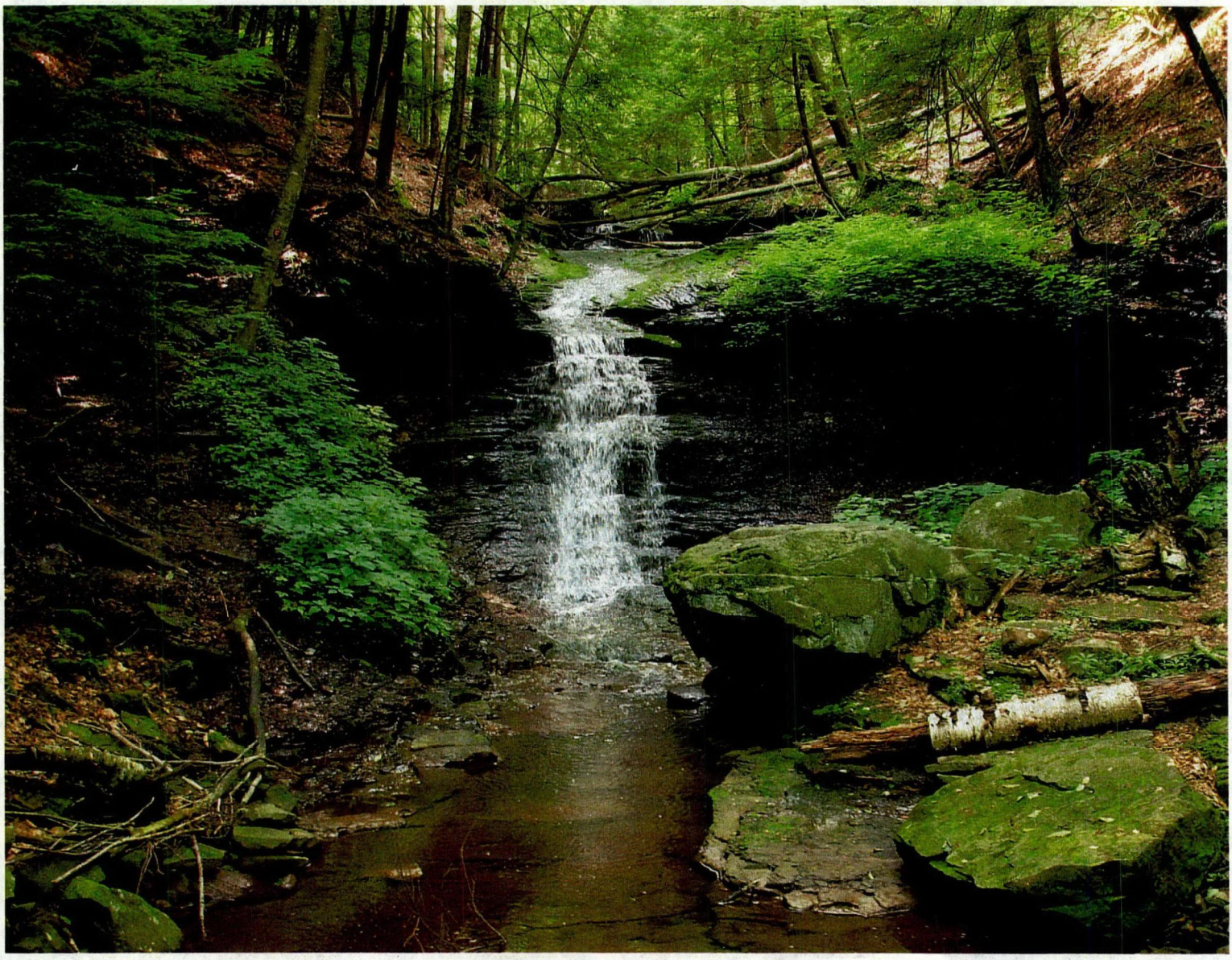
EPA Region 3

Partnerships in Progress and Innovation



United States Environmental Protection Agency

July 2008

Message from the Regional Administrator

Over the past few years, everyone at EPA's mid-Atlantic regional office has been called upon to continue delivering a cleaner environment for the citizens we serve as we learn to meet new challenges, adopt new management approaches, and make the best use of new technologies. Logic models, quarterly management reports, and selected regional priorities are just a few of the new additions to the jargon we use everyday. But these things are more than just jargon. They represent a change in the way we think about the job we do, leading us to approach our work in new and different ways.

The logic model process has led to a burst of new efforts that break the traditional planning methods and allow us to begin solving environmental problems with all the tools at our disposal — no matter which environmental statute provides the tool, or which EPA program office provides the funding. For instance, our energy team involves folks from almost all of our programs, and the Healthy Waters initiative is managed by three of our division directors. More changes are underway that will allow us to work together more effectively to solve important environmental challenges without being handcuffed by the artificial distinctions of an organization chart.

Another welcome difference that I have seen up close comes from the agency's senior leadership in Washington. Deputy Administrator Marcus Peacock works with all of the assistant administrators and regional administrators to assure that we are effectively managing our resources and programs. Marcus is a champion of using effective measures of what we are accomplishing to drive real environmental results. This involves developing and using new measures, while paring away those that had less value. But perhaps more importantly, he has concentrated his attention on those efforts and practices that are getting the best results, trying to learn why they work well, and seeing if those gains can be replicated in other programs or regions. Thanks to that emphasis, we all can spend more time searching for new solutions and capitalizing on success, and less time assigning blame or making excuses for targets that are missed.

It's my hope that the differences we're seeing from within the regional office will become evident as tangible environmental results for many people throughout the mid-Atlantic states. It's one thing to merely keep up with the changes, but our workforce is leading the way. From the Schuylkill Action Network (p. 6) to the Green Highways Partnership (p. 15), to the Linking Environmental Academic Programs (p. 15), our people are out front, delivering results. And creative tools, like the Multi-criteria Integrated Resource Assessment (p. 15), have been invented by our staff to help us plan for and measure our success.

This report allows us to consider the things we have accomplished, see where we stand, and think about where we can take environmental protection and stewardship into the future.

Donald S. Welsh

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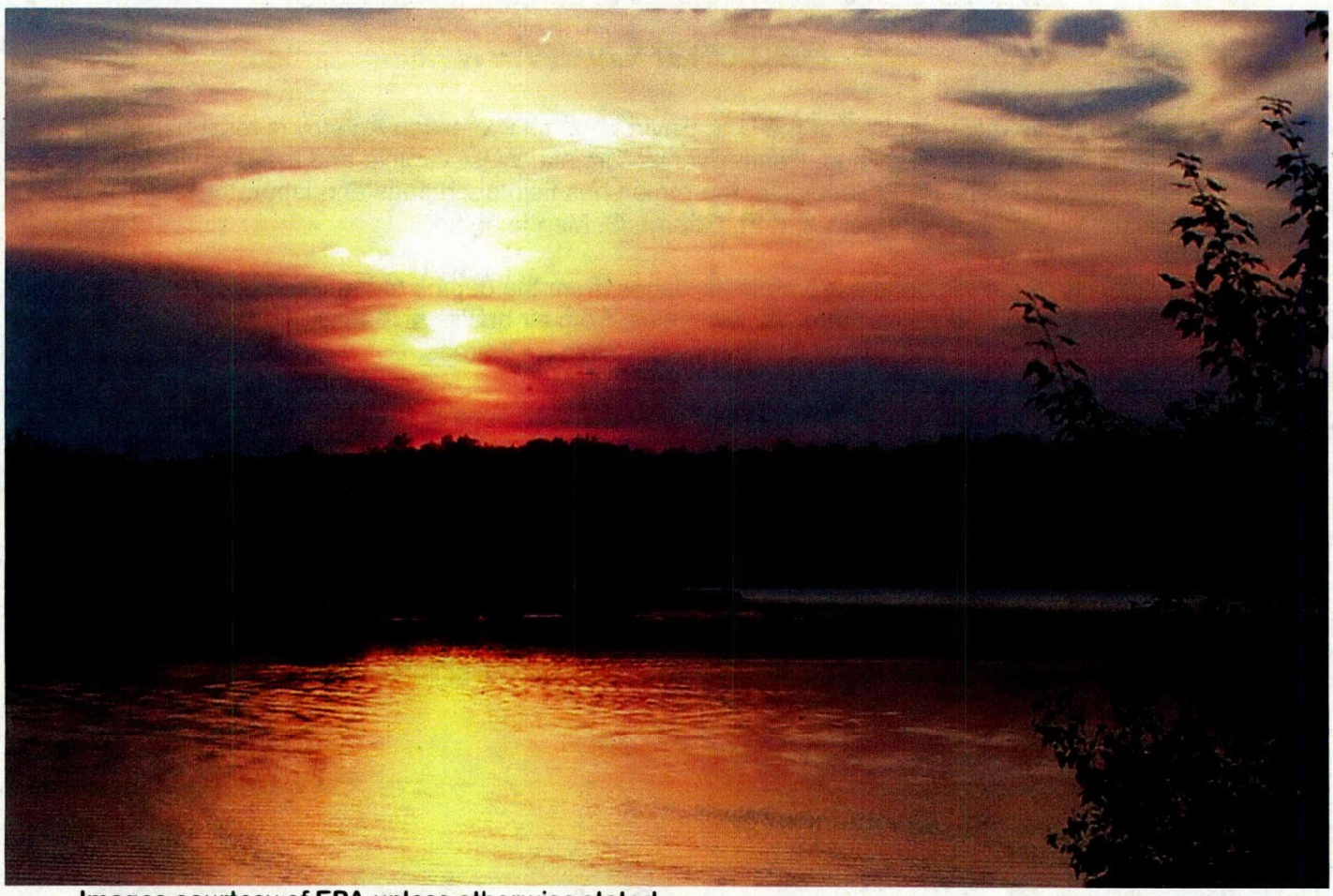

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Regional Overview

The mid-Atlantic regional office of the U.S. Environmental Protection Agency is responsible for programs in Delaware, Maryland, Pennsylvania, Virginia, West Virginia and the District of Columbia. Headquartered in Philadelphia, the region has field operations and laboratories in Wheeling, W.Va., and Annapolis and Ft. George G. Meade, Md.

The diversity of the region is mirrored in its issues, from the depths of the Chesapeake Bay to the tops of the southern West Virginia mountains, from air quality and sewer capacity in cities to acid mine drainage and animal feedlot operations in rural areas.

The regional office and its partner state and local pollution control agencies are responsible for regulating more than 21,000 air pollution sources; 12,000 water pollution sources; and 425 hazardous waste treatment, storage and disposal facilities. Together, the agencies are responsible for the investigation of 1,500 potential hazardous waste dump sites and the cleanup of more than 165 sites that have been included or proposed to be on the Superfund National Priorities List.

In Region 3, the achievements of our employees are leveraged through working partnerships with states, community groups and businesses. This report highlights some of these notable achievements.

Partnership

Corporate Stewardship - Perdue Clean Bays Environmental Management Initiative

As the third largest poultry company in the United States, Perdue Farms, Inc. has been raising chickens for over 80 years. Perdue works with more than 2,400 independent farm-family partners to raise their chickens. That is a lot of chickens, and even more chicken litter.

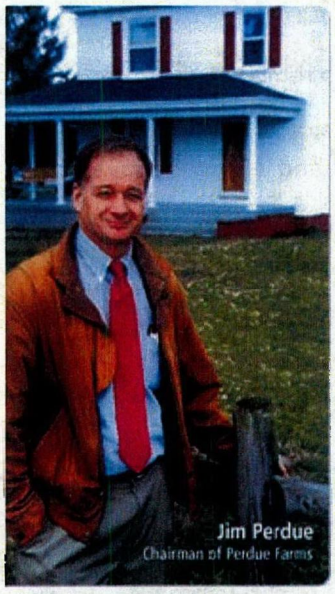


Image from: Perdue Farms

In 2006, Perdue's commitment to environmental protection and healthier waters was demonstrated in the landmark Memorandum of Agreement that Perdue Farms signed with EPA to reduce poultry waste runoff into nearby water bodies. Known as the *Perdue Clean Bays Environmental Management Initiative (PCBI)*, the purpose of this MOA is to provide training, assistance, and environmental assessments related to poultry operations. The goal is to protect the waters of Delaware, Maryland, and Virginia, including the Chesapeake Bay and coastal bays, and to enhance poultry producers' environmental compliance.

To date the PCBI has resulted in joint Perdue/EPA training sessions for more than 60 flock supervisors, environmental managers and 18 growers who are participating in the first phase of the initiative. Additionally, more than 50 environmental on-farm assessments have been completed, resulting in a number of environmental improvements. Lastly, as the partnership concludes its first year of activity, discussions are underway to apply the PCBI to "Going Corporate," a far reaching three-to-four year innovative program that would include all Perdue poultry farms.

The program is being implemented in two stages. The first stage, launched in January 2007, is a pilot program directed toward the largest Perdue producers on the Delaware, Maryland and Virginia (DELMARVA) Peninsula. The pilot program will develop and field test the necessary tools to implement a program corporate-wide. Assessments will occur three times a year to help poultry producers comply with the Delaware state Nutrient Management Plan.

When targeting inspections, EPA will give positive consideration to those poultry operations that are effectively implementing the program and devote more time to those areas where there is a higher environmental and compliance risk. The plan proposes a set of measures to track progress toward achieving environmental improvement and compliance as well as joint annual and periodic evaluations involving record reviews, environmental results analysis and site assessments. The program also includes Perdue's plan to develop a corporate response to address and correct issues identified in the assessment. The effectiveness of stage one will be assessed after a year, and the results will be used for the second stage, developing a corporate-wide program.

A program to recognize poultry producers that demonstrate environmental and compliance excellence is also under development. Most recently, EPA and Perdue have developed the Clean Bays Training Handbook for training sessions for Perdue farm managers who provide support for growers and at training sessions for growers who are participating in the pilot program. Perdue has recently completed a number of on-farm environmental assessments that will provide the basis for the next phase.

Enforcement

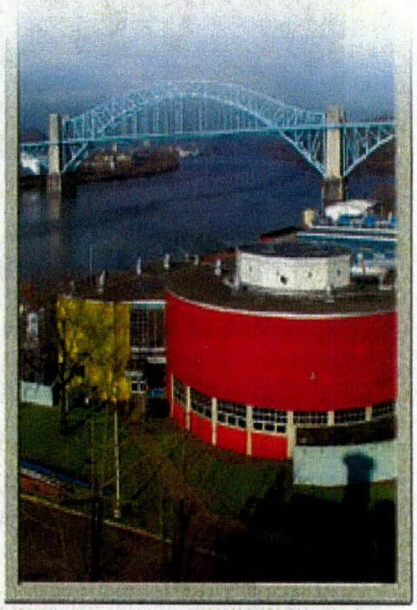
Reducing untreated sewage discharge in Pittsburgh-area rivers and streams

Each year, an estimated 22 billion gallons of untreated sewage are discharged into Pittsburgh-area waters from hundreds of sewage systems. These discharges often occur when the capacity of the sewer system is overwhelmed by wet-weather conditions, including storm water runoff and snow melts. The overwhelmed systems are unable to treat the sewage that exceeds their capacity, and the excess sewage is discharged directly into local waterways. Sewage overflows carry dangerous bacteria into waters where people boat, swim and wade, and can also affect some of the region's drinking water sources.

In a landmark settlement with federal,state,and county authorities, the Allegheny County Sanitary Authority (ALCOSAN) has agreed to a comprehensive plan to greatly reduce the annual discharge of billions of gallons of untreated sewage into local waterways.

Under the consent decree, ALCOSAN will use a multi-year strategy to upgrade the sewage systems serving Pittsburgh and 82 surrounding municipalities. ALCOSAN will also submit a plan to EPA that would address wet-weather conditions and thereby resolve a majority of the untreated discharges from the sewer systems by 2026. The settlement also requires ALCOSAN to pay a $1.2 million penalty for past Clean Water Act violations and to undertake $3 million in environmental projects. These funds will be used for stream restoration work and other projects to better control harmful storm water runoff.

It is anticipated that the remedial measures ALCOSAN will be making, and the long-term control plan the sanitation authority will adopt, will result in significant and lasting improvements to the water quality in three rivers and area streams in the Pittsburgh region, improving recreational and development opportunities along the area's our waterways. This settlement and a 2003 voluntary agreement with the municipalities represent one of the nation's largest settlements of a Clean Water Act case involving sewage overflows – in terms of the number of municipalities affected and the extensive nature of the sewer system upgrade.



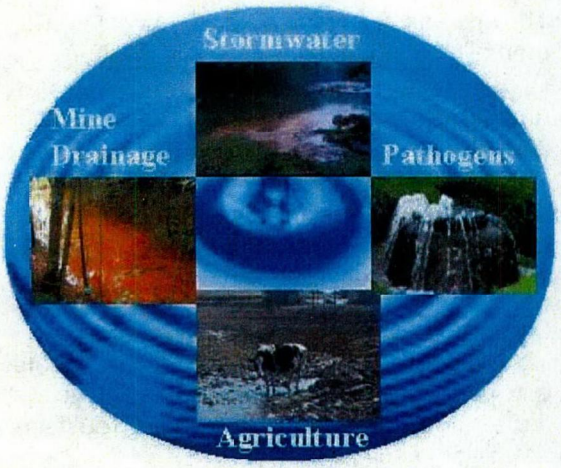
Images from ALCOSAN

Partnership

The Schuylkill Action Network Casts Support for River

During the 18th century, much of America's fight for independence was waged in the historic Schuylkill River Watershed in Pennsylvania. Industrialization and mining in the 19th and 20th centuries left the Schuylkill as one of the nation's most polluted rivers. In recent years, however, the river's water quality has improved and migratory fish are returning. But problems remain.

Today, the Schuylkill River is not only a working river but also the source of drinking water for more than 1.5 million people. At 130 miles long, and with more than 180 tributaries, the Schuylkill drains 2,000 square miles of southeastern Pennsylvania and is the largest tributary to the Delaware Estuary.



Major causes of degradation include stormwater runoff, agricultural practices, abandoned mine drainage, and sewage overflows. Contaminants in the Schuylkill have triggered fish consumption advisories, threatened the safety of drinking water supplies, and affected the health of the waters for recreational use.

The Schuylkill Action Network (SAN) is a unique partnership of more than 100 organizations formed in 2003 to address the environmental problems facing the Schuylkill. SAN works to improve the water resources of the watershed by working in partnership with state agencies, local watershed organizations and land conservation organizations, businesses, academics, water suppliers, local governments, regional agencies, and the federal government.

The goal is to transcend regulatory and jurisdictional boundaries in protecting the river. With EPA Region 3 as the lead, the SAN collaboration is managed by an executive steering committee which also includes the Pennsylvania Department of Environmental Protection, the Delaware River Basin Commission, the Philadelphia Water Department and the Partnership for the Delaware Estuary.

Among SAN's various restorative actions is a short-term initiative to address stormwater runoff, agricultural practices, and abandoned mine drainage. This will promote market-based strategies, and evaluate the efficacy of the Schuylkill Action Network as an interjurisdictional approach to water quality management.

Innovation

Everything Old is New Again Near Richmond, Va.

The days of simply erecting chain link fences around a property and posting "Keep Out" signs are over. Cleaning up previously contaminated properties for reuse can help reinvigorate communities, preserve green space, and prevent sprawl. Revitalized land can be used in many ways—from the creation of public parks and the restoration of ecological systems, to the construction of community development projects and the establishment of new businesses.

A former printed circuit board manufacturing site in Henrico County, near Richmond, Va., is a shining example for the recycling of demolition debris.

In keeping with the value of sustainability, the developers of the property, an entity of Forest City Enterprises of Cleveland, Ohio, is recycling 93 percent of the plant and converting four 15-to-20-foot mountains of materials -- 85,000 tons of concrete and metal debris -- into useable building materials for a future 900,000 square-foot retail, hotel, and dining complex, known as The Shops at White Oak Village.

The crushed concrete and twisted metal will be used in the foundations, structural supports and other necessary components of the future complex. Even computers, transformers, and

other electrical systems left behind at the 136-acre site are being recycled through buyers around the country.

The site has already undergone an environmental cleanup, under the EPA's Resource Conservation and Recovery Act (RCRA) corrective action program. Contaminated groundwater is still being pumped and treated, and monitoring shows reduced contaminants. EPA will continue to monitor the cleanup and provide assistance to Forest City regarding the demolition debris recycling.

Demolition of the former manufacturing building on the site is done, and Forest City is not only redeveloping the site but is going one step further by incorporating recycling and sustainable design into its project.

The planning and construction of The Shops at White Oak Village will adhere to Leadership in Energy and Environmental Design (LEED) guidelines in hopes of obtaining LEED certification – the sustainability rating system from the U.S. Green Building Council.

The Shops at White Oak Village, scheduled to open in October 2008, will feature several national big box retailers in a variety of categories including grocery and home improvement, a hotel, and 25 to 35 smaller national, regional and local retailers and restaurants.

Revitalization

Heart of Lehigh Valley, Pa. Beating Once Again

A Smithsonian museum. A power plant. A state of-the-art cold storage facility. A skating rink. An intermodal freight terminal. Two biotech companies. A community college building. These are just some of the redevelopment projects that are completed or underway at one of the largest redevelopment sites in the country -- the former Bethlehem Steel Corporation plant located along the Lehigh River in Bethlehem, Pa.

At one time, this flagship mill forged gun barrels for battleships and steel girders for bridges and skyscrapers, such as the Golden Gate Bridge and the Empire State Building. The Bethlehem Steel plant, once the heart of the Lehigh Valley, conjures up images of volcano-like blast furnaces and giant ladles filled with molten metal, as more than 30,000 steel workers helped build our country.

However, in 1998, the plant ceased operations, and sadly, thousands lost their jobs, leaving behind 1,600 acres of land with an unknown environmental legacy and a very uncertain future. As a result of a cooperative effort among those who shared a common vision to revitalize this property, this huge tract of land is being cleaned up and redeveloped to provide new jobs, community services and tax revenue for a community that was decimated by the loss of its largest employer.

It took a team of creative and motivated individuals from Bethlehem Steel, the consulting industry, the Pennsylvania Department of Environmental Protection (PADEP), and EPA to realize this vision. When Bethlehem Steel subsequently dissolved through bankruptcy and sale, a new owner, Lehigh Valley Industrial Park (LVIP), assumed much of the property and continued to make progress.

Parcel by parcel, this Resource Conservation and Recovery Act (RCRA) corrective action site is being converted into mixed-use redevelopment. The work done at Bethlehem Steel is the model for PADEP and EPA Region 3's One Cleanup Memorandum of Agreement. This agreement expedites work by enabling facilities subject to EPA requirements to use the administrative process of the state's Voluntary Cleanup Program to investigate and clean up contaminated sites.

The Bethlehem Steel plant played a significant role in the creation and preservation of modern America. As revitalization and restoration continue, optimism abounds as this historic location once again contributes to the prosperity of the Lehigh Valley.

The new Bethlehem Commerce Center received the esteemed Phoenix Award in 2006 for brownfield revitalization. The Phoenix Awards, given by the non-profit Phoenix Awards Institute, honor individuals and groups working to transform abandoned industrial areas into productive new uses.

This commerce center is one of many examples of how Region 3's RCRA corrective action program has successfully facilitated property reuse.

Partnership

Philips Lighting: Lighting in More Green Ways

When you hear the name Philips, you probably think of flat screen televisions and DVD players. Perhaps you think of lighting. You should also think of environmental innovation because Philips Lighting, a world-leader in the manufacture of industrial and consumer lighting products, has pledged to substantially reduce mercury and eliminate lead in the making of fluorescent lighting products at its four U.S. plants. The company voluntarily cut the use of two compounds as part of an EPA effort to reduce the presence of 31 priority chemicals in our nation's products and wastes.

In EPA's mid-Atlantic Region, 47 partners have pledged to reduce some of the most harmful chemicals in their manufacturing and operational activities.

Headquartered in the Netherlands, Philips employs approximately 125,500 employees in more than 60 countries worldwide. With sales of 34 billion U.S. dollars in 2005, the company is a market leader in medical diagnostic imaging and patient monitoring systems, energy efficient lighting solutions, personal care and home appliances.

Philips committed to reduce 780 pounds of mercury by 2007 from the manufacture of its fluorescent lighting products. This equates to a reduction of nearly two tons of mercury in the manufacture of light bulbs over the next five years.

In addition, the company has pledged to eliminate lead from its manufacturing processes, for a reduction of 1.5 million pounds by 2010. Mercury and lead are among 31 harmful chemicals and metals identified by EPA as a priority for reducing or eliminating their use. The cuts to be made by Philips Lighting are significant because they represent 37 percent of EPA's national goal for reducing the 31 chemicals by four million pounds by 2011.

EPA's National Partnership for Environmental Priorities program challenges businesses and manufacturers to become more environmentally aware and to adopt a resource conservation ethic that results in less waste, more recycling, and more environmentally sound products. The program seeks solutions that prevent pollution at the source, by recovering or recycling chemicals that may be hard to eliminate or reduce at the source.

Partnership

Increasing Energy Efficiency, the SmartWay

The SmartWay Transport Partnership program is an innovative collaboration between EPA and the freight industry to increase energy efficiency while significantly reducing greenhouse gas emissions and air pollution. The key to the SmartWay program is creating partnerships with companies and organizations to improve the environmental performance of their freight operations. EPA provides tools and expertise to assist these organizations in developing methods to become more efficient and environmentally aware. Although key to our economy and a backbone of the nation's businesses, the movement of goods has staggering environmental consequences. Moving freight accounts for 20 percent of energy consumed in the transportation sector. Additionally, truck and rail consumes more than 35 billion gallons per year of diesel fuel, and creates 350 million metric tons of carbon dioxide, a major component of greenhouse gas pollution.

In June 2007, through the SmartWay Transport Partnership, EPA helped to establish the first E85 pump, which opened in the District of Columbia. E85 consists of 85 percent ethanol and only 15 percent conventional gasoline. EPA provided technical assistance in several areas related to fuels and permitting. The agency's efforts will help pave the way for other E85 pumps that are planned in the metropolitan Washington area.

EPA recently established the nation's first renewable fuel standard. The goal is to ensure that a minimum of 7.5 billion gallons of renewable fuel is produced for vehicle use by 2012. It is an important first step toward meeting the President's call to increase America's use of renewable and alternative fuels to 35 billion gallons by 2017.

The renewable mandate and fuel-efficiency improvements in the President's "20 in 10" plan would reduce our gasoline usage by 20 percent within a decade and would cut annual criteria emissions from cars and light trucks by up to 175 million metric tons. (The six criteria pollutants are ozone, carbon monoxide, particulates, nitrogen dioxide, sulfur dioxide and lead.)

SmartWay™ Transport Partnership
U.S. ENVIRONMENTAL PROTECTION AGENCY

EPA is also creating greater demand for renewable fuels through the collaborative efforts of the SmartWay Transport Partnership. SmartWay promotes E85 through its innovative Grow & Go program. There are more than 560 companies and organizations participating in SmartWay, including major truck and rail carriers as well as shipping and logistics companies. To date, partner commitments will result in annual CO2 reductions of more than three million metric tons, saving these firms an estimated $760 million in fuel costs.

Community Air Toxics Program

Air toxics, also known as hazardous air pollutants, can lead to cancer or other serious health effects, such as reproductive problems, birth defects and aggravated asthma. These pollutants can also harm plants and animals.

EPA has provided financial support to projects that educate citizens in high risk areas about the benefits of reducing emissions of air toxics. Through its Community Air Toxics program, the agency aims to do more. The program promotes industry partnerships that challenge locally based businesses and industry to voluntarily reduce emissions of toxic pollutants in cooperation with federal, state, and local regulators and other stakeholders. Participants commit to reduce routine hazardous air pollutants and to take steps to decrease the potential for accidental releases in the communities where they operate. Industry partners can accomplish these goals by fostering communication, exchanging ideas and increasing awareness of technology with community and government representatives.

EPA encourages partnerships in geographic areas at risk of high levels of hazardous air pollutants. Partners agree to voluntarily reduce emissions of priority chemicals with the buy-in of relevant stakeholders.

Resources and Stewardship

Energy Star Saves Money

Committing to energy savings is not an easy task, but continually achieving high ratings for energy conservation exemplifies dedication worthy of recognition. One organization that has displayed this attentiveness to reducing energy costs is Delaware's Seaford School District, having received national recognition for decreasing its energy use by 40 percent. In 2005, the district joined the Energy Star program in search of ways to reduce energy costs in all its buildings. EPA Region 3's Energy Star program coordinator worked with the district utilizing an Energy Star benchmarking tool available at www.energystar.gov. With the Energy Star portfolio manager on-line tool, the district developed a plan enabling lower energy consumption at all six of its buildings.

Seaford School District remains a leader in energy savings and a model to school districts and other organizations across the country by continuing to look for ways to remain energy efficient. In 2007, Seaford was nationally recognized at the Energy Star Annual Awards Ceremony as an Energy Star Top Performer.

Clean Diesel for Better Air

Since its unveiling in 2002, the Voluntary Diesel Retrofit program has morphed into a larger, more expansive crusade. Reduction of diesel emissions is a high priority because of the harmful effects the exhaust has on young children, the elderly and people with chronic respiratory syndromes like asthma. In 2005, EPA launched a broader campaign called the National Clean Diesel Campaign to combat diesel exhaust.

The Mid-Atlantic Diesel Collaborative supports this national campaign by promoting partnerships among states and various organizations to tackle diesel pollution within the region. The partners work to raise awareness about the public health effects of diesel pollution and the need for projects to cut emissions. Since 2004, EPA Region 3 and the Mid-Atlantic Diesel Collaborative have supported 122 clean diesel projects, improving more than 7,000 diesel-powered engines. These projects have ranged from retrofitting diesel particulate filters on older school bus engines to providing state funding for the construction of advanced electrification depots at truck stops to reduce idling of diesel engines.

EPA Mid-Atlantic Regional Administrator Donald S. Welsh (middle) awards a check to representatives of the District of Columbia Dept. of the Environment and DC Public Schools Division of Transportation. EPA's funding will help the district cut diesel emissions from school buses.

Technology

Port Growth and Reducing Emissions

Between 1970 and 1995, U.S. international waterborne freight nearly doubled, and is forecast to triple by 2020. Air quality, specifically diesel emissions, has been a mounting concern for ports and the neighborhoods that surround them. Local areas across the country first looked at industrial sources for emission reductions to improve air quality, and many of these sources are now well-controlled. In recent years, focus has shifted to ports as areas for reducing harmful emissions. Although EPA has set tough standards for new diesel engines, these standards don't reduce emissions from the engines of existing fleets. EPA and its state and local partners are working to ensure that environmental protection will not be sacrificed during ongoing expansion of goods movement.

EPA has developed a *Vision, Mission and Strategy for Sustainable Ports* to help guide the agency as it continues to engage public port authorities and other stakeholders in voluntary efforts to reduce the environmental impacts associated with moving goods through the marine transportation system. EPA's mission for sustainable ports is to *"collaborate with marine port authorities, their business partners and port communities to promote sustainability and to minimize the negative effects of inter-modal marine and land-side goods movement on human health and the environment."*

EPA is working to help mid-Atlantic ports inventory emissions from ocean-going vessels, locomotives, harbor craft, dockside cargo-handling equipment and trucks. This information will help ports establish emission reduction programs and make the most cost effective use of funding to promote increased operational efficiency, retrofit, repower, and accelerate replacement equipment, as well as demonstrate and advance new technologies.

Examples include:

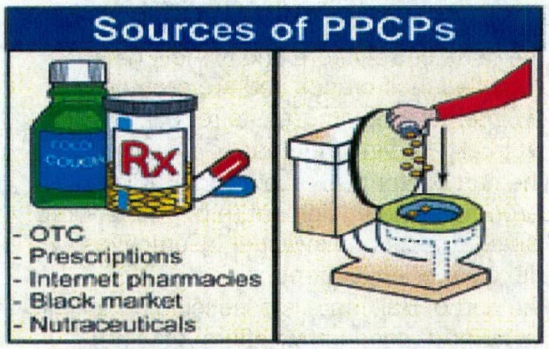
- 83 pieces of cargo handling equipment at the Philadelphia port were retrofitted with diesel oxidation catalysts and other reduction technology.
- The port of Baltimore has begun using Ultra Low Sulfur Diesel in many pieces of their equipment before EPA's mandate.
- The ports of Baltimore and Norfolk have electrified their cranes and are promoting a low interest loan program to retrofit the dirtiest trucks serving the ports.
- The port of Norfolk is replacing its dirtiest cargo-handling equipment (e.g., rubber-tired gantry cranes) and switcher locomotives with cleaner equipment.
- The port of Baltimore is assessing potential "sister-port" cooperative efforts to share technical information, best practices, and explore potential mutual strategies relating to emission reduction measures on the European and Asian end of the Baltimore supply chain.
- All ports are assessing the potential reductions from harbor craft and ocean-going vessels through a variety of potential projects including cleaner fuel, engine replacement, retrofits and the use of shore-power while docked.

Balancing economic, environmental, and social considerations is a challenge, even for those ports that have traditionally viewed themselves as environmental stewards of coastal resources and waterways. EPA remains involved with port authorities and community partners working to reduce health and environmental risks from port activities.

Research

Pharmaceuticals in our Nation's Water Bodies

Wherever there are people, pharmaceuticals show up in the water as medication residues pass out of the body and into sewers, and externally applied drugs are washed down the shower drain. Also, unused or expired medications are typically flushed. Research suggests that certain drugs may cause ecological harm. But more research is needed to determine the extent of ecological harm and any related human health effects. Because study of this issue is relatively new, some call the chemicals "emerging contaminants."



Concerns about pharmaceuticals in our water vary. Medications are generally intended to be effective at low doses, meaning that much of what we take may end up being excreted into the sewer system by our bodies. Sewage treatment plants are not equipped to eliminate pharmaceutical chemicals, so they pass directly through the treatment systems to the river where they may negatively impact fish, frogs, and other aquatic species. Large quantities are constantly entering the water due to the large number of prescription and over-the-counter drugs we take on an annual per capita basis.

The risks to aquatic life and humans from these medications in our water systems are uncertain, largely because the concentrations are so low. Only the development of much more sensitive monitoring equipment has allowed us to find such low levels in our water. There are no known human health effects from such low-level exposures in drinking water, but possible impacts to sensitive populations such as fetuses require more study.

The mid-Atlantic region has been involved in studying the issue of pharmaceuticals in the environment, as well as investigating possible treatment technologies and developing stewardship activities.

Several Region 3 researchers are studying the possible connection between pharmaceuticals and fish kills on the Potomac River. Pennsylvania has collaborated with the U.S. Geological Survey to study the presence of pharmaceuticals in streams and ground water. The Philadelphia Water Department has been part of several national studies by research foundations about emerging contaminants. One university in the Philadelphia area is researching into a treatment technology that may be able to remove at least some pharmaceuticals from wastewater at sewage treatment plants.

The mid-Atlantic region is also partnering with businesses and the non-profit community to develop sustainable stewardship programs in the Philadelphia area. One such effort will educate healthcare workers and senior citizens about proper disposal of unwanted medications.

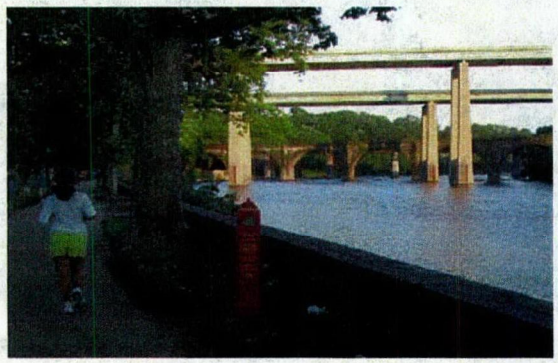
Regulatory barriers have prevented development of regular, sustained pharmaceutical return programs for the public and healthcare workers in private home settings. However, in response to the public's interest in preventing environmental harm caused by flushing unwanted medications, the federal Office of National Drug Control Policy issued guidelines on proper disposal of unwanted medications in February 2007. For individuals, the guidelines suggest mixing unwanted drugs with a substance such as coffee grounds or kitty litter to render them unusable and putting them into the trash. The guidelines also recommend taking advantage of consumer return programs where they are available.

Research

The Good and Bad Side of Stormwater

While most people associate rainy days with blossoming spring flowers, the water that collects from a major storm can also have negative environmental impacts. Stormwater is water from rain and snow which flows over impervious surfaces such as paved streets, parking lots, and building rooftops. As stormwater flows over land, it picks up heavy metals, bacteria, pesticides, suspended solids, nutrients, and floating materials. The polluted stormwater then makes its way into nearby water bodies.

In the United States, stormwater runoff from residential, commercial, and industrial areas is responsible for 21 percent of impaired lakes and 45 percent of impaired estuaries. In the mid-Atlantic region alone, stormwater is responsible for more than 4,000 miles of impaired streams. The impacts from stormwater are caused not only by the pollutants in the runoff, but also by its volume. As the water flows over land it can erode soil and then redeposit that soil in streams, causing muddy water and degrading aquatic habitats.



EPA is working with neighborhoods to help reduce stormwater impacts on local water bodies. The Philadelphia neighborhood of East Falls is a unique community and a useful stormwater laboratory because it is located on a hillside above a river and has a diverse set of landscapes, land uses, residents and features. Since 2007, EPA has been providing technical assistance to the East Falls Development Corporation, the Pennsylvania Horticultural Society and other partners in a joint effort to address stormwater problems within the community. The project is a useful model for other riverside communities looking to improve their quality of life and environment by creating new green public amenities that also help manage stormwater runoff.

Maps were created depicting existing conditions, constituencies, land uses, and other features on the ground. The maps were then used to help identify optimal places for further investigation. Images of existing progressive stormwater-managing interventions from across the country were paired with images of places in East Falls where similar ideas could be implemented. Based on the analysis, five sites were selected for further investigation. A public meeting was held to ask residents about their visual and design preferences while educating them about stormwater management. Concept designs based on their ideas were devised for the five sites. The concepts imagine vibrant, green futures that include stormwater-managing interventions and physical improvements.

To help create new and innovative approaches to managing stormwater in the East Falls community, a design contest was held among Philadelphia University landscape architecture students. The task was to design rain barrels with innovative designs which would make them more desirable to homeowners. Rain barrels are large containers that collect stormwater during precipitation, which can then release the stored water at a later time. A social marketing approach was used in an effort to understand the perspective of the local residents.

New Tools and Partners

Charting New Directions With Green Highways

The Green Highways Partnership is a prime example of the strength of partnerships and how much more can be achieved when people pull together. In just a few short years, EPA Region 3's effort to foster collaboration between the community of environmental agencies and stewards and the transportation sector are paying off.

The Green Highways Partnership is a voluntary public/private initiative that is revolutionizing our nation's transportation infrastructure. Integrated planning, regulatory flexibility and market-based rewards are some of the concepts used to incorporate smart environmental management and stewardship into all aspects of the lifecycle of highways.

This network of environmental, industrial and governmental collaborators is ensuring that sustainability becomes the driving force behind building and maintaining better and safer highways.

In March 2008, EPA Region 3 and the National Ready Mixed Concrete Association signed a memorandum of agreement to promote environmental management tools to help ready mixed concrete plants across the country comply with Clean Water Act obligations. This cooperation exemplifies the Green Highways Partnership's environmental stewardship principle of "going beyond compliance."

Solving Problems with MIRA

Region 3's Multi-criteria Integrated Resource Assessment (MIRA) — a new approach to making environmental decisions — captured an honorable mention for EPA's national Scientific and Technological Achievement Award. MIRA is changing the way Region 3 does business.

MIRA is a process that uses analytical tools, data, a hierarchy of indicators, and other relative information to examine alternatives for solving environmental problems. This new approach is enabling planning and leveraging of resources across the various programs in Region 3, merging science, resources and common sense to best protect public health and the environment.

Environmental Learning, Building Leaders

Region 3's initiative to support Historically Black Colleges and Universities (HBCUs) is growing by leaps and bounds. It started out with a memorandum of understanding with Lincoln University in Chester County, Pa., and the Philadelphia Academies, Inc., an organization supporting public school students. A $100,000 grant funded two summer 4-week intense academic environmental science programs in 2003 and 2004. The National Science Foundation funded this model and gave Lincoln University $2.4 million for five years to continue the *Linking Environmental Academic Program* or *LEAP*.

EPA Region 3 has extended LEAP to the University of Maryland Eastern Shore. With support from the Maryland Department of Natural Resources and Maryland Department of the Environment, the program will enhance research, teaching, outreach, career development and stewardship in environmental sciences. Approximately $350,000 was provided through in-kind services and a $50,000 EPA grant to UMES funded a summer environmental program. In Virginia, the Department of Environmental Quality and EPA are partnering to enhance environmental learning at Hampton University and Norfolk State University.

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