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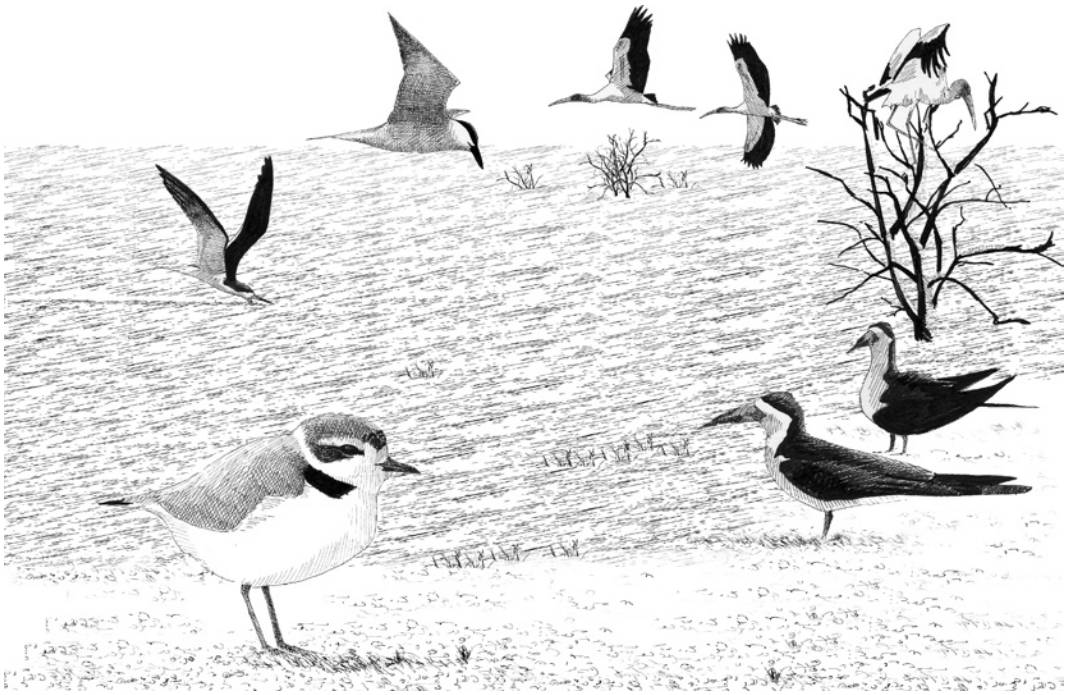
Species Accounts



Andy Birch

PDF of San Francisco Common Yellowthroat account from:

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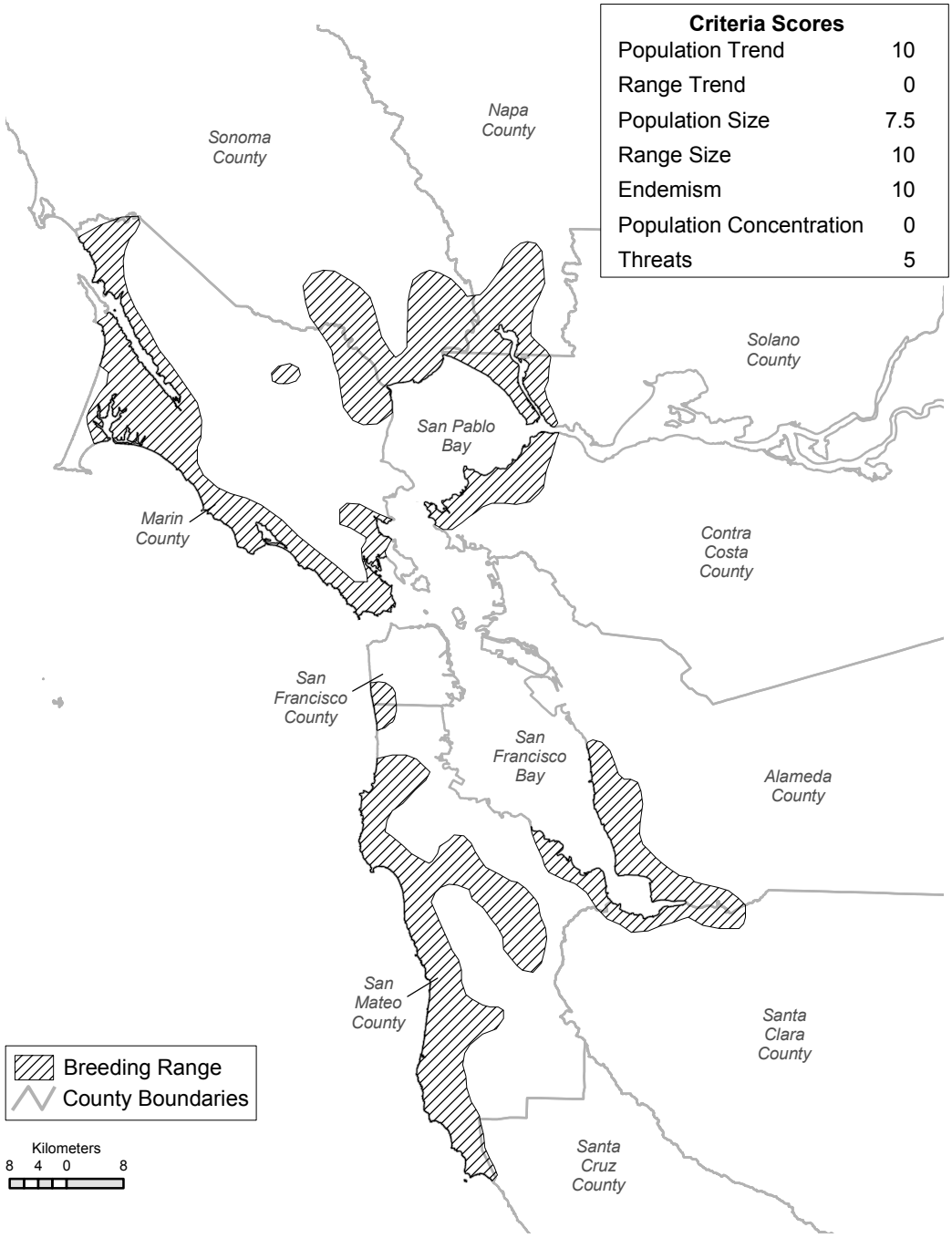
SAN FRANCISCO COMMON YELLOWTHROAT (*Geothlypis trichas sinuosa*)

Thomas Gardali and Jules Evens



Breeding, and primary year-round, range of the San Francisco Common Yellowthroat, a California endemic; resident in the breeding range, but some birds migrate to winter south to San Diego County. Outline of the overall range is stable, but numbers of breeders have declined at least moderately since 1944.

Special Concern Priority

Currently considered a Bird Species of Special Concern (year round), priority 3. Included on CDFG's (1992) unprioritized list but not on the original prioritized list (Remsen 1978).

Breeding Bird Survey Statistics for California

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

General Range and Abundance

The Common Yellowthroat (*Geothlypis trichas*) breeds broadly from southeastern Alaska across Canada south through the United States (very local in the southwest) into northern Baja California and the Pacific slope and central highlands of Mexico (Guzy and Ritchison 1999). Birds are resident in the very southern United States and in the Mexican breeding range, but northern breeders retreat to winter south to Panama and the Caribbean. In North America, the highest breeding densities are mainly in the states of the upper Midwest and Northeast and in adjacent Canada (Sauer et al. 2005). In California, the species breeds throughout much of the state, except in the higher mountains and most of the southern deserts, and retreats from much of the north in winter (Grinnell and Miller 1944).

There is much debate regarding ranges and descriptions of subspecies of the Common Yellowthroat, with at least 13 commonly accepted and others proposed (see summary and references in Guzy and Ritchison 1999). One of four subspecies currently ascribed to California (Guzy and Ritchison 1999, P. Unitt in litt.), the San Francisco (or Salt Marsh) Common Yellowthroat (*G. t. sinuosa*) is endemic to the greater San Francisco Bay region (Grinnell and Miller 1944), as described below in detail.

Seasonal Status in California

Occurs year round in the subspecies' breeding range. Breeds from mid-March to late July (PRBO unpubl. data). Fall and winter specimens identified as *sinuosa* document occurrence of some individuals south along the coast to San Diego and casually north to Eureka (Grinnell and Miller 1944, AOU 1957).

Historic Range and Abundance in California

Grinnell and Miller (1944) described the breeding range as the "vicinity of San Francisco Bay, from Tomales Bay, Marin County, and Napa Sloughs, southern Sonoma County, on the north, east to Carquinez Straight, and south to vicinity of San Jose, Santa Clara County." Historic locations of confirmed breeding include Lake Merced, San Francisco County, and Coyote Creek, Alviso, and Milpitas, Santa Clara County (CAS and MVZ egg set data).

This yellowthroat was considered "common" by Grinnell and Miller (1944). Within its historic range, it was probably closely tied to the distribution of suitable freshwater and salt marshes with nearby willow thickets.

Recent Range and Abundance in California

The general outline of the breeding range today remains largely unchanged (see map). Despite limited historical data, it seems likely that the loss of wetlands and riparian forests in the San Francisco Bay region (Goals Project 1999) greatly reduced overall numbers and extirpated this yellowthroat locally within its range (Foster 1977). In contrast, yellowthroats appear to have increased in numbers in south San Francisco Bay since the early 1980s, likely reflecting an increase in freshwater marsh habitats, as effluent has increased from water treatment plants and other sources (W. G. Bousman in litt.). The current range includes four main areas: coastal riparian and wetland areas of western Marin County, the tidal marsh system of San Pablo Bay, the tidal marsh system of southern San Francisco Bay, and coastal riparian and wetland areas in San Mateo County. Additionally, there are some disjunct populations: Stafford Lake, Marin County (Shuford 1993); Lake Merced, San Francisco County (unpubl. atlas data); and wet areas on San Bruno Mountain, San Mateo County (unpubl. atlas data).

The San Francisco Common Yellowthroat remains locally numerous in areas where, by today's standards, extensive wetlands with adjacent riparian thickets remain. Estimates of total numbers of breeding pairs of *sinuosa* have varied widely. Foster (1977) estimated 166 pairs for nine counties encompassing its range, but that study followed a severe drought, which may have temporarily depressed population size. In 1975 and 1976, Foster (1977) documented yellowthroats at

13 of 18 "areas" searched: areas with >20 breeding pairs were Coyote Hills Regional Park (27 pairs), Alameda County; Pescadero Marsh (28–31 pairs), San Mateo County; Olema Marsh (27 pairs), Marin County; and Napa Marsh (area bounded by Tolay Creek, the Napa River, San Pablo Bay, and Highway 121; 44 pairs), Napa, Sonoma, and Solano counties. In 1985, Hobson et al. (1986) estimated 569 pairs from the same area Foster (1977) covered, but during more favorable environmental conditions and with more fieldworkers. Hobson et al. (1986) found breeding yellowthroats in 23 of 25 locations searched: areas with >20 breeding pairs were Coyote Hills Regional Park (32 pairs), Alameda County; Coyote Creek (includes Mud and Artesian sloughs; 98 pairs), Santa Clara County; Crystal Springs Reservoir (24 pairs), San Mateo County; Abbott's Lagoon (25 pairs), Limantour Estero (74 pairs), Olema and Bear Valley marshes (25 pairs), Marin County; Petaluma Marsh (43 pairs), Sonoma County; and Napa Marsh (132 pairs), Napa, Sonoma, and Solano counties. Population estimates in 2000 for tidal marsh habitat were 500 birds (250 pairs) in San Pablo Bay and about 70 birds in San Francisco Bay (PRBO unpubl. data). These data, however, do not include other suitable habitats (e.g., freshwater, riparian) and may contain wintering individuals of unknown racial identity. Where Hobson et al. (1986) reported none, the Santa Clara Breeding Bird Atlas (1987–1993) found yellowthroats on Coyote Creek west of the confluence with Mud Slough, along Alviso Slough, and along Guadalupe Slough from about the Calabazas ponds to the Bay (W. G. Bousman in litt.). In 2003–2005, W. G. Bousman (in litt.) counted up to 22 singing males along Guadalupe Slough near Salt Pond A4, where Hobson et al. (1986) had found none, and up to 35 along the Alviso Slough Trail, which includes some sites (e.g., Triangle Marsh) where Hobson et al. found birds (W. G. Bousman in litt.). Also, numbers of yellowthroats on the Palo Alto Summer Bird Count significantly increased, by 5.9% per year, from 1981 to 2005 (W. G. Bousman unpubl. data).

Evens et al. (1997) estimated a population size of 239 pairs within the Point Reyes National Seashore, Marin County, following a fire but projected that the area would support about 300 pairs after the habitat recovered from fire effects. Combining these estimates and overlooking scattered pairs in isolated habitats, the minimum size of the known population can be estimated to range between 1000 and 2000 individuals. Uncertainty in the knowledge of the range boundary further compromises the accuracy of the population size estimate for this yellowthroat (Hobson et al. 1986, Raby 1992, Marshall and Dedrick 1994, Terrill 2000).

Ecological Requirements

Foster (1977) divided the breeding habitat of *sinuosa* into three broad types: woody swamp, brackish marsh, and freshwater marsh. For the San Francisco Bay area as a whole, about 60% of yellowthroats occupy brackish marsh, 20% riparian woodland/swamp, 10% freshwater marsh, 5% salt marsh, and 5% upland (Hobson et al. 1986, Shuford 1993, Terrill 2000). This yellowthroat occupies the ecotone between moist and upland situations, thus the proximity of various habitat types appears to enhance overall habitat suitability. Still, yellowthroats also use small and relatively isolated patches of habitat, including swales and seeps, where groundwater is close to the surface, but also occasionally nest in drier environments (Hobson et al. 1986). In brackish and saline tidal marsh habitat around San Francisco Bay, yellowthroat abundance was positively associated with a high percent cover of rushes (*Scirpus* spp.), Peppergrass (*Leipidium latifolium*), and *Juncus*, height of the highest herbaceous plant, and vegetation density over 30 cm (PRBO unpubl. data). At the landscape level, the amount of marsh habitat in the surrounding 2000 m was a good predictor of yellowthroat presence (PRBO unpubl. data). These data, however, also included birds from Suisun Bay, where subspecies identity is unclear.

The year-round diet of the Common Yellowthroat in California is roughly 99.8% animal matter, mainly insects and spiders (Beal 1907). In a breeding season study of *sinuousa* in a freshwater marsh, Kelly and Wood (1996) found diurnal, intraseasonal, and intersexual differences in foraging behavior, which suggests the birds alter behavior in response to changing conditions (e.g., varying hydrology, arthropod distributions and activity cycles, vegetation structure).

Yellowthroats build open-cup nests that are well concealed, typically near the ground in grasses, herbaceous vegetation (e.g., Poison Hemlock [*Conium maculatum*]), cattails, tules, and some shrubs (e.g., Coyote Brush [*Baccharis pilularis*]). Pairs can raise two broods and will renest following nest failure.

Studies of population limiting factors of the San Francisco Common Yellowthroat are lacking. In general, however, amount and quality of existing habitat may be limiting this warbler.

Threats

Habitat loss remains a minor threat to this warbler; losses of wetlands have slowed around the San Francisco Bay area and large-scale restoration projects are in progress or planned for the near future. Thus, degradation of remaining habitat is most likely the greatest threat to this warbler. Loss of wet areas from draining, flood control, and development may render habitat unsuitable (Guzy and Ritchison 1999). Changing land-use patterns can benefit native and non-native predators, impacting reproductive success and survival; even newly created habitat may suffer from landscape-level effects, such as those that support high populations of native and non-native predators.

Cowbird parasitism, often cited as reducing reproductive success, may have only minimal effects, at least in some wetland and riparian systems (Spautz 1999). However, the combined effects of parasitism and nest predation potentially may act to reduce reproductive success to low levels.

Management and Research Recommendations

- Protect and create suitable wetlands and early successional riparian areas, especially those with transition areas or ecotones between willows and wet areas.
- Focus management and restoration efforts on identifying and maintaining source populations capable of producing young in excess of adult mortality.
- Increase vegetative cover, especially of willow thickets adjacent to freshwater and brackish marshes, to provide additional habitat as well as to potentially reduce the effects of nest parasitism and predation.
- Reduce populations of feral cats and other non-native nest predators to improve chances of survival and reproductive success in yellowthroats.
- Reduce native nest predators as needed, especially those whose populations are enhanced by human activities (e.g., Raccoons [*Procyon lotor*]).
- Conduct research to identify specific habitat requirements and ecological conditions that support self-sustaining populations; in particular, compare demographic rates in various habitat types, such as tidal versus freshwater wetlands.
- Determine the distribution of this subspecies using genetic and morphological techniques.
- Determine the winter distribution and habitat associations.
- Conduct a rangewide survey to determine population size.

Monitoring Needs

The Breeding Bird Survey is inadequate for monitoring changes in the population dynamics of this subspecies. Survey routes are along roadways, whereas most San Francisco Common Yellowthroats occur in wetlands away from roads and in refuges and preserves. The Common Yellowthroat, however, is well sampled by various other methods, such as off-road point counts and constant-effort mist-netting (Ralph et al. 1993).

Annual monitoring should include estimation of an index of breeding population size via standardized point counts and of annual adult survival and breeding productivity via constant-effort mist-netting (e.g., the MAPS program; DeSante 1992, DeSante et al. 1993). PRBO is currently conducting point count surveys and nest monitoring for this yellowthroat annually in tidal marsh habitats, but nests have been difficult to locate, and variability around point count indices are high (Herzog et al. 2004). Annual counts at the following sites that support relatively large populations would be valuable: Coyote Hills, Alameda County; Coyote Creek, Santa Clara County; Pescadero Marsh, San Mateo County; Lake Merced, San Francisco County; Limantour Estero and tributaries, Marin County; Petaluma Marsh, Sonoma County; and Napa Marsh, Napa County.

Acknowledgments

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Literature Cited

American Ornithologists' Union (AOU). 1957. Checklist of North American Birds, 5th ed. Am. Ornithol. Union, Baltimore.

Beal, F. E. L. 1907. Birds of California in relation to the fruit industry, part 1. U.S. Dept. Agri. Biol. Surv. Bull. 30.

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.

DeSante, D. F. 1992. Monitoring Avian Productivity and Survivorship (MAPS): A sharp, rather than blunt, tool for monitoring and assessing landbird populations, in Wildlife 2001: Populations (D. R. McCullough and

R. H. Barrett, eds.), pp. 511–521. Elsevier Applied Science, London.

DeSante, D. F., Burton, K. M., and Williams, O. E. 1993. The Monitoring Avian Productivity and Survivorship (MAPS) program second (1992) annual report. Bird Populations 1:1–28.

Evens, J., Stallcup, R. W., Grace, G., and Small, S. L. 1997. Status of the Salt Marsh Common Yellowthroat (*Geothlypis trichas sinuosa*) at Point Reyes National Seashore: The 1996 breeding season. Report from Avocet Research Associates and Point Reyes Bird Observatory [now PRBO Conserv. Science] to Natl. Park Service, Point Reyes Natl. Seashore. Available from Avocet Research Associates, 65 Third St., Suite 23, Pt. Reyes Station, CA 94956-0839.

Foster, M. L. 1977. Status of the Salt Marsh Common Yellowthroat (*Geothlypis trichas sinuosa*) in the San Francisco Bay Area, California, 1975–1976. Calif. Dept. Fish & Game, Sacramento. Available at www.dfg.ca.gov/hcpb/info/bm_intro.shtml.

Goals Project. 1999. Baylands Ecosystem Habitat Goals. A report of habitat recommendations prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. U.S. Environmental Protection Agency, San Francisco, California/S.F. Bay Regional Water Quality Control Board, Oakland, CA.

Grinnell, J., and Miller, A. 1944. The distribution of the birds of California. Pac. Coast Avifauna 27.

Guzy, M. J., and Ritchison, G. 1999. Common Yellowthroat (*Geothlypis trichas*), in The Birds of North America (A. Poole and F. Gill, eds.), no. 448. Birds N. Am., Philadelphia.

Herzog, M., Liu, L., Nur, N., Spautz, H., and Warnock, N. 2004. San Francisco Bay Tidal Marsh Project annual report 2004: Distribution, abundance, and reproductive success of tidal marsh birds. Available from PRBO Conserv. Science, 3820 Cypress Dr., #11, Petaluma, CA 94954.

Hobson, K., Perrine, P., Roberts, E. B., Foster, M. L., and Woodin, P. 1986. A breeding season survey of Salt Marsh Yellowthroats *Geothlypis trichas sinuosa* in the San Francisco Bay region. San Francisco Bay Bird Observatory report to U.S. Fish & Wildl. Serv., Contract 84-57.

Kelly, J., and Wood, C. 1996. Diurnal, intraseasonal, and intersexual variation in foraging behavior of the Common Yellowthroat. Condor 98:491–500.

Marshall, J. T., and Dedrick, K. G. 1994. Endemic Song Sparrows and yellowthroats of San Francisco Bay. Studies Avian Biol. 15:316–327.

Raby, K. R. 1992. A study in avian biosystematics using the song of male yellowthroats (*Geothyplis trichas*) to discriminate between subspecies. M.A. thesis, Antioch Univ., Yellow Springs, OH.

Ralph, C. J., Geupel, G. R., Pyle, P., Martin, T. E., and DeSante, D. F. 1993. Handbook of field methods for monitoring landbirds. Gen. Tech. Rep. PSW-GTR 144, U.S. Forest Serv., Pac. Southwest Res. Station, Albany, CA.

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.

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.

Shuford, W. D. 1993. The Marin County Breeding Bird Atlas: A Distributional and Natural History of Coastal California Birds. California Avifauna Series 1. Bushtit Books.

Spautz, H. 1999. Common Yellowthroat brood parasitism and nest success vary with host density and site characteristics. Studies Avian Biol. 18:218–228.

Terrill, S. 2000. Salt Marsh Common Yellowthroat (*Geothlypis trichas sinuosa*), in Goals Project, Baylands ecosystem species and community profiles: Life histories and environmental requirements of key plants, fish, and wildlife species (P. R. Olofson, ed.), pp. 366–368. San Francisco Bay Regional Water Quality Control Board, Oakland.