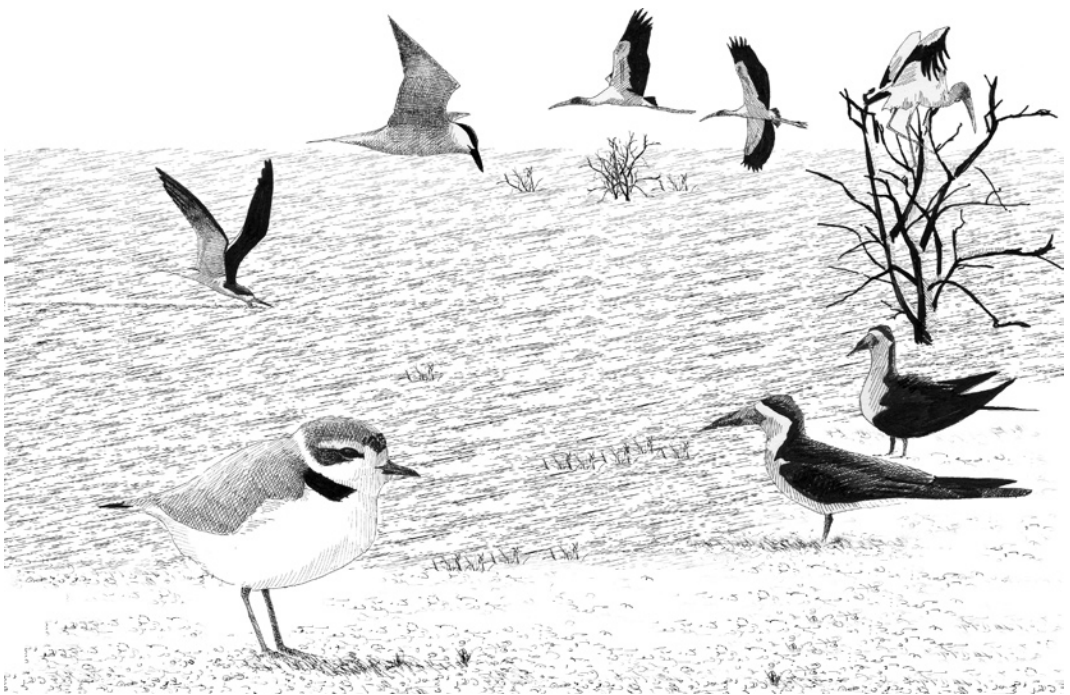


## II

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# SPECIES ACCOUNTS

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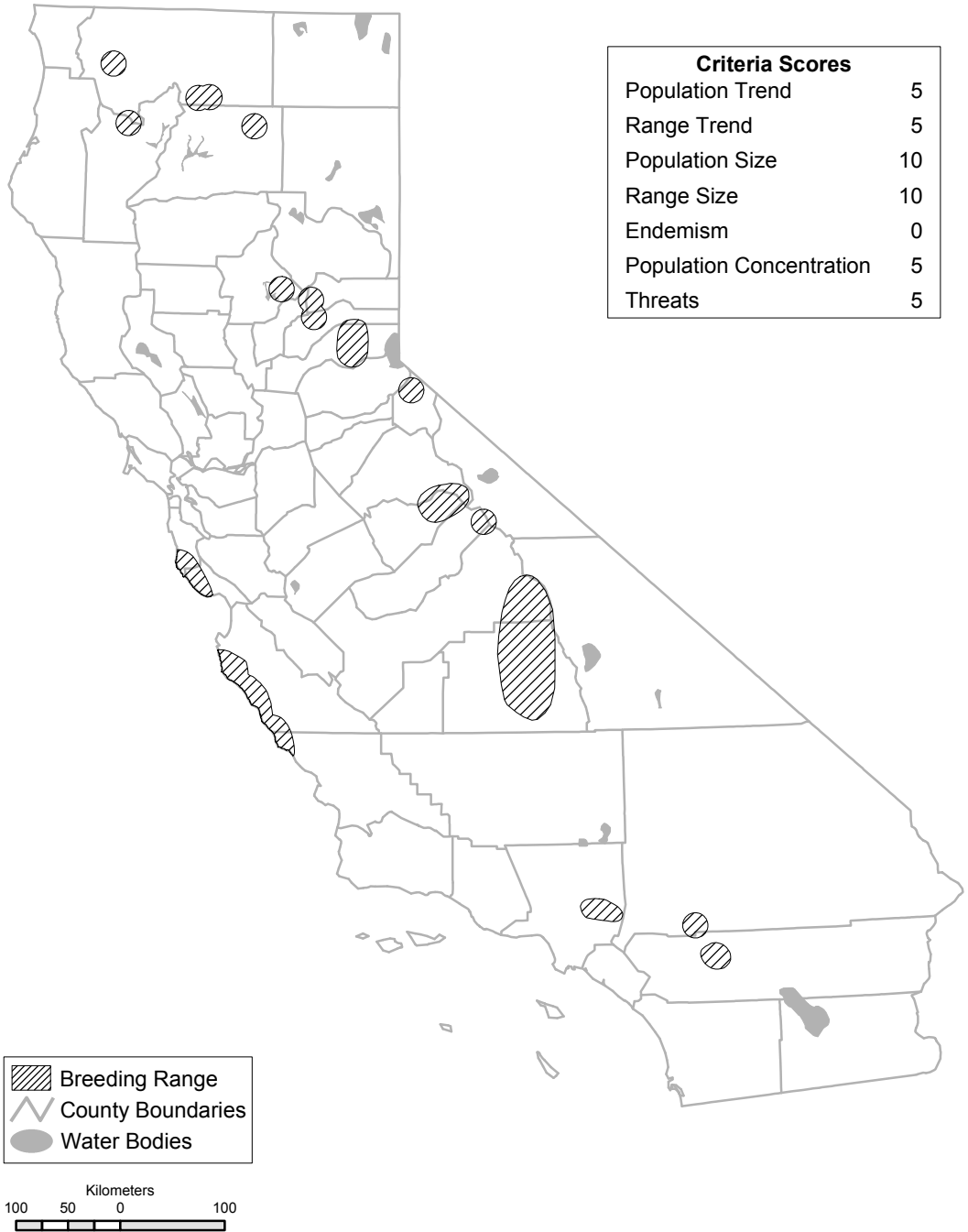
*Andy Birch*

**PDF of Black Swift account from:**

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# BLACK SWIFT (*Cypseloides niger*)

DON ROBERSON AND CHARLES T. COLLINS



Breeding range of the Black Swift in California; polygons are centered on specific nest sites and encompass an estimated foraging range of 24 km (15 mi) in diameter around each site. In addition to a possible area of recent extirpation along the coast in San Mateo and Santa Cruz counties, breeding numbers have declined in Monterey County. Occurs more widely during migration.

**SPECIAL CONCERN PRIORITY**

Currently considered a Bird Species of Special Concern (breeding), priority 3. Included on both prior special concern lists (Remsen 1978, 3rd priority; CDFG 1992).

**BREEDING BIRD SURVEY STATISTICS FOR CALIFORNIA**

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

**GENERAL RANGE AND ABUNDANCE**

Breeds widely but locally throughout western North America, from southeastern Alaska to southern California, as far east as central Colorado, throughout Mexico to Costa Rica, and on some Caribbean islands. Despite this extensive range, less than 100 nesting locations have been documented, so the world population is comparatively small. Three subspecies have been described on the basis of size; the California population is part of the widespread North American subspecies *borealis*. The entire world population apparently winters in northern South America, but the specific wintering grounds of the California populations are not known (Lowther and Collins 2002).

**SEASONAL STATUS IN CALIFORNIA**

Occurs in California as a summer resident and migrant from mid-April to mid-October. Nest sites are occupied from mid-May (Santa Cruz coast) to mid-September (Sierra), but most nesting occurs during June through August (Legg 1956, Gaines 1992, Marin 1999, Lowther and Collins 2002).

**HISTORIC RANGE AND ABUNDANCE IN CALIFORNIA**

Grinnell and Miller (1944) described nesting Black Swifts as "at best . . . fairly common locally," but the overall California population was "probably small in aggregate." Breeding was known or suspected from three distinct areas.

*Central coast.* Historic locations of confirmed nesting included sea cliffs from Santa Cruz to Davenport, and behind Berry Creek Falls, Big Basin Redwood State Park, Santa Cruz Mountains, both in Santa Cruz County (Grinnell and Miller 1944, MVZ egg set data). Nesting was suspected somewhere along the Big Sur coast, perhaps at the mouth of Rocky Creek, Monterey County (MVZ specimen).

*Central and southern Sierra Nevada.* Nesting in this region was documented behind various waterfalls and on steep cliffs in Yosemite Valley, Mariposa County, south to Ella Falls, Kings Canyon National Park, Fresno County, and the Marble Fork of the Kaweah River, Sequoia National Park, Tulare County (Grinnell and Miller 1944).

*San Bernardino and San Jacinto mountains.* Grinnell and Miller (1944) cited circumstantial evidence of nesting in these mountains.

Of various records cited by Grinnell and Miller (1944) as likely involving migrants or birds otherwise far from known nesting areas, two probably represented summer resident birds: one in 1892 at the Pit River, "probably in Shasta County," and the other on 1 August 1889 at Webber Lake, Sierra County. If these were breeding birds, the montane nesting range in California at that time stretched from the southern Cascades south through the Sierra Nevada to Sequoia National Park, with a separate population in southern California's Transverse Ranges.

**RECENT RANGE AND ABUNDANCE IN CALIFORNIA**

The overall breeding range remains largely unchanged from that in the 1940s (see map), but the entire coastal population has been in recent severe decline. This portion of the historic breeding range will be lost if the current trend continues. Numbers appear stable in both montane regions.

*Central coast.* A thorough survey of Santa Cruz County in 1988, including all historic coastal sites and inland at Berry Creek Falls, produced a population estimate of 17–20 pairs (Suddjian 2002). Another three pairs were known from Pt. Año Nuevo in adjacent San Mateo County (Remsen 1978). Declines were noted throughout the Santa Cruz coast during the late 1990s, and an organized survey of all known and potential breeding sites in that county was undertaken in June–July 2002. These surveys were repeated in the summer 2004. Not a single active Black Swift nest was located (Suddjian 2002, D. L. Suddjian in litt.). At Pt. Año Nuevo, no nests were located in the summers of 2001 and 2002 (P. J. Metropulos in litt.).

In Monterey County, a small population has been known from the Big Sur coast and adjacent Santa Lucia Mountains. From 1988 to 1992, a breeding bird atlas project found confirmed or suspected evidence of nesting at three coastal sites (Anderson Creek mouth, Torre Creek mouth,

Rocky Point; the latter is the site called "Pt. Sur" in Remsen 1978 and "Bixby Creek mouth" in Bailey 1993) and at one inland location (Canogas Falls, Devils Canyon fork of Big Creek). Bailey (1993) estimated the county population at perhaps 50 pairs.

A previous nesting site at McWay Creek mouth (Roberson 1985) had no swifts by 1990. Small declines noted during the 1990s resulted in a recent population estimate of 10–20 pairs (Roberson 2002). Surveys in the summer of 2004 found no swifts at the traditional Anderson Canyon and Rocky Point sites (R. Fowler pers. comm., D. Roberson pers. obs.); the current population may be fewer than 10 pairs.

Nesting is also recorded (up to 4 pairs) just north of Ragged Point, San Luis Obispo County; surveys in the summer of 2004 found two birds there (T. Edell in litt.).

*Cascades and Sierra Nevada.* The highest nesting population occurs around Yosemite Valley, Mariposa County. Michael (1927) found seven nests in lower Tenaya Canyon away from waterfalls, but most breeding activity is centered on waterfalls (Gaines 1992). Anecdotal counts at Bridalveil Falls range from 20 to 50 pairs, with over 100 birds seen late in the summer (MPCR files), when both parents are foraging to feed their nestling (Marin 1999). It is possible that 80 or more pairs breed in the Mariposa County portion of Yosemite National Park. Despite statements to the contrary (e.g., Small 1994), there is no evidence of nesting in the Tuolumne County portion of the park. There is potential habitat in the Tuolumne River canyon; Grinnell and Storer (1924) reported a midsummer bird from Dudley, Warner Valley, on or near the Mariposa-Tuolumne line, which might have been a foraging bird from a nesting pair in that canyon.

Elsewhere in the Cascades and Sierra Nevada, small breeding colonies exist locally, in almost all cases behind or adjacent to waterfalls. The known or suspected sites, with most recent population estimates when available, are Grizzly Falls, the Trinity Alps Wilderness (up to 3 pairs; J. E. Hunter in litt. 2003), Trinity County; Mossbrae Falls near Dunsmuir on the upper Sacramento River (7–9 pairs most years; Remsen 1978, MPCR files, C. Collins pers. obs.), McCloud Falls, McCloud River (nesting suspected, Remsen 1978), and in the vicinity of Bridge Creek and Snowslide Gulch, Marble Mountain Wilderness, 21 km northeast of Somes Bar (1–2 pairs by presence of midsummer birds, T. Leskiw in litt. 2003), Siskiyou County; MacArthur-Burney Falls (5–20 pairs annually;

Remsen 1978, Small 1994, MPCR files), Shasta County; Feather Falls, Plumas National Forest (up to 7 pairs; Remsen 1978, Knorr 1993, H. Highley fide R. Altman pers. comm. 2004), Butte County; near Yuba Pass (5–7 pairs; Remsen 1978), Sierra County; East Fork Creek near Pinoli Ridge (nesting suspected 4–8 pairs, D. Lukas in litt. 2003), Nevada County; Royal Gorge, North Fork American River (likely but undocumented sites include Heath, Rattlesnake, Snow Mountain, and Wabena falls; T. Beedy in litt. 2003) and Grouse Falls in a tributary of the American River (4–6 pairs possible; MPCR files, E. Pandolfino in litt. 2003), Placer County; Cloudburst Canyon, off West Fork Carson River, Carson Range (4–6 pairs, Knorr 1993), Alpine County; Rainbow Falls, Devils Postpile National Monument (1–2 pairs; Gaines 1992, MPCR files), Madera County (*contra* attribution to "Mono County" in Small 1994 and Lowther and Collins 2002); Ella Falls and possibly other sites in Kings Canyon, Kings Canyon National Park (possibly 10–20 pairs; Dixon 1943, D. Roberson pers. obs. 2002), and confluence of Disappearing and Goddard creeks (nesting suspected, at least 8 pairs in mid-July 1979, H. Green in litt. 2003), Fresno County; and along Marble Fork of Kaweah River, Sequoia National Park (6+ pairs, 3 nests found, Dixon 1943), Noble Creek Falls, 8 km southwest of Johnsdale (1 pair; Lowther and Collins 2002, MPCR files), and along Middle Fork of Tule River, near Springville (nesting suspected 1–3 pairs, MPCR files), Tulare County.

Summer observations at San Juan Ridge, Nevada County (D. Lukas in litt. 2003); Mineral King, Sequoia National Park, Tulare County (MPCR files); North Fork of Kern River, Kern County (S. A. Laymon in litt. 2003); and in the White Mountains and at or near Owens Lake, Inyo County (S. A. Laymon in litt., T. Heindel in litt. 2004) suggest there may be other undiscovered breeding sites.

A review of data from all known and presumed breeding locations suggests a total Cascades-Sierran population of perhaps 180 pairs at up to 30–35 sites. Although many nest sites were discovered only in the past half-century, Black Swifts have high fidelity to breeding locales (Knorr 1993, Lowther and Collins 2002), and it seems likely that these represent a historically stable montane population.

*San Gabriel, San Bernardino, and San Jacinto mountains.* Foerster and Collins (1990) summarized recent surveys that showed small populations in these southern California mountains.

Nesting is known at two sites in the San Gabriel Mountains, Los Angeles County (Sturdevant and Wolfskill Falls; 2–4 pairs); at Big Falls in Mill Creek Canyon near Fallsville, San Bernardino Mountains, San Bernardino County (1–2 pairs); and at three sites on the west side of the San Jacinto Mountains, Riverside County (Lawler and Four falls, Strawberry Grotto; 9–10 pairs). Black Swifts near Black Mountain Camp, Riverside County (Remsen 1978) were likely foraging birds upstream of nearby Lawler Falls. Swifts in Tahquitz Canyon, Riverside County, on the east side of the San Jacintos (Remsen 1978) may represent either an unsurveyed site or simply wanderers.

The entire California population appears to be composed of perhaps 200 pairs at 40–45 sites. At nearly half of these, three or fewer pairs are suspected of nesting annually. MacArthur-Burney Falls, Bridalveil Falls, and large canyons in Kings Canyon and Sequoia national parks are the only sites where numbers are suspected to exceed 10 pairs, and the national park populations have not been systematically surveyed in nearly 75 years.

### ECOLOGICAL REQUIREMENTS

Breeding Black Swifts are restricted to a very limited supply of potential nesting locations: behind or beside permanent or semipermanent waterfalls, on perpendicular cliffs near water (above Sierran rivers or on the sea coast), and in sea caves (Legg 1956, Knorr 1993, Lowther and Collins 2002). Key aspects of the Black Swift breeding biology appear to be adaptations to a distant, relatively limited, and unpredictable food supply: a single large egg (not replaced if lost), lengthy incubation and nestling periods, and a nestling fed by both parents on high-fat insect prey so that by the time it fledges the young outweighs them (Marin 1997, 1999). Studies in southern California show that both adults and young leave the nesting vicinity at fledging and presumably migrate south immediately (Marin 1999, Collins pers. obs.).

Studies in southern California found that over 90% of the diet fed to nestlings was winged ants (Foerster 1987, Marin 1999, Rudalevige et al. 2003). These flying ants occur patchily in localized outbreaks during the summer. Foraging adults in summer cruise far from nesting locales and over a wide variety of habitat types to locate these swarms (Lowther and Collins 2002).

### THREATS

Few threats to these swifts are documented and fewer still appear to have population-level effects.

The inaccessibility of most nesting sites and that many of these are located on protected lands greatly reduces potential threats at nesting locales. Remsen (1978) cited rock climbing as a potential threat, but the wet and mossy nature of the nesting substrate should reduce even that threat in most locations. One nest in southern California was destroyed by a thrown rock (Foerster 1987, Lowther and Collins 2002). Coastal and cliff-face erosion probably destroys and creates suitable nesting sites; presumably this has no long-term net effect unless human activities alter the natural process.

With a historic and current population of only about 200 pairs, and the heavy reliance of those pairs on a patchy and unpredictable food source to feed nestlings, the sheer demographics of the state's population make it vulnerable to changes in the summer prey base of swarming winged ants. If coastal and Sierran populations rely on patchy local swarms of winged ants, as is known in southern California, collapses in the prey species could seriously affect local breeding success. Flying ant populations may be at risk from pesticide use, incursions of non-native ant species, or the spread of other exotics. The sudden and unexpected declines in the state's entire coastal population may be linked to prey-base collapses, but these links have not yet been documented. It is also possible that recent losses may be traced to problems on the swifts' wintering grounds (Lowther and Collins 2002).

### MANAGEMENT AND RESEARCH RECOMMENDATIONS

- Continue to protect known nest sites from disturbance, and place appropriate interpretive signs in parks and along trails adjacent to waterfall nesting sites to educate the public and reduce random vandalism (e.g., discourage rock throwing).
- Investigate the causes of the recent decline in the coastal population, including possible changes in the population of swarming winged ants in this area.
- Once the causes of declines in the coastal population have been identified, adopt appropriate recommendations to reduce those threats, including reducing, as possible, any habitat degradation or alien species that threaten the underlying prey base.
- Conduct focused surveys to determine more precise population estimates, and survey probable nesting sites to determine



occupancy, using a standard protocol (e.g., Schultz and Levad 2001, Altman 2004).

- Initiate studies, possibly telemetry-based, to determine the precise wintering locations for California-nesting Black Swifts and potential threats in those areas.

## MONITORING NEEDS

No current monitoring efforts are adequate to monitor annual or long-term population changes in Black Swifts. Annual or semiannual inventories of breeding locations, with the aid of a standard protocol for establishing the site's population size (e.g., Schultz and Levad 2001, Altman 2004), are needed to monitor the status of this scarce species.

## ACKNOWLEDGMENTS

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