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# Mercury Concentrations in Salmonids from Western U.S. National Parks and Relationships with Age and Macrophage Aggregates

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Mercury accumulation in aquatic foodwebs and its effects on aquatic biota are of growing concern both for the health of the fish and the piscivores that prey upon them. This is of particular concern for western U.S. National Parks because it is known that mountainous and Arctic areas are sinks for some contaminants. The Western Airborne Contaminants Assessment Project seeks, in part, to ascertain mercury concentrations and evaluate effects of contaminants on biota in 14 lakes from 8 National Parks or Preserves. In this paper we report that mercury has accumulated to concentrations in trout that may negatively impact some piscivorous wildlife, indicating potential terrestrial ecosystem effects. Additionally, we show that mercury concentrations increase with age in 4 species of trout, providing evidence of bioaccumulation. Finally, we demonstrate that mercury is associated with tissue damage in the kidney and spleen, as indicated by increases in macrophage aggregates. This finding suggests that mercury, and possibly other contaminants, are negatively affecting the trout that inhabit these remote and protected ecosystems. Our results indicate that mercury is indeed a concern for the U.S. National Parks, from an organismic and potentially an ecosystem perspective.