



Regional Environmental Priority (REP) Projects

U.S. Environmental Protection Agency
Region 4

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EPA Region 4

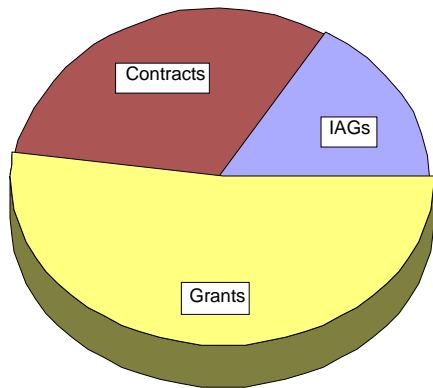
INTRODUCTION

Protection of human health and the environment in the Southeast presents unique challenges, and Regional Geographic Initiative (RGI) funding is an essential tool for Region 4's success in meeting these challenges. The Region uses RGI funds for Regional Environmental Priority (REP) projects that address unique environmental issues that may not be fully funded by national program efforts. This funding can be used for grants, contracts or interagency agreements for these region-specific, complex environmental challenges. An additional benefit is that these funds can be used geographic or sector-based initiatives that cross different programs and innovative approaches that need further study before adoption as routine implementation. RGI funding enables the Region to bring something to the table in collaborative efforts and to leverage external funding when using collaborative approaches with other federal agencies, states, local governments, communities, industry, private sector, academia, environmental groups and other partners on issues that are high priorities for this Region. These funds are often used to address gaps in national program funding or for voluntary programs or other unfunded mandates. The projects funded by RGI contribute to meeting national strategic goals as well as meeting regional challenges. RGI funding enables the Region to support communities in restoring community health and ecosystems under Goal 4, Healthy Communities and Ecosystems, of EPA's Strategic Plan. The funds are used to address urban, rural, industrial, agricultural, and coastal environments facing difficult threats that require unique approaches to protect and restore these ecosystems in the Southeast.

Region 4 seeks to identify projects that will develop new approaches to regional environmental priorities and test unproven technologies or models that can be used in other communities or sectors. In this way, the Region buys the most value for the small amount of money available through RGI. Total annual RGI funding is only about \$500,000 but is very important to the Region because these funds are generally the only source that can be used for specific regional priorities that are multi-media or fall within gaps in national program funding.

From 2002 to 2006, the \$1,258,046 awarded to grants resulted in grantees leveraging \$1,088,172, which is an 84.5% return on the invested RGI funds. Generally, Interagency Agreements (IAGs) between federal agencies also leverage funds from the partnering agencies but current databases don't capture that information. The following chart shows how funding was allocated between IAGs, contracts, and project grants during this same period. Highlights of past projects from 2004 to 2006 by state follow the chart.

RGI Funding 2002-2006



IAGs \$397,955 *Contracts* \$753,838
Grants: \$1,258,046 *TOTAL:* \$2,409,839

Alabama

Assistance for Alabama Information Infrastructure

Grant Award: \$75,000 Recipient: Alabama Department of Environmental Management

Funding enabled the State to develop an integrated multi-media information management system to improve data quality and access for decision makers and public understanding and accessibility. The Alabama Department of Environmental Management (ADEM) migrated from an outdated information system to an Oracle-based system for interface with EPA's National Environmental Information Exchange Network to facilitate the exchange of environmental data. The following databases were moved to the new system as a result of this grant assistance: Hazardous Waste Pre-Approval System, Hazardous Waste Manifest Document Tracking System, Underground Storage Tanks System, and ADEM Commission Meeting Minutes and Agenda. All databases are now in production as Oracle applications, facilitating their interface with the EPA Exchange Network. [EPA Project Officer: Rich Nawyn/Hector Buitrago]

Remediation of Contaminants in K-12 School Environments

Grant Award: \$50,000 Recipient: Waste Reduction and Technology Transfer (WRATT) Foundation
Leveraged Funds: \$12,500



School systems normally have staff to handle routine maintenance and cleaning who are not normally skilled at identifying and eliminating environmental problems that impact school children. Frequently, school personnel are not aware of potential hazards, such as mercury vapors, lead dust, pesticide exposure, asbestos, and mold. This project would bring in expertise to identify such problems and implement environmentally-safe solutions and technical assistance for energy conservation measures and Integrated Pest Management (IPM). The project targets schools with the potential for higher exposure in economically disadvantaged areas and will establish models that can be shared with other schools. The project uses an

innovative, multi-media approach to address environmental issues in K-12 public schools that impact a sensitive population. The primary objectives are 1) to find and identify sources of lead, mercury, pesticides, mold, asbestos and other hazardous chemicals in school environments; 2) to locate and inventory quantities of contaminants in targeted schools; 3) to provide technical assistance; 4) to recommend environmentally safe approaches and technologies to eliminate potential adverse impacts to school children; and 5) to recommend energy saving opportunities that reduce operating costs and free up funds for educational activities. [EPA Project Officer: Delores Rodgers-Smith]

Florida

Defining Groundwater/Surface water Interactions in Florida Watersheds

Grant Award: \$75,000

Recipient: Florida Department of Environmental Protection (FDEP)

This project integrated the groundwater protection program which strives to protect the public's drinking water supplies under the Safe Drinking Water Act (SDWA) with surface water protection under the Clean Water Act (CWA) by developing a better understanding of groundwater flows and their impacts on Total Maximum Daily Loads (TMDL) to surface waters in Florida. EPA assisted the State in the calculation of TMDLs for FL watersheds. The project provided for acquisition of seepage meters and other equipment for use at the targeted surface water body, Lake Bradford. The project involved data analysis and comparison to radioisotope analysis and a data and literature search for watersheds with large ground water inputs and verification with resistivity measurement. The project resulted in a division of the state into physiographic regions and mini-regions that correlate with the state's basin rotation schedule. Because Lake Tarpon is scheduled for TMDL development in 2008, the data collected during the testing was used as calibration information for ground water seepage used in the model providing inputs into the TMDL calculations. The seepage meter has proven to be useful for monitoring and studying groundwater and surface water interaction. The data will enable the establishment of a more effective TMDL and will result in better protection of water quality throughout the state. [Project Officer: Nancy Marsh]



Georgia

Evaluation of Potential Alternative Approaches to Stream Buffers for Water Quality Protection in GA

Grant Award: \$70,000

Recipient: Georgia Environmental Protection Division (GA EPD)

Leveraged Funds: \$11,000

This project focused initially on priority watersheds in north Georgia but has applicability to the rest of the state and the other seven states within Region 4. The project used two demonstration watersheds -- Yahoola Creek, a tributary to the Chestatee River located in Lumpkin County, and the Upper Flint River, which represents a highly urban area near Hartsfield-Jackson Atlanta International Airport. Yahoola Creek is in a relatively undeveloped area and has recently been impounded to provide drinking water for county residents near the city of Dahlonega, The Upper Flint drains much of a developed area in Clayton County. Key objectives are to: 1) develop simple watershed models using available data and modeling tools for both rural and urban watersheds to evaluate existing conditions and alternative approaches for management; 2) compare potential watershed conditions (pollutant loadings) for existing and future land-use conditions, using stream buffers and/or other post-development stormwater controls; 3) explore a site-development example using the LIFE^(TM) model to demonstrate how effective site design can be implemented to reduce pollutant loadings and maintain hydrologic conditions; and 4) disseminate study results to county officials through regional meetings, magazine articles, and the Association of County Commissioners of Georgia (ACCG) website. ACCG is a partner in this effort and stakeholders include Lumpkin and Clayton Counties and environmental groups and the agricultural community. Expected outputs include two documents summarizing the results of the comparison of watershed model management alternatives and a technical memorandum documenting the methodology and modeling results along with a project fact sheet for communicating results to local government and citizens. Also,

there will be a technical memorandum and a fact sheet to document the benefits of LID techniques and implementation of more comprehensive stormwater BMPs for water quality protection and maintenance on new and re-development projects. Intermediate outcomes will include 1) confirmation that alternatives to buffers are as effective or are not effective, 2) example applications of the analysis tools, 3) examples of potential alternatives, and 4) positive attention on water quality protection during and after development. The implemented projects will result in broader acceptance in Georgia that will better protect water quality through best management practices and low-impact development approaches. [EPA Project Officer: Steven Blackburn]



Kentucky

Assessment of Atrazine in Agricultural Watersheds in Kentucky

Grant Award: \$75,000

Recipient: Western Kentucky University

Leveraged Funds: \$1,120

Stakeholders: Western Kentucky Center for Water Resources Studies; Kentucky Department of Agriculture, Division of Environmental Assistance/Technical Support Branch; University of Kentucky Cooperative Extension Service; Kentucky Rural Water Association; Logan, Todd, Hardin, Breckinridge, and Grason Counties Conservation Districts; U.S. Army Corps of Engineers; Local governments and utilities

The project focused on Spa Lake Watershed in Logan and Todd Counties and Rough River Lake Watershed in Kentucky that have been heavily impacted by the pesticide Atrazine. Over the past several years, rural water supplies have had atrazine contamination above EPA's defined Maximum Contaminant Level (MCL) of three parts per billion (ppb) on numerous occasions. Finished water at times had atrazine concentrations of about 20 ppb, and raw water exceeded 120 ppb, or 40 times the MCL. These problems have been exacerbated by the fact that these lakes are significantly impacted by the karst geology of the area's Mississippian-aged limestone landscape, and most available research had only been conducted in non-karst regions in Kentucky. The project was a joint effort of EPA's Water Enforcement staff and the Pesticides Management staff and involved multiple stakeholders. The objective was to assess the use, environmental behavior, and impacts of atrazine in agricultural watersheds; develop solutions to problems of atrazine-impacted water systems; identify susceptible watersheds where atrazine is used; and develop information on movement of atrazine in susceptible watersheds. Due to the frequent atrazine concentrations in the aforementioned areas above the EPA's MCL, additional research is needed to adequately quantify the fate and transport of the chemical in karst areas inside the state of Kentucky. This research will help regulators in Kentucky better target areas of atrazine contamination to promote reduced use of atrazine and increased application of best management practices in areas where atrazine contamination in water bodies is high. The long-term result will be improved drinking water supplies and improvement of water quality in karst areas in Kentucky. Sharing the knowledge gained from this project broadens the impact of the environmental benefits to be achieved from this project.

[EPA Project Officer: Richard Corbett]

Mississippi

Mississippi Geospatial Information Systems Update

Grant Award: \$150,000

Recipient: Mississippi Department of Environmental Quality (MDEQ)

Leveraged Funds: \$200,000



The majority of USGS maps in Mississippi were more than twenty years old and the outdated, non-digital data was inaccurate and not usable for planning, development, and conservation purposes. The Mississippi Department of Environmental Quality's (DEQ) attempts to improve this situation had been severely impeded by the lack of coordination among the many entities active in creating geospatial information systems (GIS), tools, and maps from remote sensing and other GIS tools. Funding to MS DEQ for this project enabled them to build on the 2000 Governor's Initiative on e-Government. These

resources allowed MDEQ to develop recommendations for the Governor on the formation of a uniform clearinghouse of public remote sensing data, including a digital land base computer model, and to provide recommendations for legislation for future state GIS, and develop a multi-year strategy for improvement in Mississippi's remote sensing capacity. Through this grant, MDEQ identified institutional changes needed to coordinate and manage MS GIS activities. The Mississippi Legislature passed a law in 2003 to establish the Mississippi Coordinating Council for Remote Sensing and Geographic Information Systems and charged MDEQ to manage the development of a digital land base computer model of the State of Mississippi, to be called the Mississippi Digital Earth Model (MDEM). RGI funding enabled MDEQ to leverage funding from the MS Legislature to begin implementation of MDEM. MDEM is an up-to-date, highly detailed, computerized map of the State of Mississippi. It is similar to, and coordinated with, the National Map being coordinated at the federal level by the U.S. Geological Survey. The seven framework layers designated in the law are the standard components of electronic maps as used by the geographic information system (GIS) community and are precise geodetic control, digital aerial ortho photography, elevation model and contours, property ownership, transportation, water features, and governmental boundaries. MDEQ is implementing a multi-year strategy and has established minimum metadata standards for each layer and will ensure that all data collected are electronically compatible from county to county and with other states' data in the federal system. [EPA Project Officer: Robert Cooper]

North Carolina



State Geospatial Application Resource Protection (GARP)

Funding: \$75,000

Recipient: EPA Contract Assistance for North Carolina

The project provided funding for a contractor to adapt a web-based geospatial tool specifically for North Carolina to support decision making in support of state environmental protection, particularly in the area of future land use and development. The tool will address water and air quality protection through landscape assessments of potential land use changes. The project will provide an interface for linking multiple data bases in a user friendly web application that supports environmental questions related to land protection efforts. North Carolina Department of Environment and Natural Resources (NCDENR) identified protected lands that meet the State's Million Acre Initiative objectives and this project will help NCDENR develop a baseline of protected lands. Project outputs include training for targeted users and communities, development of digitizing tools for DENR to develop the baseline. As a result of this project, people will be aware of, understand how to use, and are using the web-based tool capabilities to provide better information to decision makers, keep the green-space tool updated, and decision makers can make land-use and development decisions that are environmentally sound and will conserve resources for the future. North Carolina now has an effective tool for decision makers to use in protecting priority areas from development and/or destruction. This database can be a model for other states and communities to help them develop a tool for protecting ecosystems. [EPA Project Officer: Rick Durbrow]

South Carolina

Improving Air Quality Public Awareness Campaign

Grant Award: \$67,500

Recipient: Greenville County Government

Leveraged Funds: \$10,500



This project funds enhancement of Greenville County's "Improving Air Quality Public Awareness Campaign." The purpose of the campaign is to increase awareness of the health effects of ground-level ozone and Particulate Matter (PM), especially on sensitive populations, such as children, asthma sufferers, and the elderly. In 2004, EPA designated three areas in South Carolina as non-attainment for the 8-hour ozone standard. The non-attainment designation is unique at this time -- "non-attainment deferred ozone." These areas, in cooperation with the SC Department of Health and Environmental Control, developed strategies to assist in reducing harmful emissions. This project will assist in improving and carrying forward the public awareness campaign strategy in Greenville County's Local Early Action Compact and will add outreach on PM as well. In 2003, asthma/bronchitis was the leading cause of hospitalization for children under the age of 18 in Greenville County and SC with a current rate of 65 per 10,000 for asthma hospitalization. This is 2.5 times greater than the national objective of 25 per 10,000. The approach for the project will include all Greenville County (urban and rural areas) with possible spillover effects in the Upstate region. The picture below is from the recipient's presentation to the Mauldin, South Carolina City Council to get their support for conducting the clean air campaign locally.

The primary project objective is to increase public awareness of the air quality issues in Greenville County and what the community and citizens can do to address them. To do this, the County will use public service announcements and newspaper advertisements along with visits to schools to present information and distribute outreach materials and tools and to pilot education programs on air quality impacts and improvement. The inflatable character in the picture in the previous paragraph is the icon for this campaign. The County will also distribute outreach materials through the Library System and participation in community events. Another objective is to implement "Breathe Better at School" (B2@School) program to reduce both public and private vehicle emissions around schools. Outputs: Outreach Materials, Advertisements, B2@Schools implementation. Project outputs include distribution systems for getting information out to the public, an on-going air quality campaign, establishment of no-idling zones, more efficient school dismissal procedures, increased use of non-gas powered lawn equipment. The project is designed to result in increased awareness of health issues associated with ozone and PM in sensitive population, voluntary behavioral changes in carpooling in schools, planting of trees around parking areas, reduced mowing, policy changes to reduce exposure to emissions and longer-term results of improved air quality demonstrated by the area meeting 8-hour ozone and PM standards and improved health demonstrated by reduced hospitalization for asthma and/or bronchitis. [EPA Project Officer: Jane Spann]



Gulf of Mexico

Bacterial Source Tracking Initiative for the Gulf of Mexico States

Grant Award: \$75,000

Recipients: Inter-Agency/State/Local Government/University
Collaboration

Leveraged Funds: \$620,000



This project is a primary example of cooperative conservation at work. The 2004 Executive Order 13552 defines cooperative cooperation as "actions relating to use,

enhancement and enjoyment of natural resources, protection of the environment, and involving collaboration among Federal, State, local, and Tribal governments, private for-profit and nonprofit institutions, other nongovernmental entities and individuals.” In line with this definition of cooperative conservation, the mission of the Gulf of Mexico Program is “to facilitate collaborative actions to protect, maintain, and restore the health and productivity of the Gulf of Mexico in ways consistent with the economic well-being of the Region.” The Gulf is of tremendous economic, ecological and social value to the Southeast and the US, and is sometimes called “America’s Sea” because it is the source of many of America’s renewable and nonrenewable resources. The specific project area included three coastal Mississippi counties: Hancock, Harrison and Jackson and the metropolitan areas of Bay St. Louis, Waveland, Biloxi, Gulfport, Ocean Springs and Pascagoula – all communities severely impacted by Hurricane Katrina in 2005 and experiencing increased industrial development and population growth. In 2004, 85% of the nearly 20,000 beach closures in the US were due to high bacterial levels. Over the past 25 years, pollution source studies have revealed that, in spite of the enormous improvements in physical wastewater treatment facilities, the rapid growth of residential, commercial, and industrial developments still overwhelm treatment systems. Environmental managers need reliable and accurate tools to identify the sources of bacteria to address these problems in the Gulf. Scientists assess microbiological impairment of water by monitoring concentrations of fecal-indicator bacteria, such as fecal coliforms and enterococci. These microorganisms are associated with fecal material from humans and other warm-blooded animals, and their presence in water is used to indicate potential presence of enteric pathogens that could cause illness in persons exposed to them. The project had the following significant environmental results:



- M Improved the knowledge-base for developing and implementing TMDLs for waters impaired by fecal pollution
- M Developed the capability to reliably fingerprint, document and analyze bacterial DNA fingerprints
- M Created a reference library of over 9,000 bacterial DNA fingerprint profiles for determining the source of bacteria found in the environment around the Gulf, and
- M Identified sewage and storm drains as important sources of bacteria for the coastal area. [EPA Project Officer:

[EPA Project Officer: Melanie Magee, Gulf of Mexico Program]

Industry Lead Solutions Leadership and Assessments

Grant Award: \$30,000

Recipient: Conservation Technology Information Center (Gulf of Mexico Program)

Leveraged Funds: \$269,285



Forming new partnerships between industry and Agricultural leaders and agriculture producers in the MS River Basin is essential to bring innovative, effective approaches for addressing complex nutrient management challenges directly at the local level. This project will facilitate the identification of nutrient reduction strategies, formation of local producer coalitions, and development of nutrient reduction management plans. These approaches will contribute to reducing nutrient loading by promoting Best Management Practices and Best Available Technology, cooperative conservation, and community understanding and acceptance because of involvement in the solutions. Project goals are to 1) increase agricultural industry leaders' involvement in identification of effective approaches to address nutrient management challenges in the lower Mississippi Basin.; 2) increase applications of best-available technologies in local nutrient reduction management plans targeted at reducing nutrient loads to the Mississippi River; and 3) create a model for transferring best-available industry technology to the local level. Outputs will include a Mississippi River Basin conference of stakeholders from industry, agriculture, environment, and government and a conference summary that provides a model template for creating successful industry-producer partnerships and effective approaches for nutrient management. Working with the three major sub-basin teams, (the Ohio River, Upper Mississippi River and Lower Mississippi River), CTIC will work with



local agricultural leadership to establish a watershed coalition in each sub-basin, focused on reducing the environmental impacts of nutrient runoff. The three basin coalitions will develop and implement nutrient management plans that can be used as a model approach for Mississippi River sub-basins and watershed groups to use industry-producer partnerships to implement locally-led, non-point source nutrient management strategies. The significant environmental result from this project will be reduced nutrient loads from agriculture to the MS River and reduction in the size of the hypoxic zone in the Gulf of Mexico. The environmental benefit will be restored health to the Gulf so it can continue to be a major economic resource for the country and improved water quality in the Mississippi River and protection of local drinking water sources. The project's collaborative approach to conservation involves EPA Office of Water and Wetlands, several EPA regions, states, and local governments, the agricultural industry, agricultural producers, environmental, and academic communities. [Project Officer: Phil Bass, Gulf of Mexico Program]

Creating a Regional Smart Growth Training Network
 Grant Award: \$60,000 Recipient: Southeast Watershed Forum
 Leveraged Funds: \$25,000

Between 1990 and 2000, the Southeast lost more forests, farms, and open space to urban sprawl than any other region of the country. By 2020, the population is expected to increase along the south Atlantic coast by 73% and by 46% along the Gulf Coast, adding stress to an already fragile ecosystem that is losing prime aquatic and terrestrial habitat. Land use decisions that have a dramatic effect on water quality, health, and local quality of life are made by local officials who may have little knowledge of economic or environmental impact. In communities devastated by Hurricane Katrina, there is an even more critical need for assistance in best management practices that integrate watershed and floodplain protection with growth and development planning. While this project will provide substantive benefits to all EPA Region 4 states, funding for this phase of the project will be focused on supporting development and redevelopment efforts in Gulf Coast communities because of the hurricane redevelop currently underway.



The initiative is designed to create a coordinated, collaborative network of Smart Growth Watershed trainers to assist local community leaders in developing and implementing watershed-friendly, smart growth-oriented land use practices and achieve regulatory requirements in coastal and inland communities throughout the Southeast. Project objectives include 1) developing and piloting training modules for watershed protection and Smart Growth that cover key land/water/growth issues and motivational processes to change local practices; 2) developing and piloting a training module that integrates watershed, source water, floodplain protection strategies into community and master development planning; 3) developing a coordinated, regional network of Watershed Smart Growth trainers and service providers ready to assist coastal (and inland) communities in the Southeast; 4) making an expanded suite of support services, resources, tools, and a green products directory available to all communities via a website; 6) Technical support for communities on software to assess non-point source runoff and coastal hazard vulnerability and on-line access to user friendly version of NOAA software; and 7) evaluating outcomes to determine needed improvement in training, tools, and resources. The most significant long-term results of the project should be improved water quality resulting from new tools, resources, training, implementation of Best Management Practices, improved community health from improved water quality, and conservation of resources from smart growth practices used in future planning and development.

[EPA Project Officer: Mary Jo Bragan]

Tribal

Reducing Risks to Tribal Children and Elderly from Indoor Air, Flooding Contamination, and Poor Water Quality

Grant Award: \$50,000 Recipient: The Seminole Tribe of Florida

The Seminole Tribe of Florida will use project funding to support a multi-media initiative to improve health of Tribal members and water quality on Tribal lands.



These issues are critical because of their effect on maintaining a healthy community, especially sensitive populations in an endangered watershed. The Tribe will assess the extent of exposure of sensitive populations to indoor pollutants, e.g., Radon and mold. Additionally, monitoring for trace metals will provide information on the extent and seriousness of contamination and inform decisions for future actions. Tribal members use their land and water resources for both cultural and economic purposes. They fish, frog, hunt, and gather plants for medicinal use; tribal cattle operations, fruit and vegetable farms, and aqua-culturists attempt to grow and market safe and healthful products on Tribal lands. Pollution seriously imperils all of these activities. The project will focus on the Big Cypress, Brighton, and Immokalee Seminole Reservations of South Florida. The Big Cypress (52,338 acres) is located in Hendry and Broward Counties, FL. The Brighton Reservation (35,805 acres) is located in Glades County on the northwest side of Lake Okeechobee. The Immokalee (600 acres) is located in Collier County. Big Cypress has saw grass prairies, hardwood hammocks, and cypress sloughs. Brighton has upland habitat, temperate hardwood hammocks, palmetto transition areas, and wet prairies. The most significant feature of the Immokalee Reservation is the wetlands, especially those of the central mixed hardwood swamp. These Tribal reservations are home to several state and federally protected species listed under the Endangered Species Act of 1973. Species include the Florida Panther, Audubon's Crested Caracara, the Eastern Indigo Snake, the Wood Stork, Bald Eagle, and Gopher Tortoise. The Brighton Reservation is listed as possible critical habitat for the Everglades Snail Kite and Florida Scrub Jay. [EPA Project Officer: Bill Patton, Region 4 Tribal Liaison]

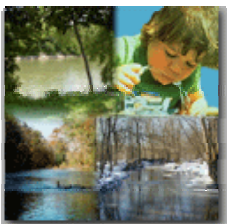


Region-Wide Projects

Surface Water Authority Applied Research Project

Funding Amount: \$22,400

Contractor: Carl Vincent Inst. of Government
University of Georgia



The applied research project resulted in the development of a matrix of water resources planning agencies and activities, regulatory statutes and rules in the eight Southeastern states and a report assessing the water resources planning and statutes in the Region in both hardcopy and CD ROMs. The project also involved an examination of relevant state case law relating to surface water resources. The contractor examined the legal and institutional arrangements associated with water resources planning and regulation in the Southeast from the inventory of water resources planning and management laws, regulations, relevant case law

developed. Region 4 used this project to get a better understanding of water resources planning and management practices in our states to support efforts to provide technical assistance to local communities and to states in addressing the very serious issues of cooperation among these 8 states to ensure sufficient water quantity and quality across the Region. Comprehensive water resource management at state, regional, and local levels is essential for the development of sound surface water policies and effective resource management programs to both conserve water and ensure sufficient quantity for drinking water sources. This is a major priority for all southeastern states, especially in reference to alternating droughts and floods. States must be vigilant in efficiently implementing pollution prevention and control programs. This assessment and the resulting CDs provide information necessary for States to alter riparian rights doctrines to achieve improved water use, conservation, and quality in the Southeast. [EPA Project Manager: Rita Wayco]

Children's Health State Capacity Building and Federal Lead-Poisoning Prevention Strategy (IAG)

Funding Amount: \$175,000 Recipient: ATSDR/CDC via Interagency Agreement

State Departments of Health and Local Health Departments
Southeast Pediatric Environmental Health Specialty Unit
(PESHU)



These projects focus on development of children's health programs and capacity in Southeastern states and local governments to administer programs to reduce

environmental exposure to children. Funding also supported technical assistance children's environmental health education and outreach programs and to develop and implement a federal strategy for eliminating childhood lead poisoning. GI funding was used to support our partnership with the Southeast Pediatric Environmental Health Specialty Unit (PEHSU), a team of Medical Specialists that provides consultation, information, training, referrals and clinical services to health care providers, governmental agencies and the general public on environmental health hazards to children. The PEHSU was established to improve the health of children in Region 4 by reducing environmental contaminant exposures, broaden access to expertise in pediatric environmental medicine, and strengthen public health prevention capacity.



The PEHSU's main objective is to improve the health of children in Region 4 by reducing environmental contaminant exposures, broaden access to expertise in pediatric environmental medicine, and strengthen public health prevention capacity. As the Pediatric Team is recognized as national experts in their respective fields, the region is provided with a high level of medical expertise to support all the Region media programs and assist health and environmental professionals in addressing children's environmental health hazards. The PEHSU provided training for the medical community and developed and distributed information reaching more than eight thousand health care professionals, EPA and State personnel, educators, private sector and the general public. Thus far, the PEHSU has trained more than 12,000 health care professionals and participated in 250 local, state, national and international conferences. The participation of the PESHU at a Public Forum on Children's Environmental Health Issues in Kentucky helped develop a plan for addressing children's environmental health issues for the Governor and Legislature. Representatives from the PEHSU also serve on many national, state and local work groups providing pediatric environmental medical expertise (i.e., Atlanta Clean Air Campaign, EPA's Children's Health Protection Advisory Committee, Institute of Medicine Roundtable on Environmental Health Sciences, Research and Medicine, Environmental Committee for Physicians for Social Responsibility). The Southeast PEHSU also supported the development of Pediatric Health Specialty Units in Mexico and Argentina. Another example of PEHSU support was its help in meeting with the communities impacted by the de-icing spill at the Atlanta Airport addressing concerns on potential impact to fetal development in pregnant women and development in newborn children from drinking water with trace levels of contaminants. PEHSU provided education and consultation for health professionals, agencies, and concerned families about specific issues, exposures or diseases related to children's environmental health, and clinical evaluation and care of affected children in targeted areas. The team included physicians with expertise in environmental and occupational medicine, internal medicine, general and developmental pediatrics, pulmonary medicine, and medical toxicology, as well as an experienced patient educator. Areas of special interest and expertise include school environmental health, child-healthy community design, asthma, autism spectrum disorders, and Attention Deficit Disorder (ADD). They also have a special interest in community-based environmental justice concerns. The PEHSU also completed books to help increase the awareness of environmental health effects of Urban Sprawl and school-related health effects. These activities have resulted in a significant increase of knowledge among pediatricians and the general public on pediatric environmental health. The PEHSU serves as an independent and invaluable resource helping us to accomplish our mission to protect human health and the environment.

[EPA Project Officer: Wayne Garfinkel]

Energy and Bio-Oil Production from Poultry Litter Using Fractionation and Pyrolysis

Grant Award: \$58,000

Recipient: University of Georgia, Department of Biological and Agricultural Engineering

Leveraged Funds: \$20,000

In raw form, poultry litter has certain draw backs for both energy production and fertilizer, including high ash and moisture content, a corrosive nature, low heat content, low bulk density, and low nutrient content. However, fractionation of litter can produce two streams of materials with improved properties: a nutrient-rich fine fraction for pelletizing and use as fertilizer and an energy-rich coarse fraction for energy production. The long-term goal of the project is to develop an economical and energy efficient pelleting process using



fractionation and pyrolysis. The specific goal of this project is to study the effect of process variables involved in pyrolysis and fractionation of poultry litter on nutrient and energy content of char and bio oil.

Preliminary Results....



Use of poultry litter is a serious concern for some agricultural operations. EPA Region 4 leads the nation in the production of poultry and poultry litter. The annual production of this poultry litter and other animal waste and corresponding phosphorus loading to soils is not distributed uniformly throughout the region. Georgia ranks first in the US in production of poultry and poultry products, supply approximately 12% of U.S. production. The Georgia Watershed Agricultural Non-point Source Pollution Assessment concluded that agriculture was not a major statewide concern, but did show that many watersheds had significant agricultural loadings that could potentially impair their designated uses. The research and demonstration

phases will be done within the poultry-producing region in Georgia and outreach and education will be distributed throughout the Region. Approximately 1,419 miles of streams and 10,700 acres of lakes in Georgia are not meeting their designated uses, primarily due to non-point source pollution from agricultural sources. Most poultry litter is currently land applied as fertilizer resulting in many farms producing more nutrients than the region can use. This results in nutrient imbalances across the region. Many alternative uses for poultry litter have been proposed. This project is intended to demonstrate how fractionation can be used to produce a nutrient-dense fraction that would be ideal for producing value-added fertilizer pellets and coarse fraction that can be pyrolyzed to produce energy, a bio oil that can be used as a binder in the pelleting process, and a char that could serve as an additional fuel source. The long-term vision is to develop an economical and energy efficient pelleting process using fractionation and Pyrolysis. The project objectives are to study 1) the effect of fractionation and pyrolysis temperature and heating rate on production of bio oil, 2) the nitrogen and phosphorous content of the char and bio oil produced, 3) the gross heating value of char, 4) the nutrient content of ash resulting from complete combustion of char; 4) the heating value, ash content, and emissions of the co-firing of coal with different percentages of char; and 5) to conduct outreach and information dissemination with the Extension Water Quality network, US Poultry and Egg, the NRCS State Technical Committees in the SE and other agricultural sector leaders to encourage commercialization of this new technology. If successful, this project would result in reduced impacts of nutrients and pathogens on water quality from poultry farms (from interim outcomes of improved nutrient balance and reduction in excess land application), as well as non-poultry farms that use the fertilizer pellets (from interim outcome of slower release nutrient source less prone to runoff and leaching and reduction of phosphorous loading into water bodies). Pyrolysis of the coarse fraction will result in production of energy for the pelleting process and yield a char that could serve as a coal replacement thereby producing an end outcome of reduced air emissions and improved air quality and energy conservation by replacing non-renewable energy sources with more sustainable supply and provide a cleaner energy source resulting in the ability to grow in an economically and environmentally sustainable manner. [EPA Project Officer: Dale Aspy]

Southeast Environmental Data Exchange

Funding Amount: \$100,000 Contractor: CDX Millennium



Funding supported the development of Client Interface for EPA Region 4 and its eight Southeastern States for improved information exchange for environmental protection and improved health. The project provided EPA Region 4 with the ability to electronically exchange environmental data on all media with participating States. The contractor developed Client Interface; finalized the Concentrated Animal Feeding Operations (CAFO) data collection for AL, MS, SC and NC; created the schema based on the Region 4 state data base structures. Mississippi, North Carolina, and South Carolina committed to mapping the CAFO scheme to their databases that house CAFO information and developing Web services that the Region and partner states will be able to access via the EPA-developed client tool. The intermediate outcome of this project is better, more timely, more accurate, and more useful and usable

environmental information to enable better protection of water and air; reduction of pollution in water bodies and reduced air toxics. The availability of real-time access to higher quality data, while saving time, resources, and money for partner states, tribes, and territories, is extremely important to emergency response and homeland security. The outcome will be improved water pollution control resulting in improved water and air quality and faster response to emergency situations. The environmental and health results will be safe drinking, safer habitats, more recreational use of water bodies, and improved health due to better management of pollution sources.

[EPA Project Officer: Hector Buitrago]

Assessment Technology Training and Technical Support Project

Funding Amount: \$320,000

Contractor: RTI International



Small Business Networking

This project was designed to speed up the delivery of Clean Water Act 305(b) and 303(d) information from Southeastern states to Region 4 and the National Program Manager (NPM). Availability of current water quality assessment data is crucial and has been hampered by outdated reporting methods. Use of the Assessment Database (ADB) by states will improve the currency of data in the National Assessment Database, increase reporting speed, and provide greater efficiency in responding to Congress and preparing reports about the status of our waters. This project fostered collaboration between states and the Region, and enabled the Region to provide services desired by the states. At the end of the project, at least five Region 4 states were using ADB or a compatible system. Region 4's training and support project will be a model for other regions. Water quality assessment information will be available more quickly and efficiently as a result of the use of a new database and reporting method. Faster access to the data will enable the Region to learn about problems in a timelier manner. The long-term benefits will be improved water quality and more effective protection of surface water and watershed. [EPA Project Officer: Anne Keller]

Region 4 Water Leadership Listening Forum

Grant Award: \$14,500

Recipient: Water Systems Council

The primary objective of this project was to convene a Listening Forum of Leaders from the Southeast in Agriculture, Industry, and Government to discuss water quality and quantity issues and to develop an action plan to address the most pressing water quality and supply issues in the Southeast. The focus of



the Listening Forum included such topics as water rights, current and future demands versus supply and competing needs, Best Management Practices for water supply and water resource planning, related land use issues and economic development, growth management, water trading, environmental and economic impacts and roles and responsibilities. This one-day event brought different points of view together to find solutions for water quality and quantity issues. The forum was co-sponsored by EPA Region 4, The North Carolina Association of Counties, and others in the business and agriculture sectors. The outcomes from the forum included improved communications of best environmental practices between and among the various sectors and viewpoints, forum proceedings, and an action plan for future collaboration in the Southeast on these issues. The action plan and best practices will be shared with local government decision makers for use in addressing environmental and health issues, wise use of water resources, and growth and development planning in their communities. [EPA Project Officer: Betty Winter]

Survey of Stormwater Utilities in the Southeast United States

Grant Amount: \$14,940

Recipient: Florida Stormwater Association

Educational Foundation

Leveraged Funding: \$7,000

Successful initiatives in stormwater management and finance at the local level are increasingly important as more responsibilities are shifted to city and county governments and population growth escalates in the South. One way to help

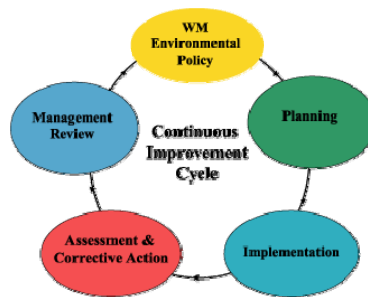


local governments succeed in improving water quality is to share information on success stories in other parts of the Region. Information about how local stormwater utilities seek to address problems associated with surface water quality and quantity in the Southeast is essential for stormwater utilities to implement conservation measures. The objective of this project is to identify city and county governments that have established stormwater utility financing mechanisms, survey practices as they relate to the utilities, and compile, publish, and distribute, and make accessible the survey results. Through local government contacts and research, the grantee will identify established stormwater utilities, conduct a comprehensive survey of those identified, enter data into an Excel database, extrapolate data into a final report to be distributed in both electronic and hardcopy formats, and distribute the report widely to local governments in the Region. The results of this survey will provide key information to stormwater managers. Local governments will gain insight useful in establishing stormwater utilities in their jurisdictions. The final report will also include case studies of three representative local governments that have stormwater utilities, how/when/why they were established, obstacles they had to overcome; public satisfaction with the financing mechanism; ability to construct water quality treatment structures with new utility revenues, and other issues relevant for establishing these utilities. [EPA Project Officer: Craig Hesterlee]

Environmental Management System Start Up Kit for Local Governments

Grant Award: \$10,000

Recipient: Georgia Institute of Technology Enterprise Innovation Institute Peer Center



Today communities are facing a number of challenges from the environmental arena that include managing air issues, water issues, land use issues, asset management, emergency response plans, quality of life, as well as planned development and growth. This places communities in the difficult position of trying to manage a number of related programs through unrelated plans. Over the past several years, there has been increasing evidence that Environmental Management Systems (EMS) provides organizations with increased operational efficiency, greater environmental stewardship and improved employee and stakeholder relations – and provide the framework to support organizations allowing them to achieve goals with demonstrable results. This was first demonstrated in the private sector, and more recently in the public sector. As public entities charged with providing water resources and infrastructure development and quality growth communities need to maintain environmental and economic balances in their operations. This approach to EMS has been proven to provide a systematic approach to achieve this balance in Bartow County, Georgia. This project is being tailored to the unique characteristics of the community-based EMS program for Bartow County and others developed through the Peer Center. The project will explain the benefits of implementing a comprehensive EMS, reporting results through the framework of the Bartow County EMS. The project also will result in a framework for a more comprehensive set of tools to be added as the base of successful implementations are realized across the United States. The tool kit for local governments will be made available in electronic format and through the Internet. Content will include how to implement an EMS, report results, and troubleshooting assistance through the Bartow County case study. There is little doubt that new citizen demands and the changing regulatory climate are making the introduction of EMS into the public sector very timely. A systematic approach to environmental management can provide significant benefits to communities as they try to address increasingly complex demands. A key in helping local governments deal with change is ensuring that communities can demonstrate achieved results. This start-up kit will

provide the backbone for getting information to local governments in a useable format which allows them to make key decisions to move forward with an EMS. [EPA Project Officer: Serdar Ertep]

Environmental Trends in the Southeastern United States

Grant Award: \$14,750 Recipient: Conference of Southern County Associations (CSCA)

Leveraged Funds: \$3,000

The project will result in a comprehensive study and report on environmental trends in the Southeast and distribution of a guide on these trends to local government decision makers. The guide will serve as a tool for helping these decision makers focus resources on the most pressing problems, understand the issues and possible solutions, and to develop capacity to address these problems in their communities. Local officials have difficulty handling complex environmental issues and meeting changing demands. Efforts to ensure the capacity exists at the local level are essential to success in protecting the health and environment in these communities. This project will guide local officials on environmental trends so they can develop the capacity to implement effective policies. The guide will be distributed in electronic format to local governments in the Southeast. CSCA represents 1381 counties in fifteen contiguous states, including the eight in Region 4, so the trends report will be widely distributed and can serve as a model for other regions. [EPA Project Officer: Betty Winter]

