

Report to Congress

Paying for Water Quality: Managing Funding Programs to Achieve the Greatest Environmental Benefit

U.S. Environmental Protection Agency
Office of Water

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1. Introduction

Background

Recent studies by EPA and others suggest that the Nation's wastewater infrastructure faces significant challenges in the coming decades. At the same time, the Nation will need to address wet weather pollution discharges, failing decentralized wastewater systems, and nonpoint sources of pollution that threaten our Nation's resources. Because the Federal government funds only a portion of the Nation's investment in water quality, States have urged maximum flexibility in their use of Federal resources, so as to direct investments at the water quality problems of greatest priority.

The Joint Conference Committee report on H.R. 2620, the 2002 appropriations bill that includes the U.S. Environmental Protection Agency's (EPA's) budget, directed the Agency to develop a broad working group to review and address the basic means by which EPA may accord flexibility to States and also assure that Federal investments in water pollution control achieve the greatest possible benefits (Full text from conference report included in Appendix A).

The Committee requested that the following specific questions be among those discussed:

1. Are the SRF (State Revolving Fund) and other Federal financial assistance programs achieving maximum water quality protection in terms of public health and environmental outcomes?
2. Are alternatives other than wastewater treatment plants and collection systems eligible for Federal assistance, and, if not, why not?
3. Do the priority ranking systems which States use to prioritize eligible treatment works projects properly account for environmental outcomes, including indirect impacts from air deposition of treatment plant effluent or stormwater runoff from sewer construction-induced growth?
4. Are recipients of Federal assistance required to adopt appropriate financial planning methods, which would reduce the cost of capital and guarantee that infrastructure would be maintained?
5. Have sufficient performance measures and information systems been developed to assure the Congress that future Federal assistance will be spent wisely by the States?

The Committee requested that the working group be formed with representatives from a variety of interested parties including the State/EPA SRF Work Group, the Environmental Council of the States, Environmental Finance Centers, and centralized and decentralized wastewater and nonpoint source stakeholder groups.

The Committee indicated in the Conference Report and through subsequent conversations that the workgroup, through EPA, should prepare and submit to the Congress by July 15, 2002, a report addressing the aforementioned questions and other related issues it deems relevant.

Approach

In response to the Committee's direction, EPA organized and conducted a public workshop on March 14–15, 2002 in Washington, D.C. The public workshop was designed to provide a forum to address the questions raised by the Committee and to provide an opportunity for public input on issues related to but not specifically addressed in the Committee report language.

The public workshop was advertised to potentially interested parties including those requested by the Committee on Appropriations. Information about the public workshop was widely distributed through a Federal register notice, email messages to EPA's SRF and nonpoint source-related mailing lists, and through several "listservs," (email systems that distribute requested topical information). Organizations such as the Environmental Council of the States were given an electronic version of the workshop brochure which they then distributed to their members.

Nearly 120 individuals registered (the registration list is included in Appendix B) for the event representing the following array of organizations:

- State agencies (14 SRF program agencies, 5 environmental or other agencies)
- Private sector (19 companies—e.g., decentralized wastewater system vendors)
- Nongovernmental/nonprofit organizations (15)
- Associations (9)
- Federal agencies (3)
- Municipalities (2)
- Congressional committees (1)

The agenda for the public workshop was designed to address the questions posed by Congress through a combination of expert speaker panels, question and answer sessions, and open discussion sessions. (The public workshop agenda is included in Appendix B.) The panel presentations were included to provide a

base understanding of SRF and other Federal funding program requirements, past performance, and perspectives on future directions. State representatives provided case studies that illustrated program operations and innovations. The question and answer sessions and open discussion sessions followed the presentations to ensure that ample opportunity was provided for input from members of the audience.

The group of interested people that participated in the public workshop did not fall under the definition of a Federal Advisory Committee under the Federal Advisory Committee Act. As a result, the intent of the public workshop was to hear differing perspectives and insights without an attempt to form a group consensus or to generate group recommendations. A notice was put in the Federal Register stating the public had access to the draft report for a 2 week on-line comment period. EPA provided the opportunity for any interested group or individual to submit comments or other input through April 15, 2002.

Report Organization

The report is not an exhaustive record of all details discussed during the public workshop nor does it attempt to embellish or interpret matters that were incomplete or left unclear during the event. Instead, the report summarizes the main themes and messages of each session's presentation(s) and the public input provided during the session. A workshop summary (section 4) was prepared to provide a more detailed description of the public comments and responses from panel members or other audience members. The four major sections, following this introduction, include:

- Water quality funding—a historical perspective
- Encouraging efficient wastewater management
- Public workshop summary
- Response to congressional questions

2. Water Quality Funding—A Historical Perspective

Water Quality Funding: Yesterday and Today

Throughout the twentieth century, local governments provided the majority of financial support for water pollution control (see Figure 2–1). However, during the same period, Federal funding programs provided critical support that encouraged local spending for wastewater treatment—Federal funding incentives were especially important to the implementation of new levels of wastewater treatment. This section presents a very brief historical perspective of water quality funding that provides insight into the funding challenges our country faces today.

The earliest water quality projects focused on wastewater collection systems. By 1910, about 10 percent of the U.S. urban population was served by collection systems that conveyed wastewater to primary treatment facilities or to direct discharges. Around the same time there were several early experiences with “secondary treatment.” For example, in 1907 one of the first trickling filter facilities was constructed in the city of Gloversville, New York. The first activated sludge facility in the Nation was constructed in Chicago in 1916.

Although many cities began to finance, build, and connect their centralized collection systems to secondary wastewater treatment facilities, many others continued on only with primary treatment. The existence of serious water pollution problems in the United States was first recognized during the 1920s and 1930s. Outbreaks of cholera, typhoid, and other waterborne diseases as well as declining fish and shellfish populations led to the recognition that direct discharge or primary treatment were generally inadequate methods of wastewater disposal.

Federal Funding Initiated

Federal funding to subsidize the cost of water pollution control was initiated with the passage of the 1948 Water Pollution Control Act. This Act provided the first authorization of funds for wastewater treatment in the form of loans. Early efforts to address water pollution control and related funding also included:

- 1956 Water Pollution Control Act (Health, Education, and Welfare)
- 1965 Water Quality Act (Interior)—Set water quality standards
- 1965 Public Works and Development Act

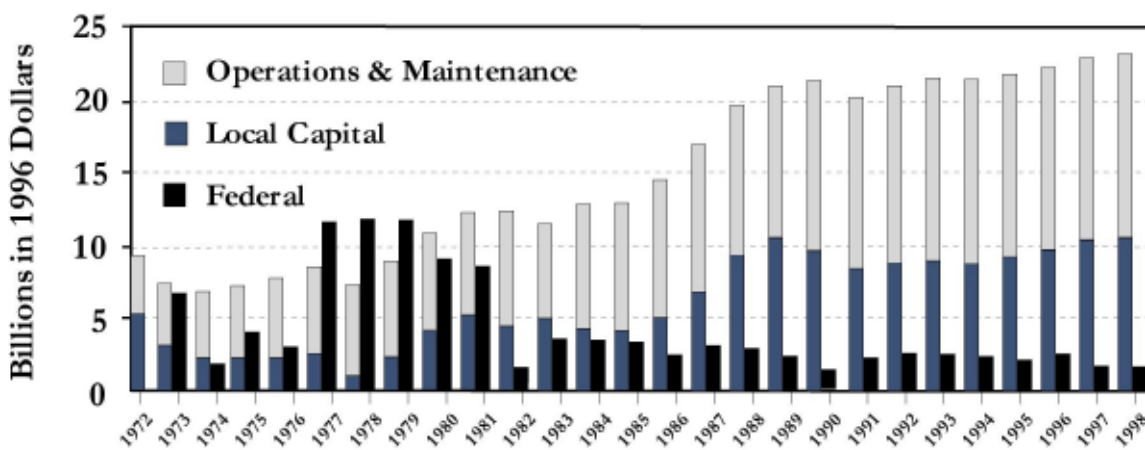


Figure 2–1: Federal vs. Local Wastewater Expenditures

Source: *Federal, State, and Local Governments, Government Finance Reports*, U.S. Department of Commerce, U.S. Census Bureau, Governments Division

(Commerce)—Created the Economic Development Administration to provide grant money to economically distressed areas for public works projects

The Push for Secondary Treatment

With growing recognition that water quality in many of the Nation's rivers and lakes were severely impaired, Congress determined that bolder measures were required to reverse the trend and passed the 1972 Federal Water Pollution Control Act Amendments. The Amendments mandated at least secondary treatment and provided increased Federal construction grant assistance. The results of the 1972 Act were impressive. In 1972, 2,594 (13 percent) of the Nation's 19,355 publicly-owned treatment works (POTWs) were providing less than secondary treatment, 49 percent were providing secondary treatment, and about two percent of the facilities were providing treatment levels greater than secondary treatment. By 1996, the number of POTWs providing less than secondary treatment dwindled to less than one percent (less than 200), 28 percent were providing greater than secondary treatment, and another 12 percent of facilities had no discharge.

Other Federal Programs Initiate Water Quality Funding

During the early 1970s other Federal programs were also initiated to provide support for water pollution control infrastructure. The 1972 Rural Development Act established the Rural Development Insurance Fund under the Department of Agriculture to provide loans for wastewater and drinking water infrastructure. Also, in 1974, the Department of Housing and Urban Development initiated the Community Development Block Grant (CDBG) program. Each year 10–20 percent of block grants are used to support water and wastewater infrastructure.

Programs Continue to Evolve

During the late 1970s and early 1980s the country adjusted the water pollution control infrastructure funding programs first with the 1977 Clean Water Act amendments that transferred program responsibility to the States and then through the 1981 Construction Grants Amendments which reduced funding levels and increased the local share of project costs. Also, during this period Congress began to increase focus on USDA conservation activities with the passage of the 1985 Food Security Act. This Act established several long-standing conservation programs including the Sodbuster, Swampbuster, Conservation Compliance, and Conservation Reserve Program (CRP).

In 1990, the Food, Agriculture, Conservation and Trade Act made some modifications to the Conservation Reserve Program to emphasize water quality considerations. The Act also established the Wetlands Reserve Program. In 1996, the Federal Agricultural Improvement and Reform Act consolidated existing conservation cost-share programs with the establishment of the Environmental Quality Incentives Program (EQIP). To date, conservation spending for agriculture has nearly tripled since the mid-1980s with the greatest portion of this spending going to support land retirement through the Conservation Reserve Program (USDA Economic Research Service, *Agricultural Outlook*, September 2001).

With passage of the 2002 Farm Bill, funding for conservation activities has continued to increase, both for newly added and preexisting USDA programs. For example, funding authorized under the current EQIP program can now be used for Conservation Innovation Grants and Ground and Surface Water Conservation funding. New programs include the Conservation Security Program (CSP), used to provide payments to farmers and producers who practice good stewardship on agricultural lands; the

Grassland Reserve Program (GRP); and the Great Lakes Basin Program for Erosion and Sediment Control.

A New Focus on Water Quality

In the late 1980s Congress signaled a new emphasis on addressing water quality improvements. The 1987 Clean Water Act Amendments made major changes to water program management with the introduction of Section 319 (Nonpoint Source Control) and Section 320 (Estuary Protection). Title VI of the Amendments replaced the construction grants program with the Clean Water State Revolving Fund (CWSRF) program and fundamentally changed the way the Nation subsidizes wastewater system construction and other water quality projects. Instead of direct grants to municipalities for construction of publicly owned treatment works, Congress directed EPA to provide grants to States to capitalize low-interest loan programs and other nongrant funding options such as purchasing local bond insurance. Congress also made the CWSRF a State-run program with only minimal oversight by EPA.

This new focus has resulted in new projects being funded. While most CWSRF funding has been provided for important municipal wastewater treatment projects, many other projects have been funded through CWSRF loans, nonpoint source grants, and through the National Estuary Program including:

- Onsite system remediation
- Stormwater best management practices
- Construction best management practices
- Agriculture best management practices
- Riparian protection
- Wetland protection
- Land Acquisition and Conservation Easements
- Underground Storage Tank removal
- Brownfields remediation
- Source water protection

Further details on the operation and activities of the SRF and other Federal funding for water quality projects are provided in other sections of this report.

Future Water Quality Funding Challenges

To gain a better understanding of the future challenges facing the clean water industry, EPA conducted a study, *The Clean Water and Drinking Water Infrastructure Gap Analysis*, to identify whether a funding gap will develop between projected investment needs and projected spending. EPA released the study in October 2002.

The Gap Analysis covers a 20-year period from 2000 to 2019 and includes estimates of the funding gap for both capital and operations and maintenance (O&M). For clean water, the estimates of investment needs and spending used to calculate the gaps cover all of the approximately 16,000 publicly owned treatment works (POTWs).

Study Findings

The Gap Analysis presents the projected funding gap over the 20-year period in two ways: a "no revenue growth" scenario that compares the projected need to current spending levels; and a "revenue growth" scenario that assumes spending will increase by 3 percent per year. This annual increase represents a real rate of growth of 3 percent over and above the rate of inflation—a projection which is consistent with long-term growth estimates of the economy.

The "no revenue growth" scenario is useful for understanding the extent to which spending might need to increase relative to the status quo. This analysis estimates a total capital payments gap of \$122 billion, or about \$6 billion per year, for clean water. The O&M gap is estimated at \$148 billion, or \$7 billion per year.

Under the "revenue growth" scenario, the capital gap is \$21 billion, or about \$1 billion per year, for clean water, and the O&M gap is estimated at \$10 billion, or \$0.5 billion per year.

Principles for Closing the Infrastructure Gap

It is important to recognize that the funding gaps would occur only if capital and O&M spending do not increase from present levels. This assumption understates future spending and ignores other measures that can be taken. These can include, but are not limited to, asset management to reduce capital and O&M costs and rate structures that better reflect the cost of service. In reality, increasing needs will likely prompt increased spending and thus a smaller funding gap, as is captured by the "revenue growth" scenario.

However, the analysis presents an indication of the funding gap that will result if we ignore the challenges posed by an aging infrastructure network—a significant portion of which is beginning to reach the end of its useful design life. In response, EPA has proposed principles to help guide efforts of Federal, State, and local governments to address this threat to America's public health and environment. The principles for closing the infrastructure gap are:

- *Utilizing the private sector and existing programs*—Fostering greater private sector involvement and encouraging integrated use of all local, State, and Federal sources for infrastructure financing.
- *Promoting sustainable systems*—Ensuring the technical, financial, and managerial capacity of water and wastewater systems, and creating incentives for service providers to avoid future gaps by adopting best management practices that will improve efficiency and reduce costs.
- *Encouraging cost-based and affordable rates*—Encouraging rate structures that cover costs and more fully reflect the cost of service, while fostering affordable water and wastewater service for low-income families.

- *Promoting technology innovation*—Creating incentives to support research, development, and the use of innovative technologies for improved services at lower life-cycle costs.
- *Promoting smart water use*—Encouraging States and service providers to adopt comprehensive strategies to manage water on a sustainable basis, including a greater emphasis on options for reuse and conservation, efficient nonstructural approaches, and coordination with State, Regional, and local planning.
- *Promoting watershed-based decision-making*—Encouraging States and local communities to look at water quality problems and drinking water source water protection on a watershed scale and to direct funding to the highest priority projects needed to protect public health and the environment.
- *Promoting reliable onsite systems*—Encouraging State and local governments to improve the reliability of onsite sewage treatment systems and to develop strategies for Regional sewage management.

3. Encouraging Efficient Wastewater Management

Studies by EPA and others suggest that the Nation's existing wastewater infrastructure will require large investments in coming decades. At the same time, water quality continues to be adversely affected by stormwater runoff, decentralized wastewater systems, and nonpoint sources of pollution. As a result, it is important to recognize that local efforts to enhance efficiency and lower costs will be critical to meeting this challenge.

In devising principles that will help guide Agency efforts to address the future water quality funding challenges, EPA identified the following as key principles that can guide local governments as they work to enhance local wastewater management efficiency:

- Sustainable wastewater systems
- Reliable decentralized wastewater management
- Watershed-based decision making
- Technology innovation

Sustainable Wastewater Systems

Efforts to build local capacity to efficiently run wastewater systems will be critical in the future. "Capacity" can be defined as having adequate technical, financial and managerial skills and experience needed run a wastewater system. Technical capacity refers to a system's ability to effectively operate and maintain the wastewater collection and treatment system. Financial capacity refers to the ability of the system to maintain an adequate user charge system and effectively manage the financing of capital projects and other financial duties. Managerial capacity refers to effectiveness and efficiency of the management structure of the system. Should a system be lacking in these areas, it may be appropriate to consider opportunities to join with or consolidate their system with another to achieve greater economies of scale and increase technical skills and experience levels.

Many wastewater systems are already exploring innovative and comprehensive management techniques to improve efficiency and reduce future costs. Several of the often mentioned techniques are asset management and environmental management systems.

Asset Management

Asset management has received a significant amount of attention as a technique that will help wastewater systems continuously and comprehensively manage collection and treatment system assets. Asset management calls for a full accounting of a facility's assets, documenting the condition, service level, useful life and expected replacement costs. The combination of this data produces a clear vision of how best to maintain the system, the timing of asset replacement projects and their costs over time. There is a growing need within the wastewater industry to develop this type of management approach to ensure that financial resources will be able to keep up with the growing capital needs. Proper wastewater asset management can help to lessen the financial burden of system repair and replacement.

Environmental Management Systems

Environmental Management Systems (EMS) are another technique that enhances wastewater system performance and helps facilities meet their environmental goals. By helping to identify the causes of environmental problems and then eliminating them, an EMS can help keep costs down. Advantages for a wastewater facility adopting an EMS are:

- Improved environmental performance
- Enhanced regulatory compliance
- Pollution prevention and/or resource conservation
- Increased efficiency
- Reduced costs

- Enhanced image with public, regulators, lenders, and investors
- Employee awareness of environmental issues and responsibilities

Currently, EPA is working on developing an EMS framework that will detail and coordinate various management programs and techniques available to utility managers today. EPA is working with two water industry associations and will develop focused recommendations regarding integration of management programs into an overall EMS framework. The EMS framework will encourage EMS implementation with complementary asset management and benchmarking programs to create a comprehensive wastewater management system.

San Diego, California provides an example of EMS implementation. The city's EMS program focuses on reductions in energy consumption, chemical usage, solid waste disposal, and potable water use. Positive results are occurring in many areas of the facility. Electrical use in one plant has been reduced by 10 percent and chemical usage by 8 and 30 percent in two other plants. The use of the EMS has also left the city better prepared to respond to any new or modified wastewater standards or requirements that occur in the future.

Reliable Decentralized Wastewater Management

The appropriate management of septic, cluster, or other decentralized systems is essential to maintaining and improving water quality. EPA recognizes that properly installed and managed decentralized wastewater systems are a cost-effective long-term option for meeting public health and water quality goals. The Agency also sees decentralized systems as being critical to the Nation's long-term solution to water pollution. Efforts to improve the capacity to manage decentralized systems locally or Regionally are critically important to achieving the goals of the Clean Water Act. EPA will continue efforts to

improve local capacity to manage decentralized wastewater treatment solutions. The Agency will also continue to provide technical support for the development of decentralized system management and will continue to encourage available funding programs, including the CWSRF program, to properly consider decentralized systems in project priority systems.

Watershed-Based Decision Making

Traditionally, water quality programs have focused on specific sources of pollution, such as sewage discharges, on specific water resources, such as a river segment or wetland. While this approach may be successful in addressing specific problems, it often fails to address the more subtle and chronic problems that contribute to a watershed's decline. For example, pollution from a sewage treatment plant might be reduced significantly after a new technology is installed, and yet the local river may still suffer if other factors exist in the watershed, such as habitat destruction or polluted runoff. Watershed management can offer a stronger foundation for uncovering the many stressors that affect a watershed. The result is management better equipped to determine what actions are needed to protect or restore the resource.

Efficiency is also increased once all agencies with natural resource responsibilities begin to work together to improve conditions in a watershed. In its truest sense, watershed protection engages all partners within a watershed, including Federal, State, Tribal, and Local agencies. By coordinating their efforts, these agencies can complement and reinforce each others' activities, avoid duplication, and leverage resources to achieve greater results.

Federal, State, and local programs should play a critical role in watershed-based management. Coordination of the many approaches available can be a daunting task, but is important to ensure that available resources are used for high priority watershed protection and restoration projects.

For example, Ohio's Water Resource Restoration Sponsor Program (WRRSP) illustrates how a CWSRF program can be tapped to address multiple problems within a watershed. In Ohio's WRRSP municipalities pair up with restoration partners such as a land trust or a park district and access the Ohio CWSRF program for project funding. Municipalities receive a CWSRF loan that will cover the costs of a wastewater treatment system project and a watershed restoration project. The watershed restoration project is undertaken by an experienced non-governmental organization partner, such as a land trust. To encourage these partnerships, Ohio's CWSRF program lowers the interest rate on the CWSRF loan to the municipality so that the annual cost would be equal to or slightly below the cost they would have experienced with a project loan that excluded the restoration project. This program reinforces the idea that wastewater treatment and watershed restoration have the same goal—water quality.

Technology Innovation

There are many new innovative treatment technologies and wastewater systems currently available or being developed. These technologies address many aspects of water pollution control including wastewater treatment, combined sewer overflows, stormwater controls, and decentralized systems. Moving forward, it will be important for all interested parties to support the development of more efficient and cost effective water pollution control technologies. Regulatory barriers making it difficult to use alternative or innovative technology will need to be addressed and incentives may be necessary to encourage the implementation of innovations.

4. Public Workshop Summary

Paying for Water Quality Managing Funding Programs to Achieve the Greatest Environmental Benefit

Session I: Introduction

Focus: To provide a discussion of EPA's goals for the two-day workshop.

Speaker: Rich Kuhlman, US EPA

Summary: The purpose of this session was to provide an overview of workshop objectives and to present a breakdown and explanation of the meeting agenda for all participants. The public workshop was described as a forum to discuss how to effectively manage existing Federal water quality funding programs. Agenda topics highlighted for further discussion included a history of Federal funding, an explanation of future funding needs, a discussion of the CWSRF program, a description of other Federal funding programs, water quality challenges beyond centralized wastewater systems, environmental performance tracking, and local actions that work to increase efficient wastewater management.

This session also described the workshop structure. It was stated that adequate time for discussion would follow each individual session, however it was made clear that, as a group, the participants would not fall under the Federal Advisory Committee Act, and therefore a consensus would not be sought. Instead, a compilation of comments made during this public workshop would appear in the Report to Congress. Interested participants were instructed to provide additional input before April 15, 2002, for inclusion in this final report.

Session II: Water Quality Funding Today

Focus: To discuss how water quality protection efforts have been funded historically and how they are funded today. This session also discussed future funding challenges and EPA principles to address those challenges.

Speakers: Jordan Dorfman and Angela Anderson, US EPA

Summary: The purpose of this session was to provide an overview of historical funding sources for water quality projects, the types of water pollution controls funded, and the success of such overarching programs. In addition, this session ended with a focus on the future challenges to funding water quality efforts, specifically those outlined in "The Clean Water and Drinking Water Infrastructure Gap Analysis."

A legislative history of funding for water quality projects provided a background understanding and a framework to discuss the changing focus and levels of Federal authorizations for water quality funding. As described during this session, Federal spending for water quality projects began in the 1950s and continued to increase dramatically through the 1970s. Although Federal funding levels for water quality projects increased to very high levels during the 1970s, levels began to decline following the early 1980s.

Federal Clean Water Act funding brought about environmental improvements that included a reduction in the Biochemical Oxygen Demand (BOD) loading from Publicly Operated Treatment Works (POTWs) by twenty-three to forty-five percent Nationwide and a statistically significant improvement in dissolved oxygen levels for eight of the eleven major U.S. river basins. It was stated that spending on water quality now exceeds \$25 billion dollars per year.

The second portion of this session focused on the need for the U.S. to increase spending on wastewater infrastructure and nonpoint source projects. “The Clean Water and Drinking Water Infrastructure Gap Analysis,” soon to be published by EPA, illustrates a wastewater funding gap that is the difference between current funding levels and these future funding needs. This report estimates that there will be a clean water capital payment gap over the next 20 years. It was highlighted that such a gap in wastewater funding is a direct result of increasing costs, population, Federal mandates, levels of treatment, and an historical under-recognition of the future cost of replacement. Principles suggested for closing the infrastructure gap included utilizing the private sector and existing programs, promoting sustainable systems, encouraging cost-based and affordable rates, promoting technology innovation, promoting smart water use, promoting watershed-based decision-making, and promoting reliable onsite systems and wells.

(Note: At the time of the meeting, the report mentioned had not yet been published by EPA. The report was issued in October 2002. It concluded that the predicted gap varies considerably depending on the combination of assumptions used in the analysis. The analysis found that a significant funding gap could develop if the Nation’s clean water and drinking water systems maintain current spending and operations practices. However, this gap largely disappears if municipalities increase clean water and drinking water spending at a real rate of growth that is consistent with the long-term growth estimates of the economy.)

An additional challenge to future funding needs included a discussion of the costs associated with nonpoint source projects to address such issues as hypoxia, pfiisteria, and improper waste management techniques. In addition, the completion of the 2000 Clean Water Needs Survey was described as a means to more accurately quantify and report nonpoint source needs.

Input: 1) Public Comment: The assumptions that I see about funding sources is that most States will have taxpayer based or ratepayer based funding and there will be some injection of Federal funds from the Federal treasury through the various agencies identified. How about looking at who uses these services and not just looking at the taxpayer or ratepayer as the basis for the funding. We have a lot of funding programs in place, not just because of problems caused by the individual, but by large industrial polluters. Shouldn’t polluters contribute funds based on the damage that they’re doing?

Panel Response: Historically most of the costs for wastewater treatment and for providing drinking water have really come from the local level, people paying their rates; well over half of the cost in addition to the Federal subsidy. On the State level, many States will impose fees on industry. It is sort of built on that “polluter pays” principle. Industries that require some type of permit are paying the cost of that permit, although it’s probably short of the full polluter pay concept. It is an interesting point, however I don’t think it would work with existing legislation that we have within the Clean Water Act. But, it is something that certainly could be entertained as we work toward the CWA reauthorization, or reauthorization of the SRF program.

- 2) **Public Comment:** There is real variability in States over the charges for NPS permits, some charge zero, while some fees are substantial. Many States do not even cover the cost of writing the permit. In 1993, Congress considered fee based legislation, and saw what it would take to charge some tax or fee on top dischargers (looking at the toxicity of the discharge, volume of the discharge, and the overall water usage) and looked at establishing a National Clean Water Trust Fund. There have also been proposals to take settlements from citizen lawsuits and other things, which now go into the National Treasury, and instead put them into a Clean Water Trust Fund. Senator Robb introduced such a bill last year. There is discussion in Congress, at the Maxwell School, at Environmental Finance Centers, and others that have considered ways to establish alternate funding sources. Even though it's not currently in either of the bills in Congress, or SRF reauthorization, we ought to think outside the box for funding sources. Otherwise I don't see how we can close that gap.
- 3) **Public Comment:** One of the ideas we have had some enthusiasm for in the private sector was the privatization of clean water treatment works as mentioned in a proposal issued by the former President Bush. The problems we had implementing privatization were many, but one of them was—I don't know if anyone is aware of this—but private firms providing wastewater treatment are subject to different sludge disposal regulations because of the definition of publicly owned treatment works in the Clean Water Act. The other problem we had was the difference between public bonds and private bonds and the rules of arbitrage so that if you had some public financing and you issue bonds, you turn it over to the private sector. The third problem is the treatment of wastewater treatment facilities funded by the Federal government. You have to pay back the depreciated Federal share and the State share using an amortization schedule.

Panel Response: You are right. There are some restrictions in the CWA. When I speak of private sector involvement, there are whole ranges of things short of the private company buying out the facility from the public sector. There could be private companies coming in to assist with the management or operation of the facility. Or, other opportunities some communities are trying.

I don't want to say this is the magic solution that's going to save the whole country. Decisions need to be made on a community-by-community basis. The decision needs to be made by the community. This is not something we're going to force. But rather, what are some of the barriers there and what are some of the ways to lessen the barriers if need be to encourage the private sector involvement? Although we don't want to get into the bills that are present in Congress now, House bill H.R. 3933 did address some of the private sector activity and arbitrage issues.

- 4) **Public Comment:** It's my understanding that the Metropolitan Sewerage Agencies handle the issues of the TMDL approach. I am not entirely clear on this approach. But, it seems to me that it makes good sense to start with the decentralized system, as earlier mentioned, and use the TMDL approach for decentralized systems. Could you comment on this?

Panel Response: I am not really an expert on the TMDL program; however, Romell Nandi will cover nonpoint source issues later today.

- 5) Public Comment: How much of the SRF funding goes toward nonpoint source projects?

Panel Response: In the early years of the program, the SRF funding share for nonpoint source projects was low, although in recent years, it's been ramping up toward ten percent. (Correction: In 2001, CWSRF funding for nonpoint source projects totaled nearly \$200 million for 5% of total funding. Nonpoint source funding has increased over the life of the program). Cumulative it is four percent, but it's going up. This is the number of dollars and not necessarily the number of projects. When looking at the number of projects, it's much closer to twenty-five percent, cumulative. In the past few years, the percent total nonpoint source projects is closer to thirty and forty percent. Also, nonpoint source projects tend to be much less costly than some of the treatment works projects.

- 6) Public Comment: What is the majority of the types of projects most funded, specifically within the nonpoint source program?

Panel Response: That will be addressed later this afternoon through a session specifically on nonpoint source funding through the SRF.

Session III: Overview of the Clean Water State Revolving Fund Program

Focus: To provide an overview of the CWSRF Program, the largest source of water quality financing assistance.

Speaker: Mark Kellett, Northbridge Environmental Management Consultants

Summary: The purpose of this session was to provide an overview of the CWSRF program for workshop participants that needed a up-to-date understanding of the SRF program. Topics discussed included a description of the CWSRF structure, the status of program funding, project eligibilities and priorities, and an explanation of ways in which to determine local program affordability.

Initial background information provided on the CWSRF program included a description of the initial funding shift from direct grants to loans, the shift from Federal to State lead in working with communities, and the change in program focus from wastewater treatment to watershed protection.

Details on the structure of the CWSRF included a comparison of the program approach to that of a bank. The CWSRF was described as a type of environmental bank, capitalized by both the Federal government and the State government. Sources of funding included the Federal capitalization grants, the twenty percent State match, bond issue proceeds from leveraging, repayments, and other fund earnings.

In a brief update on the status of the CWSRF program, it was stated that overall program funds available total 37.7 billion dollars. Of this amount, 18.3 billion dollars, as of June 2001, accounted for the overall Federal share and 3.8 billion for total State match. With successful programs operating in all 50 States and Puerto Rico, it was also stated that 10,919 loans as of June 30, 2001 had been made totaling approximately 34.3 billion dollars. A breakdown comparison of community size, by loan amount, was illustrated through various graphs and charts.

Project eligibilities discussed included those of section 212, planning, design, and construction of POTWs, section 319, nonpoint source projects, and section 320, the development and implementation of management plans for the National Estuary Program. A brief discussion of CWSRF priorities included typical considerations of priority lists and a description of integrated ranking systems.

In addition, this session also discussed CWA Title VI assistance options, details such as CWSRF loan interest rates, the idea of “grant equivalence,” and examples of State loan repayment terms.

Input: 1) Public Comment: The size of loans to communities may be attributable to the amount of special grant contributions in that year. Senators are trying to get special appropriations for large projects. Is this changing composition of CWSRF loan portfolios impacted by special appropriation earmarked projects that appear in the Federal Budget? Of particular interest, Mississippi has half of their funding in earmarks—the same amount in special grants as in the capitalization grant.

EPA Response: There is no doubt that special earmarks have an impact on the revolving fund. Clearly there is a connection. However, if you look at the history where earmarks have gone in the past, such as in the early years, 1992-1993, there were a few large grants made to major municipalities. Since then, this has changed dramatically. Although earmarks do have an impact on funds, I don't think you see that impact here. While there are still many large communities getting grants, there are also many smaller communities getting grants.

2) Public Comment: Are earmarks coming out of preexisting grant monies or are they additional funds that are put in?

EPA Response: Earmarked funds come from additional monies provided by Congress. The CWSRF program has not been reduced in funding from those earmarks. Congress either pulls other funds out of EPA's budget to put toward earmarks or they use additional funds from other sources outside.

3) Public Comment: Our experience has been with communities of 500 or less in population. These communities are much different than communities with populations between 3,000 and 3,500. In turn, these communities are even less similar to communities greater than 5,000 or 10,000 people. Are SRF statistics available on the number of projects, or percent of funds, for these smaller communities?

EPA Response: We just don't have that information on loans to small communities. States are to provide this type of information on such communities and right now the definition of small systems is 10,000.

4) Public Comment: In H.R. 3930, the definition of small systems has increased to 20,000.

5) Public Comment: There is more emphasis and a need for the very small communities to upgrade their wastewater treatment systems to meet environmental regulations. We are just concerned that they get their share and have access to funds.

Session IV: The Role of Other Federal Water Quality Funding Programs

Focus: To provide an overview of other significant Federal sources of water quality financing.

Speakers: Romell Nandi and Tim McProuty, US EPA

Summary: The purpose of this session was to provide an overview of the EPA Nonpoint Source Grant Program, the National Estuary Program, and to provide a description of other relevant Federal funding sources including those of the Rural Utilities Service and the Community Development Block Grant Program.

The discussion on nonpoint source funding began with a description of National river-miles and total lake acres impaired by nonpoint source polluting activities. The top sources of impairment, by percent total river-miles and percent total lake acres, included agriculture, hydromodification, urban runoff, and storm sewers. Total appropriations to the Nonpoint Source Grant Program totaled \$100 million per year between 1995 and 1997, \$105 million in 1998, \$200 million for 1999 and 2000, and \$237.5 million for 2001 and 2002.

This session also discussed the general usage and priority targeting for CWA section 319 funds. Topics covered included the use of funds by the States, consistency of funding priorities with those in the State's Nonpoint Source Management Program plan, and specific EPA conditions on funding, such as the requirement of States to use approximately half of their 319 funds to plan, develop, and implement TMDL allocations. Examples of section 319 projects included Best Management Practices (BMPs), nonpoint source education programs, technical assistance, monitoring, and watershed planning.

Also discussed was the National Estuary Program and associated grant funding. A history of the NEP program provided registrants with details on the program such as the purpose of promoting comprehensive planning, Regional monitoring, and coordinating research for significant National estuaries threatened by pollution, development, and overuse. Further background information described the unique approach for selecting and managing an individual NEP under this grant program.

As presented, FY02 NEP grants totaled approximately \$17 million, equivalent to \$500 thousand for each of the twenty-eight NEPs. In the past, an average of \$300 to \$350 thousand was allotted per program. A discussion of NEP planning and priority setting included a brief mention of the Comprehensive Conservation Management Plans.

Priority problems presented included nutrient overloading, pathogen contamination, toxic chemical pollution, alteration of natural flow regimes, habitat loss and degradation, decline in fish and wildlife populations, and introduced species. Various examples of CWA section 320 funded projects were provided.

The second half of this session was devoted to the exploration of other significant Federal funding sources including those of the U.S. Department of Commerce, Department of Housing and Urban Development, Department of the Interior, and the Department of Transportation.

Discussion on alternate funding programs for water quality projects began with an overview of the Catalogue of Federal Domestic Assistance. The catalogue provides information on fifteen types of assistance tools including formula grants, direct payments, guaranteed loans, and technical assistance. The publication, with information on some 1,482 assistance programs through 63 Federal agencies, was presented as a valuable

resource. When compared with similar assistance in other countries, the Federal assistance in the United States is very generous. However, Federal resources are dwarfed by National water quality needs.

This session presented many non-EPA water quality funding programs, including the Department of Agriculture's Rural Utilities Service Water and Wastewater Disposal Program, the Department of Commerce's Appalachian Regional Commission, the Department of Housing and Urban Development's Community Block Grant Program, the Department of Interior's Infrastructure Program, the Department of Transportation's 21st Century Program, and the Federal Emergency Management Agency's Disaster Relief Program. The discussion on various alternate programs emphasized the difference between applying for funding through EPA and applying for funding through those programs of other Federal agencies. There is a big difference, it was stated, between applying for funding through a program specifically designed for environmental projects where one is competing only against other governmental agencies and applying for funding through a program outside EPA where one is competing not only with other entities, but also with conflicting needs. In addition, it was noted that all of the programs discussed, while promoting environmental and public service goals, are looking more toward economic development. Such programs are much more pollution control oriented, rather than working to limit development to prevent more environmental pollution.

Also noted during this session was the new push for the cooperation between EPA programs and other programs such as the RUS and the CDBG programs. Some types of this cooperation are ongoing, but many are looking to expand these efforts.

Input: 1) Public Comment: Where would you get information on economic development grants, that being a subdivision of the Department of Commerce?

Panel Response: In terms of using the catalog, when you type a listing, EDA for example, into the catalog, you will get a listing of about six to eight programs. In the three to four page write-up on that program, you will find a contact listing at the bottom for that specific program. The alternative is to simply call information and ask for the EDA Headquarters. However, the catalogue serves as a very good starting point.

2) Public Comment: You mentioned people were studying the cooperation between EPA programs and the programs of other agencies. When is that study of such cooperation due for publication and are there other examples of this type of in-depth cooperation between EPA and other agency programs?

Panel Response: In reference to the paper in question, the (Environmental Finance Advisory) Board has already begun, and envisions completing, that report some time this year. Part of what the Board wants is to give some short case study abstracts where such cooperation worked, why it worked, what it was that they did, the best practices, and details of the institutional framework that allowed such a cooperation to happen. Also, the study will include a few anonymous case study abstracts for States where cooperation is not working. These case studies would include information on why cooperation did not work, a description of the contentions, and what institutionally exists in each State that prevents cooperation.

A draft report is expected by the Board's next meeting in August. In their last meeting, in March, it was decided that this project would receive full attention on one of the Board's workgroups.

- 3) **Public Comment:** How much control for RUS does the Federal government actually have? And, I am asking specifically in relation to the proposed paper on cooperation. The current system in some States is that if you get an RUS grant, you have to take the loan, even if the loan rate is higher than an SRF loan. That really does not seem to be in the best interest of the community. Is this process going to change?

Panel Response: That requirement is a Federal requirement that is mandated out of RUS Headquarters. The States will not have the flexibility on their own to do what they would like in terms of affordability. I imagine this can be rather difficult.

Such a reality also makes it difficult for the RUS to compete at this time. In my opinion, there is currently more flexibility in terms of loan percentages for the SRF. I would suggest talking to the RUS people themselves for an official take on this topic. These are only my impressions when dealing with the program. This is a Department of Agriculture Program and I work for the EPA.

Session V: Funding Decentralized Wastewater Systems

Focus: This session considered funding sources that support decentralized wastewater solutions.

Speakers: Joyce Hudson, US EPA, Jordan Dorfman, US EPA, and Greg Smith, Ohio Environmental Protection Agency

Summary: Ms. Hudson gave an overview of funding available and the challenges surrounding decentralized wastewater systems. Mr. Dorfman then discussed the policy and how CWSRF can fund decentralized wastewater systems. Mr. Smith covered his experience in Ohio with funding decentralized wastewater systems.

The purpose of this session was to demonstrate how decentralized wastewater treatment is important Nationally because one quarter of the population is served by these systems and about a third of all new wastewater construction is decentralized. Systems have poor track records and have high pollution potentials from mismanagement. 10-25 percent of decentralized systems fail annually and over 50 percent of these systems are greater than 30 years old and in desperate need of upgrades and repairs. The pollution threat could affect beaches, estuaries, shellfish beds, and groundwater. Panel members explained actions are being taken at the local, State, and Federal levels to devise effective management solutions for decentralized systems. Costs are high for communities implementing management strategies. They face program planning, operation and maintenance, and rehabilitation and replacement costs. The EPA drafted a National Management Guidelines document in October 2000 to help communities establish decentralized management programs. There are different levels and types of management for decentralized systems depending on the control a community wants to have. Some communities have implemented utility districts where fees help maintain the management district in the community.

The panel showed how the CWSRF could be used to fund decentralized systems because they are treated as nonpoint sources of pollution. Management programs can be established through the fund, system installation, replacement, upgrades or modifications can also be funded. Thirteen States have used the CWSRF for onsite systems. In Delaware, three percent or six percent loans are given for 20-year periods for onsite improvements. Washington State has a similar program. Through local entities the public can receive 0-5 percent loans for 5-20 years. More than 3,000 projects have been completed and \$47 million spent on onsite systems in Washington. The obstacle to funding onsite systems is that many State CWSRF programs do not allow funding to private entities. To overcome this problem many States have found solutions that include working with intermediaries such as local governments or local banks.

In Ohio, onsite systems are funded through a linked deposit program with local banks. Ohio EPA works with local agencies to establish loans. Ohio's SRF invests in a reduced interest local bank CD. Banks review and approve loans to borrowers, and the bank lends to the applicant at a rate reduced by the amount of the SRF CD discount. The banks take on the default risk of the loan for the interest they receive. Borrowers prefer this process because they deal with familiar banks and the SRF approves of this program because the administrative burden of loan review happens at the banks.

Input: 1) Public Comment: In the linked deposit program does Ohio provide financing for administration to the technical partner?

Panel Response: No we don't. We try to make sure that the partnership and the requirements that we have with them are as close to their normal course of business as possible. So, they see these loans not being an extra part of their workload—it may increase the workload—but it's not a completely different kind of work. So, they are usually very willing to accommodate it as part of their normal administrative expense.

2) Public Comment: Is there an additional cost to the banks for their participation?

Panel Response: No, the loan is the same loan, as they would have normally. The line where it says 8.25% says 3.25% for the loan recipient. Again, the banks are equipped through their normal fees to recoup all of their administrative expenses without any additional expenses due to involvement from the Ohio SRF program.

3) Public Comment: How do you reflect these programs in the intended use plan?

Panel Response: Ohio puts such programs on the priority list of the IUP on a countywide basis, although not individual projects because they do not know who the end borrower will be. They also put the cost expected for specific county programs on the IUP.

4) Public Comment: Why such a disappointing response in loans?

Panel Response: We [Ohio] need to do our homework. The degree of urgency the county health departments are putting forth about the need for these improvements might not be enough. Outreach might not be there, people will go ahead with improvements through other financing mechanisms.

- 5) Public Comment: What is the duration of the investment in the loan? Do you deal with large Regional and National banks?

Panel Response: Ohio retains the investment in the certificate until the loan is repaid. If it's a large investment, repayments are decreased as payments come in. The program is flexible. Ohio deals with all size banks, as long as they are Nationally chartered. We also work with farm credit services that have sufficient assets to qualify, not only chartered National banks. Small National banks and Nationwide chains have participated.

- 6) Public Comment: How much influence does Ohio interject into the management with the county health department, because sometimes their own peculiar requirements can diminish the effectiveness of the program?

Panel Response: Local programs are given fair latitude to know what their problems are and how to address them. Ohio is hesitant to step in and say you have to do it this way. This is possibly another reason why the program is not successfully attracting loans.

- 7) Public Comment: How many States use the linked deposit program and what are the barriers for States using this method? How can SRF address NPS and private loans more?

Panel Response: Addressing the lack of NPS funding is why we are here and at this meeting we hope to come up with ideas. The EPA welcomes feedback on what could and should be done. Hopefully many at this workshop can explain what they have done in their States. Every year EPA sees more States jumping on board and funding NPS. We always need pressure on States to understand the issue and understand what needs to be done. We can't force the State to do it, but the pressure often must come from within the States. There are not many States, only three to four doing linked deposit. Some States often have difficulty getting banks on board. Many States are also practicing linked deposit for other programs, such as for housing, not just for water quality.

- 8) Public Comment: Farmers are not likely to take loans when grants are available. Farmers are already financially hit and not likely to do any extras.

- 9) Public Comment: EPA cannot make States do NPS funding. Local community groups and nonprofits that go to the States are best at getting the States to fund NPS projects. The EPA Onsite program promotes communities talking to States. Although building constituencies is important, it is still the States that ultimately manage their programs with Federal dollars to do so.

- 10) Public Comment: Maryland was listed as a linked deposit State, what are they doing?

EPA Response: Their new program is modeled from Ohio's and has only made a couple of loans. Possibly two loans for about \$5000 are all that has been done.

Session VI: Funding Watershed Protection and NPS Pollution Control

Focus: This session considered funding sources for watershed protection and nonpoint source pollution control projects.

Speakers: Jim Scott, Northbridge Environmental, Paul Burns, Minnesota Department of Agriculture, and Tom Christensen, USDA NRCS

Summary: Mr. Scott provided an overview of nonpoint source pollution control projects the EPA supports. Mr. Burns then explained how Minnesota uses its unique approach to nonpoint source funding and explained their best management practice loan program. Mr. Christensen helped the audience understand the USDA's water quality funding programs.

While wastewater treatment is crucial to water quality management, nonpoint source pollution also needs to be addressed to consider the entire picture of water quality needs. There are a variety of nonpoint source projects supported by the CWSRF and other water quality funding programs. These include stormwater BMPs, agriculture BMPs, riparian protection, wetland protection, Underground Storage Tank (UST) removal, brownfield remediation, and even dam removal. Since 1995 there has been a steep increase in nonpoint source spending (\$1.3 billion since 1995). Thirty States have used CWSRF funding for nonpoint source activities. To reach out to new borrowers States have established innovative partnerships with other State agencies, county loan programs, NRCS offices, and local banks to offer loans. Examples are Ohio's CWSRF linked deposit program, Minnesota Department of Agriculture's agricultural BMP loan program, and Maine State Housing Authority's septic loan program. CWSRF programs have also encouraged partnerships with point and nonpoint source projects, such as Ohio's Water Resource Restoration Sponsor Program.

Minnesota's agricultural BMP loan program started in 1995 and supplies low-interest secured loans through local governments and lenders to farmers for the implementation of comprehensive local water plans. The comprehensive water plan identifies the water resources, describes any problems, establishes priorities, and develops an action plan. The State allocates funds to counties and distributes funds to local lenders. Counties implement the local water plan, identify and solicit projects, and hold the accounts for use within the county. The lenders then evaluate the financial feasibility and risk of the loans, request the funds from the State and collect loan repayments from borrowers. The local lender guarantees the loan repayment to the State SRF. To date there have been 4,500 projects and \$51 million in loans. This represents both first generation loans and loans made from funds revolving after repayment.

The USDA has many loans and grant programs for water quality protection and improvement projects. Their primary conservation programs include the Conservation Technical Assistance, Environmental Quality Incentives Program (EQIP), Wetlands Reserve Program, Conservation Reserve Program, Conservation Reserve Enhancement Program, and the Small Watershed Program. EQIP for example, provides farmers and ranchers with technical, financial and educational assistance to help them comply with environmental regulations and natural resource concerns. Approximately \$200 million per year is spent on this program. Many USDA projects are coupled with EPA funding programs such as 319 grants. The Farm Bill now in Congress will increase funding to natural resource conservation programs.

Input: 1) Public Comment: Who provides the insurance policies the NRCS talked about?

Panel Response: There is a group out of South Carolina called the Agriculture Conservation Innovation Center that is involved in some of those piloting programs and also works with the Risk Management Agency in USDA. Two aspects of the program are to look at solutions to reduce the commercial application of nitrogen in a cropping situation and the other is implement what they call “manure crediting.” Manure crediting, in essence, describes the farming practice of applying manure to cropland. When manure is applied, a farmer, in effect, reduces his/her need for commercial fertilizers due to the inherent nutrient content in manure. The funding behind this program was initially a grant; however, as the project has grown, and incorporates collaboration with the Risk Management Agency, there may also be some USDA funding behind it as well.

- 2) Public Comment: Have you been able to determine measurable water quality improvement as a result of the BMPs in Minnesota?

Panel Response: Not as we would like, only relying on ambient and watershed based monitoring systems in place. One of the needs would be a better cause and effect system to demonstrate and prove, that an investment of \$50K resulted in “x” reduction in fecal coliform or nitrates or phosphorous in a receiving water body. Minnesota does have activity measures, like how many acres were affected by the conservation tillage equipment they funded. We are able to build estimates on numbers, but not from direct monitoring results with “x” improvements. Even though water quality improvements are seen, the State cannot directly relate projects funded because of many variables.

- 3) Public Comment: Minnesota mentioned that good programs are run at the State level? How do you do this? What about your priority system ranking? How do you keep the reporting down?

Panel Response: The Minnesota Department of Agriculture helped to update the State 319 plan. The group that reviews the county applications to the program is a subcommittee of the State 319 program. Counties apply each year indicating what projects they would fund under the competitive application process. Priority and funding levels are driven by how much a county’s plan would improve water quality. Counties also must indicate how they will spend their revolving dollars and that must be related to the local water plan. Loans are not approved unless the applicant is utilizing approved practices, and by the time projects come to the Department their credit rating has already been approved.

- 4) Public Comment: In all programs do you have long-term management plans? Training programs?

Panel Response: The short answer is no. I’ve seen this as a concern for cost share programs. Low-interest loans must be paid back so there are built in incentives to do the projects and maintain them. County inspection programs for septic systems are in place, but not frequently utilized, except perhaps in instances of high quality lakeshore areas, such as those monitored additionally by the self-inspection programs of lakeshore associations.

- 5) Public Comment: Does the USDA look at models for water quality? What kinds are used?

Panel Response: Modeling is important because monitoring everything is impossible. TMDL/agricultural nonpoint source models are used and developed by the Agricultural Research Service. The Cooperative State Research Extension Education Service started a 5-year project looking at water quality tools and models. A broad range of land grant universities and other scientists are also considering tools available and how they can be improved and more properly used in certain situations.

- 6) Public Comment: Whose job is it to determine the combination of programs to use? NRCS? Local? State?

Panel Response: NRCS tries to encourage all levels of participation. Local stormwater conservation districts have the lead of choosing projects. NRCS district conservationists also have knowledge of all the available projects. More often than not, it is a combination of people and a process that identifies the programs that match up to achieve the greatest result. It varies by State, but you need the combination to be most effective.

Session VII: Discussion

Focus: This session allowed the audience to voice their opinions on barriers to obtaining funding and problems they face. Discussion also focused on what can be done to increase the overall effectiveness of existing programs.

Input: 1) Public Comment: In the DC area, land protection is important and the SRF has been used for land protection in the past. There is a big potential here. There is a need for more recognition and the SRF needs to be pushed on more land conservation.

- 2) Public Comment: What will the Federal government role be in incentivising SRFs? Speaking as a land conservationist, we know there has been \$20 billion new dollars created at the local level for land conservation over the last 5 years. There has been some interesting work with mixing up the land people with the water people and trying to find out, at the watershed level, how to make land conservation work as an NPS tool. There are many innovations present at the local level today, such as creating incentives to link the watershed and land conservation programs and fostering means to better understand how to measure the results and impacts of programs. How much money is being spent on looking at the actual results of programs? What are the barriers to better modeling and monitoring? Demonstration projects need to be highlighted.

A successful incentive program is New Jersey's Green Acres program. At the State level, this traditional land conservation program has been linked with their SRF. When counties and cities come for loans for land conservation, the application asks if there is a water

quality impact. If so, they may be eligible for an SRF loan. This is a more attractive package for loan applicants. The Brownfield program is also a good program that highlights local level work. Perhaps the SRF can model their program from the Brownfield program.

- 3) Public Comment: EPA needs to do a better job of tracking where the dollars are going. States have funding, but the public needs to know more about where the funding is going. It is important for the public to understand funding down to the project level and in different categories. This should not be that expensive of an endeavor with the technology available today.

Moderator Comment: EPA has realized the need to track more NPS funding and projects. The NIMS program is currently working on tracking that better and EPA has realized this is an issue.

- 4) Public Comment: There are barriers to decentralized systems in small communities. Alternative onsite systems are not readily accepted at the local county levels. There needs to be some type of National effort to certify new onsite technologies—aerobic etc. Alternatives are needed that work and are accepted. There is also a need for technical assistance to help motivate decentralized management entities. Counties don't want to do it, some rural electric utilities might do it, but in some cases there may be a need to create an entirely new entity. In the Midwest, there are not the same incentives for wastewater systems to develop, as have rural water systems. There are barriers because legal entities, and not homeowners, apply for funding in many cases. If counties or townships do not do it, then homeowners need to group together. Higher levels of funding and public awareness need to occur for decentralized systems to progress.
- 5) Public Comment: Is one of the barriers for NPS projects a capacity issue at the State level in terms of staff time for the SRF program? Could there be an incentive for additional dollars for the administration of the SRF, if it is a capacity issue? What makes a difference at a watershed scale? This might be a research question and might not be an issue for the SRF.

State Response: The Wisconsin Department of Natural Resources developed an administrative funding for water quality model. The primary mechanisms we use for funding administrative expenses associated with water quality programs include section 106 grants, 104(b) grants, some SRF funds, and some 319 funds. According to our model, there was a \$700 to 900 million dollar annual gap in funds available for the State administration of water quality programs. Also, an expenditure survey found that less than 30 percent of all money that supports the Clean Water program is Federal money. I want to make a point that there is a lot of Federal money available for these programs, but there should also be Federal implementation of these programs.

Other sources of funding include general-purpose revenues, general fees money, and bonding. There is a very large problem with what States can do to continue water quality efforts. The SRF is a complicated program and requires State and Federal partnership to do

all the work. It is difficult for States to administer this program and it is not getting any easier. Also, the Needs Survey shouldn't be the only determinate for State allocation.

- 6) **Public Comment:** If you look at National numbers from the gap analysis and from earlier presentations, they said 90 percent of the remaining pollution is from NPS and only 4 to 10 percent of the SRF funding addresses NPS. It appears substantially cheaper Nationally to address the NPS pollution problem compared to point source when compared as a percentage. The Gap analysis should show much less funding required when addressing the entire NPS problem over 20 years, than to maintain the central system infrastructure. So when you combine those facts you see the country is misallocating its clean water funding. This is a glaring problem the Federal government needs to pay attention to. States have the flexibility, but also know they need to be accountable. The Nation is now at a point where all the money is thrown to a small fraction of the problem, that is the most expensive by far to maintain. It is up to the States to be accountable for their use of the Federal resources and to redirect those in a more efficient way. States should be accountable for redirecting money to NPS projects. We should allow States to use funds for grants to NPS projects so incentives exist for communities, farmers, and homeowners. We should not use a traditional SRF loan, but have an SRF loan with some principal forgiveness. This will provide more administrative funds for States to administer their programs. At this time it is a flagrant misallocation of our country's resources that the States are continuing to put all the money into the central system grid and not diverting to those projects that clean up the water bodies of this country at a substantially lower cost than the central system approaches. Without using mandates, the Federal government could induce incentives in the financial system.

- 7) **Public Comment:** Earlier in the session I talked about the TMDL approach. It seems to me that there are different approaches that may work better for the different areas of nonpoint source pollution. The one we do most of our work in is wastewater treatment. If the TMDL approach is not in complete favor for agricultural or metropolitan interests, perhaps it is a very good basis for encouraging large-scale use of pollution control equipment in unsewered areas. The incentive behind that could be the State revolving loan funds that are proportioned for decentralized systems. If the States do not require a secondary level of treatment or higher where necessary for such systems, then they wouldn't get their proportion of the State revolving loan funds for nonpoint source pollution, in the same way they would be in violation of their highway funds if they didn't comply with certain requirements of the Federal government. In terms of financing those, it wouldn't necessarily have to be through the State Revolving Fund, which is of course is a very good regenerative fund, in many cases the marketplace would absorb the upgrade of commercial and residential applications for both new construction and resale of the property. And, it would be simple, whatever the code is at the time, the marketplace would absorb the cost under new construction to comply with that code. And of course on a resale, the marketplace would absorb that cost as well. An inspection would be done at the time of sale and if the property didn't meet whatever code was in place at that time, then they would have to be brought up to code before the closing of that exchange and the sale could take place. And again in the private marketplace, the transaction of the buy-sell

would absorb that cost and then the balance of those funds could be used to upgrade the impoverished communities where you have a different approach.

- 8) Public Comment: The vast majority of our pollution comes from nonpoint sources, yet the vast majority of the money goes to point sources. My suggestion is that anyone with any sort of power influence should talk to the cities and the communities and let those small and medium municipalities know this as well. Because sometimes they will resist as they think it's their money for a wastewater treatment plant. They don't realize because TMDLs can only control the point sources, it is much better for them to allow some of this money to go to nonpoint sources to eliminate some of these problems. Educate the communities in your States that they do want to fund nonpoint source projects.

Also, I'm not sure that giving for-profit businesses principal forgiveness and more grants is the best use of the available SRF program funds. Because money is a finite resource, and the reason we can even have a lot of these discussions, is that it's a revolving loan fund and the money comes back. We have to be careful when we talk about principal forgiveness, because it decreases the amount that is available in the future for this type of work.

- 9) Public Comment: The Needs Survey is mostly oriented toward publicly owned treatment works. Most of those needs are for traditional wastewater needs. The point is it grossly underestimates the needs. Many older facilities need reconstruction, and we don't have documentation on those future needs now. Just to maintain the structure we have now is very expensive. One other point is that this is a State program, and the States have their own unique strategies. It is not EPA setting directions and policies, but every State and individuals are doing this. A successful program will start from the bottom up to address any nonpoint source, or any type of water quality problem.
- 10) Public Comment: In managing Minnesota's agriculture BMP loan program, I have seriously tried to avoid competing with municipal wastewater treatment needs in terms of the allocation of SRF dollars. I know the minute I try to compete, who is going to win. Fortunately our State has been granted with enough funding so far to avoid competition between point source municipal systems and the nonpoint programs. But, we would have a difficult time if we tried to compete for those dollars. Guidance will have to come from EPA, as States are not likely to suggest their individual communities pay more. Also, if we are going to try to address more nonpoint source needs through the SRF program, there are going to have to be more dollars put into the system.
- 11) Public Comment: We need more funding into the nonpoint source and the nonstructural controls. There are barriers at every level not allowing us to allocate resources in a way many support. We do need incentives at every level. I feel that it's not a question of blame, one agency over another, but of barriers. We should provide financial incentives to the entities that receive the money, as well as ways to generate public support.
- 12) Public Comment: We would love to get into nonpoint source pollution problems, but we don't have people wanting nonpoint source loans. As long as nonpoint source is a

voluntary program, and there is no enforcement for it, we cannot get people to come in for a loan as long as there are grants out there available to complete their projects. We cannot compete with available grant programs, as long as the nonpoint source program is still voluntary.

- 13) Public Comment: Say a small community does not have a sewer system and they also had a water quality problem. Historically that community could go to the EPA and get funding to build a quite expensive, but small, central sewer system, however, could not get money for onsite systems or small cluster upgrades; this must be fixed. One of the House Bills now does in fact provide an incentive for small communities to do an alternate approach.

There is also a growing debate about CSOs and underground storage tunnels in comparison with distributed stormwater retention and low-impact development kinds of techniques. If communities can get funded for underground storage tunnels, but not receive funding for a whole array of distributed series of stormwater retention through the SRF, then again the financing system is creating a bias for one type of technology over another, irregardless of how expensive and/or inappropriate that type of technology might be. I feel it is incumbent on the State to fix whatever barriers there are to correct for the bias over different types of technology solutions available out there. All loans should strive toward neutral funding for all types of project solutions.

Panel Response: I am struck by the fact that there are barriers at every level. There are barriers at the Federal level, the State level, and the local level. Some local governments don't want septic tanks. And, on the other hand, there are governments that don't want centralized systems and growth. They haven't, but should, figure out what barriers are present and how they might be able to successfully impact these barriers. Communities should see that they can and are able to choose between centralized and decentralized systems. I don't have an answer, but am having a reaction to the barriers. Hopefully there will be some new ideas out there to address these issues.

- 14) Public Comment: From a program development vantage point, maybe you don't want to address all the barriers but to come at this from a different angle. Instead of forcing communities to do what they don't want to do, maybe it should be more a matter of supporting those people already out there solving the barrier problem and using tools to solve the nonpoint source pollution problems. Nonpoint solutions are very complicated and not easy to measure. Let's support those out there with an understanding of these potential solutions.

We should also support partnerships with nonprofit organizations. They are less risk adverse, have the opportunity for more innovative and creative solutions, and can leverage dollars very well.

- 15) Public Comment: I agree that there are many groups out there working to break down these barriers. Also, in response to a previous point, many communities in many States would rather take grant money, than take a low interest loan.

I would also like to make a point about the specific definitions applied to a decentralized system. This is when you collect the water and send it somewhere else. This is not the same as a septic tank on an individual property. Cluster systems are a group of homes on any system, both centralized and decentralized.

- 16) Public Comment: One suggestion is to require that 319 and CWSRF work together. Combine grants and loans in one application. The community, locality, or conservation district would fill out one application and on this application is one question that asks: “Are you willing to take a loan?” Both programs work together to determine how to fund the projects. They take into consideration the amount the community can afford to pay. That amount then will become a loan, and the remainder of need is given as a grant. (This cooperative program is already in place for Washington State in combination with The Centennial Program.)
- 17) Public Comment: I know that partnerships and cooperation are beneficial and necessary, but for small communities it is much simpler and less stressful if they can go to one agency for funding. If everyone is going everywhere for the funding and leveraging, responsibility is on the backs of the same communities that are having the problems. I would suggest putting the money in one pot. Let the communities decide what they need in terms of funding.
- 18) Public Comment: We seem to agree nonpoint source pollution is a contributing factor and there are many obstacles in our quest to meet water quality standards. There may be a danger in saying that water quality financing is the sole way to address this situation. I think that financing may be a part of the solution, but it is one of many. There is a large difference between nonpoint solutions to problems and point source solutions to problems. I think we should be very careful as to what we are trying to accomplish and how we should get to that point.

Session VIII: Exploring How States Consider Environmental Outcomes and Affordability

Focus: This session discussed how CWSRF programs consider priority issues.

Speakers: Cleora Scott, US EPA, Jay Manning, Rhode Island Department of Environmental Management, and Greg Smith, Ohio Environmental Protection Agency

Summary: Ms. Scott first discussed the EPA’s role in priority setting and environmental review and highlighted a few States with proven successes. Mr. Manning and Mr. Smith followed with their specific examples of how their States are running priority systems.

The panel discussed how priority lists are typically considered in development of CWSRF Intended Use Plans. POTW projects must be ranked on a current CWSRF priority list to be eligible for funding. Each State develops and implements their own ranking process and consider factors such as use of the water resource, threat, type of project, effectiveness, enforcement activities, population, and affordability. All POTW projects must also have an environmental review and consider impact, present and future conditions, land use considerations, and coordination with other public works projects. Some States are moving toward a more

comprehensive approach to making their priority lists, which include nonpoint source activities. Integrated planning and priority setting helps States identify their water quality priorities and select projects that will best address these problems.

Rhode Island's example showed the point ranking for different criteria and how their State determines the final ranking. Some of the considerations and point values came from existing conditions, proposed benefits, water quality improvement, intergovernmental needs, and readiness to proceed.

Ohio has a similar integrated priority setting system that was originally developed from ideas and principles presented in the EPA Funding Framework Document. In addition, Ohio later received grant funding through EPA under section 104(b)(3). Under this integrated priority setting system, projects are evaluated on their effects to human use and aquatic life uses of the water resource. The first priority considers human health. The second priority is the protection of surface and ground water resources.

Input: 1) Public Comment: Were there political battles in Rhode Island getting the priority system established? Did you open it to the community for comments?

Panel Response: The ranking system is an in-house project. We had a workshop and public hearing to get the public involved. We also put ads in the local paper.

2) Public Comment: How was the ranking system determined in-house? How did you determine where different projects would fall?

Panel Response: The draft was given to a 319 person and an estuary person. We had five hypothetical projects to run through the system. If point allocations led to a point source bias, the system was modified to eliminate the bias.

3) Public Comment: Proper allocation of resources from an economic standpoint is not addressed with these priority systems. For example, suppose you have a point source project with a ranking of twenty, and ten nonpoint source projects with a ranking of three each. Suppose also the point source project with the ranking of twenty costs \$20 million, and each nonpoint project costs \$500,000 each. Economists would combine all points and dollars on each side. For \$5 million dollars you could achieve a total of thirty points, or for \$20 million dollars you could achieve a total of twenty points, depending on how you allocate the funds. How much water quality improvement can be achieved for a certain amount of money? How many projects can a State do? If you add up the all the smaller projects, you would put your money into all the smaller projects instead of the expensive point source projects. States should consider this. Why are 96 percent of dollars spent on point source projects with minor impacts when we can shift the money and spend all the money next year on nonpoint source projects to dramatically improve water quality across the Nation? The problem with current priority settings is they do not consider relative cost effectiveness and benefits of the projects undertaken. At the end of point source scoring, if the nonpoint source projects add up to a higher score than the point source projects, the State should put all the funds into the nonpoint source projects.

Panel Response: Ignoring point sources and not addressing them would mask the nonpoint source pollution additions. Readiness to proceed also comes into play. If the project is ready to go, why sit on the money?

- 4) Public Comment Continued: Some smaller projects get lower points, but you're not taking into consideration the total benefit. Economists would not see the cost effectiveness of the list. Relative cost of doing projects is not considered. There are flaws in the priority system.

Panel Response: Ohio agrees in part, and has considered, relative cost effectiveness. Another point is point source projects require longer assistance compared to nonpoint source projects, five years, and not more than ten. If you put one dollar into a nonpoint project, the benefit will come back in half, to a quarter, of the time for the completion of a point source project. The point source project dollar will come back in twenty years. Nonpoint source projects are treated more neutrally in Ohio and the degree of improvement is considered and weighed. Whichever projects reach the federally established attainment goals, whether point or nonpoint, should be viewed as better projects. It depends on what is trying to be accomplished. Attainment is the goal and not necessarily the volume or magnitude of the water quality improvements. There seems to be the impression that point source projects are holding back nonpoint source projects. This is not the case in Ohio and many States. There are not enough nonpoint source projects applying for loans. Establishing nonpoint implementation institutions will help see that more projects are going to States. In 12 to 14 years, not one applicant in Ohio has ever been turned down for a nonpoint source project.

- 5) Public Comment: If we have nonpoint projects that are interested in receiving funding, they can come in and get the funding. The problem is not one of priority, but it is a systematic problem. SRF programs are designed to fund point source projects. A better vehicle to fund nonpoint source pollution, already established, is section 319. Section 319 has \$220 million allocated to it on a Nationwide basis and the SRF program has \$1.35 billion allocated to it. The better program for nonpoint source is section 319 and we should not structure an SRF program specifically to fund more nonpoint source projects.

An additional point I would like to make is that much of what we try to do when running our leveraged loan program is to also do credit worthiness. Many of the larger municipalities are more credit worthy than other types of institutions and farmers. This is not a situation with the SRF where we can necessarily exclude a group of individuals to have a better SRF. My suggestion is to have a bigger tent, and get those municipalities into the process doing their point source work, which is important to maintain water quality, not necessarily to improve in some cases, but to keep it where it is right now. We need these larger municipalities to provide the credit history and the credits necessary to make the program cost efficient and cost effective.

EPA Response: I have two thoughts. One, Ohio does not turn communities away or nonpoint source projects away. It is not that they have money leftover, not being used.

When Ohio does their business plan, they decide whether or not they need to go out to the market and leverage more funds. They do this based on the number of applicants they see coming in for loans. So, Ohio, in essence, has an unlimited supply of funds. They can always go to the market and sell more bonds.

The second point I would like to make is that not all pollution is the same. Different types of pollution may affect different types of problems a State may be having. Just to use the Ohio example, they identify human health and aquatic problems. States must make a decision with their funds as to how they will prioritize. Such decisions impact the types of projects that rise up to the top of the priority list. It is not easy to simply say three smaller nonpoint source projects are going to equal the environmental benefits of a much larger point source project. The two types may be creating two entirely different types of pollution problems. However, it also can work in reverse as to say that, yes, three smaller nonpoint source projects may give the same type of pollution solution. However, it may not. This is part of the decision that the State makes when they establish criteria and rank priorities.

- 6) Public Comment: How are priority lists coordinated with enforcement actions (e.g., CSOs and enforcement decrees)?

Panel Response: It is difficult because the SRF tries to fund and help enforcement areas. They are ranked just like any other project and what the effect of the project will be is the main consideration for funding.

- 7) Public Comment: When is the IUP created in Rhode Island and when are the projects prioritized? When is readiness to proceed taken into consideration?

Panel Response: One month after notification for project applications, the public notice and the whole process is one year long. We do not turn away any projects, except major treatment plant expansions and upgrades expected this year. The relative ranking is now becoming more important.

- 8) Public Comment: The SRF and section 319 are seen as separate problems in Congress. SRF funds should be used for infrastructure and more money should be put into section 319 for nonpoint source projects. American Rivers is working on getting more dollars into the new House and Senate bills for nonpoint source funding. Phase II stormwater regulations are now coming into play. Are you seeing more of a demand for this type of funding?

Panel Response: It is a disservice if we see this problem as a point source versus a nonpoint source problem. These are not separate problems. Funding should not be at the expense of the other. Nonpoint source project funding will take place if projects apply. Melding the section 319 and the SRF programs is an interesting concept also. Stormwater regulations have not yet caused more awareness about the affects of nonpoint sources as they move into Phase II. This is a sleeper issue and I am not aware of what's going to be brought about and why it is important. Stormwater can be perceived as another utility that you need a pipe for. The regulatory initiative will push stormwater.

- 9) Public Comment: Minnesota has two times the demand for funds available. Local controversies and issues have driven the awareness of nonpoint source funding. Other municipalities will see an increased demand when localized problems arise. Section 319 is not the only solution for nonpoint problems. A mixture of section 319, the SRF, and other programs can be used to address nonpoint problems. Competition with municipal point source programs and nonpoint source programs would be destructive. If citizens saw a rise in their water and sewer bills that they attributed to funding going to farmers for nonpoint programs, it would result in a bad battle.
- 10) Public Comment: What is the role of other Federal funding programs besides section 319 and the SRF? What is their magnitude of impact (e.g., NRCS)? What is their role in State programs?
- 11) Public Comment: The mixture of programs work well together because they work at the local level and let landowners know which program or combination of programs work the best for them. Combined applications are available in Minnesota. State grant programs, such as the Wastewater Infrastructure Fund, for lower income municipalities supplement the SRF to cover additional costs so water bills are not excessive.
- 12) Public Comment: This is Deja vu of the 1960s and 1970s with construction grants. The Public Health Department then had the same arguments. There are not enough dollars and the large sewer construction projects get the most funding dollars. First centralized systems and now decentralized systems are supported. We need to have education as to what is best. We need ways to deal with the systems in place today. That States are funding nonpoint projects is encouraging, and education is happening.

The big guys are not letting the little guys have the funds. Engineers and contractors are not going to deal with the smaller programs because there is no money in them. Public health engineers deal with the smaller issues. State agencies today will have to take the role and responsibility of dealing with nonpoint source problems.

Session IX: How to Tackle Environmental Performance Tracking

Focus: This session discussed the measurement of environmental performance.

Speakers: Bob Bastian, US EPA and Mary Matella, Tetra Tech

Summary: The Clean Water Needs Survey (CWNS) database is one environmental performance-tracking tool available to the EPA. The CWNS database allows stakeholders to consider the overall conditions and stresses affecting a watershed, not just the condition of an individual water body or discharger. The database can be used for planning and priority setting, TMDL development, modeling, environmental indicator development, and watershed-based needs accounting. CWNS includes data on nonpoint sources, stormwater, and wastewater data. CWNS is attached to a GIS program, which allows exact pinpointing of potential pollution sources, and allows more exact watershed-based analysis of problems. CWNS information can be analyzed in combination with hydrography, soil and water quality data, socioeconomic and infrastructure data, land use patterns and transportation networks.

CWNS data provides information on total needs in many different ways. These include by State or watershed, coastal versus inland needs, watersheds with the greatest needs, and needs per mile/acre of impaired river. With the use of GIS these needs can be mapped and displayed for use by managers and stakeholders. CWNS has the capability to provide technical data such as population served by a facility, flow capacities at treatment plants, effluent data and concentration and BMP uses in the area. The information can help managers with TMDL development, water quality modeling, and planning and priority setting. Past data can be compared with current data to show improvements or changes in water quality.

Input: 1) Public Comment: What is the quality of the water data like? What water quality data do you accept and reject?

Panel Response: The water quality data can be proven and measured. The cost estimates float around. Integrating cost numbers and water quality data is like doing art and science at the same time. Historical data that goes into STORET is used.

2) Public Comment: Eliminating some sanitary sewers in some areas would cause problems knowing what the baseline would be. What is the cost that is currently there? What loading would be reduced? What loading is there currently that would need to be reduced?

Panel Response: Broader data from open and closed shellfish beds and recreational beach closures. How did we use these resources with historical events? If you could control raw releases that end up closing beaches, the communities that have experienced these closures can give you a very distinct economic effect. Rural effects are harder with only water quality data and mixed problems. Point sources are a generic lumping of point and nonpoint sources.

3) Public Comment: When setting economic priorities how does contingent valuation factor in and non-quantifiable issues taken into consideration?

4) Public Comment: Reductions from nonpoint sources are hard to determine, but EPA is working on this. They are trying to work with trading systems for phosphorous in the northwest.

Panel Response: POTWs are also having problems with determining reduction levels depending on such conditions as flow, weather, and drought. The Needs Survey normalizes this data and makes it easier to determine reductions.

5) Public Comment: Unanticipated consequences include the increased participation with local agencies, all working on the same goal.

6) Public Comment: The data is good for quantifying current loads to impaired water bodies, but what about the use of this data for prevention strategies such as land management and acquisition. Is the only option modeling?

Panel Response: In most cases, modeling is best to see outcomes and predict what you can achieve. The most interesting part of this analysis was looking back to see what you get after the fact and what you can put a quantity to.

The most interesting data was seen with secondary treatment. Over thirty years, the secondary treatment volume stayed the same with more advanced treatment and less raw sewage. The population served by treatment plans doubled, however the mass load decreased by 2/3. They still have a viable fishing industry. Toxic loads are still a problem, but in five to ten years this may also be solved. Removal efficiencies must continue to increase. Broad economic benefits on a National level are very hard to determine, but on an individual project level, improvements can be seen.

Session X: Encouraging Efficient Wastewater Management

Focus: This session discussed tools used for efficient management.

Speaker: Angela Anderson, US EPA

Summary: EPA discussed how efficient wastewater management started at the local level and at the local level EPA has identified some key principals to reduce the infrastructure gap. EPA suggested promotion of sustainable systems, reliable decentralized wastewater management, watershed-based decision-making and technology innovation. The EPA stated that sustainable wastewater systems involve managing the technical and financial aspects of the system. This included cost-based and affordable rates for customers.

The EPA also suggested consolidation and restructuring and using asset management and environmental management systems (EMS) in the wastewater industry for better management. Consolidation and restructuring would take advantage of economies of scale and public/private partnerships to make the industry more profitable and competitive. Asset management and EMS provide structure to wastewater managers and provide a better inventory of assets and their condition, rehabilitation costs and replacement needs, reduction of risk of noncompliance, and improvement of the overall operational control of the plant. The EPA has been working with organizations to promote EMS with their EMS Framework Project, making available to utility managers various management programs and techniques that are available today.

EPA recognizes that well managed decentralized wastewater systems can be a cost-effective and long-term option for wastewater treatment. Reliability and management problems are the main concerns for smaller systems.

Session XI: Discussion

Focus: This final session helped EPA summarize the findings of this workshop and will help the Agency prepare a report to Congress.

Input: 1) Public Comment: Funding has been available for large-scale treatment plants with the SRF. They correct water quality problems. However, they also induce growth and stormwater impacts that are so great the water quality problems are worse than before. Stormwater pollution should be addressed in concurrence with, or before, treatment plant pollution.

Air depositions from treatment plants that remove nitrate from the water are causing problems in Florida. Treatment plants use so much energy to remove nitrates and create the same amount in exhaust gasses that rain back out into the water. There is zero gain. The environmental review process might be inadequate. The New York Times has been covering water supply and demand issues with the growth around New York City. When sewers are built the population follows.

- 2) Public Comment: Communities in Rhode Island have comprehensive plans for growth and development. Facility plans sometimes have problems and they address the issue of mitigating growth with facility construction. Secondary growth is addressed in Rhode Island. Environmental review would not help priority determinations, it is more important to the final approval of funding and planning.
- 3) Public Comment: Additional resources for GIS and data systems are very important. New technology should be used and funding should be spent in this area. Nationally an integrated database with air, water, and other media should be put together. In Wisconsin a permit system has been established to keep the backlog down and manage the permitting system. Good data decisions are important.
- 4) Public Comment: All cities have areas that would like to be annexed on the city sewer. Eventually with growth, these areas need to be added on, and other ratepayers will feel the costs of expansion. Big pipe operations are not always the answer; sometimes, small rehabilitation projects need to be done before there is a bigger problem. The most efficient way to spend the money needs to be looked at and the most environmentally sound option explored.
- 5) Public Comment: We need to use the programs in place and change those. Principal forgiveness in the new bill is very important. Farmers run nonprofit businesses and conduct conservation practices such as no till and stream restoration for conservational purposes only. The cost to the farmer is on average 8% more to do so.
- 6) Public Comment: Long-term farm conservation practices can make farms more money. However, the short-term expenses are great.
- 7) Public Comment: Barriers can be addressed with new money infused into the system. Administrators, communities, and States need more funding. Like the TEA21 regulations, a little money goes a long way. EPA could look at these transportation bills for improvements to water quality programs.

5. EPA's Response to Questions from Congress

Congress asked EPA five questions about Federal water quality funding programs. These questions are listed below, and they are followed by answers that EPA offers after participating in a public meeting to explore the topics and to hear from stakeholders.

Question 1: Are the State Revolving Fund (CWSRF) and other Federal financial assistance programs achieving maximum water quality protection in terms of public health and environmental outcomes?

Answer: While it is clear that very significant benefits result from water quality protection measures implemented across the country, it is not currently possible to determine if the financial assistance programs are truly maximizing water quality protection in terms of public health and environmental outcomes. This is the case because there is no centralized coordinated reporting effort that compares types of projects and outcomes under various conditions that would be necessary for such an assessment.

However, while the question of maximization of benefit is impossible to report on at this time, it is possible to deduce that a very high level of protection is provided through the CWSRF program due to the priority setting process used by States. The Clean Water Act establishes the CWSRF program as a financial program, however, States decide which projects to fund based on water quality and public health parameters associated with individual projects applying for assistance. Projects that will address the most serious problems receive priority funding over other projects. This process ensures that final projects selected address the most severe water pollution problems. For example, a State may consider whether the project being funded will address discharges affecting a high priority watershed or a public drinking water source. Using this approach assures that the CWSRF is funding high priority projects and achieving a high level of water quality protection in terms of public health and environmental outcomes.

Question 2: Are alternatives other than wastewater treatment plants and collection systems eligible for Federal assistance, and, if not, why not?

Answer: The CWSRF program is available to fund a wide variety of water quality projects including all types of nonpoint source and watershed protection or restoration projects, onsite and decentralized treatment system projects, and traditional municipal wastewater treatment system projects. Title VI of the CWA establishes the following as eligible for CWSRF assistance:

1. Planning, design, and construction of Publicly-Owned Treatment Works (CWA section 212)
 - (a) Collection projects including Combined Sewer Overflows/Sanitary Sewer Overflows
 - (b) Treatment including advanced treatment
2. Implementation of nonpoint source projects (CWA section 319)
 - (a) Private or public borrowing for projects allowed
3. Development and implementation of management plans in 28 National Estuary Programs (section 320)
 - (a) Private or public borrowing for projects allowed

Most CWSRF funding has been provided for important municipal wastewater treatment projects, however many other projects have been funded through CWSRF loans, nonpoint source grants, and through the National Estuary Program including:

- Onsite system remediation
- Stormwater best management practices
- Construction best management practices
- Agriculture best management practices
- Riparian corridor protection/restoration
- Wetland protection/restoration
- Habitat protection/restoration
- Underground storage tank removal
- Brownfields remediation

In 2000, 33 percent of all CWSRF loan agreements were made to fund nonpoint source or estuary protection projects. Further details on the operation and activities of the SRF and other Federal funding for water quality projects are provided in other sections of this report.

Question 3: Do the priority ranking systems which States use to prioritize eligible treatment works projects properly account for environmental outcomes, including indirect impacts from air deposition of treatment plant effluent or stormwater runoff from sewer construction-induced growth?

Answer: The priority ranking systems that are in use by States to prioritize eligible treatment works use a variety of factors to evaluate projects and do properly account for environmental outcomes such as reduced nutrient loadings. However, priority systems do not typically directly address impacts from air deposition of treatment plant effluent or from stormwater runoff from sewer construction-induced growth. Generally, State/Regional experience has shown that those impacts are minor and are properly addressed through the States' environmental review processes.

State program priority systems typically include a mix of evaluation criteria such as:

- Public Health - What public health concerns will the project address? For example, will it address a groundwater or surface water supply contamination?
- Water Quality - Is the project addressing a discharge from a municipal facility that is out of compliance with permit limits? Which of the receiving water's designated uses are addressed by the proposed project: drinking water, swimming, fish consumption, or shell fishing? Is the discharge affecting high quality water bodies?
- Financial Distress - Is the project to be undertaken by a financially distressed community?
- Project effectiveness - How and to what extent will the project eliminate or mitigate the problem? Will the project result in reduced violations, restoration of designated uses, or reduction or elimination of public health threats?

Once projects are selected to proceed based on the established priority systems and funding availability they are required to conduct a detailed environmental review to determine whether the project could have unintended impacts on the environment. A CWSRF program environmental review follows the requirements established by the National Environmental Policy Act of 1969 (NEPA). Environmental review compliance is achieved either through direct application of the Federal NEPA standards or through application of a federally approved State environmental review process.

State environmental review processes include consideration of how projects could affect the environment and require review of the project's potential impact on air, threatened or endangered species, open space, historical and archeological resources, and other impacts addressed in Federal, and often State, environmental laws.

Evaluation of environmental impacts from air deposition-related pollution caused by the projects are addressed during the environmental review process. States require that project sponsors develop environmental review documents that address all pertinent information. Instructions for developing what States often call "environmental assessments" or "environmental information documents" invariably require that potential impacts of air emissions from the facility be evaluated and documented to show that the project complies with the requirements specified in the State's approved State Implementation Plan under the Clean Air Act.

Experienced State and Federal personnel that were contacted on this question indicate that when appropriate they request air emission calculations to be done for wastewater treatment facilities. To date, these assessments have shown very low air pollutant levels with no impact on area air quality. Because emission levels are so low, States have not found it necessary to require measurement or modeling of air deposition pollution effects of wastewater facility emissions.

State environmental review procedures also require that any and all potential water-related impacts be evaluated, including stormwater runoff as a short-term direct impact and as secondary impact. The State of Texas' SRF program requirements are typical. Under Section V. Environmental Impacts of the Proposed Project, project sponsors are required to evaluate and report on the impacts that can be attributed directly to the project. The following requirements show how stormwater impacts from construction are addressed:

"Short Term Impacts -

- a. Describe alterations to land forms, streams and natural drainage patterns. [Clean Water Act, as amended]*
- b. Describe the extent to which area watercourses will be affected by siltation and sedimentation. Specify the erosion and sediment runoff control measures to be employed." (excerpt from the State's Instructions for Preparing an Environmental Information Document)*

Texas also requires that secondary impacts that may result from projects be considered, including stormwater runoff from sewer construction-induced growth. The following is an excerpt from the State's Instructions for Preparing an Environmental Information Document:

"Secondary Impacts -

- 1. The impacts of future development accommodated by the project on land use must be assessed. Describe any changes in the rate, density or type of development including residential, commercial, industrial, recreational and open space that may result. [Executive Order 12898, Environmental Justice; Farmland Protection Policy Act; Coastal Barriers Resources Act; Coastal Zone Management Act; Executive Order 11988, Flood Plain Management; Executive Order 11990, Protection of Wetlands ...*
- ... 3. Relate population and land use changes to effects on water quality and availability (surface and groundwater). [Safe Drinking Water Act; Clean Water Act, as amended]*
- 4. Discuss the effect of the projected growth on public services, such as water supply, future wastewater treatment needs, solid waste disposal facilities, etc. [Safe Drinking Water Act; Clean Water Act, as amended]...*
- ... 6. Describe how anticipated land use and economics related to the project conform or conflict with existing land use planning and the type of growth desired by area residents. [Executive Order 12898, Environmental Justice; Farmland Protection Policy Act]*
- 7. Develop, in detail, any impacts of growth and related development encouraged or accommodated by the proposed project on environmentally sensitive areas, including flood plains, wetlands, threatened or endangered species, critical habitats, and any other environmentally or culturally sensitive areas. Demonstrate, by contrasting the projected land use patterns with maps of the sensitive areas, that the proposed project will not through its effects on the rate and/or location of future development adversely affect these environmentally sensitive areas. If such is unavoidable, describe what measures may be taken by the applicant to reduce the potential adverse secondary impacts to acceptable levels."*

Question 4: Are recipients of Federal assistance required to adopt appropriate financial planning methods, which would reduce the cost of capital and guarantee that infrastructure would be maintained?

Answer: To be awarded a CWSRF capitalization grant a State must comply with certain Federal requirements. One of these requirements addresses assistance recipient accounting and auditing practices. Under this requirement the State must agree to require recipients of SRF assistance to maintain project accounts in accordance with generally accepted government accounting standards as established by the Governmental Accounting Standards Board (GASB). Recently GASB issued a new set of requirements for governmental financial reporting. The new GASB Statement 34 on Basic Financial Statements represents the most significant change in the history of governmental financial reporting. Under GASB Statement 34, local governments must adequately account for and report on capital asset valuation to comply with generally accepted government accounting standards.

GASB Statement 34 specifies a particularly helpful reporting approach for those governments that wish preserve their infrastructure assets into the future using asset management techniques. Many governments are expected to employ asset management techniques for wastewater systems. The information provided in the new reports required under GASB Statement 34 will provide insight into a government's care and maintenance of CWSRF funded facilities by specifying annual maintenance expenses, preservation expenses (outlays to extend the useful life of an asset) and asset additions and improvements. The implication of the approach is that communities will be better equipped to identify and make needed investments to ensure the long-term preservation of infrastructure assets.

The CWSRF program also requires that a dedicated source of repayment for a loan be identified and pledged for repayment prior to receiving a loan. In most cases the dedicated sources of repayment have been revenue generated from user charge systems that are designed to cover the costs of operation and maintenance and capital investment in the facility. Many States require communities to develop adequate user charge systems. These user charge requirements stem in part from one of the original Federal requirements that stated that communities constructing section 212 publicly-owned treatment works projects before fiscal year 1995 must develop user charge systems and have the legal, institutional, managerial, and financial capability to construct, operate, and maintain the facility (section 204(b)(1)).

The combination of the requirements helps assure that assistance recipients will adopt and follow financial management practices that are conducive to maximizing the life-span of SRF funded infrastructure.

Question 5: Have sufficient performance measures and information systems been developed to assure the Congress that future Federal assistance will be spent wisely by the States?

EPA recognizes that efforts to accurately track overall performance are critical to ensure that water quality assistance programs effectively meet their intended environmental goals. Many groups including EPA, States, Congress, and interest groups are interested in the cost effectiveness of Federal funding for wastewater treatment improvements and the level of associated benefits for National water quality.

Currently, through EPA's long-term strategic planning process, the Agency develops a suite of performance measures and information systems to provide information to document progress in water quality programs. However, there are efforts now underway to enhance data sources and measures that will go beyond the current system to gauge whether Federal assistance is spent wisely by the States. First, EPA is working with the Office of Management and Budget to develop more meaningful CWSRF program performance measures under OMB's ongoing Program Assessment Ratings Tool (PART) process. Second, the Agency has undertaken an effort to study the environmental benefits provided by the CWSRF program in a year long study. This study will identify data needs for evaluating CWSRF program benefits, explore what is available through current environmental monitoring data at the State level, and chart a course for addressing deficiencies in environmental performance data in the future. Each effort is confronted by the fact that accurately conducting environmental performance tracking is a

challenge at the National level. It is difficult to discern the overall collective effects of many discharges to a particular area or watershed.

Using information that is available, each year EPA reports on long-term strategic goals that identify the environmental results the Agency is working to achieve. As required under the Government Performance and Results Act (GPRA), the Agency develops an annual plan that translates these long-term goals and objectives into specific actions to be taken and resources to be used during the fiscal year. See EPA's Annual Report (<http://www.epa.gov/ocfo/finstatement/2001ar/2001ar.htm>) for additional information on strategic goals for the Agency.

The Agency is also working to improve the performance information available to Congress and others. For example, in a recent EPA report titled *Progress in Water Quality: An Evaluation of the National Investment in Municipal Wastewater Treatment*, EPA explores how biochemical oxygen demand (BOD) in POTW effluent and dissolved oxygen (DO) levels downstream from point sources have changed over time. Nine case studies were documented and analyzed through this 450-page technical report. Models were then created based on these highlighted case studies to allow EPA to quantify potential water quality improvements by POTW treatment innovations.

This study helps to illustrate that modeling can be used to demonstrate the benefits of clean water investments, successful projects, and for determining compliance outcomes on a National basis. EPA is currently working to enhance available water quality modeling capabilities. A newly modified Clean Watershed Needs Survey (CWNS) and other data sources will provide information for tracking wastewater needs and spending. Also, in an effort to gain a comprehensive understanding of overall environmental performance, EPA developed BASINS (Better Assessment Science Integrating Point and Nonpoint Sources), a Geographic Information System (GIS)-based water quality modeling program to track environmental performance using data from many sources including the CWNS database.

In the past, efforts to measure environmental success, including watershed-based needs accounting, were limited by an inability to track data by geographic location. Newer GIS models, such as BASINS, can be used to coordinate such information as nonpoint source, stormwater, and wastewater data through time and by location. Through GIS analysis, it will be possible to analyze water quality in combination with relevant socioeconomic indicators in an area including population demographics, land use patterns, transportation networks, and other infrastructure indicators. As these models are refined over time, performance tracking activities will become easier for all interested parties including Congress, the public, and State, local, and Federal authorities.

APPENDIX A

House Committee & Conference Language

Conference Report on H.R. 2620, Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2002 (House of Representatives—11/6/01)

“The conferees expect the Agency to develop a broad working group to review and address the spectrum of wastewater issues as outlined in the House Report accompanying H.R. 2620, request that the Committees on Appropriations be kept apprised of all activities of the working group, and further request that the working group, with the assistance of the Agency, prepare and submit to the Committees on Appropriations by July 15, 2002 a report addressing all matters as outlined in the House Report as well as those additional issues determined appropriate by the working group.”

Committee Report—House Rpt. 107–159—
Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Bill (7/25/01)

“Recent studies by EPA and others suggest that there has been a substantial deterioration in the Nation’s wastewater infrastructure, including aging wastewater treatment plants and leaking sewer collection systems. Substantial contributions of wet weather flows and other nonpoint sources of pollution have also been identified. In addition, the additional expenditures needed to achieve TMDL requirements and groundwater protection in future years are expected to be extensive. Because the Federal government funds only a portion of wastewater infrastructure investments, the States have urged maximum flexibility in their allocation of Federal resources, so as to direct investments at the point source and nonpoint source areas of greatest need. However, States also recognize that they must be held accountable to the goals of the Clean Water Act, the

Safe Drinking Water Act, and other wastewater-related Federal statutes. The Committee is aware that septic system repair and management projects and other nonpoint source pollution prevention and control measures, which can produce substantial benefits of water quality protection, are not eligible for SRF funding in most of the States. Further, many recipients of Federal wastewater assistance have not instituted user fees to provide for long-term maintenance and repair of the infrastructure, and the results of that lack of maintenance are now evident.

To help address this situation, the Committee strongly urges EPA to, within 60 days of enactment of this Act, establish a working group of representatives from the State/EPA SRF Work Group, the Environmental Council of the States, Environmental Finance Centers, and centralized and decentralized wastewater and nonpoint source stakeholder groups to address the basic means by which EPA may accord flexibility to the States and yet also assure that Federal investments achieve the greatest possible benefits. Specifically, the following questions should be among those addressed by this new working group: (1) are the SRF and other Federal financial assistance programs achieving maximum water quality protection in terms of public health and environmental outcomes; (2) are alternatives other than wastewater treatment plants and collection systems eligible for Federal assistance, and, if not, why not; (3) do the priority ranking systems which States use to prioritize eligible treatment works projects properly account for environmental outcomes, including indirect impacts from air deposition of treatment plant effluent or stormwater runoff from sewer construction-induced growth; (4) are recipients of Federal assistance required to adopt appropriate financial planning methods, which would reduce the cost of capital and guarantee that infrastructure would be maintained;

and (5) have sufficient performance measures and information systems been developed to assure the Congress that future Federal assistance will be spent wisely by the States?

The Committee expects to be kept apprised of the development of this new working group and further expects that the group will prepare and submit to the Congress by July 15, 2002, a report addressing the aforementioned questions and other related issues it deems relevant.”

APPENDIX B

Registration List and Workshop Agenda

Paying for Water Quality Workshop March 14-15, 2002 Registration List						
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Paying for Water Quality Workshop March 14-15, 2002 Registration List						
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Paying for Water Quality Workshop March 14-15, 2002 Registration List						
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Paying for Water Quality Workshop March 14-15, 2002 Registration List						
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Paying for Water Quality Workshop March 14-15, 2002 Registration List						
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APPENDIX B: Registration List and Workshop Agenda

Paying for Water Quality Workshop March 14-15, 2002 Registration List						
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**OVERVIEW AND WORKSHOP AGENDA
PAYING FOR WATER QUALITY:
MANAGING FUNDING PROGRAMS TO
ACHIEVE THE GREATEST ENVIRONMENTAL BENEFIT**

**March 14–15, 2002
EPA East Building, Room 1153
1201 Constitution Ave., NW
Washington, DC**

Overview

The Environmental Protection Agency will hold a public workshop to discuss how water quality funding programs can be managed and enhanced to achieve the greatest environmental benefit. The Committee on Appropriations, in House Report 107-159, requested that EPA host this forum (House Committee and Conference language has been included)

This workshop will review EPA and State policy regarding use of the Clean Water State Revolving Fund and other funding options for water pollution abatement. The focus of the workshop is on funding programs as currently authorized by Congress and will not address Federal legislative activities.

EPA has invited representatives from the EPA/State SRF Work Group, the Environmental Council of the States, the Environmental Finance Centers, and centralized and decentralized wastewater and nonpoint source stakeholder groups. The general public is also encouraged to attend. Participants will have the opportunity to openly discuss concerns and possible solutions.

**PUBLIC WORKSHOP AGENDA
PAYING FOR WATER QUALITY:
MANAGING FUNDING PROGRAMS TO
ACHIEVE THE GREATEST ENVIRONMENTAL BENEFIT
MARCH 14–15, 2002**

March 14, 2002	TIME
I. INTRODUCTION	9:00 AM
<i>This session will discuss EPA's goals for the two-day public workshop.</i>	
<ul style="list-style-type: none">• EPA Welcome, workshop purpose and objectives (Rich Kuhlman, USEPA)• Agenda overview and introductions (Mark Kellett, Northbridge Environmental)	
II. WATER QUALITY FUNDING TODAY	9:30
<i>This session will discuss how water quality protection efforts have been funded historically and how they are funded today. This session will also discuss future funding challenges and EPA principles to address the challenges.</i>	
<ul style="list-style-type: none">• US History (Jordan Dorfman, USEPA)<ul style="list-style-type: none">– Funding levels and financing sources in the US– Types of water pollution controls funded– Results• Future funding challenges: Wastewater Needs Survey and "Gap" report EPA principles to address the "gap" (Angela Anderson, USEPA)	
BREAK	10:15
III. OVERVIEW OF CLEAN WATER STATE REVOLVING FUNDING PROGRAM	10:30
<i>The Clean Water State Revolving Fund is the largest source of water quality financing assistance. Many workshop registrants do not have an up-to-date understanding of the CWSRF program, and this session will provide an overview.</i>	
<ul style="list-style-type: none">• What is the CWSRF and how does it work? (Stephanie VonFeck, USEPA)<ul style="list-style-type: none">– What projects are eligible under CWSRF?– What are State CWSRF programs funding?– How do they set priorities?– How do States consider affordability	
IV. THE ROLE OF OTHER FEDERAL WATER QUALITY FUNDING PROGRAMS	11:15
<i>This session will provide an overview of other significant Federal sources of water quality financing.</i>	
<ul style="list-style-type: none">• Nonpoint Source and National Estuary Program Grants (Romell Nandi, USEPA)<ul style="list-style-type: none">– What is eligible?– What is being funded?– How do they set priorities?• Other Federal water program funding (Tim McProuty, USEPA)<ul style="list-style-type: none">– Federal RUS/CDBG/EQIP– What is eligible?– What is being funded?– How do they set priorities?	

LUNCH 12:00 PM

V. FUNDING DECENTRALIZED WASTEWATER SYSTEMS 1:30

Three-fourths of the U.S. population are served by centralized wastewater treatment systems, but one fourth are served by decentralized systems. This session will consider funding sources that can support decentralized wastewater solutions.

- Overview of decentralized wastewater issues and funding challenges (Joyce Hudson, USEPA)
- CWSRF policy and overview (Jordan Dorfman, USEPA)
- CWSRF linked-deposit programs for onsite systems (Greg Smith, Ohio EPA)

VI. FUNDING WATERSHED PROTECTION AND NPS POLLUTION CONTROL PROJECTS 2:30

Wastewater treatment is critical to the success of National water quality efforts, but water quality initiatives are increasingly recognizing the importance of activities that mitigate other water quality problems. This session considers funding sources for watershed protection and nonpoint source pollution control projects.

- CWSRF policy and overview (Stephanie VonFeck, USEPA)
- CWSRF pass-through loan program for farmers (Paul Burns, Minnesota Dept. of Agriculture)
- Natural Resources Conservation Service project funding sources and examples (Tom Christensen, NRCS)

BREAK 3:30

VII. GROUP DISCUSSION (depending on group size/preference) 3:45

- What are the major barriers to obtaining funding for decentralized systems or watershed protection/NPS pollution control projects?
- What can be done to increase the overall effectiveness of existing funding programs?
- What are the appropriate roles of the Federal government versus the State/local government?
- What are the responsibilities of those seeking funding?
- What changes should be made to the way programs operate?

END DAY ONE 5:15

APPENDIX B: Registration List and Workshop Agenda

Day Two: March 15, 2002

VIII. EXPLORING HOW STATES CONSIDER ENVIRONMENTAL OUTCOMES AND AFFORDABILITY 9:00 AM

State CWSRF programs direct their resources to high-priority public health and water quality needs. This session discusses how CWSRF programs consider priority issues.

- Overview and CWSRF Perspective (Cleora Scott, USEPA)
 - Overview of priority ranking systems for eligible treatment works
 - Timing of environmental impact information during funding process
 - CWSRF perspective
 - Use of a watershed approach to prioritize point source and nonpoint source projects
 - EPA Funding Framework Policy
- Integrated priority setting in Rhode Island's CWSRF program (Jay Manning, Rhode Island SRF)
- Integrated priority setting in Ohio's CWSRF program (Greg Smith, Ohio EPA)
- Group Discussion: State planning and priority setting challenges and solutions

BREAK 10:45

IX. HOW TO TACKLE ENVIRONMENTAL PERFORMANCE TRACKING 11:00

Performance measures and information systems assure stakeholders (such as the U.S. Congress) that water quality assistance programs use their resources wisely. This session discusses the measurement of environmental performance.

- Development of environmental benefit indicators (Bob Bastian, USEPA)
- How can impact be measured?

LUNCH 12:15 PM

X. ENCOURAGING EFFICIENT WASTEWATER MANAGEMENT 1:45

Efficient management of wastewater treatment systems reduces environmental impacts and reduces costs. This session discusses tools used for efficient management.

- Sustainable systems (Rich Kuhlman, USEPA)
- Reliable decentralized wastewater management
- Watershed-based decision-making
- Session X Group Discussion

XI. DISCUSSION AND CLOSING REMARKS 2:45

This final session will help EPA summarize the findings of this workshop as the Agency prepares a report to Congress.

END WORKSHOP 4:00

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