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POPULATION DYNAMICS OF BIGHORN SHEEP USING RECLAIMED HABITAT IN OPEN PIT
COAL MINES IN WEST-CENTRAL ALBERTA

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Abstract: The population dynamics of bighorn sheep (*Ovis canadensis*) using a reclaimed landscape between the years 1985 and 1991 are discussed. Maximum pre-rut counts have increased from 198 in 1985 to 314 in 1991. Alberta Fish and Wildlife have captured sheep from this site since 1984 for various transplant purposes. A non-trophy hunt has been conducted on the Cardinal River Coals Ltd. mine site for 6 out of the past 8 years. Ewe removal rates have averaged 15%. Ewe numbers showed an initial increase over the first 2 years but have remained stable since then. Individual sheep exhibit characteristics of a healthy, expanding population. The total amount of revegetation area on Cardinal River Coals Ltd. has increased by 96% between 1985 and 1991. Bighorn sheep have responded by quickly moving into new areas once a grass-legume mixture has been seeded, and incorporating these new areas into their seasonal occupation of range. Seventy-five percent of all sheep observations during a year period between September 1985 and September 1986 were within 300 m of escape terrain. Similar range expansions onto newly cleared or newly seeded reclamation have been documented at the neighboring Gregg River Resources Ltd. mine site.