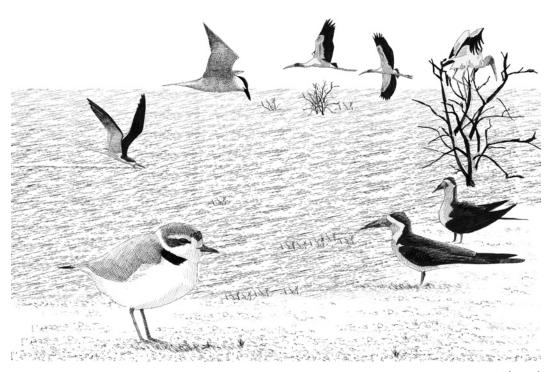
## II

## **SPECIES ACCOUNTS**



Andy Birch

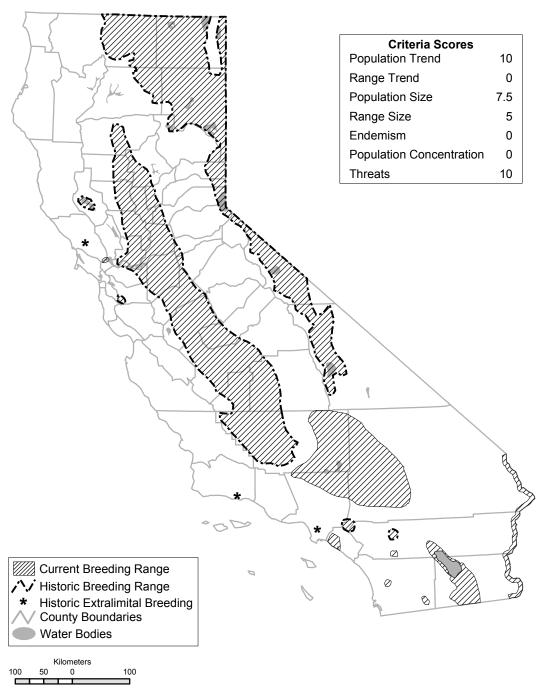
## PDF of Yellow-headed Blackbird account from:

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## YELLOW-HEADED BLACKBIRD

## (Xanthocephalus xanthocephalus)

## ALVARO JARAMILLO



Current and historic (ca. 1944) breeding range of the Yellow-headed Blackbird in California. The overall outline of the range to the north remains the same, despite moderately declining numbers (particularly in the Central Valley), but has expanded to the south, mainly in suitable habitat distributed patchily in the deserts.

### SPECIAL CONCERN PRIORITY

Currently considered a Bird Species of Special Concern (breeding), priority 3. Not included on previous lists (Remsen 1978, CDFG 1992).

### GENERAL RANGE AND ABUNDANCE

Breeds widely and abundantly across western Canada and the United States, but is patchily distributed in the southwestern portion of its breeding range (Twedt and Crawford 1995, Jaramillo and Burke 1999). Migrates broadly across western and central North America, to wintering grounds largely in western and northern Mexico (Jaramillo and Burke 1999). Greatest breeding densities are found in regions with large and productive marshes, particularly in the eastern Prairies and Great Plains (Twedt and Crawford 1995). The Yellow-headed Blackbird is a monotypic species (Twedt et al. 1992).

### SEASONAL STATUS IN CALIFORNIA

Occurs primarily as a migrant and summer resident from April to early October; breeds from mid-April to late July (Twedt and Crawford 1995). Small numbers winter, mainly in the southern Central Valley and the Imperial and Colorado River valleys.

## HISTORIC RANGE AND ABUNDANCE IN CALIFORNIA

The Yellow-headed Blackbird formerly bred throughout much of the state except the coastal region north of the San Francisco Bay area and west of the Sacramento Valley and most of the southern deserts (Grinnell and Miller 1944). The stronghold was northeastern California (Oregon border south to Owens Valley), but the species also bred in large marshy lakes in high mountains, the Central Valley, the coastal district from Marin and southern Sonoma south to Los Angeles and Riverside counties, (at least recently) the Colorado River valley, and perhaps San Diego County. Breeding was documented from near sea level up to 6600 ft (2011 m) at Baldwin Lake in the San Bernardino Mountains. Grinnell and

Miller (1944) considered the species a "common summer resident to eastward" but "less common west of the Sierra Nevada and sparse along the coast." They also noted population decreases from the 1920s to the 1940s, particularly in southern California, because of draining of marshes.

Northeastern California. Historic breeding locations included Bray, Siskiyou County; Goose Lake and Surprise Valley, Modoc County; Pit River, Shasta County; Feather Lake, Eagle Lake, Petes Valley, and Red Rock P.O., Lassen County; Portola, Plumas County; Lake Tahoe, El Dorado County; Bridgeport, near Lee Vining, and Long Valley, Mono County; and Lone Pine, Inyo County (Grinnell and Miller 1944, WFVZ egg set data).

Central Valley. Historic breeding sites were marshes of the Sacramento Valley and the vicinity of the city of Sacramento; near Stockton, San Joaquin County; Los Banos, Merced County; "Fresno district"; Tulare Lake, Kings County; and Buena Vista Lake and Bakersfield, Kern County (Grinnell and Miller 1944, WFVZ egg set data).

Central and southern coast. Historic breeding sites include Sebastopol, Sonoma County; Pinole, Contra Costa County; Irvington, Alameda County; San Jose, Santa Clara County; Goleta, Santa Barbara County; Nigger Slough (Harbor Lake), Los Angeles County; Puente Hills, near Los Serranos, and Big Bear and Baldwin lakes, San Bernardino County; and San Jacinto Lake, Riverside County (Grinnell and Miller 1944, WFVZ egg set data). Nesting was also suspected for San Diego County. Additionally, in the San Francisco Bay area the species was said to breed in considerable numbers in the marshes south of San Jose (Van Denburgh 1899), and there are two egg sets from Hayward, Alameda County, from 1911 (CAS).

Southern deserts. The Yellow-headed Blackbird was nesting "commonly" at California Swamp (=Lakes), near Potholes, Imperial County, along the lower Colorado River in 1943 (Grinnell and Miller 1944, Monson 1944). A lack of evidence of breeding along this river during surveys in the early 20th century, when marshes were described as "few and of small size" (Grinnell 1914), suggests this species may have colonized the area

## BREEDING BIRD SURVEY STATISTICS FOR CALIFORNIA

1968–2004					1968–1979			All data from 1980–2004			Sauer et al. (2005)
Trend	P	n	(95% CI)	R.A.	Trend	P	n	Trend	P	n	Credibility
-3.7	0.40	43	-12.2, 4.9	2.85	-0.7	0.94	24	0.1	0.97	38	Medium

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with the development of larger marshes with dam construction, mostly from 1936 to 1954, or the creation of refuges, starting in 1941 (Rosenberg et al. 1991). Or perhaps this was part of a broader range expansion, as suggested by first nesting in the Imperial and Coachella valleys in the early 1950s (Patten et al. 2003).

# RECENT RANGE AND ABUNDANCE IN CALIFORNIA

The general outline of the breeding range remains largely unchanged since 1944 (see map), although local extirpations and population decreases have been noted. Small (1994) noted precipitous declines in the San Joaquin Valley "in recent years due to marsh drainage, controlled irrigation and the proliferation of agriculture." Breeding expanded into the Salton Sink in the early 1950s (Patten et al. 2003), and locally in the western Mojave desert in recent decades, perhaps following creation of marshes around human habitation. In a broad-scale, though incomplete, survey of the species in 1971 (with a few observations in 1972), Crase and DeHaven (1972) recorded about 1900 breeding adults, with colonies of ≥100 individuals only in Lassen, Lake, Fresno, Riverside, and Imperial counties (Crase and DeHaven 1972). They judged that the populations in the 1970s had not changed greatly since Grinnell and Miller (1944), though current knowledge of 20th-century wetland loss argues otherwise. Breeding Bird Survey (BBS) data indicate a stable population statewide from 1968 to 2004 (see table; Sauer et al. 2005), though the BBS is not well suited for sampling marsh-nesting species.

Northeastern California. The species is locally numerous in the Klamath Basin, Modoc Plateau, Great Basin desert, and large mountain valleys of northeastern California. In 1971-1972, Crase and DeHaven (1972) estimated breeding adults at 11 sites in this region: Grass Lake (40) and Tule Lake NWR (10), Siskiyou County; Modoc NWR (25), Modoc County; Eagle Lake (150), Merrillville (10, Willow Creek Valley), Madeline (25), Susanville (60), and Honey Lake (20), Lassen County; Sierraville (30), Sierra County; and Topaz Lake (10) and Bridgeport (5), Mono County. Some of the largest numbers currently are found in the Klamath Basin, particularly at Lower Klamath and Tule Lake NWRs (W. D. Shuford pers. comm.). Yellow-headed Blackbirds also breed widely in Sierra Valley, Sierra and Plumas counties (W. D. Shuford pers. comm.), and are "locally common" in the Mono Basin (Gaines 1992). These blackbirds also breed at many small, widely scattered sites, such as Logan Lake (10–15 birds) and Fall River Valley (Big Lake, 10–20 birds), Shasta County (B. & C. Yutzy in litt.); Westwood sewage ponds, Lassen County (50+ adults; H. Green in litt.); Kybruz Flat, Sierra County (B. Williams pers. comm.); and south Lake Tahoe, El Dorado County (20–40 pairs in 2003; J. Sterling pers. comm.). Shuford and Metropulos (1996) confirmed breeding in 17.6% of 74 atlas blocks in the Glass Mountain region, Mono County. Breeding areas in Inyo County include the Deep Springs Valley and Owens Valley (e.g., Klondike Lake, Tinemaha Reservoir, Cartago, Olancha, Little Lake; T. & J. Heirdel in litt.).

Central Valley. The 90% loss of historic wetlands in the Central Valley (Frayer et al. 1989) has likely had a large adverse effect on the breeding abundance of this species in this region. In 1971–1972, Crase and DeHaven (1972) estimated a total of 607 breeding adults at 16 sites in the Central Valley: 172 adults at 6 sites in the Sacramento Valley (Colusa, Placer, Sacramento [a few in the delta], Yolo counties), 435 adults at 10 sites in the San Joaquin Valley (Merced, Fresno, Kern counties). Sites with ≥100 adults were Mendota, Fresno County, and Wasco, Kern County; in addition, they estimated 100+ adults at Clear Lake, Lake County, in the Coast Ranges west of the Sacramento Valley.

Yellow-headed Blackbirds generally are scarce breeders in the Sacramento Valley (B. Deuel pers. comm.). Wildlife refuges or wetlands in the Sacramento Valley with nesting colonies include Sacramento NWR, Glenn County; Delevan NWR, Colusa County; Gray Lodge WA, Butte County; Sutter NWR, Sutter County; and the Davis Wetlands and Yolo Bypass WA, Yolo County. They apparently breed at the Paynes Creek Wetlands, Tehama County (B. Deuel in litt.), in very low numbers, and at scattered locations in the lowlands of Butte County (usually 5-6 birds per site, max. 15; J. Snowden pers. comm.). Multispecies surveys in the past few years have found these blackbirds during the breeding season at six sites in Colusa County, both west and east of the Sacramento River (K. Kreitinger in litt.). Placer County currently has only one small colony southwest of Sheridan (B. Williams pers. comm.). In Yolo County, two small colonies (5-30 nests) are usually present each year, but they shift in location and may be present in wetter years only (S. Hampton pers. comm.). Yellowheaded Blackbirds continue to breed commonly at Clear Lake, Lake County (J. White in litt.).

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In the Sacramento–San Joaquin River Delta, these blackbirds were confirmed breeding in 6 blocks of the Sacramento County bird atlas (unpubl. data); they also breed in San Joaquin County, though few colonies are known (largest about 15 pairs, D. Yee and W. Holt pers. comm.). The Contra Costa County atlas recorded this species in two blocks, one each in the Suisun Marsh and delta portions of the county. Recently, territorial males were observed near Oakley, but nesting remains unconfirmed (S. Glover pers. comm.).

In the San Joaquin Valley, the species is fairly numerous locally, with the best pockets of suitable habitat along rivers (especially on the west side), throughout the wetland complex of the Grasslands Ecological Area near Los Banos, along sloughs of the Kings River, and in the wetlands of the Tulare Lake Basin (L. Cole, J. Davis, J. Seay pers. comm.). It may breed in Stanislaus County, but confirmation is lacking (H. Reeve and J. Gain pers. comm.), and it has bred recently in Fresno and Madera counties (Fresno Audubon Society, B. Webb pers. comm.). Breeding sites in Kern County include Lake Buena Vista Aquatic Recreation Area and Kern NWR (M. Heindel pers. comm.).

Central and southern coast. For the San Francisco Bay region, there are few records of confirmed breeding in the past twenty years: in Alameda County at Coyote Hills Regional Park in 1985 (B. Richmond pers. comm.), in Napa County at American Canyon Creek in 1991 (5-10 pairs; AB 45:1160), and at Huichica Creek WA in 1992 (2 pairs, Berner et al. 2003). A possible nesting record exists from Skaggs Island, Sonoma County, in 1986 (Burridge 1995). The Alameda County atlas project recorded this species in just two blocks (unpubl. atlas data). The Yellow-headed Blackbird is now extirpated as a breeder from Santa Clara County, where historic breeding habitat is gone (W. G. Bousman and M. Rogers pers. comm.).

On the southern coast, this species seems to always have been a scarce breeder, though potential habitat continues to be lost. The species was not recorded on the coastal slope of Los Angeles County during 1995–2000 atlas surveys, but, apparently, nesting subsequently occurred along the Santa Clara River near Santa Clarita (K. Garrett in litt.). Yellow-headed Blackbirds breed irregularly in very low numbers (2 pairs in 2004) in the Prado Basin on the San Bernardino–Riverside County border (J. Pike in litt.), and they currently breed, or recently bred, at the San Jacinto WA (W. Hayes in litt.), Wilson Valley (R. Erickson in litt.), and Sanderson sewage ponds near Hemet, Riverside

County (C. McGaugh in litt.). The species still breeds irregularly at Baldwin and Big Bear lakes in the San Bernardino Mountains (R. McKernan in litt.). In Orange County, this species bred at the now-destroyed Anaheim wetlands in 1982 (10+ adults), at the Los Alamitos Golf Course in 1989 and 1990 (3-6 pairs), and at Huntington Central Park in 1990 (3+ adults, Gallagher 1997). At the southwestern edge of the species' range in San Diego County, where the species probably nests irregularly, a colony was active at Tule Lake near Boulevard in 2000 and 2001 (15-50 adults, Unitt 2004). Other sightings suggesting possible nesting during that county's atlas project were in McCain Valley in 1999 and in Santa Maria Valley southwest of Ramona in 1992 and northwest of Ramona in 2000.

Southern deserts. Yellow-headed Blackbirds breed at scattered sites in the Mojave Desert. In eastern Kern County, they breed primarily in an artificial marsh in a California City urban park but also near Cantil (Heindel 2000, M. Heindel pers. comm.). Crase and DeHaven (1972) estimated 10 breeding adults at a site near Del Sur west of Lancaster, Los Angeles County, in 1971. The Los Angeles County breeding bird atlas recorded this species in 17 blocks in the Antelope Valley–Lancaster area (unpubl. atlas data). Small numbers also breed regularly near Victorville, Barstow, and Newberry Springs, San Bernardino County (S. Myers in litt.).

Nesting began in the Imperial and Coachella valleys of the Salton Sink in the early 1950s (Patten et al. 2003). In 1963, 75 territorial males were counted at Ramer Lake, Imperial County (Willson 1966). By the time of a broad-scale survey in 1971, colonies in the Coachella Valley and at Ramer Lake were the largest detected in the state, with 300 and 500 adults, respectively (Crase and DeHaven 1972). Patten et al. (2003) described the species as currently a "fairly common breeder in most years and uncommon in others" in the Salton Sink. Known colony sites included Fig Lagoon, Finney and Ramer lakes, and the Wister Unit of Imperial WA, with the total population numbering probably under 200 pairs. First recorded nesting in the early 1940s, the Yellow-headed Blackbird is now considered a "locally common" breeder throughout the lower Colorado River valley (Rosenberg et al. 1991).

### **ECOLOGICAL REQUIREMENTS**

Yellow-headed Blackbirds breed almost exclusively in marshes with tall emergent vegetation, such as

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tules (Scirpus spp.) or cattails (Typha spp.), generally in open areas and edges over relatively deep water (Orians and Willson 1964). They nest locally in low vegetation such as spikerush (Eleocharis) in Sierra Valley (W. D. Shuford pers. comm.). Bent (1958) gave preferred water depths as 0.6 to 1.2 m and noted that, if water recedes, unfinished nests over dry land are likely to be abandoned. At Delevan NWR, blackbirds nest over water about 45 cm deep, and drawing down of water does not cause nest desertion (W. Hamilton pers. comm.). Reported water depth at breeding sites ranges from 16 cm to 110 cm, including averages of 37 cm for 25 nests in Wisconsin, and 28 cm for 43 nests and 56 cm for 16 nests at two Saskatchewan sites (Minock and Watson 1983, Miller 1968). Nests are fabricated from dry vegetation and placed in dense cover. Because of the need for deeper water, breeding marshes often are on the edges of water bodies such as lakes, reservoirs, or larger ponds. Males choose territories with ample open water, and within these females tend to choose edges with moderately dense vegetation and extensive channels, characteristics suited for adequate support for nests and safety from predators, respectively (Orians and Wittenberger 1991). Territories in southern California had 35%-77% vegetation cover (Willson 1966), but, overall, nest density is inversely related to the amount of fallen dead emergent vegetation and vegetation cover (Orians and Willson 1964).

Mean nest height above water in Saskatchewan was 30.8 cm (range = 15.2–53.4, n = 59; Miller 1968). Most nests are attached to cattails and tules, but some are built in willows (*Salix* spp.) and tamarix (*Tamarix gallica*; Twedt and Crawford 1995). Females raise one brood but will renest following failure.

Overall, the diet is seeds and, to a minor extent, insects (Twedt and Crawford 1995). During breeding, however, adults forage primarily on insects and feed young almost entirely aquatic insects such as damselflies (Willson 1966, Orians 1980). Birds forage within breeding territories if resource abundance is high but in uplands, often agricultural fields, otherwise.

Yellow-headed Blackbirds are territorial when food resources are available within the territory; otherwise they can be loosely colonial and non-territorial when food is obtained outside of the territory (Twedt and Crawford 1995). The species is highly polygynous, so within a male's territory there may be one to six females. Territory size varies widely, tending to be greater where foraging takes place within the territory (Willson 1966).

A study in Washington state found low betweenyear territory fidelity, as males changed territories in 43% of between-year opportunities to do so (Beletsky and Orians 1991).

Factors regulating populations in California are not well understood, but the quantity and quality of habitat—related to water levels—have a direct effect on population sizes (Lederer et al. 1975).

### **THREATS**

Habitat loss—primarily wetland drainage for irrigation, flood control, or water diversion—is the main threat to this species. Yellow-headed Blackbirds are sensitive to water depth at their breeding marshes, and even a lowering without full drainage of the wetland may adversely affect breeding (Twedt and Crawford 1995). For example, water drawdowns give certain predators access to nests (Twedt and Crawford 1995), which might be a problem in areas such as the Central Valley, where spring drawdowns are typical.

The species may be exposed to harm from pesticides where foraging in agricultural fields. Aerial-applied pesticides may drift into breeding colonies, potentially causing nestling mortality (Twedt and Crawford 1995). Further, if insect abundance is diminished during the breeding season, nestling mortality can occur (Twedt and Crawford 1995), as two studies have shown that nestling starvation is a major cause of mortality in this species (Orians 1980, Willson 1966). However, the threat of pesticides and other contaminants is speculative as there are no specific studies.

## MANAGEMENT AND RESEARCH RECOMMENDATIONS

- Protect large, deepwater marshes, particularly those managed with water depth of at least 30 cm under emergent stands of *Typha* or *Scirpus*.
- Focus on the enhancement and restoration of suitable wetlands for breeding, particularly within important historical nesting areas such as the Tulare Basin.
- Manage deepwater marshes to increase or maintain sufficient habitat edges and patchiness important for nest sites.
- Study reproductive success and the factors that influence it, particularly habitat requirements. Attention is needed to understand required water depth preferences and the effects of water level drawdown on nesting success.

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- Study the effects of pesticides on these blackbirds, especially in the Central Valley.
- Study the success of burning cattail residues to open up marshes to preferred vegetation densities for Yellow-headed Blackbirds.

### MONITORING NEEDS

The Breeding Bird Survey (BBS) is moderately adequate for monitoring population changes in this species. Because the proximity of roads to wetlands varies considerably both locally and regionally, it would be valuable to design additional sampling of the many wetlands not sampled by the road routes of the BBS.

The patchy distribution of this species lends itself to targeted colony counts as for Tricolored Blackbirds (Beedy and Hamilton Construction of a database of recent and historic breeding sites to form a basis for a monitoring program would be useful. Historic breeding sites should be visited in May to early June to verify that the colony still exists and to estimate the number of adults present. All sampling should occur before adult males leave the breeding grounds early in the season (from early Jul), when they can congregate in large roosting flocks of birds that might be considered local breeders. All or a random sample of breeding sites should be surveyed annually for at least three consecutive years followed by surveys every three to five years. Roads should be driven near known colonies, with the aim of detecting new colonies. Individuals show low site fidelity (Beletsky and Orians 1991), so considerable year-to-year shifting of colonies and breeding concentrations increases the difficulty of determining population trends.

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