

BIGHORN SHEEP--WHAT IS OPTIMUM HARVEST?

by

William H. Rutherford

The basic assumption which we are making here is that bighorns can be managed for hunting, and that the man who puts up the money is entitled to a program which will produce harvestable bighorns. We know that bighorns can also be mismanaged for hunting, and here we are getting into things which other participants in the meeting have covered. In making the assumption that every herd either has or can have harvestable animals, the management program which finally evolves has to consider everything which influences the actual production of harvestable animals. Everything is so interrelated that it is a bit difficult to take one aspect of management out of context, examine it, and put it back in. I may not succeed in my attempt. Nevertheless, I have chosen to look at the aspect of administrative expediency and its relationship to bighorn herd management.

At one time or another, in one way or another, every wildlife management agency has the problem of reconciling the management needs of species with expediency of formulating and enforcing regulations. As biologists, we are all familiar with the deferences which sometimes have to be made to administrative demands. Furthermore, we are all familiar with the experience of pushing for the administrative acceptance of a particular management approach, only to find that the public will not buy it. My purpose here is not to perpetuate any rifts between biologists and administrators, or between game managers and the general public, but to explore some of the problems in bighorn sheep management which administrative or public attitudes might create.

Our primary commitment should be to strive for the greatest number of recreational hunting opportunities in bighorn sheep management. Put in other terms, the greater the number of surplus harvestable sheep which can be produced, the greater the number of permits which can be issued, and in turn, the greater the number of hunters who can be in the field. All of this, of course, is based on an assumed optimum success rate. Certainly, we can put more hunters in the field if we can convince them that an expected lower success rate should be acceptable. But if we are to be in the position of offering a reasonable chance that a sheep hunter can be successful, the only way to accommodate more hunters is to make better use of the harvestable animals which are produced.

This is the basis for the position which I am presenting here; that traditional and set management philosophies by both wildlife administrators and the public are not conducive to getting the best use of the harvestable sheep which exist in any herd.

Every herd is different. We know that bighorns have close ties to familiar range, that the pioneering instinct is weak, and that separate herds might exist in relatively close proximity without ever making contact. We know that every sheep and every herd is a product of the habitat it occupies, as well as being a product of the particular gene pool from which it came. The physical, ecological, and genetic factors which produce sheep in one herd are not the same as those which produce sheep in another herd. Each herd is an entity in itself, and its entire composition, sex and age structure, mortality rate and replacement rate are all determined by these same physical, ecological and genetic factors.

The modern concept of the game animal potential of bighorn sheep is almost entirely as a trophy animal. Quality rather than quantity is stressed. Basically this is a good philosophy, because quantity in the same sense as that of deer, elk, or even antelope, is not attainable in bighorn sheep populations. The sheep hunter sees himself as one of the elite, and a whole series of traditional beliefs and attitudes concerning the relationship of the hunter to the animal, and vice versa, has evolved. One of these traditions has to do with the inflexible line of demarcation between what is and what is not a trophy animal. Almost invariably, this boundary is placed at the 3/4 curl mark.

Is this reasonable? In many cases, it is. Restricting the harvest to animals having 3/4 curl or larger horns, mutually agreed upon by the hunting public and the wildlife management agency, usually means that rams less than five years of age will not be taken. If harvest of the older age classes of rams fits in with the management requirements of a particular herd, the trophy philosophy can be accepted on its own merits and conflicts do not arise.

However, it is my contention that hidebound attitudes toward the sanctity of the trophy ram and toward the convenience of having one statewide set of regulations to enforce, can, in some cases, frustrate good management. There is no more justification for restricting the harvest to 3/4 curl rams in all herds, just because it is a proper procedure in some herds, than there would be for going to the other extreme and opening all hunting area to hunters-choice harvest.

My entire point here is to emphasize the necessity for tailoring harvest regulations to the requirements of each individual bighorn herd.

This approach has to be based on complete or nearly complete knowledge of the population dynamics of any herd to be considered for liberal harvest regulations. We are not talking about liberalization for its own sake, and if information for any herd is sketchy or imperfectly known, there is no alternative but to continue the conservative approach.

Let us take a hypothetical herd in which it is determined beyond a reasonable doubt that of each ten rams which enter the yearling age class only one will survive to become a trophy animal. This is very inefficient production of the end product, and the cost of the trophy animal which is produced is really exorbitant when one considers what was lost along the way. Absolute documentation of this pattern of population dynamics makes this herd a prime candidate for relaxation of harvest regulations.

Let us take another hypothetical herd in which it is determined beyond a reasonable doubt that recruitment and replacement are at such a low level that the herd is barely holding its own. This herd, of course, is in trouble, and its ability to survive is dependent on many things which we are not considering at this point. The thing which we are considering is that the herd cannot spare any of its prime breeding rams because they will not be replaced from younger age classes. Here is a situation which, strictly from the harvest viewpoint, would seem to indicate that a continued closed season would be in order. This is correct, as long as the rams are in the prime breeding age class, but even herds as precarious as this one is, can offer some hunting. Harvest of the past-prime ram which will soon pass out of the picture is entirely justifiable, and can offer a real challenge to a trophy hunter.

Let us take another hypothetical herd in which all of the classic symptoms of boom-and-bust are beginning to appear. Rate of population increase has been sharply upward for a period of several years, and habitat deterioration is imminent. Without going into conjectures about what is going to cause the bust (here we are thinking about the disease-parasite-nutrition-competition complex), let us simply say that, based on past experience, this herd is becoming ripe for a crash. In such a situation, it could even be entirely justifiable to hold hunters'-choice seasons for as long as it would take to alter the pattern of population dynamics.

These examples are intended to show that each separate herd has its own level of optimum harvest potential. In order for management to arrive at this optimum level for each herd, the old standards of what constitutes an acceptable end product are going to have to be discarded. I doubt that we will ever reach a point where an ewe will be an acceptable trophy, but within reasonable limits a bighorn sheep trophy should be any animal which is harvestable, from the management standpoint. Modern management concepts and philosophies demand that harvestable sheep be made available for harvest. Administrative and public acceptance of these concepts is necessary in formulating management programs. There is no room for regulations based on conformity, expediency, and ease of enforcement, nor is there room for an inflexible definition of "trophy".