

### Gray Vireo *Vireo vicinior*

The Gray Vireo is the rarest breeding bird of San Diego County's chaparral. Its preferred habitat is on south-facing slopes, where the chaparral is dry but dense, mainly between 3000 and 5000 feet elevation. The reason for the Gray Vireo's rarity is unclear, but susceptibility to cowbird parasitism may confine it to large tracts of chaparral remote from open areas where cowbirds forage. The California Department of Fish and Game has recognized the Gray Vireo as a highest-priority species of special concern. Field work for this atlas led to the discovery of Gray Vireos wintering in the Anza-Borrego Desert, in California's single largest stand of the elephant tree.

**Breeding distribution:** The Gray Vireo is concentrated in two regions of San Diego County. The more northern lies in a region of chaparral dominated by chamise and redshank north of Warner Springs and largely east of Highway 79. The largest numbers have been seen along Lost Valley Road south of Indian Flats Campground and along the Pacific Crest Trail east of this road (E19; up to eight, including seven singing males, 27 June 2001, K. L. Weaver). A few birds are scattered west to Aguanga Ridge east of High Point, Palomar Mountain (D15; three singing males 14 May 1999, K. L. Weaver) and east to the south fork of Alder Canyon (C20; four singing males 3 June 2001, L. J. Hargrove).

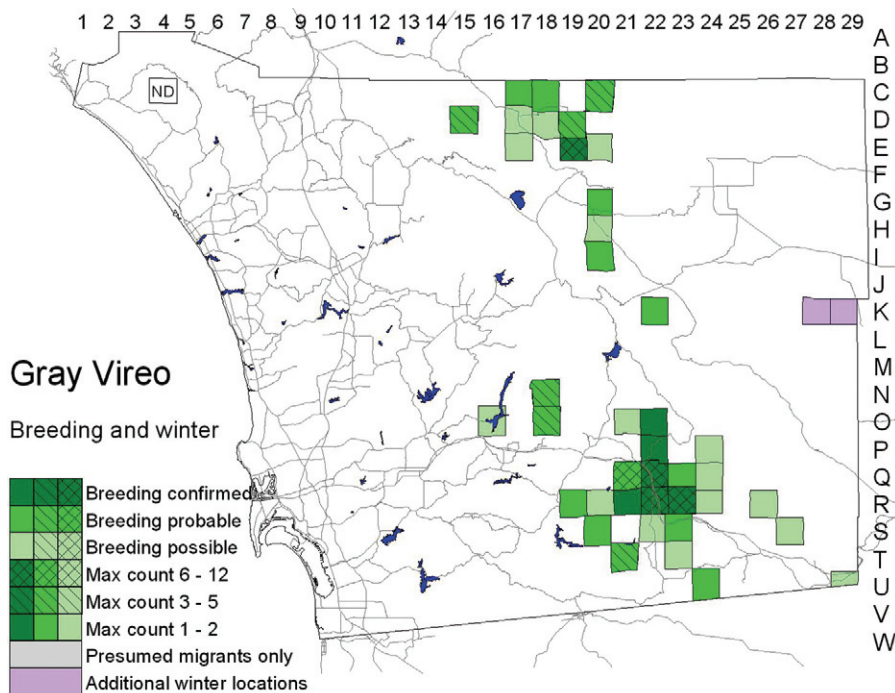


Photo by Anthony Mercieca

The southern population is centered in chaparral dominated by chamise and cupleaf ceanothus south of the Laguna Mountains and north of Interstate 8. Here maximum counts from 1997 to 2001 were near Buckman Springs, on slopes both east and west of Cottonwood Valley (R22; 12, including 11 singing males, 15 May 1999, L. J. Hargrove), along the Pacific Crest Trail just south and east of Yellow Rose Spring (R23; 10 on 17 May 1998, L. J. Hargrove), and on the ridge 1.0–1.4 miles northeast of Buckman Springs (Q22; nine singing males 25 April 1999 and 11, including eight singing males, 10 June 1999, J. K. Wilson). Outward from this hub, the population becomes quickly more scattered but extends northwest to near Tule Springs (N18; four, three singing males and one juvenile, 2 July 2001, J. R. Barth et al.), west to 2.1 miles west of Corte Madera Mountain (R19; two singing males 8

June 2001, L. J. Hargrove), south to 4.7 miles east of Cameron Corners (U24; pair on 20 May 2000, A. Mauro, P. K. Nelson), and east to Sacotone Spring (S27; one singing male 17 May 2001, J. O. Zimmer, E. C. Hall). The population in San Diego County does not appear continuous with that in the Sierra Juárez south of the international border.

Between the two main populations we recorded the Gray Vireo on only five occasions in four atlas squares, with never more than two territorial males, on or near the east slope of the mountains in chamise-dominated chaparral. At one of these locations, however, the Pacific Crest Trail south of Barrel Spring (G20/H20), A. G. Morley had counted eight on 10 June 1987.



Outliers in the south were one singing male 0.4 mile west of El Capitan Dam (O16) 21 April 1998 (K. J. Winter) and another in juniper woodland along the Imperial County line 4.4 miles east of Jacumba (U29) 27 April 1999 (J. K. Wilson). The latter was the only record during the atlas period from juniper woodland away from chaparral, though six were reported from such habitat 1972–84 (Anza–Borrego Desert State Park records). At another outlying site, 2500 feet elevation on the southwest slope of Potrero Peak (U19), there was a singing male 2 June 1992 (P. Unitt) but none could be found 1997–2001. At such locations away from the main population centers the Gray Vireo appears to be irregular. The bird near El Capitan Dam was at the unusually low elevation of 640 feet. Otherwise the sites range in elevation from 2100–2300 feet along Goudie Road (O18) to 5400 feet east of La Posta Creek in the Cuyapaipe Indian Reservation (P24; one singing male 11 May 2001, D. C. Seals).

Although vast tracts of seemingly suitable and uniform chaparral remain, the Gray Vireo's distribution is distinctly clumped in only a small fraction of this habitat, even within the two main zones of concentration. For example, five singing males along Goudie Road 6 June 1999 (L. J. Hargrove) were isolated by at least 8 miles from their nearest known neighbors to the south and east in the direction of the population center. Much of the Gray Vireo's range consists of rugged hills, covered with impenetrable chaparral, in which unknown numbers may remain out of earshot. But enough roads and trails crossing the habitat have now been surveyed to demonstrate the species' rarity and pattern of dispersion. The county's population is probably in the low hundreds—small, but still larger than any known elsewhere in California.

**Nesting:** The Gray Vireo builds its nest in the upper levels of the shrubs that constitute its habitat. Nests described by atlas observers were 3 to 5 feet off the ground in chamise, scrub oak, cupleaf ceanothus, and mountain mahogany. Because of these shrubs' intricately branched structure, the Gray Vireo's nest may be more extensively supported from the sides than the typical vireo nest hanging from a horizontal fork. Data on the nesting schedule of the Gray Vireo are still meager; no collected eggs are known from San Diego County. Atlas participants' observations suggest the species lays from late April to mid June.

**Migration:** The Gray Vireo arrives in San Diego County regularly in late March, rarely as early as 14 March (2001, one on the Pacific Crest Trail near Kitchen Creek Road,

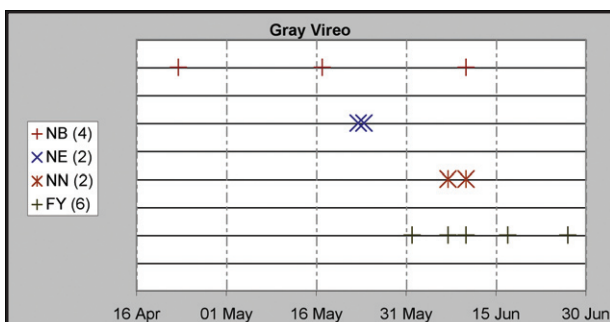
R23, L. J. Hargrove). It remains at least as late as 19 August (2001, five, three still singing, at the same locality, L. J. Hargrove) but may be difficult to find after the birds stop singing and the chaparral is hot and still. In the San Jacinto Mountains, the Gray Vireo is known as late as 27 August (Grinnell and Swarth 1913), in Joshua Tree National Park, as late as 10 September (Miller and Stebbins 1964). There are five published records of migrants from the Anza–Borrego Desert (AFN 13:456, 1959; AB 42:482, 1988; Massey 1998), plus records of two at Bonita (T11) 1 May 1962 (AFN 16:448, 1962) and one at Palomar Mountain (D15) 19 September 1981 (AB 36:219, 1982). The Gray Vireo is seen in California as a migrant away from breeding habitat so rarely, however, that most individuals evidently commute between the breeding and winter ranges in a single nonstop flight. Some of the reports of migrant Gray Vireos may represent misidentified Bell's or Plumbeous Vireos.

**Winter:** Wintering of the Gray Vireo in the elephant trees of the Anza–Borrego Desert was one of the most notable discoveries emerging from field work for this atlas. Previously the species was not known to winter in California. Because the fruit of the elephant tree is a principal food of Gray Vireos wintering in Sonora (Bates 1992), we organized an expedition 4–5 December 1999 to search California's largest stand of this plant, along Alma Wash west to Starfish Cove (K28/K29), for Gray Vireos. The expedition revealed a minimum of five individuals, all near fruiting elephant trees (Unitt 2000). On subsequent visits to this area, Lori Hargrove has found the Gray Vireo as early as 21 October but no more than a single bird per day and none in 2000–01. The quantity of elephant tree fruit varies and, apparently, the number of wintering Gray Vireos with it.

**Conservation:** A century ago, the Gray Vireo may have been more widespread and numerous than currently. Stephens (1878) reported the species "not uncommon" around Campo (U23) and reported or collected it at Julian (K20) and Oak Grove (C16) as well. After 1908, however, the species lapsed into obscurity, going unreported until Michael U. Evans rediscovered the county's southern population in 1978. The population may have declined even since then, since the numbers along Kitchen Creek Road (Q23/R23) and La Posta Truck Trail (Q24/R24) 1997–2001 were less than in the late 1970s.

Cowbird parasitism has been inferred as the likely cause of the Gray Vireo's rarity in southern California (Remsen 1978), though the species has always been sparse; Grinnell and Swarth (1913) estimated 16 pairs per square mile in the San Jacinto Mountains. Friedmann (1963) considered the Gray Vireo a frequent victim of the Brown-headed Cowbird. The degree to which cowbirds are currently affecting the Gray Vireo is not known but needs study before any management to benefit the vireo is undertaken.

Because the Gray Vireo is so localized, it is susceptible to fire. Much of the area now occupied by San Diego County's southern population was burned in the Laguna



fire of October 1970. The Gray Vireo is likely disfavored both by frequent fire that keeps chaparral low and open and by fire suppression that leads to fuel buildup and

catastrophic large-scale fires. The species' ecology with respect to postfire succession needs study too.