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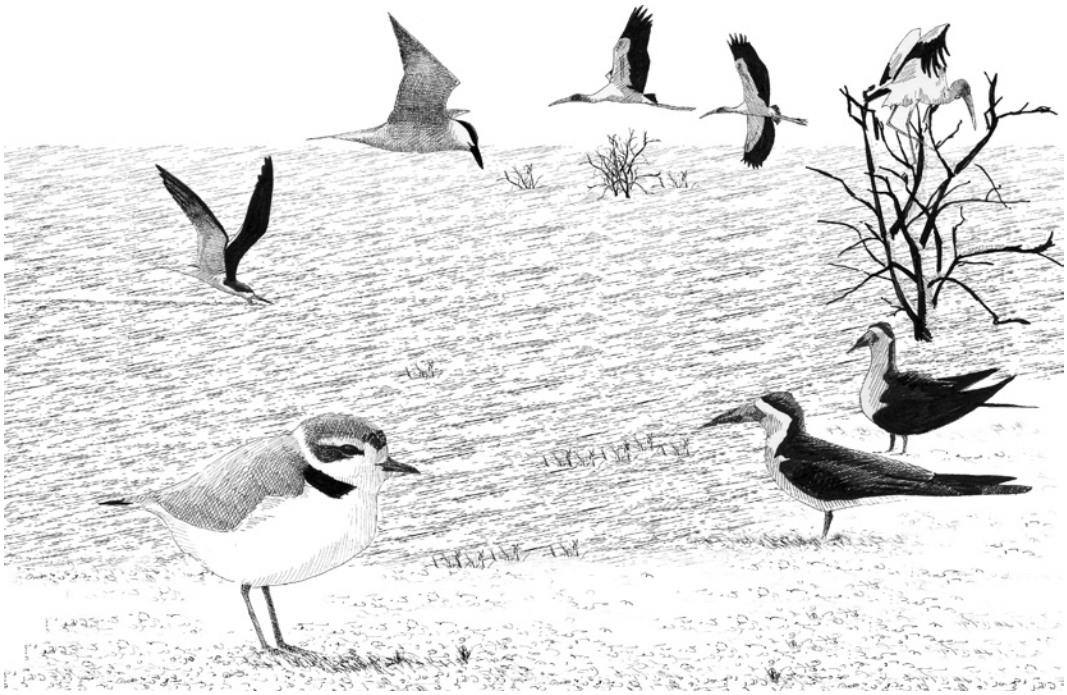
SPECIES ACCOUNTS



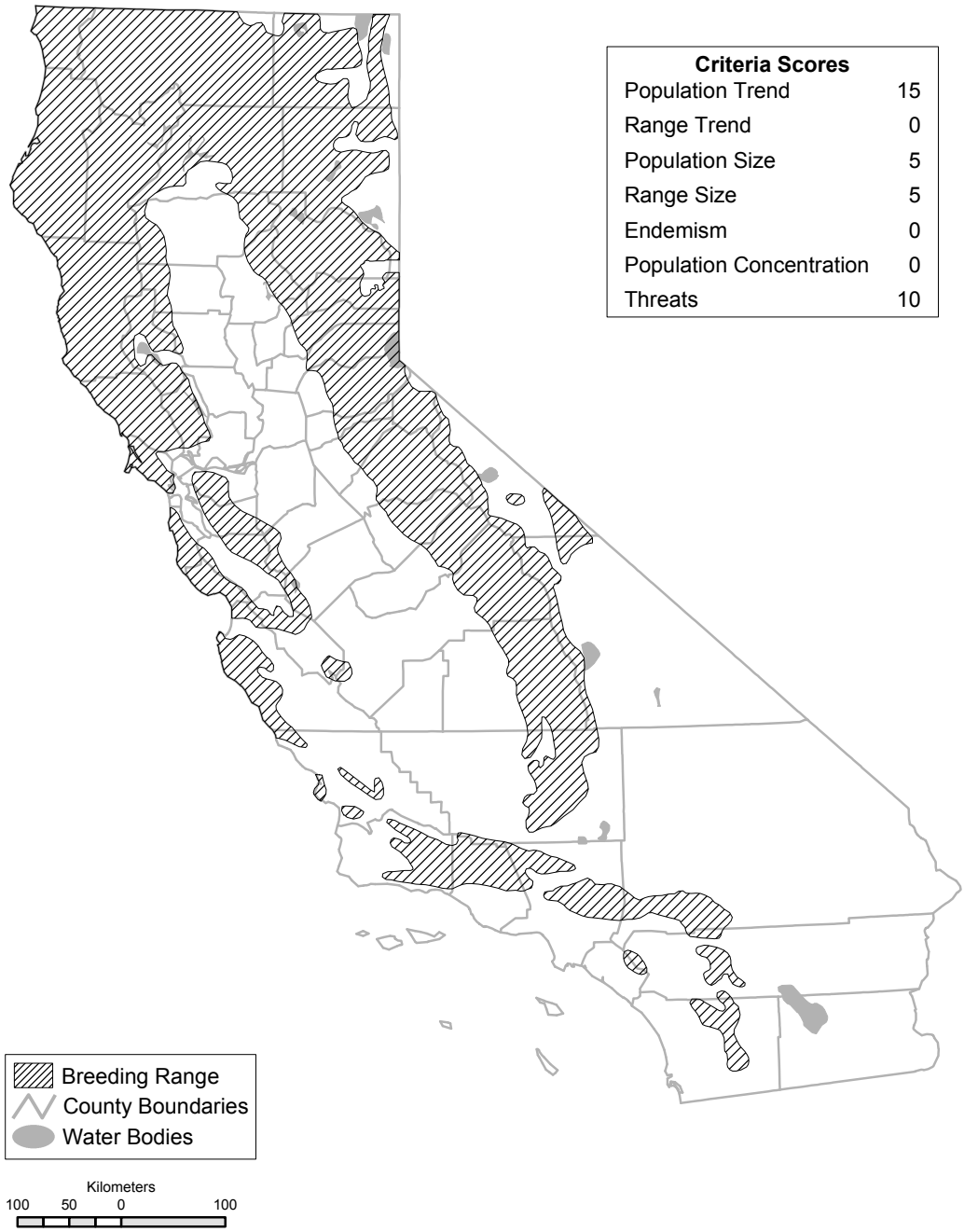
Andy Birch

PDF of Olive-sided Flycatcher account from:

Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

OLIVE-SIDED FLYCATCHER (*Contopus cooperi*)

William P. Widdowson



Breeding range of the Olive-sided Flycatcher in California; occurs more widely during migration. Outline of the overall range is stable, but numbers of breeders have declined greatly.

Special Concern Priority

Currently considered a Bird Species of Special Concern (breeding), priority 2. Not included on the previous lists (Remsen 1978, CDFG 1992).

General Range and Abundance

The Olive-sided Flycatcher breeds from western and central Alaska across central and southern Canada south into the United States in the Great Lakes region, northern New England, disjunct pockets south in the Appalachians to western North Carolina, and in the West south through the Pacific coast states to Baja California Norte, and through the interior, principally the Rocky Mountains, to Arizona, New Mexico, and (locally) west Texas (AOU 1998, Altman and Sallabanks 2000). Migrates broadly to winter in southern Mexico and Central America, but mainly in Panama and the Andes of South America. Breeding Bird Survey (BBS) data show the species is most abundant in western North America: California (3.9 birds per route), Oregon (2.3), Washington (2.1), British Columbia (2.4), and the Yukon Territory (3.5; Sauer et al. 2005).

The Olive-sided Flycatcher is widely regarded as a monotypic species (Altman and Sallabanks 2000). Todd (1963) and Pyle (1997) recognized the subspecies *marjorinus* and *cooperi*, but Unitt (2004) judged the validity of the distinction between them needed further testing.

Seasonal Status in California

A summer resident and migrant mainly from mid-April through early October; the breeding season in California extends from early May to late August (Bent 1942, Altman and Sallabanks 2000, Sequoia Audubon Society 2001, MVZ egg data).

Historic Range and Abundance in California

Grinnell and Miller (1944) described the Olive-sided Flycatcher as "rated 'common' because conspicuous" (but in reality probably far less in number than other "common" species), and as a summer resident in areas of conifer forest the entire length of the state, ranging in elevation from near sea level on the coast to 9400 ft (2865 m) in the interior. The breeding range in California extended from the Oregon border south along the coast and near-coastal mountains west of the Central Valley south to Santa Barbara County, and on higher portions of mountains of the Transverse and Peninsular ranges south to San Diego County; across the northern edge of the state through the Cascade Range and Modoc Plateau east to the Warner Mountains; and south along the Sierra Nevada to southern Tulare County and east (sparingly) to the White Mountains.

Breeding in the historic period was documented widely (e.g., references in Grinnell and Miller 1944, MVZ egg data), including close to human habitation, such as near the Claremont Hotel in Berkeley in 1920 (nest, Dixon in Bent 1942), and remote areas, such as San Benito Mountain in the southern Diablo Range in 1936 (specimen of a male in breeding condition, Palmer in Johnson and Cicero 1985).

Recent Range and Abundance in California

The general outline of the breeding range today remains largely unchanged (see map). Still, localized extirpations have occurred in at least a few sites (Marshall 1988, Raphael et al. 1988), and, conversely, birds have expanded locally in lowlands of the San Francisco Bay region to occupy plantings of conifers and eucalyptus (e.g., Sibley 1952, Shuford 1993). Breeding bird atlas projects from the mid-1970s to the present provide an excellent baseline on local distribution of this species in parts of its California range (Humboldt, Marin, Sonoma, Napa, Contra Costa, Alameda, San Francisco, San Mateo, Santa Clara, Santa Cruz, Monterey, San Luis Obispo, Los Angeles, Orange, and San Diego counties, and the Glass Mountain region of Mono County), though the systematic data gathered by these efforts generally are insufficient to assess trends when compared to historical, anecdotal accounts. They do document the generally more widespread distribution

Breeding Bird Survey Statistics for California

1968–2004					1968–1979			1980–2004			All data from Sauer et al. (2005)
Trend	*P*	*n*	(95% CI)	R.A.	Trend	*P*	*n*	Trend	*P*	*n*	Credibility
–3.9	0.00	115	–5.3,–2.6	3.88	–3.1	0.08	71	–4.0	0.00	105	High

of this species to the north (Humboldt County; Hunter et al. 2005) and local distribution in drier mountain ranges to the south (San Diego County; Unitt 2004) and east (Glass Mountain area, Mono County; Shuford and Metropulos 1996).

BBS data collected through 2004 are the best available for documenting abundance and trends of the Olive-sided Flycatcher in California, where it is well sampled by this method. The state had the highest abundance of the species (3.9 birds per route), most individuals of which were to the north in the California Foothill and Sierra Nevada regions (Sauer et al. 2005). Although this flycatcher is still numerous in California, the BBS shows a highly significant population decline for the state from 1968 to 2004, the magnitude of which has been consistent over time (see table above, Sauer et al. 2005). Likewise, Pyle et al. (1994) reported significant declines in both spring and fall migrants of this flycatcher at Southeast Farallon Island over the 25-year period 1968–1992. Although present on Redwood Mountain in Tulare County, California, in the 1930s, the Olive-sided Flycatcher was no longer there in the 1980s, even though portions of virgin Giant Sequoia (*Sequoiadendron giganteum*) forest within Kings Canyon National Park remained (Marshall 1988).

Two site-specific studies suggest an increase in Olive-sided Flycatcher populations. Raphael et al. (1988) estimated a 2% increase in numbers in Douglas-fir (*Pseudotsuga menziesii*) forests of northwestern California on the basis of comparisons of current population densities and estimates of current and historic forest area in different seral stages. In 1983 and 1984, Johnson and Cicero (1985) found this species "surprisingly numerous" on San Benito Mountain. They concluded that numbers had probably increased since 1936, which they attributed mainly to climate change (reduced average temperatures and increased winter and summer precipitation).

Ecological Requirements

Breeding habitat for the Olive-sided Flycatcher is primarily late-successional conifer forests with open canopies (e.g., 0%–39% canopy cover; Verner 1980). Breeding locales range from sea level to timberline but usually are at mid to high elevations (3018–6988 ft [920–2130 m]; Altman and Sallabanks 2000). At the upper extreme, Johnson and Cicero (1986, 1991) reported this species as a "fairly common summer resident locally" of subalpine forest from 8200 to 10,500 ft (2500 to 3200 m) in the White Mountains.

These flycatchers are mostly associated with edges, openings, and natural and human-created clearings in otherwise relatively dense forests, but they also occupy semiopen forests. The association with openings and edges extends to the entire landscape, as these flycatchers are more abundant in broad areas with a matrix containing clearcuts or otherwise highly fragmented forest than in less-fragmented or unfragmented landscapes (Altman and Sallabanks 2000). In Douglas-fir forests in northwestern California, the species is detected more often at forest edges than in forest interiors (Rosenberg and Raphael 1986). In the Sierra Nevada, it is more abundant in open mixed conifer and California Red Fir (*Abies magnifica*) forest than in closed-canopy forest (Beedy 1981). High in the White Mountains, this species is associated with Limber Pine (*Pinus flexilis*), Western Bristlecone Pine (*P. longaeva*), and Lodgepole Pine (*P. contorta*), preferring mature open stands (Johnson and Cicero 1991). In the isolated mixed conifer stands of the San Benito Mountain region, these flycatchers breed in a unique open conifer assemblage, largely confined to otherwise bare serpentine soils, dominated by Coulter Pine (*P. coulteri*) but mixed with Foothill Pine (*P. sabiniana*), Incense Cedar (*Calocedrus decurrens*), and Jeffery Pine (*P. jeffreyi*; Johnson and Cicero 1985). Other tree species used by Olive-sided Flycatchers include, but are not limited to, White Fir (*Abies concolor*), Bigcone Douglas-fir (*Pseudotsuga macrocarpa*), Pacific Ponderosa Pine (*P. ponderosa*), Monterey Pine (*P. radiata*), and mature planted trees such as cypress (*Cupressus* spp.) and eucalyptus (*Eucalyptus* spp.; Grinnell and Miller 1944).

For foraging, the flycatchers prefer unobstructed airspace within openings and over forest canopies with exposed perches (Altman and Sallabanks 2000). The lofty perches required for foraging and for singing-posts (Grinnell and Miller 1944) typically are the apical tips of snags that protrude above the surrounding canopy. Altman (1999) observed that most foraging bouts were initiated from the upper third of trees or snags. The Olive-sided Flycatcher diet is composed almost entirely of insects, 83% of which are bees and wasps, indicating a very high degree of specialization (Beal 1912, $n = 69$ stomachs).

Open-cup nests are placed on the upper surface of a branch, well away from the trunk, in a cluster of live needles and twigs (Harrison 1979). Nest heights range from 1.5 to 34 m, averaging higher in the West, and are typically from about 9 to 15 m (see review in Altman and Sallabanks 2000). Nests in California are mostly in conifers

but may be in a variety of species, including willows (*Salix* spp.), alders (*Alnus* spp.), oaks (*Quercus* spp.), and eucalyptus (Smith 1927, Grinnell and Miller 1944, Altman and Sallabanks 2000). Pairs raise a single brood and will renest following nest failure.

Factors regulating populations are unknown. Winter-season habitat loss is frequently cited as the cause of widespread population declines, but habitat degradation on the breeding grounds may also play an important role in limiting populations (see references in Altman and Sallabanks 2000).

Threats

Habitat degradation and loss is the most important threat to the Olive-sided Flycatcher. Manley et al. (2006) reported that the abundance of Olive-sided Flycatchers in remnant forest stands in developed portions of the Lake Tahoe Basin decreased with increasing levels of development in the vicinity. Marshall (1988) speculated that the disappearance of the species from suitable, seemingly unchanged habitat in the southern Sierra Nevada was caused by the destruction of forests in Central America, where these birds maintain their winter territories. On the breeding grounds, removal of snags during logging operations reduces preferred nesting and habitat structures. Olive-sided Flycatchers are more abundant in some types of logged forest, especially those where suitable habitat structure is retained (see review in Altman and Sallabanks 2000). Hutto and Young (1999) reported that historically this species was possibly dependent on postfire habitat to create appropriate habitat structure. The apparent dichotomy of increased use of logged forests and diminished populations could indicate that Olive-sided Flycatcher populations are primarily influenced by winter-season events and/or that harvested forest types represents an "ecological trap." That is, forest management practices (fire suppression and some types of forest harvest) may be providing only the appearance of preferred habitats that in fact are functionally of poor quality, as suggested by preliminary evidence from Oregon (Altman and Sallabanks 2000). Hence, Olive-sided Flycatchers may depend on forest fires and other natural disturbances that create patchy habitats, forest openings, and abundant forest edge. Their breeding habitat could therefore be threatened by fire suppression policies implemented in the past 50 to 100 years (Hutto and Young 1999). These limiting factors are possibly exacerbated by the fact that the genus *Contopus* has the lowest reproductive rate of all North American passerines, thus increasing concerns that high survivorship is essential to the maintenance of stable populations (Altman and Sallabanks 2000).

Management and Research Recommendations

- Retain suitable snags during timber harvest and postburn salvage operations; retained trees should be of variable heights, with some at or above the adjacent forest canopy level (Altman 1997).
- Selectively burn or patch-cut forests in known breeding areas.
- Conduct research on structural and ecological conditions influencing habitat selection.
- Identify wintering areas with high concentrations of individuals to guide management to sustain these populations.
- Conduct research on the ecological requirements of this species during the winter season, especially those related to overwinter persistence and fitness in various habitat types.
- Conduct research to identify habitat types and management regimes where reproductive success and oversummer persistence are high.
- Conduct studies to assess the rates and extent of loss of suitable wintering habitat on the wintering grounds.
- Assess the effect of agricultural pesticide use on flycatchers on the wintering grounds.

Monitoring Needs

Because Olive-sided Flycatchers are well suited to sampling by the BBS, the results from recent surveys provide data adequate for trend analysis for this species. More intensive independent surveys in the Olive-sided Flycatcher's range would provide more information and confirm statewide population trends. Monitoring demographic rates, such as productivity and survival, is desirable to determine which life-cycle stage is most responsible for population declines. Although this is the goal of the Monitoring Avian Productivity and Survivorship Program (MAPS; DeSante 1992), the Olive-sided Flycatcher does not appear to be well sampled by mist-netting as employed by this program (Michel 2005). Regional monitoring programs could be established to compare the productivity of this species in various habitats and under different forest management techniques.

Acknowledgments

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