2015 Grant Projects

A Continued Effort for Best Management Practice Implementation in the Dan River Watershed (Grant Award: $22,208; 1/1/16-6/30/19)

In this 4th cycle of 319 grant funding for the Dan River effort, the NC Division of Soil and Water Conservation, Stokes and Caswell County Soil and Water Districts, and local stakeholders partnered to implement BMPs along the Dan River and Reed Creek in Rockingham and Caswell counties. During the project period, 2,163 feet of livestock exclusion fencing, and 2.2 acres of field borders were installed. Additionally, 27.7 acres of cropland was converted to forest, 1.2 acres of critical area was planted, and 1,719 feet of runoff was diverted. Models estimate these BMPs reduced nitrogen, phosphorous, and soil loss by about 6,133 pounds, 141 pounds, and 623 tons, respectfully. Finally, significant community partnerships were formed and strengthened throughout this endeavor creating the possibility of more long-term watershed quality benefits.

Beaverdam Creek Watershed Project (Grant Award: $192,500; 1/1/16-6/30/19)

Blue Ridge Conservancy collaborated with Brushy Fork Environmental Consulting, Inc., Appalachian State University, North Carolina Division of Soil and Water Conservation, North Carolina Cooperative Extension (NCCE), Watauga County, and landowners to enhance the aquatic life support of Beaverdam Creek. The project was designed to strengthen almost an acre of headwater wetland and rehabilitate about 2,100 feet of stream. Some of the stream restoration BMPs implemented at several privately-owned sites included streambank protection, livestock exclusion fencing, riparian buffer enhancement, heavy use areas, watering facilities, and stream crossings. In total, these BMPs were estimated to reduce sediment loads by about 41 tons/year. During the project period, Appalachian State University conducted water quality sampling (Mar. 2016 – Nov. 2017), the NC Wildlife Commission provided fish sampling (Aug. 2016), and the NCCE conducted benthic macroinvertebrate (Mar. 2016 – Dec. 2017) and vegetation monitoring (Aug. 2018).

Best Management Practice Implementation in Impaired and Impacted Watersheds (Grant Award: $200,000; 1/1/16-12/31/19)

NC Department of Agriculture & Consumer Services Division of Soil and Water Conservation partnered with local municipalities, stakeholders, and Soil and Water Conservation Districts from Caldwell, Chatham, Haywood, Henderson, and Cabarrus counties to implement 17 BMPs on agricultural land within 8 different watersheds across North Carolina. BMPs included 4,430 feet of livestock exclusion fencing, 19,312 square feet of streambank stabilization/planting, 1,532 feet of streambank/shoreline protection, 1,875 square feet of grassed swales, 3 heavy use area protections, 3 agrichemical handling facilities, 2 stream protection wells, and 2 stream crossings. Ultimately, 399 acres were treated, leading to overall estimated reductions in nitrogen, phosphorus, and

soil erosion by 4,285 pounds, 2,746 pounds, and 244 tons, respectively. By supplementing Community Conservation Assistance Program funding with a 319 grant, the districts were able to install significantly larger and more comprehensive BMPs than usually possible.

Boiling Lane Park – Loves Creek Watershed BMP Project (Grant Award: $150,000; 3/1/16-6/30/18)

The Piedmont Conservation Council, Biocenosis, NC State University, the Town of Siler City, the Chatham County Soil and Water Conservation District, and the Loves Creek Watershed Stewards partnered to implement stormwater control measures along an unnamed tributary to Loves Creek, which drains to the Rocky River Watershed of Chatham County. Since Loves Creek was cited on the 303(d) list of impaired waters for fair benthic community ratings, the project aimed to mitigate habitat degradation and revitalize aquatic life. Two stormwater wetlands totaling 0.12 acres were installed within Boiling Lane Park along the unnamed tributary to Loves Creek, and a 1,040-foot-long riparian buffer was created along the stream channel. These stormwater control methods were designed to reduce total nitrogen by 22% and total phosphorous by 30%. An educational site tour, brochure, and signs were also created to engage the public.

Little River Watershed In-stream Wetland (Grant Award: $90,475; 1/1/16-12/31/18)

The Albemarle Resource Conservation and Development Council, Albemarle Commission, Perquimans and Pasquotank Soil and Water Conservation Districts, universities, and local community groups partnered to develop a 2,000-foot in-stream wetland that filters farm nutrient and sediment runoff from Boyce Farm into Little River. Water quality improvements were monitored and evaluated during the project, while field days, publications, and websites were used to communicate findings and impacts. The in-stream wetland was estimated to reduced total phosphorus by 15% and total suspended solids by 47%. This effort was preceded by the 2014 EPA 205(j) grant-funded Little River Watershed Restoration Plan.

Mattamuskeet Association: Implementing the Watershed Restoration Plan (Grant Award: $180,152; 1/1/16-12/31/18)

The North Carolina Coastal Federation partnered with the Mattamuskeet Association, NC State University, local landowners, and contractors to continue efforts on the Mattamuskeet Association's watershed restoration plan. The plan was designed to enhance watershed management within the Mattamuskeet Association's 42,500-acre drainage district in Hyde County. During the contract period, a mineral soil core was developed around the perimeters of previously completed restoration plan projects. Models predict that the 12,500 feet of coring would retain water within the wetland cells. This reduces the need to need to pump water out of drainage canals by 20%, allowing for better water storage and treatment.

Clean Water Act Section 319 Grant
North Carolina

Mills River Watershed Sediment Reduction and Protection (Grant Award: $230,000; 10/1/16-12/31/18)

The Mills River Partnership collaborated with the City of Hendersonville, City of Asheville, Henderson County Soil and Water Conservation District, and local stakeholders to implement stream restoration and a series of BMPs within the Mills River, in the upper French Broad River Watershed. The four main focuses of the BMPs were agricultural operations, livestock operations, stormwater control, and stream restoration. Some of the BMPs developed included vegetation improvements for 2 acres of riparian buffers, 3 stream crossings, a 1-acre wetland, and 1 cistern. Additionally, several educational opportunities were held throughout the project period including outreach events, volunteer days, rain garden workshops, “Shade Your Stream” workshops, and education for over 2,500 school kids and teens in "Kids in The Creek" type classes.

Partnering with a School Community, Town of Cary, and Homeowners to Improve Black Creek (Grant Award: $143,870; 1/1/16-6/30/19)

The Water Resources Research Institute partnered with the Black Creek Watershed Association, NC State University, area homeowners, Town of Cary, and Wake County Cooperative Extension to conduct stream restoration on the Black Creek. Restoration along the Black Creek leads to reduced discharge into Lake Crabtree, part of the Crabtree Creek subwatershed of the Neuse River Basin. A 2,100-gallon raingarden was installed at Kingswood Elementary School, as well as 4 residential rain gardens, and a 135-foot streambank stabilization. The 16,000-square-foot treatment area for these integrated best management practices was designed to reduce stormwater runoff by 14,998 cubic feet per year, nitrogen load by 5.16 pounds per year, and phosphorus load by 0.69 pounds per year. Other project initiatives included 5 community volunteer rain garden planting events, 3 community volunteer rain garden care events, 2 volunteer stream clean-up events, macroinvertebrate sampling, a GIS study, and a Black Creek Greenway improvement study.

South Ellerbe Creek Green Infrastructure Implementation (Grant Award: $63,627; 1/1/16-12/31/17)

The Ellerbe Creek Watershed Association, George Watts Montessori Elementary School, and local stakeholders collaborated to install a series of BMPs that reduce stormwater runoff into Ellerbe Creek, a tributary of Neuse River in Durham County. Using a Low Impact Development approach, the team installed 18 residential rain gardens, 10 residential cisterns, and conducted a school-based project that implemented 5 rain gardens and 2 swales at George Watts Montessori Elementary. All these BMPs combined treated a total of about 48,300 square feet of impervious cover, over 70,000 square feet of pervious surface, and are estimated to reduce runoff by about 175,600 gallons per year. Additionally, 3 hands-on workshops, a nature tour, and volunteer opportunities were conducted to educate and involve the local community.

The Creeksmart website was also overhauled to be more accessible and engaging to a wider audience of people.