



Alaska National Parks News Release

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Report Examines Exposure to Metals in Small Mammals, Birds in Cape Krusenstern National Monument

The U.S. Geological Survey, in cooperation with the National Park Service has released a report on heavy metals exposure on a small sample of wildlife in Cape Krusenstern National Monument in Northwest Alaska.

The “Assessment of Metals Exposure and Sub-Lethal Effects in Voles and Small Birds Captured Near the DeLong Mountain Regional Transportation System Road, Cape Krusenstern National Monument, Alaska, 2006” was released by the agencies this week.

Six voles and 12 small birds were captured in summer 2006 near the DeLong Mountain Regional Transportation System haul road that leads through Cape Krusenstern on its way to the Red Dog Mine. Similar numbers of animals were captured from a comparison site at the southern end of the monument.

There was no clear evidence of serious sub-lethal biological effects such as lesions in internal organs or DNA damage in blood in any of the animals. Though blood and liver lead concentrations were elevated in animals captured near the haul road, they were generally less than concentrations associated with serious biological effects reported from other studies.

Researchers examined organs for deformities and analyzed liver and blood samples for aluminum, barium, cadmium, lead, and zinc concentrations. Voles and small birds captured from near the haul road had about 20 times greater blood and liver lead concentrations and about 3 times greater cadmium concentrations when compared to those from the reference site. Barium and zinc tissue concentrations of animals collected from different sites were not remarkably different, and aluminum concentrations were below the reporting limits in most samples.

Results from this reconnaissance-level study indicate that voles and small birds in this area are not suffering serious biological effects as a result of metals exposure; however, continued monitoring of lead and other metals is recommended because of uncertainties noted and because biological effects thresholds might be approached if exposure levels were to increase.

The Red Dog Mine, one of the world’s largest producers of lead and zinc concentrates, is about 30 miles northeast of the boundary of the national monument, and has been in operation since 1989. The powdered ore is moved about 55 miles by truck to the coast, including about 20 road miles within the monument. Over the years, trucks have released quantities of finely powdered

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ore concentrate along the road. Beginning in 1999, NPS researchers sampled moss to document patterns of airborne heavy metal deposition on public lands and found elevated concentrations of cadmium and lead. This vole and bird study is among the follow-up work stemming from those earlier studies.

Teck, which operates the mine, has also taken several steps over the years to reduce the amount of material released during mining operations and transportation. The results of this USGS research are consistent with findings of the 2007 DMTS Fugitive Dust Risk Assessment that was conducted by Teck to evaluate and manage potential environmental issues related to fugitive dust releases (that assessment can be found at www.dec.state.ak.us/spar/csp/sites/reddog.htm). This report is USGS Scientific Investigations Report 2008-5211, and is available on-line at <http://pubs.usgs.gov/sir/2008/5211/>

For more information about Red Dog Mine, visit www.reddogalaska.com, or contact Jim Kulas, Environmental Superintendent, Red Dog Mine, at (907)426-9129. Additional information about NANA and AIDEA can be found at www.nana.com and www.aidea.org respectively.

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