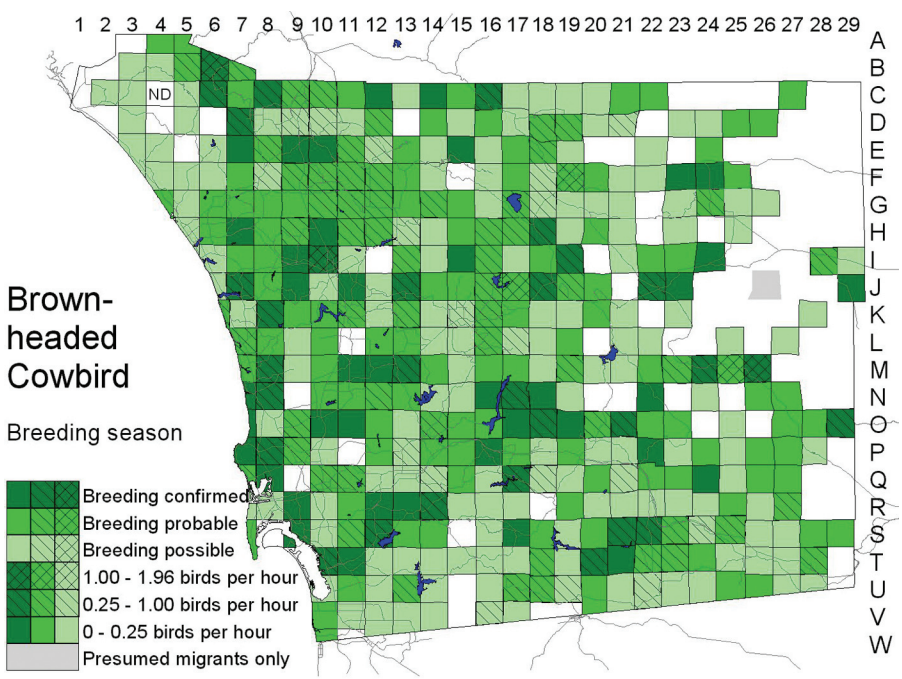
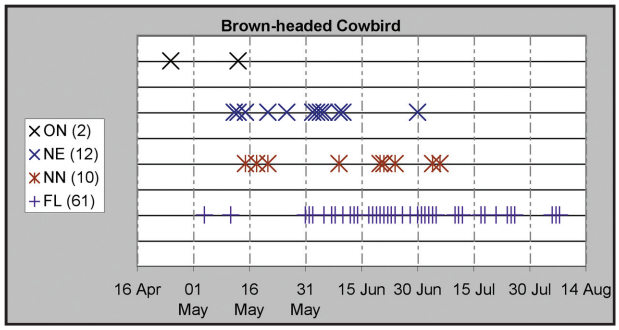
Brown-headed Cowbird *Molothrus ater*

As the only brood parasite common in southern California, the Brown-headed Cowbird plays a major role in the community of birds. It is native to North America but a rather recent immigrant to San Diego County, arriving in numbers about 1915. It is highly migratory but found in the county year round. Conversion of scrub and woodland to agriculture and cities enhanced the habitat for a bird that feeds on the ground, often among livestock. As the cowbird's population increased, that of some hosts decreased, some nearly to extirpation. With the formal listing of the Least Bell's Vireo as endangered, trapping of cowbirds became a tool for recovering the vireo. How this trapping should be carried out over the long term has become one of the major questions in San Diego County wildlife management.

Photo by Anthony Mercieca

Breeding distribution: The Brown-headed Cowbird is widespread as a breeding bird in San Diego County, lacking only in sparse desert scrub or mountains thickly covered in forest or chaparral. But currently, over most of the county, the species is only fairly common. Of over 1300 records in the atlas database from late April through July, only nine are of more than 15 individuals. The highest numbers among these are 35 in northwest Escondido (I10) 16 May 1999 (E. C. Hall) and 33 near Mt. Gower (L17) 30 May 1999 (R. C. Sanger). High numbers earlier in the season are likely of flocks of migrants or lingering winter visitors. Some gaps in the observed distribution, as in parts of Camp Pendleton, Mission Gorge (P11), and along the Sweetwater River above Sweetwater Reservoir (S13) appear due to trapping, carried out at Camp Pendleton since 1983, at Mission Gorge intermittently since 1985, and along the Sweetwater intermittently since 1986. Conversely, there appears to be a somewhat greater concentration in the inland valleys from Fallbrook and Rainbow south to Escondido and Valley Center, from Ramona to Mesa Grande and Warner Springs, and near Vallecito. But over much of San Diego County the cowbird's





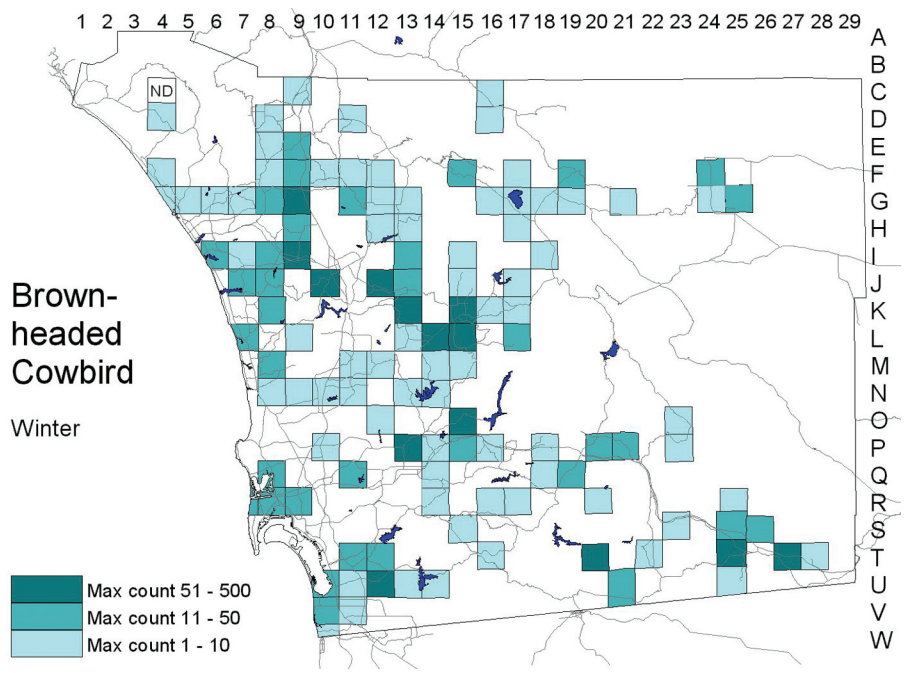
abundance seems fairly uniform, implying that trapping is reducing the cowbird's population on the scale of the entire county, not just within some limited radius of the traps. Yet the trap operators report that the numbers of cowbirds caught have remained constant over time. The areas of trapping could be acting as a population sink.

Nesting: The Brown-headed Cowbird is a brood parasite, laying its eggs in the nests of a wide variety of small insectivorous songbirds. Atlas observers recorded 16 species that the cowbird parasitized successfully, as judged by nestlings or fledglings being tended by foster parents: Common Yellowthroat (10 times), Song Sparrow (6), Hooded Oriole (6), Hutton's Vireo (6), Bell's Vireo (5), Blue-gray Gnatcatcher (3), Wrentit (3), Western Flycatcher (3), Black-tailed Gnatcatcher (2), and Yellow Warbler, Dark-eyed Junco, Red-winged and Brewer's Blackbirds, California Towhee, Western Wood-Pewee, and Phainopepla (once each). Further records of cowbird eggs in nests and observations of female cowbirds entering nests—attempts at parasitism whose success was uncertain—involve Bell's Vireo (5 times) and the Common Yellowthroat, Lark Sparrow, Warbling Vireo, Black-chinned Sparrow, Black-tailed Gnatcatcher, California Gnatcatcher, Verdin, and Lesser Goldfinch (once each). All of these are suitable hosts except the Lesser Goldfinch, which feeds its young on regurgitated seeds rather than insects. Additional hosts represented among 38 egg sets collected 1915–52 are the Willow Flycatcher, now rare, and the American Goldfinch, an unsuitable host for the same reason as the Lesser. Bell's Vireo has long been a favored host, though the number of recent records of parasitism of it may be disproportionately high because of the intensive monitoring directed at this endangered species.

Atlas records suggest that cowbirds generally begin laying in late April. The schedule we observed thus accords with the schedule of 38 egg sets collected 1915–1952, which range from 27 April to 30 June. Thus host species that nest early in the spring, mainly sedentary residents, may be able to raise a brood before cowbirds begin laying. Most summer visitors, starting later in the spring, do not have this opportunity. Two early May records of cowbird fledglings from the Anza–Borrego Desert, however, demonstrate that a few cowbirds begin laying in early to mid April (Vallecito Valley, M24, 4 May 2001, B. Siegel; Agua Caliente Springs, M26, 11 May 1998, E. C. Hall).

Migration: The Brown-headed Cowbird is highly migratory, and at least in spring San Diego County's breeding and wintering populations overlap considerably. A few cowbirds appear in riparian woodland surrounded by chaparral-covered mountains, far from wintering concentrations in open valleys, in early March. But most of the breeding population does not arrive until early April. Meanwhile, wintering flocks may remain until late April (100 southwest of Ramona, L14, 24 April 1999, F. Sproul). The Great Basin subspecies *M. a. artemisiae* visits San Diego County, and its schedule helps illustrate the cowbird's long-distance migrations (see Taxonomy).

Winter: At this season the Brown-headed Cowbird is much less widespread than in summer. And it is much more concentrated—around cows. Some wintering birds forage on lawns, at garbage dumps, and on disturbed open ground, but the large flocks occur most often at dairies and in pastureland. Winter numbers run as high as 500 near El Monte Park (O15) 15 January 2000 (D. C. Seals), 420 at a dairy in San Marcos (I9) 27 February 1999 (W. E. Haas), and 350 at the Otay dump (U12) 19 December 1998 (W. E. Haas). Most of the winter records are from the coastal lowland, but concentrations occur regularly as high as 3600 feet elevation, as in Hill Valley (T25; up to 210 on 22 January 2000, R. B. Riggan). At higher elevations atlas results show the cowbird localized in winter to pastoral



valleys like Warner, Descanso (P20), Japatul (Q18), and Round Potrero (T20). We recorded the cowbird on only four occasions in winter between 3600 and 5400 feet elevation, but these included a flock of 20 at Pine Valley (P21) 8 January 1998 (J. K. Wilson) and a single bird at Laguna Meadow (O23; 5400 feet) 21 January 2002 (E. C. Hall). In the Anza–Borrego Desert wintering cowbirds are localized to developed and agricultural areas in the Borrego Valley, where numbers range up to 35 in Borrego Springs (F24) 24 January 1999 (P. D. Jorgensen).

Conservation: Before 1915, the Brown-headed Cowbird occurred in San Diego County only as an occasional migrant. In that year, the front of the species' expanding range, moving west and north, hit San Diego (Laymon 1987, Rothstein 1994). A population explosion ensued. In 1919 Frank Stephens was still calling the cowbird a "rare straggler" in the county, but 14 years later, Willett (1933) wrote, for all coastal southern California, that the cowbird "is well established throughout our district, frequenting the willow regions in large numbers in summer and found commonly around farms and in parks at other seasons of the year." By the 1970s the cowbird's more susceptible host species, the Willow Flycatcher, Bell's, Cassin's, and Warbling Vireos, Blue-gray Gnatcatcher, and Yellow Warbler had declined, but the more resilient ones remained common, sustaining the cowbird's numbers.

The formal listing of the Least Bell's Vireo as endangered in 1986 opened the way to management by cowbird trapping. Since then, areas trapped most consistently have been Camp Pendleton, the lower San Luis Rey River valley, San Pasqual Valley, Mission Trails Regional Park, the Sweetwater River from Jamacha to Bonita, the Tijuana River valley, and Anza–Borrego Desert State Park. According to data compiled by the Least Bell's Vireo/Southwestern Willow Flycatcher Working Group, in 2003, 6391 trap-days in San Diego County yielded 1235 cowbirds (P. Famolaro unpubl. data).

Taxonomy: The breeding subspecies of the Brown-headed Cowbird in San Diego County, as elsewhere in southern California, is the Dwarf Cowbird, *M. a. obscurus* (Gmelin, 1789), small, with the bill tapered, the female pale, and the nestling with a yellow gape. It is also the dominant subspecies in winter and migration. *Molothrus a. artemisiae* Grinnell, 1909, breeding in the Rocky Mountain region, is larger and also has a tapered bill, but fresh-plumaged females are darker and nestlings have a white gape. It is apparently uncommon in San Diego County, occurring at least as a spring migrant and represented by three specimens, one from Borrego Springs 30 April 1896 (SDNHM 768), one trapped at Whitaker Horse Camp, Anza–Borrego Desert (D24), 8 April 1988 (SDNHM 45604), and one given to wildlife rehabilitators from an unknown location in northern San Diego County in May 1979 (SDNHM 41375). *Molothrus a. artemisiae* undoubtedly occurs in fall and winter as well; L. M. Huey collected a specimen on Los Coronados Islands within sight of San Diego 5 September 1914 (SDNHM 33654). Fleischer and Rothstein (1988) found *obscurus* invading the range of *artemisiae* and intergrading with it in the Sierra Nevada of Mono County. Thus with the secondary contact of *artemisiae* and *obscurus* the distinction of these formerly well-differentiated subspecies is being blurred, and southern California is likely in the path of these intergrades' migration. Finally, one specimen of the eastern subspecies *M. a. ater* (Boddaert, 1783) has been picked up in San Diego County, at Coronado (S9) 1 March 1978 (SDNHM 40587; Unitt 1984). It is identified by its more bulbous, not smoothly tapered, maxilla.