

WILDLIFE RECLAMATION PLANNING

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Abstract. Reclamation of coal mines in the Alberta foothills has resulted in range expansion and increased population for bighorn sheep as well as new habitat for other species. These modified habitats take on more significance when put in context with range losses experienced by bighorn sheep in North America during European settlement. A review of the steps required for wildlife reclamation planning is presented and illustrated by case studies involving three existing and one planned coal mine located in the subalpine and upper boreal-cordilleran ecoregions of Alberta.

1) Reclamation begins prior to the disturbance with a comprehensive wildlife inventory and ecological land classification. 2) Umbrella species are chosen for wildlife reclamation planning and long-term monitoring. Species with very specific habitat requirements are also identified for specialized reclamation activities. 3) Preplanning activities are initiated if required. 4) A conceptual reclamation plan is prepared with the input of professionals knowledgeable in mining, soil, vegetation, and ecological processes. Restoration is not usually possible given the scale of coal mining so a pragmatic ecosystem approach is adopted that attempts to integrate procedures that restore pre-mine habitat condition, replace habitat function, and exchange certain components for others of similar benefit. Examples of wildlife reclamation techniques and their benefits are discussed within the mining environment. 5) During active mining, several initiatives are undertaken that promote the wildlife use of the final reclaimed landscape. 6) Post-mine planning for the reintroduction of human activity to the reclaimed landscape and its wildlife will ensure that benefits persist into the future.

Submitted to a refereed journal for publication.