COMMENTS ON BEHAVIOR

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The purpose of this talk is to give some insight into the work of two of my students on bighorn sheep. They are Dr. D. M. Schackleton and Mr. B. L. Horejsi, the former having completed a Ph.D.; the latter in the process of completing requirements for the same degree.

Dr. Shackleton's thesis deals extensively with the question of population quality which he investigated between populations and placed into a wider theoretical framework; Mr. Horejsi's deals with population quality within a population on the basis of year-to-year variations, but its main aims are to describe in a quantitative fashion the mother-young relations in bighorns.

We can safely conclude that the concept of population quality as first elaborated in my earlier studies does hold. The ecology, morphology and behavior of sheep forms a consistent syndrome permitting us to evaluate whether the population deviates from an ecological optimum. Thus small body size and horn size together with greater adult longevity, low reproductive rates, low suckling frequencies of lambs, low growth rates of lambs, delayed sexual maturation, poor mothering, low frequency of play, early feeding on vegetation by lambs, relatively low social activity by adult rams and a short vegetative season. It is thus possible in the context of the above criteria to read the state of a bighorn sheep population using behavioral data, as well as data from skeletal remains found in the field, without killing animals or handling them. I do not claim that these tools are perfected and reliable, but a start has been made on developing criteria of use to wildlife managers since the criteria mentioned are sensitive indeed.