

A Proposal for Research on Modifications of Social Behavior
in Bighorn Sheep

Abstract

A strongly developed social order and traditional movement patterns play a very important role in the ecology of bighorn sheep. Serious questions have been raised about the practice of harvesting prime adult rams, the cohort that lends stability to the social system. This project proposes to investigate the effects of two levels of ram removal on 1) migratory movements, 2) social stability, and 3) reproductive success. The research will be organized into three stages: 1) a 2-year study to gather baseline data, 2) a second 2-year phase to investigate the influence of old-ram removal, and 3) a third 2-year phase to investigate effects of removal of all sexually mature rams. Small bands of a few sheep each will be studied and the removed sheep relocated in restocking operations. The study will be centered in the Big Creek drainage in the Idaho Primitive Area.

*This is funded through the college,
Headquartered at T-Ranch.*

*Jim Bennett and wife Carol will live at
Taylor Ranch for 2 years.*

A Proposal for Research on Modifications of Social Behavior in Bighorn Sheep

A strongly developed social order and traditional migratory patterns play a very important role in the life and success of bighorn sheep. Adult rams are the dominant animals who maintain the social hierarchy and lead the migratory journeys. Serious questions have been raised about the effect of sport hunting which tends to remove these animals that lend stability to the system. A study of sheep in relatively undisturbed habitats, but where the population can be manipulated, is needed to investigate effects of modifying the sex and age structure. This research project proposes to study the influence of two levels of ram removal on 1) migratory patterns, 2) social stability, and 3) reproductive success.

The study will be centered at the Taylor Ranch on Big Creek, a tributary of the Middle Fork of the Salmon River. Small bands of sheep will be identified and those removed will be relocated in restocking operations. The research will be organized into three stages. The first 2-year segment will be to study social organization, reproductive success and migratory patterns on summer and winter range. Selected animals will be captured and marked for later identification. Some will be equipped with radio transmitters and tracked intensively. The purpose of this part of the study will be to gather baseline data. The second phase, lasting for two years, will address itself to effects of removal of dominant rams from one small band. Procedures used in the first phase will be repeated to detect any behavioral changes induced. The third phase is a more severe removal with all three-quarter curl rams taken. This amounts to 4-5 animals from another small social unit. The bighorn sheep population on the Big Creek drainage is from 90 to 120 animals composed of many small social units. This proposed project affects two of these units.