

# A Call to Action

## *Crystal Clear*

National Park Service  
U.S. Department of the Interior

Rocky Mountain National Park



## Occurrence, Sources, and Potential for Biodegradation of Endocrine-Disrupting Chemicals in Surface Water



Mirror Lake in Rocky Mountain National Park (Colorado). NPS/DAN UNGER

Rocky Mountain National Park is located at high elevations above most areas populated by humans, but chemicals produced by humans do find their way into this remote area. A multi-year project was started to provide information to park managers about the ecological risks posed by endocrine-disrupting chemicals (EDC) introduced to park waters primarily through air transport (deposition). Previous studies have demonstrated that EDC deposition, accumulation within fish and other animals, and endocrine disruption (hormonal changes) are significant in remote surface-water ecosystems of the park.

EDCs are synthetic chemicals that can disrupt the development of vital systems such as the endocrine, reproductive, and immune systems in wildlife. Large quantities of these chemicals have been released into the environment in recent decades and can persist and accumulate in fat tissue of animals. Considerable research is ongoing to determine the impacts of exposure to EDCs on the well-being of wildlife and humans.

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## Background

EDCs accumulate in aquatic and terrestrial food webs, posing a direct threat to the conservation and preservation of natural resources at Rocky Mountain National Park. Aquatic and aquatic-dependent species such as greenback cutthroat trout and bald eagles are particularly at risk.

Chemicals broadly classified as 'contaminants of emerging concern' occur in many surface-water environments. Concern over these contaminants is growing due to their chemical

complexity and recently identified biological and community-level impacts.

A recent national stream study identified the presence of contaminants suspected or known to contain EDCs in multiple water bodies across the United States. That study determined that the number of chemicals thought to impact hormonal activity is increasing.

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## Status

A combined field assessment and laboratory study has been initiated to assess the occurrence of contamination and the tendency of EDCs to degrade or accumulate in ecosystems. This effort will help National Park Service managers assess the vulnerability of

park resources from internal and external sources. The field and laboratory assessments will provide a basis for establishment of contaminant management practices for the park.

The health of a river otter in Rocky Mountain National Park is directly tied to the health of the park's aquatic ecosystems. NPS PHOTO



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## More Information

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