



Air Acadia Podcast

Mercury Pollution – An Invisible Foe that Knows No Boundaries

Every year nearly 2.5 million people visit Acadia National Park. They are mesmerized by the play of waves against rock and experience stunning views from places like the summit of Cadillac Mountain. It's easy to understand why citizens a century ago worked so tirelessly to protect the park for future generations to enjoy. What may not be so obvious is that park managers are working equally hard today to protect Acadia's natural resources from an invisible foe that knows no boundaries: air pollutants, and in particular, mercury.

While there are natural sources of airborne mercury such as volcanoes, human activities have greatly increased the amount of mercury in the environment through industrial processes that include burning coal for electricity and burning waste. Once emitted to the air, mercury can travel great distances before it returns to the earth with rain, snow, dust, or fog. Mercury that reaches Acadia National Park through the atmosphere is likely to originate from some of the same sources of haze that often obscure the park's scenic vistas.

The National Park Service is concerned about mercury due to its harmful effects on wildlife and human health. It only takes a very small amount of this persistent metal to pollute an ecosystem because it builds-up in the bodies of animals over time and increases in concentration with each level of the food chain, a process called biomagnification.

Acadia National Park is one of the most intensively studied areas for mercury in the United States. Elevated concentrations have been documented in certain fish, salamanders, bald eagles, loons, and tree swallows. Levels of mercury in some fish exceed safe consumption thresholds established for wildlife and human health. Mercury's toxic effects include reproductive and neurological impairment, and decreased survival.

Sarah Nelson, a scientist from the University of Maine, has studied how mercury moves through the park's environment.

[Sarah Nelson] Our research at Acadia indicated that more mercury particles collected on and eventually rained down from areas of spruce and fir forest canopies than areas with maple, beech, or shrubs, and sites with no forest at all, suggesting to scientists that the landscape has a big effect on the presence of mercury.

Since 1995, Acadia National Park has collected precipitation samples and measured the amount of atmospheric mercury entering the park through rain and snow. Data indicate that the current rate of mercury deposition is about 4 times greater than what scientists think rates were before industrialization. Furthermore, the park's forested areas and abundant surface waters create an environment especially susceptible to mercury contamination.

[David Manski] The park's resources are at risk, the natural resources are at risk, and public health is also at risk. And we continue to coordinate with state and other federal agencies who are involved in mercury regulations to let them know about the results of our research. And hopefully that can help improve regulations that can help make mercury emissions less and help protect Acadia National Park for the future.

You can help reduce mercury in the environment by conserving electricity and purchasing fewer mercury-containing products. Visitors to Acadia National Park are also encouraged to ride the low emission, propane-powered Island Explorer shuttle bus instead of driving to help further protect the park's air quality. Together we can ensure that future visitors have the chance to focus not on such threats from above, but on Acadia's breathtaking beauty.