

## **Improve Water Quality on a Watershed Basis Implementation Plan for Subobjective 2.2.1**

States and Tribes face many complex and challenging environmental problems related to the Nation's waters. Unlike the problems of the past, today's water quality problems are caused by many different and diffuse sources of pollution that occur as a result of changes in day-to-day practices. To solve such complex and interrelated problems demands a modern approach to environmental protection – an approach grounded in sound science, innovative solutions, broad public involvement and adaptive management. About a decade ago, EPA embraced and took steps to encourage such a method – the watershed approach – to better address water quality problems. This approach, which focuses multi-stakeholder and multi-program efforts within hydrologically defined boundaries to protect and restore our aquatic resources and ecosystems, offers a most effective opportunity to tackle today's challenges.

Although ten years of effort have resulted in general awareness of the watershed approach within the Agency and at the State and local level, recent evaluations show substantial gaps in actual implementation. EPA believes that the watershed approach should not be seen as merely a special initiative, targeted at just a select of places or involving a relatively small group of EPA or State staff. Rather, it should be the fulcrum of Federal and State restoration and protection efforts, and those of our many stakeholders, both private and public. EPA has both a national interest in, and responsibility for, supporting watershed goals and approaches and believes that such an approach is one of the most important environmental guiding principles to maintain and restore the chemical, physical and biological integrity of the Nation's waters.

Protecting water quality at a watershed level is a new challenge at the Federal, State and local level. The best way to achieve progress in improving and protecting waters and watersheds is by applying an adaptive management approach at the outset to better understand the problems, set challenging but realistic goals, and address opportunities associated with developing programs and building partnerships at the watershed level. Over the next five years, EPA expects to use this adaptive management framework to manage both core programs and watershed protection activities in order to accomplish the five year goals for watershed and water quality improvement expressed in the *Strategic Plan*. Without this adaptive management process, progress toward measurable improvements in the Nation's waters will occur in a haphazard and unpredictable manner.

### Strategic Outcomes and Targets

This watershed subobjective is complex, and includes numerous measures requiring reporting at the national, State and tribal level. The entire watershed subobjective has two separate national "outcomes"; three additional national strategic targets that specifically address restoring water quality, reducing nutrient levels, improving tribal waters, and improving tribal access to basic sanitation; and 35 Program Activity Measures, the majority of which request

State reporting and State targets. These are summarized in Table 1, at the end of this document.

As shown, EPA has developed two specific national measures that the Agency believes best reflect our progress in meeting the national goal of clean and safe water: restoring water quality in 600 watersheds and improving water quality in 200 watersheds. These are critical measures because they define our progress in environmental, not programmatic, terms: how many watersheds are restored, and how many have improved water quality. It is also important to emphasize that the only way that the national watershed goal will be reached is if Regions and States make progress in improving water quality in all watersheds, not just those individual watersheds targeted for specific watershed protection activities.

Both these watershed measures require that information on individual waters or water segments in each State be aggregated to a larger “watershed” scale. This scale is the USGS 8-digit Cataloging Unit, known as HUC. There are 2,262 of these cataloging unit scale watersheds across the Nation. Watersheds were first classified with this metric using the 1996 305 (b) report data. Subsequent data provided trends in the number of watersheds meeting this criterion. The trend line, which showed initial improvements in HUC8-level water quality, projected to the deadlines in the Strategic Plan, were the basis for the number of watersheds in the goal. The 2008 goal is to have 600 of these watersheds meeting water quality standards in at least 80 percent of their assessed segments (hereafter, referred to as “meeting the 80% attainment goal”).

The 2002 baseline was developed by identifying the watersheds where at least 20% of their waters are assessed, and then computing whether 80% of those assessed waters are meeting their water quality standards. In 2002, approximately 453 of the State’s 2,262 8-digit HUCs were meeting their 80% attainment goal. This means that about another 150 watersheds need to reach their 80% attainment goal by 2008 to meet the 600 watershed target.

The Strategic Plan also includes a goal that addresses protection of water quality. Two hundred watersheds (or approximately 10 percent of the national total of 8-digit HUCs) were selected as a reasonable goal for protection and maintenance of watershed water quality. The second part of this 2008 national watershed goal states that at least 20 percent of the assessed water segments show improvement above 2002 conditions.

#### Program Activity Measures (PAMs)

This Watershed Subobjective contains 35 Program Activity Measures (PAMs) for key OW programs that will affect clean waters and watersheds: water quality standards; monitoring and assessment; watershed planning, TMDLs and nonpoint source; NPDES permitting; and wastewater infrastructure. This means that nearly one-third of the 107 Water Office program activity measures are captured under this watershed subobjective, with 24 State reporting requirements, and 14 requiring specific yearly targets. Appendix 1 presents the Draft Outcome and Activity Measures for this watershed subobjective, while Appendix 2 shows only those

Program Activity Measures for which there are management targets for FY 2005 and FY 2008 and for which EPA, States and Tribes will need to develop FY 2005 targets. For these measures, the table provides “straw” targets for each Region and for the country as a whole. These targets are intended to provide a point of reference as Regions and States/Tribes define more formal commitments in the Spring/Summer of 2004.

### Key National Strategies

Developing a plan that addresses this complex subobjective is a new challenge, and requires implementing a new approach that integrates numerous water program elements at a watershed level, employs multi-scale water quality data, applies innovative ideas, engages diverse federal, State and local stakeholders in problem solving, is generally consistent across the country, and yet remains flexible enough to reflect national and state-specific priorities and circumstances. These objectives can best be met using a three part strategy:

- Implement core clean water programs, including innovations that apply programs on a watershed basis;
- S accelerate watershed protection, and
- S apply an adaptive management framework to make this process work.

**(1) Implement Core Clean Water Programs:** To protect and improve water quality on a watershed basis in FY2005, EPA and the States need to continue to focus their work on implementing and integrating their work in the six key program areas that form the foundation of the water program and this subobjective. Core water program work includes:

- strengthen the water quality standards program;
- improve water quality monitoring and assessment;
- develop Total Maximum Daily Loads and related plans;
- implement effective nonpoint source practices on a watershed basis;
- strengthen the NPDES permit program; and
- support sustainable wastewater infrastructure.

Priorities for FY 2005 in each of these key core water program areas are described below.

**(A) Strengthen Water Quality Standards:** State and tribal water quality standards provide the environmental baselines for water quality programs. EPA provides scientific information concerning contaminants in the form of “water quality criteria” guidance and identifies innovative approaches to support State and tribal adoption of water quality standards that protect water for such uses as swimming, public water supply, and fish and wildlife. The top priority for the criteria and standards program in FY 2005 is the continued implementation of the *Water Quality Standards and Criteria Strategy*, and to assist States and Tribes in establishing challenging, but realistic, standards. The *Strategy* was developed in

cooperation with States, Tribes, and the public in 2003 (see Internet at: <http://www.epa.gov/waterscience/standards/strategy/>).

The *Standards Strategy* provides for EPA to continue work in developing scientific "criteria documents" for key water pollutants, including implementation protocols and methods. As indicated in Program Activity Measure #39, EPA expects to publish 3 new or revised criteria documents in 2004 and 2005 as part of a larger goal of developing criteria documents for 15 pollutants by 2008. In addition, the *Standards Strategy* identifies some key efforts to strengthen the program in the coming years, including developing nutrient criteria, adopting biological criteria, and assisting tribal governments in adopting water quality standards. EPA has a goal of working with States to encourage adoption of nutrient criteria for rivers, streams, lakes and reservoirs in 25 States by 2008 with an interim goal of increasing the baseline of 2 States with nutrient criteria to 10 States by 2005 (see Program Activity Measure #40). EPA is also working toward a goal of adoption of biological criteria in 45 States by 2008 from the 2002 level of 22 States (see Program Activity Measure #41).

In a related effort, EPA will encourage Tribes to develop water quality standards and has a goal of increasing the number of Tribes with standards from 23 in 2002 to 33 in 2008 with a 2005 target of 31 (see Program Activity Measure #42). Finally, EPA will work with States and Tribes to ensure the effective operation and administration of the standards program. For example, all States and authorized Tribes are expected to review and revise their standards every 3 years, as required by the Clean Water Act. Some 78 States and authorized Tribes need to perform triennial reviews of standards and EPA will work to increase the number meeting this goal from the 2002 baseline of 55 (see Program Activity Measure #38). States have asked the EPA to make every effort to review and approve State standards within the 90 day period established in the Act. EPA has set a goal of improving the review process, and starting in FY 2005, EPA is committing to meet a target of approving 75% of standards within the 90 day period (see Program Activity Measure #43).

**(B) Improve Water Quality Monitoring** Over the next 5 years, EPA will work with States and Tribes in defining and implementing a two-part approach to building a more scientifically sound water quality monitoring program by: (1) providing information to make good watershed protection decisions; and (2) tracking changes in the Nation's water quality over time.

Congress has recognized that improved information about the condition of waterbodies is critical to sound water quality protection decisions and has provided new funding to support expanded monitoring work. A top priority for FY 2005 is to support States in the development of comprehensive monitoring programs consistent with national monitoring guidance published in 2003. EPA is working to assist all 56 States and Territories in adopting and implementing comprehensive monitoring strategies and has set a 2005 goal of all 56 States/Territories completing this work (see Program Activity Measure #44).

EPA is also supporting development of comprehensive monitoring strategies by Tribes and has a goal of helping 90 Tribes develop strategies by 2008, with a 2005 goal of 33 Tribes adopting strategies (see Program Activity Measure # 46). In a related effort, EPA will work with States and Territories to support development of integrated assessments of water quality conditions, including reports under section 305(b) of the Clean Water Act and lists of impaired waters under section 303(d) of the Act. EPA has a goal of all 56 States and Territories providing integrated assessments in 2008 and has interim goals of 40 States completing this work by 2004; increasing from the 2002 baseline of 21 States (see Program Activity Measure #45).

**(C) Develop Total Maximum Daily Loads and Related Plans:** Development of a Total Maximum Daily Loads or "TMDL" for an impaired waterbody is a critical tool for meeting water restoration goals. TMDLs focus on clearly defined environmental goals and establish a pollutant budget, which is then implemented via permit requirements and through local, State, and Federal watershed plans/programs. EPA will track the degree to which States develop TMDLs based on a goal of being 100 percent on pace each year to meet State schedules or straight-line rates that ensure that the national policy of TMDL completion within 13 years of listing is met (see Program Activity Measure #52). EPA will also monitor the percentage of TMDLs for which EPA takes approval action within 30 days (see Program Activity Measure #54). As noted below, EPA is also encouraging States to Develop TMDLs on a watershed basis (see Program Activity Measure #51).

**(D) Control Nonpoint Source Pollution:** Polluted runoff from sources such as agricultural lands, forestry sites, and urban areas is the largest single cause of water pollution. EPA and States are working with the local governments, watershed groups, property owners, and others to implement programs and management practices to control polluted runoff on a watershed basis. EPA provides grant funds to States under Section 319 of the Clean Water Act to implement comprehensive programs to control nonpoint pollution. EPA recently published new grants guidelines for the use of these funds calling for expanding efforts to manage nonpoint pollution on a watershed basis through the development and implementation of watershed plans, with special emphasis on restoring impaired waters on a watershed basis (see discussion below).

Nitrogen, phosphorus, and sediment from nonpoint sources are significant pollutants in the Nation's waters. EPA will monitor progress in reducing loadings of these pollutants (see Program Activity Measure #57). In addition, EPA estimates that some 5,967 waterbodies are known to be impaired by nonpoint sources of pollution or by both point and nonpoint sources and will track progress in restoring these waters (see Program Activity Measure #56). In related efforts, EPA will collaborate with State managers of Clean Water State Revolving Loan Funds to increase investments in projects to reduce nonpoint source pollution. Properly managed on-site/decentralized systems are an important part of the Nation's wastewater infrastructure (see Program Activity Measure #58). EPA will also encourage State, tribal, and local governments to adopt voluntary guidelines for the effective management of these systems (see Program Activity Measure #37) and to use Clean Water State Revolving Loan Funds to finance systems where

appropriate.

**(E) Strengthen NPDES Permit Program:** The NPDES program requires point sources discharging to water bodies to have permits and pretreatment programs to control discharges from industrial facilities to sewage treatment plants. In FY 2004, EPA worked with States to develop the “Permitting for Environmental Results Strategy” to address concerns about the backlog in issuing permits and the health of State NPDES programs. The strategy focuses limited resources on the most critical environmental problems and addresses program efficiency and integrity, which includes activities to streamline permit issuance and assessments of State programs and permit quality. Beginning in FY 2004, EPA will assess NPDES program integrity and track implementation of followup actions that result from the assessments (see Program Activity Measure #69).

As part of this effort to strengthen the permit program, EPA will work with States to set targets for the percentage of permits that are considered current for both States and Tribes. EPA has a goal of assuring that not less than 90% of all permits are current for States and Tribes by 2005 and each year thereafter. In addition, EPA and States are defining a subset of permits that have high environmental priority. EPA expects that 95% of these permits will be current for States and Tribes starting in 2005 and each year thereafter. EPA is also working with States, Tribes, and other interested parties to strengthen the permit program in several other areas that will benefit water quality. The Agency recently finalized new rules for discharges from CAFOs and will work with States to ensure that all States are implementing the program consistent with these new regulations by 2008, with a 2005 goal of 43 States having updated regulations/statutes where necessary to reflect new CAFO requirements including issuance of Statewide general permits (see Program Activity Measure #60).

In addition, over the next 5 years, EPA expects that 100 percent of NPDES programs will have issued general permits requiring storm water management programs for Phase II (mid-sized) municipalities and requiring stormwater pollution prevention plans for construction sites covered by Phase II of the storm water program. The 2005 goal for State implementation of the storm water program is 93% (municipalities) and 95% (construction) (see Program Activity Measures #61/ #62). Finally, EPA and States will monitor the percentage of significant industrial facilities that have control mechanisms in place to implement applicable pretreatment requirements prior to discharging to publicly owned treatment works (see Program Activity Measure #63).

Most industrial facilities discharging directly to water bodies or to sewage treatment plants have permit limits or pretreatment controls based on national regulations developed for the class of industrial activity. During FY 2004 and 2005, EPA expects to complete regulatory actions for meat and poultry processing, construction and development sites, aquaculture farms, and cooling-water intake structures. In consultation with the public, EPA will also establish program priorities based on sound science and demonstrated benefits, including the potential for

cost-effective risk reduction (see Program Activity Measure #66). In addition to evaluation of regulatory options, EPA will consider other approaches (including clarifying guidance, environmental management systems, and permit writer support).

**(F) Support Sustainable Wastewater Infrastructure:** Much of the dramatic progress in improving water quality is directly attributable to investment in wastewater infrastructure—the pipes and facilities that treat the Nation’s sewage. But the job is far from over. Communities are challenged to find the fiscal resources to replace aging infrastructure, meet growing infrastructure demands fueled by population growth, and secure their infrastructure against threats. Clean Water State Revolving Funds (CWSRFs) provide low-interest loans to help finance wastewater treatment facilities and other water quality projects. Recognizing the substantial remaining need for wastewater infrastructure, EPA expects to continue to provide significant annual capitalization to CWSRFs for the foreseeable future. This continued investment will be tracked using measures of the return on the Federal investment and the fund utilization rate (see Program Activity Measures #70/#71).

In addition, EPA will work with States to encourage the development of integrated priority lists addressing nonpoint pollution and estuaries protection projects, as well as wastewater projects with a goal of increasing the number of States using these systems from 19 in 2002, to 29 in 2005 (see Program Activity Measure #72). Another important approach to closing the gap between the need for clean water projects and available funding is to use sustainable management systems to prolong the lives of existing systems and provide clean water at lower cost. EPA will work to encourage rate structures that lead to full cost pricing and support water metering and other conservation measures.

In a related effort, EPA will work with other Federal agencies to improve access to basic sanitation. The 2002 World Summit in Johannesburg adopted the goal of reducing the number of people lacking access to safe drinking water and basic sanitation by 50 percent by 2015. EPA will contribute to this work through its support for development of sanitation facilities in Indian country and Alaskan Native villages, using funds set aside from the CWSRF and targeted grants. Other Federal agencies, such as DOI and USDA, also play key roles in this area.

**(G) Implementing Core Programs on a Watershed Basis:** The best way to accomplish the five year goals for watershed and water quality improvement is to deliver clean water programs on a watershed basis. In addition to development of watershed based plans, discussed below, some examples of the core program activities that are now being implemented on a watershed basis as a result of innovations developed by State, EPA Regions, and others include the following:

**Development of Watershed TMDLs:** Many impaired waters are clustered on a watershed basis. For these waters, EPA is encouraging States to develop TMDLs on a watershed basis (see Program Activity Measure #51). Integrating TMDLs into more comprehensive

watershed planning can help develop and create the opportunity for innovations such as water quality trading and watershed-based permitting. This includes working with partners to develop and execute implementation plans for watersheds in which TMDLs have been completed

**Watershed Permits:** Development of discharge permits as part of a larger watershed planning process can result in more efficient administration of the permit program and most cost-effective control of pollution sources. In FY 05, EPA will monitor the number of watersheds in which a watershed permit is issued consistent with the recently published watershed permit policy and the number of States that issue permits on a rotating basin basis (see Program Activity Measure #68).

**Watershed Trading:** Implementing core programs at the watershed level is an important first step toward creating a framework for trading of pollutants among sources in order to reduce the overall cost of attaining water quality goals (see EPA Trading Policy at [www.epa.gov/owow/watershed/trading](http://www.epa.gov/owow/watershed/trading)). EPA will monitor the number of discharge permits providing for trading. In addition, EPA has set a goal of developing 200 TMDLs or watershed plans by 2008 that are designed to restore nutrient limited waters and also contain provisions to enable trading (see Program Activity Measures #67 and #55).

Other specific examples of core program activities that can be implemented on a watershed basis, and which can be described in Regional and State plans, include: reviewing water quality standards and revising them if necessary before making resource commitments; implementing innovations set forth in the Strategy for Water Quality Standards and Criteria; expanding the use of innovative approaches to monitoring and collecting information in watersheds (e.g. using probabilistic or landscape designs); helping States develop and adopt a “rotating basins” approach to their water programs; promoting the use of watershed plans to guide greater investment of SRF funds to address nonpoint sources; and upgrading a State’s continuing planning process to ensure development of watershed approaches.

## **(2) Accelerate Watershed Protection:**

Strong execution of core Clean Water Act programs is essential to restoring and protecting the Nation's water quality. These core programs alone, however, are not sufficient to maintain and accelerate progress toward cleaner water and accomplish the water quality improvements called for in the Agency’s *Strategic Plan*. Today’s water quality problems are often caused by many different and diffuse sources and individual practices. Addressing these complex pollution problems demands an approach grounded in sound science, innovative solutions, broad public involvement, and adaptive management. About a decade ago, EPA embraced the watershed approach as a better way to address water quality problems. This approach focuses multi-stakeholder and multi-program efforts within hydrologically defined boundaries to protect and restore our aquatic resources and ecosystems. In addition to implementing core programs on a watershed basis, as described above, acceleration of watershed

protection can be accomplished by working in two key areas:

- support local watershed protection efforts; and
- initiate or strengthen watershed protection for critical watersheds/waterbodies.

Over the past decade, EPA has witnessed a groundswell of locally-driven watershed protection and restoration efforts, including stronger local partnerships and increased local capacity. In many communities, watershed stakeholders such as citizen groups, government agencies, non-profit organizations, and businesses have come together and created long-term goals and innovative solutions to clean up their watersheds and promote more sustainable uses of their water resources. EPA estimates that there are approximately 6,000 local watershed groups active nationwide, and many of these local groups are responsible for dramatic water quality improvements in their communities through collaborative efforts.

EPA is developing national tools, training, and technical assistance that will help community partnerships be more effective at improving watershed health. Many local watershed partnerships need help to develop the skills necessary to set challenging but realistic goals, build local capacity, and develop financial resources. EPA also helps local groups design watershed monitoring, assessments, plans, and implementation measures to achieve clean water. EPA recognizes that land use decisions affecting water quality generally occur at the local government level and that inter-jurisdictional coordination and local partnerships provide a strong foundation for watershed protection. EPA provides tools and guidance to foster these efforts.

The National Water Program has sustained and positive experience with using a watershed protection approach to supplement core programs in key watersheds. At the largest scale, EPA operates successful programs addressing the Chesapeake Bay, Great Lakes, and Gulf of Mexico. Other individual watershed initiatives have helped prove the value of watershed protection processes (e.g. Lake Champlain, Long Island Sound, National Estuary Program watersheds). Each of these projects provides strong evidence of the value of a comprehensive approach to assessing water quality, defining problems, integrating management of diverse pollution control, and defining financing of needed projects.

For FY 2005, EPA will expand support for protection of key watersheds by building on the success of the Watershed Initiative (now called the *Targeted Watershed Grants Program*). In 2003, the Agency awarded \$15 million in grants to 20 local watershed-based organizations and expects to fund an additional 20 organizations in FY04. In the Fiscal Year 2005 budget request, the Administration is requesting that funding for this Program be expanded to \$25 million, \$10 million of which will be directed to help address nutrient pollution in the Chesapeake Bay watershed. EPA has a goal of supporting 100 watershed projects under this effort by 2008 with a target of an additional 20 watershed grants in FY 2005 (see Program Activity Measure #50).

In addition, in FY 2005, new grant guidelines for the Section 319 program (discussed above) reserve \$100 million for developing and implementing comprehensive watershed plans that are to restore impaired waters on a watershed basis while protecting good quality waters. EPA has a goal of supporting several hundred watershed plans over the next five years and expects that 50 of these watershed plans will be substantially implemented by 2008. EPA will also monitor the number of plans that are under development and the number that are being implemented (see Program Activity Measures #48/#49). EPA will also work to develop partnerships with other Federal agencies to encourage their participation in watershed protection and to promote delivery of their programs on a watershed basis. For example, the Department of Agriculture can make important contributions to watershed protection and EPA will work with USDA to promote coordinated use of Federal resources, including grants under section 319 and Farm Bill funds.

In addition to national level support for watershed protection, each EPA Region plays an important role in defining watershed needs and supporting watershed protection activities and projects. Some Regions use funds provided under the Regional Geographic Initiative to support watershed protection. In other Regions, special appropriations by the Congress provide support of specific watershed protection projects. Regions should also encourage States to develop watershed-based proposals for grants from the new State/Tribal Performance Fund proposed in the President's Budget (\$23 million in FY 05) to support projects that directly support attaining environmental outcomes. Water activities will receive a significant portion of these funds.

### **(3) Apply an adaptive management framework:**

Protecting water quality at a watershed level is a new challenge at the federal, State and local level. EPA believes that the best way to achieve progress in improving and protecting waters and watersheds is by applying an adaptive management approach at the outset to better understand the problems, set challenging but realistic goals, and address opportunities associated with developing programs and building partnerships at the watershed level. The term "adaptive management" has been defined and applied in many different ways during the past 25 years, and has evolved to mean a type of "experimental" management that is essentially a process to "learn by doing." The iterative nature of the watershed approach encourages this adaptive management method of setting goals and targets to make maximum progress based on available information, while continuing to analyze and verify areas where information is incomplete.

An adaptive management framework applied to watershed protection involves several key components, including setting challenging but realistic goals, improving assessment and monitoring, identifying barriers to implementation; analyzing progress, and obtaining feedback regarding the effectiveness of different approaches that can then be used to adjust and realign the goals and specific program management and activities to make progress and achieve clean water goals. In particular, data analyses used to help set goals and to assess and measure the current status of water quality at the watershed level will need to be evaluated and updated to reflect

additional monitored sites, improved monitoring methods, and new scientific information. Regions, States and local stakeholders can then apply these new data, along with improved information about sources of pollution and pollution control methods, to adjust their watershed protection activities and program activities accordingly. Further, EPA and its State and Tribal partners can work together to review and revise water quality standards to remove barriers to water quality improvements and set challenging, but realistic, goals.

Finally, adaptive management can be used to promote innovative approaches, and can improve understanding, and facilitate long-term learning and responsiveness, of watershed protection at both the public and private level. Learning how to build and apply adaptive management to both core water programs and watershed protection activities to meet strategic planning objectives is, in itself, an adaptive process. Over the next five years, EPA expects to use this adaptive management framework to manage both core programs and watershed protection activities in order to accomplish the five year goals for watershed and water quality improvement expressed in the *Strategic Plan*. Without this adaptive management process, progress toward measurable improvements in the Nation's waters will occur in a haphazard and unpredictable manner.

EPA recognizes that each EPA Region and each State needs to identify the mix of watershed approaches that best suits its needs. Regional Plans developed in each EPA Region should describe the watershed approach to be implemented in that Region. Regardless of the specific mix of watershed approaches adopted, however, each Region and State should commit to accelerating implementation of core programs on a watershed basis, expanding support for local watershed protection, and expanding watershed protection in key watersheds.

In the same way that each Region should work with States to define the best mix of watershed approaches, Regions and States should also work together to define the extent to which implementation of watershed approaches should be accelerated over the next five years. In defining the rate of acceleration of watershed approaches, Regions and States should use the watershed/waterbody restoration and improvement goals for 2008 in the EPA *Strategic Plan* as a point of reference while taking into account the extent of pollution problems and the restoration work already underway. Table 2 provides a summary of national goals for watershed improvement with preliminary estimates of Regional contributions to the goals for FY 05 and 08.

FY 2005 is the first year in the adaptive management process and EPA recognizes that many Regions and States are in the process of organizing information on a watershed basis and will be making estimates of watershed and waterbody improvement for the first time. Given these conditions, EPA expects to follow the process outlined below:

- EPA Regions and States should review basic water quality information on a watershed basis and consider the watershed/waterbody improvements likely to result from core programs and existing watershed protection efforts.

- Regions should work with States to review the estimates presented in Table 2 and determine the extent to which core programs/existing watershed work is likely to accomplish these preliminary estimates of watershed and water quality improvements in 2005 and 2008.
- S In cases where these existing efforts are not expected to meet or exceed the preliminary estimates of improvement, Regions and States should identify steps to accelerate core program implementation, but especially watershed protection efforts, that are the best approach to accomplishing the projected improvements in 2005 and 2008.
- S Where Regions and States determine that their best efforts to implement core programs and an accelerated effort for watershed protection will not result in accomplishment of the projected improvement, Regions should develop revised estimates of progress, including a description of the core program and accelerated watershed activities to be implemented to accomplish the revised estimates. Regions should describe key factors that influenced their estimates. Where necessary, Program Activity Measure targets may be adjusted to reflect estimates.
- EPA will review estimates from each Region and evaluate the extent to which Regional estimates of progress will result in accomplishment of the national goals for watershed and waterbody improvement in FY 2005 and 2008. Based on this assessment, EPA will work with Regions and States to define strategies to meet or exceed the national improvement goals.
- Each Region should have an initial assessment of its contributions to meeting watershed and waterbody goals prior to the beginning of FY 2005.

The overall Agency process for Regional discussions with States leading to finalization of workplans for FY 2005 in the Fall of 2004 provides a general framework for this process. Region/States preliminary discussions are to occur in the Spring and draft commitments are to be defined by July 1<sup>st</sup> and entered into an integrated commitment management system. After any issues are resolved in July and August, final commitments are established by September 1<sup>st</sup>.

In each subsequent year, estimates will be revised in an adaptive management process.

### Challenges

EPA acknowledges that this approach requires a new way of assessing and evaluating data, estimating how watershed quality may change over time, and describing how management actions support these strategic goals. Specific challenges exist in developing detailed implementation plans and watershed targets. One challenge is that State participation is critical to successfully

*March 4, 2004 Watershed Subobjective 2.2.1*

develop the recommended mix of core programs and watershed management activities needed to meet national, regional and State numeric targets, and that most Regions have only just started to engage with its State partners to develop FY05 plans. Second, the watershed data being used is at the 8-digit HUC level, and although that level is the goal for describing a national status of the all waters, it represents a much larger scale than Regions and States are used to evaluating and using in watershed protection activities. In addition, many of these HUCs cross state lines, further complicating analysis. Another issue is that some of the water quality assessment data used to develop the watershed measures are incomplete or inaccurate for some parts of the country, or are based on older information.

EPA is also aware that there are significant challenges facing States in monitoring and assessing all their waters, is working to strengthen State programs and support State monitoring programs, and is going forward with a monitoring initiative in the 2005 President's Budget request. A critical component of this watershed implementation plan is to use adaptive management to apply data that accurately characterize the State's watersheds, to understand and identify where inaccuracies exist, to improve assessment and monitoring data where needed, and then adjust goals, actions, programs, and target estimates accordingly.

**TABLE 1: Subobjective 2.2.1: Improve Water Quality on a Watershed Basis**

Watershed Goal: By 2008, use both pollution prevention and restoration approaches, so that:

- C In 600 of the Nation's watersheds, water quality standards are met in at least 80% of the assessed water segments (2002 Baseline: 453 watersheds; 2005 target: 500)
- C In 200 watersheds, all assessed water segments maintain their quality and at least 20% of assessed water segments show improvement above conditions as of 2002 (2002 Baseline: 0 watersheds)

Strategic Targets: restore water quality, reduce nutrient levels, improve tribal waters and improve tribal access to basic sanitation:

- C By 2012, fully attain water quality standards in over 25 percent of those water bodies identified in 2000 as not attaining standards, with an interim milestone of restoring 5 percent of these waters by 2006. (2000 Baseline: 21,632 waterbodies; 2005 target: 2%)
- C By 2008, reduce levels of phosphorus contamination in rivers and streams so that phosphorus levels are below levels of concern established by USGS or levels adopted by a State or authorized Tribe in a water quality standard in 55 percent of test sites for major rivers, 38 percent of test sites for urban streams, and 30 percent for farmland streams.
- C By 2008, improve water quality in Indian country at not fewer than 90 monitoring stations in tribal waters for which baseline data are available (i.e., at least a 10 percent improvement for each of four key parameters: total nitrogen, total phosphorus, dissolved oxygen, and fecal coliforms). (2002 Baseline: 0 stations; 2005 target: 35 stations.)
- C By 2015, in coordination with other federal partners, reduce by 50 percent the number of households on tribal lands lacking access to basic sanitation. (2000 Baseline: 71,000 hholds; 2005 target: 51,000 hholds; 2008 target: 35,000 hholds.)

Resources: Total \$ ~1.6 B ; Over 1,190 FTE

|                       |                          |                           |
|-----------------------|--------------------------|---------------------------|
| <u>Program Tools:</u> | Water Quality Standards  | Water Quality Monitoring  |
|                       | TMDLS & related plans    | Nonpoint Source           |
|                       | Discharge Permit Program | Wastewater Infrastructure |

Program Activity

Measures (PAMs): 35 PAMs (out of 107)  
24 State Reporting, 14 require State Targets  
PAMs from Multiple State Programs

| <b>TABLE 2: Watershed/Waterbody Restoration by Region/Nation</b> |                            |   |   |  |  |                              |   |
|--|----------------------------|---|---|--|--|------------------------------|---|
| Region   | Total Number of Watersheds | Watersheds with >80% Attainment in 2002 | Watersheds with <80% Attainment in 2002 | Additional Watersheds Estimated to meet >80% Attainment in 2005/2008 | Additional Watersheds Estimated to be Improved in 08 | 303(d) Listed Waters in 2000 | 303(d) Listed Waters Estimated to Attain Stds 2005/2012 |
| 1  | 56                         | 9                                       | 47                                      | <b>2/4</b>   | <b>5</b>   | 1,909                        | <b>38/477</b>   |
| 2  | 58                         | 5                                       | 53                                      | <b>4*/6*</b>   | <b>5</b>   | 1,866                        | <b>37/467</b>   |
| 3  | 108                        | 24                                      | 84                                      | <b>3/7</b>   | <b>10</b>  | 3,321                        | <b>66/830</b>   |
| 4  | 278                        | 89                                      | 189                                     | <b>6/15</b>  | <b>25</b>  | 3,808                        | <b>76/952</b>   |
| 5  | 252                        | 29                                      | 223                                     | <b>7/18</b>  | <b>22</b>  | 2,761                        | <b>55/690</b>   |
| 6  | 366                        | 131                                     | 235                                     | <b>1*/5*</b>   | <b>32</b>  | 1,241                        | <b>25/310</b>   |
| 7  | 202                        | 18                                      | 184                                     | <b>1*/4*</b>   | <b>18</b>  | 1,555                        | <b>50*/389</b>  |
| 8  | 337                        | 113                                     | 224                                     | <b>7/18</b>  | <b>30</b>  | 1,075                        | <b>22/269</b>   |
| 9  | 263                        | 19                                      | 244                                     | <b>8/20</b>  | <b>23</b>  | 673                          | <b>13/168</b>   |
| 10   | 338                        | 16                                      | 322                                     | <b>1*/26</b>   | <b>30</b>  | 3,423                        | <b>68/856</b>   |
| <b>Totals</b>  | <b>2,258</b>               | <b>453</b>                              | <b>1,805</b>                            | <b>40/124</b>  | <b>200</b>   | <b>21,632</b>                | <b>452/5,408</b>  |

{Numbers with \* represent estimates provided by the Region after preliminary analysis. Other 05/08 projections are straight-line increments based on regional proportion of all watersheds; projections will change as Regions complete negotiations with States. }

## **ADDITIONAL DESCRIPTION OF CORE CLEAN WATER PROGRAM ACTIVITIES**

Watershed Subobjective 2.2.1 contains 35 Program Activity Measures (PAMs) for core OW programs that will affect clean waters and watersheds: water quality standards; monitoring and assessment; watershed planning, TMDLs and nonpoint source; NPDES permitting; and wastewater infrastructure. Nearly one-third of the 107 Water Office program activity measures are captured under this watershed subobjective, with 24 State reporting requirements, and 14 requiring specific yearly targets. Appendix 1 presents the Draft Outcome and Activity Measures for this watershed subobjective, while Appendix 2 shows the Draft Program Activity Measures and Straw Targets. This section presents additional information for the six major program grouping of PAMs (e.g. NPDES-related PAMs), and includes a summary of how the PAMs specifically support this watershed subobjective, as well a description of other issues affecting implementation, such as funding, interactions with other EPA Programs, applicable guidance documents, innovative approaches, and specific challenges.

### **(1) WATER QUALITY STANDARDS**

#### **A. PAM Descriptions**

The Program Activity Measures for water quality standards (WQS) under the watershed subobjective track the number of States and authorized Tribes that have completed a triennial review of water quality standards, the cumulative number of States and Territories with EPA-approved nutrient criteria and biological criteria, the cumulative number of Tribes that have EPA-approved WQS, and the annual percentage of State/Tribe/Territory WQS submissions that are approved or disapproved by EPA within 90 days.

PAM #39: Number of States and authorized Tribes that have completed a review of water quality standards within three years of the previous triennial review under Section 303(c) of the CWA.

PAM #40: Cumulative number of States and Territories that have adopted into their water quality standards, and EPA has approved, nutrient criteria for fresh water (rivers/streams, lakes, and reservoirs).

PAM #41: Cumulative number of States and Territories that have adopted into their water quality programs for streams and small rivers, biological criteria designed to support determination of attainment of water quality standard use designations. [Note: biological criteria may include quantitative endpoints or narrative criteria with quantitative implementation procedures or translators.]

PAM #42: Cumulative number of Tribes that have water quality standards approved by EPA.

PAM #43: Each year, percentage of State, Tribal, and Territory water quality standards submissions that are approved/disapproved by EPA within 90 days.

## **B. How the PAMs Support Achieving the Subobjective**

State and Tribal water quality standards provide the environmental baselines for water quality programs. EPA provides scientific information concerning contaminants in the form of “water quality criteria” guidance and identifies innovative approaches to support State and tribal adoption of water quality standards that protect water for such uses as swimming, public water supply, and fish and wildlife. The top priority for the criteria and standards program in FY 2005 is the continued implementation of the *Water Quality Standards and Criteria Strategy*, developed in cooperation with States, Tribes, and the public in 2003 (see Internet at: <http://www.epa.gov/waterscience/standards/strategy/>). The *Standards Strategy* provides for EPA to continue work in developing scientific “criteria documents” for key water pollutants, including implementation protocols and methods. EPA expects to publish 3 new or revised criteria documents in 2004 and 2005 as part of a larger goal of developing criteria documents for 15 pollutants by 2008.

For the Nation to protect and restore watersheds, EPA needs to do more to help States and authorized Tribes implement and successfully defend what they consider to be appropriate water quality standards. For a variety of reasons, many existing water quality standards are *not* what States and Tribes want them to be. In the context of specific permits or TMDLs, States and Tribes are sometimes finding that existing water quality standards are not grounded in the latest science, and that they are sometimes unrealistically ambitious and sometimes not challenging enough. This is leading to cases of stalled progress in meaningful pollutant reductions, challenges and litigation, and, sometimes, failure to protect sensitive species or public health as well as irretrievable investments in either over-protective or under-protective pollutant control measures. In some cases, unrealistically ambitious goals associated with existing water quality standards are delaying State and tribal decisions that would allow industries to expand operations. In other cases, poorly documented State and tribal proposals for the lessening of existing standards cannot be approved by EPA. Moreover, in the case of numeric nutrient standards and pathogen standards, many States are struggling with developing challenging but realistic criteria and are finding that EPA’s nationally recommended criteria are not meeting their needs. Since nutrients and pathogens are two of the primary causes of impairment, the failure of States and Tribes to get the “right” numeric standards in place for these pollutants may jeopardize our achieving the watershed cleanup sub-objectives and specific Program Activity Measures in EPA’s Strategic Plan.

The Watershed Subobjective refers to maintaining and improving watersheds. Establishing the appropriate nutrient criteria will help to set goals for waterbodies that are impaired because of excess nutrients. Adoption of biological criteria will assist in determining the overall health of

the watersheds in order to further the goal of restoring and maintaining their quality. In addition, increasing the number of Tribes that have EPA-approved WQS will ensure that more of our Nation's watersheds have water quality protections in place. Finally, timely EPA action on WQS submissions will help put the right standards in place so that watersheds are being assessed against the correct benchmarks.

### **C. Challenges**

Several challenges affect adoption of nutrient and biological criteria and Tribal adoption of WQS. For nutrients, one challenge is collectively focusing resources for States and EPA to develop nutrient criteria at an ecoregional level. EPA's recommendations are based on a limited data set and certain assumptions, so States often want to collect additional data and tailor it to smaller ecoregions. In addition, there are often implementation issues to address. States are looking for more sophisticated ways of adopting and implementing nutrient criteria, such as compliance schedules. For biocriteria, there are often coordination and resource allocation issues with implementing biological criteria because a substantial and continual commitment to monitoring waterbodies is needed to support the criteria. For tribal WQS, Tribes often face legal issues and resource constraints which can impede EPA authorization and standards development.

### **D. Interactions with Other EPA Programs**

The Office of Research and Development (ORD) has helped develop alternative approaches of setting nutrient criteria, and continues to help develop biological criteria.

### **E. Partnerships**

States, Territories, and Tribes and their associations have been partners with EPA in the development and implementation of many aspects of the WQS program. Such associations include the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), the Ohio River Water Sanitation Commission (ORSANCO), the Environmental Council of the States (ECOS), the Tribal Caucus, and various regional associates. EPA also works with the Department of the Interior (DOI) during the Tribal authorization process (Tribes must be federally recognized by DOI and authorized by EPA before they can manage their own WQS programs).

### **F. Guidance**

#### Water Quality Standards

General guidance on the WQS program is available at:

March 4, 2004 Watershed Subobjective 2.2.1

<http://www.epa.gov/waterscience/standards/>

#### Nutrient Criteria

<http://www.epa.gov/waterscience/criteria/nutrient/guidance/index.html>

This website provides links to technical guidance for developing quantitative nutrients and algal criteria for estuaries and coastal waters; assessing waterbody nutrient impairment and developing ecoregion-specific nutrient criteria in lakes and reservoirs; and selecting criteria variables, designing monitoring programs, deriving regional nutrient criteria, and implementing management practices in rivers and streams.

#### Biological Criteria

<http://www.epa.gov/waterscience/biocriteria/>

This website provides links to guidance for bioassessment and biocriteria for streams, small rivers, lakes, reservoirs, estuaries, near coastal areas, wetlands, and coral reefs.

#### Tribes

<http://epa.gov/waterscience/tribes/>

This website provides general information about Tribes and WQS.

<http://www.epa.gov/owindian/>

This website is the American Indian Environmental Office's homepage with links to information about grants, policies, initiatives, laws, regulations, guidance, etc.

### **G. Innovations**

In the *Strategy for Water Quality Standards and Criteria*, EPA lays out its plans to develop an enhanced process to provide technical support for the implementation of nutrient criteria, including watershed modeling, cause and effect ecological studies, and ecological models. The *Strategy* also calls for issuing methods for the use of bioassessments to refine designated aquatic life uses. The tiered aquatic life use system will help integrate biocriteria into other parts of the water quality program. EPA is continuing to explore options for rulemaking at the federal level to provide WQS coverage in Indian country.

## **(2) WATER QUALITY MONITORING**

### **A. PAM Descriptions**

Four principle Program Activity Measures chart the progress of the monitoring in support of the SIP. These include implementation of State and tribal water quality monitoring strategies, with an approach to getting data into STORET; reports on surveys of the condition of the Nation's waters, and submission of Integrated Reports (combining 305(b) and 303(d)). All are critical for tracking progress toward achieving the objective. The Program Activity Measures for water quality standards (WQS) under the watershed Subobjective track the number of States and authorized Tribes that have completed a review of water quality standards.

PAM #44: Each year, the number of States & Territories that have adopted and begun implementing a comprehensive monitoring strategy [including a State approach to putting data into STORET] consistent with national guidance. (i.e, March 2003 guidance describing 10 key monitoring elements).

PAM # 45: Number of States, Interstate Agencies, and Territories that provide comprehensive integrated assessments of the condition of their waters consistent with sections 305(b) and 303(d) of the Clean Water Act and EPA's integrated assessment guidance.

PAM # 46: Number of Tribes that currently receive EPA funding that have developed comprehensive monitoring strategies that serve all water quality management needs, and address all tribal waters, including all water body types and that provide their water quality data in a system accessible for storage in EPA's STORET.

PAM # 47: EPA reports results of a statistical survey of the condition of the Nation's water, conducted in cooperation with the States.

### **B. How the PAMs support achieving the Subobjective**

The Watershed Subobjective uses the number of watersheds attaining water quality standards as the measure of its success. Monitoring and assessment activities by the States and Tribes are essential to quantify progress toward this goal. States report that they have approximately half the funds they need to run an adequate monitoring program, with an annual shortfall of \$100-150 million. To strengthen State monitoring and assessment programs, EPA issued guidance in March 2003 outlining the basic elements of a State water quality monitoring program and calling on States to develop comprehensive monitoring strategies. These strategies should help the

States identify gaps and use water quality monitoring resources more effectively to support multiple decision needs and assess more of their waters. The guidance<sup>1</sup> calls for States to prepare a monitoring strategy by the end of 2004 and begin implementation of the strategy in 2005. The strategies should include an approach for sharing their water quality data with EPA in its STORET data system.

The FY05 target for States implementing comprehensive monitoring strategies is all 56 States and territories. Many States already have some type of monitoring strategy or workplan in place. All States are now working to either refine these strategies or develop new ones consistent with the Elements guidance. Regions have committed to completion and implementation of all 56 strategies for completion in FY05.

Water quality monitoring and data management are necessary, but not sufficient to support program needs. Increased analytical capability is also needed to determine how program resources can be best directed to either protect or restore the waters in each jurisdiction. Assessment of water quality is required by sections 305(b) and 303(d) of the Clean Water Act. Tribes and territories also have this responsibility. Beginning with the 2002 cycle, EPA asked States to submit 305(b) and 303(d) assessments using Integrated Reports defined in EPA guidance<sup>2</sup> and through data structures<sup>3</sup> and data storage systems<sup>4</sup> made available by EPA. Strengthened State capacity for monitoring is needed to provide improved data and information to support State water quality standards, NPDES permits and nonpoint source pollution controls, completion of State Integrated Reports (Clean Water Act sections 305(b) and 303(d)), and establishment of Total Maximum Daily Loads to achieve water quality standards

EPA and the States must also enhance the nation's ability to characterize national water quality

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<sup>1</sup> *Elements of a State Water Monitoring and Assessment Program*, March 2003, EPA 841-B-03-003, <http://www.epa.gov/owow/monitoring/elements/>

<sup>2</sup> *Guidance for 2004 Assessment, Listing, and Reporting Requirements Pursuant to the Clean Water Act*, <http://www.epa.gov/owow/tmdl/tmdl0103/index.html>

<sup>3</sup> *National Hydrography Dataset*, The National Hydrography Dataset is a comprehensive set of digital spatial data that encodes information about naturally occurring and constructed bodies of water, paths through which water flows, and related entities. [http://water.usgs.gov/GIS/metadata/usgswrd/nhd\\_onestop.faq.html](http://water.usgs.gov/GIS/metadata/usgswrd/nhd_onestop.faq.html)

<sup>4</sup> *The National Assessment Database (NAD)* contains information on the attainment of water quality standards in segments of waterbodies that are larger than a sampling stations but small enough to represent a homogenous appraisal of water quality standard attainment. These assessments use one of five assessment categories introduced in the 2002. All waters should be placed in one of the five assessment categories and the categories are designed so that no water is placed in more than one category. This categorization provides the basis for the accounting necessary to calculating progress toward attaining the subobjective.

conditions and better support management decisions. The General Accounting Office, the National Academy of Public Administration, the H. John Heinz II Center for Science, Economics, and the Environment, EPA's own *Draft Report on the Environment*, and the National Academy of Science have all stated that EPA and the States cannot make statistically valid inferences about water quality and do not have sufficient data to support management decisions. During 2004, EPA is working with States to initiate a survey of wadeable streams conditions. The intent is to focus in subsequent years on the conditions of lakes, large rivers, and wetlands. These surveys will be repeated periodically so that trends can be tracked giving decision makers and the public the information they need to determine effectiveness of our investments in water quality protection.

### **C. Funding**

EPA estimates that approximately \$30 million of the annual 106 grants to States support monitoring activities. The President's FY05 budget request contains an increase of \$17 million in 106 funds for monitoring. Without these additional funds it will be very difficult to achieve the enhancements needed in State monitoring programs and undertake the monitoring and analysis needed for the statistical surveys of water conditions nationwide.

### **D. Other Challenges**

The major challenges include insufficient monitoring of waters. Large numbers of streams have not been monitored, so that they cannot be characterized using the standards that have been set for them. While this is an issue of funding, it is also an issue of methodologies that State strategies are expected to address. Data management is also a major concern. Many States do not have the staff resources to adequately support the data management systems, which are necessary for housing and analysing the data.

### **E. Interactions with Other EPA Programs**

The standardization of data systems has proceeded with cooperation between OW offices and OEI. Data from State monitoring programs was once the sole province of the Monitoring Branch in OW, where it was used for the 305(b) report. Now, the data are used for 303(d) listing and for tracking progress toward meeting the watershed Subobjective measure. Regional and contract staff must work more closely to ensure that data management capabilities and data submissions use the data systems to serve this expanded need.

## **F. Partnerships**

Partnerships between EPA and State and tribal agencies are needed to ensure the flow of data needed to track progress. The partnerships need to be centered around the acquisition of technical capabilities and staff training opportunities.

## **G. Guidance**

EPA will issue updated *Guidance for 2006 Assessment, Listing, and Reporting Requirements Pursuant to the Clean Water Act*.

## **H. Innovations**

EPA is also exploring the use of innovative monitoring techniques, such as remote sensing, landscape modeling, data sondes, and other new technologies that may increase the numbers and types of water monitored in a more cost-effective manner.

### **(3) NONPOINT SOURCE**

#### **B. PAM Descriptions**

PAM #48: The number of watershed based plans (and water miles/acres covered), supported under State Nonpoint Source Program grants (section 319) since the beginning of FY 2002 that are under development and the number of watershed based plans, (and water miles/acres covered), where watershed based plans are being implemented.

PAM # 49: Number of watershed based plans (and miles/acres covered), supported under State Nonpoint Source Programs (section 319) since the beginning of FY 2002 that have been substantially implemented.

PAM # 56: Number of waterbodies identified by States in 2000 as being impaired by nonpoint sources or by both point & nonpoint sources that are fully restored (cumulative). [Estimated 5,967 waterbodies impaired solely or partially by nonpoint source, using 50% of total number of partial NPS-impaired waters]

PAM # 57: Annual reduction in lbs/tons of nitrogen, phosphorus, and sediment from nonpoint sources to waterbodies.

#### Additional Description of PAMs #48 and #49:

In FY 02, States started to develop “watershed-based plans” that address nine elements specifically articulated in the grants guidelines. (PAM #49) These criteria were slightly revised in the program’s FY03 Section 319 Grants Guidelines. The plans are mainly designed to remediate impaired waters (with or without TMDLs), although they should encompass protective actions as well in watersheds that have a mix of impaired and threatened waters. “Substantially implemented” means that the actions called for in the initial plan have been completed. However, given that an adaptive management approach is common when it comes to watershed restoration, it is possible that completing the actions called for in the initial plan may not be enough to restore the watershed. Thus, an iterative approach may be necessary. Since that is a process that may continue for a substantial amount of time, we have used the words “substantially implemented” rather than “completed implementation.”

Watershed-based plans being developed, being implemented, and that have been substantially implemented will each be counted separately by States and listed in State NPS annual reports,

March 4, 2004 Watershed Subobjective 2.2.1

which are required by Section 319 of the CWA (PAM #48). Furthermore, for each plan, the Grants Reporting and Tracking System (GRTS) project identification number will be listed (the assumption here is that nearly every plan will have 319 dollars involved in some way).

These project ID numbers can then be searched in GRTS, and the National Hydrography Dataset (NHD) reach codes for each plan will be identified by a link in the project form to WATERS, which stores reach codes in the Reach Address Database. WATERS will then be used to tally the miles/acres for each plan.

#### Additional Description of PAM #56 and # 57

For PAM # 56, The baseline of 5,967 waterbodies was calculated using information from EPA's *Draft Report on National Costs to Implement TMDLs*. EPA added all NPS-only waters (4,749) to 50% of mixed point source (PS)/NPS (1,218 = 50% of 2,437 PS/NPS waters) to derive a total of 5,967 waters. It should be noted that States did not identify sources for about half of the 1998/2000 303(d) - listed waters. The numbers will be listed in State annual reports in those years that coincide with the 303(d)- listing cycle. EPA is asking States to use best professional judgment to ascertain which waters are "NPS" or "mixed-impaired."

PAM #57 only counts load reductions realized from 319h grant funded projects, unlike PAM #56, which measures the effects of the NPS program as a whole.

### **B. How the PAMs Support Achieving the Objective**

Subobjective 2.2.1 includes a measure to restore impaired watersheds. The main focus of watershed-based plans is also to restore watersheds, although the watersheds addressed by watershed-based plans will typically be smaller-sized local watersheds, not 8-digit HUCs (although the size of the watershed covered by a watershed-based plan may vary substantially by Region). Furthermore, load reductions of nutrients and sediment, and the restoration of NPS and mixed-impaired waters, are obviously directly linked to the purpose of the subobjective.

### **C. Challenges**

To the extent that some watershed plans may not use Section 319 funds, we may undercount the number of plans. However, given that it is the Section 319 guidelines that require watershed-based plans, we expect that the vast majority of plans will use at least some Section 319 funds. Further, counting waterbody miles/acres is contingent upon States doing an accurate job of

March 4, 2004 *Watershed Subobjective 2.2.1*

georeferencing their Section 319 projects. Since indexing projects using the NHD is a new process, we are likely to have a learning curve with respect to the accuracy of States' georeferencing. Finally, load reduction estimates will be very rough, as most will be calculated using relatively simple models.

#### **D. Interactions with Other EPA programs**

Watershed-based plans are to be the main mechanism for restoring watersheds that are primarily impaired by NPS (although such plans will also account for actions needed to control point sources). Therefore, there is considerable intersection with the TMDL program and, to a varying extent, the storm water, CAFO, source water, and wetlands programs. Plans should also include development or implementation funds from any available source. These may include funds from the SRFs, funds from 106 for monitoring, or any other source. A significant portion of plan development/implementation funds are expected to come from programs outside of EPA, such as Farm Bill funds.

#### **E. Partnerships**

A significant degree of funding for plans covering agricultural areas will come from USDA funds, especially CRP and EQIP. We are promoting the use of Section 319 funds for planning and monitoring where Farm Bill funds are available for implementation. Local or State funding are also expected to be heavily utilized. As with any effective watershed planning process, a high degree of local involvement in planning and implementation efforts will be necessary for watershed-based plans to successfully restore impaired watersheds.

#### **F. HQ/Regional Guidance**

*Nonpoint Source Program and Grants Guidelines for States and Territories* (October 23, 2003)  
available at: <http://www.epa.gov/fedrgstr/EPA-WATER/2003/October/Day-23/w26755.htm>

*Modifications to Nonpoint Source Reporting Requirements for Section 319 Grants* (September 27, 2001)

available at: <http://www.epa.gov/owow/nps/Section319/grts.html>

#### **G. Innovations**

Watershed-based plans, as articulated in the NPS guidelines, are much more comprehensive than

*March 4, 2004 Watershed Subobjective 2.2.1*

most existing watershed plans. The elements listed include such things as estimating load reductions, listing amount and sources of funding, identifying measures to be implemented to achieve restoration, and providing an information/education component, and a describing a monitoring component to verify progress, etc. This planning process will enable States, local communities, and their partners to better understand what actions are most needed to improve watershed water quality.

#### **(4) TOTAL MAXIMUM DAILY LOADS (TMDLs)**

##### **A. PAM Descriptions**

The program activity measures for total maximum daily loads (TMDLs) under the watershed subobjective track: 1) TMDLs approved as part of larger, more comprehensive watershed processes, 2) State progress in meeting national policy regarding the pace at which TMDLs should be established, 3) Tribal participation in the TMDL program, 4) EPA's performance in timely approval of TMDLs, and 5) inclusion in TMDLs of provisions to enable water quality trading.

PAM # 51: 05 Report on the percentage of TMDLs approved since the beginning of 2004 that were developed as part of a larger, watershed planning process that addressed restoration and protection of all waters within a watershed.

PAM #52: By 2008, 100 percent of TMDLs required for waters on 303(d) list will be established or approved within 13 years of listing consistent with national policy. In 2006, Regions are requested to provide a table of actual numbers of TMDLs to show how percentages are calculated.

PAM # 53: By 2008 20 Tribes that receive EPA funding in 2004 have participated with States and or EPA in development of TMDLs or watershed-based plans to restore and protect watersheds with impaired waters.

PAM # 54: 05 Report on percentage of TMDL approvals that occurred within 30 day of submission.

PAM # 55: By 2008, 200 TMDLs or watershed plans developed to restore waters impaired by nutrients will include provisions that enable trading.

Calculating PAM # 52:

1. Using the State's current list, determine when each waterbody pollutant (w/p) combination was initially listed. Using this date, determine the total number of TMDLs that remain to be established or approved.
2. Take the total number of TMDLs that remain to be established or approved and determine the annual number of TMDLs required to meet the 13 year pace based on the initial date of listing.

For example, TMDLs listed in 1998 need to be completed no later than 2011. For the 2005 target the TMDLs that are still not completed would have to be spread over 2005, 2006, 2007, 2008,2009,2010 and 2011. If the current list includes 12 TMDLs first listed in 1998, then a

straight-line projection would require that 1.7 TMDLs be completed per year.

The 2005 commitment would be calculated as follows:

| Year First Listed   | End date of 13 Year Pace | # of TMDLs still required * | # Years to complete TMDLs | Annual #(assuming an pace)** |
|---|--------------------------|-----------------------------|---------------------------|------------------------------|
| 1998  | 2011                     | 12                          | 7                         | 1.7                          |
| 2002  | 2015                     | 12                          | 11                        | 1.2                          |
| 2004  | 2017                     | 12                          | 13                        | 0.9                          |
| The number of TMDLs that would have to be completed in 2005 to maintain a 13 year pace. |                          |                             |                           | 3.8                          |

So, if the Region projected to complete 4 (rounded up from 3.8) TMDLs in 2005, it would commit to achieve 100 percent of its annual target.

\* Waters will be listed and removed from the list prior to completion of reporting for 2005. It is expected that commitments and performance will be revised due to these changes in listed waters.

\*\* Some States have committed to an actual schedule for doing TMDLs rather than a pace. These numbers should be reflected in these commitments.

#### Calculating PAM #55

1. Use *Draft Report on National Costs to Implement TMDLs* to develop initial estimates of waters that are impaired by nutrients and where some conditions exist that may provide potential for trading; adjust this estimate for factors that would affect the feasibility of trading in 2004-2008.
2. From the universe of waters identified by the above analysis, apply a policy decision that 25% of TMDLs/watershed plans for such waters should reflect the feasibility of trading and include provisions to make it easier to implement trading. This results in the 2008 target of 200 TMDLs/watershed plans.

#### **B. How the PAMS Support Achieving the Subjective**

The watershed subjective refers to working with States, interstate agencies and Tribes to foster a watershed approach as the guiding principle for implementation of clean water programs, and

an essential strategy for meeting key environmental objectives, such as attaining and maintaining conditions described in State water quality standards (WQS). TMDLs are a significant tool for ensuring the success of watershed plans in impaired waters because they focus on clearly defined environmental goals—meeting WQS, quantify pollutant loadings consistent with meeting WQS, identify sources of pollutant loadings, and quantify the allocations of acceptable pollutant loads among those sources. They establish a pollutant budget, which is then implemented via permit requirements, and through local, State, and federal watershed plans/programs that employ programmatic tools (Sec 319, CW-SRF, Farm Bill, etc)

These PAMs encourage the development of TMDLs on a watershed basis because developing all needed TMDLs within a watershed as part of an overall effort can save time and money and result in more effective solutions. Further savings can be realized by bringing in other agencies and organizations to help develop TMDLs, and enhanced stakeholder involvement also increases the probability that reductions indicated by the TMDL will actually occur. Integrating TMDLs into more comprehensive watershed planning can also help develop and create the opportunity for innovations such as water quality trading and watershed-based permitting. At the same time, the States and EPA need to keep on track with EPA's policy of establishing TMDLs within 8 to 13 years of listing so that we can proceed apace with the business of restoring the nation's water quality. Although no Tribe is authorized to manage a TMDL program at this time EPA wants to encourage tribal involvement in water quality decisions that may affect a Tribe directly or indirectly. Timely EPA action on TMDL submissions will help put the framework in place so watershed planning is done against the correct benchmarks. Finally, EPA believes that, to support the 2003 Water Quality Trading Policy, [www.epa.gov/owow/watershed/trading.htm](http://www.epa.gov/owow/watershed/trading.htm) TMDLs and watershed plans should include provisions to enable trading wherever practical to achieve pollution reduction in a cost-effective manner.

### **C. Challenges**

There are challenges at every step of the program. The number of TMDLs that needs to be done is determined by a determination that the water does not meet water quality standards, and the challenges faced by the standards program affect these determinations. Many waters are listed because they do not meet narrative criteria, which need to be translated in numerical standards before TMDL can be established. Data limitations on sources of pollutants also may slow down TMDL development.

Also, developing TMDLs using the watershed approach often takes longer than a narrower focus dealing with individual waterbodies, pollutants only, and not engaging a wide array of stakeholders. But, these extra costs should be recovered in the long run, as strategies addressing both protection and remediation, as well as a wider array of stressors than just “pollutants” are implemented by a wide array of stakeholders bringing differing sets of expertise and resources to bear. Finally, trading is a practice new to many States and it may be difficult for some States to

assess whether trading is an effective approach in any given water body.

#### **D. Interactions with other EPA programs**

TMDLs intersect with many other programs. The goals to which TMDLs aspire are established by State, tribal, and EPA water quality standards programs. Monitoring is essential to determining whether waters are impaired, and by what stressors. Monitoring and other assessment tools are also needed to identify sources of pollutants. The expertise found in the NPDES and 319 programs can be most helpful in the analysis of pollutant loads from various sources, and is essential to ensuring that load reductions called for in a TMDLs take place. In the watersheds of some waters, the interests of the Source Water Protection program under the SDWA intersects with the TMDL program. Funds available through both CW and DW State revolving loan programs can provide essential support in the implementation phase. Wetland restoration stimulated by the Section 404 program can also help achieve reductions in loadings of nutrients, sediments, and other pollutants.

#### **E. Partnerships**

State, Territories and Tribes and their associations have been partners with EPA in the development and implementation of many aspects of the TMDL program. Such associations include ASIWPCA, the Ohio River Sanitation Commission (ORSANCO), and ECOS. EPA also works with UDSA in the development of watershed planning guidance.

#### **F. Guidance**

In addition to funding a circuit-rider program to help regions and States establish TMDL, EPA has issues several guidance documents available at [www.epa.gov/owow/tmdl/techsupp.html](http://www.epa.gov/owow/tmdl/techsupp.html):

Stressor Identification Guidance. This guidance leads water resource managers through a rigorous process to identify stressors that cause biological impairment in aquatic ecosystems and to assemble cogent scientific evidence that supports conclusions about potential causes.

Protocol for Developing Pathogen TMDLs: First Edition PDF format (2M), Jan. 2001, EPA 841-R-00-0002

Protocol for Developing Nutrient TMDLs PDF version (2.5MB), November 1999, First Edition, EPA 841-B-99-007

Protocol for Developing Sediment TMDLs , PDF version (1.8MB), October 1999, First Edition, EPA 841-B-99-004

March 4, 2004 Watershed Subobjective 2.2.1

EPA also provided funding to the National Sedimentation Laboratory of USDA's Agricultural Research Service to support development of a methodology to evaluate whether a stream or river is impaired due to clean sediment. This report, Evaluation of clean sediment transport data for clean sediment TMDL is available at [www.sedlab.olemiss.edu/cwp\\_unit/NSLReport17.html](http://www.sedlab.olemiss.edu/cwp_unit/NSLReport17.html)

EPA Region 10 has developed a Water Quality Trading Assessment Handbook to assist stakeholders in determining whether trading may work successfully in their watershed. The handbook guides stakeholders through a structured, informal assessment of trading opportunities. It looks at the environmental, economic, and technical factors in a watershed that influence stakeholders' ability to create a water quality trading market. The handbook is available at <http://yosemite.epa.gov/R10/WATER.NSF/webpage/Water+Issues+in+Region+10> under the topic Water Quality Trading.

## **G. Innovations**

States can reduce list of TMDLs needed by following current HQ guidance, which states that waters that have programs in place designed to meet water quality standards do not need to be listed as needing a TMDL. Another example is that OWOW has an ongoing project with the Innovations Action Council to realize the benefits of innovations in the TMDL program. In addition, innovations in watershed management are encouraged by PAM #55, which provides that a growing number of TMDLs will include provisions for nutrient trading. In certain watersheds trading can achieve TMDLs more flexibly and cost-effectively by allowing sources with higher pollutant control costs to use pollutant reductions created by sources with lower costs.

## **(5) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITTING PROGRAM**

### **A. PAM Descriptions**

59: 90% of all NPDES permits are considered current and, beginning in 2005, 95% of high priority permits are also current; permits for facilities in Indian Country are to meet the same standard/schedule.

60: By 2005, all States will have updated regulations and/or statutes where necessary to reflect new CAFO requirements; by 2006, all States will have issued effective permits reflecting these new requirements.

61: By 2008, 100% of States/Regions will have issued NPDES general permits requiring storm water management programs for Phase II municipalities (MS4S) (estimated annual load reduction of 4.1 billion pounds of pollutants).

62: By 2008, 100% of States/Regions will have issued NPDES general permits requiring storm water pollution prevention plans for Phase II construction (estimated annual load reduction of 17 billion pounds of pollutants).

63: Percentage of Significant Industrial Users (SIUs) in POTWs with Pretreatment Programs and percentage of known Categorical Industrial Users (CIUs) in non-pretreatment POTWs that have control mechanisms in place that implement applicable pretreatment requirements.

65: By 2008, NPDES permits, result in annual reductions of 130 billion pounds of pollutants from storm water, POTWs, CAFOs, CSOs, and industrial discharges.

67: Number of dischargers with permits providing for trading between the discharger and other water pollution sources and the number of dischargers that carried out trades.

68: Number of watersheds in which a watershed permit(s) has been issued, and the number of States issuing NPDES permits using a rotating basin process.

69: Percentage of NPDES program authorities where a comprehensive assessment of NPDES program integrity has been conducted (beginning in FY 04) and the percentage of assessed programs that are complying with implementation schedules for all those follow-up actions for which a schedule has been established.

### **B. How the PAMs support achieving the Subobjective**

To address Subobjective 2.2.1 to improve Water Quality on a Watershed Basis, the NPDES program is directing its efforts to issuing high quality permits in watersheds where impairments can be addressed through updated permits issued on a priority basis. The Permitting for Environmental Results Strategy, in conjunction with this focus on environmental results, addresses program efficiency and integrity. The efficiency component consists of activities to streamline permit issuance, such as permit bundling and use of general permits. Program integrity addresses important aspects of overall NPDES program operations including the quality of the permits that are issued. Other elements that will be addressed include compliance with water quality standards and the incorporation of TMDL requirements into permits. The NPDES program PAMs reflect implementation of the Permitting for Environmental Results Strategy. Timely, effective NPDES permits are critical to the protection and improvement of water quality on a watershed basis.

Storm water and CAFO permitting will focus limited resources on the most critical environmental problems resulting in both nutrient and sediments reductions in rivers and streams. State issuance of NPDES CAFO permits should result in pollutant reductions of over 2 billion pounds annually, and State issuance of storm water permits should result in long term annual reductions of approximately 100 billion pounds of sediment. The overall NPDES program should result in annual reductions of 130 billion pounds of pollutants.

### **C. Challenges**

Challenges include increased program complexity and scope (CAFOs, storm water, etc.) in conjunction with declining State resources. Data issues impact our ability to measure program results and to determine where to focus resources to restore watersheds. For example, lack of latitude/longitude data and indexed 303(d) listing data impedes development of priority permit lists. Additional challenges have been raised by approx 20 withdrawal petitions and by lawsuits that have been filed against State NPDES programs.

### **D. Interactions with Other EPA Programs**

Interactions with OECA, ORD, and other offices in OW are important to achieving environmental results through the NPDES program. Water quality standards, TMDLs, and environmental data from a watershed in which a permit is to be issued must be available to develop an effective permit. ORD research in areas, such as pathogens, is needed to determine appropriate controls. Coordination with OECA on compliance and enforcement activities is necessary to ensure that permit requirements are implemented.

### **E. Partnerships**

PER involves close collaboration between EPA and the States, both on an individual basis and in cooperation with ASIWPCA, to assess the performance and health of State NPDES programs

March 4, 2004 *Watershed Subobjective 2.2.1*

and use of improved data and management systems to measure program performance and improvement and sustain long-term program health

EPA is building on a close relationship with USDA for implementation of the CAFO rule and other agencies such as FWS, NOAA Fisheries, DOE, COE, Advisory Council on Historic Preservation and DOT in implementing the storm water and other NPDES programs.

## **F. Guidance**

### **Existing**

Producers' Compliance Guide For Concentrated Animal Feeding Operations (November 2003)

NPDES Permit Writers' Guidance Manual and Example NPDES Permit for Concentrated Animal Feeding Operations (December 2003)

Watershed-Based National Pollutant Discharge Elimination System (NPDES) Permitting Implementation Guidance (December 2003)

### **Expected**

Implementing the Partial Remand of the Storm Water Phase 2 Regulations Regarding Notices of Intent & NPDES General Permitting for Phase 2 MS4s (March 2004)

Implementation of the 1994 CSO Policy per the Wet Weather Water Quality Act (Spring 2004)

National Pollutant Discharge Elimination System (NPDES) Permit Requirements for Municipal Wastewater Treatment Discharges During Wet Weather Conditions (August 2004)

National Whole Effluent Toxicity (WET) Implementation Guidance (December 2004)

Watershed-Based NPDES Permitting Technical Guidance (December 2005)

## **G. Innovations**

To leverage progress through innovation using a market based approach, EPA will promote water quality trading among NPDES permittees and other sources on a watershed basis. Trading programs allow facilities facing higher pollution control costs to meet their regulatory

*March 4, 2004 Watershed Subobjective 2.2.1*

obligations by purchasing environmentally equivalent (or superior) pollution reductions from another source at lower cost, thus achieving the same water quality improvement at lower overall cost.

As part of our *Permitting for Environmental Results Strategy*, EPA is developing several tools to characterize all NPDES permits in order to foster better prioritization of permit issuance based on environmental results. These tools will make it easier to evaluate whether permits are ensuring that water quality standards will be met and that TMDLs will be implemented.

## **(6) CLEAN WATER STATE REVOLVING FUND SUPPORT**

### **A. PAM Descriptions**

- #58 Number and dollar value of projects financed with Clean Water SRF loans to prevent polluted runoff. (cumulative)
- #70 Fund utilization rate (cumulative loan agreement dollars to the cumulative funds available for projects) for the CWSRF.
- #72 Number of States using integrated planning and priority systems to make CWSRF funding decisions.

### **B. How the PAMs support achieving the Subobjective**

The Clean Water State Revolving Fund (CWSRF) has the flexibility and resources to fund a broad range of projects that protect and improve watersheds. Through 2003, the CWSRF invested over \$43 billion in wastewater infrastructure, nonpoint source pollution abatement and estuary protection projects across the country. With over \$47 billion in total funds, the fund utilization measure ensures that the CWSRF program is investing the optimal amount of funding in watershed protection project. The CWSRF is already highly efficient at delivering funding to projects. However, the PAM for fund utilization will increase slightly by 2008 to further increase the flow of funds to watershed projects. The nonpoint source investment measure encourages States to broaden the mix of watershed projects. While the majority of CWSRF funds will continue to be directed toward wastewater infrastructure, more nonpoint source funding will help States address the most important projects in each watershed, regardless of their nature. Integrated Planning and Priority Setting Systems (IPPS) help States set funding priorities based on water quality information and the efficacy of various solutions. When States consider watershed information as a whole and select the most effective projects, it enhances the CWSRF's ability to protect watersheds and improve water quality.

### **C. Challenges**

There are a number of challenges facing the implementation of the CWSRF's PAMs. State resource constraints impact the staffing levels of State offices implementing the CWSRF. With fewer staff, voluntary efforts such as IPPS development and use are diminished. In more drastic situations, reduced staffing levels may result in less funding for watershed projects. Market conditions affect the desirability of CWSRF loans. With lower market rates, the difference between market rate interest and low-interest CWSRF loans is diminished. Communities may

chose to avoid program requirements by issuing their own debt and avoiding the CWSRF. A slow economy may also cause communities to delay infrastructure investments. States are responsible for deciding how the CWSRF funds are used. While EPA has been emphasizing the role of nonpoint source projects, EPA's Clean Water and Drinking Water Infrastructure GAP Analysis also identified a \$1 to \$6 billion per year gap between capital needs and spending for wastewater infrastructure. These two messages are in direct competition with one another. As with most other water programs, the CWSRF is plagued with a lack of water quality data that defines the water quality benefit gained from each investment, making it difficult to measure watersheds improved by the CWSRF.

### **E. Partnerships**

The key partnership affecting implementation of the CWSRF program and its PAMs is the relationship with each State and Puerto Rico. The States and Puerto Rico operate the 51 different CWSRF programs with EPA guidance and national oversight. EPA maintains an active dialogue with the State programs through the State/EPA SRF workgroup. We also work closely with the Council of Infrastructure Financing Authorities, an organization representing primarily the financial agencies implementing the SRF programs in each State and the Commonwealth.

EPA has been working to enhance its relationship with the Department of Agriculture on two fronts. The Rural Utility Service of USDA also funds wastewater infrastructure. EPA and USDA have encouraged and supported stated level funding coordination committees that streamline funding application and project administration requirements. To support program coordination, EPA will be training RUS State staff on the SRF programs in the Spring of 2004. The Natural Resources Conservation Service of USDA implements a number of nonpoint source funding programs. EPA has informed the State Conservationists about the CWSRF and how it is being used to compliment Farm Bill assistance to growers. EPA also works with a number of non-profit organizations, such as the Trust for Public Land, the Nature Conservancy, the Northeast/Midwest Institute and others, who periodically publish information about the CWSRF and its uses.

### **F. Guidance**

EPA has built an impressive library of information about how the CWSRF can be used to protect watersheds. Starting in 1996, EPA and the States negotiated the Funding Framework, which laid the foundation for expanding the use of the CWSRF beyond wastewater infrastructure. This has been followed by policy memos that clarify various eligibility issues. EPA always seeks to provide States with the broadest flexibility possible to enhance their ability to reach high priority watershed projects. EPA is currently working on policies that will define the eligibility of a number of different types of nonpoint source projects. The majority of these will be resolved in 2004. In 2005, EPA will publish a guide that will help States interested in purchasing land or easements to protect water quality. An agricultural funding brochure is also being developed

that will compile information on State funding practices and innovative ideas. This brochure will be completed in 2005.

### **G. Innovations**

The CWSRF program was established to be a very flexible funding tool for a broad array of water quality projects. EPA has encouraged the States to use this flexibility to best meet the needs of priority projects. Two financial innovations include conduit lending and co-funding. By using conduits, or intermediaries, State CWSRF programs can make loans to an entity who can then re-lend or grant those funds to eligible projects. This helps States reach small borrowers, such as homeowners with failing septic tanks and agricultural projects. Co-funding involves coordination between different funding programs. Because the CWSRF is comprised of loan repayments and other non-Federal monies, those funds can be used to match other Federal programs. When EPA shared information about the CWSRF to USDA's State Conservationists, it highlighted the ability to match Farm Bill programs and provide bridge loans to growers waiting for Farm Bill cost shares. This technique results in greater flexibility to fund financially needy projects and implement water quality projects faster, resulting in watershed protection sooner than would otherwise be achieved.

## **(7) TRIBAL ACTIVITIES**

The Water Program recognizes that resource constraints require Tribes to establish near- and longer-term priorities, and to focus initially on a few key program elements. In these instances, EPA encourages Tribes to use a watershed approach as an organizing construct wherever practicable, and to consider three elements – monitoring and assessment of water quality, implementation of water quality and drinking water standards, and infrastructure improvement, i.e., construction, operation, and maintenance of wastewater and drinking water systems. The Water Program believes that these elements are building blocks that provide the foundation for protecting human health and aquatic ecosystems in Indian country.

Tribal programs and activities are reflected in both tribe-specific measures and as part of broader measures that address both tribal and State activities. The Agency is in the process of updating the Tribal strategy for water programs, and recognizes the need to ensure that measures and emphases are consistent between the Tribal strategy and the Water Strategic Plan.

### **Measures**

#### **A. Strategic Targets**

Measure N: Number of monitoring stations in Tribal waters for which baseline data are available where water quality is improved (i.e., shows at least a 10% improvement for each of four key parameters: total nitrogen, total phosphorus, dissolved oxygen, and fecal coliforms.) (900 stations nationwide).

Measure O: Number of households on tribal lands lacking access to basic sanitation.

### **PAM Description**

#42: number of Tribes that have water quality standards approved by EPA.

#46: Number of Tribes that currently receive EPA funding that have developed comprehensive monitoring strategies that serve all water quality management needs, and address all tribal waters, including all water body types and that provide their water quality data in a system accessible for storage in EPA's STORET

#53": Number of Tribes that currently receive EPA funding in 2004 that have participated with States &/or EPA in development of measures (e.g., TMDLs or watershed-based plans) to restore and protect watersheds with impaired waters.

#59: Percentage of all NPDES permits that are considered current and, beginning in 2005, the percentage of high priority permits that are also current; permits for facilities in Indian Country

*March 4, 2004 Watershed Subobjective 2.2.1*

and are to meet the same standard/schedule. [targets to be reevaluated once universe of priority permits is defined in cooperation with States/Tribes]