

BIGHORN SHEEP HARVEST REGULATIONS IN ALBERTA - 1990

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Abstract: During the past decade in Alberta there has been an annual harvest of approximately 450 bighorns at a 1:1 sex ratio. The ram harvest is restricted by a "4/5-curl" regulation and the non-trophy harvest is restricted by permits for ewes and lambs. Problems with definitions and enforcement have been generally resolved.

BACKGROUND

There are approximately 6,000 bighorn sheep outside of the National Parks in Alberta that are available to sheep hunters. There is an unlimited entry for trophy rams for residents only and during the last decade approximately 2,800 resident hunters have harvested an average of 190 rams annually. About 90 trophy ram permits are issued to non-Canadian hunters who harvest an average of 40 rams per year. In addition, there is a non-trophy sheep season where approximately 800 limited entry permittees harvest an average of 225 ewes and lambs annually.

CURRENT REGULATIONS

The legal definitions for harvestable bighorn sheep in Alberta are as follows: trophy rams are taken under a "4/5-curl" restriction that is defined as "a male bighorn sheep with horns, one of which is sufficient size so that a straight line drawn from the most anterior point of the base of the horn to the tip of the horn passes in front of the eye when viewed in profile." A non-trophy sheep is defined as "a female bighorn sheep or a male bighorn sheep under the age of 1 year."

BIOLOGICAL/GEOMETRIC RATIONALE

With respect to the biological rationale for the horn curl law, there was none when the regulation was first introduced in 1956. The curl regulation in Alberta was the result of our neighboring province, British Columbia, introducing a 3/4-curl regulation in 1954. Apparently there was a strong demand by hunters for rams with larger horns. In Alberta there was no horn size restriction on bighorn rams prior to 1956. However, in that year we also introduced a 3/4-curl regulation to accommodate the demand for older trophy rams in the population.

The biological rationale for harvesting older rams developed later in response to the courts asking what difference does it make to the welfare of sheep herds if small rams are harvested? Our reply was that by restricting the male harvest to older rams it allowed them to reach sufficient age and size to segregate and lead younger rams to separate ranges that were not competitive with nursery herds.

Following the curl size regulation we developed a biological rationale for harvesting non-trophy sheep (Wishart 1970). Since ram production is dependent on the health and productivity of the nursery herds, our harvest strategy shifted towards maintaining the nursery herds at or near optimum production. Limited entry permits for ewes and lambs (non-trophy sheep) were introduced in 1966.

The 3/4-curl regulation was changed to a "4/5-curl" regulation in 1968. A "4/5-curl" describes that portion of a circle based on the smallest diameter of an ellipse that is presented by a ram's horn when it is viewed in profile (Figure 1). The "4/5-curl" when viewed through the axis of the horn actually describes a 3/4-curl.

There is considerable variation in the direction of the central axis of the helical ram horn where it extends from the skull. The diversity of horn angles often makes it difficult for a hunter to position himself at right angles to the central axis of a ram's horn, that is, if he is required to make a decision on what portion of a circle is circumscribed by the horn. To avoid problems in interpreting a portion of a circle, Alberta began in 1959 to use an alignment of the 3 reference points in the "4/5-curl" definition, i.e., the front of the horn, the eye, and the tip of the horn.

ENFORCEMENT/PROSECUTION

The "4/5-curl" regulation became relatively easy to enforce when compulsory registration began in 1971. Since that time, all successful ram hunters have been required to submit their ram heads to Fish and Wildlife offices for legal assessment and measurement. Since 1983, horns of all harvested bighorn rams have been required to be marked with a permanent horn plug.

Prosecution of a violator that harvests a ram with illegal horns has become more difficult in recent years as a result of having to prove that the hunter did not show "due diligence in determining the legality of the ram before he shot it." If due diligence is proven by the hunter to the satisfaction of the judge, then the case is usually dismissed. However, if it is demonstrated in the courtroom that his ram is sublegal, then the animal is turned over to Fish and Wildlife. There are about 6 cases a year in Alberta that involve sublegal ram horns.

With respect to enforcement of non-trophy sheep regulations, there is no compulsory registration and the opportunity for prosecution is a very rare event. Violations are generally due to mistaken identity between yearling rams and adult ewes.

INTERPRETATION TO HUNTERS IN THE FIELD

The legal ram and non-trophy sheep definitions have been presented to the hunters along with diagrams, photographs, or drawings on the summary pamphlets of the hunting regulations each year. Some enforcement problems developed because of poor illustrations of legal heads (Figure 2). These problems have been generally reduced in recent years with improved presentations.

PRAGMATIC CONSIDERATIONS

Extenuating circumstances which modify legal definitions, enforcement, and prosecution occur on occasion when a large old ram is taken that falls short of a "4/5-curl". In these cases a decision to prosecute becomes a discretionary call on the part of the enforcement officer since there is no minimum age for legal rams in Alberta. The officer then has to consider the intent of the curl regulation which is to harvest mature or older rams.

The "4/5-curl" regulation is considered an optimum size limit for the management of bighorn rams in Alberta. The horns of the youngest rams that are harvested are at or near the point of brooming. The average age of rams harvested under this regulation is 7 years and the average horn length is 82.5 cm or 32.5 inches (Wishart 1986).

LITERATURE CITED

- Wishart, W. D. 1970. When and why it is good management to harvest bighorn ewes and lambs. *Trans. North. Wild. Sheep Council.* 1: 55-60
- Wishart, W. D. 1986. Bighorn harvest strategy in Alberta. *Bienn. Symp. North. Wild Sheep and Goat Council.* 5: 12-17

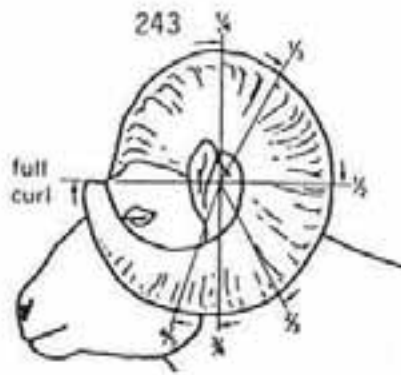


Figure 1. Various fractions of a full curl ram horn when viewed in profile at a right angle to the medial plane of the head.

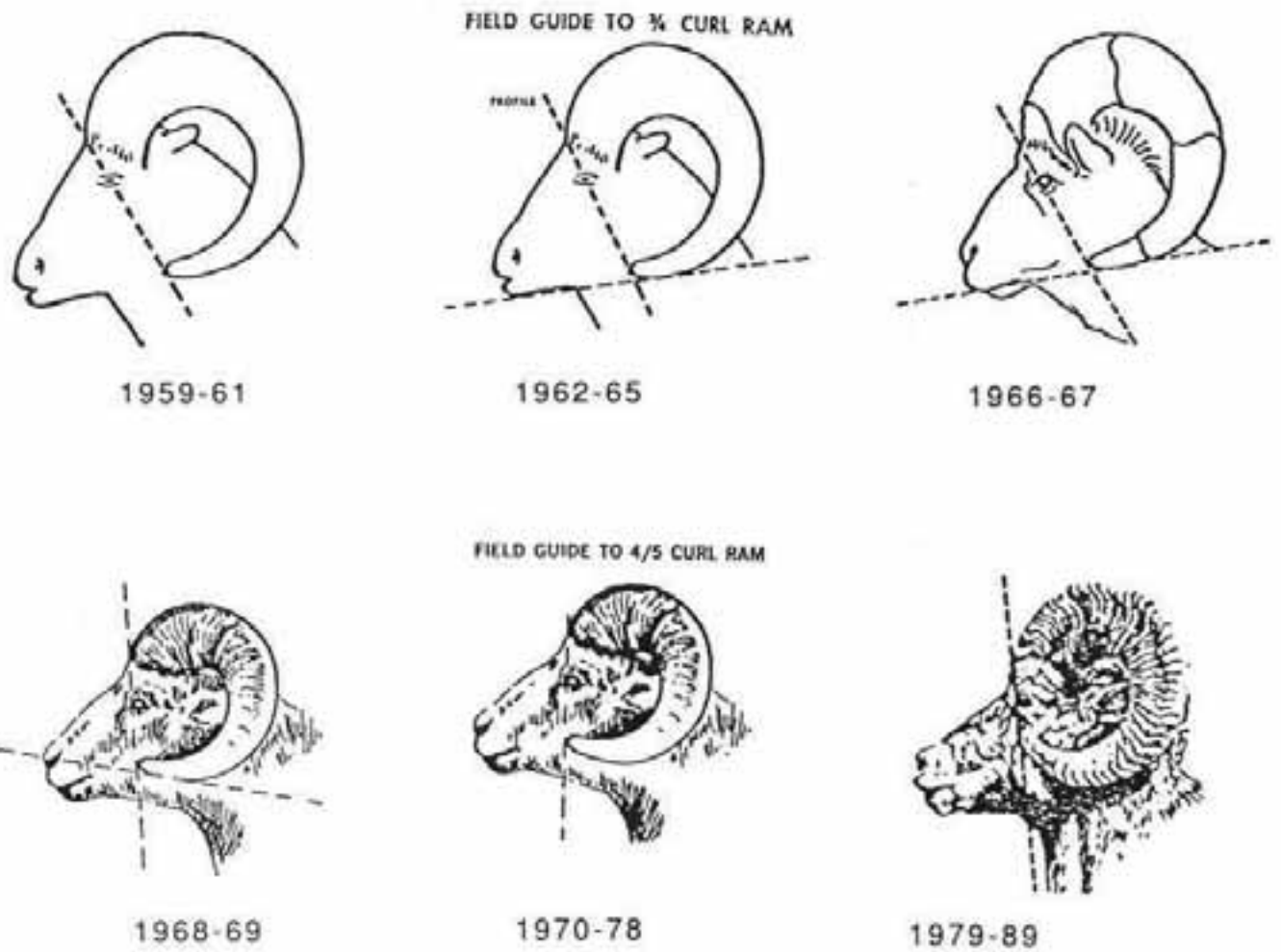


Figure 2. Variations in illustrations of legal ram heads in Alberta from 1959 to 1989.