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Stream by Stream: Researching and Protecting Cuyahoga Valley National Park's Vital Waterways

[Cuyahoga Valley National Park](#)

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The streams of Cuyahoga Valley National Park (NP) are more than just waterways; they are lifelines for rare and sensitive ecosystems. The park's spring-fed streams stay cold all year, supporting unique biological communities. Such streams are relatively rare in Ohio but thrive in the Cuyahoga River Valley thanks to the area's glacial geology and steep ravines. Protecting spring water streams is critical since they are home to species like salamanders, coldwater fish, and [benthic macroinvertebrates](#) (worms, crustaceans, and aquatic insects) that depend on these clean, cold conditions.



A stream winding its way through the lush landscapes of Cuyahoga Valley National Park.

The Challenge of Conservation

Coldwater streams are especially vulnerable to environmental changes and human activities. As Cuyahoga Valley NP biologist, Ryan Trimbath, explains, “Our streams are affected by ongoing commercial and residential development in the greater watershed beyond the park’s boundaries. Old dams and past industrial activities have left a lasting impact on stream health.” Climate change is another threat, as it raises water temperatures beyond what coldwater species can handle. To preserve the park’s natural heritage, it is important to identify which streams are most at risk, prioritizing them for protection and restoration efforts.

A Data-Driven Solution

To address these concerns, the National Park Service [Inventory & Monitoring Division](#) supported an extensive inventory of the park’s streams. The goal? To map where the streams are, check their health, and identify threats. Out of 125 study sites, 103 showed high aquatic species diversity. Overall, the researchers found 4 salamander species, 5 frog species, 21 fish species, and 256 different macroinvertebrates.



Some of the diverse amphibians, fish, and macroinvertebrates documented during the stream inventory in Cuyahoga Valley National Park. From left: Northern two-lined salamander (*Eurycea bislineata*), pumpkinseed (*Lepomis gibbosus*), crayfish (*Cambarus* sp.), green frog (*Lithobates clamitans*), and mayfly (*Ameletus* sp.).

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The study revealed that most streams in Cuyahoga Valley NP are in good condition with minimal habitat damage. For the few streams facing challenges, conservation and restoration initiatives, such as reforestation, land protection, dam removal, and stormwater management, will help restore them to high ecological quality. The park is also prioritizing further research into coldwater fish habitats and strategies for species restoration. This inventory not only identified areas requiring immediate attention but also established a valuable baseline for future conservation efforts.

Collaborating for Conservation

Healthy streams benefit everyone and protecting them requires teamwork. Since everything flows downstream, every upstream property owner and recreational user in the Cuyahoga River watershed contributes to the health of the park's waterways. Therefore, protecting these streams requires collaboration between the park and other local groups like the Ohio Environmental Protection Agency. The updated data from this inventory are essential for these partnerships, helping the park advocate for the protection of tributaries outside its boundaries.

Visitors can help protect the park's streams by staying on designated trails, disposing of trash properly, and avoiding sensitive areas. As Trimbath notes, "This inventory reemphasized how rich this valley is with coldwater stream resources." Together, we can ensure these ecosystems remain a refuge for coldwater species and continue to showcase the park's natural beauty.

Want to learn more?

Check out the [final report](#) from this project.