



Copyright © 2009, the Environmental Council of the States. Permission is granted for our members to copy for state government purposes.

SHARING SOLUTIONS: 2009 STATE ENVIRONMENTAL INNOVATIONS

October 2009

By Lia Parisien, Senior Project Manager, Environmental Council of the States

INTRODUCTION

Even in this time of tight budgets, state environmental agencies are hard at work developing forward-looking solutions to some of the nation's most pressing environmental challenges. These novel approaches range from simple to complex, and from narrowly focused to cross-media in scope. They share the common objective, however, of helping states operate better and leaner, and many innovations aim to satisfy the needs of a data-hungry public.

For more than a decade, ECOS has asked its members to share information on innovative programs, whether in the environment they are charged with protecting or the agencies they are charged with leading. To document the new practices and techniques that states are employing, ECOS since 1998 has published periodic compilations of innovations in the form of compendia and quarterly journal editions. Two years ago, the association launched the State Program Innovations Awards to recognize innovations that most pique members' interest. The annual nomination submissions have been impressive, and this year is no exception.

The 2009 innovations awards, presented in September at the ECOS Annual Meeting in Whitefish, Montana, recognized Florida's Contamination Locator Map, Maryland's MDEStat Program, and Indiana's Virtual File Cabinet (making Indiana a recipient for two consecutive years). All three initiatives deal with making data more readily available – to the public at large or to regulators attempting to balance competing priorities:

- ❖ The Florida Department of Environmental Protection has created an online tool that provides the public one-stop access to valuable data on area waste cleanups. By entering an address, city, or zip code, users can stay abreast of the cleanup status of Brownfields, Superfund, petroleum, and other sites near them.

- ❖ The Maryland Department of the Environment is using a real-time management system to boost the performance of more than 30 of its environmental regulatory programs and processes. Through the data-driven oversight of the MDEStat program, the agency is managing more proactively, reducing backlogs, improving effectiveness, and making better use of resources, while keeping the public apprised of progress.
- ❖ The Indiana Department of Environmental Management has introduced a web-based document repository to replace its paper filing system. The Virtual File Cabinet allows the public to access data previously available only in the central file room of the department. The initiative has had the side benefit of freeing up office space, saving the agency more than \$300,000 annually in rental fees.

These and other state innovations for 2009 are profiled in this edition of *ECOS Green Report*. It is the hope of ECOS that the initiatives spotlighted below will be adopted or adapted – or perhaps even generate more good ideas!

INNOVATIONS TABLE OF CONTENTS

Award Recipients

Florida’s Contamination Locator Map.....	3
Maryland’s MDEStat Program.....	4
Indiana’s Virtual File Cabinet.....	5

Agency Improvement

Paper Reduction and Efficiency Initiatives in New Hampshire’s Air Monitoring Program...	6
Tennessee Program Integration.....	7

Air

MassAir Online.....	8
Indiana’s Emission Inventory Tracking System.....	10

Compliance and Enforcement

New Jersey’s Environmental Stewardship Program.....	11
---	----

Environmental Education

Nebraska’s Hybrid Wind and Solar Ambient Air Monitoring Station.....	12
--	----

Partnerships

Green Development in Tennessee.....	13
Indiana CLEAN Community Challenge.....	15
Indiana Environmental Stewardship Program.....	16

Permitting

Electronic Routing and Digital Signature of Licenses in Maine.....	17
--	----

Waste

Wisconsin Initiative for Sustainable Cleanups.....	18
Florida’s Remote Technologies for Inspections.....	19

Water

Florida’s Stormwater NPDES Interactive Notice of Intent.....	20
Indiana’s Wetland Mitigation Matchmaking Site.....	21
Tennessee’s Harpeth River Watershed Initiative.....	22
Tennessee’s Qualified Local Program.....	23

REPORT

AWARD RECIPIENTS

Florida's Contamination Locator Map

Description of Initiative:

The Florida Department of Environmental Protection's (DEP's) Contamination Locator Map (CLM) is an online tool that allows users to specify an address, city, or zip code to locate nearby sites that are under DEP's cleanup oversight. Using search criteria, CLM identifies sites by name, address, facility identification number, and cleanup status – active or pending. Sites in CLM are categorized as Brownfields, Petroleum, Superfund, or Other Waste Cleanup Sites (e.g., Drycleaning, Hazardous Waste, or State-Owned Lands).

If users have questions about these sites, there are three options available to them:

- ❖ Using the facility identification number, users may view actual documents associated with the site by clicking on the direct link to search DEP's web-based document management system known as OCULUS™.
- ❖ Users may call the waste cleanup site toll-free number at (866) 282-0787 to talk with the site manager.
- ❖ To stay informed of future cleanup activities, users may use the CLM subscription service, which allows users to select one or more sites and provide an e-mail address. When the subscribed site reaches one of the following cleanup milestones, CLM will send an e-mail notification to all subscribers for that site:
 - Milestone 1 – Site assessment is complete;
 - Milestone 2 – Remedial action plan or strategy has been approved;
 - Milestone 3 – Approved remedial plan or strategy has been modified; and
 - Milestone 4 – Site rehabilitation has been completed.

CLM is an automated application that pulls data directly from all of DEP's various databases that contain information on waste cleanup sites. CLM is refreshed daily as information is updated in these databases. If a site is suspected of having contamination and is still being assessed, it may not be entered into the database. When it has been entered and a facility identification number has been assigned, the new site will be included in CLM with the data refresh. Sites that are closed will not appear in CLM.

Results to Date:

CLM was posted on DEP's website on July 22. During the first week alone, there were more than 200 visitors to the site and several calls to DEP's waste cleanup site toll-free number. CLM may be accessed at <http://epic229.dep.state.fl.us/DepClnup/welcome.do>.

Contact:

Mimi Drew, Deputy Secretary of Regulatory Programs
Florida Department of Environmental Protection
Mimi.Drew@dep.state.fl.us
(850) 245-2036

Maryland's MDEStat Program

Description of Initiative:

MDEStat is real-time management system used to increase performance of more than 30 environmental regulatory programs and processes. Maryland citizens expect state agencies to be effective and efficient. Under the direction of Secretary Shari T. Wilson and inspired by Governor Martin O'Malley's CitiStat initiative, the Maryland Department of the Environment (MDE) developed a new management and accountability process called MDEStat. The process enables proactive management; improves MDE's effectiveness and efficiency through intensive, systematic, data-driven oversight; and ensures that MDE is making the best possible use of its resources while also informing Maryland citizens about progress.

MDEStat began in October 2007 and is guided by weekly meetings of the MDEStat panel. The panel is designed to provide a multi-perspective approach and includes MDE's Secretary and eight other members of MDE's senior and executive management reflecting policy, regulatory, scientific, financial, and legal expertise. Media administration directors and program managers participate in their performance data review at monthly MDEStat meetings with the panel.

Data reviewed at MDEStat meetings cover a wide variety of activities and information, from permitting and inspections, to outcome measures such as air quality, to internal processes such as filling vacancies. Data submissions are reviewed and compared to previously submitted information. Panel members comment on this data at the MDEStat meetings, offering suggested improvements, alternative approaches, policy changes, or requests for additional data to be gathered and submitted at future meetings. Accurate and timely data is crucial to the success of this innovative program.

Results to Date:

In just under two years of implementation, the MDEStat program has already improved the way MDE works. Examples of MDEStat successes include the following:

- ❖ Reduced the number of MDE programs with enforcement backlogs from 13 to one;
- ❖ Identified new uses for over \$5 million in previously underutilized federal Drinking Water State Revolving Loan Fund set-aside funds;
- ❖ Improved the compliance rate for radiation machines from around 50% to 74%;
- ❖ Identified four underutilized inspectors, enabling them to devote time to emerging priorities; and
- ❖ Reduced the number of very-overdue personnel evaluations from over 100 to zero.

Contact:

Sue Battle-McDonald, MDEStat Director
Maryland Department of the Environment
sbattle-mcdonald@mde.state.md.us
(410) 537-4111

Indiana's Virtual File Cabinet

Description of Initiative:

The Virtual File Cabinet (VFC) is a web-based document repository that replaces the Indiana Department of Environmental Management's (DEM's) paper filing system. The VFC has allowed the public to access documents that were formerly available only in DEM's Central File Room (CFR). The VFC utilizes a document security index to classify who can see what documents and how much of the document. Portions of a document can be redacted to secure personal or confidential information. Another advantage of the VFC is that the files are not lost or altered when received by the public.

Besides having the ability to scan documents into VFC, DEM now has the ability to electronically import and index documents and emails stored in Outlook, desktops, and DEM shared directories.

Results to Date:

The process for accessing DEM's documents has changed dramatically. Prior to VFC, the CFR received and fulfilled more than 400 requests per month. The CFR was also where staff would checkout historical files to allow them to do their job (examples include a permit writer using historical permit, compliance, and enforcement data prior to writing a new permit or an inspector accessing all files related to a particular facility prior to on-site inspection).

VFC also provides a better picture of what is happening at a particular facility or site. Originally, an individual seeking a record would need to know in which specific program or silo (air versus drinking water, for example) the records were stored. Today, individuals can search by several indexes, including the facility name and physical address. This can provide a view of what is going on at the facility in terms of air, water or land permitting, compliance, enforcement, or reporting without having to know where it was filed or classified in the file room.

The VFC also has reduced the use of more than 3,700 square feet of valuable office space for the CFR. DEM has eliminated hundreds of file cabinets and shelving units in the CFR as well as throughout DEM's facilities. By freeing up the space, DEM is able to relocate almost 150 people from a satellite facility, saving the state more than \$300,000 per year in rental fees.

Check out the VFC at: <http://12.186.81.89/Pages/Public/Search.aspx>.

Contact:

Scott Nally, Assistant Commissioner
Indiana Department of Environmental Management
snally@idem.in.gov
(317) 233-5965

AGENCY IMPROVEMENT

Paper Reduction and Efficiency Initiatives in New Hampshire's Air Monitoring Program

Description of Initiative:

On January 1, 2008, the New Hampshire Department of Environmental Services Air Monitoring Program (AMP) initiated a transition from paper recordkeeping to electronic recordkeeping practices. This initiative, coupled with further practices instituted on January 1, 2009, saved numerous man hours and more than 8,526 sheets of paper per year in the AMP. The following table details the types of records involved in this initiative and total savings per year.

AMP Records Converted from Paper to Electronic during 2008 and 2009			
Type of Record	# of Units in Network	Frequency of Work per Unit	Sheets of Paper Saved per Year
2008			
Gaseous Calibrations (year round)	11	12 /yr.	132
Gaseous Calibrations (seasonal)	9	7 /yr.	63
Gaseous Precision Checks (year round)	11	52 /yr.	572
Gaseous Precision Checks (seasonal)	9	28 /yr.	252
Gaseous Audits (year round)	11	4/yr.	44
Gaseous Audits (seasonal)	9	2 /yr.	18
TEOM Calibrations	5	1 /yr.	5
TEOM Weekly Quality Assurance (QA)	5	52 /yr.	260
BAM Calibrations	2	6 /yr.	12
BAM Weekly QA	2	52 /yr.	104
Filter Sampler Monthly QA	14	12 /yr.	168
Filter Run Data Sheet (1 in 6 day run)	9	61 /yr.	549
Filter Run Data Sheet (1 in 3 day run)	3	121 /yr.	363
Filter Download Summary & PDMT	912 runs between 14 units in network	2 /run	1,824
Filter Sampler Audits	14	4 /yr.	56
MET Audits	11	2 /yr.	22

2009			
Station Log Book Updates switched from weekly to monthly	12	36 /yr.	432
Review Daily Data Reports Electronically on computer instead of printing them out	10 pages/day	365/yr.	3650
Total Sheets Saved per Year			8,526

Results to Date:

These initiatives saved more than 8,500 sheets of paper in the AMP from January 2008 through June 2009. Paper savings will continue to build every day of operation.

Contact:

Kendall Perkins, Air Monitoring Program Manager
 New Hampshire Department of Environmental Services
kendall.perkins@des.nh.gov
 (603) 271-1384

Tennessee Program Integration

Description of Initiative:

The Tennessee Department of Environment and Conservation (DEC) Division of Ground Water Protection (GWP) is responsible for on-site inspection of approximately 20,000 new home subsurface sewage disposal systems, 6,000 system re-inspections, and 5,000 system repairs per year. GWP has approximately 112 field office staff positioned primarily “county by county” through the state.

The State Indoor Radon Program is housed within DEC’s Office of Environmental Assistance (OEA). Seeking more effective outreach opportunities, OEA has worked to develop partnerships within DEC. The GWP staff has on-site personal interaction with the Radon Program’s targeted audience (local builders, county/municipal planners, building code staff). This interaction, coupled with the physical structure of the GWP program (county by county across the state) and the inherent connection between radon and groundwater, makes the plan to integrate radon education with the GWP program a natural fit.

The State Radon Program outreach focuses on new homes and existing homes. Following completion of training and radon mitigation certification, the GWP staff will offer educational materials, mitigation advice, and free radon test kits to homeowners throughout Tennessee. GWP staff also will visit homes where radon resistant construction techniques have been implemented to confirm and document that the effort meets appropriate construction guidelines. GWP will encourage radon-resistant new construction design in all homes, promote radon education, and implement a statewide voluntary radon testing and mitigation program. With this two-pronged approach, DEC will be able to educate the public about the potential health risks of radon while offering them cost

effective solutions. GWP will integrate the Radon Program into existing programs and work duties. Also, GWP will input data for all of its radon activities into the GWP activity database, thereby allowing data on the radon outreach effort to be tracked.

Results to Date:

Since the program was initiated in August 2008, the following results have been achieved:

- ❖ Radon consultations conducted – 124;
- ❖ Radon inspections conducted – 17 (this is new activity since April 2009);
- ❖ Radon test kits distributed – 218;
- ❖ Subsurface sewage disposal systems permits issued – all 4,977; and
- ❖ Subsurface sewage disposal systems repair permits issued – all 1,877.

Contact:

Kathy Glapa, Office of Environmental Assistance, Administrative Services Assistant
Tennessee Department of Environment and Conservation

Kathy.Glapa@tn.gov

(615) 532-8750

Britton Dotson, Division of Ground Water Protection Deputy Director
Tennessee Department of Environment and Conservation

Britton.Dotson@tn.gov

(615) 532-0774

AIR

MassAir Online

Description of Initiative:

Citizens, local community activists, environmental organizations, and partner states in New England frequently request access to information and data. Responses to these requests prior to the MassAir project were limited and frequently delayed. Additionally, the data quality review and transfer mechanisms were cumbersome and resource-intensive.

Leveraging the U.S. EPA/states/tribes Exchange Network, the Massachusetts Department of Environmental Protection (DEP) initiated the Exchange MassAir Project to develop a website to share real-time air quality data with the public, automate some aspects of quality assurance review, and implement an air quality flow to the EPA. All of the tools are available to other states and tribes using the Exchange Network technologies. Any Exchange Network partner capable of generating air quality data in the AQS 2.0 XML format can reuse the MassAir infrastructure to kick-start their own interactive public web interface.

MassAir Website – MassAir was designed to support the needs of multiple types of public users through a variety of features. For example, MassAir includes a “My Community”

feature to allow public users to examine what the air quality data means for general public health in their own community. For users who are new to the study of air quality, MassAir provides educational information, background explanations, and links to further reading, all of which DEP air quality experts publish and maintain. For air quality researchers, MassAir includes the ability to download validated historical data sets for all DEP-monitored parameters and sites. Every hour, air sensors across the state report air quality levels to the MassDEP. The data is filtered for possible erroneous values and fed to the MassAir public website, which offers the following benefits to the agency and the public:

- ❖ Real Time Maps with Alerts – MassAir includes an interactive Google Maps interface that provides users the opportunity to browse air quality conditions across Massachusetts. The maps offer real-time and forecasted air quality levels, and include automatic alerts for when standard air quality thresholds are exceeded or are forecast to be exceeded. All visual map features are supported by accessible text equivalents.
- ❖ Trending and Analysis – MassAir includes graphing tools to give users the ability to view historical and daily trends for all AQS criteria pollutants across the state. The graphing interface allows graphs to be redrawn based on time, region, and pollutant, and includes the last 48 hours of hourly data and up to three years of historical daily averages. Users can view graphs containing actual measured values or browse each data point's calculated Air Quality Index. All visual graph features are supported by accessible text equivalents.
- ❖ Downloadable Data – For additional evaluation, users can export data into Comma Separated Value (CSV) or XML formatted files, or print an HTML report.

Air Quality Quality Assurance (QA) Tools – Air quality data collected by the DEP undergoes a rigorous QA process. Until the MassAir project, the process was highly labor-intensive, repetitive, and manual. The MassAir project developed an automated process to improve QA efficiency, free up valuable state resources, and focus the manual QA efforts on suspicious data points that warrant further human investigation. The automated process is part of the DEP Air QA Tools application – an internal DEP web application that allows the Air staff to review all the state's air quality data via a single interface. The QA Tools application also contains a component that allows DEP to better manage the reporting of incidents and maintenance events that occur at each physical air monitoring field location as recorded by state field staff.

AQS Data Flow – Another objective of the MassAir project that was achieved was reporting air quality data to the EPA's Air Quality System via DEP's Exchange Network Node. The new tool suite enables Air staff to package and submit air quality data with ease.

Contact:

Deborah A. Quinn, Chief Information Officer
Massachusetts Department of Environmental Protection
Deborah.Quinn@state.ma.us
(617) 292-5911

Indiana's Emission Inventory Tracking System

Description of Initiative:

The Indiana Department of Environmental Management (DEM) Office of External Affairs/Information Technology, in coordination with the Office of Air Quality (OAQ), developed an online tool for affected sources to prepare and electronically submit a required report (Air Emission Statement) to the Office of Air Quality. This system also uses DEM's recently approved CROMERR-compliant Receiving System.

This development addressed a number of problems. With the old system users are required to install software. Commonly this could require the user to call for IT support due to their company's computer security policies. In some cases it could require more than one visit from their support staff due to the outdated nature of the software being installed. Also, since the software is outdated, there are no assurances that it will work with new releases of the Windows operating system. Other software issues include that the data has to be submitted on diskette and that the installation file is proprietary. DEM found that there is a declining number of companies purchasing PCs with diskette drives, as most have been migrating to using other high memory devices. Some of the reference data used by the software has been revoked by U.S. EPA, but due to the proprietary nature of the installation file it cannot be changed.

DEM's OAQ and Office of External Affairs/Information Technology developed a plan for a new system for users to complete the Emission Statement. The goal was to create an easily navigable interface with up-to-date information to collect the reports from the users. Another goal was to ensure that all users had access to at least one previous report. This allows the user to make a copy of that data for updating, thereby speeding the data entry process. Using experience and new innovations that are available to DEM, it was able to develop an online database that addressed the problems of the PC-based software and included at least one report for the users. This new system is called the Emission Inventory Tracking System (EMITS).

As a side benefit, EMITS will reduce the amount of paper being used by companies and submitted to DEM. Other benefits include reduced employee time in routing mail and reduced mail fee expenses to the reporter's company (often reports are sent as certified mail, increasing the cost over regular First Class). An unexpected benefit came in the form of user support. In the past there was no way to confirm what the user was doing, forcing DEM staff to rely on the verbal descriptions from a user who may not be familiar with the system. Now staff can actually "pull up" the data the user is working on and can better assist a user in preparing the report.

OAQ staff was able to recruit beta testers. These were external customers with varying degrees of familiarity with the Emission Statement. Testers represented pharmaceuticals, steel, energy, environmental consultants, local government agencies, and universities.

Results to Date:

In the first year of implementation of the 315 reports that were due this year, 187 were received via EMITS as of the summer, representing a first-year acceptance rate of 59%.

In addition, there were 51 facilities that registered to see the new system. In most cases they were already preparing the report in the old format, but they were generally pleased with the new system.

During the second year of implementation, 244 of the 309 expected reports were received via EMITS, an acceptance rate of 79%.

Contact:

Scott Nally, Assistant Commissioner
Indiana Department of Environmental Management
snally@idem.in.gov
(317) 233-5965

COMPLIANCE AND ENFORCEMENT

New Jersey's Environmental Stewardship Program

Description of Initiative:

Recognizing that achieving 100% compliance with today's regulations will not solve the world's environmental problems and that adding more requirements is an inefficient answer, the New Jersey Department of Environmental Protection (DEP) has embarked on a project that identifies and pursues a real and ongoing role for compliance and enforcement staff.

The new initiative, known as the Environmental Stewardship Program, ventures beyond compliance enforcement and expands the role of the enforcement inspector to recognize and encourage regulated sites that take voluntary actions that go beyond regulatory requirements and standards and result in significant benefits to the environment. The new initiative works effectively with limited resources while maintaining strong enforcement of minimum standards and offers only "recognition" to participating sites to avoid the pitfalls of similar programs such as U.S. EPA's now-defunct Performance Track.

The program employs a standard set of criteria that enables inspectors to record voluntary actions that reflect stewardship and sustainability as an additional part of compliance assurance site visits. The initiative builds on an inspector's current ability to provide compliance assistance by asking the inspector to also educate the individuals with whom they interact during site visits about stewardship and sustainability concepts and practices.

Standardized observations of stewardship activities can be collected in checklist format familiar to inspectors and easily integrated into existing online tools for the public. Simply publicizing positive achievements in today's environmentally focused society provides its own incentive for regulated entities to take up such actions voluntarily. The readily accessible information is devised as a resource as well as a promotional tool to encourage networking, mentoring, and collaboration, along with healthy competition.

This seemingly obvious direction represents, in practice, a significant shift in mindset for the organization, and is an embodiment of one of the agency's strategic goals to

"effectively balance compliance assistance, enforcement, and education to achieve compliance and move the regulated community and the public towards environmental stewardship." The change adds to a strong enforcement foundation and enables a better-rounded, forward-looking, and positive dynamic between regulators and those who are regulated.

Results to Date:

The DEP initiated the Environmental Stewardship Program in January 2008 with the training of all enforcement staff. Following the training period, most staff began conducting stewardship surveys during normal compliance evaluation site inspections and documenting stewardship activities that qualified for recognition based on the 21 stewardship checklist categories.

Within the first six months, the program recognized 126 sites for their stewardship practices, issued certificates to each site, and published a list of the environmental steward participants on the DEP website, including details of each site's accomplishments. Over the course of a year, participation in the stewardship program has more than doubled. As of July 2009, there were 335 sites recognized for their stewardship activities. Within this current group, more than 60% of the sites are recognized for engaging in multiple stewardship practices.

The DEP Environmental Stewardship program continues to grow and succeed in its goals of disseminating knowledge and encouraging participation in environmentally beneficial activities within the confines of the compliance and enforcement infrastructure. At the same time, it maintains stringent compliance enforcement standards.

Contact:

Janet Smolenski, Bureau of Enforcement and Compliance Services Program Development Specialist
New Jersey Department of Environmental Protection
Janet.Smolenski@dep.state.nj.us
(609) 292-3036

ENVIRONMENTAL EDUCATION

Nebraska's Hybrid Wind and Solar Ambient Air Monitoring Station

Description of Initiative:

Nebraska Department of Environmental Quality (DEQ) staff has designed and constructed a portable PM-2.5 ambient monitoring station that is "off-grid." The monitoring station, including a met station, will be powered by solar or wind power. The system consists of a 200-kilowatt per month wind turbine and a 4-kilowatt per day solar array. A trailer houses all the components needed for the solar, wind, and air monitoring systems. At the monitoring site, the mounting frame expands, and the eight solar panel modules are secured to the frame. The 50-foot wind turbine is secured on the ground next to the trailer.

The monitoring effort is being utilized by the Scottsbluff High School and incorporated into various science classes. The monitor will provide real-life examples of how principles of geometry and astronomy are applied to the location and placement of solar panels. The partnership between Scottsbluff High School and DEQ will enable students to see first-hand how sources of alternative energy can provide energy savings as well as provide greater flexibility in siting energy consuming facilities. DEQ staff will set up live feeds into classroom computers and give students access to real-time data related to power produced by the wind turbine and solar array as well as meteorological information.

Results to Date:

The monitoring system has been providing meteorological and PM-2.5 data since May 2009. With minor exceptions, the system has proven reliable.

Contact:

Chris Hetzler, Program Specialist
Nebraska Department of Environmental Quality
chris.hetzler@nebraska.gov
(402) 471-2189

PARTNERSHIPS

Green Development in Tennessee

In February 2008, the Tennessee Department of Environment and Conservation (DEC) and the Kentucky Department for Environmental Protection (DEP) hosted a Green Development conference with grant support from the U.S. EPA Office of Water. The conference attracted nearly 300 local government representatives that manage and implement land-use planning, building codes, plumbing codes, and storm water programs, as well as architects, designers, environmentalists, and others interested in green development.

The conference was largely funded by a grant award from the U.S. EPA Office of Water. The joint proposal, submitted by DEP and DEC, was titled “Green Building: Fostering Water Quality and Efficiency in the Southeast.” The conference was the key work product of the grant.

The primary goals for this conference were to:

- ❖ Inform city/county officials of the benefits of green development and the codes/regulations that can be implemented to encourage green development in their communities; and
- ❖ Promote dialogue and exchange among developers, architects, contractors, and state and local officials on green development and its contribution to the efficient use and quality of our waters.

After the conference, participants overwhelmingly expressed enthusiasm for the subject matter and a desire to implement some of the green infrastructure and low-impact

development practices in their own communities. In response to the local interest generated by the conference, DEC, in partnership with several other organizations, created a new Green Development Grant opportunity to fund local community projects implementing green infrastructure and low-impact development practices. The grant offering was an effort to encourage the advancement of green development projects across the state.

Results to Date:

In early 2008, DEC established a website on green development that initially featured conference information and later provided information on general green development, as well as the information on the grant offering. The site can be accessed at:

<http://state.tn.us/environment/greendev/index.shtml>.

In February 2008, DEC and DEP hosted a 1½-day conference in Nashville entitled “Green Building: Good for Water and the Bottom Line,” which featured a number of national and regional speakers including Nancy Stoner of the Natural Resources Defense Council, Bob Berkbile of BNIM Architects, Neil Weinstein of the Low-Impact Development Center, and then-U.S. EPA Assistant Administrator Ben Grumbles. The conference attracted nearly 300 local government representatives that manage and implement land-use planning, building codes, plumbing codes, and storm water programs, as well as architects, designers, environmentalists, and others interested in green development.

With EPA’s permission, DEC used the profits from exhibitor participation in the conference (nearly \$40,000) to develop a partnership with the Tennessee Department of Transportation and Tennessee Valley Authority’s Growth Readiness Program. The three entities partnered to set up a \$100,000 grant offering to local governments in Tennessee for green development projects. The Tennessee Stormwater Association participated in the development of the grant structure and publicized the offering to municipalities statewide. They also are assisting in the project management for the grant implementation.

Four municipalities were selected as grant recipients in December 2008. Their projects include pervious parking areas, rain gardens, and green roofs. All four currently are implementing their projects. The DEC Green Development website will be used to document the four projects to educate municipalities across the state.

Contact:

Elaine Boyd, Strategic Management Director
Tennessee Department of Environment and Conservation

Elaine.Boyd@tn.gov

(615) 532-0288

Indiana CLEAN Community Challenge

Description of Initiative:

Touted as the first of its kind by the U.S. Environmental Protection Agency Region V, the Indiana CLEAN Community Challenge encourages positive environmental actions at the local government level, while forging new partnerships between the State of Indiana and local government. Participating in the CLEAN Community Challenge provides Indiana municipalities with free technical assistance from the Indiana Department of Environmental Management (DEM). DEM works directly with local governments, identifying the environmental impacts associated with municipal operations and developing a Quality of Life Plan to address these impacts. Participating municipalities are guided through each step of Quality of Life Plan development, resulting in a less expensive, more effective, and greener management system to address a community's environmental issues.

Results to Date:

DEM has formally recognized 10 other Indiana municipalities as members of the CLEAN Community Challenge for creating and implementing their respective Quality of Life Plans, as well as tracking their environmental progress. With assistance from DEM, CLEAN members have increased environmental awareness throughout their communities, reduced fuel consumption, and saved taxpayer money. The following list highlights other accomplishments made during 2008 by CLEAN Community Challenge members:

- ❖ The City of Indianapolis saved 498,944 kilowatt hours of electricity by retrofitting traffic signals with LED lights, saving \$37,720.
- ❖ The City of La Porte increased residential leaf composting collection by 779 tons (4,449 cubic yards).
- ❖ The City of Michigan City implemented a tire retread program that requires all city-owned heavy vehicle tires to be recapped a minimum of three times prior to disposal of the tire cores. Michigan City purchased a total of 188 tires in 2008, 143 of which were retreads. This initiative saved the city \$15,166 and diverted 10 tons of waste from disposal.
- ❖ The City of Crown Point in one year increased the residential recycling rate 10.6%, or 240 tons, by enhancing the city's recycling education and outreach efforts.

In addition, since January 1, 2009, DEM has provided technical assistance to ten municipalities, including identifying environmental impacts, providing compliance assistance, and giving expert advice on measuring continual improvement.

Contact:

Jennifer Schick, Pollution Prevention Branch Chief
Indiana Department of Environmental Management
jschick@idem.in.gov
(317) 234-5286

Indiana Environmental Stewardship Program

Description of Initiative:

The Indiana Environmental Stewardship Program (ESP) is a voluntary, performance-based leadership program designed to recognize and reward Indiana regulated entities for going above and beyond current environmental regulations. In return for their exemplary environmental performance, these establishments receive program incentives including regulatory flexibility, public recognition, and networking opportunities.

ESP focuses on improving Indiana's environment and business climate through innovation and efficient resource allocation. Participating organizations achieve environmental objectives through creating and implementing an environmental management system (EMS). Together, the EMS and the steward's commitment to continual environmental improvement will increase efficiency; decrease environmental impacts; and save the business time, money, and resources. Regulatory flexibility incentives earned by members are designed to provide business value, reduce regulatory oversight, allow a shift in resources from compliance-driven to achieving results, and provide the member with increased operational flexibility.

Results to Date:

Members of ESP implemented environmental improvement projects during 2008 and achieved monumental results. Currently, there are 45 ESP business members across the state, each of which is committed to implementing or maintaining measurable environmental improvements, such as reducing water or energy use, decreasing solid or hazardous waste, or reducing air emissions.

ESP members recently reported their 2008 accomplishments to the Indiana Department of Environmental Management (IDEM). During 2008, ESP members implemented pollution prevention initiatives that resulted in the reduction of:

- ❖ Water use by 69,413,000 gallons;
- ❖ Electricity use by 10,939,149 kilowatt hours;
- ❖ Miles driven by 243,789;
- ❖ Natural gas use by 8,999 therms;
- ❖ Carbon dioxide emissions by 13,099,680 pounds;
- ❖ Copper discharges to water by 3 pounds;
- ❖ Solid waste sent to the landfill by 18,135,195 pounds;
- ❖ Volatile organic compound emissions by 820,800 pounds;
- ❖ Energy use by 2,325 million British Thermal Units;
- ❖ Material use by 2,463,680 pounds; and
- ❖ Hazardous waste by 12,790 pounds.

Contact:

Jennifer Schick, Pollution Prevention Branch Chief
Indiana Department of Environmental Management

jschick@idem.in.gov

(317) 234-5286

PERMITTING

Electronic Routing and Digital Signature of Licenses in Maine

Description of Initiative:

In order to reduce permitting timeframes and save money, the Maine Department of Environmental Protection has deployed three off-the-shelf technologies in the processing of the hundreds of permits issued by three offices in the Bureau of Land & Water Quality. This has eliminated multiple steps in processing permits, reduced processing times, and saves hundreds of dollars each month in direct postage and handling charges.

This is how it works.

Microsoft Office, Adobe Acrobat, and digital certificates sold by the third-party vendor have been combined in an essentially paperless process that takes licenses from draft to signed and delivered. Physical routing of documents has been replaced by the use of the Task feature in Microsoft Outlook. All stages of review and processing after a draft is created are handled by the assignment of Tasks. Tasks allow for a date-specified review or signature and for tracking of the status of review by the sender and recipient. Each Task includes a hyperlink to the location of the file, rather than an attachment of the file, in order to eliminate the creation of multiple versions and ensure that only one central document is electronically edited and commented upon.

Once a license is finalized, it is prepared as an Adobe .pdf file to include a cover letter and all associated standard conditions and information sheets. This file is routed to the Bureau Director as an Outlook Task, who reviews and approves the document electronically. A fully encrypted digital signature is applied via a password by the Bureau Director within the Adobe Acrobat program. Following signature, the electronic file is distributed to applicants or their agent via email, using a return receipt to track delivery. Applicants must opt out of electronic signature and delivery, which has resulted in excess of 95% of permits being mailed electronically and 99.9% being signed electronically. The transmittal email provides directions to the applicant to verify the validity of the digital certificate using the security provisions inherent to the certificate.

Maine law (10 MRSA §9418) provides for the use of digital signatures. This is the first instance of the use of digital signatures by Maine state government for agency decision documents.

Startup costs were \$449 for a site license of Adobe Acrobat and \$60/year for a digital certificate from DST ACES. The State of Maine will begin issuing its own digital certificates within the next year, eliminating the need to use third-party vendors.

Results to Date:

The following results have been achieved:

- ❖ Routing and review times have been reduced by days.

- ❖ Multiple processing steps, from printing to manual recording of filing dates, have been eliminated.
- ❖ Time between signature and delivery has been reduced from days to hours.
- ❖ Direct postage and handling savings range between \$150 to \$300 per month within three programs in one bureau.
- ❖ Applicants' satisfaction is universally high given ease of use of email and .pdf files.

Contact:

Andrew Fisk, Land & Water Quality Bureau Director
 Maine Department of Environmental Protection
Andrew.c.fisk@maine.gov
 (207) 592-0327

WASTE

Wisconsin Initiative for Sustainable Cleanups

Description of Initiative:

The Wisconsin Initiative for Sustainable Cleanups (WISC) integrates sustainability strategies into the selection and implementation of remedies at contaminated sites in which the state is in the lead for remediation. The initiative uses guidance, metrics, and strategic linkages to existing programs to make sustainability a mainstream strategy for the Remediation and Redevelopment Bureau to accomplish core work for the program. WISC uses the guiding principle that sustainability should be considered in remedy selection and implementation but must not compromise environmental protection. The principle is applied to a variety of state and federal cleanup activities and is used to leverage and optimize existing funding, finding potentially new sources of funding and utilizing markets that have greener technologies.

Results to Date:

- ❖ Developing a guidance document, through the use of a working group made up of program practitioners and with the use of a contractor, to:
 - Develop meaningful sustainability performance metrics to document and explain progress to stakeholders, administrators, and the public.
 - Ensure ease of use and implementation and broad application to state and federal remedial activities.
 - Provide a pathway for greener optimization of existing systems.
 - Incorporate existing sustainability initiatives (e.g., U.S. EPA Greener Cleanups, Sustainable Remediation Forum, Air Force Center for Engineering and Environment).
- ❖ Integrated with other “Greener Initiatives” such as:
 - Governor’s Task Force on Global Warming;
 - The state energy efficiency program, Focus on Energy;

- State and federal grants as additional/new funding sources;
 - Performance recognition programs such as Wisconsin's Green Tier program; and
 - Wisconsin's Administrative Code for Remediation.
- ❖ Selected contractor and developing options for six pilot sites using guidance and pursuing specific sustainable strategies.
 - ❖ Conducting initial development of sustainability metrics (economic, social and environmental).
 - ❖ Developing baseline metrics that can be used for comparison/analysis of sustainability options.
 - ❖ Developing audit protocol for evaluation of existing sites.
 - ❖ Developing sustainability matrix and priority weighting for sites being evaluated.

Contact:

Robert Strous, Jr., Bureau for Remediation and Redevelopment, Fiscal & Information Technology Section Chief
 Wisconsin Department of Natural Resources
robert.strousjr@wisconsin.gov
 (608) 266-2699

Florida's Remote Technologies for Inspections

Description of Initiative:

The Florida Department of Environmental Protection (DEP) is committed to two design principles for its remote workforce – the inspection process should be paper-free, and inspectors should have access to all the resources in the field that they have in their offices. The initial application to incorporate these principles was the **Florida Inspection Reporting System for Tanks (FIRST)**, which was developed by DEP's Division of Waste Management to conduct inspections at petroleum storage tank facilities. Implemented in 2006, FIRST paid for itself in increased productivity within 14 months. Inspectors using FIRST save on gas and travel time by leaving their homes to go directly to the inspection site. The built-in workflow ensures processes and data quality controls are standardized, enabling management to view information from a statewide perspective. The **Solid and Hazardous Waste Information Field Tracking (SWIFT)** application was developed on the same platform as FIRST at a reduced cost since most of the basic functionality was reused. Solid waste program inspectors began using SWIFT in May 2008, and hazardous waste program inspectors began in August 2008.

When these applications were implemented, each program inspector was outfitted with a Panasonic Toughbook, scanner, printer, and digital camera. The Toughbooks are wireless and GPS-enabled, allowing real time access to files and DEP databases. Manuals, journals, previous inspections, permits, and other supporting information are pre-loaded onto the Toughbooks. Each inspector is now a self-contained remote resource no longer required to have an office space. With any public internet connection, inspectors can download and send back to the appropriate databases the inspection results, including digital photographs and any paperwork scanned onsite. Updates to the software and any

communication with the inspectors are executed through a synching process. After getting the owner or operator's signature on the inspection report, the inspector may print and leave a draft copy of the completed report. When the inspection report is received at headquarters it is routed electronically using workflow software to ensure that approvals and notifications are executed appropriately. Inspection reports, including embedded photographs are stored in DEP's web-based document management system known as OCULUS™ for viewing by all DEP staff and the public.

Results to Date:

These two remote technologies have improved program productivity and efficiency by streamlining the inspection process. With an automated and paper-free process, inspection results along with any violations and proposed remedial actions can be viewed at headquarters literally within minutes of an inspection being completed and uploaded from the field. Most importantly, having storage tanks, solid waste, and hazardous waste program inspections all supported by the same software application allows DEP to cross-train its waste inspection staff to fully leverage available resources. Likewise, DEP intends to use the remote technology of these applications to lay the groundwork for other DEP regulatory inspection programs to further leverage the investment.

Contact:

Mimi Drew, Deputy Secretary of Regulatory Programs
Florida Department of Environmental Protection

Mimi.Drew@dep.state.fl.us

(850) 245-2036

WATER

Florida's Stormwater NPDES Interactive Notice of Intent

Description of Initiative:

Florida's National Pollutant Discharge Elimination Program (NPDES) Stormwater Program processes 4,000 to 6,000 generic permit applications for construction activities and industrial facilities each year. In February 2009, Florida's NPDES Program released a new online system called interactive Notice of Intent (iNOI). The iNOI system allows applicants to:

- ❖ Complete, save, edit, and submit NPDES stormwater permit application forms electronically;
- ❖ Pay fee(s) online with a Visa or MasterCard;
- ❖ Track permits created from iNOI;
- ❖ Search for and generate a variety of reports for NPDES stormwater permits; and
- ❖ Submit notice(s) of termination even if a paper application was submitted for the construction activity/facility.

Permit-related documents generated by the iNOI process are issued by email. The system includes drop-down menus, advanced mapping features, and system programming defaults to help applicants eliminate common mistakes and omissions associated with paper

notices. The system also eliminates the need for manual data entry by program staff. The use of iNOI is encouraged but voluntary. Applicants can still submit paper notices or applications. The iNOI system is available online at:
www.dep.state.fl.us/water/stormwater/npdes/.

Results to Date:

The iNOI system has maximized the permitting efficiency of the program and reduced contract costs for processing permits previously submitted in paper form. Currently, 25% of all notices received are processed using iNOI. Since the launch of the system, more than 500 notices have been processed using iNOI. This has reduced contract costs for processing notices by more than \$44,000. In addition, several users have commented that the system is easy to use. They appreciate the user-friendly features such as the online help screens and drop-down menus as well as the ability to pay online with a credit card. The Florida Department of Environmental Protection intends to use the technology to lay the groundwork for other agency programs to further leverage the investment.

Contact:

Steven Kelly, NPDES Stormwater Program Administrator
Florida Department of Environmental Protection
Steven.Kelly@dep.state.fl.us
(850) 245-7518

Indiana's Wetland Mitigation Matchmaking Site

Description of Initiative:

The Wetland Mitigation Matchmaking Site is a website for agencies to view where current transportation construction projects are taking place, where they are in relation to potentially impacted wetlands, and where mitigated wetlands can be located. This website is designed as a tool to communicate between the Indiana Department of Transportation (DOT), Indiana Department of Natural Resources (DNR), and Indiana Department of Environmental Management (DEM) and to eliminate the need for enforcement actions between agencies.

Results to Date:

The website has been released, and the public and agencies are inputting data. Please see the URL: <http://idemmaps.idem.in.gov/apps/MitigationVolunteer/>.

The results are increased communications between agencies, less destruction of sensitive areas, and replacement of removed wetlands. This allows DOT to work in conjunction with DNR to help mitigate wetland impacts, put those wetlands into DNR control to further protect the resource, and reduce the need for DEM enforcement actions against DOT. The site improves efficiency by allowing DOT to mitigate potential environmental impacts as quickly as possible while preserving Indiana's water resources.

Contact:
Scott Nally, Assistant Commissioner
Indiana Department of Environmental Management
snally@idem.in.gov
(317) 233-5965

Tennessee's Harpeth River Watershed Initiative

Description of Initiative:

The Harpeth River Watershed Initiative (HRWI) is part of a Memorandum of Understanding, signed in August 2007, among three governmental entities – the Tennessee Department of Environment and Conservation (DEC), the City of Franklin, and Williamson County government, which establishes a process for the identification and evaluation of projects that will impact the Harpeth River and its tributaries. Under the agreement, the first of its kind in Tennessee, the staffs of the city, county, and DEC meet quarterly to review, collect, and develop information concerning potential environmental projects that improve, remediate, or protect the Harpeth River Watershed.

The Harpeth River Watershed consists of more than 1,300 miles of streams, more than 27% of which are impaired with environmental contamination. Williamson County houses more than 52% of the total Harpeth River Watershed acreage. Williamson County is an affluent, suburban area with a population that is expected to increase 53% to over 304,000 people by the year 2020. The Harpeth is a priority for the DEC based on the percentage of stream miles on the 303(d) list, partially due to rapid conversion of agricultural land to sprawling residential development.

The goal of the Harpeth River Watershed Initiative (HRWI) is to identify streams in Williamson County that can benefit from water improvement projects and to work with willing landowners toward that goal. DEC hopes to replicate this model in other areas of the state.

Results to Date:

The proposed Eastern Flank Battlefield Park in Franklin was identified in 2007 as a viable project for the new initiative. It contained two highly degraded streams – Carnton and McGavock Creeks. The City of Franklin proposed restoring the historic Eastern Flank Battlefield site to approximate conditions present during the late 1800's. The site of the Eastern Flank Battlefield Park was modified by development during the mid 1900's, specifically the Franklin Country Club and the creation of an 18-hole golf course. The golf course development resulted in channelization of sections of the two streams, impounded Carnton Creek with three ponds used as water features for the golf course, and removed much of the riparian zone in long reaches. Furthermore, severe bank erosion was occurring throughout much of both creeks.

Civil and Environmental Consultants, Inc. was tasked with preparing the stream restoration plan for Carnton and McGavock Creeks. The project involved complete channel reconstruction in the areas of three former golf course ponds. Other areas of the project incorporated bank stabilization, instream habitat amendments, and riparian

restoration. The restoration plan was reviewed and approved by DEC, the City of Franklin, and the historic architects to ensure that the plan met the need for stream restoration and the historic theme of returning the site to the near 1860's era layout. Numerous stakeholder group meetings were conducted during planning to ensure that the restoration work met the goals of the overall project.

The first restoration project was completed in November 2008. With funds from the Tennessee Department of Transportation, DEC led the Stream Restoration Project, which has restored the historic creeks at the Eastern Flank Battlefield to their original state. Impoundments were removed. Flow was increased through the creeks to the Harpeth. Riparian buffer zones along the streams have been established to reduce erosion and sedimentation reaching the creek. These buffers will ensure that the increased flow will also be carrying fewer pollutants when it reaches the main stem of the Harpeth River.

Contact:

Dr. David Duhl, Watershed Coordinator
Tennessee Department of Environment and Conservation
David.Duhl@tn.gov
(615) 532-0438

Tennessee's Qualified Local Program

Description of Initiative:

Siltation (sedimentation) is the most frequently cited cause of waterbody impairment in Tennessee, impacting more than 5,800 miles of streams and rivers. Excessive sediment loading from land disturbance and construction activities in Municipal Separate Storm Sewer Systems (MS4s) is a major ecosystem stressor, and has adversely impacted municipal stream biota, either directly or through changes to physical habitat.

In 2006, Tennessee identified a number of waterbodies within the boundaries of many of the state's MS4s as not fully supporting designated use classifications due to siltation and/or habitat alteration associated with urban runoff, land development activities, and streambank modification associated with construction.

Tennessee decided to develop criteria and incentives for MS4s to become Qualified Local Programs (QLPs) as part of the effort to eliminate siltation and improve water quality. It is anticipated that the U.S. EPA Innovation Grant received by the Tennessee Department of Environment and Conservation (DEC) will help the state and a stakeholder committee design a QLP that makes sense and becomes a desirable status for an MS4. The basic requirement is that a QLP will develop and maintain robust erosion prevention and sediment control programs within its own MS4, thereby eliminating the need for state oversight and duplication of state and MS4 issued construction general permits. Increased local oversight would ensure construction sites' adherence to proper stormwater best management practices and better prevent sediment and increased stormwater volumes from flowing off-site and into storm drains, streams, and watercourses.

The state, under the EPA Innovation Grant, is presently facilitating workshops between numerous stakeholders to help establish incentives that would encourage MS4s to become QLPs. In addition, DEC is creating a recognition and rewards program for the development community. DEC facilitated the formation of a statewide not-for-profit MS4 association to help foster communication between MS4s, provide a forum for distributing information and education, and prompt discussion of – and experience with – best stormwater management practices.

One of the major program goals is to encourage MS4s to utilize the qualifying provision through the development of criteria, incentives, and a recognition/awards program. The use of this option will further several important goals, but most importantly will ensure the improvement of water quality through an efficient implementation of the construction general permit. It will also assist the construction community in complying with permits and encourage strong MS4 erosion prevention and sediment control programs. DEC's objective is to link the attainment of QLP status with additional (e.g., beyond those measures required in the permit) proactive and remedial measures to control the discharge of sediment into impaired waterbodies.

Results to Date:

One of the initial activities was the development and facilitation of the MS4 group, chartered as the Tennessee Stormwater Association, with kickoff meetings held in March 2008. The meetings were held in four areas of the state. They were designed to allow discussion of the goals of the innovation grant, the establishment of the Tennessee MS4 Association, and the creation of an advisory committee to assist in the development of criteria for the QLPs. The meetings continue to be held quarterly.

The chartered Tennessee Stormwater Association is now considering funding a statewide education coordinator who will develop, process, and coordinate educational materials for MS4s.

A QLP Advisory Committee Kickoff Meeting was held in August 2008. Discussions centered on redundancies between the MS4 and the Tennessee Construction General Permit programs. DEC hopes that this advisory committee, which includes members from the municipalities as well as the regulated community and environmental groups, will thoughtfully explore all possibilities and consider potential benefits and incentives to ensure the success of this program. The discussion also focused on some potential incentives that DEC could provide to encourage MS4s to consider applying for QLP status. QLP Advisory Committee Meetings are held quarterly.

Contact:

Robert Karesh, Statewide Stormwater Coordinator
Tennessee Department of Environment and Conservation
Robert.Karesh@tn.gov
(615) 253-5402