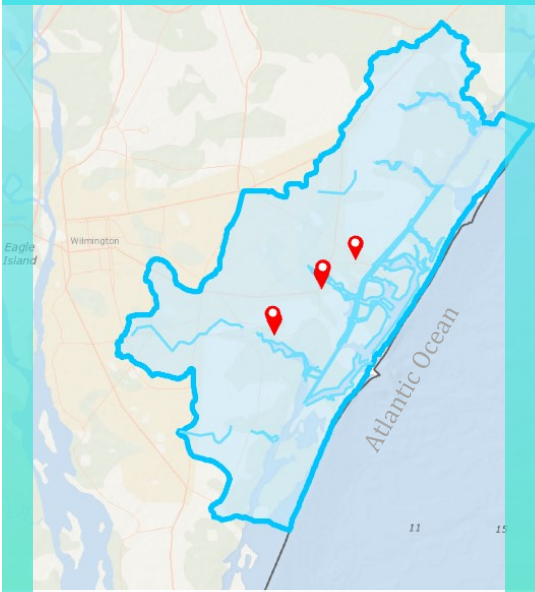


Reducing Coastal Stormwater Runoff in Bradley & Hewletts Creek Watersheds

Overview

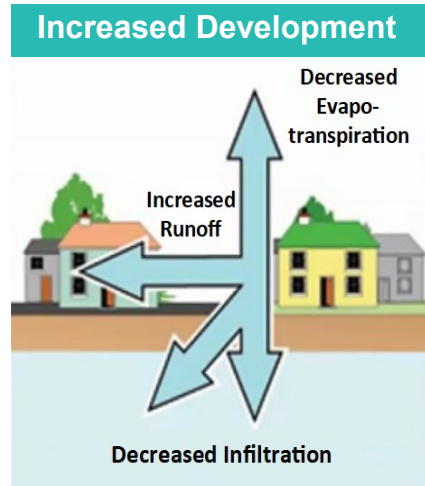
River Basin: White Oak
County: New Hanover
319 Funding: \$180,152
Total Project Cost: \$303,486



Map of project sites within the Bradley and Hewletts Creek Watersheds

Project Background

Located in Wilmington, North Carolina, Bradley and Hewletts Creeks are tidal waters designated as fish nursery and shellfish harvesting areas. However, intense urbanization in these watersheds has hardened the natural landscape, reducing its capacity to infiltrate and store rainfall. Instead of soaking into the ground and being taken up by vegetation, a much larger proportion of rain now quickly runs over the surface of the urban landscape and into the creeks. This stormwater runoff picks up bacteria and other pollutants and carries it to the creeks, causing shellfish harvesting and beach closures.



To address these issues, the **North Carolina Coastal Federation (NCCF)** worked with the City of Wilmington to develop the [Bradley and Hewletts Creeks Watershed Restoration Plan](#) in 2010. The plan utilized a stormwater volume reduction approach to target the transport mechanism of pollution. With an actionable plan in place, partners were able to acquire successive EPA Clean Water Act Section [319 grants](#) in 2016 and 2017 to install stormwater control measures (SCMs) identified in the restoration plan. NCCF continues to work with local partners to implement SCMs to restore water quality in the creeks.

“Something new and exciting, yet such a simple concept—if you know stormwater is the greatest polluter of coastal waters, creeks, and sounds, and you prevent stormwater from reaching the surface waters, you are in essence blocking the vessel of the pollution.”
-Lauren Kolodoj, NCCF





Palmetto Pointe rain barrel

Project Approach

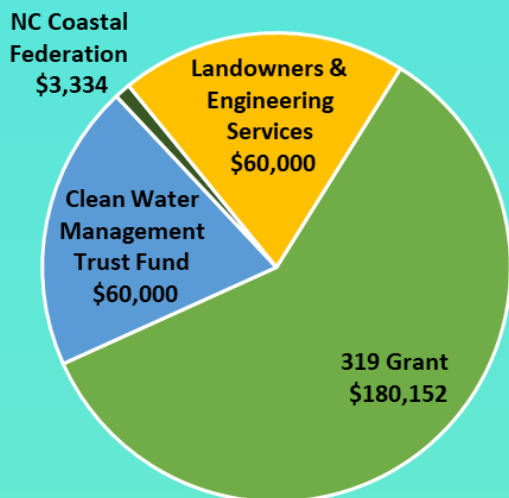
In 2016, NCCF used the [319 grant](#), matched with state and local funds, to implement 15 SCMs identified in the restoration plan at four sites in the watersheds. These measures were designed to promote infiltration of stormwater, thereby reducing runoff and localized flooding. Additionally, the project encouraged Low Impact Development and expanded community knowledge of stormwater management. To educate the community about the work, NCCF installed educational signage at projects sites, worked with student groups, and presented their work at professional conferences.



Animal Hospital Rain Garden

Stormwater Control Measure	Number	Total Size
Permeable paving	2	895 ft ²
Permeable concrete	2	1450 ft ²
Bioretention/ rain garden	1	240 ft ²
Rain barrel	9	535 gal
Cistern	1	500 gal
Total Stormwater Volume Reduction		975 ft³

Project Funding



*Match amounts include cash and in-kind services

Learn more about the 319 Grant on the North Carolina Department of Environmental Quality [website](#).

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 Telephone: (919) 707-3623

Permeable Paving in Action



Taken only 25 minutes apart, these images from Waterman's Brewing Company demonstrate the effectiveness of permeable pavement. Compared to the concrete parking lot, the permeable pavement in the forefront is nearly dry, showing the rainwater was able to infiltrate into the ground.

