Chesapeake Bay Program
A Watershed Partnership

Backgrounder

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GRANT AWARDEES and PROJECTS

The 11 projects that received support through Chesapeake Stewardship Fund's Innovative Nutrient and Sediment Reduction grants program are as follows:

- The *South River Federation* will use its $900,000 grant to treat urban runoff in two mid-bay creeks using Regenerative Stormwater Conveyance (RSC) technology, which is a sort of sand filter to clean stormwater that would run to the creeks. The two creeks that will benefit from this innovative project are Church Creek on the South River and Saltworks Creek on the Severn River in Annapolis, Md. These sub-watersheds are two of the most highly impaired on the lower western shore of the Bay. The two locations are less than half a mile apart and the RSCs will be less than three miles apart. Once the RSCs are constructed, the water quality in these watersheds will be monitored regularly to show the effectiveness and sustainability of this new in-stream restoration method.

- The *Shenandoah Resource Conservation and Development* received a $700,000 grant to facilitate a culture of "conservation from farm to table" and in the process, reduce nutrients and sediments in food and fiber production on a regional scale in the Shenandoah Valley. The RC&D will assess and verify farmers' conservation practices and help to develop whole farm Continuous Improvement Plans (CIPs) for those engaged in local food system work. It is estimated that the whole farm CIPs will reduce nutrient losses by 55 percent. The project will also work to achieve the following outcomes: market farmers who are making reductions; offer workshops on reducing fertilizer and chemical use for lawns and gardens; promote Bay-friendly products with positive water quality impact; and offer incentives for verified nitrogen, phosphorus and sediments reductions.The project's aim is to establish a cultural change in the region toward conservation practices and increase consumer participation in local food and conservation efforts.

- The *Virginia Polytechnic Institute and State University* will use a $700,000 grant to reduce ammonia emission and runoff from broiler litter on two farms in the Shenandoah Valley and two farms on the Eastern Shore of Virginia. Virginia Tech will partner with Virginia Cooperative Extension, Virginia Department of Conservation and Recreation, the USDA Natural Resources Conservation Service, Soil and Water Conservation Districts, the University of the Maryland Eastern Shore and USDA Agricultural Research Service on this project. The project will demonstrate the value of several new technologies for reducing ammonia emissions. These technologies include: ammonia scrubbers attached to exhaust fans in poultry houses; addition of alum to poultry litter; and using a litter incorporator to make litter applications. These three technologies will also be combined to show how effective they can be in improving air and water quality at poultry farms.

- The *City of Lancaster, Pa.* was awarded $400,000 to implement six highly visible green infrastructure projects in Lancaster City, an urban center with significant impervious surface that contributes polluted stormwater runoff to the Chesapeake Bay. The projects aim to eliminate 119,500 lbs. of sediment, 1,546 lbs. or nitrogen and 229 lbs. of phosphorus in the Conestoga River watershed. By partnering with the Pennsylvania Departments of Environmental Protection and Conservation and Natural Resources, as well as the Lancaster County Planning Commission, these projects will provide a model to other urban areas in the Bay watershed.

- The *Center for Urban Environmental Research and Education* received a $450,000 grant to make subsoiling and pervious paving an integral element of sustainable urban landscaping to reduce nutrient and sediment loads throughout the Chesapeake Bay watershed. The Center will build a portfolio of showcase projects to demonstrate design and implementation options for the decision makers who will help to transform the urban landscapes. Monitoring will be conducted consistently to generate reliable

performance and maintenance information that might otherwise act as barriers to approval. The Center will also work on targeted outreach and education to the regulatory, management and practitioner communities in Pennsylvania, Maryland, Virginia and the District of Columbia.

- *Prince George's County, Md.* will use a $325,000 grant to implement three best management practices to reduce stormwater volumes and nutrient loads from the University of Maryland campus in the Anacostia River watershed. The first of these projects will retrofit an existing bioretention cell with an aluminum amendment to enhance phosphorus removal. The second will incorporate anoxic storage beneath a porous parking area to promote nitrogen removal. The third will install a cistern to collect bioretention effluent to use treated parking lot runoff in a beneficial way. The nutrient and sediment load reduction from these projects is estimated to be better than 85 percent.

- The *Chester River Association* will use its $200,000 grant to reduce nutrient and sediment loadings to levels required to meet the Upper Chester's portion of the Chesapeake Bay Total Maximum Daily Load (TMDL) or "pollution diet." With partners, the association will work directly with farm, forest, residential, commercial and institutional landowners to implement changes. These changes will include agricultural practices like enhanced nutrient management and perennial cropping systems; septic upgrades, rain gardens and expanded urban tree canopy in developed areas; and restoration of natural filters like wetlands. Education, outreach, planning and technical assistance will be focus areas for the project, too.

- The *Herring Run Watershed Association* received a $600,000 grant to retrofit the Butchers Hill neighborhood and alleys in Baltimore City with several green infrastructure projects for the small, dense urban area. The projects will include street bumpouts for bioretention, permeable pavement alleyways, rain barrels and downspout disconnection. The 1-2 square block area will benefit from up to 50,000 sq. ft. of pervious surfaces through up to four bumpouts and four alleyways. At least two alley retrofits will also take place outside of Butchers Hill in priority watersheds to illustrate the transferability of the designs to other areas in the city. It is estimated that these projects will eliminate 36 lbs. of nitrogen, 10 lbs. of phosphorus and 1.3 tons of sediment.

- The *Maryland Department of Agriculture* will use a $600,000 grant to implement statewide adaptive cover crop management tools to more effectively manage winter cover crop programs for water quality protection. The Coastal Plain and Piedmont regions of the Chesapeake Bay watershed will be targeted in these projects. The Coastal Plain work will involve the Choptank and Chester River watersheds and the Piedmont work will involve the Monocacy watershed in Maryland, the Smith Creek watershed in Virginia and the Conewago Creek watershed in Pennsylvania. The department will create a web-based framework for geospatial reporting of cover crop performance to support the promotion of sustainable agricultural management practices.

- The *Potomac Conservancy* received $500,000 to promote Low Impact Development (LID) through an assessment of 37 counties and cities in the non-tidal portion of Virginia's Chesapeake Bay watershed. Friends of the Rappahannock, the James River Association and the Potomac Conservancy will partner with the Virginia Department of Conservation and Recreation on this assessment to determine how local development policies can be improved to promote LID. The project will sponsor an LID design competition and increase awareness and understanding of LID through public outreach efforts and the implementation of 30 LID projects.

- The *Chesapeake Bay Foundation, Inc.* will use its $500,000 grant toward the Onancock Watershed Restoration Project, a "whole-community" approach to watershed restoration through urban and agricultural best management practices. There are four primary focus areas for this project: whole-community engagement; urban stormwater runoff control; improving agricultural nitrogen use efficiency and nutrient trading; and residential and agricultural riparian buffer restoration. Since the Onancock is in the top 25 percent of nutrient-yielding areas from both urban and agricultural areas, this project aims to educate residents about specific actions they can take to improve water quality.