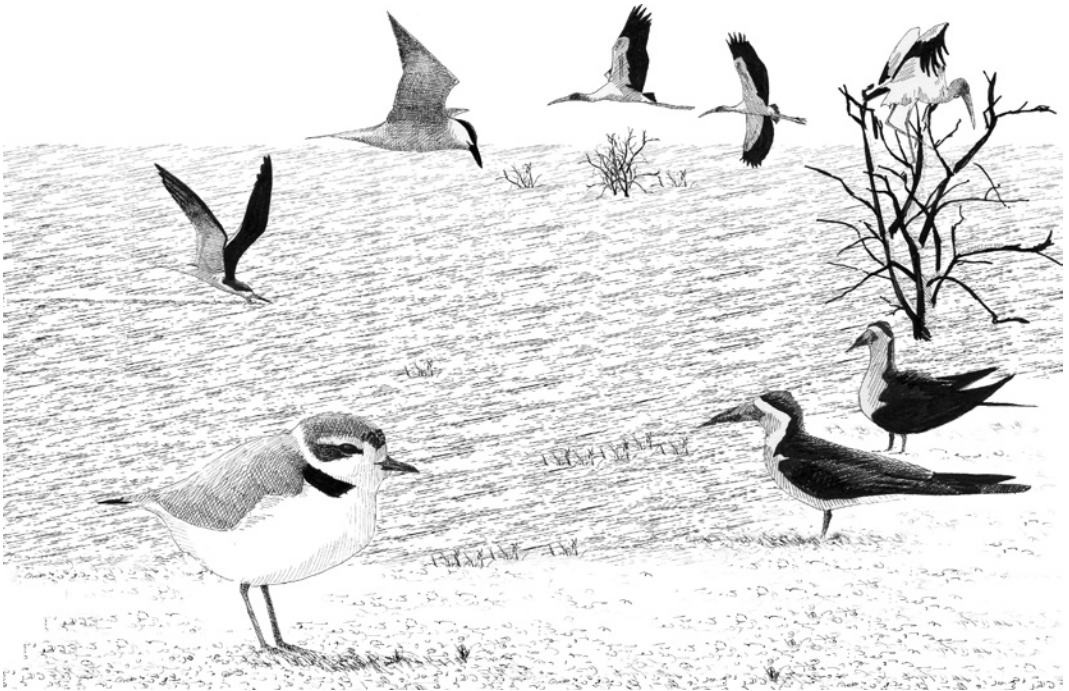


II

SPECIES ACCOUNTS



Andy Birch

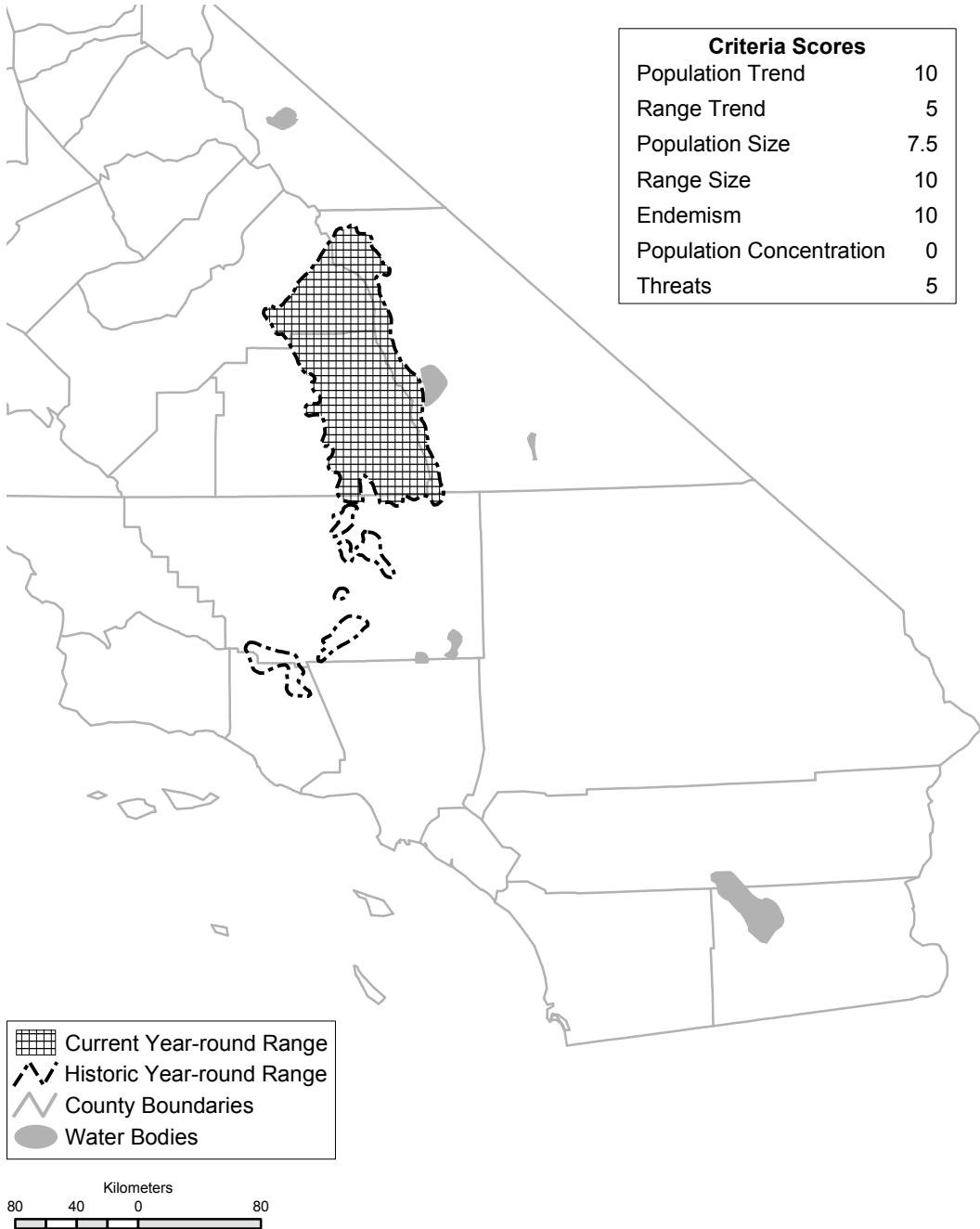
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MOUNT PINOS SOOTY GROUSE

(Dendragapus fuliginosus howardi)

JAMES D. BLAND



Current and historic (ca. 1944) year-round range of the Mount Pinos Sooty Grouse. Restricted to the southern Sierra Nevada south of Kings Canyon and now extirpated or quasi-extirpated from isolated ranges to the south (Piute and Tehachapi mountains, Mt. Pinos area). Still numerous in northern portion of range but overall numbers have declined moderately.

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

Two groups of the former Blue Grouse (*Dendragapus obscurus*) were recently recognized as separate species, the Dusky Grouse (*D. obscurus*) and the Sooty Grouse (*D. fuliginosus*; Banks et al. 2006). The Sooty Grouse, comprising four subspecies, is endemic to western North America. It resides on the western slopes of the coastal mountains of British Columbia and southeastern Alaska (including most adjacent islands) and in the major cordilleras of western Washington, western Oregon, and northern and central (formerly southern) California, often as disjunct populations in outlier ranges (Zwicker and Bendell 2004). In California, it occurs in the northern Coast Ranges (south to Sonoma Co.) and in the Klamath and Siskiyou mountains south through the Cascade and Sierra Nevada ranges, with outlying populations in nearby mountains to the east and (formerly) south (Grinnell and Miller 1944). Three subspecies are recognized in California. Although their geographic and genetic delineations have not been subjected to modern analytical techniques, a mitochondrial DNA-based study is currently underway (G. Barrowclough pers. comm.). Historically, the Mount Pinos Sooty Grouse (*D. f. howardi*), the southernmost of these, inhabited the southern Sierra Nevada south of Kings Canyon, the Tehachapi Mountains, and the Mount Pinos area (Grinnell and Miller 1944). It is most abundant and widespread at the northern limit of its range. Further south, appropriate habitat is limited to montane "islands" where Sooty Grouse historically were scarce and now may be absent.

SEASONAL STATUS IN CALIFORNIA

Occurs year round; breeding season is not known in detail, but could extend from late March through late August, depending on local climate and weather (Zwicker and Bendell 2004).

HISTORIC RANGE AND ABUNDANCE IN CALIFORNIA

Grinnell and Miller (1944) considered the subspecies "locally common" in suitable parts of the main southern Sierra Nevada but "sparse" on the montane islands at the southwestern limit of its range. Specimens and eggs collected in the early 20th century confirmed Sooty Grouse in the Piute Mountains, Tehachapi Mountains, the Mount Pinos/Mount Able (Cerro Noroestre) area, and Frazier Mountain (Willet 1933, Grinnell and Miller 1944). A single report of "two chicks" originated from Big Pine Mountain, Santa Barbara County, in 1938 (Lentz 1993), but, given the limited details available, this record is best considered hypothetical (Lehman 1994). Most southern records originated from Mount Pinos, where in 1928 the egg collector J. R. Pemberton estimated there to be no more than 50 pairs (WFVZ egg data slip). Grinnell and Miller (1944) indicated Sooty Grouse had become "very scarce" on Mount Pinos by the early 1940s.

RECENT RANGE AND ABUNDANCE IN CALIFORNIA

The Mount Pinos Sooty Grouse appears to be extirpated or nearly extirpated from the habitat "islands" that make up the southern portion of its range (Bland 2004; see map). It is locally abundant in the northern portion of its range, but becomes increasingly rare toward the southern limit of contiguous forest in the southern Sierra Nevada.

Densities at the northern limit of the subspecies' range are the highest Sooty Grouse densities recorded anywhere in California. High densities were first noted in this area in the late 1970s (F. Zwicker pers. comm.). In 1992, densities of hooting males were estimated to be 3 males per km² at Big Baldy Ridge, Sequoia National Park, Tulare County (J. Bland unpubl. data). Although high by California standards, densities can exceed 130 males per km² in the Pacific Northwest (Bendell and Zwicker 1984). At the periphery of their range and in heterogeneous habitats, as Sooty Grouse are in the Sierra Nevada, males tend to congregate in "hooting groups" in spring (Bendell and Elliott 1967, Bendell and Zwicker 1984). These groups appear to be small and widely dispersed throughout the Sierra Nevada (Bland 1993). Bland (1993) encountered only 14 hooting groups along 104 km of line transects in presumed Sooty Grouse

habitat. The number of males in these groups was five or less. The abundance of males was lower on harvested national forest lands than on nearby unharvested national park lands at sites sampled throughout the Sierra Nevada (Bland 1993). In Sequoia National Park and Sequoia National Forest, abundances of Mount Pinos Sooty Grouse along line transects were 1.5 and 0.5 hooting males per km, respectively (J. Bland unpubl. data).

On the east slope of the Sierra, in Inyo County, the subspecies is "common" north of the town of Bishop, but is generally restricted to isolated canyons further south (T. Heindel pers. comm.). To the west, in Tulare County, its abundance drops off rapidly south of about 36° N latitude (B. Barnes pers. comm., J. Bland pers. obs.). Whether this was true historically, or has resulted from extensive clear-cutting and wildfire in recent decades, remains uncertain because of the paucity of observational records from this region. Currently, the southernmost known breeding locations for the subspecies are at Sunday Peak in south-central Tulare County and Sherman Peak in southeastern Tulare County (Bland 2004, J. Bland unpubl. data).

In recent decades, Sooty Grouse have rarely been reported south of the Tulare-Kern county line. The only recent reports of Sooty Grouse in the Piute Mountains are from the vicinity of Piute Peak in 1985 (K. Axelson pers. comm.) and on unspecified dates in the early 1990s (M. Stone pers. comm.). There are no recent reports of Sooty Grouse from the Tehachapi Mountains (Garrett and Dunn 1981, C. Moore pers. comm.), where public access to potential grouse habitats is very limited.

There have been few recent confirmed records of Sooty Grouse in the vicinity of Mount Pinos. Most are from the northern slopes of Mount Pinos and adjoining Sawmill Mountain, Grouse Mountain, and Mount Able, which all support isolated stands of fir. Fewer have come from Frazier Mountain and Tecuya Ridge, which support very limited fir forest. Several observations were reported in the late 1970s (Lentz 1993), but Bendell and Zwickel (1984) found no evidence of Sooty Grouse in the Pinos/Sawmill/Abel area in 1978, and a 1979 U.S. Forest Service survey found no grouse in the broader Mount Pinos or Mount Frazier areas (Weiss 1979). Both of the latter surveys employed recorded female calls in spring. General avifaunal surveys conducted throughout the area from 1981 to 1993 did not detect Sooty Grouse (Lentz 1993). Lentz (1993) also cited unconfirmed reports from the early

1990s, including an August 1992 report from Sawmill Mountain by a leading authority on the avifauna of Los Angeles County (L. Allen in litt.). Brief spring surveys (≤ 2 days) using recorded female calls failed to detect grouse on Big Pine Mountain in 1995 or on the north slope of Mount Pinos in 1999 (J. Bland unpubl. data).

The scarcity of recent records from the southern portion of the subspecies' range (south of Tulare County) prompted Bland to conduct surveys in all accessible habitat patches in the region, during the breeding seasons of 2002 through 2005. More than 200 km of transects were covered, primarily on foot, and recorded female vocalizations were employed. No hooting males were heard, however, and no grouse were flushed (Bland 2004, J. Bland unpubl. data). The results of these surveys suggest Mount Pinos Sooty Grouse no longer breeds in more than 10% of its historic range. The results also suggest that Sooty Grouse observed south of Tulare County in recent decades may have been birds dispersing from a Sierra Nevada source, rather than members of a resident breeding population.

ECOLOGICAL REQUIREMENTS

In the Sierra Nevada portion of its range, the Mount Pinos Sooty Grouse occupies different vegetation types according to season (Bland 1996). In spring, grouse congregate near traditional hooting sites in high-elevation conifer forest. Hooting habitat usually consists of open, mature *Abies/Pinus* forest on or near a ridge between 6000 and 10,000 ft (1829–3048 m) elevation, in an area where the snowpack melts early. At least a few fir or pine trees with diameters >100 cm are normally present, often in tight clusters of three to six trees. Understory vegetation at hooting sites typically consists of scattered clumps of woody shrubs, herbs, and grasses (Bland 1993). In certain environments, male Sooty Grouse will establish hooting sites in shrubland vegetation, usually within 2 km of a forest edge (Zwickel 1992). The Sierra subspecies (*D. f. sierrae*), for example, has been observed hooting in pinyon-juniper vegetation (T. Heindel pers. comm.) and willow (*Salix*) thickets (J. Bland pers. obs.) in Inyo County. Mount Pinos Sooty Grouse occupying the southern island habitats probably made at least some use of surrounding shrublands, but all records of hooting Mount Pinos Sooty Grouse appear to be from *Abies/Pinus* forest. The spring and summer diet of the Sooty Grouse consists of leaves and flowers of herbs; leaves, flowers, and berries of shrubs; conifer

needles; and invertebrates, including ants, beetles, and grasshoppers (Zwicker 1992).

Females nest near the hooting territories of males. Eggs are normally laid in a shallow scrape, usually with overhead cover from a log, shrub, or rock overhang, but occasionally at the base of a large tree with no immediate cover (Zwicker 1992). Soon after hatching, the hen and brood may move to a nearby meadow, where they have access to water, dense herbaceous cover, and insect foods. The typical or optimal distance between brood-rearing meadows and hooting sites has not been ascertained for Sierra Nevada conditions. Moist meadows are scarce at the southern portion of the subspecies' range, so broods might also be reared in shrublands or xeric meadows in these areas.

Winter activities of Sooty Grouse have not been studied in California. The presence of winter dropping accumulations within hooting territories at several southern Sierran sites (J. Bland unpubl. data) suggests Mount Pinos Sooty Grouse do not move to special wintering locations, as do some populations of Sooty Grouse (Bendell and Zwicker 1984). Wintering Sooty Grouse are mostly inactive, often remaining in the canopy of a cluster of conifers. The foliage provides thermal cover and an ample supply of conifer needles and buds, the staple winter diet of the Sooty Grouse (Zwicker 1992).

THREATS

The principal threat to the Mount Pinos Sooty Grouse is probably habitat degradation caused by incompatible timber harvest, fire suppression, and livestock grazing practices. Timber harvest that results in even-aged stands or evenly distributed trees may be detrimental to Mount Pinos Sooty Grouse, as may be selective harvest of large, clumped conifers at the perimeter of forest openings. Where fires are infrequent, fir stands may become too dense to serve as breeding habitat. Overly frequent fires may remove too many shrubs from the understory. Heavy livestock grazing in spring probably degrades food and cover at brood-rearing meadows (Mussehl 1963, Zwicker 1972). Soon, the impact of resort and recreation development may also become apparent in the range of the Mount Pinos Sooty Grouse. In the Pacific Northwest, local Sooty Grouse populations have been extirpated by urban and agricultural development (Zwicker 1992). A U.S. Forest Service report suggests "the lack of recent spring sightings on Mount Pinos roughly coincides with

the increase in human use of the area" (Weiss 1979). Housing and resort developments now planned or underway on private lands throughout the Piute, Tehachapi, and Mount Pinos areas could add significantly to fragmentation and degradation of grouse habitats. While territorial males may habituate to humans, human activity may be unacceptable in the vicinity of brood-rearing meadows or winter roosting sites.

Legal hunting of Sooty Grouse has not been permitted south of Tulare County since the 1950s. Where hunting is permitted, as in the Sierra Nevada portion of the Mount Pinos Sooty Grouse's range, the numbers taken are estimated to be small (CDFG 2004).

It is uncertain why Mount Pinos Sooty Grouse have become nearly, if not entirely, extirpated from island habitats south of Tulare County. They were present but scarce over much of the area through most of the past century (Grinnell and Miller 1944). Over longer periods of time, their occurrence may have been cyclic or sporadic, in association with climatic patterns more favorable to fir forest. As fir forests receded to higher elevations over the past 10,000 years, isolated patches of forest may have become too small to support local populations of Sooty Grouse without regular emigration from Sierra Nevada populations. Their dispersal along a series of forest "stepping stones" in the Piute and Tehachapi mountains may now be limited or prohibited by recent anthropogenic degradation of these habitats.

MANAGEMENT AND RESEARCH RECOMMENDATIONS

- Improve interagency coordination regarding the Sooty Grouse, possibly through an interagency working group. Ensure consideration of Sooty Grouse in timber harvest plans, grazing allotments, urban development, and recreation development.
- Confirm the subspecific status of the Mount Pinos Sooty Grouse with modern genetic techniques.
- Map potential habitat patches, focusing on the distribution of fir stands and montane meadows and seeps (see Weiss 1979, Lentz 1993).
- Conduct surveys of all potential breeding sites. Participants should have prior Sooty Grouse experience and follow a standardized protocol.
- Characterize the topography, vegetation, and juxtaposition of occupied seasonal habitats

across the subspecies' range. Characterize site conditions where reproduction is relatively high, in view of improving habitat conditions at less-productive sites.

- Conduct studies to assess the status of potential grouse habitats in the Piute and Tehachapi mountains and their importance as dispersal "stepping stones," the use of harvested and burned forests in the southern Sierra Nevada, the impact of livestock and recreational activity on nesting and brood-rearing, and the desirability and genetic/behavioral consequences of translocating grouse to formerly occupied habitats.

MONITORING NEEDS

Surveys of hooting and brood-rearing areas should be conducted throughout the subspecies' range every three to five years, following a standardized protocol. Surveyors should check as many hooting groups as possible for persistence over time, and they should census some in detail to monitor the actual number of males. It also would be valuable to conduct brood counts at known brood-rearing sites.

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