2016 Grant Projects

Implementing the Bradley and Hewletts Creek Watershed Restoration Plan (Grant Award: $107340.00; 4/1/17-3/31/19)

The North Carolina Coastal Federation partnered with local stakeholders to install 15 storm water control measures (SCMs) within the Bradley and Hewlett's Creek watersheds of New Hanover County. The storm water control measures implemented will reduce urban stormwater runoff containing high levels of bacteria and decrease the impairment of local shellfish harvesting waters and beach closures. Estimated runoff volume was reduced by 974.9 cf in total as a result of the installed SCMs. These include 895 ft^2 of permeable pavement, 1450 ft^2 of permeable conc s rete, 240 ft^2 of bioretention and rain gardens, as well as 9 rain barrels collecting 535 gallons and a 500-gallon cistern. The federation partnered with the City of Wilmington's Heal Our Waterways program to give community presentations and promoted local education about the project.

Best Management Practices on the Smith River and Country Line Creek (Grant Award: $86,000; 1/1/17-6/30/21)

The Rockingham County Soil and Water partnered with Natural Heritage to continue installing best management practices (BPMs) to the watershed areas that drain into the Smith River and Country Line Creek. The BPMs installed will help reduce fecal coliform and turbidity as well as improve water quality for several rare, threatened and endangered species that are found in the Smith River watershed. The project worked with farmers to start installing BMPs such as fencing out cattle from the water source and providing cattle with well water, crop rotation, cropland conversion to grass or trees, critical area seeding, grass waterways, no-till (no plow method) and cover crops. The estimated nutrient reductions include 5,000 lbs. of nitrogen, 100 lbs. of phosphorus as well as 1,000 tons of soil loss reductions. The program was presented to local cattlemen and agricultural groups to explain the project to spread interest within the community.

Durham County Community Conservation Assistance Program (Grant Award: $100,000; 1/1/17-12/31/19)

The Durham Soil and Water Conservation District (DSWCD) partnered with the Northeast Creek Stream Watch & the Ellerbe Creek Watershed Association to implement 54 Best Management Practices (BMPs) and hold 25 educational outreach events. These BMPs were installed to reduce the flow of nutrients and sediments into the watersheds of Jordan and Falls Lake and their sub watersheds. BMPs include backyard rain gardens, cisterns, riparian buffers, stormwater wetlands and stream restoration. As a result, there were annual nutrient reductions of 12.25 lbs. of Nitrogen, 1.026 lbs. of Phosphorus and 78,387.335 lbs. of sediment. Durham County staff held 25 community meetings to involve landowners

around the watersheds as well as distributed hundreds of brochures promoting conservation efforts.

Grassy Creek Restoration and Overmountain Victory National Historic Trail-Phase II
(Grant Award: $69,854.09; 1/1/17- 6/30/20)

The Blue Ridge Resource Conservation and Development Council partnered with local stakeholders to improve the water and habitat quality of the Grassy Creek Watershed and North Toe River. Due to lack of riparian buffers and heavy storm flow from impervious surfaces, Grassy Creek has significant amounts of erosion and sedimentation. By restoring and stabilizing 745 ft of streams, the total sediment load reduction is 29 tons per year, 57.9 lbs. of nitrogen per year is reduced as well as a total phosphorous load reduction of 29 lbs. per year. This project also expanded the Overmountain Victory National Historic Trail an additional 1,950 which will be permanently protected. The project plans to hold educational programs and showcase the stormwater demonstration project once COVID 19 restrictions are lifted.

Upper Swannanoa River 9-Element Watershed Management Plan Implementation
(Grant Award: $60,000; 1/1/17-6/30/19)

The Land of Sky Regional Council along with other local stakeholders worked together to implement three stormwater control measures (SCMs) using a holistic approach along the 7-mile section of the Upper Swannanoa River. The Town of Black Mountain has experienced increased flooding, landslides and stormwater runoff that is polluting the local waters in which the SCMs plan to address. The golf course parking lot rain garden reduced runoff volumes by 72%, library rain garden reduced 53% and the park water quality swale with depressional storage reduced 37% of runoff volume. The estimated nutrient reductions include 38 lbs. of nitrogen, 3 lbs. of phosphorus as well as 3.8 tons of soil loss reductions per year. Educational signage was placed along the restored riparian buffers and at the library rain garden.

Richland-Raccoon Creeks Wastewater Improvement Project (Grant Award: $98,300; 1/1/17-6/30/19)

The Southwestern NC Resource Conservation & Development Council, the Richland Creek Restoration Group collaborated with local stakeholders to improve the water quality of the impaired Richland Creek due to due to high fecal coliform bacteria concentrations. The project focused on repairing failing septic systems and increasing community education on proper septic system care and maintenance. Richland and Racoon Creek recorded abnormally high temperatures as well as Racoon Creek having higher levels of nitrogen and phosphorous. The project was able to repair 13 failing septic systems which is preventing 360 gallons of untreated wastewater from flowing into the water body daily for a combined 4,680 gallons per day for the 13 repairs. The project continued to monitor chemical and bacteria levels and sources. Several educational outreach programs were conducted including videos,

community presentations, septic workshops, multiple news publications and press releases, flyers, postcards and school events.

Unifour Septic System Repair Program (Grant Award: $239,997; 2/1/17-9/30/20)

The Western Piedmont Council of Governments (WPCOG) and local stakeholders collaborated to restore 41 failing septic tanks in the Unifour Counties (Alexander, Burke, Caldwell and Catawba) in which many low and middle-income families do not have the financial resources to repair failing septic systems. By repairing these septic systems, public health benefits and water quality will increase from preventing septic run-off that contains fecal coliform and viruses. The load reduction estimates show that the septic system restorations kept 563.75 lbs. per year of nitrogen and 184.5 lbs. per year of phosphorus from flowing into the Lake Rhodhiss watershed and other local waterways. Public outreach materials were distributed in priority areas through door-to-door messaging, along with brochures and door hangers.

Naked Creek - Vannoy Tract (Grant Award: $214,955; 3/1/17-3/31/19)

New River Conservancy partnered with local stakeholders to restore 4,875 linear feet of the tract of land along the Naked Creek watershed that is O.5 miles east of Jefferson. The restoration used Natural Stream Channel Design Best Management Practices (BMPs) in order to address impairment issues including polluted surface runoff from agricultural and urban areas as well as streambank erosion. BMPs consisted of sloping banks, installing rock structures, creating stream bed habitat, and installation of a native riparian buffer. The effect of the restoration created an estimated total soil loss reduction of 28-30 tons/acre per year for the 5.12 acres of planted riparian zone, which is a total of 143-153 tons per year. The restored area will be protected by New River State Park Rangers who will provide regular programs for park visitors to present the restoration.

Ailey Young Park Dam Removal, Stream & Overbank Wetland Restoration Project, Smith Creek Watershed Implementation (Grant Award: $265,455; 7/1/17-6/30/21)

The Town of Wake Forest partnered with North Carolina State University and other local stake-holders to improve water quality by removing the 3.41-acre Ailey Young Park Dam, repair a head cut that is washing large amounts of sediment into Dunn Creek, re-establish stream morphology, provide two pocket wetlands and a corridor connection for fish and wild-life passage. As a result of removal of the dam and restoring the stream, the project anticipates reducing TSS by 43 ton/year (77%), reducing total nitrogen by 79 lbs. per year and reducing total phosphorus by 30 lbs. per year. The project will provide outdoor environmental education at the site, educational signage about the project background and benefits as well as a webpage for the site containing information and scheduled events for the public.

Clean Water Act Section 319 Grant
North Carolina

CLAM (Clean Little AlaMance) Project (Grant Award$183,372; 1/1/17- 6/30/21)

North Carolina State University and local stakeholder worked together to restore 46 acres of the impaired Little Alamance Creek from hydro-modification, insufficient riparian buffer, streambank erosion, stormwater runoff pollution, and degradation of benthic habitat. Two stormwater Best Management Practices (BMPs) including one stormwater infiltration and detention chamber that infiltrates polluted runoff. The second BMP is a retrofit of an existing pond that will introduce a population of Corbicula, a native clam that is a proven filter out pollutants and not prone to bio-fouling. The estimated load reductions over a 30-year period include 4067 lbs. of nitrogen, 540 lbs. of phosphorous and 24632 lbs. of soil saved. Public outreach for the project includes pond retrofit workshops, educational signage and media outreach.

Brynn Marr Watershed Water Quality Improvement (Grant Award: $148,019; 1/1/17-6/30/21)

North Carolina State University and local stakeholders worked to increase water quality in the Brynn Marr watershed around the quickly growing area of Jacksonville, which is experiencing an increase in flooding, stream bank erosion, sedimentation, periods of anoxia, high bacteria and fecal coliform counts. This project focused on implementing urban stormwater control measures (SCMs) including a parking lot bioretention cell and adding a pre-discharge sand filter to an existing drainage ditch in order to reduce stormwater pollutants from affecting threatened species or causing closure of shellfish and recreational waters. The estimated load reduction for a 30-year period includes 2495 lbs. of nitrogen and 382 lbs. of phosphorous. NC State will conduct public education through a BMP workshop for Jacksonville residents.