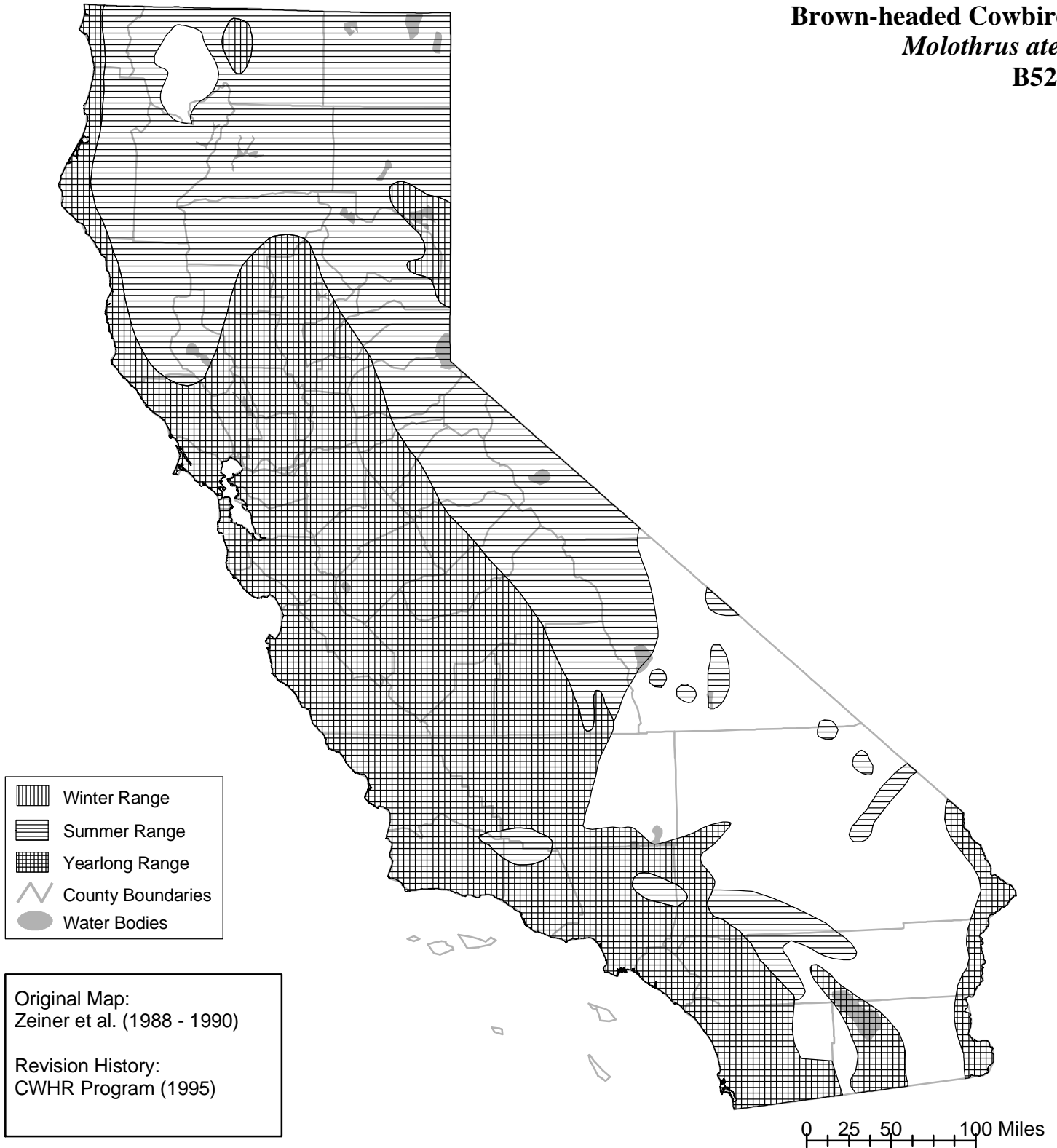


California Wildlife Habitat Relationships System

California Department of Fish and Game

California Interagency Wildlife Task Group

Brown-headed Cowbird *Molothrus ater* B528



Range maps are based on available occurrence data and professional knowledge. They represent current, but not historic or potential, range. Unless otherwise noted above, maps were originally published in Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California. Updates are noted in maps that have been added or edited since original publication.

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BROWN-HEADED COWBIRD

Molothrus ater

Family: ICTERIDAE
B528

Order: PASSERIFORMES

Class: AVES

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

A common resident and summer visitor, breeding throughout most of California. Rare in winter in northern California; withdraws from montane habitats and most areas east of Cascade Range and Sierra Nevada. Common in Imperial and Colorado River valleys in winter, fairly common in coastal areas, and very local in southern deserts. Feeds in moist, open areas, primarily cropland, grassland, urban habitats. Roosts in riparian, urban, and other wooded habitats. A brood parasite; breeds in many habitats, but most common in riparian areas and moist forest edges, where density of passerine host populations highest. Has expanded range in California markedly and has become common in recent decades by following agriculture and other human activities. Apparently confined to transmontane California in prehistoric times (Grinnell and Miller 1944, McCaskie et al. 1979, Rothstein et al. 1980, Garrett and Dunn 1981).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Fall and winter diet consists mostly of seeds and grains; insects, spiders, snails usually important in spring and summer, often forming more than half of diet (Martin et al. 1961, Payne 1965). In Sacramento Valley, however, invertebrate consumption by adults did not exceed 5% in any season (Crane and DeHaven 1978). Usually feeds on ground in open, moist habitats; pastures, wet meadows, croplands and other areas with short, grassy vegetation (Mayfield 1965). Often feeds near cattle and other large grazing animals, catching disturbed invertebrates or picking them off the animals. Gleans from manure. Also frequents stables, feedlots, campgrounds, picnic areas, bird feeders, garbage dumps.

Cover: Uses trees, shrubs, herbage for cover. In California, mostly roosts in trees (Grinnell and Miller 1944), usually in riparian or urban habitats, or in groves of trees bordering good foraging habitat. In eastern U.S., also roosts in wetlands and wet meadows (Bent 1958).

Reproduction: A brood parasite; lays eggs in nests of other birds, in a variety of habitats. Breeds most commonly in riparian habitats, along moist forest edges, and in other diverse, productive habitats where density of passerine host populations high. Parasitism rates highest near areas of food abundance in Sierra Nevada (Airola 1986). Parasitizes ground nests as well as those in trees and shrubs, but not cavity nests.

Water: Probably requires drinking water, at least in nonbreeding season when it eats mostly seeds and grains.

Pattern: Typically forages in open, moist habitats in vicinity of grazing animals or human-occupied areas. Roosts and breeds primarily in riparian woodlands, along moist forest edges, open brushy forests, and in other habitats with large populations of host birds.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity. In breeding season in Sierra Nevada, tended to congregate at feeding areas in midday and dispersed throughout breeding habitats in mornings and evenings (Rothstein et al. 1980, 1984).

Seasonal Movements/Migration: Many breeders in California migrate to wintering areas south of the state. Usually a rare winter resident in lowlands of northern California except in local congregations (Laymon 1987). A very local winter resident in southern deserts, but common in Imperial and Colorado River valleys, and fairly common in southern coastal areas. In montane habitats, occurrence often restricted to a brief period when potential hosts are laying eggs; abundance declines abruptly by late July or early August (Gaines 1977b, Rothstein et al. 1980, Verner and Ritter 1983).

Home Range: In Ontario, home range of 41 color-marked, mated males averaged 7.9 ha (19.7 ac) and varied from 0.4 to 25.0 ha (1.0 to 62.5 ac) (Darley 1982). In Michigan, home range of females averaged 9.7 ha (24 ac) and varied from 4.9 to 16 ha (12-40 ac) (McGeen and McGeen 1968). Color-banded breeding males in Ohio had home ranges generally from 7.3 to 8.1 ha (18-20 ac), but some were as large as 12 ha (30 ac) (Nice 1937). Home range of 16 color-marked pairs in New York averaged 20.4 ha (51 ac) and varied from 9.9 to 33.2 ha (24.7 to 83 ac) (Dufty 1982). In Sierra Nevada, feeding and breeding areas sometimes as far as 6.7 km (4.2 mi) apart (Rothstein et al. 1980, 1984).

Territory: According to most workers (e.g., Nice 1937, Laskey 1950, Payne 1965, McGeen and McGeen 1968, Darley 1982), a territory is not held, but male and female do center breeding activity in a semi-restricted area. In Ontario, Darley (1982) observed males, and sometimes females, defending mates against advances from other potential partners. Ankney and Scott (1982), also in Ontario, observed males guarding mates. Friedmann (1929) reported that some individuals held territories up to 1.6 km (1 mi) long. In New York, females apparently defended large nonfeeding territories against other females (Dufty 1982).

Reproduction: Lays eggs exclusively in nests of other birds, to be raised by host parents. Parasitizes almost every passerine species within its range, except for cavity nesters and larger species, such as corvids; more than 200 host species recorded. Breeding season lasts from April through July. Often promiscuous, but mating system varies in different areas (Elliott 1980, Ankney and Scott 1982, Darley 1982). Apparently monogamous in a New York study area (Dufty 1982). In central California, females laid about 30 eggs each season, averaging about 6-8 during four 10-day periods (Payne 1973). Usually lays 1 or 2 eggs, occasionally more, in each host nest (Friedmann 1963). Incubation lasts 11-13 days (Bent 1958); young are altricial. In Maryland, young left nest at 10-11 days and became independent at 25-39 days (Woodward 1983). Commonly breeds at 1 yr (Ankney and Scott 1982).

Niche: Brood parasitism by brown-headed cowbird lowers reproductive success of many passerine species, particularly warblers, vireos, flycatchers, phoebes, song sparrow, other sparrows, and finches (see lists in Friedmann 1963, 1971, Friedmann et al. 1977, Friedmann and Kiff 1985). Frequency of parasitism of host species in Sierra Nevada available in Rothstein et al. 1980, Verner and Ritter et al. 1983, Airola 1986. Other species have evolved effective defenses, notably American robin, catbird, jays, brown thrasher (Friedmann 1963, Friedmann et al. 1977, Ehrlich et al. 1988). Range expansion in recent decades into most California habitats apparently has contributed to population declines in several host species (Gaines 1977b, Rothstein et al. 1980, Goldwasser et al. 1980). Small host passerines dependent upon riparian habitat, notably willow flycatcher, Bell's vireo, warbling vireo, yellow warbler, and common yellowthroat apparently are the most seriously threatened in California (Remsen 1978).

REFERENCES

- Airola, D. A. 1986. Brown-headed cowbird parasitism and habitat disturbance in the Sierra Nevada. *J. Wildl. Manag.* 50:571-575.
- Ankney, C. D., and D. M. Scott. 1982. On the mating system of brown-headed cowbirds. *Wilson Bull.* 94:260-268.
- Bent, A. C. 1958. Life histories of North American blackbirds, orioles, tanagers, and allies. U.S. Natl. Mus. Bull. 211. 549pp.
- Crane, F. T., and R. W. DeHaven. 1978. Food selection by five sympatric California blackbird species. *Calif. Fish and Game* 64:255-267.
- Darley, J. A. 1982. Territoriality and mating behavior of the male brown-headed cowbird. *Condor* 84:15-21.
- Dufty, A. M., Jr. 1982. Movements and activities of radio-tracked brown-headed cowbirds. *Auk* 99:316-327.
- Ehrlich, P. R., D. S. Dobkin, and D. Wheye. 1988. *The birder's handbook*. Simon and Schuster, New York. 785pp.
- Elliott, P. F. 1980. Evolution of promiscuity in the brown-headed cowbird. *Condor* 82:138-141.
- Friedmann, H. 1929. *The cowbirds: A study in the biology of social parasitism*. Charles Thomas Co., Springfield, IL. 421pp.
- Friedmann, H. 1963. Host relations of the parasitic cowbirds. U.S. Natl. Mus. Bull. 233. 276pp.
- Friedmann, H. 1971. Further information on the host relations of the parasitic cowbirds. *Auk* 88:239-255.
- Friedmann, H., and L. F. Kiff. 1985. The parasitic cowbirds and their hosts. *Procs. Western Found. Vert. Zool.* 2:226-304.
- Friedmann, H., L. F. Kiff, and S. I. Rothstein. 1977. A further contribution to knowledge of the host relation of the parasitic cowbirds. *Smithsonian Contrib. Zool. No. 235.* 75pp.
- Gaines, D. 1977b. *Birds of the Yosemite Sierra*. California Syllabus, Oakland. 153pp.
- Garrett, K., and J. Dunn. 1981. *Birds of southern California*. Los Angeles Audubon Soc. 408pp.
- Goldwasser, S., D. Gaines, and S. R. Wilbur. 1980. The least Bell's vireo in California: a de facto endangered race. *Am. Birds* 34:742-745.
- Grinnell, J., and A. H. Miller. 1944. *The distribution of the birds of California*. Pac. Coast Avifauna No. 27. 608pp.
- Laskey, A. R. 1950. Cowbird behavior. *Wilson Bull.* 62:157-174.
- Laymon, S. A. 1987. Brown-headed cowbirds in California: Historical perspectives and management opportunities in riparian habitats. *West. Birds* 18:63-70.
- Lown, B. A. 1980. Reproductive success of the brown-headed cowbird: a prognosis based on Breeding bird census data. *Am. Birds* 34:15-17.
- Martin, A. C., H. S. Zim, and A. L. Nelson. 1961. *American wildlife and plants, a guide to wildlife food habits*. Dover Publ., Inc., New York. 500pp.
- Mayfield, H. 1965. The brown-headed cowbird, with old and new hosts. *Living Bird* 4:13-28.
- McCaskie, G., P. De Benedictis, R. Erickson, and J. Morlan. 1979. *Birds of northern California, an annotated field list*. 2nd ed. Golden Gate Audubon Soc., Berkeley. 84pp.
- McGeen, D. S., and J. J. McGeen. 1968. The cowbirds of Otter Lake. *Wilson Bull.* 80:84-93.
- Nice, M. M. 1937. *Studies in the life history of the song sparrow*. Volume I. A population study of the song sparrow. *Trans. Linn. Soc. New York* 4:1-247.
- Payne, R. B. 1965. Clutch size and numbers of eggs laid by brown-headed cowbirds. *Condor* 67:44-60.
- Payne, R. B. 1973. The breeding season of a parasitic bird, the brown-headed cowbird in central California. *Condor* 75:80-99.
- Remsen, J. V., Jr. 1978. Bird species of special concern in California. Calif. Dep. Fish and Game, Sacramento. Wildl. Manag. Admin. Rep. No. 78-1. 54pp.
- Rothstein, S. I., J. Verner, and E. Stevens. 1980. Range expansion and diurnal changes in dispersion of the brown-headed cowbird in the Sierra Nevada. *Auk* 97:253-267.
- Rothstein, S. I., J. Verner, and E. Stevens. 1984. Radio-tracking confirms a unique diurnal pattern of spatial occurrence in the parasitic brown-headed cowbird. *Ecology* 65:77-88.
- Scott, T. W., and J. M. Grumstrup-Scott. 1983. Why do brown-headed cowbirds perform the head-down display? *Auk* 100:139-148.

- Verner J., and L. V. Ritter. 1983. Current status of the brown-headed cowbird in the Sierra National Forest. *Auk* 100:355-368.
- Woodward, P. W. 1983. Behavioral ecology of fledgling brown-headed cowbirds and their hosts. *Condor* 85:151-163.

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