

Fascioloides Magna in Free-Ranging Rocky Mountain Bighorn Sheep (*Ovis canadensis*)

AMÉLIE MATHIEU, British Columbia Ministry of Forests, Lands and Natural Resource Operations, 205 Industrial Rd G, Cranbrook, British Columbia, V1C 7G5, CA, amelie.mathieu@gov.bc.ca

CAELEY THACKER, British Columbia Ministry of Forests, Lands and Natural Resource Operations, 2080 Labieux Road, Nanaimo, British Columbia, V9T 6J9, CA

IRENE TESKE, British Columbia Ministry of Forests, Lands and Natural Resource Operations, 205 Industrial Rd G, Cranbrook, British Columbia, V1C 7G5, CA

EMILY JENKINS, Department of Veterinary Microbiology, Western College of Veterinary Medicine, 52 Campus Dr, Saskatoon, Saskatchewan, S7N 5B4, CA

BRENT WAGNER, Department of Veterinary Microbiology, Western College of Veterinary Medicine, 52 Campus Dr, Saskatoon, Saskatchewan, S7N 5B4, CA

BRYAN MACBETH, Parks Canada, Banff National Park, Box 900, Banff, Alberta, T1L 1K2, CA

STEPHEN RAVERTY, Animal Health Centre, 1767 Angus Campbell Rd, Abbotsford, British Columbia, V3G 2M3, CA

MARGO PYBUS, Fish and Wildlife Stewardship, Alberta Environment and Parks, 6909-116 Street, Edmonton, Alberta, T6H 4P2, CA and University of Alberta, Department of Biological Sciences, Edmonton, Alberta, T6G 2E9, CA

ABSTRACT: From February to May 2021, four non-migratory rams from the Radium-Stoddart bighorn sheep (*Ovis canadensis*; BHS) herd in the Rocky Mountains of south-eastern British Columbia died of infection with the giant liver fluke (*Fascioloides magna*). Affected animals were emaciated, weak and lethargic or were found dead. Gross lesions, histopathology and parasite burdens were consistent with those reported in experimentally infected BHS, domestic sheep and other aberrant hosts. While BHS range does not typically overlap with fluke contaminated aquatic habitats, the change in migratory behavior recently observed in some Radium-Stoddart rams may have exposed the affected animals to *F. magna*. This is the first case series describing hepatobiliary trematodiasis associated with *F. magna* in free-ranging BHS. Based on experimental data and our findings, giant liver fluke is pathogenic and is a threat to the conservation of the Radium-Stoddart BHS herd and other BHS herds in endemic *F. magna* regions.

Biennial Symposium of the Northern Wild Sheep and Goat Council 23:33; 2022

KEY WORDS: bighorn sheep, British Columbia, *Fascioloides magna*, giant liver fluke.