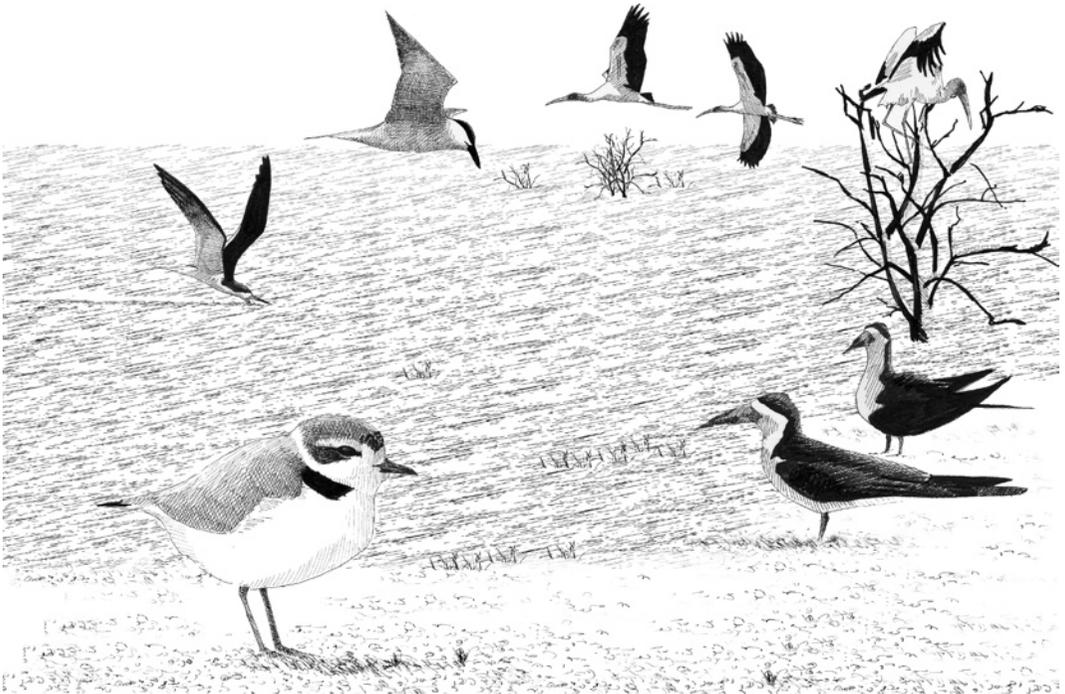


II

SPECIES ACCOUNTS



Andy Birch

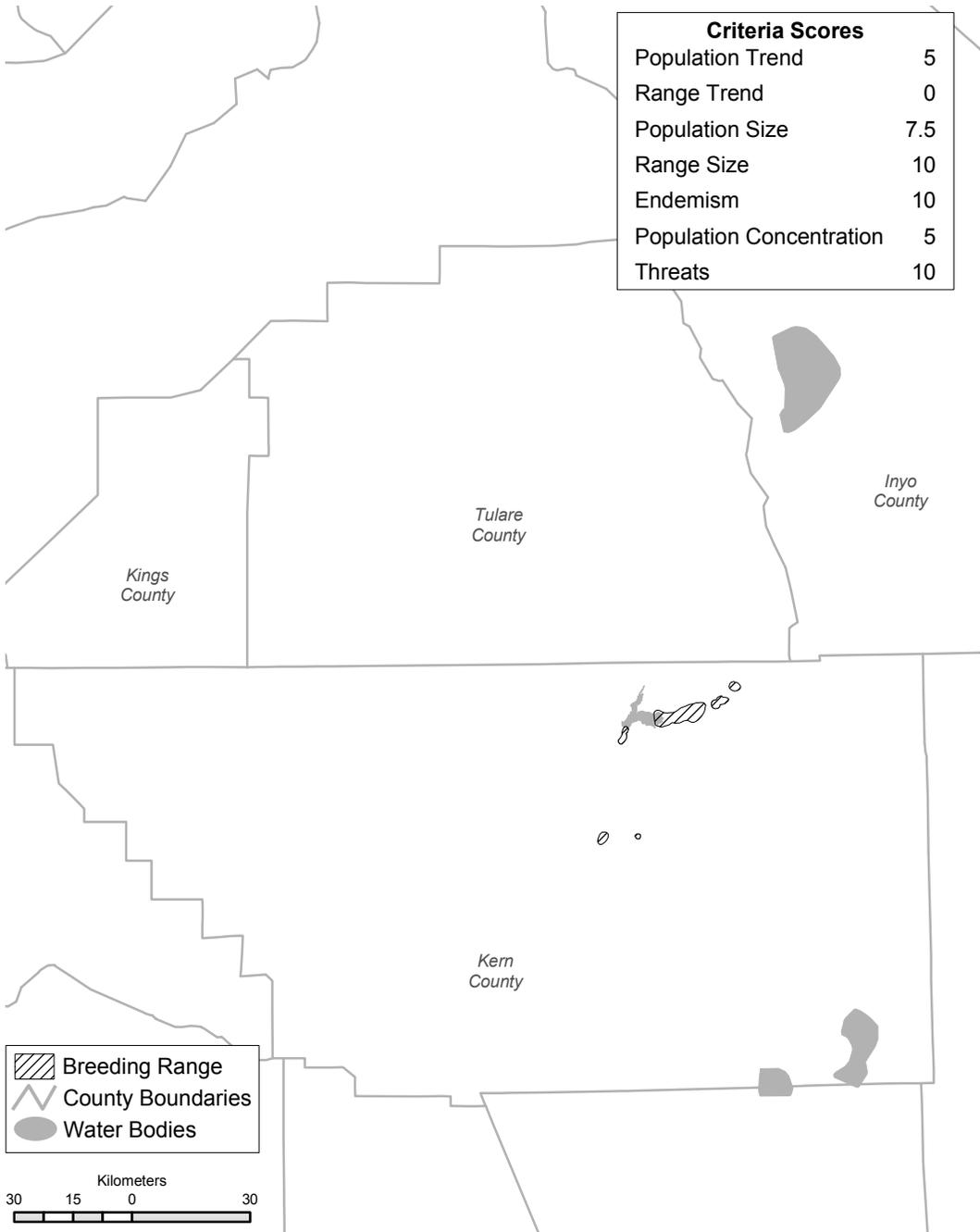
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KERN RED-WINGED BLACKBIRD

(Agelaius phoeniceus aciculatus)

TERRI GALLION



Breeding, and perhaps primary year-round, range of the Kern Red-winged Blackbird, a California endemic. Restricted to the Kern River Valley and the Walker Basin of east-central Kern County, where the general outline of the range remains intact but numbers have declined at least slightly.

SPECIAL CONCERN PRIORITY

Currently considered a Bird Species of Special Concern (year round), priority 2. Not included on prior special concern lists (Remsen 1978, CDFG 1992).

BREEDING BIRD SURVEY STATISTICS FOR CALIFORNIA

Data inadequate for trend assessment (Sauer et al. 2005).

GENERAL RANGE AND ABUNDANCE

The Red-winged Blackbird (*Agelaius phoeniceus*) breeds widely in North America from (locally) east-central Alaska and central Canada south through the conterminous United States to parts of Mexico, Central America, and the Caribbean (Yasukawa and Searcy 1995, AOU 1998). In winter, birds retreat from Alaska, most of Canada, and the northern fringe of the central and eastern United States south into the resident breeding range and further occupy portions of Baja California and western Mexico. Twenty-six subspecies have been recognized (14 in North America), though the validity of several are questionable (see summary in Yasukawa and Searcy 1995).

The Kern Red-winged Blackbird (*A. p. aciculatus*) is endemic to California and is known to breed in only two mountain valleys of east-central Kern County (Grinnell and Miller 1944), as described in detail in sections below. Although Bent (1958) thought they wintered near their breeding range, van Rossem (1926) stated that these blackbirds depart their breeding grounds entirely and that most probably winter in the San Joaquin Valley.

SEASONAL STATUS IN CALIFORNIA

Occurs in California year round, with some regional movement known from specimen data (van Rossem 1926); the breeding season of this subspecies is not well known but probably extends from April to July.

HISTORIC RANGE AND ABUNDANCE IN CALIFORNIA

Grinnell and Miller (1944) described the Kern Red-winged Blackbird as “fairly common locally in summer” at 2500–3400 ft (762–1036 m) elevation in mountain valleys of east-central Kern County. Localities of record are four or five miles east of Isabella, Weldon, and Onyx, South Fork

of the Kern River; Bodfish; and the Walker Basin (Mailliard 1915a, b; van Rossem 1926; Grinnell and Miller 1944). Mailliard (1915a) described this subspecies as limited to a few individuals in the Walker Basin and in the Kern River Valley, where it occurred in small groups and colonies and was “far from numerous.” Grinnell and Miller (1944) stated that irrigated alfalfa fields had increased foraging habitat for the Kern Red-winged Blackbird.

The winter status of the Kern Red-winged Blackbird was poorly known. The two definite historical winter records for the Central Valley were of one female (30 Dec) and one male (14 Apr—not breeding) collected at Buena Vista Lake, Kern County (van Rossem 1926).

RECENT RANGE AND ABUNDANCE IN CALIFORNIA

The current breeding range of the Kern Red-winged Blackbird appears to be much the same as it was originally described except for some local extirpations (see map). Part of the historic nesting area on the South Fork of the Kern River (Grinnell and Miller 1944, Mailliard 1915a) has been lost, and irrigated alfalfa, once important for foraging blackbirds, is currently a crop of very limited acreage in this valley. After its completion in 1954, Lake Isabella reservoir inundated and destroyed several miles of riparian and wetland nesting areas for the Kern Red-winged Blackbird. The largest breeding population still occurs in the South Fork Kern River Valley and may number as many as 500 individuals (T. Gallion pers. obs.). A one-day visual survey in the Walker Basin in June 2001 found about 50 Red-winged Blackbirds (T. Gallion pers. obs.). All were in breeding habitat and were thought to be this subspecies, as they appeared to have long, slim bills. A more thorough investigation is required to ensure that the Kern Red-winged Blackbird still occurs in the Walker Basin and, if so, to determine its population size.

The current nesting range in the South Fork Kern River Valley extends from the area surrounding the town of Lake Isabella and the wetlands along the South Fork Kern River from the east edge of Lake Isabella reservoir to the Canebrake Ecological Reserve, about five miles east of the town of Onyx. Much of this is private land, but important nesting areas are protected on the Kern River Preserve (National Audubon Society), Canebrake Ecological Reserve (California Fish and Game), and the South Fork Wildlife Area (U.S. Forest Service). Reports of Red-winged

Blackbirds nesting near the town of Kernville on the northwest side of Lake Isabella reservoir likely represent *aciculatus*. The Walker Basin population is scattered among a few artificial ponds and one natural marsh; the largest nesting colony occurs at a large marsh on a private ranch.

From 1991 to 2006, the early winter number of Red-winged Blackbirds on the South Fork [Kern River] Valley Christmas Bird Count averaged 3100 individuals (range = 575–8243, $n = 16$ yrs; www.audubon.org/bird/cbc/), but their subspecific identity is unknown.

ECOLOGICAL REQUIREMENTS

The ecological requirements of the Kern Red-winged Blackbird are largely undescribed. Grinnell and Miller (1994) noted the subspecies' affinity for "marshy meadows and lagoons which support growths of cattails and sedges." These authors also noted that "alfalfa fields developed through irrigation have increased available habitat, at least for foraging activity." Currently, this blackbird breeds in freshwater cattail (*Typha* spp.) and tule (*Scirpus* spp.) marshes, marsh vegetation bordering natural and man-made ponds, marsh and willows (*Salix* spp.) in the drawn-down area at the east end of Lake Isabella, and riparian forest bordering wetlands, irrigation ditches, and wet pastures (T. Gallion pers. obs.). Open desert and pasturelands appear to be important foraging areas for these blackbirds.

The ecological requirements of the Kern Red-winged Blackbird are likely similar to those of other subspecies of the Red-winged Blackbird. Nest sites for the species as a whole are highly variable. In emergent marsh vegetation, nests are typically placed 20–80 cm above water, whereas in upland grasses nests tend to be on or near the ground. Nest sites also vary in quality. In marshes, risk of predation decreases with increasing depth of water under the nest (Searcy and Yasukawa 1995). Pairs very rarely raise two broods, and renesting is common following nest failure (Yasukawa and Searcy 1995).

Red-winged Blackbirds forage in a variety of habitats and on many substrates, perhaps reflecting changes in resource availability and distribution (Orians 1980). The nonbreeding diet of the Red-winged Blackbird is primarily plant matter, generally consisting of wild seeds and waste or crop grains according to what is available to foraging birds. In the breeding season, the diet is primarily animal matter consisting of insects (Yasukawa and Searcy 1995). In California, the

breeding season diet is up to 91% animal matter, and adults feed nestlings almost exclusively insects (Beal 1910, Orians 1980).

Studies of population-limiting factors of the Kern Red-winged Blackbird are lacking. In general, however, the amount of breeding habitat is important to overall population regulation. Habitat conversion from marsh to upland agriculture has mixed effects, as some conversions (pastures, hay fields, and grains fields) result in population increases, others (agricultural use that requires tillage) in decreases (Yasukawa and Searcy 1995). There is evidence that insect biomass at the local or site level influences local breeding population size (Brenner 1966), and nest success is higher when the local abundance of insect food is very high (Strehl and White 1986). Brown-headed Cowbird (*Molothrus ater*) nest parasitism can be high in some areas (blackbirds accept cowbird eggs and young), and reproductive success of parasitized nests is sometimes but not always diminished (Ortega and Cruz 1988, Weatherhead 1989, Røskaft et al. 1990). Still, nest predation is probably the most important factor regulating local reproductive success (Searcy and Yasukawa 1995).

THREATS

The primary threat to the Kern Red-winged Blackbird is degradation and loss of breeding habitat from residential development, a lowered water table, exotic invasive plant species, and changing agricultural practices. The majority of the extant breeding habitat for this blackbird is in private ownership and is currently being affected by changing land-use practices that may reduce blackbirds' foraging and nesting habitat. During late spring, when blackbirds would be nesting, local ranchers often burn the cattail marshes and the edges of weedy irrigation ditches to keep them clear and to stimulate new forage for horses and cattle (T. Gallion pers. obs.). Hundreds of acres of land are being converted from pastures to row crops (mainly carrots). Sprinkler irrigation used for these crops may cause a drop in the water table, which could have long-term effects on the health of wetlands along the South Fork Kern River (K. Baird pers. comm.). In addition, pesticide and herbicide runoff from these fields could have detrimental effects on the river and associated wetlands.

The human population in the Kern River Valley is projected to grow. This increase in residential growth and development will likely lower ground-water levels, increase predation of eggs, nestlings,

and adults by domestic cats (*Felis catus*) and other pets, reduce foraging areas in surrounding desert and pasturelands, and eliminate some wetlands.

The intrusion of tamarisk (*Tamarix* spp.) into streamside vegetation and wetlands along the South Fork Kern River may threaten the foraging habitat of the Kern Red-winged Blackbird. In addition, exclusion of native riparian and marshland species by tamarisk could reduce or eliminate some current nesting grounds for this species. The integrity of the marshes and wetlands along the South Fork Kern River are also threatened by the invasive exotic Purple Loosestrife (*Lythrum salicaria*).

MANAGEMENT AND RESEARCH RECOMMENDATIONS

- Purchase or protect more habitats in the Kern River Valley, including surrounding open land and pasture that are traditional, critical foraging areas for this blackbird. The breeding wetlands around the town of Lake Isabella and on private ranches along the South Fork Kern River would be some of the most critical to protect, as would be the wetlands and ranches in the Walker Basin if the subspecies is confirmed to be breeding there.
- Obtain cooperative agreements with ranchers and other landholders limiting burning and maintenance activities in ditches and wetlands during the breeding season.
- Remove Purple Loosestrife and tamarisk from the South Fork Kern River drainage, concentrating on eliminating the known upstream seed sources.
- Ensure that future residential development plans consider and reduce impacts, direct or indirect, on nesting and foraging areas for the Kern Red-winged Blackbird.
- Survey and map the complete extent of this blackbird's breeding and wintering ranges.
- Conduct a multiyear color-banding study to determine population demographics (e.g., survival), site use and fidelity, seasonal movements, and wintering areas.
- Determine key natural history parameters for this subspecies, such as predators, parasitism rates by the Brown-headed Cowbird, nest success, and reproductive rates.
- Encourage DNA and phenotypic studies to verify the uniqueness of this subspecies and review subspecific taxonomy as a whole in California.
- Measure the amount and effects of pesticide and other runoff pollutants.

MONITORING NEEDS

The Breeding Bird Survey (Sauer et al. 2005) and broadscale mist-net monitoring (MAPS; DeSante et al. 1993) are both inadequate for assessing population size or trends of the Kern Red-winged Blackbird. Annual monitoring of population size and trends should include estimation of an index of breeding population size using standardized point counts. Volunteer surveys, similar to those for the Tricolored Blackbird, could be used to monitor nesting locations and habitat changes for the Kern Red-winged Blackbird.

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