

## APPENDIX 24.4 UNGULATES OF SPECIAL SIGNIFICANCE IN THE PLAN AREA

### Rocky Mountain Bighorn Sheep: A Blue Listed Ungulate Species:



#### **Distribution and Habitat**

Rocky Mountain bighorn sheep are predominately distributed along the Rocky Mountains in Alberta and British Columbia from the southern Peace River to the international border. Small populations have also been introduced to two sites in central British Columbia which are outside their normal area of occupation.

In British Columbia, they are distributed in localized populations along the Continental divide with the most continuous distribution area situated between the Kicking Horse River and the Canada – USA border.

Traditionally, in the south- east area of British Columbia, Rocky Mountain bighorn sheep range between low elevation winter habitat, situated in the Rocky Mountain trench and the high elevation alpine and sub-alpine grasslands in the summer season. Throughout their range, security habitat is important and consequently they gravitate to grassland habitats with steep, rugged escape terrain in close proximity.

Winter ranges are critical. Most are situated on steep southerly aspects that provide the maximum exposure to solar radiation. As a consequence foraging opportunities are enhanced and energy expenditure is reduced. Some localized populations also use high elevation windswept alpine grassland slopes during the winter.

#### **Abundance**

In 1996 the total population of Rocky Mountain bighorn sheep in British Columbia was estimated to be 2905 animals. Although the population now appears to have stabilized, it is still recovering from the heavy losses attributed to the catastrophic winters of 1995-96 and 1996-97. Recovery of the Rocky Mountain bighorn sheep population has also been compromised by continued disease related die-offs and significant predation effects.

#### **Status**

The Conservation Data Centre ranks species according to a number of criteria and then assigns them to a red, blue or yellow listing. A red or blue listing establishes endangered/threatened and sensitive/ vulnerable status respectively to a specific species while a yellow listing describes species not at risk.

Currently, Rocky Mountain bighorn sheep, in British Columbia, are classified as a blue listed species. Besides the low population numbers and limited recruitment potential, they are blue

listed because of the limitations of suitable habitat and the frequency of re-current epidemic epizootic related die-offs.

Rocky Mountain bighorn sheep have also been designated as an identified wildlife species, through the Forest Practices Code, and consequently warrant special management considerations. In this regard it is incumbent upon the Ministry of Forests (MOF) to demonstrate that forestry, range or public recreation activities do not impose a detrimental effect on identified wildlife species like Rocky Mountain bighorn sheep.

Commercial recreation, however, is not a component of the MOF mandate and consequently wildlife-related impacts accrued from commercial recreation activities must be addressed by Land and Water B.C. Inc.

### **Threats**

The viability of Rocky Mountain bighorn sheep populations may be affected by:

- epizootic disease transmission from domestic livestock
- limited carrying capacity
- increased predation
- inter-specific competition for limited forage resources on shared winter ranges
- natural fragmentation or isolated herd distribution and the subsequent vulnerability to catastrophic events
- habitat loss accrued from forest encroachment, industrial and recreation activities
- increased potential for harassment and displacement from preferred habitat

### **Conservation Measures**

Conservation efforts currently being conducted to maintain viable populations of Rocky Mountain bighorn sheep include improved domestic livestock grazing regimes, acquisition of important winter ranges, access planning, prescribed forage enhancement burning initiatives and the maintenance of a very conservative harvesting strategy.

Other management efforts may include the use of lungworm treatments, the provision of trace minerals and augmentation of the population through transplant introductions.

## **Mountain Goat: A Regionally Significant Ungulate Species:**



*Photo credit: Darcy Monchak*

### **Distribution and Habitat**

In North America, mountain goats occur in British Columbia, Alberta, Alaska, Washington, Idaho, Montana, the Yukon and Northwest Territories. Their distribution in British Columbia is extensive with populations occupying the steep, rocky mountainous terrain and sub-alpine and alpine habitats of the Cascade, Coast, Cassiar, Monashee, Selkirk, Purcell and Rocky Mountain ranges of the Cordilleran region in the province.

Mountain goat frequent alpine, sub-alpine and steep forested habitats and like other mountain ungulates, characteristically migrate between high and low elevations in response to climatic variation. During the summer season, mountain goat usually occupy or gravitate to alpine habitat in close proximity to escape terrain and, similar to Rocky Mountain bighorn sheep, migrate to low elevation or steep, exposed south and south-west aspects in the winter.

### **Abundance**

In 1997, the B.C. Wildlife Branch estimated that approximately 49,000 mountain goat or two-thirds of the world's mountain goat population resided in British Columbia. Approximately one-fifth of this population exists in the Kootenay Region. The remaining one third is proportionally distributed in estimated amounts of 1,700 in Alberta, 1,500 in the Yukon, 1,500 in the North West Territories, 12,000 in Alaska, 5,000 in Washington, 2,800 in Idaho and 4,500 in Montana.

### **Status**

The Conservation Data Centre ranks species according to a number of criteria and then assigns them to a red or blue list, which establishes endangered/threatened and sensitive/vulnerable status respectively to a specific species while a yellow listing describes species not at risk.

Currently, mountain goats in British Columbia are classified as a yellow listed species. However, mountain goats have also been designated as an identified wildlife species, through the Forest Practices Code, and consequently warrant special management considerations. In this regard it is incumbent upon the Ministry of Forests (MOF) to demonstrate that forestry, range or public recreation activities do not impose a detrimental effect on identified wildlife species like mountain goats.

Commercial recreation, however, is not a component of the Ministry of Forests (MOF) mandate and consequently wildlife-related impacts accrued from commercial recreation activities must be addressed by Land and Water B.C. Inc.

## **Population Management History**

In 1949, the B.C. Game Branch annual report mentioned a decline in mountain goat populations along the Rocky Mountain Trench. Although a subsequent reduction in an individual's personal harvest quota of mountain goat ensued, the trend in population reduction continued. Further declines were subsequently noted in later B.C. Game Branch reports, however, seasonal hunting lengths remained liberal and there was no reduction of the number of mountain goat licences issued in the Province.

In the 1960's a massive over-harvest of mountain goats occurred in the Kootenay region. This was attributed to:

- a prevalent philosophy among wildlife biologists and administrators to maximize wildlife harvests
- a deficient management data base
- a deficient understanding of mountain goat vulnerability
- a proliferation of road development
- no access regulations

In a dramatic reaction to the consequences of over-harvesting, the mountain goat hunting season was closed between 1971 and 1977. Since 1978 a more rigorous and conservative management strategy has been implemented. This approach continues and is reflected in the recent 1997 reduction to approximately one-half the limited entry harvesting opportunities issued prior to this date. This action was precipitated in response to concerns raised from recent inventory and harvesting data reviews. Considering the dramatic decline in observed numbers generated from a 1998 inventory in the Purcell Mountains it is highly probable that further reductions will ensue.

## **Threats**

Mountain goat populations may be adversely affected by:

- access continues to be relatively unregulated
- harassment and displacement potential remains high
- habitat values are not identified and protected
- predation issues are not addressed
- conservative harvesting strategies are not maintained

## **Conservation Measures**

In conjunction with reduced harvesting quotas and habitat protection measures, efforts are being initiated to reduce adverse impacts on mountain goat populations through more stringent access management controls. In conjunction with these initiatives is the continued effort to accelerate population inventory. This information is required to establish an accurate measure of mountain goat numbers and distribution. Plans to initiate research projects designed to acquire more detailed knowledge of mountain goat physiology, habitat requirements and population dynamics are also being contemplated.

The completion of a comprehensive biophysical mapping initiative, which identifies mountain goat habitat and establishes an associated capability and suitability rating, is also being pursued.