

CHESAPEAKE & ATLANTIC COASTAL BAYS TRUST FUND



SFY2013 Annual Work Plan
January 2012

Submitted
January 26, 2012

Report to:

The President of the Senate
The Speaker of the House
The Senate Education, Health and Environmental Affairs Committee
The Senate Budget and Taxation Committee
The House Environmental Matters Committee
The House Appropriations Committee

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CHESAPEAKE AND ATLANTIC COASTAL BAYS TRUST FUND STATE FISCAL YEAR 2013 ANNUAL WORK AND EXPENDITURE PLAN

PURPOSE OF THIS REPORT

In accordance with §8-2A-03(d) of the Natural Resources Article, the BayStat Subcabinet submits this Annual Work and Expenditure Plan (Work Plan) for the Chesapeake and Atlantic Coastal Bays Trust Fund (Trust Fund).

CONTAINED IN THIS REPORT

The State Fiscal Year 2013 Work Plan contains the accounting of all monies distributed from the Trust Fund in State Fiscal Year 2011 (FY 2011), provides the expenditure plan and progress for State Fiscal Year 2012 (FY 2012) and identifies the planned work to be funded with money from the Trust Fund for 2013 (FY 2013), including annual nutrient and sediment reduction targets, performance measures, and accountability criteria. The Work Plan also accounts for monies directed or redirected by BayStat in response to changing conditions, opportunities, scientific developments and/or project performance that occurred over the course of a project year.

EXECUTIVE SUMMARY

The Chesapeake and Atlantic Coastal Bays Trust Fund is one of the region's most important funding tools targeting water quality, and watershed restoration and protection projects to reduce non point source pollution. The goal of BayStat each year is to identify projects and develop a work plan designed to maximize the Trust Fund's environmental return on investment, thereby serving as a model of restoration financing efficiency and effectiveness critical to achieving the goals under EPA's Total Maximum Daily Load (TMDL) requirements within the State's Watershed Implementation Plan (WIP). These investments also create green jobs, and provide habitat, mitigate flood hazards, and prevent soil erosion.

Between Fiscal Year 2009-12 the State has provided \$63.1 Million (M) dollars generated through motor fuel excise tax and rental car tax in Maryland to accelerate Bay restoration by focusing limited financial resources on the most effective non-point source pollution control projects. *FY 2009-12 Highlights include:*

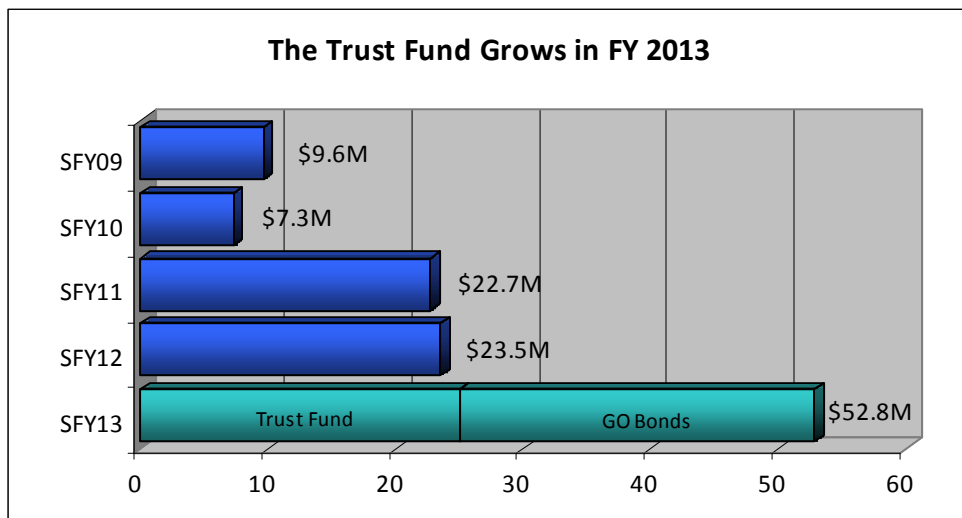
- From Fiscal Year 2009-12, the Trust Fund prevented 3.56 million lbs of Nitrogen, 335,000 lbs of Phosphorus, and 478 tons of Sediment from annually harming the Bay.
- From Fiscal Year 2009-12, the Trust Fund provided \$3.48M to support 16 Soil Conservation District positions critical to the implementation of agricultural best management practices as identified in the State and local WIPs.

- From Fiscal Year 2009-12, the Trust Fund leveraged \$86M of Federal, State and Local funds to support Chesapeake Bay clean up efforts.
- In partnership with the University of Maryland, the Trust Fund supported the innovation of new BMPs such as floating treatment wetlands, poultry flooring technologies to decrease ammonia emissions, geosynthetic filters and retaining wall technologies developed to reduce stormwater runoff.

The Fiscal Year 2013 Trust Fund

operating allowance includes \$25M towards the State's Bay restoration commitment. The FY 2013 allocation brings total operating spending over the first five years of the Trust Fund to \$88.1M. To accelerate the State's efforts to reduce nutrients and improve the health of the Chesapeake Bay, the FY 2013 capital budget includes \$27.8M in General Obligation (GO) Bonds for local structural stormwater projects. These projects were identified by

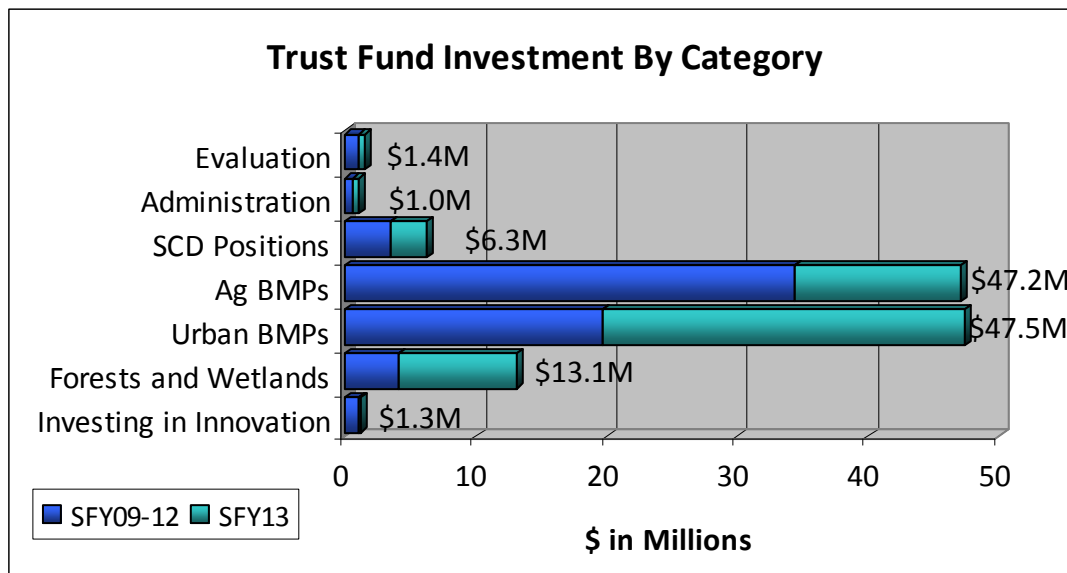
BayStat through the competitive Trust Fund Request for Proposals (RFP) process. The FY 2013 capital budget includes funding for 63 structural stormwater projects in 13 jurisdictions throughout the State. Together, the FY 2013 budget will target \$52.8M to improve the health of the Chesapeake Bay and its local rivers and streams. *SFY 2013 highlights include:*



The addition of GO Bonds for FY 2013 more than doubles the amount of funds available for nonpoint source pollution reduction strategies.

- **\$2.20M for Agricultural Technical Assistance:** The FY 2013 Budget increases funding for agricultural technical assistance by \$1.6M over last year's levels. This increase will fund 23 *new* Soil Conservation District positions (39 total supported through the Trust Fund) to assist the farming community in the implementation of best management practices. The balance from FY 2012 from strategic monitoring earmark (\$600K) will be redirected to support these positions which are crucial to achieve the accelerated agricultural goals laid out in the State's Watershed Implementation Plan.
- **\$12M for Cover Crop Implementation:** Funding supports Maryland's FY 2012-13 milestone goal of implementing 355,000 acres of cover crops annually. This investment represents approximately 67% of Maryland's annual cover crop goal and will prevent over 1.3 Million lbs of Nitrogen from entering the Chesapeake Bay next year. Revenue for this initiative also comes from the State's Bay Restoration Fund (approx. \$5.6M/year).

- **\$8.97 M for Buffer and Wetland Restoration:** Funding will support the installation of vegetative filters such as forested buffers and wetlands. Projects have been identified in multiple priority watersheds in the following counties: Allegany, Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Dorchester, Frederick, Harford, Montgomery, Prince George's, Somerset, Queen Anne's, Washington, and Worcester. As these projects are structural practices, they will provide nutrient reductions well into the future. Over the lifespan the SFY 13 investment will reduce an estimated (201,700 pounds of Nitrogen, 12,160 pounds of phosphorus and 6.7 tons of sediment) – as such, natural filters tend to provide the greatest environmental benefit for every dollar spent.
- **\$27.8M for Local Stormwater Projects:** The FY 2013 capital budget includes funding for 63 structural stormwater projects in 13 jurisdictions throughout the State. The projects funded in FY 2013 are estimated to reduce the nitrogen load to the Chesapeake Bay by approximately 19,000 lbs per year, the phosphorus load to the Chesapeake Bay by approximately 4,000 lbs per year, and the sediment load to the Chesapeake Bay by approximately 12,000 lbs per year.



Putting the Resources at the Level Where Work Gets Done:** With the addition of the \$27.8 Million in GO Bonds the amount of funding going to local governments has **tripled in SFY 13.

ALIGNING THE TRUST FUND WITH THE CHESAPEAKE BAY TMDL REQUIREMENTS

On December 31, 2010 the U.S. Environmental Protection Agency (EPA) set limits on the amount of nutrients and sediment that can enter the Chesapeake Bay. In addition to setting these limits, known as Total Maximum Daily Loads (TMDLs), EPA required the Bay watershed jurisdictions to develop statewide Watershed Implementation Plans (WIPs). The WIPs provide the road map and accountability framework for restoring the Chesapeake Bay and local rivers and streams. Maryland's Phase I WIP, completed in December 2010, identifies statewide strategies for reducing nitrogen, phosphorus and sediment entering the Bay from different sources to acceptable levels set by the TMDL.

Maryland's Phase II WIP, to be finalized and submitted to EPA on March 30, 2012, is the second part of a three-phase planning process that extends to 2017, with a final implementation target date of 2025. The Phase II WIP is intended to provide more geographic detail to the implementation plans and may result in refinements to the Bay TMDL. EPA guidance for Phase II places a **strong emphasis** on working with key **local partners** to ensure that they are aware of their roles and responsibilities in contributing to the planning and implementation process. To that end, Maryland developed the Phase II WIP in a year-long collaboration with local partners at the county-geographic scale, including county and municipal government staff, soil conservation managers and other local decision makers, as well as a variety of stakeholder organizations and business interests.

APPROACH

The distribution of Trust Fund dollars is based on applying the best available scientific information regarding water quality conditions and management practices employed to achieve the most cost-effective reductions in nutrients and sediment. The Trust Fund is also designed to be transparent, provide accountability, and result in the greatest possible benefits to the Chesapeake Bay and its tributaries. The BayStat agencies developed a six step process has been developed to meet the above objectives:

- Step 1: Target priority areas and practices
- Step 2: Develop initial work and expenditure plans, and issue RFP's
- Step 3: Evaluate proposals and make initial allocation decisions
- Step 4: Legislative Review and approval
- Step 5: Award and administer Funds
- Step 6: Review, report, and refine.

The utilization of GO bonds in the Trust Fund has maximized funding available for targeted statewide initiatives, such as cover crops and natural filters, while allowing for the accelerated construction of local projects identified through the FY 2012 Trust Fund RFP.

MAXIMIZING AVAILABLE BAY RESTORATION PROGRAMS

Because of the immense scale of the restoration effort, the Trust Fund, in and of itself, does not have the capacity to achieve the State's desired restoration goals and outcomes. To improve the efficiency and effectiveness, the BayStat Agencies seek opportunities to bring federal, regional, state and local and nongovernmental partners together to direct knowledge, technical capacity and financial resources to maximize the capacity to achieve restoration outcomes of not only the Trust Fund but other restoration programs. In FY 12, the State partnered with NOAA, MDE's 319 Program and the Chesapeake Bay Trust to leverage Trust Fund dollars and further target available resources into local watersheds. In addition to taking advantage of years of implementation experience associated with coastal non point source reduction through Maryland's Coastal Zone Program, this partnership collectively distributed Federal, State, and Non-Governmental fund via one RFP, providing a "one stop shop" for

applicants to access multiple funding sources, while still meeting the specific funding criteria for each individual program. The following five watersheds identified for support via the Trust Fund were also identified for support via the 319 and/or Chesapeake Bay Trust (CBT):

- Anacostia River (Prince George's County) - \$50,000 was granted to Prince George's County to support a behavior change campaign in the Lewisdale community in the Northwest Branch sub-watershed of the Anacostia. The applicant will design, deliver, and test a public education and outreach campaign for the Lewisdale community located in the Northwest Branch sub-watershed. The project will aim to modify target audience behavior in order to reduce stream bank and channel erosion effects and stormwater nutrient and sediment impacts. Three common residential behaviors have been identified and one will be selected for project design based on the initial research phase and target audience assessment. This project will target a Hispanic community and will explore parishioner base as their target audience. A large scale, \$2.85M stream restoration project will be constructed in the same neighborhood, supported with Trust Fund dollars.
- Back River (Baltimore County) - In addition to a \$640,000 grant received through the Trust Fund for stormwater management and buffer installation, Baltimore County Department of Environmental Protection and Sustainability (DEPS) and Blue Water Baltimore were the recipient of a \$50,000 grant to support three small resident behavior change campaigns in the Tidal Back River Watershed. Behaviors include increased recycling in two individual schools, increased use of reusable bags and increased installation of rain barrels in two communities adjacent to Route 702. The proposal includes public education through social marketing and will test the use of commitments and incentives in behavior change campaigns, a tactic used commonly but rarely before quantitatively evaluated. Baltimore County DEPS also received \$358,032 via the EPA 319 Program to restoring approximately 6,000 linear feet of Herring Run near Overlook Park and Glendale Park.
- Little Patuxent River (Howard County) - Columbia Association was granted \$50,000 to support a behavior change campaign to encourage the installation of rain gardens and infiltration trenches in two villages in Columbia. The applicant will implement a community based social marketing campaign aimed at increasing residential rain garden and infiltration trench implementation on homeowner property. The Owen Brown and Hickory Ridge Villages will design project outreach based on target audience assessments. The project will test the effectiveness of two methods of rain garden social marketing on ultimate voluntary homeowner implementation. Campaign design for 'Slow the Flow' will focus on using tools of convenience and social diffusion. Project outcomes will yield interesting results about the barriers to voluntary rain garden implementation by homeowners. Funds for demonstration rain garden installation in the Owen Brown community will be supported through the Trust Fund, in addition to other stormwater management projects implemented by both Howard County and Columbia Association (\$1.1M).

- Corsica River (Queen Anne's County) - \$250,000 in the Trust Fund for stormwater management was leveraged by an additional \$461,742 from the 319 Program awarded to Queen Anne's County, the Town of Centreville, and MDA for stormwater management retrofits and an agricultural demonstration project.
- Sassafras River (Kent County) - Sassafras River Association received \$50,000 to support two behavior change campaigns encouraging green lawn care practices and rain barrel installation in the Sassafras River Watershed. This social project will be conducted in conjunction with implementation funds received via Trust Fund for a treatment wetland and a poultry manure injection pilot on agricultural land. Projects will be designed based on an initial target audience assessment. The applicant will compare standard outreach efforts for the identified behavior change goals in which many assumptions about audience and audience motivations are made to a more "informed" process designed based on target audience assessment. Results from evaluation work should yield interesting information about effective project design in communities with year-round and seasonal residents.

PARTNER ROLES AND RESPONSIBILITIES

The allocation and implementation of the Trust Fund is a collaborative effort between three partners: the BayStat agencies, the Scientific Advisory Panel, and the State Legislature.

ROLE OF BAYSTAT: BayStat is a powerful tool used to assess, coordinate and target Maryland's Bay restoration programs, and to inform citizens on progress. The BayStat agencies are collectively responsible for the administration of the Trust Fund in a manner consistent with the Statute. BayStat will direct the administration of the Trust Fund in a manner that applies the best science, holds state agencies and grant recipients accountable for managing the Fund, and targets activities in the most cost-effective way possible. BayStat develops an annual Work and Expenditure Plan that identifies work and funding for the next fiscal year, targets Maryland's tributary basins and practices within those basins to generate the greatest possible nutrient reductions per Trust Fund dollar, sets annual implementation goals and expected nutrient and sediment reductions, and establishes performance measures and accountability criteria.

ROLE OF THE SCIENTIFIC ADVISORY PANEL: A Scientific Advisory Panel is convened to review and provide scientific guidance to BayStat on the proposed Work Plan for the next fiscal year, the distribution of funds from the Trust Fund, categories of grants made in previous fiscal years to assess effectiveness and efficiencies, individual grant applications upon request of BayStat, and any funds awarded non-competitively to assess whether those funds can be awarded competitively in future years.

ROLE OF THE LEGISLATURE: The Legislature has the same review and approval authority over the proposed fund allocation as with any other portion of the Governor's budget. Any changes resulting from that process will be incorporated into the Work and Expenditure Plan prior to the finalization and the distribution of funds.

PARTNERING FOR A CLEAN BAY: PROVIDING LOCALS THE NECESSARY RESOURCES TO ACHIEVE SUCCESS

MARYLAND'S WATERSHED ASSISTANCE COLLABORATIVE

In recognition that not all jurisdictions currently have the capacity to implement the anticipated level of funding envisioned with the Trust Fund, Maryland's State Agencies, the Chesapeake Bay Trust, University of Maryland Extension, the University of Maryland Environmental Finance Center, NOAA and the EPA have joined



together since 2008 to provide services and technical assistance to local governments to advance implementation projects. By leveraging resources of existing programs, the Watershed Assistance Collaborative (the Collaborative) exists to provide coordinated capacity building opportunities to local implementers. The Collaborative, with its dedicated staff of regional watershed restoration specialists, has given more than \$1M in hands-on technical assistance and has helped more than 35 communities in the identification, design and engineering of shovel-ready restoration projects. It has also identified more than 75 acres of necessary forested buffer plantings, and assisted several communities with innovative financing strategies and new stormwater utilities.

Led by the Chesapeake Bay Trust, the Watershed Assistance Collaborative awarded a total of \$544,000 (\$960,000 to date) for planning and design grants in FY 2011 and FY 2012 to the following communities:

- The design of a stormwater wetland in Rising Sun, MD (Octoraro Watershed Association, \$34,600)
- A Stream Corridor Assessment of Snowden's Run, located in southern Carroll County (Carroll County Government, \$27,177)
- Stream restoration design for the Little Tuscarora Creek (Potomac Conservancy, \$35,000)
- The creation of a Small Watershed Action Plan for Plumtree Run (Harford County Government, \$10,000)
- The completion of a green infrastructure plan for the Nanticoke River Watershed (Nanticoke Watershed Alliance, \$32,400)
- The creation of Small Watershed Action Plans for the Middle River and the Tidal Gunpowder River (Baltimore County Department of Environmental Protection and Resource Management, \$35,000)
- Curb extension designs in the Ellwood Park/McElderry Park neighborhood of Baltimore (Southeast Community Development Corporation, \$14,690)
- Stormwater retrofit designs for a tributary of Watts Branch (City of Rockville, \$28,000)
- The creation of a stream restoration design for the Savage River near Barton, MD (Western Maryland Resource Conservation and Development Council, \$22,000)
- A green street conceptual plan for Flower Avenue in Takoma Park, MD (City of Takoma Park, \$20,000)
- Designs of stormwater management practices for Real Food Farms in Baltimore, MD (Civic Works Inc., \$30,000)
- 100% design of a regenerative stormwater conveyance near Coppin Creek, in Cecil County, MD (Sassafras River Association, \$35,000)

- The development of three 100% designs of stormwater management practices for Arundel on the Bay, a community on Fishing Creek (South River Federation, \$20,000)
- Nine 100% designs for publicly owned project sites in the Tidal Back River watershed (Baltimore County Department of Environmental Protection and Sustainability, \$35,000)
- The completion of a bioretention cell overflow system in southeast Baltimore (Southeast Community Development Corporation, \$20,000)
- A Small Watershed Action Plan for Bear Creek, Old Road Bay, and a portion of the Baltimore Harbor watershed (Baltimore County Department of Environmental Protection and Sustainability, \$35,000)
- A design for the restoration of a segment of Hamilton Run, including the removal of existing streambank armor and the installation of a natural streambank (City of Hagerstown, \$30,000)
- Designs for the restoration of 6000 linear feet of Herring Run, specifically at Overlook Park (Baltimore County Department of Environmental Protection and Sustainability, \$35,000)
- A stream restoration design for a portion of Little Tuscarora Creek in Frederick County (Trout Unlimited, \$10,700)
- The creation of a Watershed Plan for the Tanyard Branch of the Tred Avon River (Town of Easton, \$34,900)

WATERSHED ASSISTANCE COLLABORATIVE SPOTLIGHT: FINANCING STORMWATER MANAGEMENT

The Stormwater Financing and Outreach Unit (SFOU) was created in 2010 after DNR and the Environmental Finance Center (EFC) began working together to find better ways to provide technical assistance to Maryland communities on innovative ways to pay for stormwater management. The first such community to receive assistance, in partnership with NOAA, was the Town of Ocean City. After working directly with town staff, homeowners associations, the commercial sector, and non-profit organizations, specific financing recommendations were made to the Town of Ocean City in late 2011 on measures to help pay for up to \$12M in stormwater related expenses the town needs to cover over the next decade. The work of the EFC combined stormwater outreach activities along with detailed financing recommendations to the Town of Ocean City. This approach was successful enough that DNR decided to sponsor similar stormwater technical assistance in two communities a year. The two communities chosen in 2011 for stormwater assistance were the Town of Berlin and the City of Salisbury.

Outreach efforts in Berlin began with developing a stormwater steering committee made up of business owners and citizens from the town that periodically provide guidance on stormwater concerns within their neighborhood throughout the project year. Several outreach events were also held to engage the community on stormwater issues. These activities include an engineer's environmental site design workshop, a stormwater photo contest, several public meetings, and participation in several town festivals. Although Berlin is a small community located on the Eastern Shore, they are taking sustainability efforts very seriously as they try to act proactively about addressing stormwater management.

The City of Salisbury is also working closely with the EFC to address their stormwater needs. Salisbury is a growing Maryland community that has no dedicated funding for stormwater. The stormwater unit is working directly with City officials to recommend a comprehensive financing strategy that will build an optimal stormwater program and is expected to cover all necessary stormwater related expenses over the next decade.

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YEAR IN REVIEW: FY 2011 & FY 2012 SUMMARY & BUDGET

In total, the Trust Fund targeted over \$46M in FY 2011 & FY 2012 and leveraged \$14M (FY 2011 alone) in Federal, State, and Local funds. FY 2011 marked the end of the Trust Fund "transition period" and all projects identified in the Trust Fund's inaugural year have been funded. In FY 2011, a deficiency request was approved by DBM resulting in a \$2M increase for cover crop funding and \$1M for natural filters which is reflected below. Base budget includes continued support for strategic monitoring; agency direct costs associated with project and fiscal management, reporting and tracking, investments in innovation, and support for 16 Soil Conservation District Positions. In addition, statewide initiatives such as the cover crop program and natural filters received an increase in funding, while support for targeted local projects was expanded to 10 watersheds. In FY 2012, original budget was approved at \$23.5M, \$600,000 of which was earmarked for monitoring of Pennsylvania Tributaries. Representatives at both Department of Natural Resources and Budget and Management, felt this funding was not the most efficient use of funds. This balance can be noted in the FY 2013 budget and has been redirected to support additional Soil Conservation District staff. In the table below is a summary of projects undertaken with SFY11 funds and a list of projects funded with FY 2012 funds. Project-specific details, including estimated nutrient and sediment reductions, match, and project status can be found on the corresponding factsheets.

SFY11-12 BUDGET BASED ON WORKPLAN			
Base Budget (M)			
Targeted Activity	Project Partner	SFY 11	SFY12
Strategic Monitoring & Assessment	DNR/UMD	\$0.40	\$0.15
Agency Direct Costs (1.5%)	DNR	\$0.30	\$0.35
Investing in Research and Development			
Innovative Technology Fund	DNR/UMD	\$0.25	\$0.25
Agricultural Technical Assistance	MDA	\$0.68	\$1.20
TOTAL		\$1.63	\$1.95
Integrated Targeted Projects to Meet Maryland's Milestones (M)			
Targeted Activity	Project Partner	Trust Fund Fuel/Rental Tax	Project Fund Balance
Stormwater Projects			
Moore's Run Wetlands, Balt. City	MDE	\$1.87	\$0.00
Back River Restoration, Balt. Co.		\$0.23	\$0.00
Ag Practices			
Cover Crops- 218,182 acres*	MDA	\$11.52	\$11.98
CREP Bonus Payments		\$0.80	\$0.00
Animal Waste Management		\$0.80	\$0.00
Targeted Local Watersheds			
Little Patuxent	DNR	\$1.30	\$1.20
Magothy		\$0.48	\$0.46
Wheel Creek		\$0.37	\$0.50
Tred Avon		\$0.48	\$0.00
Watershed 263		\$0.48	\$0.00
Middle Chester		\$0.52	\$0.00
Upper Chester		\$0.00	\$0.06
Corsica		\$0.52	\$0.25
Anacostia		\$0.00	\$3.88
Back River		\$0.00	\$0.64
Sassafras		\$0.00	\$0.29
Natural Filters	DNR	\$2.00	\$1.70
TOTAL		\$21.37	\$20.96
GRAND TOTAL		\$23.00	\$22.91

Estimated Reduction (Lbs)	N	P	TSS
SFY11	1,336,400	50,146	311,289
SFY12	1,399,957	55,623	234,414
Lifespan of Practices	5,263,902	1,523,865	6,037 tons

TRUST FUND PROJECT REPORT

STRATEGIC MONITORING

FISCAL YEAR: SFY11 & SFY12

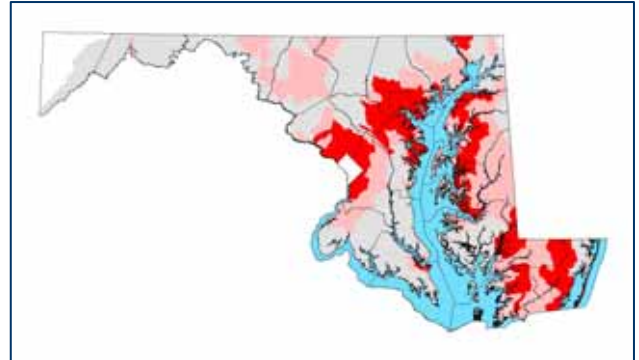
PROJECT OVERVIEW

To document water quality improvements that result from implementation of Trust Fund restoration projects, SFY11 and SFY12 dollars in Strategic Monitoring will continue to be spent on collecting baseline monitoring data in Local Implementation Grant (LIG) watersheds as well as improving on communication and assistance regarding the Strategic Monitoring document. This Strategic Monitoring document is being used by new applicants when preparing proposals in response to the 2012 LIG RFP (http://www.dnr.state.md.us/ccp/funding/pdfs/Monitoring_Strategy.pdf)

Experience to date has shown that flow measurements in small streams in urban settings such as Wheel Creek and Red Hill Branch of the Little Patuxent River pose considerable challenges. These difficulties include extreme low flows as well as frequent changes to the physical make up of the stream channel. To enhance the accuracy of sediment and nutrient load calculations in the Little Patuxent and Wheel Creek watersheds, weirs are being installed during the winter construction period. During the coming year, UMCES and DNR will continue to refine and expand on the monitoring strategy. In concert with this effort, DNR staff will continue to work with Trust Fund recipients in implementing appropriate monitoring strategies, utilize and update the Maryland Stream Atlas and use this information to evaluate new Trust Fund applications, and collect additional data in watersheds where Trust Fund projects are being installed.

PROJECT LOCATION:

Statewide (Target Area Emphasis)



PROJECT CHARACTERISTICS

COUNTY/CITY:	Statewide
WATERSHED(S):	Statewide
SUBWATERSHED(S):	Statewide
PROJECT PARTNERS:	DNR UMCES MES
AGENCY CONTACT:	Jennifer Raulin DNR 410-260-8745 jrauln@dnr.state.md.us

MES has continued to enhance and update the Trust Fund viewer, which allows the user to locate and track progress on Trust Fund projects. The map is accessible via:

<http://gisapps.dnr.state.md.us/baytrust/index.html>

PROJECT COMPONENTS

<i>PROJECT COMPONENT</i>	Baseline Monitoring/ Local Gov't Assistance
<i>LEAD</i>	DNR
<i>ACTIVITY</i>	Strategic Monitoring ¹
<i>LOCATION (Lat/Long)</i>	Multiple
<i>TRUST FUND \$</i>	\$550,000
<i>MATCH \$</i>	\$0
<i>TOTAL COST</i>	\$550,000
<i>EST. TN REDUCTION</i>	N/A
<i>EST. TP REDUCTION</i>	N/A
<i>EST. TSS REDUCTION</i>	N/A
<i>STATUS</i>	ongoing

¹ SFY11: 400K; SFY12: 150K



Photo Credit: Paul Kayzak

Weir constructed in Red Hill Branch
(Little Patuxent) for Flow Monitoring

TRUST FUND PROJECT REPORT

AGENCY DIRECT COSTS

FISCAL YEAR: SFY11 & 12

PROJECT OVERVIEW

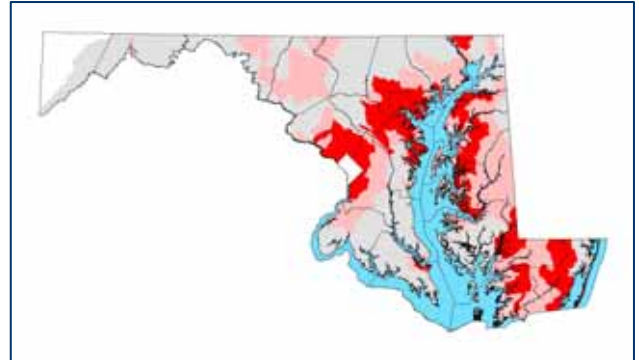
SFY11 marked the first year that the State has taken an allowable 1.5% of the Trust Fund for management and other initiatives related to oversight, tracking, and accountability of the Trust Fund. Funding was awarded to Towson University who hosts Maryland's iMap server. These maps are important tools used for decision-making regarding targeting and funding and are used to track progress in several of the State's programs, including the Trust Fund. Additional funds go towards fiscal management of the Local Implementation Grant to ensure sound accounting and efficient reimbursement of funds to Trust Fund recipients. Funding also goes towards improved development and management of the GIS-based Trust Fund viewer.

PROJECT COMPONENTS

PROJECT COMPONENT	Imap Server	Agency Direct Costs
LEAD	Towson U	DNR
ACTIVITY	Imap hosting	Fiscal & GIS management
LOCATION	N/A	
TRUST FUND \$ ¹	\$200,000	\$450,000
MATCH \$	\$0	\$0
TOTAL COST	\$200,000	\$450,000
STATUS	ongoing	

¹ SFY11: 300K; SFY12: 350K

PROJECT LOCATION: Statewide



PROJECT CHARACTERISTICS

COUNTY/CITY: Statewide

WATERSHED(S): Statewide

SUBWATERSHED(S): Statewide

PROJECT PARTNERS: DNR
Towson University

AGENCY CONTACT: Jennifer Raulin
DNR
410-260-8745
jrauln@dnr.state.md.us

TRUST FUND PROJECT REPORT

INNOVATIVE TECHNOLOGY/CONTINGENCY DEVELOPMENT

FISCAL YEAR: SFY11 & 12

PROJECT OVERVIEW

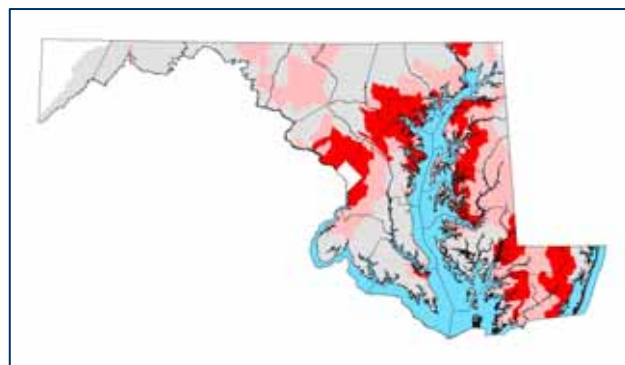
The Innovative Technology Fund was established with the goal of accelerating Chesapeake Bay restoration through the development of new innovative technologies and is one of the tools Maryland will use to meet the Bay TMDL. The Innovative Technology Fund is made possible through funding from the Trust Fund, the Environmental Protection Agency's Chesapeake Bay Implementation Grant (CBIG) and in partnership with the University of Maryland's Industrial Partnership (MIPS) and the Mtech Ventures Program.

Projects are selected based on their ability to achieve Maryland's restoration goals. By supporting innovative technologies, the State demonstrates their commitment to investing in research and development as a way to improve efficiency and maximize return on investment while supporting Maryland businesses.

The following companies have been supported through the Trust Fund's Chesapeake Bay Seed Capital Fund:

- *Zymetis, Inc.* is a biotechnology company that has developed breakthrough & enabling enzyme technology for the blossoming biofuels industry. As of July 1, 2011, Zymetis became AE Zymetis, a wholly owned subsidiary of AE Biofuels (OTC: AEBF). Investors in Zymetis received 1 share of AEBF for every 1 share of Zymetis owned. As such, the State now owns AEBF stock and is under ongoing review.
- *Traffax, Inc.* is a software company that can impact the reduction of car emission through better traffic data that allows for route diversion during congestion, as well as improved signal

PROJECT LOCATION: Statewide



PROJECT CHARACTERISTICS

COUNTY/CITY:	Statewide
WATERSHED(S):	Multiple
SUBWATERSHED(S):	Multiple
PROJECT PARTNERS:	University of Maryland
AGENCY CONTACT:	Sarah Lane DNR 410-260-8788 slane@dnr.state.md.us

- *Smart Slope, LLC* produces and sells vegetated concrete retaining walls that will help to diminish heat island effects, as well as reduce stormwater, sediment and nutrient runoff.

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PROJECT OVERVIEW (continued from previous)

For the Research & Development Fund, several projects have been supported. Some are highlighted below:

- *AHPharma, LLC* is refining a radiant floor heat technology in chicken houses that decreases ammonia emissions by reducing litter moisture.
- *Blackrock Algae, LLC* is researching using biofouling screens suspended in the water column to grow microbes that absorb nutrients through biological uptake and physical filtration.
- *Hy-Tek Bio, LLC* is working to sequester carbon dioxide and nitrous oxide using enhanced microalgal growth that can also be used in biofuels, pharmaceuticals, cosmetics and other marketable byproducts.
- *Maryland Environmental Plastics, LLC* is inventing biodegradable plastic seed pots uniquely designed to allow for proper root growth for greater plant establishment and restoration in the Chesapeake Bay.

**PROJECT COMPONENT**

PROJECT COMPONENT	Innovative Technology Fund
LEAD	UMD/DNR
ACTIVITY	Ammonia emission reductions, stormwater retrofit, air emission reductions, natural filters
LOCATION	N/A
TRUST FUND \$	\$500,000 ¹
MATCH \$	\$225,000 ²
TOTAL \$	\$725,000
EST. TN REDUCTION	TBD
EST. TP REDUCTION	TBD
EST. TSS REDUCTION	TBD
STATUS	50%

¹ 250K each year in SFY11 & SFY12

² EPA Chesapeake Bay Implementation Grant for R&D projects with University of Maryland MIPS program

TRUST FUND PROJECT REPORT

AGENCY TECHNICAL ASSISTANCE

FISCAL YEAR: SFY11 & SFY12

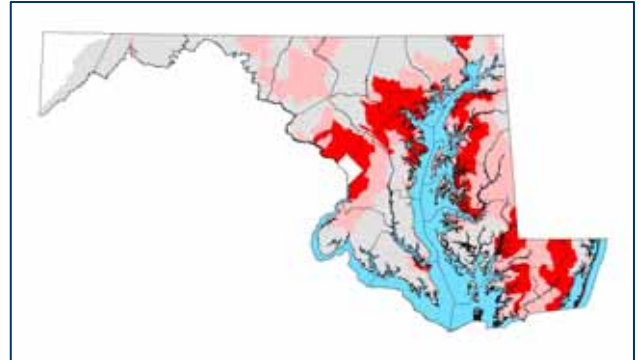
PROJECT OVERVIEW

Maryland's 2 Year Milestones require the acceleration of on the ground implementation of agricultural conservation practices. Achievement of these goals requires Soil Conservation Districts to provide adequate technical staff capable of engineering, practice plan and designs, and providing construction and construction oversight to assist farmers in implementation of the most cost-effective best management practices to treat water quality needs throughout the state.

In SFY11, 16 Soil Conservation District positions were supported with Trust Fund dollars in the following counties: Allegany, Baltimore, Calvert, Caroline, Cecil, Charles, Harford, Howard, Kent, Prince George's, Somerset, Talbot, Washington, and Wicomico. Additionally, in SFY12, support was provided to the Liberty Reservoir, Deer Creek and Marshyhope Creek Watersheds and five equine planners.

PROJECT LOCATION:

Statewide (Target Area Emphasis)



PROJECT CHARACTERISTICS

COUNTY/CITY:	Statewide
WATERSHED(S):	Multiple
SUBWATERSHED(S):	Multiple
PROJECT PARTNERS:	Soil Conservation Districts
AGENCY CONTACT:	John Rhoderick MDA 410-841-5896 rhoderjc@mda.state.md.us



Photo by MDA

PROJECT COMPONENTS

PROJECT COMPONENT	Soil Conservation Staff Hiring		
LEAD	MDA/SCDs		
ACTIVITY	Technical Assistance		
LOCATION (Lat/Long)	Statewide		
TRUST FUND \$ ¹	\$1,360,000		
MATCH \$	\$0		
TOTAL COST	\$1,360,000		
EST. TN REDUCTION	N/A		
EST. TP REDUCTION	N/A		
EST. TSS REDUCTION	N/A		
STATUS SFY11	Goal		Done
	Plans	321 plans/26,555 acres	362 plans/35,608 acres (134%)
	BMPs	669	646 (97%)
	CREP	375 acres	132 acres (35%)
STATUS SFY12	Goal		Done
	Plans	35,990 acres	TBD
	BMPs	1,050	TBD
	CREP	168 acres	TBD

¹ Annual Funding level for SFY11 of \$680K and SFY12 of \$1.2M

TRUST FUND PROJECT REPORT

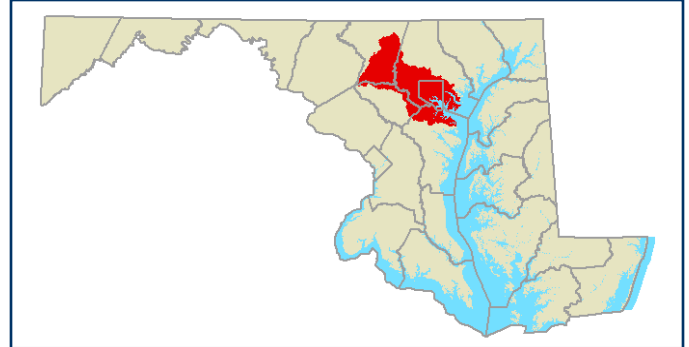
MOORE'S RUN WETLANDS

FISCAL YEAR: SFY11

PROJECT OVERVIEW

This project consists of three stormwater control methods: a 4 acre wetland detention pond for stormwater filtration, two debris collection systems, and soil improvement through planting of native and adapted vegetation to reduce sediment and nutrient loading from Moore's Run in the Herring Run watershed.

PROJECT LOCATION: Patapsco/Back Rivers



PROJECT COMPONENTS

PROJECT COMPONENT	Moore's Run Wetlands
LEAD	Baltimore City DPW
ACTIVITY	Stormwater Retrofit
LOCATION (Lat/Long)	39.320556/-76.535556
TRUST FUND \$	\$1,870,400
MATCH \$	\$804,600
TOTAL \$	\$2,682,000
EST. TN REDUCTION	1213 lbs/yr
EST. TP REDUCTION	243 lbs/yr
EST. TSS REDUCTION	65 tons/yr
STATUS	Design

PROJECT CHARACTERISTICS

COUNTY/CITY: Baltimore City

WATERSHED(S): Patapsco/Back Rivers

SUBWATERSHED(S): Back River

PROJECT PARTNERS: Baltimore City DPW
Blue Water Baltimore

AGENCY CONTACT: Jim George
MDE
410-537-3000
jgeorge@mde.state.md.us

TRUST FUND PROJECT REPORT

MARYLAND COVER CROP PROGRAM

FISCAL YEAR: SFY11 & SFY12

PROJECT OVERVIEW

The Cover Crop Program is central to Maryland achieving the reduction of nutrients necessary to meet the Chesapeake Bay TMDL. Although the Chesapeake Bay Restoration Fund provides a significant and dedicated funding source for this program, additional resources are required to achieve ambitious goals of having cover crops annually established on nearly half of all cropland statewide.

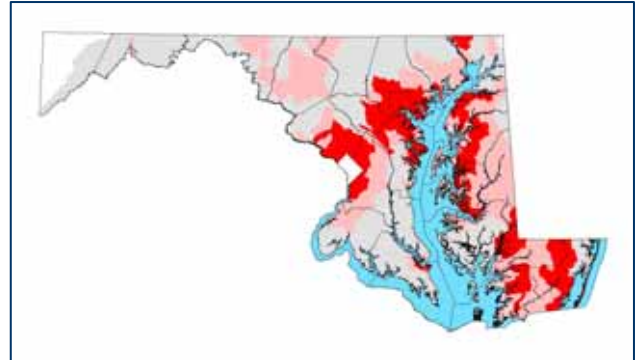
Maryland applied input from the scientific community to incentivize acres where maximum nutrient reductions can be realized. Maryland has requested that the Chesapeake Bay Program re-examine nutrient reduction efficiencies as applied to targeted management scenarios and also examine efficiencies for commodity small grains that are not fall fertilized.



Photo by MDA

PROJECT LOCATION:

Statewide (Target Area Emphasis)



PROJECT CHARACTERISTICS

COUNTY/CITY:	Statewide
WATERSHED(S):	Multiple
SUBWATERSHED(S):	Multiple
PROJECT PARTNERS:	Soil Conservation Districts Participating agricultural producers
PROJECT CONTACT:	Louise Lawrence MDA 410-841-5863 lawrenl@mda.state.md.us

The record enrollments in FY11 and FY12 demonstrate farmers have embraced the program but their success in acreage planted is governed by fall weather, the time and labor available after harvest to establish a cover crop, and market considerations.

PROJECT COMPONENTS

PROJECT COMPONENT	Application SFY11	Approvals SFY11	Fall Certification SFY11	Process Payments SFY11	Application SFY12	Approvals SFY12	Fall Certification SFY12	Process Payments SFY12
LEAD	MDA/SCDs	MDA	MDA/SCDs	MDA	MDA/SCDs	MDA	MDA/SCDs	MDA
ACRES	508,304	506,645	400,331	382,256	570,183	567,154	TBD	TBD
LOCATION (Lat/Long)	Statewide							
COST ¹	\$27,930,451	\$27,800,347	N/A	\$18,251,608	\$33,022,547	\$32,794,989	N/A	TBD
EST. TN REDUCTION ²	1,333,102 lbs/yr (Trust Fund) 1,068,884 lbs/yr (CBRF) 2,401,986 lbs/yr TOTAL				TBD			
EST. TP REDUCTION ²	44,437 lbs/yr (Trust Fund) 35,629 lbs/yr (CBRF) 80,066 lbs/yr TOTAL				TBD			
EST. TSS REDUCTION	N/A							
STATUS	Complete				Approval Process		Certification in Fall, 2012	

¹ Total Funding: SFY11: Trust Fund: \$10.1M; BRF: \$8.1 M; Total: \$18.2 M

SFY12: Trust Fund: \$11.98M; BRF: \$5.67 M; Total: \$17.6M

² Reductions based on BayStat averages and acres assigned based on average cost per acre.

TRUST FUND PROJECT REPORT

FOREST/ GRASS BUFFERS/ WETLAND RESTORATION

FISCAL YEAR: SFY11 & SFY12

PROJECT OVERVIEW

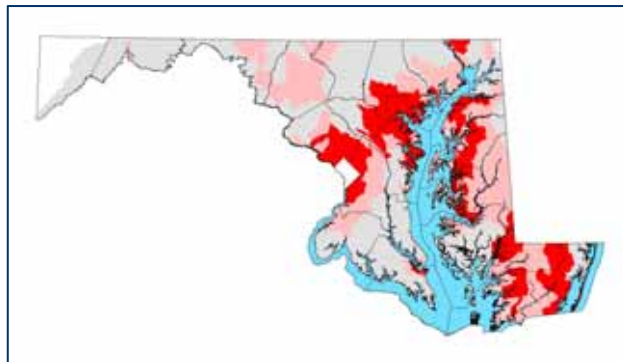
The Conservation Reserve Enhancement Program (CREP) is central to Maryland's Watershed Implementation Plan to implement BMPs to meet TMDL requirements. BMPs targeted include grass and forest streamside buffers, wetlands and permanent stabilization of highly erodible land. Water quality bonds provide the state's share of funding to implement these BMPs. Trust Funds are used to provide the state \$100 per acre signing incentive for new and re-enrolled acres.



Photo by MDA

PROJECT LOCATION:

Statewide (Target Area Emphasis)



PROJECT CHARACTERISTICS

COUNTY/CITY:	Statewide
WATERSHED(S):	Multiple
SUBWATERSHED(S):	Multiple
PROJECT PARTNERS:	Soil Conservation Districts USDA Participating agricultural producers
PROJECT CONTACT:	Louise Lawrence MDA 410-841-5863 lawrenl@mda.state.md.us

PROJECT COMPONENTS

PROJECT COMPONENT	New Enrollment SFY11	Re-enrollment SFY11	New Enrollment SFY12	Re-enrollment SFY12
<i>LEAD</i>	MDA/SCDs	MDA/SCDs	MDA/SCDs	MDA/SCDs
<i>ACRES¹</i>	1,080	1,433	248	506.3
<i>LOCATION (Lat/Long)</i>	Statewide			
<i>COST</i>	\$108,000 ¹	\$143,300 ¹	\$24,800 ²	\$50,630 ²
<i>EST. TN REDUCTION³</i>	17,280	22,928	3,968	8,096
<i>EST. TP REDUCTION³</i>	972	1280	223	457
<i>EST. TSS REDUCTION</i>	N/A			
<i>STATUS</i>	Complete ⁴		33% Complete ⁵	

¹ \$800,000 allocated in SFY11. MDA has no allocation to CREP for signing incentives; Capital funding supports BMP implementation

² No allocation in FY12. MDA deferred revenue to retain \$550,360 of unallocated FY11 funds. MDA has no allocation to CREP for signing incentives; Capital funding supports BMP implementation

³ Calculation based on Baystat assigned reduction based on per practice signing bonus for future implementation of new enrollment acres & ongoing benefits of re-enrolled acres paid in SFY11

⁴ Executed contract, signing incentive paid.

⁵ Executed contract, signing incentive paid (7/1/11-10/31/11)

TRUST FUND PROJECT REPORT

ANIMAL WASTE MANAGEMENT BMPs

FISCAL YEAR: SFY11 & SFY12

PROJECT OVERVIEW

Maryland's Watershed Implementation Plan includes BMPs that address animal waste management. Specific BMPs include poultry and livestock animal waste storage and heavy use areas (HUAs), concrete pads adjacent to waste storage or poultry houses and heavy animal traffic or dairy loafing areas used to facilitate clean up and prevent runoff or leaching.

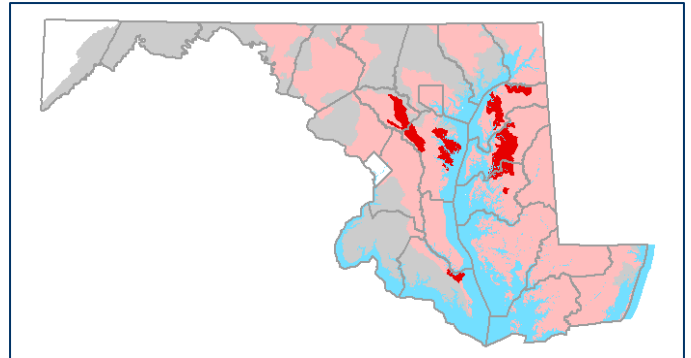


Photos Credit: MDA

Examples of Animal Waste Management BMPs.

PROJECT LOCATION:

Statewide (Target Area Emphasis)



PROJECT CHARACTERISTICS

COUNTY/CITY:	Statewide
WATERSHED(S):	Multiple
SUBWATERSHED(S):	Multiple
PROJECT PARTNERS:	Soil Conservation Districts Participating agricultural producers
AGENCY CONTACT:	Louise Lawrence MDA 410-841-5863 lawrenl@mda.state.md.us

PROJECT COMPONENTS

PROJECT COMPONENT	Implementation Completed SFY11	Implementation Completed SFY12	Implementation Approved/Pending SFY12
<i>LEAD</i>	MDA/SCDs		
<i>BMPs</i>	Animal Waste Storage, HUAs		
<i>LOCATION</i>	Statewide		
<i>TRUST FUND \$</i>	\$800,000	\$0	
<i>MATCH \$</i>	\$1,844,071	NA	
<i>TOTAL \$</i>	\$2,644,071	NA	
<i>EST. TN REDUCTION</i>	11,196 lbs/yr (Trust Fund) 25,807 lbs/yr (Other)	NA	
<i>EST. TP REDUCTION</i>	7,471 lbs/yr (Trust Fund) 17,221 (Other)	NA	
<i>EST. TSS REDUCTION</i>	N/A		
<i>STATUS</i>	Complete	NA	

TRUST FUND PROJECT REPORT

LITTLE PATUXENT LOCAL IMPLEMENTATION GRANT

FISCAL YEAR: SFY11 & SFY12

PROJECT OVERVIEW

The Little Patuxent Restoration Partners (LPRP) are working together to implement a multi-year plan to restore multiple subwatersheds within the Little Patuxent River Watershed. LPRP offers solutions to address problems such as untreated impervious surfaces, stream erosion, nutrient loads, and sedimentation.

Now in its fourth year, the LPRP Local Implementation Grant is in full gear and is realizing the vision intended for the Trust Fund: targeted implementation with the goal of demonstrable water quality improvement. A few highlights to date:

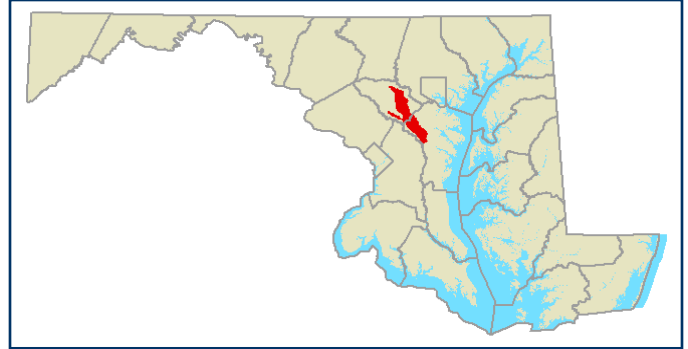
- 26 stormwater management retrofit projects are either in design, construction, or complete in the watershed
- A monitoring strategy has been put into place in Howard County and has continued throughout the project period
- The successful rain garden initiative, started in SFY10 has received additional support from the Chesapeake Bay Trust and includes a social marketing component. Columbia Association is investigating the effectiveness of two methods of rain garden social marketing on ultimate voluntary homeowner implementation.



Photo Credit: Amanda Rockler

Residential Raingarden in Little Patuxent. Raingardens treat stormwater on site and reduce the volume of runoff on impervious surfaces.

PROJECT LOCATION: Little Patuxent



PROJECT CHARACTERISTICS

COUNTY/CITY:	Howard County
WATERSHED(S):	Little Patuxent
SUBWATERSHED(S):	Red Hill Branch Wilde Lake
PROJECT PARTNERS:	Howard County Columbia Association
PROJECT CONTACT:	Jennifer Raulin DNR 410-260-8745 jrauln@dnr.state.md.us

PROJECT COMPONENTS (YEAR 3 OF 4)

<i>PROJECT COMPONENT</i>	Hope Well Park	Celebration Church	Play Wise Kids Back	Play Wise Kids Front	Homespun Drive	Queen Maria Court	Spinning Seed
<i>LEAD</i>	Columbia Association	Columbia Association	Columbia Association	Columbia Association	Columbia Association	Columbia Association	Columbia Association
<i>ACTIVITY</i>	Extended Detention Pond	Bioretention Facility	Bioretention Facility	Bioretention Facility	Bioretention Facility	New Stormwater Mgmt Facility	Stream Restoration
<i>LAT/LONG</i>	39.1798783/ -76.8332259	39.2058176/ -76.8173808	39.1915793/ -76.8207082	39.1910945/ -76.8199629	39.1094808/ -76.8359910	39.1903025/ -76.8355360	39.1941574/ -76.8357553
<i>TRUST FUND \$</i>	\$100,000	\$0	\$0	\$0	\$0	\$0	\$25,000
<i>MATCH \$</i>	\$43,020	\$154,464	\$69,321	\$26,811	\$74,159	\$74,216	\$42,900
<i>COST</i>	\$143,020	\$154,464	\$69,321	\$26,811	\$74,159	\$74,216	\$92,900
<i>EST. TN REDUCTION</i>	10 lbs/yr	21 lbs/yr	5 lbs/yr	2 lbs/ yr	18 lbs/yr	22 lbs/yr	1 lbs/yr
<i>EST. TP REDUCTION</i>	1 lbs/yr	3 lbs/yr	1 lbs/yr	0 lbs/ yr	2 lbs/yr	3 lbs/yr	0 lbs/yr
<i>EST. TSS REDUCTION</i>	551 lbs/yr	995 lbs/yr	225 lbs/yr	80 lbs/ yr	858 lbs/yr	1,258 lbs/yr	128 lbs/yr
<i>STATUS</i>	Design	Design	Design	Design	Design	Design	Permit

PROJECT COMPONENTS (YEAR 3 OF 4) CONTINUED

<i>PROJECT COMPONENT</i>	Bugledrum	Residential Rain Gardens	Old Willow Way Stream Restoration	Salterforth Pond BMP Retrofit¹	Bramhope Lane Stream Restoration¹	Meadowbrook Park¹	Public Outreach & Education
<i>LEAD</i>	Columbia Association	Columbia Association	Howard Co.	Howard Co.	Howard Co.	Howard Co.	Howard Co.
<i>ACTIVITY</i>	Stream Restoration	Education & Outreach	Stream Restoration	Monitoring	Monitoring	Monitoring	Outreach & Education
<i>LAT/LONG</i>	39.1943598/ -76.8356960	Multiple	39.25/ -76.854167	39.238485/ -76.809821	39.23549/ -76.823569	39.247018/ -76.823569	Red Hill Branch
<i>TRUST FUND \$</i>	\$25,000	\$350,000	\$200,000	\$140,000			\$30,000
<i>MATCH \$</i>	\$84,000	\$0	\$100,000	\$80,000			\$2,000
<i>COST</i>	\$109,000	\$350,000	\$300,000	\$220,000.00			\$32,000
<i>EST. TN REDUCTION</i>	6 lbs/yr	0 lbs/yr	10 lbs/yr	N/A	N/A	N/A	5 lbs/yr
<i>EST. TP REDUCTION</i>	1 lbs/yr	0 lbs/yr	2 lbs/yr	N/A	N/A	N/A	1 lbs/yr
<i>EST. TSS REDUCTION</i>	765 lbs/yr	0 lbs/yr	1,275 lbs/yr	N/A	N/A	N/A	336 lbs/yr
<i>STATUS</i>	Permit	Spring, 2012 Construction	Complete	Ongoing	Ongoing	Ongoing	Complete- 10 rain gardens installed

¹ Continued monitoring of sites initially funded in SFY09

PROJECT COMPONENTS (YEAR 3 OF 4) CONTINUED

<i>PROJECT COMPONENT</i>	Meadowbrook Park Stream Restoration	Red Hill Way Stream Restoration
<i>LEAD</i>	Howard Co.	Howard Co.
<i>ACTIVITY</i>	Stream Restoration	Stream Restoration
<i>LAT/LONG</i>	39.24667/ -76.823056	39.2375/ -76.806944
<i>TRUST FUND \$</i>	\$230,000	\$200,000
<i>MATCH \$</i>	\$320,000	\$50,000
<i>COST</i>	\$550,000	\$250,000
<i>EST. TN REDUCTION</i>	26 lbs/yr	8 lbs/yr
<i>EST. TP REDUCTION</i>	5 lbs/yr	1 lbs/yr
<i>EST. TSS REDUCTION</i>	3,315 lbs/yr	1,020 lbs/yr
<i>STATUS</i>	Construction	Complete



Before and After Photo of Dorsey Building Stormwater Retrofit. Project was completed by Howard County with SFY10 Trust Fund dollars.



Photo Credit: Michele Jordan

PROJECT COMPONENTS (YEAR 4 OF 4) CONTINUED²

<i>PROJECT COMPONENT</i>	Salterforth Place	Cypress Bay Court	Stream Buffer Planting	Salterforth Pond BMP Retrofit¹	Bramhope Lane Stream Restoration¹	Meadowbrook Park¹
<i>LEAD</i>	Howard Co.	Howard Co.	Howard Co.	Howard Co.	Howard Co.	Howard Co.
<i>ACTIVITY</i>	Stormwater Retrofit	Stormwater Retrofit	Natural Filters	Monitoring	Monitoring	Monitoring
<i>LAT/LONG</i>	39.245499/ -76.818187	39.245499/ -76.818187	Multiple	39.238485/ -76.809821	39.23549/ -76.823569	39.247018/ -76.823569
<i>TRUST FUND \$</i>	\$400,000	\$200,000	\$90,000	\$89,000		
<i>MATCH \$</i>	\$160,000	\$30,000	\$27,000	\$21,000		
<i>COST</i>	\$560,000	\$230,000	\$117,000	\$110,000		
<i>EST. TN REDUCTION</i>	104 lbs/yr	61 lbs/yr	112 lbs/yr	N/A	N/A	N/A
<i>EST. TP REDUCTION</i>	9 lbs/yr	6 lbs/yr	16 lbs/yr	N/A	N/A	N/A
<i>EST. TSS REDUCTION</i>	13,200 lbs/yr	8,600 lbs/yr	4,400 lbs/yr	N/A	N/A	N/A
<i>STATUS</i>	Construction	Summer, 2012 Construction	Spring, 2012 Planting	Ongoing	Ongoing	Ongoing

¹ Continued monitoring of sites initially funded in SFY09

² Due to Columbia Associations budget cycle, projects to be funded with SFY12 dollars will not be finalized until March, 2012

TRUST FUND PROJECT REPORT

MAGOTHY LOCAL IMPLEMENTATION GRANT

FISCAL YEAR: SFY11 & SFY12

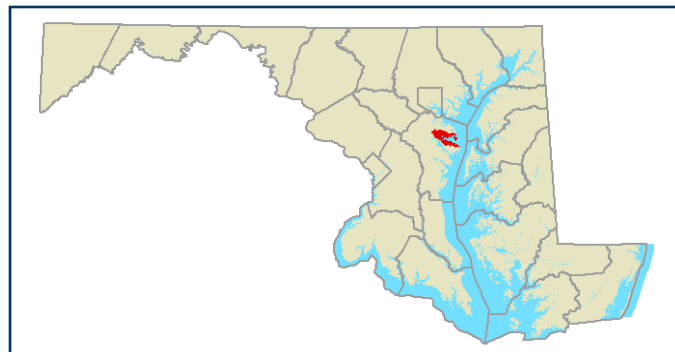
PROJECT OVERVIEW

Anne Arundel County has embarked on a multi-year, comprehensive effort to rehabilitate and restore water quality and ecosystem function to the Cypress Creek subwatershed of the high priority Magothy River (Maryland 8 digit: 02131001). This subwatershed contains primarily residential and commercial land cover and exhibit imperviousness ranging from 24 to 31 percent. Much of this land was developed prior to stormwater management measures and, in those developed areas with stormwater management facilities, the facilities are not necessarily designed or functioning to provide water quality benefits.

Anne Arundel County will implement 7 projects addressing issues such as untreated impervious surfaces, as well as the sedimentation and nutrient loads associated with stormwater runoff and in-stream erosion. The Magothy River Association (MRA) and the Anne Arundel Community College (AACC) are vital partners in the watershed restoration effort. The MRA serves as a conduit of information exchange between the County and the affected residents and businesses. AACC will be documenting pre and post-construction physical stability and water quality in Dividing Creek to evaluate project impacts.

The projects will utilize the innovative design and practice of step pool conveyance systems (also known as regenerative stormwater conveyance) and sand seepage wetlands. The University of Maryland Chesapeake Biological Lab (UMD-CBL) will continue monitoring Cypress Creek, a multi-year initiative since 2008.

PROJECT LOCATION: Magothy



PROJECT CHARACTERISTICS

COUNTY/CITY:	Anne Arundel
WATERSHED(S):	Magothy River
SUBWATERSHED(S):	Cypress Creek
PROJECT PARTNERS:	Anne Arundel County Magothy River Association Anne Arundel Community College UMD- CBL
AGENCY CONTACT:	Jennifer Raulin DNR 410-260-8745 jraulin@dnr.state.md.us

UMD-CBL will conduct effectiveness monitoring stormwater retrofits in the watershed measuring flow, nitrogen, and suspended sediments.

PROJECT COMPONENTS (Year 2 of 3)

PROJECT COMPONENT	Cypress Creek Recreation Area	Dunkeld Manor	Leelyn Drive Dry Pond Retrofit	County Park & Ride at Arundel Beach
LEAD	Anne Arundel Co.			
ACTIVITY	Bioretention SW retrofit	Regenerative Stormwater Conveyance SW retrofit	Regenerative Stormwater Conveyance SW retrofit	Bioretention SW retrofit
LOCATION (Lat/Long) ¹	39.072/-76.542	39.074/-76.537	39.077/-76.541	39.079/-76.546
TRUST FUND \$	\$480,000 ¹			
MATCH \$	\$110,000			
TOTAL COST	\$590,000			
EST. TN REDUCTION	5 lbs/yr	257 lbs/yr	244 lbs/ yr	35 lbs/ yr
EST. TP REDUCTION	1 lbs/yr	14 lbs/yr	37 lbs/ yr	6 lbs/ yr
EST. TSS REDUCTION	1,800 lbs/yr	18,700 lbs/yr	54,900 lbs/ yr	9,180 lbs/ yr
STATUS	Complete	Design	Complete	Complete

¹ \$360K in SFY10, \$480K in SFY11 for design & construction

Before, during, and after photos of the Park & Ride off of Arundel Beach Road. Bioretention installation at this site controls stormwater and improve runoff water quality in headwaters of Cypress Creek in the Magothy River.



Photo Credit: AA Co. DPW

PROJECT COMPONENTS (Year 3 of 3)

PROJECT COMPONENT	Retrofit West AACC Campus	Retrofit East AACC Campus	Dividing Creek Stream Rehabilitation
LEAD	Anne Arundel Co.		
ACTIVITY	Step Pool Stormwater Conveyance Design	Step Pool Stormwater Conveyance Design	Stream Restoration Design
LOCATION (Lat/Long) ¹	39.048/-76.514	39.050/-76.515	39.049/-76.515
TRUST FUND \$	\$460,000		
MATCH \$	\$125,000		
TOTAL \$	\$585,000		
EST. TN REDUCTION	N/A		
EST. TP REDUCTION	N/A		
EST. TSS REDUCTION	N/A		
STATUS	Design		

TRUST FUND PROJECT REPORT

WHEEL CREEK (BUSH RIVER) LOCAL IMPLEMENTATION GRANT

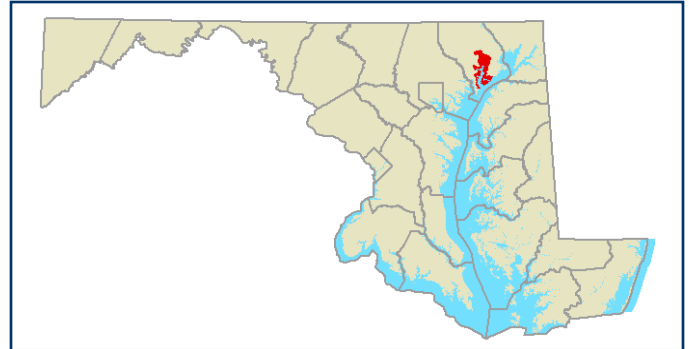
FISCAL YEAR: SFY11 & SFY12

PROJECT OVERVIEW

The Wheel Creek watershed (unofficially named) is centrally located in Harford County, approximately 3 miles south of the Town of Bel Air. It is a second order tributary to Winters Run (MDEDIGIT 02130702) and Atkisson Reservoir (MDE8DIGIT 02130703) in the Bush River watershed (MDE6DIGIT 021307). Wheel Creek is situated along the eastern edge of the Piedmont physiographic province, drains 435 acres, and contains approximately 27% impervious cover. A mixture of commercial and high density residential land uses dominate the headwaters of the watershed. The remainder of the watershed's land use is dominated by medium and low density residential. The Harford Glen Environmental Education Center, which is part of the Harford County Public School system, is predominately forested and is located in the lower reaches of the Wheel Creek watershed. The Wheel Creek Project includes stream and stormwater designs and community outreach/education, including a rain garden program, to improve water quality in growth-designated area of the County.

The projects in Wheel Creek aim to decrease stormwater discharge, improve water quality, and reduce nutrient and sediment runoff. These goals align with TMDL, WIP, and stormwater permit requirements.

PROJECT LOCATION: Bush River



PROJECT CHARACTERISTICS

COUNTY/CITY:	Harford
WATERSHED(S):	Bush River
SUBWATERSHED(S):	Winters Run
PROJECT PARTNERS:	Harford County Chesapeake Bay National Estuarine Research Reserve Harford Glen Outdoor Education Center Otter Point Creek Alliance
PROJECT CONTACT:	Jenn Raulin DNR 410-260-8745 jraulin@dnr.state.md.us

PROJECT COMPONENTS (Year 2 of 3)

<i>PROJECT COMPONENT</i>	Project Monitoring SFY11 & SFY12	Calvert's Walk Stream Restoration	Country Walk Stream Restoration Design	Stewardship & Rain Garden Projects
<i>LEAD</i>	Harford Co. DNR	Harford Co.	Harford Co.	Harford Co. CB-NERR
<i>ACTIVITY</i>	Monitoring	Stream Restoration	Stream Restoration Design	Education & Outreach
<i>LOCATION</i>	Multiple	39.4955/-76.3301	39.489/-76.333	Multiple
<i>TRUST FUND \$</i>	\$104,000 ¹	\$151,605	\$154,395	\$10,000
<i>MMATCH \$</i>	\$154,000	\$129,000	\$100,000	\$10,000
<i>TOTAL COST</i>	\$258,000	\$280,605	\$254,395	\$20,000
<i>EST. TN REDUCTION</i>	N/A	81 lbs/yr	N/A	N/A
<i>EST. TP REDUCTION</i>	N/A	4 lbs/yr	N/A	N/A
<i>EST. TSS REDUCTION</i>	N/A	1,500 lbs/yr	N/A	N/a
<i>STATUS</i>	Ongoing	Construction Summer, 2012	30% Design	3 Residential Rain gardens Installed

¹ SFY11: \$54K; SFY12: \$50K

PROJECT COMPONENTS (Year 3 of 3)

<i>PROJECT COMPONENT</i>	Gardens of Bel Air	Festival of Bel Air Country Walk 1A & 1B
<i>LEAD</i>	Harford Co.	Harford Co.
<i>ACTIVITY</i>	Stormwater Retrofit	Stormwater Retrofit
<i>LOCATION</i>	39.4929/ -76.3335	Multiple
<i>TRUST FUND \$</i>	\$150,000	\$300,000
<i>MATCH \$</i>	\$150,000	\$300,000
<i>TOTAL COST</i>	\$300,000	\$600,000
<i>EST. TN REDUCTION</i>	113 lbs/yr	96 lbs/yr
<i>EST. TP REDUCTION</i>	23 lbs/ yr	19 lbs/yr
<i>EST. TSS REDUCTION</i>	12,000 lbs/ yr	10,000 lbs/yr
<i>STATUS</i>	Construction Summer, 2012	Design

¹ SFY11: \$54K; SFY12: \$50K



Photo Credit: Amanda Rockler

Pre-Construction Photo for a stream restoration at Calvert's Walk in Bel Air, MD. Construction slated to begin Summer, 2012

TRUST FUND PROJECT REPORT

TRED AVON LOCAL IMPLEMENTATION GRANT

FISCAL YEAR: SFY11

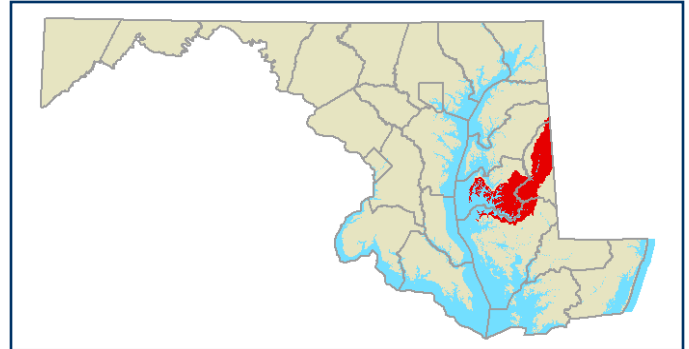
PROJECT OVERVIEW

The Tred Avon River is one of the main sub-watersheds to the Choptank River, which has historically been a major source of oysters, fish and other aquatic and wildlife habitat. Water quality in the Tred Avon is degraded by low oxygen, sediment, nutrients, fecal coliform, and biological impairments. The upper reaches of the watershed are highly impacted by urban stormwater runoff from both a water quality and aesthetic aspect. The projects selected are targeting high levels of nutrients and sediment deliveries to the river, and addresses homeowner practices and the social aspects of educating and outreach to citizens in the



Photo Credit: Heather Buritsch

PROJECT LOCATION: Choptank River



PROJECT CHARACTERISTICS

COUNTY/CITY:	Talbot County
WATERSHED(S):	Choptank River
SUBWATERSHED(S):	Tred Avon River
PROJECT PARTNERS:	Talbot County UMD-Cooperative Extension Service Environmental Concern, Inc.
AGENCY CONTACT:	Jenn Raulin DNR 410-260-8745 jraulin@dnr.state.md.us

Construction and post construction photos of rain garden installation at Talbot County Extension office. Site serves as a demonstration for what residents and local business can do to manage stormwater on their properties.

PROJECT COMPONENTS (Year 1 of 1)

<i>PROJECT COMPONENT</i>	Bag Filters & Catch Basin Inserts	Non-Agricultural Nutrient Management	Stormwater Utility Ordinance	Conversion of Roadside Ditches to Bioswales
<i>LEAD</i>	Talbot Co.	UMD-Cooperative Extension	Talbot Co./ MidShore Riverkeeper Conservancy	Talbot Co, Environmental Concern
<i>ACTIVITY</i>	SW retrofit	Outreach/Education	Policy	SW Retrofit
<i>LOCATION</i>	Multiple	Watershed-wide	Watershed-wide	Multiple
<i>TRUST FUND \$</i>	\$235,000	\$163,180	\$81,820	\$81,820
<i>MATCH \$</i>	\$0	\$26,230	\$0	\$0
<i>TOTAL COST</i>	\$235,000	\$189,410	\$81,820	\$81,820
<i>EST. TN REDUCTION</i>	1,530 lbs/yr ¹	2 lbs/yr	N/A	6 lbs/yr ²
<i>EST. TP REDUCTION</i>	268 lbs/yr ¹	N/A	N/A	1 lb/yr ²
<i>EST. TSS REDUCTION</i>	70 lbs/yr ¹	N/A	N/A	N/A
<i>STATUS</i>	Complete	Ongoing	Ongoing	Design

¹ Based on an estimate of 367 treated acres

² Assuming 1 acre of bioswale

TRUST FUND PROJECT REPORT

WATERSHED 263 LOCAL IMPLEMENTATION GRANT

FISCAL YEAR: SFY11

PROJECT OVERVIEW

Baltimore City, Parks and People Foundation, and their partners are working together to implement a multi-year, multi-initiative plan to restore all sub watersheds located within the Gwynns Falls watershed (Maryland 8 digit: 02130905).

The Watershed 263 Management Plan (referred to as the “Plan”) prepared for the City, offers solutions to address problems such as untreated impervious surfaces, nutrient loads, and sedimentation. The general approach of the Plan is to leverage the collective power of the City administration and community groups by implementing specific innovative and cost-effective projects to address the aforementioned problems.

(continued on next page).



Photo Credit: Michele Jordan

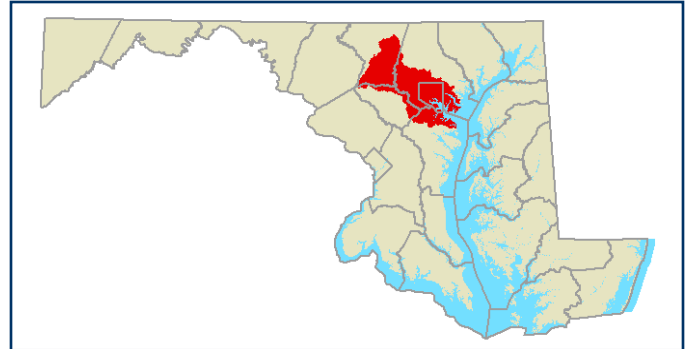
Biorention project completed on Monroe Street in Baltimore City resulted in removal of impervious surface and treatment of stormwater before entering the City’s stormdrain system.

Curb “bump outs” on Mount Street filter and reduce flow from storm events and water the street trees.



Photo Credit: Michele Jordan

PROJECT LOCATION: Patapsco/Back Rivers



PROJECT CHARACTERISTICS

COUNTY/CITY:	Baltimore City
WATERSHED(S):	Patapsco/Back
SUBWATERSHED(S):	Gwynns Falls
PROJECT PARTNERS:	Baltimore City DPW Parks & People Foundation.
AGENCY CONTACT:	Jenn Raulin DNR 410-260-8745 jraulin@dnr.state.md.us

PROJECT OVERVIEW (continued from previous)

The expected benefit is reduced sedimentation, phosphorus, and nitrogen flowing into Baltimore's storm sewer system, which empties into the impaired Gwynns Falls. Parks & People is providing community outreach, education, and organizes volunteer-based, on-the-ground community greening projects such as tree planting, vacant lot and schoolyard restoration projects and smaller bio-infiltration facilities such as rain gardens, bio-swales, and rain barrels to decrease impervious surface and will work in conjunction with the City's efforts.

PROJECT COMPONENTS (Year 2 of 2)

PROJECT COMPONENT	Community outreach, Education	Gilmor, Harlem Park, and Franklin Square Elementary Greening	Mount & Presstman St. (Gilmor Homes)	Vincent St. & Riggs Ave.	Lafayette & Calhoun St.
LEAD	Parks & People Foundation				
ACTIVITY	Outreach/ Education	Urban Greening	Impervious Removal/SW Mgmnt	Stormwater Retrofit	Outreach/ Education
LOCATION)	Multiple	Multiple	39.305197/-76.644367	39.301456/-76.644008	39.299192/-76.640892
TRUST FUND \$	\$2,000	\$2,000	\$35,000	\$10,000	\$115,480
MATCH \$	\$0				
TOTAL COST	\$2,000	\$2,000	\$35,000	\$10,000	\$15,000
EST. TN REDUCTION	N/A	5 lbs/yr	3 lbs/yr	1 lbs/yr	4 lbs/yr
EST. TP REDUCTION	N/A	N/A	N/A	N/A	N/A
EST. TSS REDUCTION	N/A	N/A	N/A	N/A	N/A
STATUS	Ongoing	Complete	Design	Design	Design

PROJECT COMPONENTS Continued

PROJECT COMPONENT	Ramsey St. and Tracy Atkins Park	Gilmor & Vine St.	Mount & Lafayette St.	Lauretta Ave & Kirby Lane	Baltimore & Mount St.	Carey & Franklin St
LEAD	Parks & People Foundation					
ACTIVITY	Impervious removal/SW Mgmt	Stormwater Management	Stormwater Management	Impervious removal/Urban Greening	Impervious removal/Urban Greening	Impervious removal/bioswale
LOCATION)	39.283208/-76.639878	39.290111/-76.642003	39.299006/-76.644578	39.294533/-76.646272	39.288567/-76.643522	39.294314/-76.639117
TRUST FUND \$	\$20,000	\$8,000	\$4,000	\$8,500	\$10,500	\$10,000
MATCH \$	\$0					
TOTAL COST	\$20,000	\$8,000	\$4,000	\$8,500	\$10,500	\$10,000
EST. TN REDUCTION	0 lbs/yr	1 lbs/yr	0 lbs/yr	0 lbs/yr	0 lbs/yr	1 lbs/yr
EST. TP REDUCTION	N/A	N/A	N/A	N/A	N/A	N/A
EST. TSS REDUCTION	N/A	N/A	N/A	N/A	N/A	N/A
STATUS	Design	Design	Design	Design	Design	Design

PROJECT COMPONENTS Continued

<i>PROJECT COMPONENT</i>	Harlem Park Elementary	Tree Planting in Franklin Square	Bruce St. at Baltimore St.	Bruce at Fayette (NW)	Fulton at Lexington (NW)	Vine at Fulton
<i>LEAD</i>	Parks & People Foundation					
<i>ACTIVITY</i>	Impervious Removal	Urban Greening	Stormwater Management	Stormwater Management	Stormwater Management	Stormwater Management
<i>LOCATION</i>	39.297256 -76.642125	Multiple	39.288692 -76.644423	39.290003 -76.644487	39.291033 -76.645324	39.290485 -76.645281
<i>TRUST FUND \$</i>	\$14,400	\$4,000	\$77,000	\$102,300	\$55,000	\$102,300
<i>MATCH \$</i>	\$0					
<i>TOTAL COST</i>	\$14,400	\$4,000	\$77,000	\$102,300	\$55,000	\$102,300
<i>EST. TN REDUCTION</i>	1 lbs/yr	0 lbs/yr	13 lbs/yr	54 lbs/yr	38 lbs/yr	79 lbs/yr
<i>EST. TP REDUCTION</i>	N/A	N/A	1 lb/yr	3 lbs/yr	2 lbs/yr	4 lbs/yr
<i>EST. TSS REDUCTION</i>	N/A	N/A	372 lbs/yr	1,569 lbs/yr	1,089 lbs/yr	2,922 lbs/yr
<i>STATUS</i>	Design	Not Started	Design	Design	Design	Design

TRUST FUND PROJECT REPORT

MIDDLE CHESTER LOCAL IMPLEMENTATION GRANT

FISCAL YEAR: SYF11

PROJECT OVERVIEW

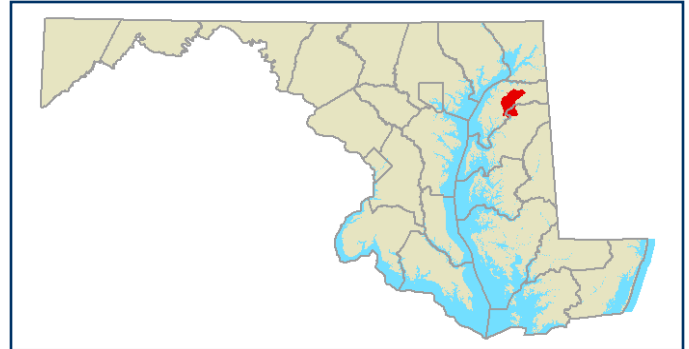
Kent County government (KC), Chester River Association (CRA), Kent County Soil and Water Conservation District/NRCS (KSCD), University of Maryland (UMD), MD Department of Agriculture (MDA), Ducks Unlimited (DU), and Washington College (WC) hereafter referred to collectively as the Middle Chester Partners (MCP), are working together to implement a multi-year, multi-initiative plan to restore the Middle Chester watershed (Maryland 8 digit: 02130509). The Middle Chester offers the best current measurement data, an existing Watershed Restoration Action Strategy (WRAS), and the greatest opportunity to leverage other programs and initiatives.

Facilitated by the Environmental Finance Center, the MCP identified 3 focus areas which represent the greatest needs/threats to water quality: septics, agriculture, and wetland restoration (see below). Subcommittees were created and priority projects were identified after several meetings. With the assistance of University of Maryland Sea Grant Extension (MDSG), these subcommittees will continue to meet throughout this multi-year grant to identify additional projects, improve processes, and make strategic decisions utilizing limited funding.



Photo Credit: Jennifer Raulin

PROJECT LOCATION: Middle Chester



PROJECT CHARACTERISTICS

COUNTY/CITY:	Kent County
WATERSHED(S):	Middle Chester River
SUBWATERSHED(S):	Multiple
PROJECT PARTNERS:	Kent County Chester River Association Ducks Unlimited University of Maryland MDA
AGENCY CONTACT:	Jennifer Raulin DNR 410-260-8745 jraulin@dnr.state.md.us

Wetland constructed by Ducks Unlimited on agricultural land near Chestertown. Site provides treatment of runoff as well as habitat for waterfowl.

PROJECT OVERVIEW *(continued from previous page)*

The Middle Chester Partners agreed to continue work on the three main initiatives identified in year 1 as well as restoration and education/outreach work:

- Septics: Fully fund repairs of 10 failing septic systems in the Critical Area of the Middle Chester watershed, and facilitate enrollment of these properties in the Bay Restoration Fund for septic system upgrade assistance;
- Wetland Restoration: Spray 30 acres per year of Morgan Creek to remove phragmites; and restore 4 wetland ponds per year on agricultural land; and
- Agriculture: Maintain 200 acres of switchgrass buffers and explore innovative uses for switchgrass as a marketable product
- Urban Stormwater Management: investigate restoration/retrofit opportunities to treat stormwater runoff within the Town of Chestertown

PROJECT COMPONENTS (Year 2 of 2)

PROJECT COMPONENT	Wetland Restoration 4 Sites SFY11	Phragmites Eradication SFY11	Repair failing septics SFY11	Switchgrass Buffer Planting SFY11	Precision Agriculture SFY11	Field Tour SFY11	Urban Stream Restoration
LEAD	Ducks Unlimited	Kent Co.	Kent Co./CRA	CRA	MDA/CRA	CRA	Washington College/ Chestertown
ACTIVITY	Wetland Restoration	Wetland Restoration	Septics	Ag BMP	Ag BMP	Outreach/ Education	Stormwater BMP
LOCATION	Multiple	39.237179/- 76.037906	Multiple	Multiple	Multiple	Multiple	39.223909/- 76.072522
TRUST FUND \$	\$132,000	\$7,000	\$118,689	\$84,350	\$84,000	\$10,000	\$80,000
MATCH \$	\$0	\$ 1,367	\$0	\$0	\$0	\$0	\$35,000
TOTAL \$	\$132,000	\$8,367	\$118,689	\$84,350	\$84,000	\$0	\$115,000
EST. TN REDUCTION	TBD	N/A	0 lbs/yr	TBD	TBD	N/A	TBD
EST. TP REDUCTION	TBD	N/A	N/A	TBD	TBD	N/A	TBD
EST. TSS REDUCTION	TBD	N/A	N/A	TBD	TBD	N/A	TBD
STATUS	Design	Ongoing	Ongoing	Ongoing	Ongoing	Summer/Fall 2012	0%

TRUST FUND PROJECT REPORT

CORSICA LOCAL IMPLEMENTATION GRANT

FISCAL YEAR: SFY11

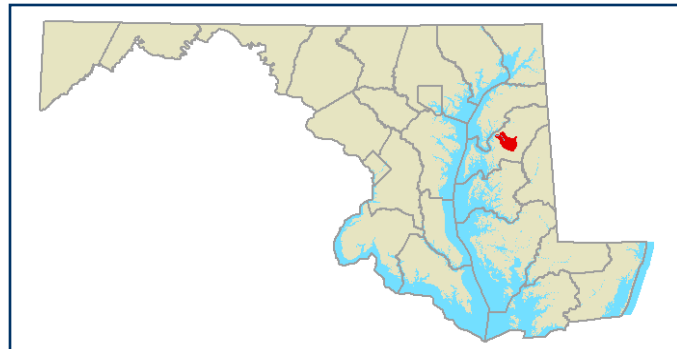
PROJECT OVERVIEW

The Corsica River Restoration Project (Maryland 8-digit: 02130507), now in its 6th year, aims to implement its nationally recognized Watershed Restoration Action Strategy (WRAS). The Corsica Local Implementation Grant implements additional conservation measures in the watershed that are based on learning and local commitment that has developed in the Corsica project thus far. It complements and expands, rather than duplicates, activities that are already funded in the watershed in order to enhance and accelerate results on the ground and in the water column. The original commitment that was demonstrated by Centreville and citizen volunteers in the 2003-2005 timeframe and focused through the Corsica WRAS, was subsequently amplified and enabled by State, Federal and NGO funding. This investment is now engendering a third order effect in the form of Town, County and resident commitment to do even more in order to meet the Corsica Restoration goals and sustain a restored Corsica thereafter. These local entities, with the benefit of strong guidance and support from DNR, have established a clear track record for planning and implementation and for doing this in a way that can be sustained into the future. The projects funding through the Trust Fund focus on stormwater management and compliments the other initiatives such as agriculture and natural filters that are already taking place in the watershed.

Constructed Bioswale located in the Symphony Village neighborhood in Centreville. Project will slow flow and treat runoff created from rain.

Photo Credit: Steve Sharkey

PROJECT LOCATION: Corsica



PROJECT CHARACTERISTICS

COUNTY/CITY:	Queen Anne's
WATERSHED(S):	Upper Eastern Shore
SUBWATERSHED(S):	Corsica River
PROJECT PARTNERS:	Queen Anne's County Town of Centreville Corsica River Conservancy
AGENCY CONTACT:	Jenn Raulin DNR 410-260-8745 jrauln@dnr.state.md.us



PROJECT COMPONENTS:

<i>PROJECT COMPONENT</i>	Bloomfield Park Permeable Pavers	QAC Office Building SWM	Rain barrel Program	WWTP Outfall and Stream Restoration Design	Banjo Lane CPO Repair	Outreach & Volunteer Monitoring	Rain Garden Program- 74 gardens	Symphony Village Bioswale
<i>LEAD</i>	Queen Anne's Co.	Queen Anne's Co.	Centreville	Centreville	Centreville	Corsica River Conservancy	Corsica River Conservancy	Corsica River Conservancy
<i>ACTIVITY</i>	SW retrofit	SW retrofit	Education/ Outreach	SW retrofit	Stormwater retrofit	Outreach & Education	Outreach & Education	Stormwater Retrofit
<i>LOCATION</i>	39.067035/-76.043404	39.045384/-76.064422	Multiple	39.048333/-76.065278	39.04619/-76.06234	Watershed-wide	Watershed-wide	39.024935/-76.067834
<i>TRUST FUND \$</i>	\$50,000	\$200,000	\$10,000	\$30,000	\$30,000	\$32,000	\$148,000	\$20,000
<i>MATCH \$</i>	\$15,250	\$15,250	\$0	\$0	\$0	\$0	\$0	\$0
<i>TOTAL COST</i>	\$65,250	\$215,250	\$10,000	\$30,000	\$30,000	\$0	\$148,000	\$20,000
<i>EST. TN REDUCTION</i>	2 lbs/yr	12 lbs/yr	N/A	N/A	TBD	N/A	2 lb/yr	TBD
<i>EST. TP REDUCTION</i>	N/A	2 lbs/yr	N/A	N/A	TBD	N/A	N/A	TBD
<i>EST. TSS REDUCTION</i>	N/A	N/A	N/A	N/A	TBD	N/A	N/A	TBD
<i>STATUS</i>	Construction Spring/Summer 2012	Construction Spring/Summer 2012	Ongoing	Design	Construction Spring, 2012	Ongoing	36 of 74 installed	Complete

TRUST FUND PROJECT REPORT

ANACOSTIA LOCAL IMPLEMENTATION GRANT

FISCAL YEAR: SFY12

PROJECT OVERVIEW

The project portion of the lower Northwest Branch (Maryland 8-digit: 02140205) is a highly incised, highly eroding stream area, draining an approximately 34 square mile catchment. The area is approximately 33 percent impervious and is home to over 90,000 residents. Various low impact design projects, stream and wetland restoration, and education/outreach activities were designed for comprehensive sub-watershed restorations. The aim of this project is to restore 6,336 linear feet of the Northwest Branch main stem.

The proposed treatments will improve channel stability, reduce sediment and nutrient loads, and improve aquatic and terrestrial habitat conditions. This will contribute measurably toward the long-term objective of having all Anacostia sub-watersheds meet TMDL nutrient and sediment load reduction goals, as well as fulfilling NPDES responsibilities.

In addition, SHA will be constructing a series of bio-swales and bio-filtration facilities to be located within the median of a select area of divided highways within the Anacostia River watershed.

PROJECT LOCATION: Anacostia



PROJECT CHARACTERISTICS

COUNTY/CITY:	Prince George's
WATERSHED(S):	Anacostia River
SUBWATERSHED(S):	Northwest Branch
PROJECT PARTNERS:	Prince Georges County Metropolitan Washington Council of Governments University of Maryland Northwestern High School Lewisdale Elementary School SHA
AGENCY CONTACT:	Jennifer Raulin DNR 410-260-8745 jrauln@dnr.state.md.us

PROJECT COMPONENTS

<i>PROJECT COMPONENT</i>	Northwest Branch Stream Restoration	Right-of-Way Retrofits
<i>LEAD</i>	Prince George's County	State Highways Administration
<i>ACTIVITY</i>	Stream Restoration	Stormwater Retrofits
<i>LOCATION (Lat/Long)¹</i>	39.072/-76.542	Multiple
<i>TRUST FUND \$</i>	\$2,880,000	\$1,000,000
<i>MATCH \$</i>	\$1,050,000 ¹	\$1,000,000
<i>TOTAL \$</i>	\$3,930,000	\$2,000,000
<i>EST. TN REDUCTION</i>	1,721 lbs/yr	223 lbs/yr
<i>EST. TP REDUCTION</i>	301 lbs/yr	31 lbs/yr
<i>EST. TSS REDUCTION</i>	108 tons/yr	9 tons/yr
<i>STATUS</i>	Design	Design

¹ Local Match (County): \$1,020,000, Local Match (COG): \$30,000

TRUST FUND PROJECT REPORT

BACK RIVER LOCAL IMPLEMENTATION GRANT

FISCAL YEAR: SFY12

PROJECT OVERVIEW

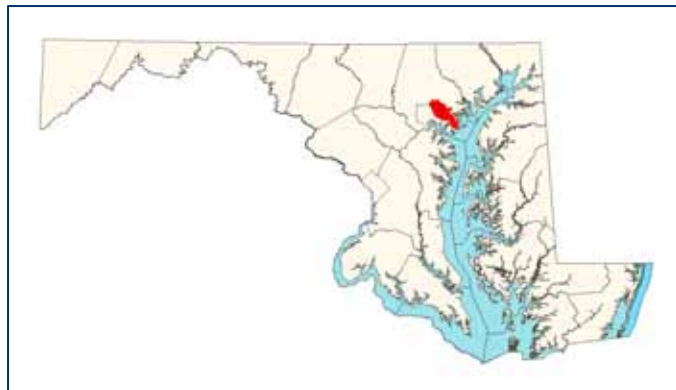
The Back River Watershed is designated as one of the high priority watersheds in greatest need of non-point source pollution reduction in the State. The Back River watershed is a highly urbanized 56 square mile area that spans both Baltimore City and Baltimore County. The Back River is divided into two planning areas, the Upper Back River, and the Tidal Back River, and each of these subwatersheds has developed a Small Watershed Action Plan. Priorities include restoration actions to provide nutrient reduction, stormwater management, urban tree canopy, trash management, tidal water restoration, and stream corridor restoration.

Six projects were selected for funding:

- Herring Run at Overlook Park Stream Restoration and Buffer Planting
- Bread and Cheese Creek Water Quality Enhancement and Stream Restoration
- Five (5) Stormwater Management Pond Conversions in Upper Back River
- Upland Plantings
- Tree Planting
- Monitoring of Water Quality Improvements

These projects were identified in the SWAP to satisfy environmental requirements including the Municipal Separate Storm Sewer System (MS4) Permit, TMDL nutrient reductions for Back River, anticipated TMDLs for the Chesapeake Bay, and WIP targets.

PROJECT LOCATION: Back River



PROJECT CHARACTERISTICS

COUNTY/CITY:	Baltimore County
WATERSHED(S):	Back River
SUBWATERSHED(S):	Herring Run
PROJECT PARTNERS:	Blue Water Baltimore Back River Restoration Committee Baltimore County Department Of Environmental and Sustainability
AGENCY CONTACT:	Jennifer Raulin DNR 410-260-8745 jrauln@dnr.state.md.us

PROJECT COMPONENTS (Year 1 of 1)

PROJECT COMPONENT	Herring Run at Overlook Park	Bread and Cheese Creek	Upper Back River Pond Conversions	Upland Plantings	Tree Planting	Water Quality Monitoring
LEAD	Baltimore County					
ACTIVITY	Stream Restoration and Buffer Planting	Stream Restoration	Stormwater Management	Planting native trees		Monitoring
LOCATION (Lat/Long) ¹	39.375462/-76.586058	39.281035/-76.499605	39.37916/-76.517372	Sites will be provided after planting	Sites will be provided after planting	39.281035/-76.499605
TRUST FUND \$	\$273,416	\$193,557	\$102,627	\$35,000	\$20,000	\$5,400
MATCH \$	\$408,045	\$556,443	\$422,373	\$5,000	\$0	\$23,000
TOTAL \$	\$681,461	\$750,000	\$525,000	\$40,000	\$20,000	\$28,400
EST. TN REDUCTION	65 lbs/yr	201lbs/yr	372 lbs/yr	12 lbs/yr	6 lbs/yr	N/A lbs/yr
EST. TP REDUCTION	11 lbs/yr	30 lbs/yr	56 lbs/yr	2 lbs/yr	1 lbs/yr	N/A lbs/yr
EST. TSS REDUCTION	7,840 lbs/yr	13,503 lbs/yr	21,232 lbs/yr	297 lbs/yr	144 lbs/yr	N/A lbs/yr
STATUS	Design	Design	Design	Design	Design	Design

TRUST FUND PROJECT REPORT

SASSAFRAS LOCAL IMPLEMENTATION GRANT

FISCAL YEAR: SFY12

PROJECT OVERVIEW

The Sassafras Watershed Action Plan (SWAP) was developed by Sassafras River Association and partners in 2009 to address the actions necessary to reach TMDL goals for the Sassafras River. In addition, the plan addresses WIP goals for Kent and Cecil County, for removal from the 303(d) list for impaired waters. In the Sassafras, land use is primarily agricultural, so it follows that more than 55% of the nitrogen and phosphorus pollutants come from agriculture sources.

The Sassafras River Association and partners will implement two projects in the Sassafras River watershed to reduce agricultural nutrient runoff. One project is a vertical flow treatment wetland constructed downstream from a large dairy CAFO in Kent County, MD, which will address severe erosion and heavy loads of nitrogen and phosphorus through installation of two multi-cell wetland facilities designed and sized to hold and treat the water from the operation. The facility was chosen for its high stormwater runoff. The other project is the implementation of one subsurface poultry litter injector to be shared among Sassafras farmers, which removes 100% of phosphorus from applied manure. The projects include nutrient management plans, maintenance, and monitoring.

PROJECT LOCATION: Sassafras



PROJECT CHARACTERISTICS

COUNTY/CITY:	Cecil Kent
WATERSHED(S):	Sassafras River
PROJECT PARTNERS:	Sassafras River Association University of Maryland
AGENCY CONTACT:	Jennifer Raulin DNR 410-260-8745 jraulin@dnr.state.md.us

PROJECT COMPONENTS (Year 1 of 1)

<i>PROJECT COMPONENT</i>	Vertical flow treatment wetland	Poultry manure subsurfer
<i>LEAD</i>	Sassafras River Association	
<i>ACTIVITY</i>	Implementation of treatment wetland downstream of large dairy CAFO	Installation of a subsurface poultry litter injector
<i>LOCATION (Lat/Long)¹</i>	TBD	TBD
<i>TRUST FUND \$</i>	\$130,000	\$90,000
<i>MATCH \$</i>	\$95,487	\$11,000
<i>TOTAL \$</i>	\$225,487	\$101,000
<i>EST. TN REDUCTION</i>	75 lbs/yr	Year 1: 2,600 lbs/yr Year 2: 2,500 lbs/yr
<i>EST. TP REDUCTION</i>	7 lbs/yr	Year 1: 5,200 lbs/yr Year 2: 5,000 lbs/yr
<i>EST. TSS REDUCTION</i>	6,200 lbs/yr	N/A
<i>STATUS</i>	Design	Design

1

TRUST FUND PROJECT REPORT

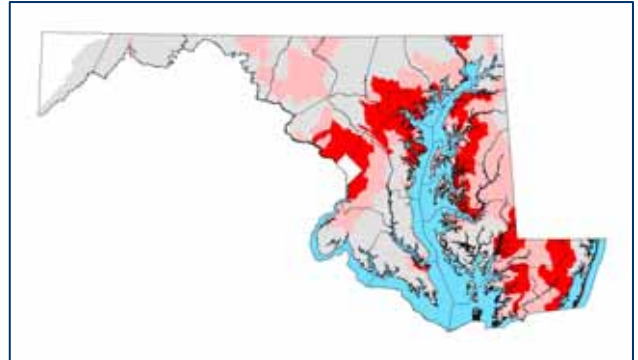
NATURAL FILTERS IMPLEMENTATION ON LOCAL PUBLIC LAND

FISCAL YEAR: SFY11 & SFY12

PROJECT OVERVIEW

The project focuses on the installation of vegetative filters on public lands to help achieve the accelerated Bay restoration goals. Projects may include, but are not limited to: forested and/or grass buffers on county or municipal park land; enhancement or conversion of stormwater facilities to wetland function; and other bioremediation projects that help filter adjacent land.

PROJECT LOCATION: Statewide (Target Area Emphasis)



PROJECT CHARACTERISTICS

COUNTY/CITY: Multiple

WATERSHED(S): Multiple

SUBWATERSHED(S): Multiple

PROJECT PARTNERS: See next page for complete list

PROJECT CONTACT: Kristen Fleming
Maryland Department of
Natural Resources
410-260-8813
kfleming@dnr.state.md.us



Photos by Kristen Fleming

PROJECT COMPONENTS

<i>PROJECT COMPONENT</i>	Natural Filters on Public Lands	
<i>LEAD</i>	Maryland Dept of Natural Resources	
<i>LOCATION</i>	Multiple	
<i>ACTIVITY</i>	Riparian Buffer Planting, Reforestation, Bioremediation, Wetlands Restoration	
<i>TRUST FUND \$</i>	\$2,400,000 ¹	\$1,700,000
<i>MATCH \$</i>	\$1,000,000	TBD
<i>TOTAL \$</i>	\$3,400,000	TBD
<i>EST. TN REDUCTION</i>	11,744 lbs/yr	TBD
<i>EST. TP REDUCTION</i>	859 lbs/yr	TBD
<i>EST. TSS REDUCTION</i>	1,506 lbs/yr	TBD
<i>STATUS</i>	Construction/Installation	Contracting

¹ SFY10: 400K; SFY11: \$1M; SFY11 Deficiency Request 1M

PROJECT PARTNERS

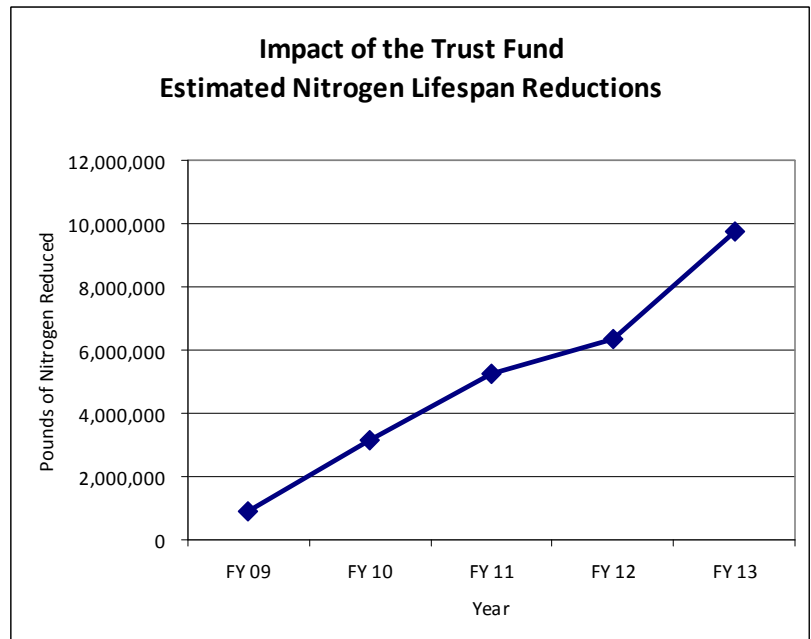
- Queen Anne's County Parks and Recreation
- Queen Anne's County Board of Education
- Columbia Association
- St. Mary's County
- Carroll County Bureau of Resource Management
- Anacostia Watershed Association
- Harford County Parks & Recreation
- Washington County SCD
- Coastal Bays
- Worcester County Parks and Recreation
- Gunpowder Valley Conservancy
- Severn River Association
- Maryland Forest Service
- Town of Princess Anne
- City of Annapolis
- Chesapeake Bay Foundation
- Town of Berlin
- Town of Rising Sun.

CHESAPEAKE AND ATLANTIC COASTAL BAYS TRUST FUND FISCAL YEAR 2013 BUDGET PROPOSAL

IMPLEMENTATION DETAILS

The Chesapeake and Atlantic Coastal Bays Trust Fund is one of the region's most important funding tools targeting water quality and watershed restoration and protection to reduce non point source pollution. The goal of BayStat each year is to identify projects and develop a work plan designed to maximize the Trust Fund's environmental return on investment, thereby serving as a model of restoration financing efficiency and effectiveness and critical to achieving the goals under EPA's Total Maximum Daily Load (TMDL) requirements within the State's Watershed Implementation Plan (WIP).

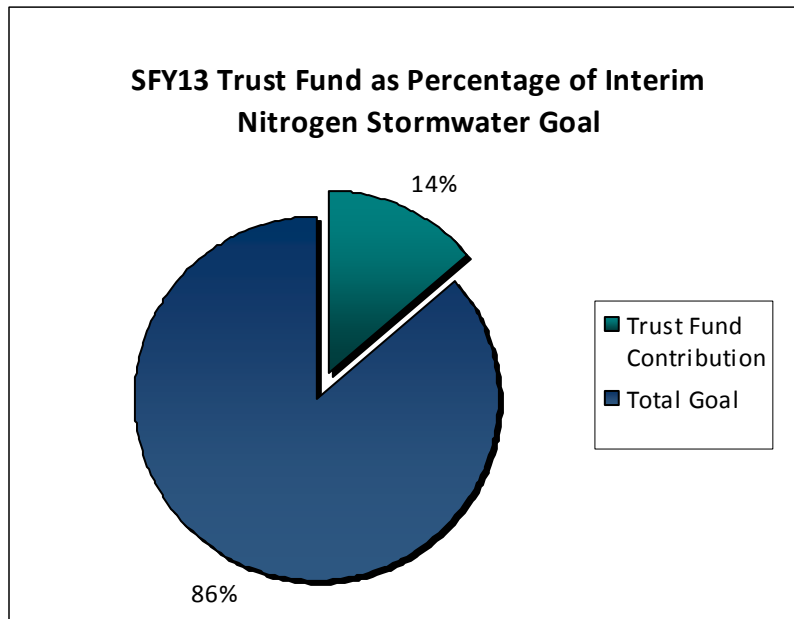
The Fiscal Year 2013 Trust Fund operating allowance includes \$25M towards the State's bay restoration commitment. To further the State's efforts to improve the health of the Chesapeake Bay, the FY 2013 capital budget includes \$27.8 M in General Obligation Bonds for local structural stormwater projects that were identified by BayStat through the competitive RFP process. Together, FY2013 will be targeting \$52.8 to prevent an estimated 1.48 million pounds of Nitrogen, 57,000 lbs of Phosphorus, and 12 tons of Sediment annually from polluting the Bay each year. As many of the practices will continue to provide benefit over multiple years – streamside forests, capital stormwater projects and wetlands – it is estimated that the FY 09-12 investment will result in the reduction of 6.3 Millions of lbs of Nitrogen, 1.7 Million lbs of Phosphorus, and 6,037 Tons of Sediment over the lifespan of these projects. SFY13 highlights include:



Efficiency and Effectiveness of the Trust Fund: Maryland's TMDL strategy requires investments in both annual practices, such as cover crops, and structural practices, such as natural filters and stormwater retrofits. Considering the monies leveraged and the selection of projects, the FY 2013 Trust Fund is spending \$11 for every pound of nitrogen reduced.

- **\$2.20 M for Agricultural Technical Assistance:** The State Fiscal Year 13 Budget increases funding for agricultural technical assistance by an additional \$1.6M over last year's levels. This increase will fund an additional 23 new Soil Conservation District Positions (39 in total supported through the Trust Fund) to assist the farming community in the implementation of best management practices. The balance from SFY12 from strategic monitoring earmark (\$600K) will be redirected to support these positions which are crucial to achieve the accelerated agricultural goals laid out in the Watershed Implementation Plan.

- **\$12 M for Cover Crop Implementation:** Funding supports Maryland's FY12-13 milestone goal of implementing 355,000 acres of cover crops annually. This investment represents approximately 67% of Maryland's annual goal and will prevent over 1.3 M lbs of Nitrogen from entering the Chesapeake Bay next year.



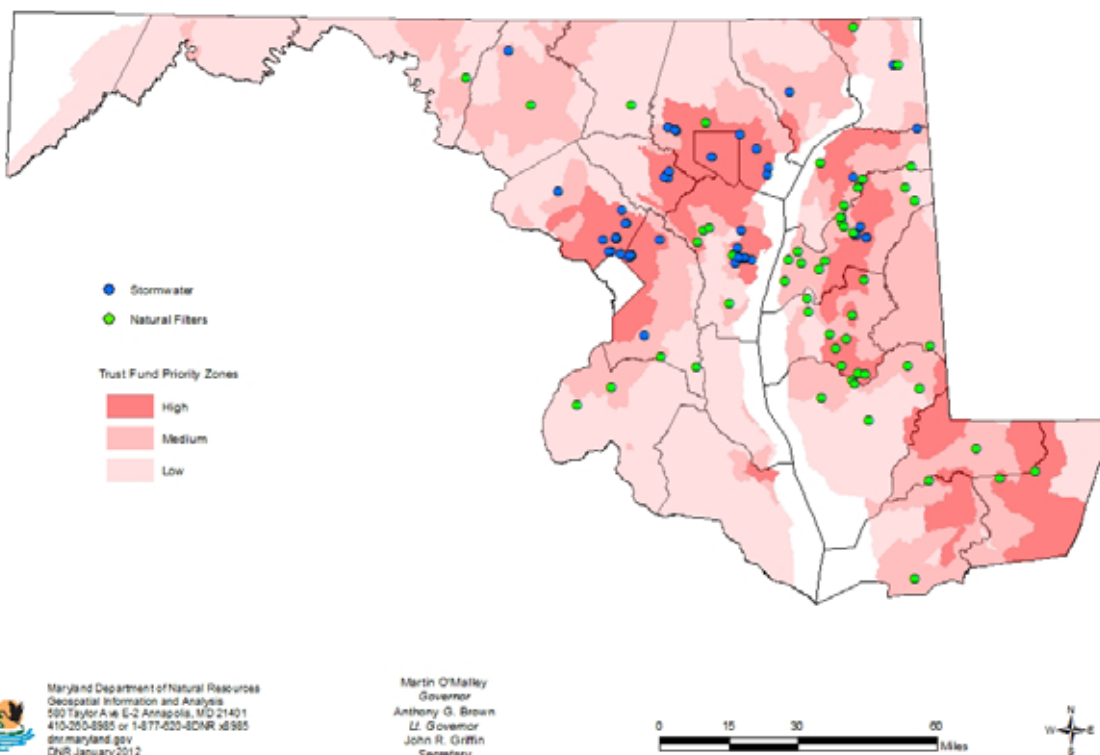
Local government implementation grants and natural filters projects in SFY13 Trust Fund provide 14% of the nitrogen and 10% of the phosphorus annual stormwater reduction goal. With a one-time investment these projects will provide nutrient reductions for 20 years.

stormwater projects in 13 subdivisions throughout the State. The projects funded in FY 2013 are estimated to reduce the nitrogen load to the Chesapeake Bay by approximately 19,000 pounds per year, the phosphorus load to the Chesapeake Bay by approximately 4,000 lbs per year, and the sediment load to the Chesapeake Bay by approximately 12,000 lbs per year.

- **\$8.97 M for Buffer and Wetland Restoration:** Funding will support the installation of vegetative filters such as forested buffers and wetlands. Projects have been identified in multiple priority watersheds in the following counties: Allegany, Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Dorchester, Frederick, Harford, Montgomery, Prince George's, Somerset, Queen Anne's, Washington, and Worcester.

- **\$27.8 Million for Local Stormwater Projects:** The FY 2013 capital budget includes funding for 63 structural

Targeted Projects to Meet Maryland's Milestones



Projects identified through the Trust Fund for Stormwater and Natural Filters implementation. Projects are targeted into priority watersheds, which have the highest nutrient load delivered to the Chesapeake Bay.

Funding By County		
CountyName	Total Proposed Funding	Project Type
Anne Arundel	\$12.362M	10 Stormwater, 5 Natural Filter
Baltimore City	\$3.625M	2 Stormwater
Baltimore	\$6.920M	9 Stormwater, 1 Natural Filter
Caroline	\$0.115M	1 Natural Filter
Carroll	\$0.045M	1 Natural Filter
Cecil	\$0.640M	1 Stormwater, 2 Natural Filter
Charles	\$0.489M	2 Natural Filter
Dorchester	\$1.003M	6 Natural Filter
Frederick	\$0.841M	1 Stormwater, 1 Natural Filter
Harford	\$0.183M	1 Stormwater
Howard	\$4.390M	6 Stormwater
Kent	\$2.134M	2 Stormwater, 4 Natural Filter
Montgomery	\$5.612M	11 Stormwater
Prince George's	\$4.699M	6 Stormwater, 2 Natural Filter
Queen Anne's	\$2.796M	6 Stormwater, 17 Natural Filter
Somerset	\$.293M	2 Natural Filter
Talbot	\$.728M	12 Natural Filter
Washington	\$0.030M	1 Natural Filter
Wicomico	500.00	1 Natural Filter
Worcester	\$0.190M	2 Natural Filter

DRAFT STATE FISCAL YEAR 2013 TRUST FUND BUDGET				
Base Budget (M)				
Targeted Activity	Project Partner	Trust Fund Fuel/Rental Tax	Projected Fund Balance	GO Bonds
Strategic Monitoring & Assessment	DNR/UMD	\$0.40	\$0.00	\$0.00
Agency Direct Costs (1.5%)	DNR	\$0.38	\$0.00	\$0.00
Investing in Research and Development				
Innovative Technology Fund	DNR/UMD	\$0.25	\$0.00	\$0.00
Agricultural Technical Assistance	MDA	\$2.20	\$0.60	\$0.00
TOTAL		\$3.23	\$0.60	\$0.00
Integrated Targeted Projects to Meet Maryland's Milestones (M)				
Targeted Activity	Project Partner	Trust Fund Fuel/Rental Tax	Project Fund Balance	GO Bonds
Cover Crops- 218,182 acres*	MDA	\$12.00	\$0.00	\$0.00
CREP Bonus Payments	MDA	\$0.80	\$0.00	\$0.00
Natural Filters	DNR	\$8.97	\$0.00	\$0.00
Capital Improvement Projects	DNR/MDE			
Anne Arundel County (12 Projects)		\$0.00	\$0.00	\$6.34
Baltimore City (2 Projects)		\$0.00	\$0.00	\$3.03
Baltimore County (10 Projects)		\$0.00	\$0.00	\$4.85
Cecil County (1 Project)		\$0.00	\$0.00	\$0.40
Dorchester County (1 Project)		\$0.00	\$0.00	\$0.10
Frederick County (1 Project)		\$0.00	\$0.00	\$0.77
Harford County (1 Project)		\$0.00	\$0.00	\$0.09
Howard County (6 Projects)		\$0.00	\$0.00	\$2.52
Kent County (2 Projects)		\$0.00	\$0.00	\$0.80
Montgomery County (11 Projects)		\$0.00	\$0.00	\$3.92
Prince George's County (6 Projects)		\$0.00	\$0.00	\$3.42
Queen Anne's County (9 Projects)		\$0.00	\$0.00	\$1.47
Talbot County (1 Project)		\$0.00	\$0.00	\$0.07
TOTAL		\$21.77	\$0.00	\$27.76
GRAND TOTAL		\$25.00	\$0.60	\$27.76

***ACCOUNTING FOR CHANGE: ASSISTING THE FARMING COMMUNITY IN IMPLEMENTING EPA'S TMDL AND THE STATE'S WATERSHED IMPLEMENTATION PLAN**

It is anticipated that legislation will be introduced this session to double the "flush fee" under the Bay Restoration Fund to address the shortfall preventing the completion of ENR upgrades to the remaining major WWTPs and to continue to fund septic system upgrades and cover crops. If this is approved during the 2013 Legislative Session, the increased portion of funds going to cover crops from the BRF will reduce the need on the Trust Fund proposed allocation of \$12M by approximately \$5M. As a contingency, it is proposed that the \$5M be allocated to support the farm community in implementing their goals under TMDL and Watershed Implementation Plans. More specifically, these funds will assist in implementing the proposed MDA nutrient management regulations and forthcoming changes to the Phosphorus-site index. Both of these initiatives focus on dealing with various issues surrounding excess manure. This will include grants to farmers for manure incorporation and storage, increased funding for

Maryland's Manure Transport Program, and support for alternative manure use technologies. The proposed breakout for those funds will be:

- \$2M provided in grants to farmers;
- \$0.5M for the Manure Transport Program;
- \$2.5M for development of alternative manure use technologies.

GRANTS TO FARMERS

Maryland will issue \$2M in grants to assist farmers with implementing the new nutrient management regulations. This funding will help offset the infrastructure costs to implement or enhance manure storage and provide incentives for improved management of manure and other sources of crop nutrients.

- **Manure storage** contains animal waste in structures to protect it from weather to reduce nutrient runoff until it can be used as a crop fertilizer when conditions minimize environmental impacts or to be transported to another location.
- **Manure incorporation** integrates animal waste into the soil at the time of application utilizing low disturbance technology.

In the Phase II WIP, Maryland has set a 2017 milestone goal of 16,703 acres of dairy incorporation, 100,283 acres of poultry incorporation and to provide adequate storage of animal waste for all poultry and dairy operations.

MANURE TRANSPORT PROGRAM

The Trust Fund will provide \$0.5M to transport excess manure away from farms with high soil phosphorus levels to other farms or locations that can use the manure agronomically to minimize phosphorus runoff. Demand for this assistance will be high when Maryland adopts the refined phosphorus site index in 2012. Trust Fund dollars will leverage funds already provided by the poultry companies and state general funds traditionally used to support manure transport. As outlined in the Phase II WIP, by 2017 Maryland will provide transport for an additional 25,000 tons for a total of 85,000 tons relocated.

ALTERNATIVE MANURE USE TECHNOLOGIES: MD FARM MANURE TO ENERGY PROGRAM

With \$2.5M in SFY 13, the State will initiate a competitive program for issuance of grants and loan guarantees for implementation of manure to energy facilities that process poultry litter and/or dairy manure. The most cost effective technologies capable of delivering measurable and verifiable nutrient reductions will receive priority. This program will help drive investment to the best proven technologies that will help farmers achieve their economic and conservation objectives. Verification and monitoring of project outcomes (nutrient reductions, energy production, costs, etc) will be essential to the award process. This Initiative will be coordinated with appropriate state agencies, NRCS management teams and program specialists. Funds will be leveraged to the maximum extent possible through partnership with private investors, non-governmental organizations, and Federal partners (NFWF, USDA, EPA).

Martin O'Malley, Governor



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