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Cadmium, Copper, Iron, and Zinc Concentrations in the Kidneys of Grey Wolves (*Canis lupus*) from Alaska, Idaho, Montana, and the Northwest Territories

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Oral Presentation O1.1

**CADMIUM, COPPER, IRON, AND ZINC CONCENTRATIONS IN THE
KIDNEYS OF GREY WOLVES (*CANIS LUPUS*) FROM ALASKA, IDAHO,
MONTANA, AND THE NORTHWEST TERRITORIES**

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The purpose of this study was to document levels of cadmium (Cd), copper (Cu), iron (Fe), and zinc (Zn) in lethally controlled and legally harvested grey wolves (*Canis lupus*) from Idaho, Montana and Alaska in the United States, and from the Northwest Territories, Canada. As top predators, grey wolves may accumulate elevated levels of heavy metals, which are known to biomagnify. However, few studies of heavy metals in wolves have been conducted. Concentrations of heavy metals in wolf kidneys were determined using Inductively Coupled Plasma Emission Spectrometry. Wolves from Alaska had significantly higher levels of Cd and Zn than wolves from all other locations. In Alaska, Fe concentrations were significantly higher in females than in males, while in Montana, Cu concentrations were significantly higher in adults than in subadults. Future studies should determine if heavy metal biomagnification has occurred via analysis of wolf food chains, and the potential impacts of these metals on wolves.