

Agencies Investigate Tools to Monitor Bird Health

The Coeur d'Alene River's Lower Basin consists of thousands of acres of wetland habitat that lie along the migration corridor for the tundra swan. Over 150 years of mining in the Silver Valley has deposited contaminated mine tailings and sediment into the marshes and floodplains of the Lower Basin, which are within the Bunker Hill Superfund Site. Over 95% of the wetland areas within the Lower Basin contain sediment that is toxic to wildlife. As swans and other waterfowl dabble and forage in the water, they swallow high levels of lead found in the sediments. This leads to the deaths of many birds every migration season. The U.S. Environmental Protection Agency is continuing to create clean feeding habitat in the Lower Basin. An example is at Gray's Meadow, where EPA and the Restoration Partnership are cleaning up the soil and restoring the agricultural land to healthy wetland feeding habitat.



Photo courtesy Coeur d'Alene Tribe.

EPA's Office of Research and Development and Region 10 are again collaborating with Idaho Fish and Game, US Fish and Wildlife Service, and the Coeur d'Alene Tribe to measure how and where swans are exposed to contaminated sediment. During the swans' stopover in the Lower Basin, they frequently move between wetland areas.

This study is investigating ways to measure swan lead exposure by collecting sediment, porewater, and swan scat at wetlands where swans forage. The agencies compare those results to blood lead levels from swans captured at uncontaminated and contaminated locations. The study's goal is to identify a way to safely measure lead exposure in swans, in a way that does not require capturing them and measuring lead in their blood. Future monitoring will examine how waterfowl health is linked to exposure factors like vegetation type at specific wetlands and throughout the Basin. Monitoring may also track the success of ongoing Superfund cleanup and the Restoration Partnership's habitat improvements on the health of the waterfowl community.

March 13-17, 2023, a team of biologists will sample swans and the wetlands in the Lower Basin and within Coeur d'Alene Tribal wetlands. Wetlands are chosen for a range of lead contamination, from clean to high levels. The team will safely capture swans during the day through swim-in traps or rocket nets, collect samples of blood and scat, and measure their leg bones for lead. Next, the team will place marking devices, such as colored neck collars, leg bands, or satellite collars. This work depends on the timing of the 2023 swan migration into the Basin, which is delayed this year. If their arrival is significantly delayed or if ice in the wetlands prevents safe trapping and sample collection, swan blood sampling will not be completed this year. In addition to collecting biological samples, EPA will collect sediment and vegetation samples within the Lower Basin at places where tundra swans are feeding and places that represent habitat and vegetation that they would feed upon. This work will help us better understand how sediment lead concentration is related to the fecal and blood lead levels.

We expect this study will support using waterfowl scat as a long-term monitoring tool to track waterfowl health and exposure to lead as the Basin is cleaned up. We will make the study report publicly available when finalized.

For more information, see contacts on next page. ➔

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*If you need materials in another language or an alternative format, please contact
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Visit the Restoration Partnership [website](https://www.restorationpartnership.org/schlepp.html) for information on the Schlepp Wetlands Restoration area:
<https://www.restorationpartnership.org/schlepp.html>

**Please report dead swans that appear to have colored
neck collars or satellite transmitters to Mark Jankowski
at 206-553-1476**

EPA Photo



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