

US EPA ARCHIVE DOCUMENT



Annual Report Highlights for 2012

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Pennsylvania Partnerships lead the Region in Waterbodies Restored.

Through the combined work of all the Nonpoint Source (NPS) program partners working on Abandoned Mine Drainage in Pennsylvania, the Commonwealth has been able to document restoration on a total of 36 stream reaches, bringing these impaired streams back into meeting their aquatic life designated use. The major agencies and groups involved in partnering with the Pa Department of Environmental Protection to reach this goal include: county conservation districts, local watershed associations, various coalitions for abandoned mine reclamation, Office of Surface Mining, the Pa Association Of Conservation Districts, local municipalities, various Universities, volunteer monitoring groups, and PennVest (operating Pennsylvania's State Revolving Fund program). Through the integration of the technical, administrative and financial resources of all these significant program partners, Pennsylvania was able to make major improvements in the water quality.

Overview

In 1987, Congress established the Nonpoint Source (NPS) Pollution Management Program under Section 319 of the Clean Water Act (CWA). This program provides states with technical assistance and grant funding, through EPA, to implement NPS pollution controls to achieve goals that protect, improve and restore water quality as described in the State's NPS pollution management program plans. Annual NPS Reports are submitted from the states in response to Section 319(h)(8) and (11) of the CWA (33 USC1329).

Watershed partners restored this section of Pennsylvania's Pierceville Run by grading streambanks, planting a riparian forest buffer and installing fences to prevent cattle access.



Restoring Lakes and Streams

States in Region 3 documented water quality restoration on 5 water bodies during the Year. This brings the Region's cumulative total to 54 waterbodies restored, which contribute to the national total of 443.

All States Success Stories are located @ <http://water.epa.gov/polwaste/nps/success319/> Projects described on this site have received funding from Clean Water Act (CWA) section 319 and/or other funding sources dedicated to solving nonpoint source (NPS) impairments.

Water quality improvements are demonstrated through the achievement of water quality standards for one or more pollutants/uses (i.e., removal from the state's CWA section 303(d) list of impaired waters); measured in-stream reduction in a pollutant; or measured improvement in a parameter that indicates stream health such as increases in fish or macroinvertebrate counts. These stories also describe innovative strategies used to reduce NPS pollution, the growth of partnerships and a diversity of funding.

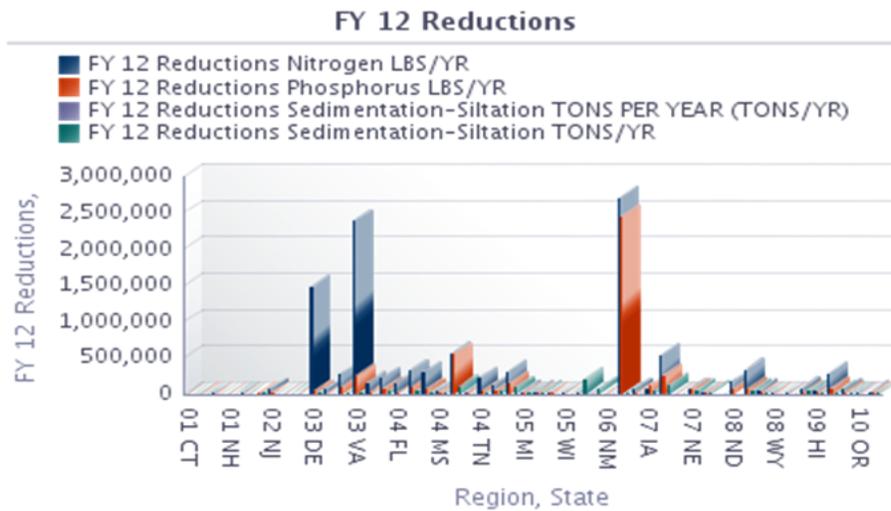


Annual Report Highlights for 2012

Virginia leads the Region in preventing the largest amount of Nitrogen from entering rivers and streams.

Practices installed on farms during FY 12 will result in an estimated edge of field nitrogen reduction of approximately 4 million lbs and phosphorus reductions of over 900,000 lbs. Of that quantity, more than 2.3 million pounds of nitrogen and more than 244,000 pounds of phosphorus were supported by NPS Section 319 program. This was the highest concentration among Region 3 states and the second highest nitrogen reduction in the nation. This was achieved largely by the Virginia Soil and Water Conservation Districts working closely with farmers, and the Virginia Department of Conservation and Recreation's efforts to recruit and train private nutrient management planners.

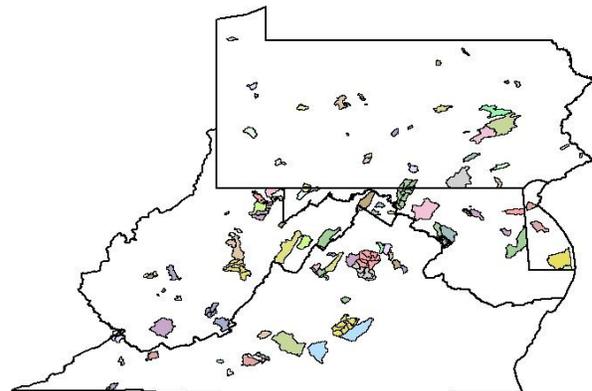
Additional cost-sharing from the state and through the EPA NPS program grant enabled the districts to continue working to reduce non-point source pollution. The ability of districts to work in partnership with local, state and federal agencies increases their effectiveness at solving local environmental problems.



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Watershed Based Plan implementation in Region 3

The National NPS Program began requiring the development and implementation of Watershed Based Plans in 2002. Since then, States in Region 3 have developed over 100 plans that cover over 250 watersheds. The estimated cost to fully implement these plans exceeds 3.8 billion dollars however when fully implemented over 3000 impaired stream reaches will be restored.





Overview

The Delaware Nonpoint Source Program administers a competitive grant made possible through Section 319 of the Clean Water Act. The grant provides funding for projects designed to reduce nonpoint source (NPS) pollution in Delaware. NPS pollution may be defined as any pollution that originates from a diffuse source (such as an open field or a road) and is transported to surface or ground waters through leaching or runoff. Reduction of NPS pollution may often be achieved through incorporation of specific best management practices (BMPs) into project work plans.

Projects may target any source of NPS pollution, but most frequently involve agriculture, silviculture, construction, marinas, septic systems, and hydromodification activities.

DELAWARE

Delaware Nonpoint Source Program

2012 Notable Accomplishments

Projects funded with 319(h) funding during 2012 will result in 1,081,450 pounds/year of nitrogen and 33,630 pounds/year of phosphorus load reductions.

The Appoquinimink and the Christina River watershed plans were developed and accepted by the EPA.

Nutrient Relocation Program

The Nutrient Relocation Program accounted for the transportation of over 52 tons of poultry manure out of Delaware's priority watersheds. If that tonnage had been applied to the source farm rather than relocated, significant nitrogen and

phosphorus could have potentially entered Delaware's surface waters. On a watershed scale, the tons of manure for each priority watershed are represented in Section VII.

Chesapeake Bay 2012 WIP Highlight Reports

Delaware saw steady decreases in the modeled nitrogen, phosphorus, and sediment loads due to increased implementation, improved data tracking and reporting efforts, and improved communication and coordination with partner agencies through the Watershed Plan development process.

Several of the specific implementation goals set in 2009, were achieved and surpassed. The total acres of cover crops

planted increased more than anticipated, due to modified cost share programs and focus funding. Wetland restoration and tree planting goals were surpassed due to supporting funds from both the Chesapeake Bay Implementation Grant and a National Fish and Wildlife Foundation grant and better coordination and reporter of partner efforts due to the creation of WIP Restoration Subcommittee. The acres of agriculture nutrient management planning were also maintained. Finally, the total nitrogen load from the Invista facility decreased more than projected and that permit will be reissued in 2012.

Section 319 Activity within the Chesapeake Bay Watershed:

319 Projects	Grant Year	Status	319(h) Funds
Ecological Restoration	FY08, 09	Complete	1103
Nutrient Management Planning	FY08, 09, 11	Complete	NA
Nutrient Management Relocation	FY08, 09, 11	Complete	NA
CREP Acres (Salary for coordinator)	FY11	Complete	NA



Chesapeake Bay Load Reductions based upon direct funding or leveraged funding associated with the NPS Program

Practice	Load Reductions N	Load Reductions P
Cover Crops	443,017 lbs/year	1,363 lbs/year
Nutrient Relocation	217,903 lbs/year	15,311 lbs/year
Nutrient Management	51,409 lbs/year	3,948 lbs/year
Wetland Restoration	47,190 lbs/year	2,407 lbs/year
Bio Retention	6.90 lbs/year	0.282 lbs/year
Wet Ponds/Wetlands	37,950 lbs/year	1,759 lbs/year
Totals	797,476 lbs/year	24,788 lbs/year



Overview

DISTRICT OF COLUMBIA

The mission of the District of Columbia's (DC) Non-point Source program is to prevent and control non-point source pollution in the District's watersheds.

Employing both regulatory and non-regulatory approaches, the Program works to safeguard the city's water and soil resources as well as the health and welfare of citizens using those resources.



Pollution Prevention

RiverSmart Homes is a Low Impact Development (LID) retrofit program aimed at single family homes. Through this program, DDOE performs audits of homeowner's properties and provides feedback on what LID technologies can be installed. In 2012, the program has installed 739 rain barrels, planted 488 shade trees, installed 162 rain gardens, implemented BayScaping at 198 properties, replaced impervious surfaces with green space or pervious pavers at 23 properties and conducted 1,040 audits.

Tree Planting: Planted 46 acres of new trees as part of the Watts Branch Restoration Project, planted 898 trees as part of the RiverSmart Homes and Tree Rebate Program, and planted native trees as part of the Regenerative Stormwater Conveyance installations.

Green Roof Rebate/Retrofit Program: There were 449,000 sq ft of green roof installation in 2012, including regulated and non-regulated green roofs. There were 24, 595 sq ft of green roofs installed through the rebate program in 2012. (ie. construction was completed)

Rain Barrel Rebate Program: Property owners who purchase and install rain barrel from an approved rain barrel list are able to apply for rebate. Rain barrels with a capacity of 75 gallons or more are eligible for a \$100 rebate and rain barrels with a capacity of 74 gallons or less are eligible for a \$50 rebate. Homeowners are eligible to receive up to two rebates per property.

Education, Protection and Restoration

Pope Branch Stream Restoration and Sewer Line Replacement

Pope Branch Stream is located in southeast Washington, DC which is a 1.6 mile first-order tributary of the Anacostia River. The primary sources of pollutants in Pope Branch are storm water runoff from yards, streets, and parking lots, and an old sanitary sewer running along the stream.

DDOE, DC Water and the District Department of Parks and Recreation have partnered on a stream restoration and sewer replacement project in Pope Branch. Due to high volume and velocity storm water in the stream, bank erosion has comprised the stream banks and exposed the sewer line. DDOE has funded the construction of several LID storm water retrofits to begin addressing the issue of untreated storm water runoff in this subwatershed and has worked with the Pope Branch Restoration Alliance to help organize neighborhood activities.



Teacher Training Workshops



Teacher training workshops can provide teachers with continuing education credits through accredited environmental curriculums that support the DCPS teaching and learning standards.

FY2012 workshops included: WPD staff assumed the role of Project Learning Tree State Coordinator. WPD has been able to increase its delivery of Project Learning Tree Workshops for teachers and environmental educators. WPD trained 17 6-12th grade DCPS teachers.

Staff also trained the entire preschool staff at St. Columba's School in the Early Childhood curriculum.

RiverSmart Schools

Hardy Middle School

Installed a cistern that captures stormwater runoff from an adjacent roadway and then conveys it to a stormwater wetland.

Performed invasive plant removal on the hillside of the school and planted over 300 species of native and wetland plants and shrubs.

Provided students in 6th and 7th grades with lessons about their local environment and watershed and engaged students in wetland planting activities.





Overview

Maryland Department of the Environment plays a lead role in helping to achieve protection and improvement of Maryland's water quality by promoting and funding state and local water quality monitoring, stream and wetland restoration, education and outreach, and other measures to reduce and track nonpoint source pollution loads.

MARYLAND

Accomplishments

Corsica River

The Corsica River, which is 6.5 miles in length, is located in Queen Anne's County. The watershed area is 40 square miles and is part of the larger Chester River Watershed.

Land use in the watershed aggregates into three broad categories:

- 66% agriculture,
- 26% woodland,
- 8% developed lands



A perennial favorite at the annual Corsica River Awareness Day held each September is the demonstration by the local fire department showing the ability of porous concrete to infiltrate water gushing from a fire hose without any runoff to the adjacent ground.

The NPS annual TMDL load allocation for nitrogen is 268,211 lbs and for phosphorus is 19,380 lbs. Corsica River watershed ambient NPS nutrient loads already met the TMDL when it was approved by EPA, so the TMDL serves as a benchmark to prevent degradation addition, other goals were established as listed in the following implementation progress table.

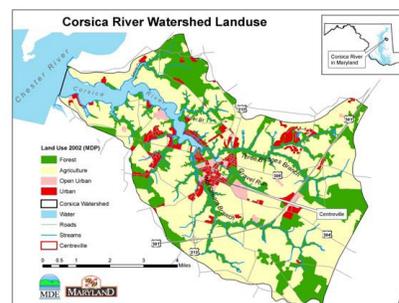


Table 9. Corsica River Watershed Plan - 2012 Implementation Progress Summary

Goals			Progress (3)					
Category (2)	Unit	Goal	Implementation Progress (4)			Total Pollutant Reduction Reported 2005 thru 2012		
			2012	2005 thru 2011	Percent of Goal Achieved	Nitrogen (lbs/yr)	Phosphorus (lbs/yr)	Sediment (tons/yr)
Agricultural BMPs	units	50	6	0	12%	35,082	4,727	843
Cover Crop (5)	acres	5,500	4808	NA	87%	45,576	625	NR
Agricultural Buffers	acres	100	0	94.3	94%	2,173	141	NR
Forest Buffers (urban)	acres	200	2	12	7%	28	8	NR
Manure Transfer (5)	tons	27.4	0	NA	0%	0	0	NA
Oyster Bed Restoration	acres	20	1	10	55%	NA	NA	NA
Rain Gardens & Bioretention	units	408	65	308	91%	150	20	1.5
Septic Tank Upgrades	systems	30	4	14	60%	73.0	NA	NA
Stormwater Retrofits	acres	300	0	112.5	37.5%	61.7	5.9	NR
Stream Restoration	miles	2	0.001	0	0.1%	0.8	0.1	0.1
Waste Storage Facilities (ag)	units	1	0	1	100%	210.0	42.0	NA
Wetland Restoration	acres	108	0	88.3	82%	NR	NR	NR
Total Pollutant Reduction						83,355	5,569	844
Watershed Plan Nutrient Reduction Goal						100,132	6,306	---
Percent of Goal Achieved						83.2%	88.3%	---

1. 2012 = Calendar year. NA = not applicable. NR = not reported. BMP = best management practice.

2. Categories for watershed plan goals tracked by EPA for progress.

3. Data is provided by the Town of Centerville in cooperation with the Corsica Implementers Group.

4. All 319(h) Grant-funded implementation is reported.

5. Accomplishments for cover crops and manure transfer are considered annual practices. Therefore, reporting in this table is limited to the most recent calendar year. Accomplishments for prior years were previously reported.





Pennsylvania continues its efforts to implement their *NPS Management Program Plan-2008 Update* which outlines current efforts that the Commonwealth can take to address Nonpoint Source (NPS) pollution of surface water bodies. Pennsylvania has been very successful in its efforts to pull various partnering agencies and organizations together to work towards the goal of improving Non-point Source (NPS) impaired streams and lakes throughout Pennsylvania. Pa has been able to restore over 100 miles of NPS impaired streams as well as over 1,800 acres of NPS impaired lakes.



Stream and Lake Assessments

Approximately 16,353 of the 84,571 miles of assessed streams in PA, or about 19%, were found to be impaired for Aquatic life designated use. The 16,353 mile figure includes the Impaired, Approved TMDL and Compliance categories. Approximately 67,972 of 84,571 miles of streams in PA, or about 80%, support the aquatic life designated use.

Approximately 1,500 lakes and reservoirs comprising approximately 161,000 acres exist in Pennsylvania. Of these lakes and reservoirs there are about 379 that are open to the public and 150 in 72 of Pennsylvania's State Parks. Pennsylvania has been able to document that 1,862 lake acres, which had been impaired, are now attaining aquatic life uses.

Estimated Load Reductions From 319 Federally Funded Projects Completed in 2012

Nutrient and Sediment Pollutant Load Reduction Estimates

Nitrogen (lbs/year)	Phosphorus (lbs/year)	Sediment (tons/year)
274, 931	101, 304	5,471

Abandoned Mine Drainage Pollutant Load Reduction Estimates

Iron (lbs/year)	Aluminum (lbs/year)	Manganese (lbs/year)
13, 505	4,015	0

Improving Waters

Dents Run

Dents Run flows north through Elk County until its confluence with Sinnemahoning Creek, which has a history of coal mining. Dents Run was placed on the State's 303(d) "List of Impaired Waters" in 2002. Completed projects in this stream included passive treatment systems, land reclamation, and lime dosers. Prior to the project, iron levels was 0.23 mg/L, aluminum 4.91 mg/L, manganese 1.63 mg/L, average pH was 4.20, and average acidity 34.0 mg/L. Recent data shows increase in iron to 1.3 mg/L, decrease in aluminum to 1.4 mg/L, manganese to 1.2 mg/L, and pH average has risen to 6.67 and the stream is net alkaline. PA won the 2012 Abandoned Mine Reclamation Award for this project. The stream is still being monitored.



Abandoned underground mine discharge located in the Porcupine Hollow sub-basin of Dents Run.

Sandy Run

The Sandy Run AMD treatment system address a mine discharge. The discharge contributes abandoned mine drainage to Sandy Run which is a tributary to Juniata River. Recently a passive treatment system was constructed to treat this discharge. Funding the project in the amount of \$302, 264 came from EPA's Nonpoint source 319 Program. Monitoring results before treatment: pH 3.1, aluminum 38.0 mg/L, iron 98.8 mg/L, and acidity 476 mg/L. Results after treatment: pH 8.3, aluminum less than 0.25 mg/L, iron 0.41 mg/L, and acidity -340 mg/L with alkalinity of 372 mg/L. Therefore, the treated water is now net alkaline, the acidity is buffered and is not negatively affecting the stream.



View from the SAO-D4 treatment system site in Sandy Run watershed.

Rock Run

Beginning in 2005, CREP and 319 funded projects have been installed on the Walizer and Vonada farms. The stream has been evaluated yearly for improvements in water quality, habitat for macroinvertebrate organisms, bacteria load, and overall stream health. Five years of monitoring, data shows significant improvements in ammonia, phosphorus, and nitrate. Overall the bacteria counts have dropped significantly as have suspended solids. The final analysis of the CREP project, water quality is showing improvement that is attributed to the exclusion of cattle from the stream and the establishment of riparian grasses on both farms.



The photos above show the extent of the lumbering activity in the headwaters area of Rock Run.



Overview

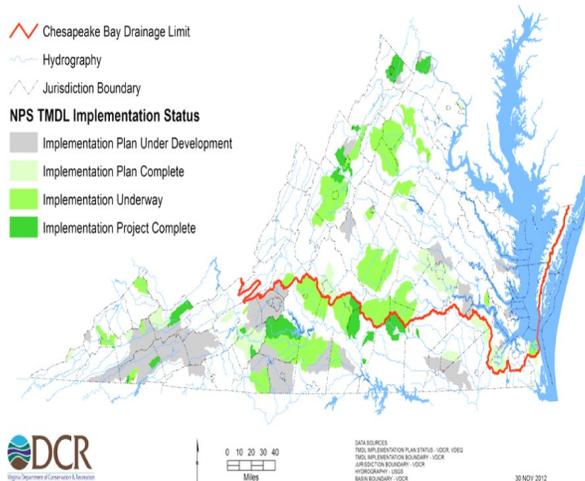
Virginia's goal is that all rivers, lakes, streams and tidal waters attain the appropriate beneficial uses. These beneficial uses are described by the following use goals: drinking water, primary contact/swimming, fishing, shellfishing, and aquatic life. These uses are protected by application of the state's numeric and narrative water quality criteria. When the beneficial uses are not being met these waters are considered "impaired" and the state must take steps to meet water quality standards. One very important step in restoring water quality in the nonpoint source (NPS) impaired streams is the development and implementation of total maximum daily loads (TMDLs). The goal of the TMDL program is to achieve attainment of water quality standards. The Commonwealth achieves this goal by means of a three-phase process: TMDL development, development of TMDL Implementation Plans (IPs) and implementation of best management practices (BMPs). TMDL reports, implementation plans and implementation progress updates are available from the Department of Environmental Quality (DEQ) at www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs.aspx. Information on Virginia's Nonpoint Source (319) Management Program is available from DEQ at : www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/NonpointSourcePollution-Management.aspx

VIRGINIA

TMDL Implementation Projects

Virginia state law requires the development of a TMDL implementation plan (IP) after a TMDL is developed and approved by EPA. In Virginia TMDL IPs function as watershed based plans under Section 319(h) grant requirements. The IP describes the measures that must be taken to meet the TMDL. In FY2012 Virginia developed six IPs covering 46 impaired segments. In addition, 11 IPs covering 58 impaired segments were started in 2012. Since 2000, Virginia has completed 58 IPs, addressing 210 TMDL impaired stream segments and 233 impairments. As of June 2012, Virginia's TMDL implementation Program has funded 21 implementation projects with Federal 319(h) funds as well as some state funds and 16 projects directly with state funds.

NONPOINT SOURCE TMDL IMPLEMENTATION STATUS THROUGH 2012



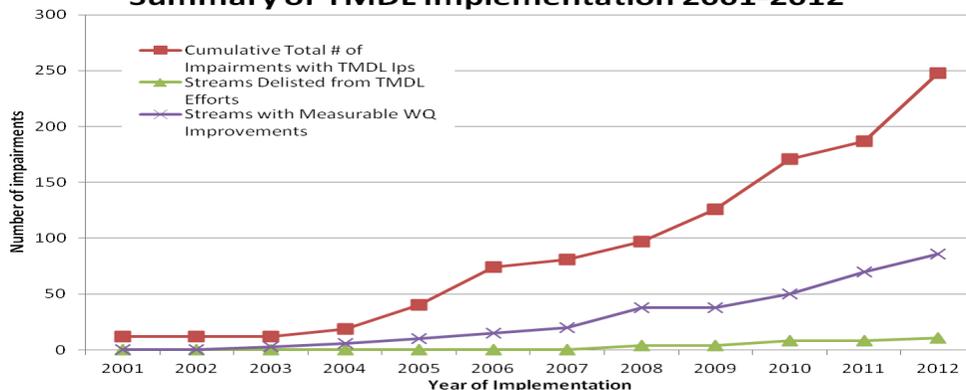
BMP Implementation and Pollution Reductions

Tracking BMP implementation in TMDL watersheds is critical in measuring success within the TMDL program. BMPs are effective and practical ways to prevent or reduce pollution from NPS to ensure water quality. From January 1, 2011 thru June 30, 2012, 28 active implementation projects jointly funded by Federal EPA §319(h), state Water Quality Improvement Funds, and state Virginia Natural Resources Commitment Funds; implemented 381 agricultural and residential septic BMPs. This implementation resulted in over 365,131 feet of stream exclusion and the reduction of 2.078E+16 colony forming units (CFU) of fecal coliform bacteria, 107,732 pounds of nitrogen, 19,838 pounds of phosphorous, and 19,440 tons of sediment.

Water Quality Improvements, Watershed Restoration, and Delistings

Virginia has been implementing NPS TMDLs IPs since 2001. Virginia's approach has been to use incentive-based programs such as the State-funded Virginia Agricultural Cost Share Program and Federal Section 319. Virginia offers grant funding for the implementation of BMPs and for technical assistance funding in watersheds with approved IPs. Despite the challenges in attaining water quality standards, Virginia's program has shown that properly applied and maintained BMPs can result in measurable improvements in water quality. Thus far VA has had delisted over 40 miles of impaired waters and many success stories.

Summary of TMDL Implementation 2001-2012





Overview

According to recent survey information of our nation's streams, rivers, wetlands and estuaries, nonpoint source (NPS) pollution is the largest source of water quality problems. Approximately 40% of our waters surveyed do not support their designated uses due to NPS pollution. NPS pollution is impairment associated with precipitation and run-off, and other non-permitted activities. Since it is mostly un-regulated, NPS is the people's pollution.

Many communities and local organizations are working together to improve their environment. Participation is key. Local leaders must understand the importance of sustainable practices, low impact development (LID) and organizing to do our best to restore and protect water ways for the future.

Section 319 of the Clean Water Act (CWA) distributes grant monies to the states to implement NPS programs. This national program, administered by the US Environmental Protection Agency (US EPA), is vitally important and its results have been significant. Section 319 provides monies for base and incremental grant programs.

Base grants provide monies for our staff. These experts are essential for project management and for encouraging participation from local communities and organizations in areas impacted by NPS pollution. Base grant monies also support outreach and education activities, monitoring and many partner agencies that work to address NPS pollution. West Virginia has allocated \$8.3 million towards base grants since 2007.

Incremental grants are used for project implementation. The planning and the areas that are targeted are driven by the 303(d) list and TMDL (total maximum daily loads) process. West Virginia has allocated \$9.3 million towards incremental grants since 2007.

WEST VIRGINIA

Executive Summary

Of the 57 319 funded projects, about 45% have been completed.

Significant progress was made in the reduction of pollutants that are tracked on a national level; these are sediment and nutrients (nitrogen and phosphorous). Most of the sources of these pollutants are from agricultural and stormwater sources. West Virginia does not have large scale agricultural operations, and as a whole is still largely un-developed. Many of our urban areas are small when compared to the larger urban areas within EPA Region III.

However, efforts initiated by the Chesapeake Bay Program have provided us new opportunities to explore projects that reduce sediment and nutrients. In other parts of the state, the NPS Program and WVCA explored nutrient reduction opportunities from projects that require fecal coliform reductions from agricultural sources. In addition to the statewide support WVCA focuses efforts in the following project areas:

The ultimate goals of any restoration efforts are to restore the stream so

WV Conservation Agency

The West Virginia Conservation Agency (WVCA) remains the primary entity responsible for the implementation of the West Virginia Agriculture and Construction components of DEP's NPS Program and for coordinating and implementing water quality improvement projects. Conservation Specialists (CS) serve as direct service providers or help coordinate assistance from other sources to watershed organizations and landowners. WVCA supports statewide efforts to address nonpoint pollution with education and outreach, coordination and implementation of projects addressing runoff, erosion and sediment control, stormwater management, nutrient and pest

management, stream cleanup, riparian demonstrations, streambank stabilization, pre and post project monitoring, watershed assessments, agriculture BMP selection and installation, the availability and types of conservation programs, financial assistance, and water quality improvements. In addition to the statewide support WVCA will focus efforts in the following project areas:

Through the Chesapeake Bay Program., several watersheds have been identified as priorities based upon a decision making matrix with public input as well as real water quality data. (*Sleepy Creek, Mill Creek of Opequon, Mill Creek of the South Branch, Lost River and Anderson Run*) WVCA participates with project teams to develop nutrient and

SOS reached over 3,000 individuals in 2012.



Students gather around and sort an SOS benthic collection

West Virginia Save Our Streams:

SOS is West Virginia's long-term volunteer monitoring program that encourages citizens groups, schools and many others of all ages to become involved in monitoring their own local waterways. The program not only teaches procedures but assists groups in developing long-term monitoring plans and provides a wide variety of technical assistance. SOS conducted a total of 16 workshops in 2012 in the Shenandoah River, Potomac Direct Drains, South Branch of the Potomac, Middle and Upper Ohio River, Lower and Upper Kanawha River, Lower New River and Coal River.

sediment reduction plans to meet Chesapeake Bay reduction goals.

In addition to the Bay region, WVCA has also targeted subwatershed in the Greenbrier (*Second Creek*, which includes *Kitchen Creek* and *Back Creek*, and *Muddy Creek*), James River (*Potts Creek* and *Sweet Springs Creek*), and the Lower Ohio (*Fourpole Creek*). WBPs have been completed or are currently in development for all of the subwatersheds *indicated*.