffeeberry (*Frangula californica tomentella*), and holly-leaf cherry (*Prunus ilicifolia*). Rancho Meling, where we found the most vireos, has long been known as a site for the species, but ranchos El Potrero and La Costilla represent newly identified sites. Only one of the 15 active nests had been parasitized by the Brown-headed Cowbird (*Molothrus ater).*

The Least Bell's Vireo (*Vireo bellii pusillus*) is a migratory subspecies distributed from California, USA, to Baja California Sur, Mexico (Kus et al. 2022). In the United States, various aspects of its breeding ecology have been well documented since it was listed as endangered by the U.S. Fish and Wildlife Service (USFWS) in 1986, and conservation measures have been implemented to counteract the main threats: loss of riparian habitat used for breeding and brood parasitism by the Brown-headed Cowbird (*Molothrus ater*) (USFWS 2006). Although the subspecies is listed under the same category in Mexico by NOM-059-SEMARNAT (DOF 2010) and similar threats have been noted (Unitt et al. 1995, USFWS 1998), information on its ecology and demography in Mexico remains scarce. Opportunistic observations in Mexico augment the identification of sites of breeding, stops in migration, and wintering along the Baja California peninsula (e.g., Wilbur 1980, Erickson et al. 2008).

During two Least Bell's Vireo workshops in June and July 2024, in addition to occasional field surveys in April and May 2025, we visited four localities in the western foothills of the Sierra San Pedro Mártir, Baja California, Mexico: Rancho Meling (30.972°, −115.744°, elevation 630 m above sea level), Rancho La Costilla (31.042°, −115.731°, 920 m), and Rancho El Molino (30.943°, −115.762°, 570 m), all within the San Telmo watershed, and Rancho El Potrero (30.918°, −115.649°, 900 m) within the Santo Domingo watershed. In the course of 18 visits, we searched for Least Bell's Vireo nests along streams with abundant willows (*Salix* spp.), one of the plants in which the subspecies nests most frequently (Kus et al. 2022), recording birds observed or heard near these sites. Here we summarize our observations of nests of the Least Bell's Vireo in the Sierra San Pedro Mártir, expanding the knowledge of its reproductive ecology in Baja California.

We located 41 nests at three of the four localities surveyed (Table 1). During 12 visits to Rancho Meling, we covered a 2-km stretch of stream and recorded 33 nests.

Table 1 Number of Least Bell's Vireos and Nests Detected in the Sierra San Pedro Mártir, Baja California

Location	Site visits	Least Bell's Vireos detected	Nests located
Rancho Meling	12	29	33
Rancho La Costilla	2	3	4
Rancho El Molino	1	6	0
Rancho El Potrero	3	4	4

Figure 1. Least Bell's Vireo nest parasitized by a Brown-headed Cowbird, located on 6 June 2024 in an arroyo willow (*Salix lasiolepis*) at Rancho Meling, Sierra San Pedro Mártir, Baja California. Note the vireo's four smaller white eggs with a few brown spots and the noticeably larger, heavily mottled cowbird egg.

Photo by Bill Webb

Figure 2. Least Bell's Vireo nest containing four unusual eggs, located on 6 June 2024 in a big sagebrush (*Artemisia tridentata*) at Rancho Meling, Sierra San Pedro Mártir, Baja California. Note the four discolored eggs with a distinct air cell visible at the top.

Photo by Angela Tamayo

These included six nests with four vireo eggs, including one parasitized by a Brown-headed Cowbird, two nests with one vireo egg, one nest with four nestlings being fed by both parents, one nest still under construction, one completed but empty nest, and 22 old nests that were likely built in previous years. The parasitized nest was built in an arroyo willow (*Salix lasiolepis*) at 2 m in height and 0.5 m from the center of the plant; it contained four vireo eggs and one cowbird egg (Figure 1), and both parents were observed incubating the eggs. Additionally, we detected a nest built in a big sagebrush (*Artemisia tridentata*) that contained four light, discolored eggs with a distinct air cell visible at the top (Figure 2). During our first visit on 6 June 2024, both parents visited the nest. On 7 July 2024, however, the nest was empty and we found no remains of eggshells. Because the air cell normally draws down during development, these eggs may have been infertile or may not have developed after fertilization (L. Allen pers. comm.). On 9 June 2024 we encountered a similar situation in a nest located in a hoary coffeeberry (*Frangula californica tomentella*) in which four eggs were observed during our first visit to the site and one month later the nest had been abandoned and contained only three infertile eggs.

While locating nests at Rancho Meling, we recorded a total of 24 adults (19 singing males and five females) and five juveniles. Over two surveys at Rancho La

FIGURE 3. Least Bell's Vireo nest visited by an adult, located in June 2024 in a big sagebrush (*Artemisia tridentata)* at Rancho Meling, Sierra San Pedro Mártir, Baja California.

Photo by Dylan Zubieta

Costilla, we covered a 2-km stretch of stream and located four nests: one under construction, one completed but empty nest that a pair visited repeatedly, and two old nests. We detected three adults near the nests (two singing males and one female) and observed one male using bark from a coast live oak (*Quercus agrifolia* var. *agrifolia*) as nesting material. At Rancho El Molino, we searched a 0.5-km stretch of stream during a brief visit on 7 May 2025. We did not find any nests, but detected six vireos (including singing males). We visited Rancho El Potrero on three occasions and searched a 1-km stretch of stream. We found four nests: two under construction and two old nests, one of which was in a holly-leaf cherry (*Prunus ilicifolia*) growing on a rocky outcrop, 4 m above the stream. During our survey, we detected a total of four singing males.

The 41 nests were built in nine plant species: 25 in arroyo willow (61%), seven in big sagebrush (17%) (Figure 3), two each in single-whorl burrobrush (*Ambrosia monogyra*) and desert wild grape (*Vitis girdiana*), and one each in mule fat (*Baccharis salicifolia*), hoary coffeeberry, holly-leaf cherry, coast live oak, and blue elderberry (*Sambucus nigra cerulea*). The mean nest height was 1.26 ± standard deviation 0.58 m (range 0.5–3.2 m, n = 40 nests), the nests' mean distance from the center of the substrate plant was 0.69 ± 0.87 m (range 0–3.23 m, n = 31 nests), and the supporting plant's mean height was 3.11 ± 1.97 m (range 1.5–7 m, n = 9 nests). The sample sizes vary because measurements were not available for all nests. Nesting materials included plant matter, spider webs, spider egg sacs, shed lizard skin, toilet paper, and plastic bags. In addition, we found feathers and wool lining the nest cup in six of the nests.

Our results confirm that Rancho Meling continues to be an active breeding site, used since at least 1980 (Wilbur 1980, USFWS 1998). To our knowledge, Rancho El Potrero and Rancho La Costilla represent newly reported breeding sites for this subspecies. We also documented that the Least Bell's Vireo is affected by brood parasitism by the Brown-headed Cowbird at Rancho Meling. In addition, personal observations and a record on the citizen-science platform iNaturalist confirm that Brown-headed Cowbirds also occur at Rancho El Potrero (Juan Viramontes, mexico.inaturalist.org/observations/278900495), indicating they may also present a threat at this locality. In June 2025, Forde found six additional nests (four of which contained eggs) at this site. We suggest continuing long-term nest monitoring in these localities to determine rates of brood parasitism, which have been considered the most effective way to estimate the level of threat the Brown-headed Cowbird poses to species of conservation concern (Clark and Ferree 2025).

The detection of nonviable eggs suggests that additional factors may limit nesting success in the areas we surveyed. Although the causes of infertility remain uncertain, they may be related to factors such as the age or condition of the breeding pair. The timing of nesting can also be a factor, as more infertile eggs are laid at the beginning and end of the breeding season when hormone levels are lower (L. Allen pers. comm.).

The arroyo willow, mule fat, coast live oak, desert wild grape, and blue elderberry have been previously documented as host plants for Least Bell's Vireo nests (Hendricks and Rieger 1989, Rourke and Kus 2008, Lynn and Kus 2024, Clark and Ferree 2025). We found no previous records, however, of the single-whorl burrobrush, hoary coffeeberry, holly-leaf cherry, or big sagebrush as nest substrates, despite the last being the second most frequently used in our study area. This difference may reflect local adaptations or differences in substrate availability at these sites within the Sierra San Pedro Mártir. Because the plants in which Least Bell's Vireos nest vary geographically and locally (Kus et al. 2022), our observations serve as a baseline for future regional monitoring efforts.

The nest heights we measured are similar to those reported for southern California, ranging from 0.7 to 1.6 m (Kus et al. 2022). The nests' position relative to the center of the substrate and plant height differed, but this result should be interpreted with caution because of the small sample size.

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OUTSTANDING MIGRATION AND NESTING RECORDS OF SWAINSON'S HAWKS IN SOUTHERN SONORA, MEXICO

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ABSTRACT: We report multiple sightings of Swainson's Hawks (*Buteo swainsoni*) migrating through the Yaqui Valley of Sonora, Mexico, in fall from 2021 to 2023. The hawks occurred in flocks of up to 800, associating with Turkey Vultures (*Cathartes aura*), Crested Caracaras (*Caracara cheriway*), and other birds foraging in farmland being plowed and tilled before the sowing of wheat for the fall–winter cropping season. On the basis of seven nests from 2023 to 2025, we also report the first evidence of Swainson's Hawk nesting in the region, representing a southward expansion of the known breeding range by >250 km into the coastal plain of northwestern Mexico.

Human activities increasingly explain population trends of migratory and resident raptors (Chapa-Vargas et al. 2019). In this regard, farmlands host extensive food webs where organisms from cultivated and adjacent noncultivated habitats interact to provide the ecosystem services for food production, including pest control, pollination, and seed dispersal (Emmerson et al. 2016). The habitat alteration that generates these agricultural ecosystems may favor the convergence of species with similar requirements, including food, resources for breeding, and roost sites (Grande et al. 2018). Birds of prey provide ecosystem services to farmlands, including pest and scavenger control (Donázar et al. 2016, Horgan et al. 2021).

The Swainson's Hawk (*Buteo swainsonii*) is one of the most widely distributed migratory raptors in the Americas, migrating from its breeding range in North America (northern Mexico as its southern limit) to its wintering grounds in South America. This long migratory path is covered in several weeks (Bechard et al. 2020). The International Union for the Conservation of Nature classifies the Swainson's Hawk as a species of least concern (BirdLife International 2025), but some populations in the United States have declined. For instance, California listed Swainson's Hawk as a threatened species in 1983 because of habitat loss and pollution at nesting sites (Bloom 1980, Oleyar et al. 2021, California Department of Fish and Wildlife 2024). The species is under special protection according to Mexican federal law (Secretaría de Medio Ambiente y Recursos Naturales 2010). Nevertheless, since the early 2000s the population in California has seen a rapid recovery (Furnas et al. 2022).

Northwestern Mexico is a stopover for Swainson's Hawks that breed in the western United States, including California's Central Valley (Airola et al. 2019), but it also harbors breeding populations (Russell and Monson 1998). There is little information on the status of both migratory and reproductive populations in northwestern Mexico, the latter extending to the southern limit of the Sonoran Desert. Therefore, data on the abundance and distribution of Swainson's Hawk in northwestern Mexico may provide guidance for the conservation of this species and other raptors in this rapidly changing region.

The Yaqui River Irrigation District (DRR-041), surrounding Ciudad Obregón in southern Sonora, is the second largest irrigation district in Mexico. It encompasses a monoculture of wheat with modern irrigation and heavy use of agrochemicals on

230,000 ha (Matson et al. 1997, 2012). Before the 1990s, the district had two cropping seasons, spring–summer and fall–winter. Currently, however, DRR-041 supports a fall–winter cropping season only, because water levels in the Álvaro Obregón Reservoir, its primary water source, have been depleted because of persistent drought (Matson and Jewett 2012, McCullough and Matson 2016, Fischer et al. 2022). During the fall–winter season, wheat is grown and harvested from November to May. Croplands remain inactive from June to October, which leads to weeds encroaching after the summer monsoons and hurricanes (Schoups et al. 2012). Preparation of

Table 1 Incidental Records of Swainson's Hawk (*Buteo swainsoni*) and Other Raptors in Farmlands of the Yaqui Valley, Mexico, 2021–2023

Year, date, and time	Latitude and longitude	*n*	Area (ha)[a]	Vegetation height	Prey type	Other species[b]
2021						
10 Sep, 11:07	27.376, −109.933	800	8.0	Tall	Rodents	*C. aura* 250, *C. cheriway* 73
15 Oct, 08:51	27.401, −110.260	107	17.0	Tall	Rodents	*C. aura* 30
15 Oct, 12:21	27.418, −110.005	340	12.1	Tall	Insects	*C. aura* 58, *C. cheriway* 21
18 Oct, 11:42	27.416, −110.1295	85	10.4	Tall	Insects	*C. aura* 15
3 Nov, 17:38	27.366, −109.935	280	11.3	Medium	Rodents	*C. aura* 150, *C. cheriway* 52
2022						
11 Oct, 18:16	27.434, −110.000	32	6.0	Short	Insects	*C. aura* 6
27 Oct, 14:31	27.376. −110.176	200	22.5	Medium	Insects	*C. aura* 30
22 Oct, 11:14	27,356, −110.015	52	15.0	Short	Insects	*C. aura* 16, *C. cheriway* 6, *A. ibis*
23 Oct, 15:14	27.411, −110.197	34	19.0	Short	Insects	*C. aura* 10, *Q. mexicanus*
2023						
13 Sep, 11:24	27.423, -109.853	58	23.2	Tall	Rodents	*C. aura* 12
26 Oct, 13:56	27.370, −110.140	150	24.1	Short	Insects	*C. aura* 56
25 Oct, 12:24	27.410, −109.940	66	10.1	Medium	Insects	*C. aura* 12, *C. cheriway* 58, *A. ibis*, *Q. mexicanus*
2 Nov, 08:45	27.355, −110.150	112	18.1	Short	Insects	*C. aura* 26, *C. cheriway* 16
2 Nov, 18:03	27.411, −110.117	78	94.0	Tall	Rodents	*C. aura* 18, *C. cheriway* 11
23 Nov, 11:23	27.175, −109.851	27	37.0	Medium	Insects	*C. aura* 8, *C. cheriway* 12, *A. ibis*,

[a]Estimated plowed area in which the group was foraging.

[b]*Cathartes aura* (Turkey Vulture), *Caracara cheriway* (Crested Caracara), *Ardea ibis* (Western Cattle Egret), *Quiscalus mexicanus* (Great-tailed Grackle).

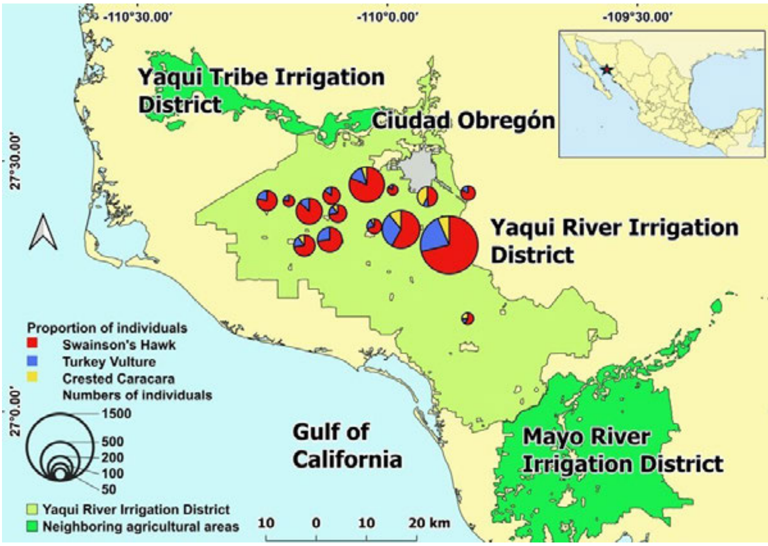

FIGURE 1. Counts of large groups of Swainson's Hawks in the Yaqui Valley, Sonora, Mexico, 2021–2023.

croplands for the next cropping season usually involves the removal of herbaceous and other secondary vegetation through tillage and plowing. These agricultural operations flush the animal community inhabiting these fields, including insect, reptile, and rodent prey for raptors.

Since early October of 2021 (when we detected the first large group), we have surveyed for migratory groups of Swainson's Hawks from a motorized vehicle along roads. Our surveys were opportunistic while driving through the DRR-041 for other purposes. Therefore, we cannot provide estimates of sampling effort. Upon detecting a foraging flock of Swainson's Hawks, we counted all birds, including other raptors, for 10–30 min depending on the group's size, using Vortex Crossfire HD 10 × 42 binoculars. We also estimated the area plowed where the group was foraging.

We detected migrating Swainson's Hawks only in the months of September, October, and November (Table 1), within the species' Pacific route in fall migration (Airola et al. 2019). We detected no migratory groups during the fall–winter cropping seasons of 2024 and 2025, when most cropland at the DRR-041 was not cultivated because no water was allocated to irrigation. We recorded 38 flocks (Figure 1), totaling 3367 individuals: Swainson's Hawk 2421 (71.9%), Turkey Vulture (*Cathartes aura*) 697 (20.7%), and Crested Caracara (*Caracara cheriway*) 249 (7.4%). The counts were the highest in 2021 with 2261 individuals at five sites. In October 2021, at one site of 8 ha, we counted 800 Swainson's Hawks, 250 Turkey Vultures, and 73 Crested Caracaras. We recorded 386 and 720 birds at four and six sites in 2022 and 2023, respectively. Swainson's Hawk occurred with the Turkey Vulture only in 7 instances and with both the Turkey Vultures and Crested Caracara in 8 instances. On 10 occasions (26.3%) Swainson's Hawks occurred with the Western Cattle Egret (*Bubulcus ibis*, 86 birds), and/or Great-tailed Grackle (*Quiscalus mexicanus*, 37 birds). We observed no other raptor species in these foraging groups. Documentation of large groups of Swainson's Hawks in the Yaqui Valley during the fall migration is rare. Eighty-four records of Swainson's Hawk from eBird from 2010 to 2025 include only one large group of 150 hawks near Pueblo Yaqui (= 5.68 ± 1.98 birds per record, Auer et al. 2025). Our observations of large migratory groups confirm the predicted trend for the species to increase within this region during the post-breeding migration (Fink et al. 2023).

Groups of raptors occurred in areas where agricultural machinery was at work, particularly where tractors were removing herbaceous secondary vegetation (Figure 2). The herbaceous cover consisted mainly of redroot pigweed (*Amaranthus retroflexus*), Johnson grass (*Sorghum halepense*), six-weeks grama (*Bouteloua barbata*), mucronate sprangletop (*Dinebra panicea*), beach wiregrass (*Dactyloctenium aegyptium*), and Bermuda grass (*Cynodon dactylon*). We classified herbaceous cover as short (height 0–30 cm, 13 sites, 34.2%), medium (31–100 cm, 11 sites, 29.0%) and tall (>100 cm, 14 sites, 36.8%) (Table 1). Swainson's Hawks descended to capture prey. Other raptors scanned the land with short walks, sprint, and pecks to catch their prey. We observed that Swainson's Hawks took advantage of the abundance of Arizona cotton rats (*Sigmodon arizonae*). Swainson's Hawks frequently consumed only their viscera, and Turkey Vultures and Crested Caracaras ate the remains. This commensalism was observed in 13 out of 38 instances (34.2%). We observed Swainson's Hawks preying upon insects on the other 25 occasions (45.4%). Rodents were typically preyed upon in taller herbaceous vegetation, whereas insects were preyed upon in shorter vegetation.

During the study period, we recorded evidence of seven Swainson's Hawk nests in the DRR-041. These observations were incidental. Evidence included adult birds sitting during the nesting season on a nest structure, and adult birds carrying sticks to nests, on 22 and 23 June and 16 July in 2023 and on 28 May and 12 June in 2024. We observed nestlings in one nest only in 2025 (Figure 3). Evidence of nesting in the region extends the southern border of the species' known breeding distribution by >250 km. Previously Swainson's Hawk had been noted nesting as far south as near Carbó, 60 km north of Hermosillo (Russell and Monson 1998). We observed attempted nests in the trees *Ceiba pentandra* (n = 3 attempts in two trees 5–10 m high), *Enterolobium cyclocarpum* (n = 1, ~9 m), mesquite (*Neltuma* sp., n = 1, ~6 m),

Figure 2. Presence of large groups of raptors during plowing of croplands in the Yaqui Valley, Sonora, Mexico, 3 November 2021.

FIGURE 3. Swainson´s Hawk nestling in a *Ficus pertusa* tree in the Yaqui Valley, Sonora, Mexico, 11 July 2025.

Ficus pertusa (n = 1, ~8 m; Figure 3), and Fremont's cottonwood (*Populus fremontii*, n = 1, >9 m). Nests were located at the top of tree canopy, without obstruction toward the neighboring farmland. All nests were <10 m from paved or dirt roads. The expansion of Swainson's Hawk's breeding distribution into the Yaqui Valley (and likely into the agricultural valleys of Sinaloa) may reflect the species' broad ecological tolerance, as evidenced by its well-documented use of farmlands in the Central Valley of California (Estep 1989, Babcock 1995).

In summary, this research provides novel information about the stopover ecology of Swainson's Hawks that are likely from a breeding population listed as threatened. The species' abundance in the Yaqui Valley peaked between September and November. This period, prior to the cropping season, coincides with the plowing and tillage of croplands, which increase the detectability of prey for migrating Swainson's Hawks. Migrating Swainson's Hawks nearly always mix with migrating Turkey Vultures to form large foraging groups while tractors are working. The DRR-041 may be increasingly providing habitat for Swainson's Hawks both migratory and breeding. Greater monitoring effort is needed to confirm habitat use and quality, as well as productivity and nesting success.

Despite the increasing use of farmland in the Yaqui Valley by migratory Swainson's Hawks, the region may also represent an ecological trap. Intensive use of pesticides is ubiquitous in the region, reaching approximately 270 tons of active ingredient across the DRR-041 (García-Hernández et al. 2017). Furthermore, campaigns against field mice to protect plant health through the application of poisoned baits (Contreras-Servín 2022), especially anticoagulant rodenticides (Elliott et al. 2024), exacerbate the risk of poisoning to raptors. The incidental mass poisoning of tens of thousands of Swainson's Hawks in their winter range in Argentina in the 1990s nearly caused their population to collapse (Goldstein et al. 1999). Raptors are especially at risk in agricultural areas for several reasons including high consumption of pest insects as prey, feeding upon the viscera of animals weakened and killed by pesticides and poisons, and persecution by humans, whose take is facilitated by the birds' gregarious behavior (Mineau et al. 1999). Further evaluation of the effects of pesticides at this stopover site is needed for the potential effects on Swainson's Hawk to be identified and mitigated, particularly for declining populations in the United States.

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Photo by © Stephen J. Myers of Moreno Valley, California:

Black-tailed Gnatcatcher (*Polioptila melanura*), Banning, Riverside Co., California, 19 June 2020.

The California (*P. californica*) and Black-tailed Gnatcatchers are often thought of as allopatric or parapatric species, but sites of sympatry are coming to light. In this issue of *Western Birds*, Kevin B. Clark, Lori Hargrove, Steven M. Ritt, Stephen J. Myers, and Philip Unitt address the largest zone of sympatry yet reported, the San Gorgonio Pass, the lowest and broadest link between coastal and desert scrub habitats otherwise separated by the mountains of southern California. The two species' overlap has arisen not only because the California Gnatcatcher has persisted more widely in the San Gorgonio Pass than previously reported, but because the Black-tailed has spread west from the Coachella Valley as far as Banning, near the west end of the pass. This spread, taking place since 1980, is apparently part of a broader upslope expansion of the Black-tailed Gnatcatcher's range, an expansion that has filled in its formerly patchy distribution in the Mojave Desert. In this photo, despite the bird's heavily worn plumage, the pattern of black and white on the tail distinguishing the Black-tailed and California Gnatcatchers is still evident.