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THE HISTORICAL DISTRIBUTION OF MOUNTAIN SHEEP IN THE OWENS VALLEY REGION

by John D. Wehausen

Bighorn or mountain sheep have captured the attention of man for longer than we will ever know. Early rock art in the Owens Valley shows that the bighorn was important to people thousands of years ago.

Today, the bighorn symbolizes wilderness and strength in our society. The arrival of the white man was catastrophic to most of California's bighorn populations. Only recently have we become aware of this and set out to make things right.

John Wehausen received his undergraduate degree from the University of California at Berkeley, his Masters Degree at the University of California at Davis and his Doctorate in Wildlife Management at the University of Michigan. His specialty was Sierra bighorn sheep and his academic studies involved over four years of field research.

Since graduation Dr. Wehausen has spent three years studying the bighorn sheep of the White Mountains and two years studying the Inyo Mountains wild sheep populations. In 1984 he began studies of the bighorn sheep in the Eastern Mojave Desert mountain ranges. Throughout this period Dr. Wehausen has continued monitoring the bighorn sheep of the Sierra Nevada.

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Dr. Wehausen initiated the Sierra re-introduction program, which at printing has resulted in three new populations of Sierra bighorn sheep.

Any interest in the restoration of native wildlife populations quickly brings one up against the question of their distribution before the influences of European man set into motion a pattern of wildlife decimation. This is not such a problem for species that by themselves readily explore and colonize unoccupied suitable habitat. Mountain sheep do not fit that mold. Their populations frequently occur in disjunct pockets where habitat characteristics are suitable, and, with the exception of some wandering rams, dispersal out of these pockets is quite slow.

The major decimation of mountain sheep populations in the Eastern Sierra began with the influx of miners to the Sierra Nevada beginning in 1849. These miners ate any meat that was convenient, including mountain sheep; and market hunting that arose to supply mining camps and towns probably caused the elimination of some populations that were locally vulnerable when concentrated on small winter ranges. Mountain sheep meat was listed on an early restaurant menu from Bodie.

Undoubtedly the most severe impact came with the grazing of domestic livestock. Livestock grazing in California began with cattle in low-lying ranges, primarily the Central Valley. Severe droughts caused livestock operators to seek summer

pastures in the Sierra Nevada, where cattle grazing began about 1861. Cattle were quickly replaced by domestic sheep, because the latter could be grazed over more rugged high country. Stocking rates became rapidly excessive, with hundreds of thousands of domestic sheep grazed annually in the high country of the Sierra Nevada. Severe destruction from overgrazing on the Kern Plateau was already documented in 1873 by Clarence King. There developed an annual grazing circuit that Mary Austin's delightful book, *The Flock*, chronicles. It began in the Central Valley in winter, crossed Tehachapi and Walker Passes in early spring, headed through the Mojave Desert and Owens Valley to high country summer pastures, then returned to the Central Valley in fall. Prior to the 1890s, most of the summer grazing was in the Sierra Nevada. During the decade of the 1890s, this grazing was largely eliminated with the creation of Yosemite and Sequoia National Parks and the forest reserves, later to become national forests and additional park lands. Although most shepherds violated the new grazing restrictions at all opportunities, grazing on these lands was essentially eliminated by the turn of the century. This probably resulted in some shifts of grazing pressure to the east slope of the Sierra Nevada, where most ranges of the native mountain sheep occurred, as well as to ranges further east, such as the White Mountains. An estimated 40-50 thousand domestic sheep were grazed in the White Mountains each summer during the early decades of this century.

The impacts of the domestic sheep grazing on the native sheep were threefold. First, where their ranges overlapped, the domestic sheep denuded the forage. Second, the shepherders were known to shoot the native sheep as competitors with their stock when the opportunity presented itself. Finally, and most importantly, major diseases were introduced to the native sheep, to which they had little resistance. One major such disease was scabies, which was reported to decimate the native sheep population inhabiting the Great Western Divide in the Sierra Nevada in the 1870s. Introduction of pathogenic bacteria and viruses causing pneumonia had perhaps the largest impact. Die-offs of mountain sheep herds following contact with domestic sheep continue to be documented.

Early records concerning mountain sheep populations are indeed few; thus, some populations undoubtedly disappeared without record of their existence. In some cases, the only hint



14. Ram that was caught in Sawmill Canyon in 1980 and relocated to Mount Langley, but found his way home. Photographed at Sawmill Canyon in 1981; note tag in left ear. (Credit: John Wehausen)

we have that native sheep were once there is old weathered remains of skulls picked up many years later. Since these are invariably only from rams, which can sometimes wander widely, they have the potential to be misleading. Game wardens and land management agency personnel that might have recorded important information on early distribution of native sheep were not present in the Owens Valley region before about 1910. John Muir, however, was a keen naturalist who kept detailed journals of his observations in this area beginning in 1868. Yet, even he only records seeing mountain sheep on a single occasion in the Sierra Nevada, in the vicinity of Mount Darwin. Particularly noteworthy is that, in all the time he spent in the high country of the Yosemite area, he never recorded seeing any native sheep there, although he documented that they existed. This probably speaks to the earliness of their decimation in that area.

Our best information on early distribution of native sheep is for those populations that persisted into this century, and comes from information recorded by the first game warden, Ed Ober, who lived in Big Pine, and annual fish and game reports of what was then the Mono National Forest. Ed Ober took a particular interest in the native sheep of this region, and recorded his finding, beginning in 1911. Mention of mountain sheep populations in national forest annual reports began in 1921.

Native sheep populations in the Yosemite region of the Sierra Nevada extended north to the Sonora Pass area, but probably not continuously. This whole region may have had only two populations, one that wintered in the Lee Vining and Lundy Canyon area, where they were reintroduced in 1986, and one wintering just north of the Sonora Pass Road where Highway 395 passes through the Walker River Gorge. The only records further north in the Sierra Nevada are for a population that occupied the Truckee River Canyon.

South of Yosemite, a population occupied the area of McGee and Convict Creeks. In 1911, local residents there told an assistant from the Museum of Vertebrate Zoology of the University of California at Berkeley that the mountain sheep in that region left the Sierra in winter. It is probable that they crossed over the rocky region of the Bishop Tuff immediately north of Tom's Place to winter in the Owens River Gorge because of the deep snow in that region of the Sierra Nevada.

In the Bishop area, there were mountain sheep in the Wheeler Ridge—Mount Morgan area, where they have since been reintroduced in 1979. Mount Tom had a population that extended south along the crest to at least Mount Emerson and persisted to about 1940. It is possible that under extreme snow conditions, these may have crossed the flats of the Buttermilk area to Grouse Mountain. There are no substantial records of a population inhabiting the area of the South Fork of Bishop Creek. Suitable contiguous winter range appears lacking in this area. However, it is possible that one of the early populations to be lost occurred there, and included a long migration route between high country summer range and winter range on the east side of Coyote Flat in the area from Shannon Canyon to Rawson Creek above Keough Hot Springs.

Further south, the next population wintered in Taboose Creek and neighboring drainages on either side, and probably summered as far north as the Palisades. There is considerable early mention of mountain sheep wintering in drainages east of Mount Baxter. This is the largest of the two native populations that survived to the present, and currently serves as transplant stock for reintroductions. Its summer range extends as far south as Kearsarge Pass. The next known population to its south occurs on Mount Williamson and is the other surviving native population. Observations by Norman Clyde of sheep on Mount Russell suggest that the range of this population may have once extended somewhat further south than it currently does.

Just south of Mount Whitney, a population in the Lone Pine Peak—Mount Langley area disappeared sometime after 1950. It was reestablished with transplants in 1980 and 1982. The most southern Sierran population in the Owens Valley region occupied the area of Olancha and Cartago Canyons, and probably canyons to their north. At least two more populations occurred further south in the Sierra Nevada, one just north of Walker Pass, and one just north of Tehachapi Pass. At the very south end of the Owens Valley, the Coso Mountains contained a mountain sheep population that disappeared about the middle of this century.

On the east side of Owens Valley, both the White and Inyo Mountains contained mountain sheep populations. In the White Mountains, the earliest historical accounts discussed populations occupying the Cottonwood Basin and Wyman Canyon areas on

the east side of the range. Slightly later accounts mentioned native sheep in the northern White Mountains between White Mountain Peak and Montgomery Peak. This latter northern section is where they have survived to present. Early historical references do not specify any occupation of west side canyons south of the White Mountain Peak area, although they specify sheep use of the peaks at the top of Paiute Canyon. Paiute, Silver, and Black Marble Canyons all provide suitable habitat and probably contained populations. Early decimation may have precluded their documentation in the early records.

These early records stated that the sheep occupying Wyman Canyon utilized the low-lying rocky hills on the north side of Deep Springs Valley at times in winter. Another population occupied the spur of the Inyo Mountains on the south side of Deep Springs Valley, sometimes called the Soldier Pass Range. This was a common area to observe mountain sheep in the 1950s; but the population disappeared about 1970.

Further south on the east side of the Inyo Mountains, the earliest records mention an abundance of mountain sheep on Waucoba Mountain and in the vicinity of Willow and Paiute Canyons. Waucoba Mountain was undoubtedly an area used only by rams, and apparently is still occasionally visited by that sex. Records further south are sparse. Early distribution appears to have extended south along the east side of the range to the area of Daisy and San Lucas Canyons. In recent years, ewes have occasionally been observed as far south as Craig Canyon, but the population at this end appears to be exceedingly sparse. A viable population currently hangs on in the Willow Creek area, but is itself quite sparse compared with early reports. With the exception of wandering rams, there are no records to indicate that any mountain sheep populations ever inhabited the west side of the Inyo Mountains. This is surprising given seemingly adequate habitat there, especially south from Keynot Peak. Perhaps west side populations disappeared before the turn of the century in association with the very active mining in this range at that time.

In summary, the mountain ranges surrounding the Owens Valley, including the entire White Mountains and the Sierra Nevada from Olancho to Yosemite, historically probably supported about twenty populations of mountain sheep. Of these, only four survived to the present. Furthermore, the loss



15. Mixed group of bighorn in spring south of Sawmill Canyon. (Credit: John Wehausen)

of most of these populations is not just a phenomenon of the distant past, but has continued throughout this century. Reintroductions will help reverse this trend, but prevention of further losses is equally important.

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16. Three bighorn in the Sawmill Canyon herd. (Credit: John Wehausen)

