

BIGHORN HARVEST STRATEGY IN ALBERTA

William D. Wishart, Fish and Wildlife Division, 6909 - 116 Street, Edmonton, Alberta T6H 4P2, Canada

The bighorn population in Alberta outside of the National Parks is about 6000. Since bighorn ram production is dependent on the health and productivity of the nursery herds, the bighorn harvest strategy in Alberta during the past 20 years has been directed towards maintaining the nursery herds at or near optimum production. Limited entry permits for ewes and lambs (non-trophy sheep) are allotted for most of the mountain wildlife management units. Permit numbers are calculated to remove about 15 percent of the total accessible herds based on winter counts. The non-trophy season is during September and October with the opening date one week following the opening date for trophy rams. During the past few years about 300 non-trophy sheep have been harvested by approximately 1000 permittees annually. Hunting success rates of non-trophy sheep hunters average about 30 percent, but range from 10-90 percent depending on the accessibility to nursery herds; permit numbers are adjusted accordingly. Applications for permits outnumber successful applicants about 1.5 to 1. The popularity of the non-trophy sheep permits is due largely to their availability to the unlimited resident trophy ram hunters, i.e., our system allows some bighorn hunters to harvest both a trophy and non-trophy sheep in one hunting season.

Hunters are selective against shooting lambs and yearlings, as well as selective for ewes without lambs. Consequently, there is a disproportionately high harvest of 2-year-old ewes. Approximately 60 percent of the non-trophy sheep harvested are older than 3 years.

The ram harvest is regulated by a 4/5 curl trophy regulation. A 4/5 curl is defined as a male sheep with a horn that can be intercepted at both the front of the horn base and the tip of the horn by a straight line drawn along the front of the eye when viewed in profile. The average age of rams harvested under this regulation is 7 years and the average horn length is 82.5 cm (32.5 inches).

About 80 trophy ram permits are issued to non-Canadian hunters who are required to have guides and outfitters. Hunting success of non-Canadians averages around 50 percent. Non-Canadians who are successful in harvesting a trophy ram are not eligible for a permit for the next 4 calendar years.

There is an unlimited entry for trophy rams for Alberta residents. In recent years, approximately 3000 resident hunters have harvested an average of 200 trophy rams annually, i.e., a harvest success rate of about 6 percent. A successful resident hunter for trophy sheep is not eligible to purchase a trophy licence the following year. All successful trophy sheep hunters are required to have their rams registered and the horns plugged with a permanent marker.

The 4/5 curl regulation was developed partly from a concensus of hunters through questionnaires in the early 70's. In addition, there were some biological considerations for the 4/5 curl size. The 4/5 curl allows rams to reach sufficient size and age to lead younger males to ram ranges that are separate and non competitive with nursery ranges. Bighorn rams begin to break or broom their horns at or about the 4/5 curl stage. There is a continuous natural mortality of rams that increases abruptly at about 8 years of age, i.e., where most rams approach or reach a full curl. A herd of 100 bighorns with a normal production pattern in Alberta will produce about six 4/5 curl rams a year. Generally speaking, the present 4/5 curl regulation is considered an optimum size limit for the management of bighorn rams in Alberta.