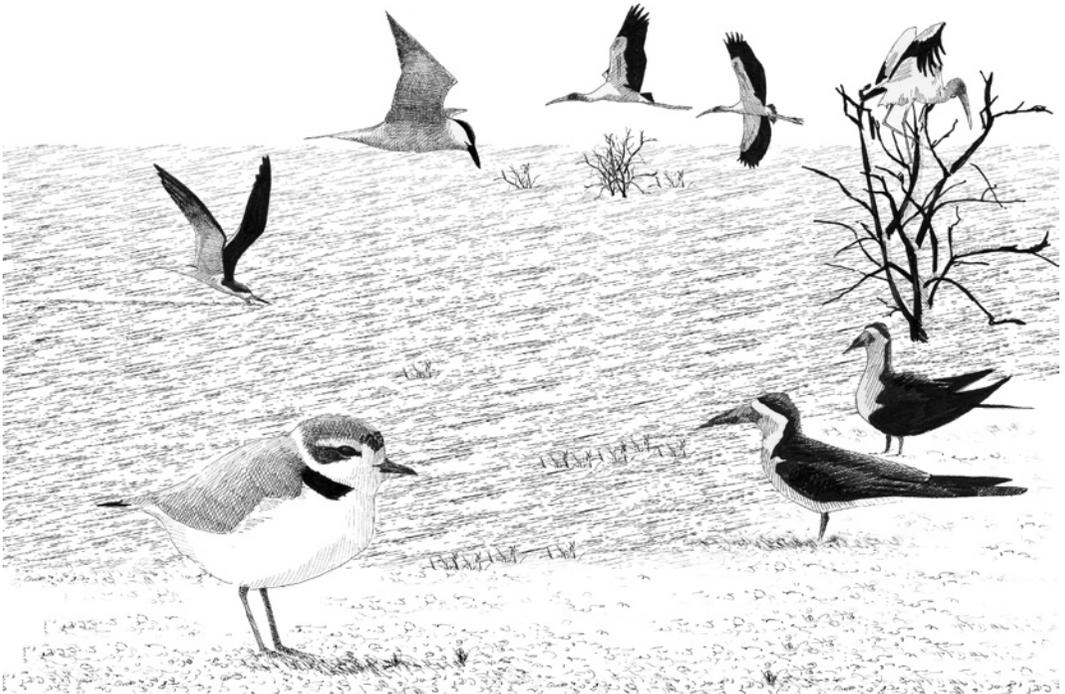


## II

---

# SPECIES ACCOUNTS

---



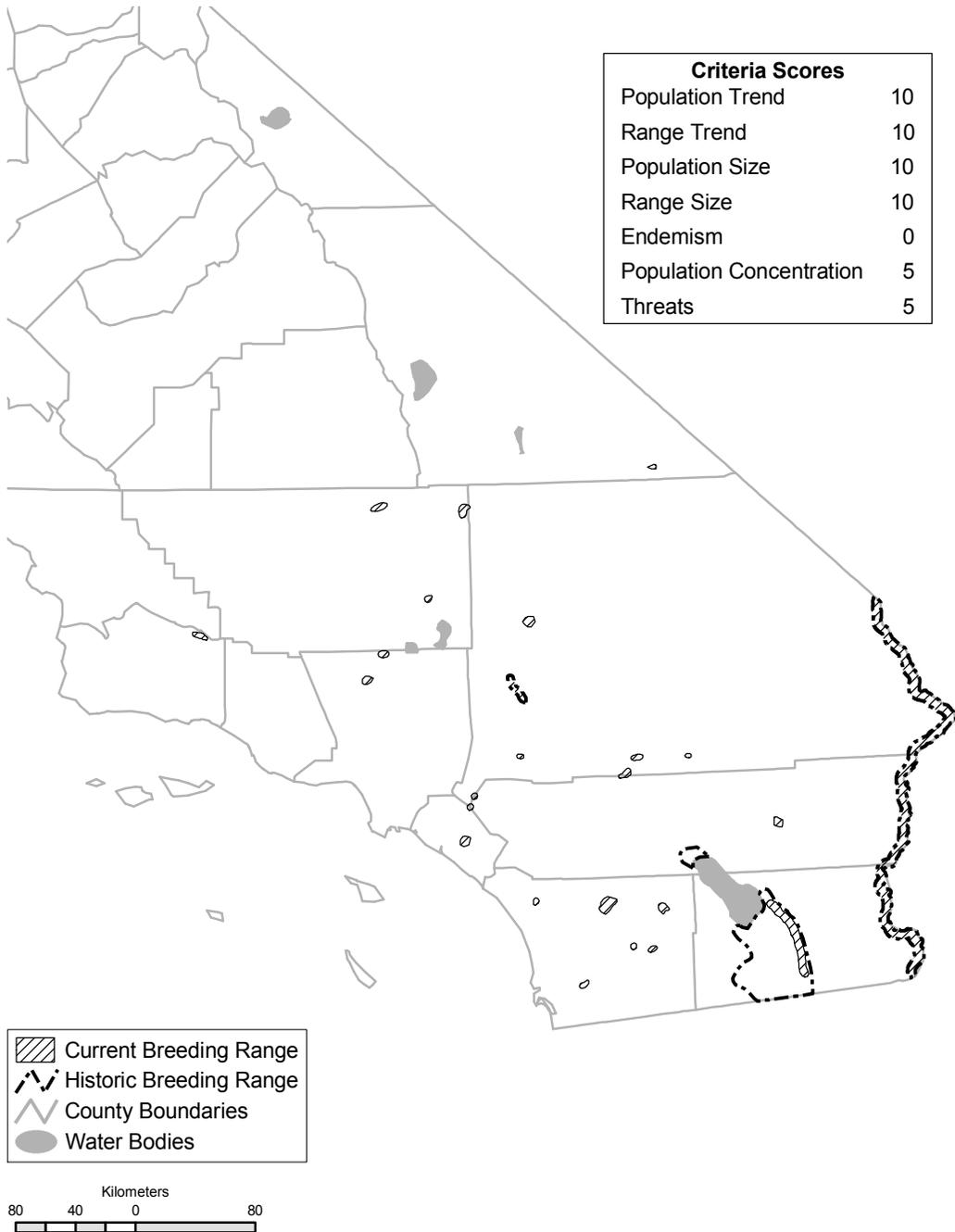
*Andy Birch*

PDF of Vermilion 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.

## VERMILION FLYCATCHER (*Pyrocephalus rubinus*)

STEPHEN J. MYERS



Current and historic (ca. 1944) breeding range of the Vermilion Flycatcher in California; occurs more widely during migration and winter. Breeding numbers have declined on the whole at least moderately, reflecting changes in the core of the range along the lower Colorado River. Still, despite extirpations locally in the Coachella and Imperial valleys, the overall breeding range has expanded to the north and west.

**SPECIAL CONCERN PRIORITY**

Currently considered a Bird Species of Special Concern (breeding), priority 2. Included on prior special concern lists (Remsen 1978, highest priority; CDFG 1992).

**BREEDING BIRD SURVEY STATISTICS FOR CALIFORNIA**

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

**GENERAL RANGE AND ABUNDANCE**

Includes 12 subspecies and ranges from the southwestern United States south to central Argentina and Uruguay (AOU 1998, Wolf and Jones 2000). *P. r. flammeus* of the United States ranges from south-central California, southern Nevada, southern Arizona, and southern Texas south to Baja California, Sonora, and Nayarit, Mexico (AOU 1957, Wolf and Jones 2000).

**SEASONAL STATUS IN CALIFORNIA**

Breeding birds of the Colorado Desert are generally resident, but those in colder regions (such as the Mojave Desert) withdraw at least partially in winter (Grinnell and Miller 1944, S. Myers pers. obs.). Some birds emigrate to occur in winter and spring in areas outside the breeding range, though at about the same, or rarely higher, latitudes. Migrating birds arrive in California in mid-March and generally depart by late August (Small 1994); the breeding season extends from early March through early July (Rosenberg et al. 1991, Patten et al. 2003, Unitt 2004).

**HISTORIC RANGE AND ABUNDANCE IN CALIFORNIA**

Grinnell and Miller (1944) considered the Vermilion Flycatcher to be “fairly common” within the breeding range of the Colorado Desert, including the Imperial Valley northwest to at least Coachella in the Coachella Valley, Riverside County, and the lower Colorado River valley, from the Mexican border to north of Needles, San Bernardino County. They noted that all known nesting localities were below 500 ft (152 m) elevation. Early in the 20th century, nesting was also recorded in the upper Mojave River drainage (Garrett and Dunn 1981). Vermilion Flycatchers were considered numerous in the lower Colorado River valley in the early part of the 20th century (Grinnell 1914, Rosenberg et al. 1991) and

“particularly numerous” in the Coachella Valley (reviewed in Patten et al. 2003; e.g., “over a dozen within a few hours on several occasions,” Hanna 1935).

**RECENT RANGE AND ABUNDANCE IN CALIFORNIA**

Since the 1940s, the Vermilion Flycatcher has declined as a breeding bird in California despite westward expansion of the range locally in the Mojave Desert and on the southern coast (see map). By the early 1980s, the species’ breeding distribution in the Mojave was known to extend as far west as the Morongo Valley, San Bernardino County (Garrett and Dunn 1981). Breeding in coastal San Diego County at Santee and Balboa Park in 1958–1960 and at Bonita in 1968 proved ephemeral, though other coastal and interior sites in the county have been occupied since (Unitt 1984, 2004).

The lower Colorado River valley remains the stronghold of the Vermilion Flycatcher in California, but numbers there have declined since the early 1900s in response to massive loss of riparian habitat. Rosenberg et al. (1991) estimated only 10 pairs along the mainstream river and a few additional pairs in the Bill Williams River delta of Arizona. However, during focused surveys for other riparian obligate species along the Colorado River in the late 1990s and early 2000s, biologists from the San Bernardino County Museum incidentally detected dozens of pairs between Parker Dam and the Mexican border (R. McKernan pers. comm.).

Breeding birds persisted in the Coachella Valley to at least the late 1950s (Garrett and Dunn 1981), but the species no longer nests there (Patten et al. 2003); it also has declined in the Imperial Valley, where it is now considered a “rare” breeder (Patten et al. 2003). The small population that was established by the 1970s and 1980s in the Morongo Valley area persists (2 pairs in 2001) and has expanded into Yucca Valley (3 pairs at the Yucca Valley golf course in 2001, E. Cardiff pers. comm.).

Away from the well-known breeding localities noted above, since 1990 Vermilion Flycatchers have nested (or were strongly suspected of nesting) in California at China Ranch, near Tecopa (1 male, 2 females, and 2 nests in 1995; J. Tarble fide T. & J. Heindel), Inyo County; Jess Ranch, Apple Valley (1 pair, 1995–2000; C. Pratt pers. comm.), Mojave River, between Victorville and Helendale (2–4 pairs, 2000–2002; NAB 54:423,

S. Myers pers. obs.), Tees and Trees Golf Course, Barstow (2 pairs in 2005; H. King pers. comm.), California State University, San Bernardino (1 pair in 2003–2007; NAB 57:546, T.A. Benson pers. comm.), Prado Regional Park near Chino Hills (1 pair nesting in 2007, possibly also in 2005–2006; J. Pike in litt.), and Twentynine Palms (1 pair in 2004, B. Deppe pers. comm.), San Bernardino County; Ridgecrest (1 pair in 1992 and 1994; AB 46:1179, FN 48:989, B. Barnes pers. comm.), China Lake Naval Air Weapons Station (1 pair in 1994, multiple pairs present each year from late 1990s; FN 48:989, B. Barnes pers. comm.), California City (at least 1 pair in recent years; B. Barnes pers. comm.), and South Fork Kern River Valley (2 pairs in 1996, 1 pair in 1998, 4 pairs in 2005; FN 50:997, FN 52:504, B. Barnes in litt.), Kern County; Leona Valley (1 pair in 1994; FN 48:989) and northwest of Lancaster (1 pair in 1998; FN 52:504, M. San Miguel pers. comm.), Los Angeles County; El Toro Marine Corps Air Station near Irvine (1 pair suspected nesting in 2002, D. Willick pers. comm.), Orange County; Santa Barbara Canyon near Cuyama Valley (1 pair in 1992; Lehman 1994, AB 46:1179) and New Cuyama (1 pair in 1995; FN 49:982), Santa Barbara County; Warner Valley/Lake Henshaw basin (at least 1 pair 1997, 2000, 2001), Santa Ysabel Asistencia (1 pair in 2005; D. Furseth in litt.), near Bonsall (regular, at least 1 pair per year, adult with fledglings in 2000), Singing Hills/Rancho San Diego area along the Sweetwater River (regular, 1 or 2 pairs 1999–2000), Whitaker Horse Camp, Anza-Borrego Desert (1 pair in 2001), De Anza Country Club, Borrego Springs (1 pair in 1997), Mason Valley (most regular site in the county, up to 4 individuals 1999 and 2001), and Vallecito Valley (1 pair in 2001), San Diego County (all Unitt 2004); Green River Golf Course near Corona (1 pair in 2005, J. Pike in litt.), and Desert Center, Riverside County (1 pair in 2005, J. Green in litt.); and along the Highline Canal north of Holtville (9 pairs in 1984 and 1985, 11 pairs in 1995 and 1996; Patten et al. 2003), Imperial County. The species now may be a “rare” and very local breeder in the Imperial Valley on the basis of displaying males at ponds along the Highline Canal north of State Highway 78 in December 2003 (L. Schmahl pers. comm.). Guy McCaskie (in litt.) knows of no recent confirmed nesting in the Imperial Valley.

Though the species has always been “rare” in San Diego County, numbers have declined there both during breeding (since the mid-1980s) and winter (since the 1970s and, particularly, mid-

1980s), and the species survives precariously in five areas (Unitt 2004). Although with range expansion the species has occupied parks, campgrounds, and golf courses in developed areas, continuing declines suggest these habitats are poor substitutes for natural riparian woodlands (Unitt 2004).

Mojave Desert locales in which Vermilion Flycatchers have wintered somewhat regularly include Apple Valley, Victorville, California City, and China Lake Naval Air Weapons Station. They also winter regularly in the Imperial Valley and occasionally in the Coachella Valley (Patten et al. 2003). Each winter, some birds emigrate to southern California’s coastal slope, with most birds occurring in San Diego County and some irregularly north to Santa Barbara County (Willett 1912, Grinnell and Miller 1944, Garrett and Dunn 1981, Lehman 1994, Unitt 2004).

## ECOLOGICAL REQUIREMENTS

In the breeding season, Vermilion Flycatchers occupy arid scrub, farmlands, savanna, agricultural areas, and riparian woodland. They are often associated with surface water, and in Arizona occur where cottonwoods (*Populus* spp.), willows (*Salix* spp.), oaks (*Quercus* spp.), mesquites (*Prosopis* spp.), and sycamores (*Platanus* spp.) line streams (Wolf and Jones 2000). They avoid dense riparian growth, preferring open habitats (Wolf and Jones 2000, B. Anderson pers. comm.). In the lower Colorado River valley, they are most often found in riparian woodland dominated by willows and cottonwoods; mesquites, surface water, and pastureland are frequently nearby (Rosenberg et al. 1991, R. McKernan pers. comm.). At some sites in California, such as the Morongo Valley and Victorville, the flycatchers use cottonwood-willow woodland, but they also inhabit golf courses, residential areas, and parks (Garrett and Dunn 1981, Wolf and Jones 2000, B. Barnes pers. comm., S. Myers pers. obs.).

Nests are placed in native trees such as willows, cottonwoods, mesquites, and Western Sycamores (*Platanus racemosa*), but sometimes in non-native trees such as elms (*Ulmus* spp.), Olives (*Olea europaea*), Black Locusts (*Robinia pseudoacacia*), Tamarisks (*Tamarix chinensis*), and eucalyptus (*Eucalyptus* spp.), especially in parks or near human habitations (Rosenberg et al. 1991, Wolf and Jones 2000, S. Myers pers. obs., W. D. Shuford pers. comm.). Nests are placed in horizontal forks of trees at 1–18 m above ground (Rosenberg et al. 1991, Wolf and Jones 2000).

No systematic studies of diet have been conducted, but like all flycatchers this species consumes insects and other arthropods. Among the insects known to be taken are grasshoppers, beetles, flies, and bees (Bent 1942, Wolf and Jones 2000).

### THREATS

Undoubtedly the most serious threat to the Vermilion Flycatcher in California has been the loss, degradation, and fragmentation of riparian habitats. Clearing of riparian woodland for agriculture, flood-control activities, the lowering of groundwater by pumping, and alteration of natural fluvial processes (primarily by dams) are all factors that have severely affected riparian habitats throughout most of the state. Rosenberg et al. (1991) considered habitat loss the primary cause of the species' decline in the lower Colorado River valley in the 20th century. Recent impacts to the Mojave River appear to be attributable to flood-control activities and, especially, groundwater pumping (S. Myers pers. obs.).

Brood parasitism by Brown-headed Cowbirds (*Molothrus ater*) may contribute slightly to population declines in California, but the Vermilion Flycatcher appears to be an uncommon host (Friedmann 1963, Friedmann et al. 1977, Friedmann and Kiff 1985).

### MANAGEMENT AND RESEARCH RECOMMENDATIONS

- Focus on restoration and protection of riparian ecosystems, particularly along the lower Colorado and Mojave rivers. Ensure that restored habitat is not just in dense narrow strips but also in broad open woodlands favored by this species (see Unitt 2004).
- Assess current water management regimes to ensure they will enable the maintenance or reestablishment of healthy riparian ecosystems.
- Conduct research on the biology of the species, particularly to determine the specific habitat requirements and ecological conditions needed to maintain self-sustaining populations.
- Conduct systematic, comprehensive surveys for breeding Vermilion Flycatchers in their current stronghold along the lower Colorado River and all other drainages within the species' known range in California that appear to support suitable habitat.

### MONITORING NEEDS

Because of the extremely small population in the state, and limited suitable habitat along roads, the Breeding Bird Survey is inadequate for monitoring population trends of the Vermilion Flycatcher. Once comprehensive surveys for breeding birds have been conducted, as recommended above, annual monitoring of population trends should be conducted by surveying a representative subset of sites. The population at Morongo Valley is monitored each year by an ongoing Breeding Bird Census (E. Cardiff pers. comm.). Monitoring pairs that nest at isolated localities, such as ranch yards, community parks, and golf courses, would require focused visits in years following known breeding attempts.

### ACKNOWLEDGMENTS

This account benefited from personal communications with B. Barnes, T. A. Benson, E. A. Cardiff, B. Deppe, R. A. Erickson, J. Green, H. King, R. L. McKernan, J. Pike, C. Pratt, M. San Miguel, L. Schmahl, P. Unitt, and D. Willick and from reviews by B. Anderson and W. D. Shuford.

### LITERATURE CITED

- American Ornithologists' Union (AOU). 1957. Checklist of North American Birds, 5th ed. Am. Ornithol. Union, Baltimore.
- American Ornithologists' Union (AOU). 1998. Checklist of North American Birds, 7th ed. Am. Ornithol. Union, Washington, DC.
- Bent, A. C. 1942. Life histories of North American flycatchers, larks, swallows, and their allies. U.S. Natl. Mus. Bull. 179.
- California Department of Fish and Game (CDFG). 1992. Bird species of special concern. Unpublished list, July 1992. Calif. Dept. Fish & Game, 1416 Ninth St., Sacramento, CA 95814.
- Friedmann, H. 1963. Host relations of the parasitic cowbirds. U.S. Natl. Mus. Bull. 233.
- Friedmann, H., and Kiff, L. F. 1985. The parasitic cowbirds and their hosts. Proc. W. Found. Vert. Zool. 2.
- Friedmann, H., Kiff, L. F., and Rothstein, S. I. 1977. A further contribution to knowledge of the host relations of the parasitic cowbirds. Smithsonian Contrib. Zool. 235.
- Garrett, K., and Dunn, J. 1981. Birds of Southern California: Status and Distribution. Los Angeles Audubon Soc., Los Angeles.
- Grinnell, J. 1914. An account of the mammals and birds of the lower Colorado Valley with especial reference to the distributional problems presented. Univ. Calif. Publ. Zool. 12:51-294.

- Grinnell, J., and Miller, A. H. 1944. The distribution of the birds of California. *Pac. Coast Avifauna* 27.
- Hanna, W. C. 1935. Vermilion Flycatcher increasing in Coachella Valley, California. *Condor* 37:173.
- Lehman, P. E. 1994. The Birds of Santa Barbara County, California. *Vert. Mus., Univ. Calif., Santa Barbara*.
- Patten, M. A., McCaskie, G., and Unitt, P. 2003. Birds of the Salton Sea: Status, Biogeography, and Ecology. *Univ. Calif. Press, Berkeley*.
- Remsen, J. V., Jr. 1978. Bird species of special concern in California: An annotated list of declining or vulnerable bird species. *Nongame Wildl. Invest., Wildl. Mgmt. Branch Admin. Rep. 78-1, Calif. Dept. Fish & Game, 1416 Ninth St., Sacramento, CA 95814*.
- Rosenberg, K. V., Ohmart, R. D., Hunter, W. C., and Anderson, B. W. 1991. Birds of the Lower Colorado River Valley. *Univ. Ariz. Press, Tucson*.
- Sauer, J. R., Hines, J. E., and Fallon, J. 2005. The North American Breeding Bird Survey, results and analysis 1966–2004, version 2005.2. USGS Patuxent Wildl. Res. Ctr., Laurel, MD. Available at [www.mbr-pwrc.usgs.gov/bbs/bbs.html](http://www.mbr-pwrc.usgs.gov/bbs/bbs.html).
- Small, A. 1994. California Birds: Their Status and Distribution. *Ibis Publ., Vista, CA*.
- Unitt, P. 1984. The birds of San Diego County. *San Diego Soc. Nat. Hist. Memoir* 13.
- Unitt, P. 2004. San Diego County bird atlas. *Proc. San Diego Soc. Nat. Hist.* 39.
- Willett, G. 1912. Birds of the Pacific slope of southern California. *Pac. Coast Avifauna* 7.
- Wolf, B. O., and Jones, S. L. 2000. Vermilion Flycatcher (*Pyrocephalus rubinus*), in *The Birds of North America* (A. Poole and F. Gill, eds.), no. 484. *Birds N. Am., Philadelphia*.