

## Bacon Ridge Stream Restoration

[mostcenter.umd.edu/casestories](http://mostcenter.umd.edu/casestories)

### Problem:

Bacon Ridge Branch, a headwater to the South River, flows through the center of Bacon Ridge Natural Area. Despite strong land protection efforts in the past 20 years, deforestation and development funneled huge surges of stormwater into this stream. This caused over 180 eroded cliff drop-offs called 'headcuts' along the stream which became unstable and degraded.

Without restoration, these headcuts would have worsened and eroded more streambank with every storm, completely drained the surrounding wetlands, and flooded downstream with polluted runoff.

### Solution:

Arundel Rivers Federation and Biohabitats restored the stream and used an innovative, low-cost technique to maximize funding and exceed expectations. They restored almost six times the originally proposed length.

The project creates long-term streambed and streambank stability, slows the stormwater flows to reduce erosion and improve water quality, reconnects the stream to its floodplain, and restores the area's wildlife habitat.

**Fighting climate change:** The team installed log jams made from wood harvested on site that absorb energy and slow the flow of stormwater. Not only does this make it resilient to stronger storms, but by not importing materials from other sites, the project's carbon footprint is much smaller than standard stream restoration projects.

**A model for others:** Bacon Ridge has inspired others and the design is being replicated throughout the South River Watershed.

**Award-winning:** The project also won a "Best Stream Restoration in the Bay" award from the Chesapeake Stormwater Network in 2019.



**Before:** The stream was becoming unstable. Headcuts like the one shown above were getting worse after each storm.



**After:** The beautiful restored stream helps the entire surrounding environment and community.

Photo Credit: Arundel Rivers Federation & Biohabitats

## Key Project Facts

**Project Location:** Annapolis, MD

**Type of Project:** Stream Restoration

**Scale:** 4,350 linear feet of stream restored

**Pollutants Removed:**

- 39,150 lbs of suspended soils per year
- 633 lbs of nitrogen per year
- 292 lbs of phosphorus per year

**Cost:** \$722,000

**Funding Sources:** Chesapeake Bay Trust; MD Department of Natural Resources

**Contact:** Jennifer Carr  
Arundel Rivers Federation  
[jennifer@arundelrivers.org](mailto:jennifer@arundelrivers.org)

**Biohabitats Story:** <https://go.umd.edu/5Gi>

**BUBBA Award:** <https://go.umd.edu/5GU>

## What is Polluted Runoff?

The growth of our cities has resulted in too many paved surfaces, which prevent rain water from being absorbed by the ground. Instead, the water runs off streets and buildings, collecting trash and dangerous chemicals on its way. This contaminated water overflows into our streams and rivers, creating public health hazards and toxic waters.

Stormwater projects create safe paths for polluted runoff to be captured and filtered before it reaches our waterways. It keeps communities healthy and the environment clean.

**When communities and their local governments work together to solve big problems like stormwater runoff, that's a story worth telling!**