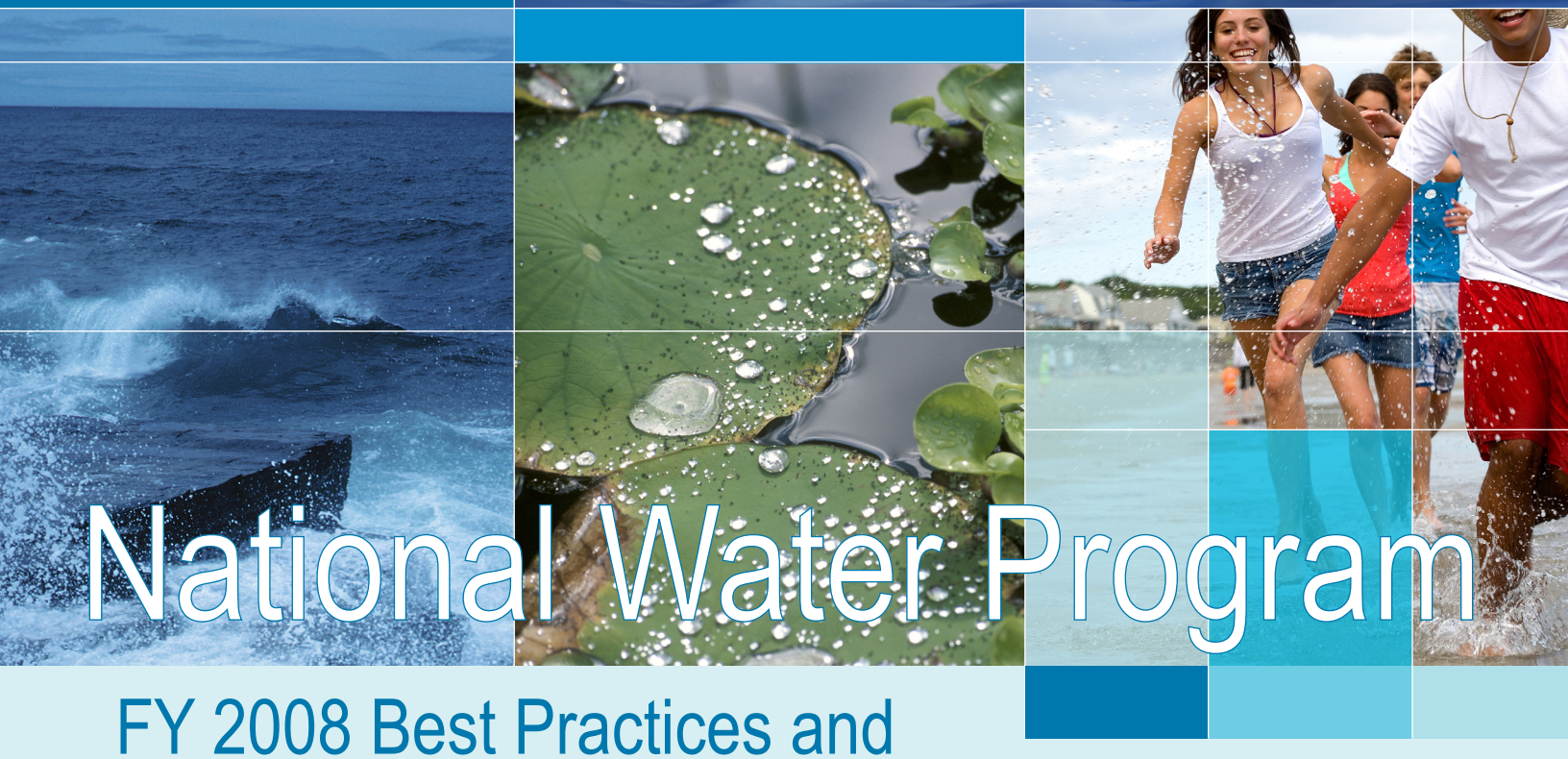
Best Practices



National Water Program

FY 2008 Best Practices and End of the Year Performance Report

April 2009

Office of Water

EPA United States Environmental Protection Agency

Introduction

Achieving continuous improvement in programmatic activities and environmental outcomes requires a process of planning, implementation, measurement, and analysis. This section highlights a number of best practices that have resulted in success in drinking water, surface water quality, coastal and wetlands programs. A best practice is defined as a process or methodology that consistently produces superior or innovative results. To propagate their impact widely and encourage their adoption, it is important to identify and analyze these approaches.

The eleven best practices highlighted in this section were selected from proposals submitted by the Office of Water headquarters offices and water divisions in EPA's Regional Offices. The proposals were assessed according to the following criteria:

- **Success within the program:** How has the activity resulted in improvements? Are the activity results clear, and does it have a direct or catalytic impact on program success?
- **Innovation:** How does the activity differ from existing approaches?
- **Replicability:** Can the activity be adopted by other Regions/Offices/States? Does it have the potential for expansion?
- **Direct relation to the Administrator's priorities**

The selected best practices do not represent a comprehensive list of the innovative activities that are being implemented. Rather the selection is intended to provide examples of different types of activities taking place in different regions addressing different sub-objectives. In selecting these best practices, special emphasis was placed on identifying activities or approaches that have resulted in measurable successful outcomes. These best practices are in addition to a number of activities identified in the *FY2008 End of Year Report*.

The vision for this *Best Practices Report* is to promote the wide spread use of these successful activities and scale up the benefits of their implementation by sharing information on them among the program and Regional offices. Further activities will be identified and analyzed on a biannual basis. Furthermore, activities that have been selected will continue to be monitored to study their long-term effectiveness. This is part of a continuous learning process that is anticipated to yield even more innovation and successful outcomes.

1 EPA Asset Management Checkup Program for Small Drinking Water and Wastewater Systems

Subobjective: Water Safe to Drink

Highlights:

- **What:** The Asset Management Checkup Program for Small Systems (CUPSS) is a user-friendly desktop computer software designed to help small drinking water and wastewater systems develop and implement an asset management program.
- **Who:** The program was developed by the Office of Groundwater and Drinking Water in 2008 and is being implemented by EPA Region 7 in a number of States.
- **Why:** CUPSS was developed in response to the need from small water and wastewater systems, communities, and technical assistance providers/trainers requesting to consolidate and package existing asset management materials in an easy-to-use electronic medium.

Brief Description:
The Checkup Program for Small Systems (CUPSS) is a comprehensive computer software application that introduces the beginning steps to develop and implement an asset management program, budget tracking, and operation and maintenance scheduling. The program leads users through a series of modules to collect information on their drinking water and/or wastewater utility's assets, operation and maintenance activities, and financial status to produce a prioritized asset inventory, a set of financial reports, and an asset management plan. EPA and partnering organizations have developed a number of documents to help potential users understand the benefit of starting asset management using the CUPSS application. For more information, please refer to the website, http://www.epa.gov/cupss and select "Resources".

EPA Region 7's Drinking Water Management Branch is implementing CUPSS through a series of direct assistance visits and training sessions with small State and Tribal drinking water and wastewater systems. Many small drinking water and wastewater systems in Region 7 are having difficulty meeting old and new regulatory requirements because their systems are deteriorating. To achieve the goal of sustainable infrastructure practices for small systems, Region applies a two-prong approach. First, Region 7 developed knowledge of asset management by partnering with at least one system to gain hands on experience on the use of CUPSS. Second, Region 7 provided train-the-trainer workshops for its partners at the States and technical assistance providers so that they would go out and provide one-on-one support to small systems to implement CUPSS. The follow-up assistance by the State and technical assistance providers is accomplished through existing programs rather than developing new agreements.

Current Status:
Region 7 has completed both parts of its practices, which include conducting train-the-trainer session in all Region 7 States for drinking water staff, wastewater staff, and technical assistance providers. The next step is to complete one-on-one training for Tribal water systems.

Outcomes:
Small systems will better manage their systems towards financial and technical sustainability resulting in cleaner water and improved protection of public health. An example of the usefulness of CUPSS—one drinking water system's decision makers expressed their willingness to support increases in rates because of the information provided by CUPSS. The Region anticipates that greater use of CUPSS will lead to better asset management by small systems and, ultimately, improved compliance.

Lessons Learned/Recommendations:
By using real data from a small system, Region 7 established credibility with its partners and provided real examples of the benefits of asset management. The traditional approach of providing information at conferences and workshops to a large group of people introduces the concept but does not get the CUPSS program working at the local level. One-on-one work, directly with the operators, is needed through State and technical assistance providers.

Contact Information:
Robert Dunlevy (913) 551-7798 http://www.epa.gov/cupss

2 Energy Benchmarking Tool for Wastewater Treatment Plants

Subobjective: Restore and Improve Water Quality

Highlights:

- **What:** A free online energy tool that helps municipal wastewater operators identify opportunities to save money and reduce emissions.
- **Who:** EPA Region 1 working with ENERGY STAR staff at EPA headquarters
- **Why:** Wastewater treatment plants are often the largest single energy user in a municipality. Conventional energy production is associated with significant carbon dioxide, sulfur dioxide and nitrogen oxide emissions.

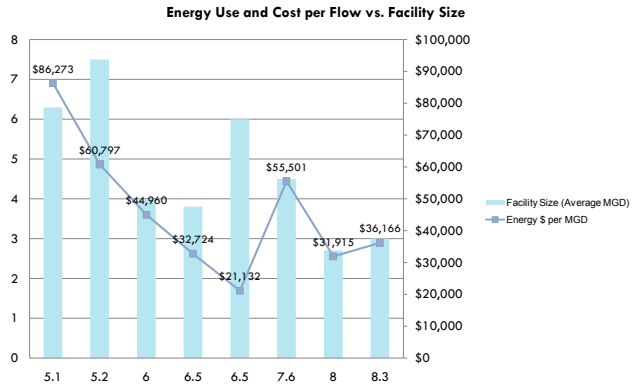
Brief Description:
EPA New England, partnering with local water and wastewater industry associations, such as the Consortium for Energy Efficiency (CEE), offers free classroom training sessions or on-site visits to show plant operators how to input data from their electric, oil, and gas bills along with basic information about their plants into the ENERGY STAR Portfolio Manager, a free online energy management software tool which provides instant feedback on how well they are managing their energy use.

Current Status:
Six classroom trainings and several on-site visits have been completed with additional trainings planned. Major architectural and engineering firms are starting to offer benchmarking as a free value-added service to their clients in this sector. Plants around the region are in various stages of implementing energy efficiency and/or renewable energy measures and EPA is helping them quantify improvements using this tool.

Outcomes:
Plant operators and municipal officials have an increased understanding of their plants' overall energy efficiency and energy costs. So far, more than 50 plants in the region (10% of all plants in New England) have been benchmarked and several have used the data as a starting point to pursue energy efficiency projects. Currently, EPA's Regions 9 and 10 are already holding similar trainings and conducting outreach.

Lessons Learned/Recommendations:
Plant operators benefit most from the personal approach of plant visits and small training groups. Trainings should be hands-on and result in the operators leaving with a benchmarked facility.

Visual Diagram
This chart shows the variability in energy use and costs for several similar sized facilities in New England. The 8.0 MGD plant uses only 1/3 of the energy to treat a gallon of water as the 5.2 MGD plant. Note that energy prices vary in different states, so a plant that uses more energy per flow can still spend less on energy, as in the two 6.5 MGD plants.



Contact Information:
Jason Turgeon (617) 918-1637 turgeon.jason@epa.gov
http://www.epa.gov/ne/eco/energy/ew-infrastructure.html
http://www.energystar.gov/benchmark

3 Fostering Green Infrastructure Implementation

Subobjective: Restore and Improve Water Quality

Highlights:

- **What** Region 5 is implementing focused efforts to foster green infrastructure implementation and related sustainable practices.
- **Who:** EPA Region 5
- **Why:** Green infrastructure solutions can help reduce the costs of meeting stormwater and CSO control objectives, and can provide other important benefits, including climate change-related benefits and socio-economic benefits for communities.

Brief Description:
Green infrastructure approaches provide numerous substantive benefits, but these approaches are not yet in widespread use. In 2008, EPA Region 5 conducted an assessment to identify factors discouraging or restraining green solutions and found that many practicing stormwater engineers are uncertain about these practices and more data is needed on performance, including data on green Best Management Practices. EPA Region 5 is tackling these barriers to green infrastructure implementation head-on. In particular, the Region 5 is:

- Working with universities (University of Illinois and the University of Minnesota) and other stakeholders to develop training for practicing engineers and engineering students on green infrastructure/low impact development (LID) stormwater practices.
- Funding work by communities and nonprofit organizations for research, demonstration projects, and quantification efforts related to the performance and/or benefits of green practices. Region 5 is also planning work with State and local transportation officials on integration of green infrastructure approaches into street and highway systems.
- Working with external partners (USACE, NRCS, Purdue, and Center for Neighborhood Technology) on tools to estimate the stormwater volumes and pollutant loads associated with various development patterns, with and without green infrastructure/LID practices. This will help planners and developers better understand the effects of impervious surfaces and the benefits of green infrastructure.
- Implementing an Excellence in Conservation and Native Landscaping awards program in partnership with Chicago Wilderness, a coalition of over 200 Chicago-area organizations. Through the awards program the EPA and Chicago Wilderness seek to recognize exceptional sites, raise awareness about native landscaping, conservation, habitat, and ecosystems, and encourage others to become excited about implementing like projects.

Current Status:
Reports on work funded through grants have been received and data is being shared. New work in Milwaukee may be undertaken in 2009. Purdue University is working to add a module that can be used to evaluate and quantify the effects and benefits of green infrastructure measures. EPA Region 3 is working with EPA Headquarters and Region 5 to try to update university program accreditation criteria to include green infrastructure content.

Outcomes:
As engineers and other practitioners become more confident and have less uncertainty about the performance and benefits of green infrastructure practices, the implementation of these practices will accelerate.

Lessons Learned/Recommendations:
EPA Region 5 recommends that other Regions and States take steps to address implementation barriers to green infrastructure in their jurisdictions. Pilot or demonstration projects can be undertaken, monitoring can be conducted, and data can be circulated. Example curricula from University of Illinois and University of Minnesota can be shared.

Contact Information:
Peter Swenson Chief, NPDES Programs Branch (312) 886-0236

4 Stormwater Fees Support Pollution Identification and Correction (PIC) Program

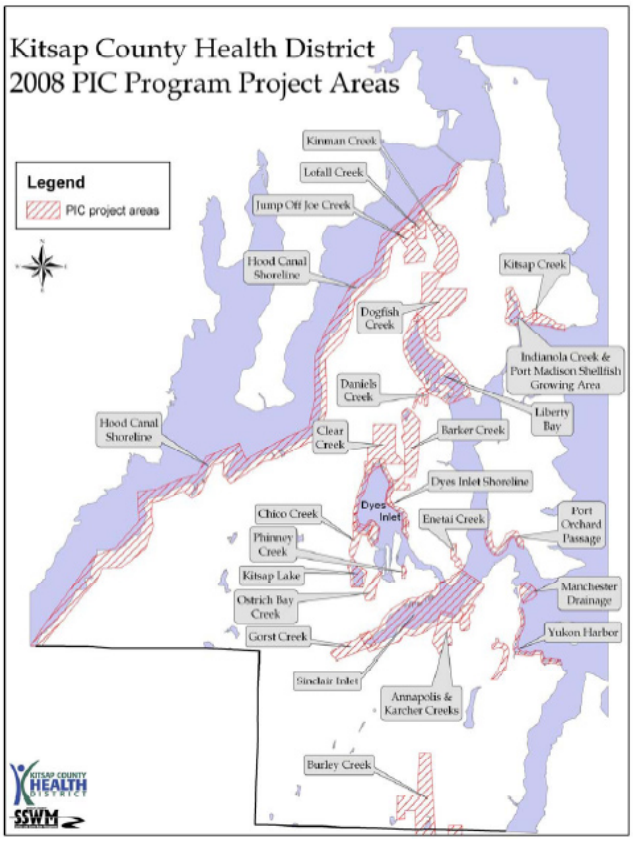
Subobjective: Restore and Improve Water Quality

Highlights:

- **What:** The PIC Program, led by the Kitsap County Health District in Washington State, uses dedicated fee-based funding that assist in addressing the causes of bacterial water pollution.
- **Who:** Kitsap County Surface and Stormwater Management (SSWM) partner agencies.
- **Why:** The goals are to (1) protect public health, (2) protect shellfish resources, and (3) preserve, protect, and restore surface water quality.

Brief Description:
The PIC Program combines science, strong public outreach, established protocols, and a clear plan of action with a long-range vision for the future of the county. A Manual of Protocol details all aspects of the program and is approved by the State departments of Health and Ecology. Proposed project areas are prioritized based on established factors (water quality problems, 50%; potential for public exposure, 30%; OSS failure history, 20%). Recommendations for specific actions are made for each project area selected. Fee revenue collected from owners of developed lands by the Kitsap County Surface and Stormwater Management District is shared among the Kitsap County Departments of Public Works and Community Development, County Health District, and the Kitsap Conservation District.

Current Status:
Projects are being conducted throughout Kitsap County including large scale projects along the Upper Hood Canal shoreline, Jump off Joe Creek, Dyes Inlet, Enetai Creek, and Sinclair Inlet. Additionally, a grant application has been submitted to Washington State's Department of Ecology to fund a 2009 PIC project in Liberty Bay.



Outcomes:
Based on the robust nature of the PIC program and its success to date, Washington's Department of Ecology and U.S. EPA removed several Kitsap County streams from the 303(d) list of contaminated waters by declaring the "other pollution controls" instituted by the PIC program equivalent to development of a Total Maximum Daily Load (TMDL). A particularly successful project in the Yukon Harbor drainage improved water quality sufficiently to upgrade 935 acres of commercial shellfish growing area from prohibited to open status. This was achieved through water quality sampling, inspection of 335 septic systems, and resolving problems. The Conservation District conducted extensive outreach, cost-share funding and technical support to establish better land-management practices to protect water quality. This practice could be widely replicable as the involved partners exist in many areas, and the Manual of Protocol and fee structure could be implemented elsewhere.

Lessons Learned/Recommendations:
The partnership of cooperating agencies implementing the PIC has resulted in increased understanding and cooperation where previously there had been little communication. Monitoring is also a critical component to targeting activities in an effective manner.

Contact Information:
Leslie Banigan (360) 337-5627
http://www.kitsapcountyhealth.com/environmenta_health/water_quality/pic.htm

5 Potomac River Drinking Water Source Protection Partnership and Strategy

Subobjective: Water Safe to Drink

Highlights:

- **What:** To address drinking water quality concerns arising in source water areas, water utilities and governmental counterparts have joined together to create the Potomac River Basin Drinking Water Source Protection Partnership .
- **Who:** The Potomac Partnership is a voluntary association of 19 members, including water supply and government agency stakeholders in the Potomac basin.
- **Why:** Since source water protection is not mandatory this coalition of water utilities and regulatory agencies enables a comprehensive approach to protecting water supply sources in the basin.

Brief Description:

Water utilities and other agencies responsible for the water supply for about four million residents in the Potomac River watershed have partnered as the Potomac River Drinking Water Source Protection Partnership to cooperatively assess current and potential issues that may affect the quality of drinking water sources. The Potomac Partnership has identified several issues of importance and has formed workgroups focused on pathogens, emerging contaminants, disinfectant byproduct precursors, urban issues, agricultural issues, and development of an early warning and emergency response system. The Partnership consists of a Government Partners Committee and Utility Source Water Protection Committee. The full membership of the Partnership meets quarterly; Government and Utility Committees and work group activities carry on throughout the year. The Partnership includes agency representatives from States (Maryland, Virginia, West Virginia, Pennsylvania and the District of Columbia), the Interstate Commission on the Potomac River Basin (ICPRB), and Federal agencies. The Utility Source Water Protection Committee includes water suppliers from the Washington, D.C. Metropolitan Area and upstream. The Partnership's actions or positions are based on consensus of its members.

Current Status:

Through work groups and active discussion at meetings, the Partnership is implementing a strategy addressing recommendations in source water assessments that were prepared throughout the Potomac Basin. The strategy was created in 2005 (and continues to be implemented) through work groups and active discussion at Partnership meetings. Its purpose is to help the Partnership reach its goals of protecting the Potomac River as source of drinking water for millions of people The strategy prioritizes and addresses the impacts on regional water supplies and helps to provide the workgroups with a clear vision and objectives, activities, and milestones to meet short term and long term goals. For a copy of the strategy, go to: http://www.potomacdwspp.org/aboutdocs/FinalPartnershipStrategy.pdf.

Outcomes:

Partnership activities help to ensure that people's most basic need for clean, safe and abundant water is reliably met. Collaborative monitoring programs have explored the occurrence of several unregulated contaminants, providing the region with reliable information about contaminant occurrence and persistence as well as increased understanding of the water quality of a major source of drinking water. Additionally, training and tabletop exercises have helped enhance the region's ability to protect public health by providing clean and safe drinking water during emergency situations. Partnership exercises have improved emergency response coordination and communication between Potomac River water utilities, local responders, Federal and State agencies, and private industry.

Lessons Learned/Recommendations:

- With 19 signatory members and more participants, it has been valuable to have a coordinating agency (ICPRB) to manage organizational and administrative tasks.
- Agreement on common priority concerns has helped to maintain Partnership's focus.
- Annual rotation of overall leadership of the Partnership between the Government and Utility Committees encourages new perspectives, energy, and collaboration each year.

Contact Information:

Ellen Schmitt 215-814-5787 http://www.potomacdwspp.org

6 Watershed Restoration Criteria Checklist

Subobjective: Restore and Protect Water Quality

Highlights:

- What: The Watershed Restoration Criteria Checklist is an EPA tool for targeting Agency involvement in local watersheds and planning and tracking progress toward watershed restoration.
- Who: Staff in the Watershed Management Office of EPA Region 4.
- Why: Given limited resources, EPA recognized the need for applying a systematic and deliberate approach to identifying priority watersheds and tracking activities and results in a way that provides for easy communication of progress to management as well as aids in continuity planning.

Brief Description:
The Watershed Restoration Criteria Checklist includes four phases:

1. **"Assessment"** — available information is reviewed to decide whether or not EPA involvement in the watershed will yield strategic objectives;
2. **"Build and Prepare"** — assessment gaps are addressed and a watershed plan is developed;
3. **"Implementation"** — EPA programs with roles in implementation as identified by the plan will carry out their parts based on established rules and timelines; and,
4. **"Maintenance"** — when implementation has yielded adequate results for EPA to have met a substantial part of its stated objectives.

The selection of watersheds begins with an analysis of clusters of water quality impaired segments. The goal is to identify places that may be candidates for meeting key Agency performance commitments related to watershed restoration (SP-10, SP-11, and SP-12). There are three major determinants in the decision: (1) Are there good candidate places for restoration and protection? (2) Is there an on-the-ground local entity willing and ready to partner with EPA, and (3) Does the State Water Quality Agency feel that this is a place where EPA involvement would add value to their management process.

Certain other factors can also contribute to the decision, such as boundary waters, previous grant investments, large enforcement actions. All phases include elements dealing with building the capacity of local stakeholders to restore and maintain water quality. Where grants have been awarded or specific programs have played a major role, partnerships are developed that include EPA in the local process.

Current Status:
The process is being used by EPA Watershed Coordinators in all eight Region 4 States. The criteria checklist is in the process of being revised based on lessons learned from the last three years.

Outcomes:
Priority watersheds have been steadily progressing through the Criteria Checklist phases. Over a dozen 12-digit HUC watersheds have met the criteria for EPA involvement and having sustainable watershed stakeholders committed to maintenance.

Lessons Learned/Recommendations:
The general lesson is that, although the phased criteria checklist is thorough and comprehensive, management of the process requires a great deal of flexibility to account for variability of circumstances in each locality. Not all actions require EPA involvement nor will all programs be engaged in all locations. Finally, tracking progress would be facilitated through a web-enabled electronic database once one is developed. The criteria checklist process is applicable in all EPA Regions regardless of organizational configuration, but it does require the presence of dedicated watershed coordinators to engage in the process.

Contact Information:
Marjan Peltier 404-562-9420

7 Process for Developing Ecoregion-based Dissolved Oxygen Criteria for Southern Louisiana

Subobjective: Restore and Protect Water Quality

Highlights:

- **What:** The State of Louisiana recently developed ecoregion-based dissolved oxygen criteria for portions of two ecoregions following an intensive planning effort with EPA Region 6.
- **Who:** Methodology and criteria were developed by the Louisiana Department of Environmental Quality (LDEQ), in coordination with USEPA Region 6.
- **Why:** The new criteria addresses long-standing impairment issues triggered by deltaic waterbodies naturally low in dissolved oxygen, and compounded by disparity in Agency approaches to criteria development.

Brief Description:

The key element of this project is the performance and documentation of up-front planning and coordination between State and Federal Agencies. Prior to development of the criteria itself, EPA Region 6 and LDEQ staff constructed a mutually agreeable protocol for development of ecoregion-based dissolved oxygen criteria. The protocol and a timeline for developing criteria for each ecoregion in the State was memorialized in a Memorandum of Agreement (MOA) between the two agencies in January of 2008. The recently developed criteria are the first project to be implemented under the MOA. It is also noteworthy that LDEQ worked cooperatively with other State agencies to include monitoring data and other information to support the criteria-development effort. The compilation of these diverse datasets provided a comprehensive picture of the attainable aquatic life use for the ecoregion and provided a strong foundation for criteria development.

Current Status:

Louisiana adopted the criteria and accepted public comments in 2008. The State is currently reviewing the comments received and is expected to submit the criteria to EPA for review and approval in early 2009. The State has already begun monitoring and data collection activities for the next ecoregion project.

Outcomes:

Aspects that may make this approach useful in other situations include the up-front planning and coordination between the agencies, and the flexibility built into the protocol and MOA. By adopting the protocol and MOA into the State's Water Quality Management Plan, the process of planning and coordination between EPA Region 6 and LDEQ is streamlined for future revisions to the State's dissolved oxygen criteria. Up-front coordination enables the agencies to identify potential obstacles or conflicts related to the revisions, identify conflicting agency priorities, develop a toolbox of potential solutions and contingencies, and develop an understanding of the working culture of each agency. Building flexibility into the planning documents enables, and possibly encourages, each agency to strive toward better approaches, and removes roadblocks caused by disagreements over methodology.

The ecoregion approach will result in more appropriate dissolved oxygen criteria than the statewide criteria currently applied. This will result in a reduction in the number of unnecessary restoration measures such as TMDLs, and subsequent resource savings to the program.

Lessons Learned/Recommendations:

Working together to develop the protocol enabled the agencies to work more closely than the routine standards coordination generally require. The process for approving proposed water quality standards is highly structured and does not require close coordination and communication between the State and EPA. The process of joint planning enhances the quality of the supporting documentation and streamlines the approval process. To ensure accountability, the MOA was signed by high-level managers of both agencies.

Contact Information:

Tina Hendon hendon.tina@epa.gov (214) 665-6619.

8 Incentive-Based Nitrogen Trading Program to Improve Water Quality

Subobjective: Restore and Protect Water Quality

Highlights:

- **What:** An innovative statewide incentive-based nutrient trading program allowing sewage treatment plants (STPs) within the estuary watershed to participate in an economic program for funding advanced nutrient removal strategies to collectively reduce the nitrogen load to the waters of Long Island Sound (LIS).
- **Who:** The State of Connecticut (CT) and the State of New York (NY). The program is administered by the Connecticut Department of Environmental Protection (CTDEP) and overseen by an independent Nitrogen Credit Advisory Board (NCAB) in which all of the State's municipalities with publicly owned treatment works (POTW) participate.
- **Why:** To improve dissolved oxygen in the bottom waters of Long Island Sound exacerbated by nutrient enrichment from POTW discharges by giving economic incentives to municipalities for viable and alternative strategies to meet their individual Waste Load Allocation (WLA) goals while implementing a statewide collective nitrogen reduction goal.

Brief Description:

The State of Connecticut and the State of New York developed a Total Maximum Daily Load (TMDL) analysis to achieve water quality standards for dissolved oxygen in Long Island Sound. The TMDL was approved by EPA in 2001. To implement the TMDL, the State of Connecticut adopted legislation creating a statewide Nitrogen General Permit (NGP) and Nitrogen Credit Exchange (NCE) program. The NGP includes reporting requirements by the municipalities themselves which is then reported to the Nitrogen Credit Advisory Board (NCAB) in order to establish the price of credits for each year. The NCAB authorizes the collection of payments from POTWs that need to buy credits and the payout of credits to POTWs that reduced nitrogen below their wasteload allocations (WLA).

Current Status:

During 2002-2007, the total value of credits bought and sold exceeded $39 million, representing nearly 14 million nitrogen credits exchanged. In 2007, EPA awarded Connecticut with the first EPA "Blue Ribbon for Water Quality Trading," recognizing its NCE program and the NGP.

Outcomes:

Potential savings with nitrogen trading are estimated between $200 to $400 million. The program has successfully provided an alternative compliance mechanism for POTWs to meet the nitrogen WLA for the LIS TMDL. By 2008, thirty-nine "Project Facilities" with fully-operational nitrogen removal systems—partially funded with money raised from the NCE Program—had reduced from baseline levels, the cumulative equalized load of nitrogen entering Long Island Sound from CT POTWs by 11,080 pounds per day.

Lessons Learned/Recommendations:

While significant annual variability can be expected, a downward trend in the amount of nitrogen discharged to LIS is expected to continue. Nitrogen credit trading programs can be implemented by other States bordering large aquatic ecosystems. New approaches could include regional or multi-state trading programs. They could also incorporate nonpoint and storm water sources into credit exchange programs as the technology or models to measure actual reduction of nutrients and empirical identification of attenuation factors improve.

Contact Information:

Mark Tedesco EPA Long Island Sound Office 203-977-1541

tedesco.mark@epa.gov

9 Increasing the Pace of a State DWSRF Program

Subobjective: Water Safe to Drink

Highlights:

- **What:** EPA Region 6 conducted a Strategic Management Review of the New Mexico Drinking Water State Revolving Loan program and developed over 50 suggestions that resulted in a significant increase in the number of loans to local governments for drinking water enhancements.
- **Who:** EPA Region 6 (funded by EPA Headquarters via contract)
- **Why:** The New Mexico (NM) Drinking Water State Revolving Fund (DWSRF) program had the slowest "Pace" in the nation. (Pace is assistance (e.g., loans) provided as a percentage of funds available.)

Brief Description:

In addition to vigorous program monitoring (monthly Loan and Marketing Activity Reports, weekly and quarterly communication, and following through on potential loan applicants), EPA Region 6 contracted with an independent firm to conduct a Strategic Management Review of the New Mexico DWSRF program. The purpose of the Review was to examine State program policies and operations, identify areas for improvement, and outline recommended program changes with the potential to increase fund utilization. The Review concluded that the primary reason for the State's fund underutilization was competition from other water infrastructure financing programs. It also identified opportunities to streamline program operations to make the DWSRF program more appealing to borrowers and provided ideas for enhancing marketing/outreach. [web link to Review] Based on recommendations from the study, the NM DWSRF program partnered with five State and two Federal agencies to pilot a Uniform Funding Application in 2008. The web-based application involves a "pre-screening" of the application to determine if urgent conditions exist, the nature of the project, the amount of money required, the ability of the applicant to complete the project, compliance with laws and regulations, where the project is in the process, and potential sources of funding. The new application process has reduced application processing time for agencies, the number of applications an applicant has to complete, and the overlap in communication while searching for funding. The New Mexico Uniform Funding Application can be found at: http://ufa.nmenv.state.nm.us/APPLICATION_open.php.

Current Status:

Of the fifty-three suggestions for program enhancement in the Review, at least twenty-five have been implemented thus far. The most significant ones involve development and implementation of a Uniform Funding Application, a marketing initiative, and initiation of an on-line application process.

Outcomes:

NM went from ranking last place in the nation with a Pace of 57.7% in SFY 2007 to 35th place (out of 51 DWSRF programs) in SFY 2008 with a Pace of 83.5%.

Lessons Learned/Recommendations:

- A grantee sometimes needs an independent or third party review in order to identify areas for better collaboration, streamlining, marketing, etc.
- An independent reviewer may identify concepts that staff had been proposing that might not have been considered by management.
- Consistent and fair oversight keeps grantees accountable and on track.

Contact Information:

Maurice Rawls 214-665-8049 and

Javier Ballí 214-665-7261

10 Chesapeake Bay Program Performance Dashboards

Subobjective: Protect and Restore the Chesapeake Bay

Highlights:

- **What:** EPA's Chesapeake Bay Program Offices (CBPO) performance dashboards are high-level summaries exhibited on EPA's public website of key information, including clear status of progress toward goals, realistic annual targets, and summaries of actions and funding.
- **Who:** EPA CBPO developed these dashboards on behalf of the CBP partnership.
- **Why:** The dashboards were developed in response to a GAO recommendation to develop a means to demonstrate how resources are effectively targeted to achieve program goals and outcomes.

Brief Description:
The CBPO dashboards are one of three primary management resources that the Chesapeake Bay Program has developed in response to the GAO recommendation to "establish a means to better target [the program's] limited resources to ensure that the most effective and realistic work plans are developed and implemented." (The other two management resources are the realistic annual targets and the Activity Integration Plan System.) The dashboards are publically available on EPA's CBPO web site. They allow CBP partners to review a succinct summary of: (1) measures of progress towards both the performance on Bay restoration indicators and on the program's realistic annual targets; (2) the total resources CBP participating partners have dedicated to a topic area over several years; (3) the resources dedicated to specific activities within topic areas; and, (4) analyses of the strategies that need to be done to improve implementation. The CBPO dashboards are an innovative reporting tool that allows program stakeholders the means to monitor in one location progress the Agency and its partners are making in meeting its goals and targeting its resources effectively. To access dashboard, go to http://cap.chesapeakebay.net/dashboards.htm.

Current Status:
The CBP partners propose to update the dashboards on a regular basis, according to the need for updates and the availability of new data. To date, a select number of dashboards have been developed for certain topic areas.

Outcomes:
Early outcomes include an increased understanding of the collective resources and activities targeted to restoring the Bay, and better accountability among the partners. The dashboard approach is replicable across the country, and the CBPO has been sharing the approach and other tools with other large watershed partnerships (e.g., Puget Sound, Long Island Sound, other large aquatic ecosystems).

Lessons Learned/Recommendations:
Future versions of the management dashboards will be tailored to better meet partner needs for information and to facilitate the flow of information through the partnership. New dashboards are being developed that present cascading information showing more detail about activities, and where in the watershed they are occurring. The intention is to better target activities, force greater accountability for partner actions, and improve the ability to quantify the "gap" between current progress and 2010 and future goals for a restored Bay.

Contact Information:
Julie Winters (410-267-5754) and
Doreen Vetter (410-267-5780).

http://cap.chesapeakebay.net/dashboards.htm

11 National Estuary Program Evaluation Tool
Subobjective: Protect Coastal and Ocean Waters

Highlights:

- **What:** The National Estuary Program (NEP) Program developed Program Evaluation (PE) Guidance for assessing the implementation and performance of each of the 28 NEPs.
- **Who:** The EPA Headquarters Office of Wetlands, Oceans, and Watersheds released the Evaluation Guidance in September 2007. The NEP PE Guidance was developed in collaboration with EPA Regions, NEP Directors, and internal and external experts, including participation from the National Oceanic and Atmospheric Administration (NOAA).
- **Why:** The NEP PE Guidance was created to improve EPA's ability to assess, objectively and transparently, the programmatic and environmental achievements of each of the 28 estuaries, and the overall effectiveness of the NEP.

Brief Description:
The NEP PE Guidance includes program evaluation methodology features that improves objectivity, consistency, and transparency. These features include: 1) a logic model that incorporates the pressure-state-response framework; 2) pre-selected performance measures and a 4-tiered rubric for programmatic activities (Minimally Performing, Fully Performing, Good and Excellent); 3) narrative summary of NEP workplan goals discussed in the context of the logic model; 4) articulated rating thresholds (Pass, Conditional Pass, and Fail; and, 5) an on-site visit.

Current Status:
Each NEP is subject to an evaluation process every three years. In 2008, EPA completed nine NEP evaluations. Ten NEPs will be evaluated in 2009 with nine more in 2010.

Outcomes:
The most important outcomes from the NEP PE Guidance are: (1) the standardized performance measures with a 4-tiered rubric and articulated rating thresholds create transparency and consistency regarding programmatic expectations of the NEPs; (2) the evaluation methodology reduces the burden on NEPs by using standardized performance measures and existing NEP workplan goals and outcomes; (3) the logic model links NEP workplan outputs and outcomes to either reductions in pressures on the estuaries or changes in the state of the environment; (4) the on-site visit ensures face-to-face collaboration and partnership-building between EPA and the NEP staff; and, (5) the systematic design of the evaluation methodology enhances EPA's ability to report program outputs and outcomes in a meaningful and consistent way.

Lessons Learned/Recommendations:
The PE process has proven to be a very powerful tool to demonstrate results. The PE process has driven adaptive management strategies. For example, identified challenges have created positive changes in the NEPs and allowed EPA Headquarters Office and the NEPs to set priorities on budget and resources. Also, the PE process has proven to be a credible form of evaluation for providing results and the methodology can be replicated and is transferable to other programs.

Contact Information:
Noemi Mercado 202-566-1251 mercado.noemi@epa.gov
http://www.epa.gov/owow/estuaries

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