

A Search for Mount Pinos Sooty Grouse on Tejon Ranch



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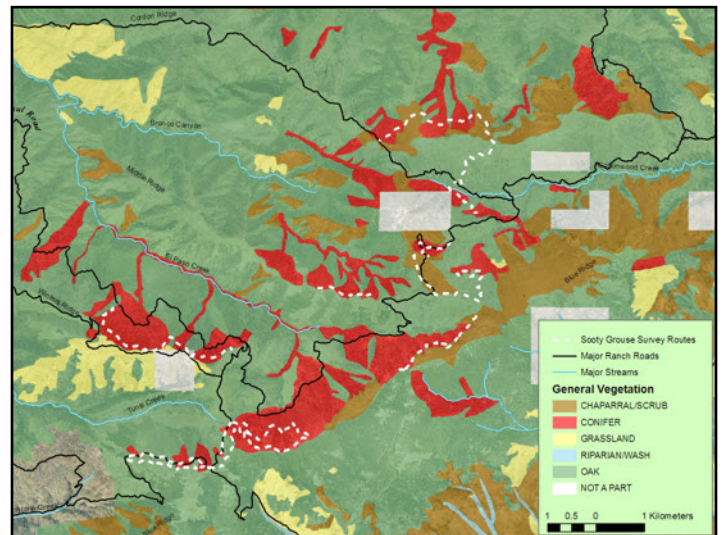
In mid-May, 2009, we conducted a survey for Sooty Grouse on Tejon Ranch, with logistical assistance from David Myerson. Mike White, who is now the Tejon Conservancy's Science Director, became interested in Mount Pinos Sooty Grouse after attending a 1998 presentation by Jim Bland on the need to conserve Sooty Grouse habitats in the Tehachapi Mountains. Jim has conducted field studies and surveys of Sooty Grouse (formerly Blue Grouse) throughout California and is widely recognized as the state's authority on the species. Between 2002 and 2005 Jim had conducted surveys for Mount Pinos Sooty Grouse throughout the "Sierran Archipelago," the string of isolated mountaintops extending from Lake Isabella to Mount Pinos and beyond. There was concern that the subspecies had been extirpated from this portion of its historic range. He did not detect grouse in any of the habitat patches he surveyed. But he was not able to survey Tejon Ranch at the time, so the survey was left incomplete. With the execution of the Tejon Ranch Conservation and Land Agreement in June 2008 (Ranch-wide Agreement) and the establishment of the Tejon Ranch Conservancy, a search for Sooty Grouse became feasible and a request to conduct a survey was expedited.



Mount Pinos Sooty Grouse (*Dendragapus fuliginosus howardi*) is an endemic southern California sub-species that historically ranged from Kings River to the vicinity of Mount Pinos.¹ It appears to have declined dramatically some 60 to 70 years ago and all evidence indicates it has disappeared from all insular

("island") habitats it formerly occupied south and west of Tulare County. Several tantalizing reports from the Mount Pinos area in the late-70s could not be confirmed, and the subspecies has since been classified as a priority 2 California Bird Species of Special Concern.²

Throughout the Sierra Nevada Mountains Sooty Grouse are closely associated with fir-dominated montane forest. The species' primary food is the needles and buds of fir trees. Jim's habitat studies have shown conclusively that Sierran populations are closely associated with mature fir-dominated forests where trees exceed 3 feet in diameter. Insect-producing meadows and berry-producing shrublands are also important seasonal habitat components for Sooty Grouse.



Tejon's conifer forests (red) and grouse survey routes (white lines)

A survey of Tejon Ranch was important for at least three reasons: to determine if a remnant population persisted there, to complete the regional coverage of Jim's earlier surveys, and to assess the extent and condition of grouse habitat with an eye toward potential restoration of grouse in the future. The objective of the survey was to check all fir-dominated habitat patches on

the ranch for evidence of grouse. Our methods consisted of traversing the upper portion of each conifer patch on foot, following an elevational contour and broadcasting a recorded female vocalization every 500 meters or so. The survey was timed to coincide with the peak “hooting” season of male grouse, and the use of female “cackle” calls to elicit male vocal responses is well established. An in-house vegetation map depicting conifer-dominated forest stands was immensely helpful for narrowing down locations to survey. We focused on the upper reaches of fir stands because grouse would have congregated there in winter, leaving large piles of feces under favorite winter perches. As we walked we checked under large trees for the readily-recognizable fecal droppings or feathers of Sooty Grouse, and we recorded GPS tracks for each survey path.



Characteristic droppings and feathers of Sooty Grouse

From the outset the prospects for finding Sooty Grouse on Tejon Ranch were not good. The published literature had not yielded any historic records of grouse within ranch boundaries. The highest slopes of the ranch were relatively low elevation for grouse, with the highest peak being about 6,800 ft elevation. The scant public information on the ranch’s vegetation raised doubts about the extent of fir-dominated forest on the ranch. And the ranch had operated a hunting program for decades, so surely a guide or hunter would have reported bagging or observing a grouse if they were present. On the other hand, historic records frequently reveal more about where observers have visited than where species have occurred. Historic grouse sightings did exist from near the western and eastern boundaries of the ranch (Tehachapi Peak and Mount Pinos, respectively), so it seemed reasonable that grouse would have at least made passing use of Tejon Ranch’s fir stands. Sooty Grouse can be quite difficult to detect. Outside the spring hooting season they are largely silent, and their cryptic coloration and tree-loving habits allow them to virtually disappear into the forest. When they do vocalize in early spring they typically do so from remote ridges where a few feet of snow remain and very few humans tread. As conservation biologists we were aware that less likely discoveries of lost species have occurred.

We started survey work on May 18th, 2009. We entered the ranch from the north, by way of El Paso Canyon on the San Joaquin Valley floor. We passed through the old ranch headquarters and by 06:15 were rapidly gaining elevation on the ranch’s Haul Road. The Haul Road is the primary access road to higher elevations of the ranch. The ranch’s conifer-dominated habitats are found on the upper slopes of four ridges. Three of these run parallel to each other and are oriented west-northwest to east-southeast. The names of these ridges, from north to south, are Cordon Ridge, Middle Ridge, and Winters Ridge. The fourth ridge, Blue Ridge, is oriented west-southwest and is actually the main spine of the Tehachapi Range. The other ridges abut Blue Ridge at their eastern ends. A short western extension of Blue Ridge known as Martinez Ridge also supports conifer forest. The ranch’s conifer stands tend to be V-shaped; broadest near the ridge tops and narrowing as they descend steep ravines. At their lower limits the conifer stands typically transition into one or another type of oak community. Above about 3,000 ft elevation the Haul Road bisects conifer stands that descend the north slope of Winter’s Ridge. At each stand we got out of our SUV and broadcast recorded female cackles. By 07:00 we reached Blue Ridge.



White fir stand on Martinez Ridge



We spent the morning surveying the northern slopes of Martinez Ridge and adjacent portions of Blue Ridge. Fir stands in the area were open and relatively short-stature for their age. Slopes were steep and soils were loose and gravelly. Shrub and herbaceous cover was very sparse. After lunch we

surveyed the north slope of Winters Ridge. Fir stands on Winters Ridge were denser and taller and felt much more like grouse habitat than those we had seen on Martinez Ridge. Soils on the north slope of Winters



North facing slope of Winters Ridge

Ridge were better developed and more stable, and more shrub and herbaceous cover were present. However, we noted that young fir trees and shrub species were very uncommon, and that the frequently lush herbaceous cover consisted primarily of a single species, miner's lettuce (*Claytonia perfoliata*). When we did find fir



Ground cover dominated by miner's lettuce

saplings they were frequently misshapen from heavy browsing. In some areas the only fir saplings we found were emerging from the protective cover of spine-



covered gooseberry (*Ribes* sp.) bushes. Midway through the survey transect we were treated to the spectacle of 5 California Condors being flushed from perches directly overhead - large dead fir trees - by a marauding Golden Eagle. At about

16:00 we descended to the Haul Road and were driven back to our quarters in Lebec by David.

On May 19th we entered the ranch from the south, by way of Canyon del Gato Montez and Antelope Valley. By 07:00 we had ascended to the western end of Blue Ridge, where we had ended our morning survey the day before. We proceeded eastward along the north slope of Blue Ridge until the slopes became so steep and loose we had to turn around. Just off the main road we entered an area where most of the large fir trees had been harvested - a small clear-cut of sorts. Some stumps were from trees about 1 meter in diameter, the optimal size for grouse hooting perches. We had seen some evidence of timber harvest on Winters Ridge, including paint-marked trees and abandoned skid roads, but this was the first fir clear-cut we encountered. Tejon Ranch Company had initiated commercial timber harvest in the 1980, but the operator went bankrupt before much timber had been harvested.



Left: Jim Bland and harvested fir stump. Right: steep and loose northern slope of Blue Ridge .

To say a team of intrepid Sooty Grouse surveyors was turned back by rugged terrain is to say the terrain was *very* steep and unstable. After lunch we drove to where Middle Ridge abuts Blue Ridge. From here we surveyed the rest of the north face of Blue Ridge, working westward toward the area we had abandoned earlier in the day. Clear differences in the parent material and vegetation of Middle Ridge and Blue Ridge reflected the presence of Garlock Fault where the two ridges meet. On our final descent to the main road we were treated to a view of an adult male Rocky Mountain Elk. The species dispersed onto Tejon Ranch after being introduced to a neighboring ranch for hunting purposes.

On May 20th we returned to Middle Ridge by 06:30. We began the day by surveying the north slope of the ridge, westward from a point where the main road first reaches the crest of the ridge. Canopy, soil, and groundcover conditions were similar to what we had

seen on Winters Ridge. We concluded there were more young fir trees in this stand, but still too few for proper stand regeneration. We also observed more abandoned skid roads, paint-marked trees, and stumps of large fir trees; additional evidence of the stalled timber harvest. We returned to our car along the crest of Middle Ridge, through a mosaic of oak woodland, grassland, and conifer forest. This mix of plant communities was common on Winters, Middle, and Cordon Ridges. It shares many features of the “coastal mosaic” occupied



Fir stands on Cordon Ridge surrounded by dense oak woodland hunters, but they also appear to be causing long-term damage to the ranch’s soils and vegetation.



Mike White in a mosaic of conifer, oak, and grassland by Oregon Sooty Grouse (*D. f. fuliginosus*) in the coast ranges of northwestern California. Thus, Tejon Ranch encompasses fir forest habitats similar to those used by extant Sierran grouse populations as well coastal mosaic habitats similar to those used by extant coastal grouse populations. Unfortunately, it seems we will never know the habitat associations of the grouse that used to inhabit this area where Sierran and coastal habitats converge.



Soil and plant disturbance caused by feral pigs

At about 10:00 we moved further up the crest of Middle Ridge and surveyed a series of smaller conifer patches in the vicinity of Cottonwood Creek. At one point we descended to a conifer patch at about 5,900 ft elevation and found that conifers at the site were Ponderosa pines and no firs. We concluded we had probably dropped below the zone of likely Sooty Grouse habitat. After lunch we drove to the highest point on Cordon Ridge, our final survey site. Our path traversed north-facing slopes cloaked in places with nearly-impenetrable stands of oak. Fir stands in the area had been paint-marked and readied for harvest. We had seen evidence of feral pigs in all the stands we had visited, but soil disturbance due to pig rooting was most evident around oak stands. Apparently pigs churn these areas up especially well in search of acorns and associated fungi. Feral pigs also dispersed onto Tejon Ranch from a neighboring ranch in 1989/1990 and only became abundant in the late 1990s. They have proven to be a popular quarry for

The unfortunate conclusion of our survey is that there is no remnant population of Mount Pinos Sooty Grouse on Tejon Ranch. Over a three day period we conducted 19 miles of walking surveys through all sizable patches of fir-dominated forest but did not detect a single hoot, dropping, or feather of a grouse. While searching for grouse we were able to observe that key features of their habitat had been degraded over recent decades. Some large fir trees had been selectively harvested from most stands we visited. Non-native cattle and pigs appear to have taken a toll on the vegetation and soils on higher slopes. The scree-like soils in many areas were so unstable that foot traffic by these animals had probably disrupted the normal establishment of plants. In better soils, rooting by pigs has probably been even more disruptive. The widespread proliferation of miner’s lettuce is tangible evidence of the past disturbance. Even though miner’s lettuce is native, it is recognized as an invasive species that quickly colonizes sites disturbed by grazing.³ The scant occurrence and misshapen form of understory shrubs in many places indicate that

browsing pressure by cattle has at times been heavy. Ground-level shrub cover is essential in grouse nesting and brood-rearing habitats. Without it, nests and young are overly exposed to predation. Although the ranch's grouse habitats are clearly degraded today, it is anyone's guess whether, or to what degree, grazing or timber harvest on the ranch might have contributed to the local extirpation of Sooty Grouse. The impacts of these practices would almost certainly need to be redressed before grouse could successfully reoccupy the ranch.

A more positive conclusion of our survey is that Tejon Ranch encompasses more potential Sooty Grouse habitat than had been thought previously. There are more fir-dominated stands on the ranch than were publicly known. And the patchy distribution of these stands would appear to complement the typical distribution pattern of grouse breeding territories, which tends to be clumped. Because a plan to harvest the ranch's timber did not succeed, the large-tree component of grouse habitats remains largely intact. And the new Ranch-wide Agreement will prohibit future timber harvest on all Tejon Ranch's conserved lands. As soon as possible scientists should address the status and regeneration of conifer and shrub species on the ranch, not only for the benefit of grouse but also to better manage the structure and composition of the ranch's conifer-dominated habitats.

References:

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Photographs by James Bland



Female Mount Pinos Sooty Grouse

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