

Multi-state and Province Bighorn Sheep (*Ovis canadensis*) Genetics Library: Potential Uses and Partnerships

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Abstract: During the late 1990's and early 2000's, researchers at the Idaho Department of Fish & Game's Wildlife Health Laboratory requested and received large numbers of bighorn sheep blood and/or tissue samples from 13 states and provinces in order to identify and assess natural disease resistance (N-ramp) genetics. DNA was extracted from samples within different species and sub-species of bighorn and thin horn sheep throughout North America. Following the conclusion of the N-ramp project, the intended use of this DNA genetics library was to assist agencies and researchers in furthering the understanding of bighorn sheep genetics. The collection currently includes over 1300 bighorn sheep DNA samples with the following composition: 55% Rocky Mountain bighorn sheep, 21% Desert bighorn sheep, 21% California bighorn sheep, 2% Stone sheep and 1% peninsular bighorn sheep subspecies. The DNA library is available for interested agencies and non-governmental groups for comparative genetics studies, forensic services, and population genetics, including: bottle-necking, founder effect. The size and scope of this collection make it ideal for state, federal, provincial and non-governmental agencies to use in support of ongoing research or as a starting point for development of new bighorn sheep genetics research.

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