

THE LAVA BEDS BIGHORN TRANSPLANT

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Abstract: The 1971 transplant of California bighorn (*Ovis canadensis californiana*) from British Columbia to Lava Beds National Monument, California, has been a successful and popular program, setbacks notwithstanding. Increases have been steady, losses few. From a beginning of eight ewes and two rams, after two lambing seasons the total stands at 17, with a potential of seven more this spring.

Administration: The signing of a five-agency cooperative agreement in 1969 was the official beginning of the program, although the Leopold Committee on Wildlife Management in the National Parks presented the recommendation in 1963. The five agencies involved are the National Park Service, U. S. Forest Service, Bureau of Sport Fisheries and Wildlife, Bureau of Land Management and California Department of Fish and Game. Each had responsibilities for funds, construction, manpower, planning or obtaining the animals. Some agencies assisted in several of these fields. The same five agencies remain cooperatively "in charge" of the herd, and I, as a National Park Service biologist, have as one of my projects the responsibility to the Inter-agency Committee to watch after and report upon the new herd.

Location: Lava Beds National Monument is located in northeastern California, immediately south of Tulelake National Wildlife Refuge. The bighorn enclosure encompasses about three miles of the high escarpment and adjacent flats in the northwestern portion of the monument. The area enclosed is comprised of 1,100 acres of excellent bighorn habitat (700 acres in the monument and 400 acres on the Modoc National Forest). Within the eight-foot fence are three artificial watering devices, one built by the Park Service and two by the Forest Service. Small exclosures and forage transects are included for future range trend determinations.

Transplant: On October 22, 1971, National Park Service Research Biologist Charles Hansen (killed in May 1973 during aerial bighorn counts at Canyonlands National Park) and California Department of Fish and Game Biologist Richard Weaver arrived at Williams Lake, British Columbia, to assist the Canadian Wildlife Service with the bighorn capture. The trapping was completed that day, and the two men drove nonstop to Lava Beds in 24 hours, releasing the animals in the pen on October 23. The eight ewes and two rams arrived in good condition and seemed to feel at home in about ten days.

Reproduction and Loss: In May 1972, four of the eight ewes lambed. Low success was attributed to disturbance during the move just prior to the rut, although loss of lambs at birth was a distinct possibility. One lamb disappeared in July and another in August with no trace of either being found. At that time the lambs were quite large and difficult to catch, but large predators such as cougars, coyotes, bobcats and golden and bald eagles are present. There is always the chance they fell or were otherwise injured.

Two lambs survived, one of each sex. Going into 1973, we had 12 bighorn. This was increased by eight in May when all eight adult ewes produced one lamb each. In July, one of the original ewes was observed to be lame in the left hip; no wound was seen, although observation was made from eight feet away. She was found dead a week later. Her lamb was adopted by the remainder of the herd. Early September brought the loss of one lamb, again without a trace. Whether or not it was the orphaned lamb is not known. Seven lambs survived the winter.

The real tragedy, the one which so much enraged the people of California, Oregon and other western states, occurred on October 20, 1973 when one and probably both of the adult rams were shot by unknown riflemen. The younger ram was killed outright. The older died five weeks later. He left the herd after four or five days and never rejoined them. To date, over \$4,000 has been put up by sportsmen's groups, conservationists and clubs for the capture and conviction of the slayers.

In early December, with an eye toward possible late breeding, a two-year old ram was captured at the Charles Sheldon National Antelope Range and brought back to become a member of our herd. This gave us two rams, the other being one of our original lambs, now a long yearling. If we are to have lambs in May or June 1974, which ram will be the sire? The yearling was observed actively breeding in November.

Was either of the now dead rams with the ewes enough to sire lambs? This has now become a very large question, because just last Friday, April 19, the first 1974 lamb was born! This is 13 days earlier than we've observed one since their return to the Lava Beds area. And it is 181 days after the first ram was killed and the second may have been shot and so severely sickened that he would not breed. It may indicate breeding by the yearling ram, as has been the case in some penned bighorn.

Conclusion: So this is where we stand now. We have a total of 18 bighorn, with a potential of 24. It may just be that within a few years we will be prepared to begin repopulating other historical bighorn areas in northeastern California. Our Interagency Cooperative Agreement calls for this. The target in the enclosure is 25 breeding ewes, and five breeding rams. Then they move on to do their increasing in other needed areas.