

Arizona

Beaver trapper James Ohio Pattie entered into his journal that on January 1, 1825, he and a band of fellow trappers moved up the San Francisco River from the confluence with the Gila River. He wrote that “upon the high and rugged mountains we saw multitudes of mountain sheep.” While Mr. Pattie was an excellent observer of wildlife, he was not a taxonomist. Currently, the proper classification of the sheep originally seen by these early beaver trappers is under some debate.

Early explorers generally traveled along river bottoms and valleys. Therefore, most did not report seeing large numbers of bighorn sheep. These early travelers did report a bighorn sheep distribution greater than that of today. In 1859, Schott described bighorn range in Arizona as the “rocky, waterless sierras.” Coues stated in 1867 that the “mountain ram has a very extensive range, which includes nearly all the elevated mountains and broken regions.”

There were numerous observations of bighorn sheep in mountains from which the species was later extirpated. In the 1850s, Whipple and Kennerly reported bighorn sheep in the Aquarius, Cottonwood, and Artillery mountains; ranges in which bighorn sheep are now absent. Mearns reported bighorn sheep in the 1880s in the Peloncillo, Pajarito, Atascosa, and Santa Rita mountains; the mountains bordering the Verde Valley; and on Bill Williams Mountain and the San Francisco Peaks. Nelson reported bighorn sheep in the 1880s along the cliffs bordering the Little Colorado River

below Springerville. He also noted bighorn sheep near Springerville, and along the rocky canyons of Chevelon and Clear creeks north of the Mogollon Rim. According to Nelson, bighorn sheep disappeared from all of these areas and the San Francisco Peaks by 1911.

There are no records of bighorn sheep from much of what is now the Navajo Indian Reserva-

tion, and many of the wooded mountains in southeastern Arizona were sparsely inhabited, if at all. That bighorn sheep were scarce in southeastern Arizona is shown in a December 1888 article in the Arizona Weekly Star:

“The first mountain sheep ever seen in the Tombstone market were brought in by Pete Bute yesterday from the Winchester Mountains. One of them was dressed and hanging in front of the Cummings meat market... There were but four in the herd, the successful hunters getting the whole of them.”

The original distribution of bighorn sheep in Arizona’s mountain ranges is not well known because many bighorn sheep populations declined rapidly and disappeared at an early date. As early as 1867, Elliot Coues wrote:

“In America it [the bighorn sheep] has been formerly much more abundant than now, for though it still exists in the more inaccessible portions, it is rarely to be seen. But its great horns may be found scattered about the bases of nearly every cliff and precipice.”

The decline of bighorn sheep in Arizona was so rapid that in 1893 the Territorial Legislature passed a five year moratorium against the taking of bighorn sheep, while retaining an open season on deer and pronghorn antelope. Bighorn sheep existed in good numbers after 1900 only in the arid southwestern regions and in the Grand Canyon, where established ranches were absent. Despite total protection, once thriving populations were still declining. Arizona’s bighorn sheep population received additional protection with the establishment of a State Game Code in 1913. Although enforcement of the game laws may have been lax, those populations in desert ranges too arid or steep for livestock persisted. Isolated populations continued to be extirpated, however; the last native bighorn sheep reported from the Virgin Mountains was in 1915. By 1930, the only sizeable bighorn sheep populations remaining outside of western Arizona were in the Grand Canyon and the Santa Catalina and Superstition mountains. The late 1930s found Arizona’s desert bighorn sheep population reduced still further, to only about 1,000 animals, most of which were found along the Colorado River and its tributaries.

Settlers, miners, and market hunters were held accountable for low bighorn sheep numbers after the

Nelson’s desert bighorn ewe with lamb on Black Mountain.



RAYMOND LEE

Nelson’s desert bighorns on Superstition Mountain.



1880s, but the question remains why bighorn sheep persisted in the most arid regions, while disappearing entirely from better-watered areas. The answer lies not with the miner or the market hunter, but with the introduction of domestic livestock - especially sheep and goats. It is well documented that sheep and goats transmit diseases to bighorn sheep. The evidence linking the reduction and elimination of bighorn sheep populations with the arrival of domestic livestock is overwhelming. Domestic sheep were recognized as a source of disease as early as 1895 when a Territorial Act established an inspector with authority to inspect all domestic sheep entering the territory, and to impound any sheep with infectious disease.

In 1937, Nichol conducted a statewide inventory to determine why bighorn sheep numbers were declining and to make recommendations on how the species could be saved from extinction. Nichol's study estimated that no more than 700 bighorn sheep remained in Arizona outside of the Grand Canyon and Lake Mead areas. Nichol emphasized that poaching and predators were the primary reasons why bighorn sheep were not making a comeback.

Concern for the Southwest's bighorn sheep gained national attention. Federal Wildlife Refuges were established in Nevada (Desert Game Range), New Mexico (San Andres National Wildlife Refuge), and in Arizona. In 1939, the creation of the Kofa and Cabeza Prieta game ranges set aside 1.5 million acres of southwestern Arizona for bighorn sheep and other wildlife. Although then Governor Hunt ridiculed these "federal takeovers" as "billy goat pastures," these actions were considered essential if the bighorn sheep was going to be saved from extinction. Game ranges were patrolled, and most importantly, livestock grazing was eliminated. Habitat, the primary means of retaining viable populations of any wildlife species, had been protected.

Populations outside these refuges, however, continued to decline. Poaching and predation were believed the main reasons for continued losses. There were other speculations, but it wasn't until 1950 that a systematic survey of bighorn sheep populations and a comprehensive life history study were initiated.

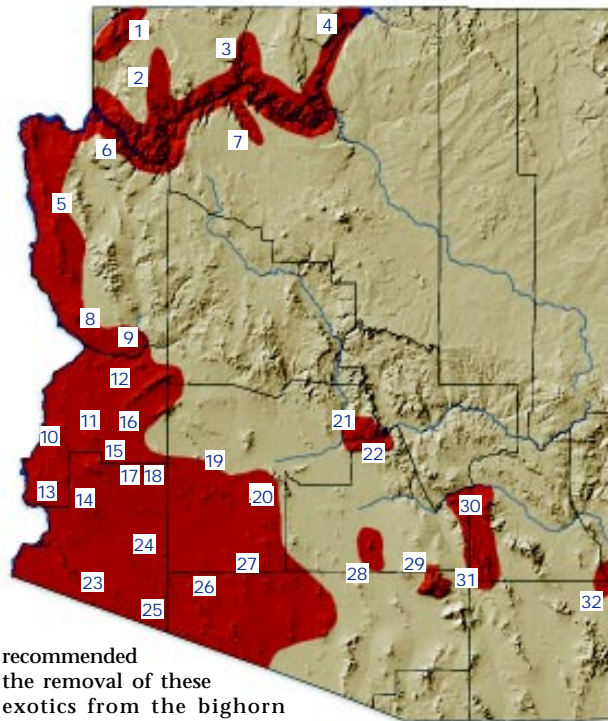
Modern bighorn sheep management in Arizona began with John Russo's study. Started in 1950

A Nelson's desert bighorn ram surveys the slopes below his perch on Arizona's Black Mountain.



Estimated number of desert bighorn sheep in Arizona by area, based on helicopter survey data.

Herd Area	1998	Map
Virgin River/Beaver Dams	185	1
Northern Grand Wash Cliffs	95	2
Kanab Creek/Hacks Canyon	230	3
Paria Canyon	105	4
Blacks	1,815	5
Southern Grand Wash Cliffs	195	6
Cataract Canyon	50	7
Chemehuevis	70	8
Mojaves, Rawhides, Artilleries	125	9
Dome Rocks	50	10
Plomosa	125	11
Harcuvar/Buckskins	70	12
Trigos	205	13
Castle Domes	180	14
Kofas	460	15
New Waters	105	16
Tanks	110	17
Eagletails	150	18
Gila Bends	150	19
Maricopas	185	20
Stewart and Goat Mountains	80	21
Superstitions	80	22
Tinajas Altas	50	23
Mowhawks	75	24
Sierra Pintas	310	25
Growlers	205	26
Saucedas	195	27
Silverbells	85	28
Catalinas	5	29
Aravaipa Canyon	80	30
Galiuros	35	31
Peloncillos	50	32
TOTAL	5,910	



recommended the removal of these exotics from the bighorn sheep's range to reduce the dangers of transmitted diseases and the competition for food and water. Although these recommendations came too late to prevent the loss of bighorn sheep populations in the Superstition, Tucson, and White Tank mountains, the implementation of these recommendations in other areas resulted in a steady increase in bighorn sheep populations.

Russo's most important contribution was to initiate hunting and reintroduction programs. The first hunt in 1953 intensified interest in bighorn sheep management among the state's sportsmen. To date nearly 2,000 bighorn rams have been harvested.

In 1955, the Arizona Game and Fish Department began efforts to reintroduce bighorn sheep into historic ranges. Since that time over 1,200 animals have been captured in areas of relatively abundant populations and released into historic habitat. Arizona's desert bighorn sheep population is now estimated at approximately 6,000 animals.

Additional captures have been made to provide transplant stock to other states to augment their bighorn sheep populations. To date, 208 desert bighorn sheep have been provided to other states, including 99 sheep sent to Colorado in trade for Rocky Mountain bighorn sheep.

and continued for five years, this study sought to locate and document bighorn sheep distribution, determine the animal's food, water, and habitat requirements; determine its limiting factors and the effects of predation; develop survey techniques and methods of indexing the populations; recommend beneficial management practices; evaluate the effects of removing excess rams through limited hunting; and investigate the feasibility of transplanting bighorn sheep to suitable unoccupied ranges.

Several recommendations resulting from Russo's investigations were to be the cornerstone for the successful increase in bighorn sheep numbers enjoyed today. Russo emphasized the need to separate bighorn sheep from livestock and feral burros, and