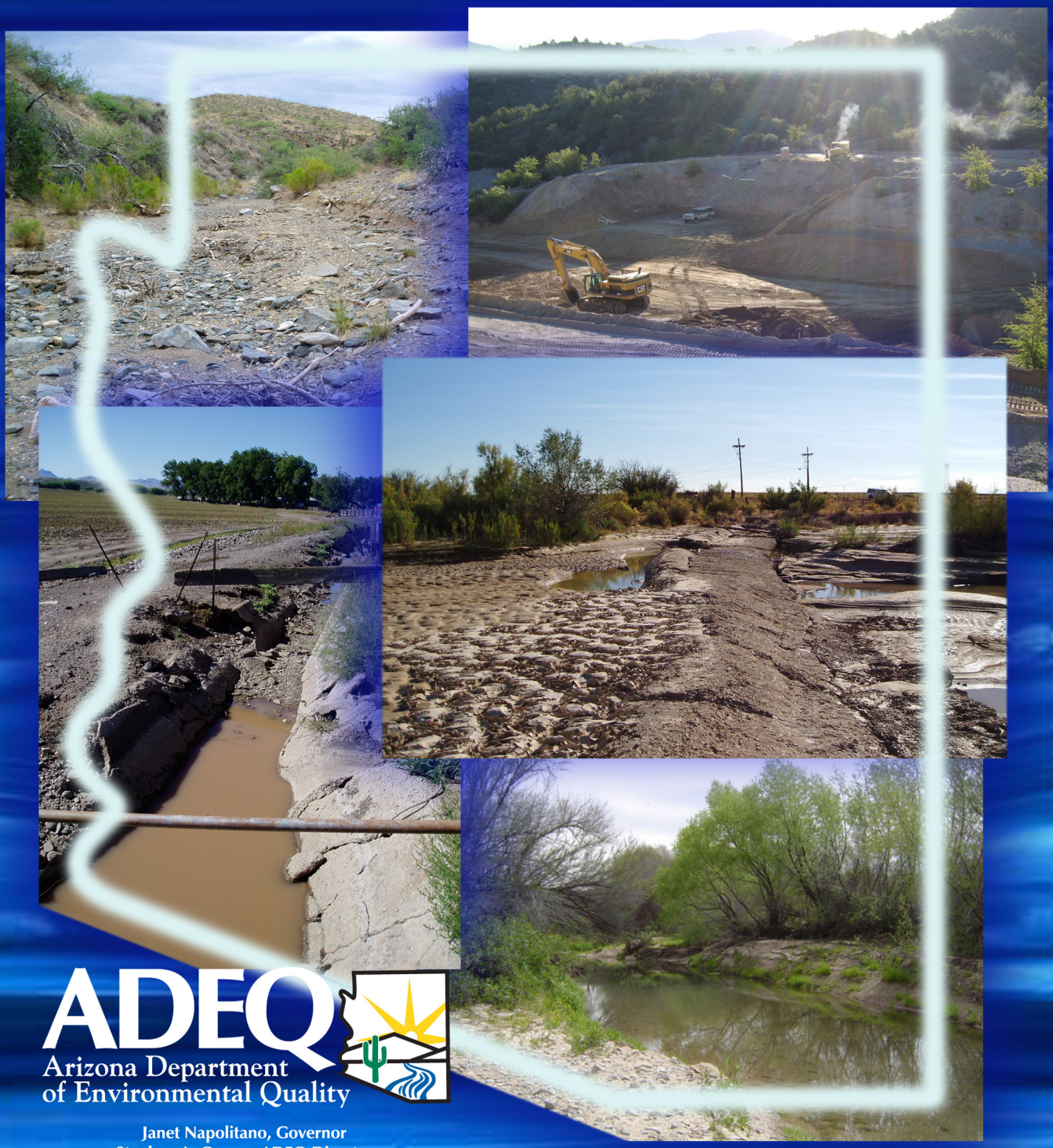
Arizona's 2007 Nonpoint Source Annual Report

Nonpoint Source Program July 1, 2006 June 30, 2007

Prepared by Water Quality Division, Planning Section



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Arizona's FY 07 Nonpoint Source Program Annual Report

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Arizona's FY 07 Nonpoint Source Program Annual Report Introduction

Purpose

This report is an overview of the Arizona Department of Environmental Quality (ADEQ) Nonpoint Source Program activities for fiscal year 2007 (July 1, 2006 - June 30, 2007). The majority of the work performed by ADEQ's Nonpoint Source Program is funded by Clean Water Act Section 319(h) grants, awarded by the U.S. Environmental Protection Agency (EPA). Section 319(h) of the Clean Water Act requires States to report annually on progress in meeting the schedule of milestones contained in their nonpoint source management plans, and report reductions in nonpoint source pollutant loadings and improvements in water quality resulting from program implementation.

Format

The report is divided into seven sections to meet all elements of EPA's annual reporting requirements.

Section I – Measuring Success

Provides a brief summary of progress in meeting approved milestones and the short and long term goals and objectives identified in *Arizona's 5-Year Nonpoint Source Management Plan*. The information is provided in a matrix format to display the status of approved milestones for the current fiscal year. The following information is provided for each milestone:

a. Applicable project or program
b. Scheduled project completion date
c. Percent completed

Satisfies elements #1 and #2 of EPA's annual reporting requirements.

Section II – Federal Support

Provides a discussion of the extent to which Federal agencies partner with the State on environmental activities which support the State in meeting approved milestones.
Satisfies element #3 of EPA's annual reporting requirements.

Section III – Water Quality Improvements and Load Reductions

A summary of the available information on the amount of improvement in water quality (including aquatic habitat quality) and the extent of reductions in nonpoint source loadings achieved as a result of nonpoint source program implementation. Where information is not yet available, surrogate measures of environmental progress (such as environmental indicators) are used and progress is reported in terms of the degree or percentage of completion of the project.
Satisfies elements #4, #5, and #6 of EPA's annual reporting requirements.

Section IV – Program Enhancements
Provides a listing of further actions necessary to achieve the goals of the Clean Water Act, including any recommendations for future state or national programs to control nonpoint source pollution.

Section V – Successful Implementation Projects
Brief case studies of particularly successful nonpoint source control efforts.

Section VI – Public Awareness
Provides information on growth in public awareness of nonpoint source pollution and public involvement in addressing it.

Section VII – Program Highlights
Information on products produced or deliverables met by Arizona's Nonpoint Source Program (e.g., outreach materials or presentations). Web site references are provided.

Sections IV – VII provide supplemental information as a means of assessing progress to date and improving the program in the future. Satisfies EPA's recommendations on supplemental elements #1 - #4.

Program Information

Arizona's Nonpoint Source Program gathers information, monitors and focuses on the following land use activities that can negatively impact surface and ground water within the State:

- Agriculture
- Forestry
- Urban runoff
- Hydromodification
- Onsite/septic waste treatment systems
- Mining
- Recreation

ADEQ's Nonpoint Source Program operates under the guidance of *Arizona's 5-Year Nonpoint Source Management Plan* (the State Management Plan) which was revised and released in November 2003.

Arizona's Nonpoint Source State Management Program integrates the state's Clean Water Act and Safe Drinking Water Act programs with voluntary incentives. ADEQ uses a combination of tools including surface and ground water monitoring, watershed inventories, watershed characterizations, Total Maximum Daily Load (TMDL) studies, TMDL implementation and source water assessment plans, watershed-based plans, and water quality improvement projects to protect the state's water resources from nonpoint source pollution. Staff works closely with stakeholders to develop community led, watershed-based planning efforts. These local planning efforts assist the department in developing programs and outreach activities appropriate to the specific

area and current issues. Since Arizona has a large amount of publicly owned lands, partnerships with federal, state and tribal land and resource management agencies are key elements in the program's success.

ADEQ was successful in meeting the goals identified in *Arizona's 5-Year Nonpoint Source Management Plan*. Throughout this annual report, ADEQ provides a summary of progress in meeting approved milestones and short- and long-term goals. In addition, the report covers the extent to which Federal agencies are supporting the State, water quality improvements and load reductions, and provides other supplemental information as a means of assessing progress to date and improving the program in the future.

Arizona's FY 07 Nonpoint Source Annual Report
Section I – Measuring Success

Arizona's Nonpoint Source Program is a dynamic and adaptive program intended to facilitate and promote statewide efforts to manage nonpoint source pollution. As stated in Arizona's 5-year Nonpoint Source Management Plan, ADEQ continues to focus efforts on restoring waters that have been listed as impaired as well as protecting waters that are attaining their designated uses. To do this, it is critical that ADEQ monitor both:

1) the progress being made towards achieving and maintaining water quality standards;
2) the implementation of programs and projects to ensure that they are successful.

ADEQ uses several sets of measures to fully determine the success in implementing the Nonpoint Source Program. These include measures that indicate progress towards achieving and maintaining beneficial uses of water, accomplishing long-term goals of the Program (i.e., achieving load reductions, or implementing particular watershed projects), and shorter-term goals and objectives that are designed to achieve the longer-term goals.

Milestones have been placed on long-term goals and short-term objectives which outline the State's implementation strategy for the restoration and protection of beneficial uses impaired due to nonpoint source pollution. The long-term goals listed below are desired end points based on a 10 to 15-year time frame. The short-term objectives or milestones listed below will be implemented and revised as necessary over the next five years such that beneficial uses of the state's waters (to the extent practicable) are fully restored or maintained. Many of the milestones are taken from ADEQ's EPA approved workplan. The tasks and deliverables scheduled as part of the workplan are designed to attain our long-term goal of implementing a dynamic and effective Nonpoint Source Program intended to achieve and maintain beneficial uses of water. The status of these priority program elements are detailed in the following table.

Goal: Support ground and surface water quality monitoring that provides data for assessments, identification of impaired waters, TMDLs, and effectiveness of remediation and protection strategies.			
Milestone & Progress Summary	**Project or Program**	**Completion Date**	**%Complete**
Perform surface and ground water quality monitoring throughout the state. **Progress Summary** – Surface water – Ambient stream and lakes monitoring programs completed the second through fourth quarter sampling in accordance with sampling plans. The first quarter of sampling for streams and lakes was unable to be completed due to staffing shortages. Focus in FY07 for the streams program was in the Lower Colorado and Little Colorado basins. The Clean Lakes Program focused on the same basins as the streams program and ongoing TMDL studies. In addition, ADEQ participates in the National Lakes Survey sampling efforts. Ground water basin monitoring – Sampling of the Agua Fria basin was completed and sampling for the Bill Williams basin is 50% complete. Reports for the Big Sandy and Hualapai Valley basins were completed, published and placed on ADEQ's website. In addition, the draft Pinal AMA report should be completed in late 2007.	Surface Water Section	Yearly	100%
Determine water quality improvements and BMP effectiveness through project monitoring and oversight. **Progress Summary –** Staff continues to provide oversight on 319(h) funded implementation projects and input and track water quality improvements in GRTS. Please refer to GRTS for updated information on BMP effectiveness. ADEQ needs to continue improving understanding of the modeling approaches used to estimate load reductions to better provide and determine BMP effectiveness and water quality improvements. Staff is developing verification methods to incorporate into new and previous or existing projects to help determine success.	Grant and Outreach Unit	Ongoing	60%

Goal: Support ground and surface water quality monitoring that provides data for assessments, identification of impaired waters, TMDLs, and effectiveness of remediation and protection strategies.			
Milestone & Progress Summary	**Project or Program**	**Completion Date**	**%Complete**
Develop narrative implementation procedures and utilize narrative standards, as well as numeric water quality standards, to assess Arizona's waters. **Progress Summery-** Progress continues on all narrative standard implementation procedures except the narrative toxics standard IP. ADEQ developed draft water quality standards rules and final draft versions of the implementation procedures guidance documents for the narrative bottom deposits standard, narrative nutrient standard for lakes and reservoirs, antidegredation, and biocriteria for wadeable perennial streams in 2007. Water quality standards rules will be proposed as a part of the ongoing Triennial Review of surface water quality standards. ADEQ anticipates publication of a Notice of Proposed Rulemaking for the surface water quality standards in October 2007. Proposal of implementation procedures for the narrative toxic standard has fallen behind schedule and will require a separate stakeholder effort due to complexity of the issues. The toxics implementation procedures will not be included in the 2007 Triennial Review.	Surface Water Section	June 2007	80%
Develop, initiate, and support a Volunteer Monitoring Program. **Progress Summary** – ADEQ works closely with volunteer groups during the development of monitoring plans and supports volunteers in receiving adequate training to make certain that monitoring projects produce credible data. Volunteer monitoring can provide data for determining the effectiveness of water quality improvement projects. Volunteer monitoring can also serve in identifying the need for future water quality improvement projects by quantitatively and qualitatively measuring conditions in a watershed. The goal of the ADEQ Volunteer Monitoring Program is to train and encourage volunteer groups to collect water quality data that is credible and defensible. ADEQ is working with the Master Watershed Steward Program, local colleges, and	Surface Water Section	Program developed May 2006 Support Ongoing	75% (as of FY 05) 100%

Goal: Support ground and surface water quality monitoring that provides data for assessments, identification of impaired waters, TMDLs, and effectiveness of remediation and protection strategies.			
Milestone & Progress Summary	**Project or Program**	**Completion Date**	**%Complete**
national organizations such as Water Network to provide monitoring training for interested volunteers. In order to use the data, ADEQ must also ensure that the volunteer groups can produce Quality Assurance Plans (QAPs) and Sampling and Analysis Plans (SAPs) for their sampling projects. ADEQ works extensively with volunteer groups during the planning phase of a monitoring project and has created a manual to assist in the development of effective monitoring plans. Currently, ADEQ is working with volunteer monitoring groups to develop screening level field protocols to support a level 2 bioassessment and plans to develop appropriate protocols for assessing physical and chemical integrity in Arizona's perennial, intermittent, and ephemeral streams and lakes. ADEQ supports the concept of properly trained volunteer monitors and will continue working towards this goal as staffing and resources allow.			

Goal: Identify and quantify water quality problems in Arizona.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Support watershed rotation based monitoring program to provide water quality data on long-term monitoring stations and watershed characterization sites within the 10 surface watersheds. **Progress Summary –** Staff completed monitoring in the Lower Colorado and Little Colorado basins in FY07.	Surface Water Section	Yearly	100%

Goal: Identify and quantify water quality problems in Arizona.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Complete *Arizona's Integrated 305(b) Water Quality Assessment and 303(d) Listing Report* due April 1, 2004, 2006, and 2008. **Progress Summary –** As a result of both the 2002 and 2004 assessments, staff began stakeholder effort to explore revisions to the Impaired Water Identification Rule (IWIR) in June, 2004. Key issues include revisions to the binomial approach and assessment of chronics and bacteria. Changes should result in fewer federal additions to Arizona's 303(d) Lists. Changes to the IWIR are expected to be proposed in 2008. For the 2006 integrated assessment, staff has also been working on two major projects: the loading of non-ADEQ data into the surface water database and the creation of Phase 2 of an assessment calculator (AZAC or Arizona Assessment Calculator) that will begin to automate portions of the assessment process and make it more efficient. The 2006 report was delayed due to these projects, with a draft going out for public review and comment in Fall 2007. The final should be submitted to EPA by winter of 2007.	Standards and Assessment Unit	April 1, 2004 April 1, 2006 April 1, 2008	100% 90% 0%
Complete 205(j) Report in 2005 and 2007. **Progress Summary –** *Arizona's Integrated 305(b) Assessment and 303(d) Listing Report* submitted to EPA in September 2004 provided a current assessment of water quality in Arizona; therefore, ADEQ did not prepare a 2005 205(j) report. The 2006 integrated assessment and listing report will include an assessment of all readily available data collected between January 1, 2000 and December 31, 2005. As it will be completed in late 2007, it will provide water quality status information for 2007.	Standards and Assessment Unit	April 1, 2005 April 1, 2007	N/A (see summary) N/A (see summary)

Goal: Identify and quantify water quality problems in Arizona.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Complete watershed characterizations for at least three watersheds in Arizona (Bill Williams, Upper Gila, and Verde) by January 2004. **Progress Summary –** Watershed characterizations are completed the Bill Williams, Upper Gila, Verde River, and Little Colorado River Watersheds, as well as the Upper Agua Fria and Middle and Lower San Pedro sub-watersheds. Modeling of watershed response to land use change has been included within the Watershed Characterization & Classification Reports, now referred to as Watershed-based Plans, for each of these watersheds. Sub-watershed areas have been ranked based on susceptibility to nonpoint source pollutant contribution to water quality degradation, and stakeholders have been identified for these priority sub-watersheds. The characterizations and reports can be viewd on-line at www.arizonanemo.org. Further watershed-based plans are currently being developed for the Salt, Santa Cruz, and Middle Gila watersheds. These watershed plans will be final in November 2008.	Surface Water Section & Grants and Outreach Unit	October 2004	100% 100% 40%

Goal: Develop TMDLs for 303(d) listed waterbodies.			
Milestone & Progress Summary	**Project or Program**	**Completion Date**	**%Complete**
Develop TMDLs. **Progress Summary –** The Turkey Creek Copper and Lead TMDLs were submitted to and approved by USEPA Region IX in October 2006. These were the only TMDLs approved by Region IX in FY07. Six other TMDLs are near completion, including the Alamo Lake and Lake Mary Regional mercury TMDLs. These mercury TMDLs have been delayed due to two main issues; adoption of the Implementation Procedures for the Fish Consumption Advisory Program and determining the watershed natural background mercury concentrations. Additional soil sampling is planned on both projects so that the draft TMDLs can be released for public comment and submitted for approval once the implementation procedures have been adopted. For Pinto Creek, a site specific standard (SSS) for dissolved copper at 42µg/L is being proposed and is hardness independent. The SSS is included in the Triennial Review of Water Quality Standards rules package and final submittal of the TMDL can not occur until the rules are adopted. Sampling to determine the Mule Gulch SSS has been delayed due to low rainfall amounts over the past year; however, automated equipment has been deployed throughout the watershed in anticipation of the summer monsoon season. Additional automated equipment has also been deployed along Queen Creek to fill data gaps needed for hydrologic modeling efforts to move forward. Significant progress has been made on the upper Gila River and Parker Canyon Lake TMDL projects. Sampling summer storm runoff will complete the Parker Canyon Lake data needs with sampling along the upper Gila continuing through the fall. New studies include Watson, Lyman, and Crescent lakes, East Verde River, and the lower San Pedro River.	TMDL Unit	Yearly	85%

Goal: Develop TMDLs for 303(d) listed waterbodies.			
Milestone & Progress Summary	**Project or Program**	**Completion Date**	**%Complete**
Hold public meetings to involve local and affected stakeholders. **Progress Summary –** Stakeholder meetings were held during the last year for Pinto Creek, Queen Creek, and the upper Gila River.	TMDL Unit	Yearly	100%
Receive and evaluate comments. **Progress Summary –** ADEQ received and addressed comments for the Alamo Lake and Turkey Creek TMDLs.	TMDL Unit	Yearly	100%

Goal: Develop and Implement Water Quality Improvement Plans			
Milestone & Progress Summary	**Project or Program**	**Completion Date**	**%Complete**
Write TMDL implementation plans. **Progress Summary –** TMDL Implementation plans (TIP) for Tonto Creek and Alum Gulch were released for public comments in the second half of FY07 and are being revised in response to the comments. The revised TMDL and TIP will go out for public comment and the TMDL is expected be submitted to EPA for approval in late '07. Remediation efforts have been completed in three of the four target watersheds (Boulder, Turkey, Alum, and Pinto) included in EPA's Performance Measures. The US forest Service performed remedial actions at the Golden Belt and Golden Turkey mines in the Turkey Creek watershed and at the World's Fair and Humbolt Canyon mines in Alum Gulch. The Franciscan Friars have completed remedial	TMDL Unit	Yearly	85%

Goal: Develop and Implement Water Quality Improvement Plans			
Milestone & Progress Summary	**Project or Program**	**Completion Date**	**%Complete**
efforts on the portion of the Gibson mine that drains to Pinto Creek. Sample and Analysis Plans for effectiveness monitoring have been completed and efforts are underway to quantify the improvements in water quality. Effectiveness monitoring activities have also begun at Rainbow Lake where the Arizona Game and Fish Department harvested aquatic vegetation, and interested stakeholders are in the process of implementing best management practices to decrease nitrogen loading to the lake.			
Write and develop Watershed-based Plans (WBP) for all ten Arizona watersheds. **Progress Summary –** Watershed characterizations have been completed and are online for the Bill Williams, Upper Gila, Verde River, and Little Colorado River Watersheds, as well as the Upper Agua Fria and Middle and Lower San Pedro sub-watersheds. Modeling of watershed response to land use change has been included within the Watershed Characterization & Classification Reports, now referred to as Watershed-based Plans, for each of these watersheds. Sub-watershed areas have been ranked based on susceptibility to nonpoint source pollutant contribution to water quality degradation, and stakeholders have been identified for these priority sub-watersheds. View on-line at www.arizonanemo.org. Further watershed-based plans are currently being developed for the Salt, Santa Cruz, and Middle Gila watersheds. These watershed plans will be final in November 2008.	Grant and Outreach Unit	Ongoing	100% 100% 40%

Goal: Develop and Implement Water Quality Improvement Plans			
Milestone & Progress Summary	**Project or Program**	**Completion Date**	**%Complete**
Hold public meetings with stakeholders. **Progress Summary –** During each TMDL public meeting, implementation plans are discussed. The TMDL watershed coordinator attends approximately 4 watershed meetings a month relaying information about TMDLs, TIPs and grant funding.	TMDL Unit	Yearly	100%
Receive and evaluate comments. **Progress Summary –** TMDL Implementation plans (TIP) for Tonto Creek and Alum Gulch were released for public comments in the second half of FY07 and are being revised in response to the comments. Comments received for Tonto Creek resulted in the revision of the waste load and load allocations. The revision shifted the burden of load reduction from the downstream segments to the entire watershed. Originally the load was calculated cumulatively whereas the revision calculates loads on a segment by segment basis. The revised TMDL and TIP will go out for public comment and the TMDL is expected be submitted to EPA for approval in late '07. The US Forest Service submitted extensive comments on the Alum Gulch TIP. The main concern was relative to natural background for the watershed and how that determination will impact the conditions of a AZPDES permit for the adit discharge at the World's Fair mine. During effectiveness monitoring efforts, the TMDL Unit will collect more natural background data to confirm the numbers used in the original TMDL.	TMDL Unit	Ongoing	100%

Goal: Focus Section 319 incremental grant funds and non-federal matching resources on priority watersheds with impaired waters.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Coordinate and conduct annual meetings to set internal goals for priority funding. **Progress Summary –** The Unit met several times throughout the year to coordinate and set internal goals. Again during FY 07 it was determined that the following types of projects would score higher (i.e. priority funding): projects which include activities identified in a watershed-based plan or TMDL implementation plan; projects proposed to improve impaired or not attaining waters; or projects proposed with estimated load reductions (projected quantitative measures of success). Potential projects submitted in January 2007 were given preference based on these priorities. The Unit has also been in close contact with the EPA Project Officer to obtain feedback and recommendations on goals.	Grant and Outreach Unit	Yearly	100%
Conduct statewide grant workshops annually. **Progress Summary –** Six grant workshops were held around the state from September 25 through October 24, 2006 in preparation for the 2007 Grant Cycle (Cycle 9). Attendance decreased by approximately 18% compared to FY 06 (from 74 attendees to 61). Surveys filled out by workshop attendees demonstrated high satisfaction levels with all aspects of the workshops. The Grant Unit has been working on creating a more interactive agenda for the Cycle 10 workshops to be conducted in FY08, with workbooks to help attendees generate and elaborate on ideas for 319(h) projects.	Grant and Outreach Unit	Yearly	100%

Goal: Focus Section 319 incremental grant funds and non-federal matching resources on priority watersheds with impaired waters.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Award Section 319(h) grant money each year to implement water quality improvement projects on impaired waterbodies. **Progress Summary –** ADEQ received 16 grant applications, one of which voluntarily withdrew from consideration, and awarded eight projects in May 2007. Of the eight projects awarded in June 2007, five will address water quality improvements in impaired waters. Two of these projects are located in areas that have a completed TMDL. Four of the eight projects are implementing BMPs detailed in WBPs. A total of eight out of the sixteen projects awarded were considered priority projects in that they addressed issues in waters that are impaired, waters that have either a completed TMDL or WBP, or any combination of these characteristics. Each year, the number of applications that address priority projects increases. Attachment #1 lists the projects awarded in FY 06.	Grant and Outreach Unit	Yearly	100%

Goal: Effectively and efficiently use financial resources and leverage funds with other programs to target nonpoint source pollution priority issues and areas.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Use the Grants Reporting Tracking System (GRTS) to track grant funding and effectiveness. **Progress Summary –** All projects awarded in FY 07 were added to the GRTS tracking system in order to track funding. ADEQ continues to learn more about entering data to track project effectiveness and will increase these efforts in FY 08. ADEQ met EPA's deadline to submit load reduction data for FY 07.	Grant and Outreach Unit	Ongoing	90%
Coordinate with other funding programs (i.e. Arizona Water Protection Fund, Water Infrastructure Finance Authority, Environmental Quality Incentives Program) to leverage money to target nonpoint source pollution management in priority areas. **Progress Summary –** ADEQ continues to build relationships with other funding programs that could be used to leverage money to target nonpoint source pollution. Due to grant cycle timeline, leveraging funds with other funding programs has proved difficult. ADEQ has met with the Arizona Water Protection Fund and the Water Infrastructure Finance Authority of Arizona to discuss how we can collaborate efforts in the future. ADEQ has had numerous grant awards with matching funds from Arizona Department of Agriculture and the Arizona Department of Transportation. ADEQ will continue to have these discussions with other funding programs to target priority areas.	Grant and Outreach Unit	Ongoing	100%

Goal: Work with and provide technical support to Arizona watershed partnerships.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Actively involve the community, including watershed partnerships, with the development of watershed-based plans and TMDL implementation plans. **Progress Summary –** Through TMDL stakeholder meetings and watershed partnerships, ADEQ continues to work with communities in the state. Watershed based plans have been developed through the work of NEMO. ADEQ Liaisons participate in watershed groups throughout the state and report back to ADEQ on watershed and community information.	TMDL Unit and the Grant and Outreach Unit	Ongoing	100%
Provide support to community watershed partnerships. **Progress Summary –** Whenever a partnership needs ADEQ's technical assistance or support, we make it a priority to meet their needs. During the year staff attended numerous meetings to discuss watershed-based plans, impaired waters, TMDL studies, implementation plans, and the grant program. ADEQ's strong partnerships with University of Arizona's Master Watershed Steward and NEMO programs have enabled the department to better assist the watershed groups. The coordinators of these programs have enhanced the grants program and watershed partnerships statewide by providing education, maps, and technical assistance.	TMDL Unit and the Grant and Outreach Unit	Ongoing	100%

Goal: Work with and provide technical support to Arizona watershed partnerships.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Assist with the development and implementation of the Master Watershed Stewardship Program. **Progress Summary –** The Master Watershed Stewardship (MWS) Program is up and running. MWS classes are conducted throughout the state. See *Section VI - Public Awareness*, for more detailed information on the program.	Grant and Outreach Unit and TMDL Unit	Ongoing	100%

Goal: Provide statewide nonpoint source pollution education and outreach.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Plan, develop and implement a strategy to conduct education/outreach efforts to increase public awareness of nonpoint source pollution impacts to surface and ground water resources. **Progress Summary –** The Education & Outreach Program Plan is being implemented statewide. Several times throughout the year, the Grant and Outreach Unit has participated in education/outreach efforts to increase the public's awareness of nonpoint source pollution impacts to surface and groundwater resources. Examples include Envirothon, Verde River Days, World Water Monitoring Day, Water Expo, Earth Day at the Phoenix Zoo, and the Tres Rios Nature Festival. See *Section VI - Public Awareness*, for more information.	Grant and Outreach Unit	Plan Completion September 2003 Strategy Implemented Ongoing	100% 100%

Goal: Provide statewide nonpoint source pollution education and outreach.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Update web site information to reflect current activities. **Progress Summary –** All web site information is up to date and reflects the current activities for the WQD. Please visit ADEQ's Water Quality Division's homepage at www.azdeq.gov/environ/water/index.html for information on watershed management, monitoring, and assessments (click topic on left hand panel).	Surface Water Section	July 2004	100%

Goal: Develop, implement, and evaluate nonpoint source pollution management measures and other pollution prevention strategies to minimize degradation and protect surface water and groundwater quality.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Develop BMP guidance documents for nonpoint source pollution categories, including sediment, mining, and nutrients. **Progress Summary –** Through partnership with NEMO, ADEQ has developed BMP guidance documents for managing sediment, metals, nutrients, and selenium. A great deal of progress was made during FY 07. BMP documents for soil erosion and urban runoff/stormwater were developed. Irrigation practices (agriculture), livestock grazing, riparian areas, onsite septic systems, mining and abandoned mine land, forestry, and recreation BMP documents have also been developed. Included on the NEMO web site are case studies or examples of successful mitigation projects and links to other BMP materials, both of which are highly beneficial to the public and water resource managers (see *Section VII - Program Highlights*, for more detail). The NEMO web site, www.arizonanemo.org, is updated on a regular basis.	Grant and Outreach Unit	October 2008	100%

Goal: Develop, implement, and evaluate nonpoint source pollution management measures and other pollution prevention strategies to minimize degradation and protect surface water and groundwater quality.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Research and identify ways to quantify load reductions as required in *EPA's 2003 Nonpoint Source Program Guidance*. **Progress Summary –** ADEQ continues to research and identify ways to quantify load reductions. On NEMO's web site under "Links to Other BMP Information" there is information for the calculation of load reductions. Water resource professionals and the public can view and download (for example) the Michigan Department of Environmental Quality's 1999 manual on calculating and documenting pollutant reductions. During the FY07 grant cycle, ADEQ again requested that applicants provide an estimated load reduction for reporting in GRTS. Priority was given to projects in which useable load reduction estimates (quantitative measure of success) were provided for nitrogen, phosphorus, and sediment. We are hopeful that the number of grant applications with useable load reduction data will continue to increase. ADEQ focuses on the importance of load reduction documentation to support the success of our grant program. Two staff members attended the annual GRTS meeting in Dallas which provided important information and updates to the Region 4 Model and STEPL models. These are just two examples of models that can be used to calculate nitrogen, phosphorus, or sediment load reductions for input into GRTS. The new Oracle-based GRTS program was also previewed at this annual meeting. ADEQ continues to work at developing better methods to quantify load reductions in past and future projects. In FY08 staff will implement a new strategy to model projects impacted by NPS.	Grant and Outreach Unit	June 2006	75%

Goal: Develop, implement, and evaluate nonpoint source pollution management measures and other pollution prevention strategies to minimize degradation and protect surface water and groundwater quality.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Document BMP effectiveness from water quality improvement projects in GRTS and guidance documents. **Progress Summary –** Staff continues to provide oversight on 319(h) funded implementation projects and input and track water quality improvements and BMP effectiveness in GRTS. ADEQ understands that a protocol needs to be in place for monitoring BMP effectiveness as well as project success, and as a result is developing methods to continue monitoring after project expiration.	Grant and Outreach Unit	Ongoing	90%

Goal: Maintain / expand partnerships & cooperative opportunities with stakeholders, other agencies, organizations, and citizens.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Coordinate with federal land management agencies on water quality and watershed improvements as needed. **Progress Summary –** Staff continues to work with various federal land managers to address nonpoint source pollutant impacts to water quality. Coordination with state and federal land managers is obtained through various watershed partnerships, TMDL public meetings, surface water monitoring and collaboration on water quality improvement projects.	TMDL Unit and the Grant and Outreach Unit	Ongoing	100%

Goal: Maintain / expand partnerships & cooperative opportunities with stakeholders, other agencies, organizations, and citizens.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Oversee and update as needed, all Memorandum of Understandings (MOUs) so that state, federal, tribes, and local resource management agencies have identified responsibilities in carrying out portions of Arizona's Nonpoint Source State Management Plan. **Progress Summary –** MOUs are updated as needed. Currently, the MOU between the USFS and ADEQ is being updated. MOUs are working well in carrying out portions of Arizona's Nonpoint Source Management Plan. Through working with NEMO and Master Watershed Stewards, attending watershed partnership meetings, and holding public meetings, our ability to coordinate with other agencies improves.	TMDL Unit and the Grant and Outreach Unit	When needed	100%
Coordinate meetings and updates with other state, federal, tribal, and local partners in the state (i.e., Arizona Department of Water Resources, Arizona Game and Fish Department, Bureau of Reclamation). **Progress Summary –** Staff continues to work with various watershed partnerships and state and federal land managers to address nonpoint source pollutant impacts to water quality. Coordination with state and federal land managers was accomplished through a variety of organizations and annual meetings: including various statewide watershed partnerships, the U.S. Forest Service, and other meetings (i.e., TMDL meetings) with federal, state, and local partners.	TMDL Unit and the Grant and Outreach Unit	Yearly	100%

Goal: Maintain / expand partnerships & cooperative opportunities with stakeholders, other agencies, organizations, and citizens.			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Provide leadership, technical assistance, expertise and support to outside planning and governmental entities to support watershed planning and 208 regional water quality management planning. **Progress Summary –** Leadership, technical assistance, and expertise were provided throughout the year to planners and governmental entities in support of a regional wastewater planning approach. During the year, staff continued to update the 208 application forms which require applicants or permit writers to provide pertinent information to the program to make the consistency review process more efficient. In addition, the 208 program has implemented an expedited review process which helps to reduce the time and procedure necessary for review. The new application forms include a section that considers water quality assessment findings and established TMDLs in the 208 conformance determination process. ADEQ hired an intern to continue the GIS covers (and associated databases) project of mapping service/planning areas and locations of all WWTPs within the state). The GIS covers are almost complete. This new tool has been helpful when reviewing permit applications and amendments to determine existing facilities in the area, and to work with adjacent municipalities to better manage water quality planning.	Surface Water Section: Permits Unit	Yearly	100% 45%

Goal: Complete Nonpoint Source Annual Report			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Write and develop a Nonpoint Source Annual Report summarizing the goals and accomplishments yearly. **Progress Summary –** This Nonpoint Source Annual Report was developed to summarize the goals and accomplishments of the Nonpoint Source Program from July 1, 2006 – June 30, 2007 (FY 07).	Grant and Outreach Unit	September 30 each year	100%
Use annual reports to gauge progress on five year Plan. **Progress Summary –** The Nonpoint Source Annual Report provides the status in accomplishing both the short-term and long-term milestones identified in the Nonpoint Source Management Plan. The tasks and deliverables scheduled as part of the work plan are designed to attain our long-term goal of implementing a dynamic and effective Nonpoint Source Program designed to achieve and maintain beneficial uses of water.	Surface Water Section and Grants and Outreach Unit	Yearly	100%

Goal: Review and assess the goals and objectives of the Nonpoint Source Management Plan and revise the Plan as appropriate			
Milestone	**Project or Program**	**Completion Date**	**%Complete**
Amend Nonpoint Source Management Plan as necessary. **Progress Summary –** The Unit has been in routine contact with the EPA Project Officer to obtain feedback and recommendations on goals for the program. The plan is due for revision in FY08 and staff will work to make those revisions in a timely manner.	Surface Water Section and Grants and Outreach Unit	Ongoing	100%

Arizona's FY 07 Nonpoint Source Annual Report
Section II – Federal Support

ADEQ continues to work with state and federal land managers to address nonpoint source pollution impacts on water quality. Many activities throughout the year demonstrate ADEQ's commitment to working with federal and state land managers to improve water quality in the State.

Arizona achieves federal support through partnerships and stakeholder efforts implemented through a variety of formal and informal agreements, cooperative projects, sharing and combining of funds, and meetings to share information and ideas. Through these partnerships, Arizona is able to work with federal agencies to incorporate other appropriate water quality controls and further the goals of the Nonpoint Source Program. Another way ADEQ works and partners with Federal agencies is through community-led watershed groups. ADEQ's web site provides a list of Arizona Watershed Partnerships (www.azdeq.gov/environ/water/watershed/partnerships.html). Within these watershed partnership structures, ADEQ and its federal partners are able to more easily identify, assess, and help implement voluntary efforts to control nonpoint source pollution.

Clean Colorado River Alliance
In February 2004, the Clean Colorado River Alliance was named by Governor Janet Napolitano to develop recommendations to deal with existing water quality problems to ensure Colorado River water quality addresses the needs of Arizona, now and in the future. The Alliance is charged with developing an action plan to deal with pollution affecting the Colorado River. To that end, ADEQ is partnering with the U.S. Fish and Wildlife Service, Bureau of Reclamation, Bureau of Land Management, and the Department of Defense. In addition, the U.S. Department of Agriculture, U.S. Geological Survey, EPA and the Forest Service were contacted to assist the Alliance in identifying water quality concerns for the Colorado River. A successful regional approach, addressing water quality issues in the Colorado River Watershed, requires strong federal and state partnerships.

319 Projects Leveraged with Federal Funds
Three projects awarded during the grant Cycle 9 (June 2007) were leveraged with federal money and/or federal support. The *Gila River Water Quality Improvement – Duncan Valley (9-004)* is utilizing USDA/NRCS Environmental Quality Incentive Program (EQIP) funds to replace 10,750 feet of canal with a

pipeline. NRCS has also provided engineering designs and will provide quality control during construction.

For the project titled *Sediment Reduction in Whitewater Draw (9-001)*, ranchers have been working with NRCS to develop conservation plans and implement practices to improve livestock management on their individual ranches. This grant is being administered by the Coronado Resource Conservation and Development Area (RC&D). USDA/Agricultural Research Service staff from Walnut Gulch along with NRCS, U of A Extension and Arizona Game & Fish and State Land Departments will be technical advisors on this project.

The Upper Eagle Creek Watershed Association was awarded a second grant to continue implementation of water quality improvement practices to alleviate nonpoint source pollution by excluding cattle from Eagle Creek and other riparian areas. *Upper Eagle Creek Watershed Restoration Project Phase II (9-003)* will be conducted in a partnership with Coronado RC&D and is a continuation of that project to install an additional 5.5 miles of fencing on the Double Circles Ranch that will support the implementation of a rotational grazing system that will benefit Eagle Creek.

Significant Meetings

TMDL Informational Meetings

Forest Service staff from the various National Forests, AGFD, and the Bureau of Land Management have provided background information, site access, maps, assistance with site selection, water quality data, comments on draft reports, etc. for numerous TMDL projects, including Oak Creek (Slide Rock), Turkey Creek, Lake Mary watershed, Alamo Lake, Gila River, and Parker Canyon Lake.

Rapid Watershed Assessment

The NRCS held a kickoff meeting for the Rapid Watershed Assessment (RWA) project on June 30, 2006. The AZ NRCS was awarded $100,000 to perform these RWAs for seven identified high priority watersheds in the state. The objective of the RWA is to characterize current resource conditions and concerns in 8-digit watersheds using existing and if needed, new information. Once developed, the information will be used to explore opportunities to expand coordinated resource management among state, local and federal agencies. Success depends largely on partner agencies providing existing information to NRCS. ADEQ is supportive of the effort and hopes these assessments may serve as an initial effort for a more extensive watershed-based plan for priority watersheds. If the phase one project is successful, ADEQ expressed the desire for the partnering agencies to be more involved in the selection of the next round of priority watersheds.
Work has continued on this initiative through FY07, with NEMO working with the NRCS to develop these Rapid Watershed Assessments.

TMDLs and TMDL Implementation

Boulder Creek
Coordination efforts with the three land managers/owners of the Hillside mine tailings piles continue. Remediation efforts have progressed slowly as funding sources and remedial approaches change.

Turkey Creek
The Forest Service has completed remediation efforts at the Golden Belt and Golden Turkey mines. An effectiveness monitoring SAP has been developed. Additional soil sampling has occurred in the upper watershed in an effort to determine the source of lead, however more data is needed.

Alum Gulch
The Forest Service has completed remediation efforts of the World's Fair and Humbolt mines tailings and waste rock piles. Adits in the watershed continue to discharge to the stream with efforts continuing to address these sources of pollutants. An effectiveness monitoring SAP has been developed. The Alum Gulch Implementation Plan has been drafted and will be updated based upon comments received.

Tonto Creek
Comments received on the Tonto Creek implementation plan have resulted in the revision of the original Tonto and Christopher Creek nitrogen and *E. coli* TMDLs. The original TMDLs place the majority of the load reductions on the lower segments by cumulatively adding the loads downstream. The TMDL and implementation plan will reflect the need for a watershed approach to reduce loading. An effectiveness monitoring SAP has been developed. Once significant progress has been made on the implementation of several current 319 projects, effectiveness monitoring will commence.

Pinto Creek
ADEQ has proposed a dissolved copper site specific standard of 42 ug/L for the main stem of Pinto Creek. The standard is included in the current triennial review of water quality standards. A public meeting was held to introduce the standard in June 2007. Once the standard is adopted the TMDL can be submitted for approval. Significant progress has been made at the Gibson mine, the largest source of copper in the watershed. The Franciscan Friars have completed remediation efforts at the mine in the area that drains into Pinto Creek.

Lake Mary Region
Development of the final TMDL has been delayed due to final adoption of implementation procedures and remaining questions regarding the appropriate natural background concentrations in watershed soils. Additional soil sampling is scheduled.

Alamo Lake
The Alamo Lake TMDL has been updated to include waste load allocations for all permitted discharges of mercury in the watershed. Stakeholder comments, adoption of implementation procedures and a fish tissue standard have delayed final submittal of the TMDL for approval. Additional soil sampling is planned to further refine natural background concentrations.

Parker Canyon Lake
The Parker Canyon Lake Mercury TMDL data collection has continued throughout the year. Additional fish tissue and water (lake and tributary) samples were collected. Sampling will continue through the 2007 summer monsoon season. Northern Arizona University has completed a sediment coring and bathymetry study and will conduct a bioaccumulation study this summer. An NAU graduate student constructed a mercury model for the lake and watershed. ADEQ anticipates updating this model with recently collected data.

Queen Creek
Sampling along Queen Creek has occurred throughout the year and automated monitoring equipment has been deployed. A public meeting was held in January 2007. Interest is high as a large mine is proposed in the area. Sampling will continue throughout the summer monsoon season to fill data needs for internal modeling effort underway.

San Pedro River
The upper reach of the San Pedro River (border to Charleston) is proposed to be delisted based upon recently collected data. Sampling continues on the middle segment (Fairbanks to Dragoon Wash) for *E. coli* exceedances. TMDL efforts have been initiated on the lower segment (Aravaipa Creek to Gila River).

Gila River
Several TMDLs in the Upper Gila River watershed are currently under study. Sampling has continued throughout the year.

Atmospheric Deposition of Mercury

EPA continues to support ADEQ efforts to characterize the rate of atmospheric mercury deposition within the state. Atmospheric deposition, wet or dry, is a major source of mercury contamination throughout the country. While various efforts have been completed to characterize this problem on a national scale, limited data exists specific to Arizona. ADEQ recognizes the lack of atmospheric deposition data poses a serious problem to TMDL development. ADEQ continues to operate the only Mercury Deposition Network (MDN) station in Arizona. Weekly wet deposition concentrations and rates are calculated from the data collected at the site.

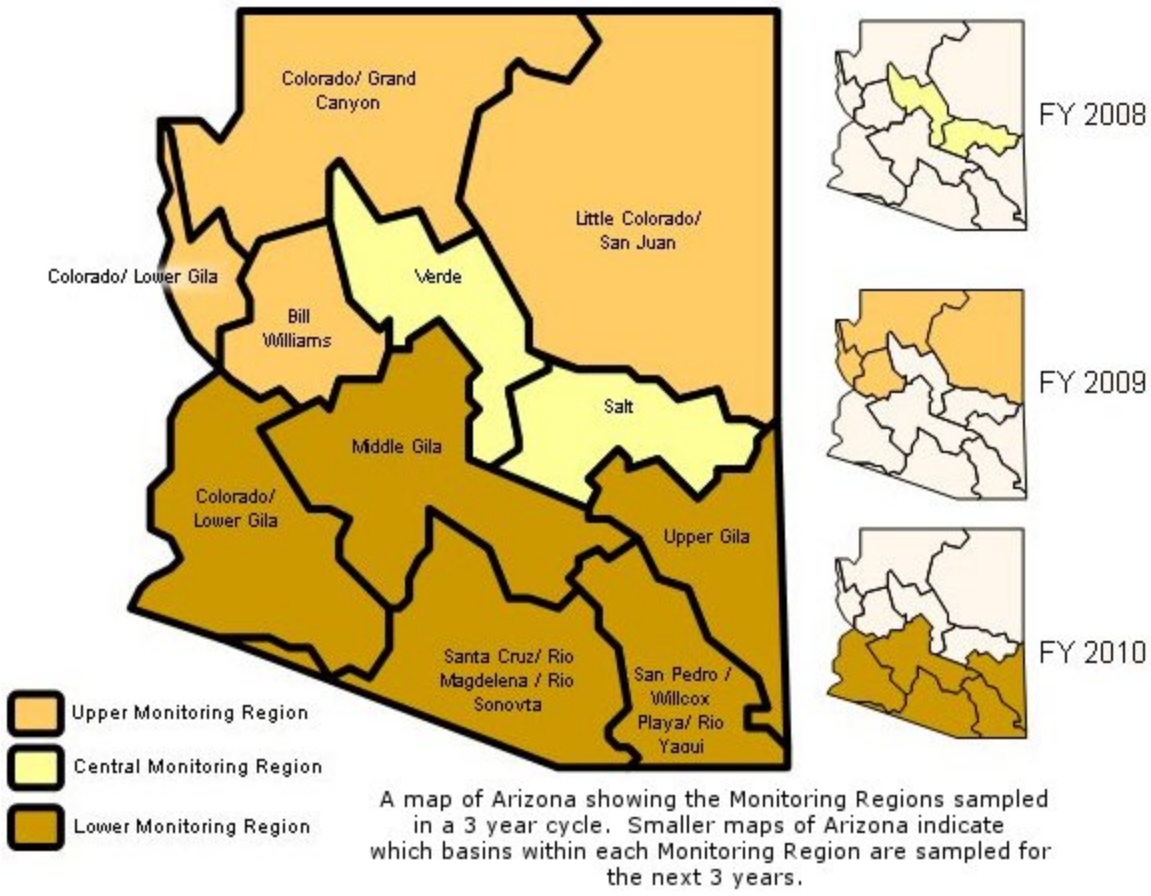
Additionally, the TMDL unit deployed USEPA Region IX's Tekran atmospheric mercury concentration sampler at three sites over approximately three months in early 2007. The TMDL unit continues to work with the Air Quality Division to determine the best approach to modeling dry deposition rates.

Water Quality Monitoring

ADEQ employed a probabilistic and targeted approach to sample site selection for wadeable perennial streams in FY 07. ADEQ field personnel visited every sampling site during three quarters of the year and collected field data and water samples to be analyzed for chemical constituents. Biological and habitat information for wadeable perennial streams were collected once during the spring quarter.

ADEQ continues to work with the United States Geological Survey (USGS), under a long-standing cooperative agreement, to determine long term water quality trends on Arizona's larger rivers. For fiscal year 2007, the USGS monitored 11 sites throughout the state for ADEQ.

ADEQ has identified 10 major river basins in Arizona as part of the basin monitoring program. Water quality monitoring has been conducted at sampling sites located in 2 major basins each water year. All 10 basins are monitored over a five-year cycle. FY 07 marks the end of the 5-year cycle. Beginning in FY 08, ADEQ will switch to a three year cycle using the same 10 basins. ADEQ has adopted this approach to make sampling logistics easier (basins are adjacent to one another rather than scattered) and to get a large enough sample size in each region to perform probabilistic monitoring.



A map of Arizona showing the Monitoring Regions sampled in a 3 year cycle. Smaller maps of Arizona indicate which basins within each Monitoring Region are sampled for the next 3 years.

Memorandums of Understanding

ADEQ has entered into a number of Memorandums of Understanding (MOUs) with federal, state and tribal partners in the State to respond to mutual water quality objectives. MOUs help identify responsibilities and activities to be performed by each agency and foster a collaborative effort in meeting natural resource and public health goals to sustain healthy conditions in Arizona's watersheds. ADEQ meets with these partners as needed.

Currently ADEQ has established MOUs with the following entities:

Federal: U.S. Forest Service, Bureau of Land Management, Verde NRCD, and Coordinated Resource Management;
Tribal: Navajo Nation and Hualapai Tribe; State: Game and Fish Department.

Arizona's FY 07 Nonpoint Source Annual Report Section III - Water Quality Improvement and Load Reductions

As Arizona continues to focus efforts on restoring and protecting waters, it is critical that ADEQ monitor both:

1) the progress being made towards achieving and maintaining water quality standards;
2) the implementation of programs and projects to assure that they are successful.

ADEQ uses several sets of measures to fully determine the success in implementing the Nonpoint Source Program. These include measures that indicate progress towards achieving and maintaining beneficial uses of water; towards other long-term goals of the Program (i.e. achieving load reductions, or implementing particular watershed projects); and towards shorter-term goals and objectives that are designed to lead to the achievement of longer-term goals.

ADEQ uses several approaches, such as ambient water quality monitoring, biological and physical assessment, implementation monitoring, model projections, and photographic evidence to measure ADEQ's effectiveness in restoring and protecting water quality. These environmental indicators help ADEQ to address the public's concerns about water quality in Arizona and identify what progress ADEQ is making toward its water quality goals.

Water quality monitoring is also an essential tool to enable ADEQ to identify nonpoint source pollution problems, develop effective watershed-based plans, evaluate the effectiveness of actions taken, and meet Section 319 reporting requirements. Monitoring strategies are designed to focus on whether load reductions are being achieved over time and substantial progress is being made towards attaining and maintaining water quality standards. Arizona's surface water quality standards establish the benchmarks for ambient water quality to be achieved for Arizona's streams and lakes.

Water Quality Improvement

Ambient water quality and biological and physical assessment data are compiled in *Arizona's Integrated 305(b) Assessment and 303(d) Listing Report* which reports the status of water quality in Arizona. ADEQ uses the Integrated Report for overall program status and trends and to compare the quality of Arizona's surface waters to water quality standards. This report assesses all surface waters where monitoring has been conducted, reports on the quality of ground water, lists any impaired surface waters, and prioritizes these waters for TMDL

development. This water quality assessment report is another means by which ADEQ can determine the effectiveness of management measures implemented to control nonpoint source pollution.

Note that there are many factors that might affect results. For example, completion of a TMDL on a waterbody usually allows ADEQ to remove that waterbody from the 303(d) List (Category 5) to Category 4 or the "not attaining" list. However, further monitoring during the course of the TMDL study may reveal impairment based on additional parameters. The waterbody must then remain on the 303(d) List for the new parameters, giving the appearance that no progress has been made, when in fact some water quality problems have been addressed. These types of variables often skew the results of effectiveness measures and make it difficult to measure water quality improvement by comparing assessments from one year to the next.

TMDLs

The Total Maximum Daily Load (TMDL) Program is designed to help an impaired stream or lake meet its water quality standards and support its designated uses, such as protection of aquatic life, drinking water, or fish consumption. Section 303(d) of the Clean Water Act establishes authority for the TMDL Program and guides states on how to develop these plans for waters that do not meet water quality standards. ADEQ submitted the Turkey Creek TMDLs to EPA and received approval in October 2006.

Watershed-based Plans and TMDL Implementation Plans

Watershed-based plans are holistic documents that are developed and implemented to protect and restore a watershed. These plans provide a careful analysis of the sources of water quality problems, their relative contributions to the problems, and alternatives to solve those problems. Furthermore, watershed-based plans deliver proactive measures to protect waterbodies. In watersheds where a TMDL has been developed and approved or is in process of being developed, watershed-based plans should be designed to achieve the load reductions called for in the TMDL.

Water quality improvement plans are vital components to ensure Arizona's lakes, rivers, and streams achieve applicable water quality standards. ADEQ contracts with Arizona NEMO to develop watershed-based plans for Arizona's ten major ten-digit-hydrologic unit code (HUC) watersheds. Watershed characterizations have been completed and are online for the Bill Williams, Upper Gila, Verde River, and Little Colorado River Watersheds, as well as the Upper Agua Fria and Middle and Lower San Pedro sub-watersheds. Modeling of watershed response to land use change has been included within the Watershed Characterization & Classification Reports, now referred to as Watershed-based Plans, for each of these watersheds. Sub-watershed areas have been ranked based on susceptibility to nonpoint source pollutant contribution to water quality degradation, and stakeholders have been identified for these priority sub-watersheds. NEMO's current watershed-based plans can be viewed on-line at

www.arizonanemo.org. Further watershed-based plans are currently being developed for the Salt, Santa Cruz, and Middle Gila watersheds. These watershed plans will be final in November 2008.

Some watershed partnerships have developed (or may want to develop in the future) watershed characterizations for smaller watershed HUCs. ADEQ and NEMO are available to provide technical assistance to watershed partnerships and other stakeholder groups in the development of watershed-based plans or other water resource management documents.

NEMO's watershed-based plans, as well other watershed or water management plans that have been created by watershed partnerships in Arizona, contain some (or all) of EPA's nine required elements. The nine key elements or components of a watershed-based plan are:

Element 1: Causes and Sources,
Element 2: Expected Load Reductions
Element 3: Management Measures
Element 4: Technical and Financial Assistance
Element 5: Information/education Component
Element 6: Schedule
Element 7: Measurable Milestones
Element 8: Evaluation of Progress
Element 9: Effectiveness Monitoring

For each TMDL, ADEQ is required to establish a TMDL implementation plan that explains how the allocations and any reductions in existing pollutant loadings will be achieved (Arizona Revised Statute §49-234.G).

Developing implementation plans is an integral piece of the TMDL process. The achievement of water quality standards in most surface waters will occur due to voluntary efforts such as voluntary cleanup actions, voluntary implementation of best management practices, volunteer monitoring, and education. Stakeholders are encouraged to participate throughout the process and identify actions that they will take to ensure that this plan is implemented.

Watershed Partnerships and Other Active Stakeholder Groups
Watershed partnerships and other active stakeholder groups contribute to the progress of the Nonpoint Source Program. ADEQ's web site provides a list of Arizona Watershed Partnerships (www.azdeq.gov/environ/water/watershed/partnerships.html).

Water Quality Improvement Projects
The availability of grant funds available through Section 319 of the Water Quality Act is a critical element in improving and protecting water quality in watersheds throughout the state. During the last grant cycle, ADEQ received sixteen grant

applications, one which withdrew of its own accord. Of the eight projects awarded in June 2007, five will address water quality improvements in impaired waters. Two of these projects are located in areas that have a completed TMDL. Four of the eight projects are implementing BMPs detailed in WBPs. A total of eight out of the sixteen projects awarded were considered “priority projects” in that they address issues in waters that are impaired, waters that have either a completed TMDL or WBP, or any combination of these characteristics. Attachment #1 lists the projects awarded in FY 07. Attachment #2 lists current Water Quality Improvement Grant projects funded by open NPS Project grants.

The following are priority projects from Cycle 9 that implement BMPs that are addressed in either a TMDL or a WBP.

Projects in Impaired Waters:

With TMDLs:

9-005 Town of Pinetop-Lakeside
Rainbow Lake Water Quality Enhancement ($32,000.00)

Rainbow Lake is a 125 acre man-made impoundment on Walnut Creek, located in the Silver Creek sub-watershed of the Little Colorado watershed. The lake is eutrophic, with the current major source of nutrients being the macrophyte and sediment cycling of those nutrients. Runoff from lands surrounding the lake also contributes high nutrient loadings as a result of domestic and livestock animal wastes and fertilizers. The project will directly address this nonpoint pollution source through the construction of vegetated buffer strips designed to capture nutrients.

9-006 City of Tucson Parks & Recreation Dept.
Optimizing Reclaimed Water, Groundwater, and Stormwater Inputs at Tucson's Lakeside Lake ($54,978.00)

The overall goal of the project is to optimize reclaimed water, groundwater, and stormwater inputs at Tucson's Lakeside Lake to improve urban fishing and recreational uses and related habitats. The City of Tucson will employ multiple activities to control pollutants from nonpoint sources that contribute to Lakeside Lake. Alum dosing treatment will address both the point source (reclaimed water line) and nonpoint source (general dispersal in the lake) to remove phosphorous as recommended in the TMDL report for this water body. However, this grant will only fund the nonpoint source portion (40%) of the alum treatment. Other nonpoint source improvement activities include controlling landscape drainage, providing fishing bait disposal options, removing debris from Lakeside Lake Park and Atterbury Wash, and providing active public outreach regarding BMPs to prevent pollution of washes in the area. Ongoing operation of an aerator system at the lake is included in the project.

Supported by Watershed Based Plans:

9-001 Coronado RC&D, Inc.
Sediment Reduction in Whitewater Draw using Watershed Partnership ($114,950.00)

Four ranchers managing 61,500 acres of rangeland that drain into Whitewater Draw have formed a working partnership to address sediment entering Whitewater Draw and the National Wildlife Area below it by restoring the uplands of the Hay Mountain Watershed. The ranchers have been working with NRCS to develop conservation plans and implement practices to improve livestock management on their individual ranches. As a group, they have identified practices that will improve the health of the watershed, slow runoff, reduce sediment and improve water quality downstream. Practices to be implemented in this phase will focus on healing gully erosion and slowing runoff from the upper watershed by installing check dams and water spreader dikes on 7,000 acres identified as a high priority. This project will reduce sediment entering Whitewater Draw by an estimated 22,000 tons per year after implementation.

9-002 Gila Watershed Partnership
Graham County Abandoned Vehicle Removal Project ($79,150.00)

This project will improve water quality through the removal of over 400 abandoned vehicles that have accumulated in Graham County in washes and along the banks of the Gila River. These 400 abandoned vehicles will be identified, and once titles are obtained they will be towed to a salvage yard. There, the hazardous fluids and parts containing hazardous material will be removed, and a salvage company will be hired to crush the vehicles and remove them for recycling.

9-003 Coronado RC&D, Inc.
Eagle Creek Watershed Restoration - Double Circles Ranch ($95,100.00)

The Eagle Creek Watershed in northern Greenlee County is 161,172 acres of grazing land primarily leased from the US Forest Service. The ranchers in the area have been working together for the past several years to implement practices on a landscape scale that will improve water quality in Upper and Lower Eagle Creek. Because the area is large, involved multiple ranchers and multiple practices, the implementation of practices was divided into phases. In 2006, ADEQ awarded grant No. 8-007 to the watershed group for the implementation of water quality improvement practices and monitoring of their impacts. This project will be conducted in a partnership with Coronado RC&D and is a continuation of that project to install an additional 5.5 miles of fencing on the Double Circles Ranch that will support the implementation of a rotational grazing system that will benefit Eagle Creek.

9-004 Duncan Valley Canal Company
Gila River Water Quality Improvement – Duncan Valley ($250,000.00)

This project will address sediment entering the Gila River from farmland along a two mile reach starting at the New Mexico border. The first step of the project centers around the disintegrating Valley Canal that bisects the valley, carrying irrigation water from the River and private wells to the farm fields. This concrete canal was constructed in 1965 and is maintained by the Duncan Valley Canal Company. The expected life span of the canal has been reached, the concrete is no longer strong enough to contain the water without breaking. These breaks cause concentrated flow that picks up sediment in the fields and carries it to the river. Banks above the canal contribute sediment with each storm that becomes trapped in the canal and has to be cleaned out. Cleaning deposits fine grained, loose sediments on the down slope side, concentrating them in an area susceptible to erosion. It is estimated that this area generates 270,000 tons of soil annually with 70% of it reaching the river. Efforts to reverse the erosion and sedimentation of this area begins with the replacement of the Valley Canal.

9-007 Prescott Creeks Preservation Association
Granite Creek Watershed Water Quality Improvement - Phase II ($99,062.00)

This project will build upon ADEQ and EPA's past investment by implementing water quality improvements, protections, and maintenance to the area directly downstream from the redesigned and reconstructed storm water detention basin addressed in ADEQ grant # 8-013. It will also have direct benefit to Granite Creek and Watson Lake – both impaired waters. This will be the second phase of the Granite Creek Watershed Water Quality Improvement and Monitoring Program to restore the stability of the Granite Creek stream channel while maintaining natural dynamic stream processes: proper hydrologic conditions and functions, stream morphology and channel characteristics, and floodplain functions - all resulting in water quality improvements for Granite Creek and Watson Lake.

9-008 Prescott Creeks Preservation Association
Watson Woods Riparian Preserve Restoration Project – Phase I ($483,191.00)

This water quality improvement project at Watson Woods Riparian Preserve will result in direct benefits to two impaired water bodies through implementation of a series of interconnected, ecosystem-wide efforts that include on the ground implementation of numerous best management practices, community involvement and education, as well as project performance monitoring. Watson Woods Riparian Preserve is a Fremont cottonwood/red willow gallery forest located along Granite creek, a mixed perennial/intermittent headwater creek in

the Verde Watershed. The 126 acre Preserve is the remaining portion of what was once a 1000 acre riparian gallery forest near Prescott, Arizona. This project will restore the stability of the Granite Creek stream channel while maintaining natural dynamic stream processes: proper hydrologic conditions and function, stream morphology and channel characteristics, and flood plain functions – all resulting in water quality improvements for Granite Creek.

319 Project Monitoring

Each project funded by the Water Quality Improvement Grant Program to implement an on-the-ground water quality improvement project must describe a process for evaluating the effectiveness of the implementation efforts over time. Monitoring can include photographic points, vegetative transects, and/or actual water quality monitoring. Information on reductions in nonpoint source pollutant loads are tracked and reported in EPA's Grants Reporting and Tracking System (GRTS). Please refer to the GRTS database for more detailed information. See *Section V - Successful Implementation Projects*, for examples of actual load reductions attributed to successful project implementation. ADEQ will be updating the GRTS database to include load reduction numbers as information becomes available. More detailed information will then be provided through GRTS.

Measuring Water Quality Improvements
Effectiveness monitoring is used to determine whether water quality improvement activities (319 projects and others) are carried out as planned and how effective the activities have been. Several projects will require effectiveness monitoring in FY08 as the U.S. Forest Service has completed remediation efforts along Turkey Creek and Alum Gulch. Effectiveness monitoring will also take place along Pinto Creek as remediation work has been completed at Gibson Mine. Several 319(h) grants have been awarded to stakeholders along Tonto and Christopher Creeks. Upon completion of these projects effectiveness monitoring will commence. Other possible areas of interest include tributaries of Lynx Creek where EPA and the U.S. Forest Service have conducted remediation projects on abandoned mines. Based on effectiveness monitoring, ADEQ has recommended delisting the upper portion of Nutrioso Creek in the draft 2006 assessment.

Load Reductions
ADEQ understands the importance of quantifying load reductions on a watershed, waterbody, and project level. However, quantifiable proof of nonpoint source load reduction estimates are difficult to obtain. Per Arizona statute, ADEQ will review the status of each water where a TMDL study has been performed, at least once every five years to determine if compliance with applicable surface water quality standards has been achieved.

Currently, ADEQ is assessing the effectiveness monitoring data from projects on Oak Creek, Nutrioso Creek, and Hassayampa River. To date, load reductions achieved on a watershed or waterbody scale have not been calculated. As stated above, ADEQ will provide results on the effectiveness monitoring and reductions in nonpoint source pollutant loading in impaired waters and priority watersheds in future reports.

At a project level, ADEQ is required to enter estimated load reductions for all 319 funded projects in EPA's Grant Reporting and Tracking System (GRTS) database. Informaton and load reduction data is uploaded as it is received either from grantees or project managers. There are many challenges to this requirement as nonpoint source load reductions are difficult to quantify due to the natural variability and the difficulty in precisely predicting the performance of management measures or BMPs over time. Model projections are used for measuring load reductions in water quality improvement grant projects. Using nonpoint source load reduction models effectively hinges on knowing which of the many modeling programs will provide the correct end result. Another challenge is the level of technical information (i.e., hydrology, pollutant loading processes, limitations of environmental data) needed to run a model and is also dependent on whether the grantee or an ADEQ project manager has the particular expertise needed to provide estimates on load reduction. Staff is working to develop a protocol that will address these issues, which includes a document for grantees suggesting modeling programs for nitrogen, phosphorus, BOD (STEPL) and sediment (STEPL, RUSLE2).

More and more projects on GRTS have load reduction information. Obtaining more load reduction data continues to be a main program focus again in FY 08. Refer to GRTS for more detailed information on load reductions.

Arizona's FY 07 Nonpoint Source Annual Report
Section IV – Program Enhancements

Calculating Load Reductions
ADEQ will continue to be pro-active in securing load reduction estimate information from grantees. Projects proposed with useable estimated load reductions will rank higher than projects that do not have projected quantitative measures of success. If estimated load reductions are unknown, ADEQ encourages monitoring either by the grantee or ADEQ so that data can be used to quantify success for GRTS reporting. Evaluating and assessing BMP effectiveness and obtaining more load reduction data remains a program priority.

Volunteer Monitoring
ADEQ works closely with volunteer groups during the development of monitoring plans and supports volunteers in receiving adequate training to make certain that monitoring projects produce credible data. Volunteer monitoring can provide data for determining the effectiveness of water quality improvement projects. Volunteer monitoring can also serve in identifying the need for future water quality improvement projects by quantitatively and qualitatively measuring conditions in a watershed.

The goal of the ADEQ Volunteer Monitoring Program is to train and encourage volunteer groups to collect water quality data that is credible and defensible. ADEQ is working with the Master Watershed Steward Program, local colleges, and national organizations such as Water Network to provide monitoring training for interested volunteers. In order to use the data, ADEQ must also ensure that the volunteer groups can produce Quality Assurance Plans (QAPs) and Sampling and Analysis Plans (SAPs) for their sampling projects. ADEQ works extensively with volunteer groups during the planning phase of a monitoring project and has created a manual to assist in the development of effective monitoring plans.

Currently, ADEQ is working with volunteer monitoring groups to develop screening level field protocols to support a level 2 bioassessment and plans to develop appropriate protocols for assessing physical and chemical integrity in Arizona's perennial, intermittent, and ephemeral streams and lakes.

ADEQ supports the concept of properly trained volunteer monitors and will continue working towards this goal as staffing and resources allow.

Grant Agreement

ADEQ has worked with Attorney General's Office to modify the Grant Agreement Terms and Conditions. The Terms and Conditions are up-to-date with state and federal requirements. ADEQ is pleased to announce that the updated terms fulfill the terminology that is needed from the USFS to enter into an agreement with the state. With approximately 15% of the land in Arizona managed by the Forest Service, ADEQ looks forward to the opportunities to improve water quality and nonpoint source pollution on Arizona's Forest. .

Arizona's FY 07 Nonpoint Source Annual Report
Section V - Successful Implementation Projects

Success Summary

Water Quality Improvements in Nutrioso Creek

In 1993, Nutrioso Creek was listed as impaired due to excessive levels of turbidity. In 1996, Jim Crosswhite purchased the EC Bar Ranch and began to address water quality and aquatic/wildlife habitat concerns, including improvements to support a federally listed fish species living in the creek. As a result of his actions, in 2007 the ADEQ recommended removal of Nutrioso Creek from the 303d list, making it the first nonattaining waterbody in Arizona to be delisted due to mitigation.

Nutrioso Creek is a 27 mile perennial stream located in the White Mountains of eastern Arizona that flows into the Upper Little Colorado River. Several native fish live in these waters, including the LC Spinedace, a federally listed fish species.

In July 2000, the ADEQ released the *Nutrioso Creek TMDL for Turbidity* Report that identified a seven mile section of Nutrioso Creek in the eastern part of Arizona as having a turbidity problem due to exposed streambanks aggravated by historical overuse by large ungulates, such as livestock and elk. Several landowners were affected including the Apache-Sitgreaves National Forest with four miles of the creek and Jim Crosswhite, EC Bar Ranch, with three miles of creek.

Over the last six years, EC Bar Ranch worked closely with the ADEQ using the 319h grant program to help implement a wide range of Best Management Practices that effectively controlled activities of all large ungulates, restored the proper functioning condition in the stream channel, reduced turbidity, and met water quality standards necessary for removal of the section of Nutrioso Creek from the 303d list as a nonattaining water body.

EC Bar Ranch followed a three step approach to improving the riparian area. First, he implemented BMPs to fence out elk entirely and limit livestock grazing to the dormant winter months. Then the Ranch planted willow poles and installed erosion control practices to reduce erosion from exposed streambanks. Finally, the Ranch planted streambanks using sprinkler irrigation to establish and maintain vegetation. The condition of soils, vegetation, and hydrology was

improved from non-functional in 1996 to proper functioning condition in 2005 using the BLM rating system. Aquatic habitat is best described in a letter from a Project Manager, US Fish & Wildlife Service, that states: *The riparian restoration practices implemented in Nutrioso Creek on the EC Bar Ranch, including water quality and aquatic/wildlife habitat improvements have created an ideal natural aquatic habitat to relocate the Little Colorado River spinedace, captured in degraded pools downstream on the Apache Sitgreaves National Forest. In May 2006, Arizona Game and Fish Department (AGFD) and U.S. Fish and Wildlife Service (Service) staff salvaged approximately 767 Little Colorado River spinedace from degraded habitat on U.S. Forest Service property and repatriated them to perennial habitat on the EC Bar Ranch. The practice of salvaging a listed species from public land and repatriating the species to private land is rarely warranted and demonstrates your commitment to threatened and endangered species. AGFD and the Service recognize that this practice can only occur because of the quality of habitat your reach of Nutrioso Creek provides. In fact, it may be the only instance where this has occurred in Arizona with a federally listed fish species.*

The second step in improving Nutrioso Creek on the EC Bar Ranch is landowner maintenance of successful practices and adoption of livestock, nutrient, irrigation water, and pest management plans recommended by the NRCS. The final improvement step is to protect the practices through creation of one or more long term planning options, such as a conservation easement, deed restrictions, and/or sale to the US Forest Service.

EC Bar Ranch partnered with state and federal agencies, such as the ADEQ, ADA, AGFD, ASLD, AWPF, NRCS, and USFWS, to implement recommendations through their respective grant programs to address concerns in the *Nutrioso Creek TMDL for Turbidity Report* (ADEQ, 2000), *Little Colorado River Spinedace Recovery Plan* (USFWS, 1998), *Nutrioso Creek Fish Management Report* (AGFD, 2001), and the *Upper Little Colorado River Watershed Based P*lan (2000-2006). The Ranch was the first private landowner in Arizona to complete a Safe Harbor Agreement with the US Fish & Wildlife Service (2003). With total project costs exceeding $2 million, EC Bar Ranch matched over 60% of public funding (including $575,000.00 from Section 319 grants, $100,000.00 from NRCS, and $163,000.00 from wildlife agencies and others).

Cottonwood Creek Restoration through Sediment Control

In ADEQ's 1998 303d list, areas in the Whitewater Draw Watershed were listed as impaired due to turbidity. Rapid post-rain runoff events carried large quantities of sediment downstream, impairing the water quality of the Creek and depositing sediment in the Community of Sunsites and in Whitewater Draw. Private landowners along Cottonwood Creek formed a partnership in 2001 and devised

an action strategy to address the erosion problems they saw that were degrading the Creek. In 2003, a Water Quality Improvement Grant was awarded to the Coronado RC&D to implement a series of Best Management Practices (BMPs) including the installation of loose rock check structures and gabions to slow runoff and trap sediment in the eroding gullies above the Creek, as well as the installation of fencing and off-channel drinkers to exclude cattle from the Creek. Also, two ranch roads were rehabilitated through resurfacing and the installation of water bars that redirected runoff overland where velocity was reduced by flow across grassland. The installed gabions are estimated to have the potential of storing 750 cubic yards of sediment and, when combined with the potential of the 750 loose rock structures above the Creek, will trap a volume of approximately 25,000 cubic yards of sediment total. Implementing these BMPs resulted in significant benefits to the water quality of Cottonwood Creek by reducing sediment loads and the resulting turbidity of the creek. Sediment reduction was quantified using the Revised Universal Soil Loss Equation (RUSLE), a tool used by NRCS to quantify sediment production from water erosion based upon vegetative cover, slope, soil texture and precipitation. Project monitoring focused on vegetation, precipitation, sediment, and photo monitoring.

The restoration of Cottonwood Creek through BMP implementation has numerous long-term benefits not only to the immediate area of implementation, but also to the entire Whitewater Draw Watershed. The practices chosen for this project were designed to be long-term in nature and will require minimum maintenance. Their value will increase with time as watershed health improves with practice impacts. The following are direct long-term benefits of the project:

1. Stable stream channel that is not eroding and contributing sediment to the watershed system
2. Increased grass cover that reduces accelerated runoff
3. Longer duration flows that are less erosive, create greater soil moisture and foster riparian growth
4. Increased wildlife habitat
5. Less bank erosion as management options for livestock are improved with water locations and fencing.

Outreach and education were key components of this project. The Sunglow Guest Ranch, a private guest ranch who is an active partner in this project, hosted project tours and informational sessions. The Willcox-San Simon NRCD and Education Center are active partners that worked with Coronado RC&D to develop and distribute education materials and hosted workshops and tours that highlighted water quality, the Water Quality Improvement Grant Program and specific project implementation. Other activities included the development of photo displays and power point presentations that were used at State Association meetings. The U.S. Forest Service installed structures in the upper watershed and will continue with that effort as a partner of the project. They also distributed informational materials from their office.

Partners working on and/or providing funding for this project include ADEQ, Arizona Water Protection Fund (AWPF), Coronado Resource Conservation and Development (RC&D), USDA/Natural Resources Conservation Service (NRCS), Willcox-San Simon Natural Resource Conservation District (NRCD), Willcox-San Simon NRCD Education Center, Cottonwood Creek Watershed Partners, U.S. Army Corps of Engineers, University of Arizona Extension, Natural Channel Design, U.S. Forest Service, Sky Island Alliance, and Cochise County.

Arizona's FY 07 Nonpoint Source Annual Report
Section VI - Public Awareness

The Grants and Outreach Unit conducts education/outreach efforts to increase the public's awareness of nonpoint source pollution impacts to surface and groundwater resources. Below are descriptions of the events that the Water Quality Division has participated in throughout the year.

Water Expo at State Capital
The University of Arizona's Water Sustainability Program, with support from Central Arizona Project (CAP) and Salt River Project (SRP) coordinates a Water Expo annually to educate Arizona state legislators about water sustainability and responsible water stewardship in Arizona. ADEQ was invited to be a part of this opportunity to share the Department's current efforts. The Grants and Outreach Unit handed out a legislator packet consisting of impaired waters information, past and present 319 grants, and the location of grants and polluted waters in relation to political boundaries.

Tres Rios Nature Festival
This annual Festival was held at the Base and Meridian Wildlife Area in Avondale, AZ. The event provides an opportunity for the public to celebrate and learn about wildlife, river ecology, water resources, history, and heritage of the Gila, Salt and Agua Fria Rivers. ADEQ staff provided and demonstrated water quality models, posters, and hands-on opportunities to the public at the two day event and has educated thousands of people since 2003. More than 6,000 people attended the March 2007 event alone.

Master Watershed Stewards Water Quality Sampling and Analysis Demonstration
ADEQ, along with the Master Watershed Steward Program, GateWay Community College, and the University's Cooperative Extension put on a water quality demo at Papago Park for the students attending the Master Watershed Steward course. ADEQ staff coordinated all of the demo stations and provided technical knowledge and principles to the students on water quality sampling.

Strategic Visioning Meeting- Master Watershed Steward Program
ADEQ participated in the Master Watershed Steward Program's Strategic Visioning Meeting on October 31st 2006. This meeting consisted of sharing feedback about the Master Watershed Steward Program, brainstorming ideas for ways to improve it, and discussing the role of ADEQ and other stakeholders in the future of the program. Staff from ADEQ's Grants and Outreach and Monitoring and Assessments units attended, as well as staff from the University of Arizona Cooperative Extension program, NEMO, and MWS.

Envirothon
Envirothon is a competition for high school students in which teams of five students work to answer natural resource questions and develop solutions to environmental problems. Envirothon integrates five areas of study: forestry, aquatics, wildlife, soils, and an environmental issue that changes each year. With Section 319 funding, ADEQ has been able to support the Arizona Envirothon since its establishment in 1998. Arizona's high school students are the hope for the future and Envirothon provides a great learning experience that can strengthen the foundation for environmental stewardship.

Water Quality Improvement Grant Program Outreach
The Grants and Outreach Unit provides program oversight for the Water Quality Improvement Grant Program. Staff responsibility includes ensuring grant compliance with state and federal law, guidance, and policy. Staff also organizes and sponsors workshops for the public which describe the grant program and the steps to follow in order to apply. Once grant applications are received, staff is responsible for processing of the applications including receipt, evaluation, and award. After grants are awarded, staff must negotiate and execute grant agreements and maintain contractual and programmatic files.

Water Quality Improvement Grant Workshops
Six grant workshops were held around the state from September 25 through October 24, 2006 in preparation for the 2007 Grant Cycle (Cycle 9). Attendance decreased by approximately 18% compared to FY 06 (from 74 attendees to 61). During the workshops, staff covered many aspects of nonpoint source pollution, including: causes and sources of pollution, TMDL studies, watershed-based plan guidance, and recommended management measures to reduce nonpoint source pollution. Surveys filled out by workshop attendees demonstrated high satisfaction levels with all aspects of the workshops.
The Grant Unit has been working on creating a more interactive agenda for the Cycle 10 workshops to be conducted in FY08, with workbooks to help attendees generate and elaborate on ideas for 319(h) projects.

2006 Project WET (Water Education for Teachers) Water Festival
The Arizona Make a Splash with Project WET Water Festivals, supported by Section 319 funds, delivered locally focused water education to 5,068 students and 201 teachers throughout the state during the 2005-2006 festival year. The Water Festival is an opportunity for 4th graders to learn about Arizona's water resources by participating in fun, interactive activities. The activities are developed to enhance critical thinking and build an understanding and awareness of local water resources. For example, the children learn the concept of a watershed, how groundwater flows through soil, and the ways in which the water cycle interrelates. The Water Festival is correlated to the Arizona Academic Standards. Arizona Water Festivals strive to increase teacher, volunteer, and student understanding of water concepts.

Verde River Days
In 1988, a group of Cottonwood residents organized the first Verde River Days to promote awareness of the Verde River's distinctive riparian habitat. Verde River Days has become an annual ecological awareness event held at the Dead Horse Ranch State Park in Cottonwood, Arizona. This event showcases more than 40 exhibits relating to the riparian environment. Event activities include interaction with animals, canoe rides, and sand castle building. ADEQ has been an active participant in this annual event for many years. This is an opportunity for valuable information on our Agency's programs and services to be provided to the community.

University of Arizona - **Master Watershed Steward and NEMO Programs**
With the help of the University of Arizona's Master Watershed Steward and NEMO programs, ADEQ is now able to provide more encompassing water resource management assistance to many more watershed groups. The coordinators for both of these programs have been a tremendous help to ADEQ and the watershed partnerships statewide. Both programs have also provided support to the public by providing maps, education, and technical assistance.

World Water Monitoring Day
October 18th is World Water Monitoring Day, an annual day for people worldwide to positively impact the health of rivers, lakes, estuaries and other waterbodies. ADEQ partnered with the NRCS, GateWay Community College, U of A Cooperative Extension, and Master Watershed Stewards to put on a water quality demonstration event at Indian Steele Park in Phoenix that educated roughly 300 sixth grade students. ADEQ staff from Water Quality Division set up and operated demonstrations of water quality monitoring instruments and explained the importance of monitoring water temperature, pH, dissolved oxygen, turbidity, and aquatic life in water bodies. ADEQ also provided funding for NRCS to purchase hands-on test kits for the children to use at the event.

Arizona's FY 07 Nonpoint Source Annual Report
Section VII – Program Highlights

Clean Colorado River Alliance
In 2005, Governor Janet Napolitano established the Clean Colorado River Alliance to develop recommendations to deal with existing water quality problems to ensure Colorado River water quality addresses the needs of Arizona, now and in the future. The CCRA was charged with developing an action plan to deal with pollution affecting the Colorado River. The final report was presented to the Governor in December 2005. In July 2007, ADEQ received funding for two hydrologists to oversee the ongoing remediation of the hexavalent chromium plume at the PG&E Topock Compressor Station and to monitor other water quality issues affecting the Colorado River. The CCRA report can be located at http://www.azdeq.gov/environ/water/ccra.html.

Impaired Water Identification Rule
Staff has submitted the rule package for management review. Once approved by management, a new draft will be released for review and stakeholder meetings will be scheduled.

208 Consistency Review Form
In FY 07, 208 Program staff has created new application forms (Attachment #3) and a new procedure that requires applicants or the ADEQ permit writer to provide pertinent information to the program to evaluate the proposed wastewater infrastructure project. The improved process requires the applicant and 208 staff to consider proposed projects from a regional wastewater planning approach. Water quality assessment and TMDL findings are important considerations in the final Section 208 conformance determination for each project. The new form and procedures reflect a greater coordination with the permitting units to assess projects in a more expedited manner.

Service/Planning Area GIS Covers
In September 2004, ADEQ hired of an intern to develop GIS covers (and associated databases) of service/planning areas and locations of all waste water treatment plants within the state. Assembling and converting this data into a GIS has been helpful when reviewing permit applications for 208 consistency and amendments to determine the other facilities in the area. This intern has now acquired full-time employment with ADEQ and will continue the project.

2004 Integrated 305(b) Assessment and 303(d) Listing Report
The 305(b) Water Quality Assessment Report describes the status of surface and ground water resources in Arizona in relation to state water quality standards. The report is so named because it fulfills requirements of Section 305(b) of the federal Clean Water Act. Accompanying the report is a list of Arizona's impaired waters, as required by Section 303(d) of the Clean Water Act. Together the report is called the Integrated Report of Water Quality.

The Standards and Assessment Unit is working on the 2006 Report and expects it to be finalized in late 2007.

Web Site Update
ADEQ continues to update the web site with appropriate changes as need. (www.azdeq.gov/environ/water/watershed/index.html).

Water Quality Improvement Grant Manual
FY 06-07 was the last grant cycle that will utilize the 2004 – 2007 Water Quality Improvement Grant Manual. ADEQ has updated the Water Quality Improvement Grant Manual and Application and also produced an interactive workbook, utilizing the outcome-based framework taught by John LaRocca of the Rensselaerville Institute during his FY06 workshop. These updated materials will be used in the upcoming grant cycles. The new workbook will take workshop attendees through the application process and provide them with tools to submit a high quality proposal. The updated materials were designed to help clarify frequently misunderstood questions and instructions, and to help potential applicants hone and better present the potential outcomes their potential projects.

Nonpoint source Education for Municipal Officials (NEMO)
The Arizona Cooperative Extension at the University of Arizona and ADEQ began the NEMO program in the fall of 2002. Since then, the contract has been extended through 2008. The NEMO program provides education for land-use decision makers on watershed-based planning and management practice for restoring, maintaining and protecting watersheds, water quality and water sustainability. NEMO has expanded their service and is working with other active watershed groups to assist them in the development of watershed-based plans. NEMO has identified stakeholders and met watershed education needs with community-based programs, presentations, and publications. NEMO staff regularly attends watershed partnership meetings throughout the state to provide technical assistance and support.

Attachment # 1

ADEQ Water Quality Improvement Grant Projects FY 06-07 Awards

9-001	Coronado RC&D, Inc.	Sediment Reduction in Whitewater Draw using Watershed Partnership	$114,950.00

Four ranchers managing 61,500 acres of rangeland that drain into Whitewater Draw have formed a working partnership to address sediment entering Whitewater Draw and the National Wildlife Area below it by restoring the uplands of the Hay Mountain Watershed. The ranchers have been working with NRCS to develop conservation plans and implement practices to improve livestock management on their individual ranches. As a group, they have identified practices that will improve the health of the watershed, slow runoff, reduce sediment and improve water quality downstream. Practices to be implemented in this phase will focus on healing gully erosion and slowing runoff from the upper watershed by installing check dams and water spreader dikes on 7,000 acres identified as a high priority. This project will reduce sediment entering Whitewater Draw by an estimated 22,000 tons per year after implementation.

9-002	Gila Watershed Partnership	Graham County Abandoned Vehicle Removal Project	$79,150.00

This project will improve water quality through the removal of over 400 abandoned vehicles that have accumulated in Graham County in washes and along the banks of the Gila River. These 400 abandoned vehicles will be identified, and once titles are obtained they will be towed to a salvage yard. There, the hazardous fluids and parts containing hazardous material will be removed, and a salvage company will be hired to crush the vehicles and remove them for recycling.

9-003	Coronado RC&D, Inc.	Eagle Creek Watershed Restoration - Double Circles Ranch	$95,100.00

The Eagle Creek Watershed in northern Greenlee County is 161,172 acres of grazing land primarily leased from the US Forest Service. The ranchers in the area have been working together for the past several years to implement practices on a landscape scale that will improve water quality in Upper and Lower Eagle Creek. Because the area is large, involved multiple ranchers and multiple practices, the implementation of practices was divided into phases. In 2006 ADEQ awarded grant No. 8-007 to the watershed group for the implementation of water quality improvement practices and monitoring of their impacts. This project will be conducted in a partnership with Coronado RC&D and is a continuation of that project to install an additional 5.5 miles of fencing on the Double Circles Ranch that will support the implementation of a rotational grazing system that will benefit Eagle Creek.

9-004	Duncan Valley Canal Company	Gila River Water Quality Improvement - Duncan Valley	$250,000.00

This project will address sediment entering the Gila River from farmland along a two mile reach starting at the New Mexico border. The first step of the project centers around the disintegrating Valley Canal that bisects the valley, carrying irrigation water from the River and private wells to the farm fields. This concrete canal was constructed in 1965 and is maintained by the Duncan Valley Canal Company. The expected life span of the canal has been reached, the concrete is no longer strong enough to contain the water without breaking. These breaks cause concentrated flow that picks up sediment in the fields and carries it to the river. Banks above the canal contribute sediment with each storm that becomes trapped in the canal and has to be cleaned out. Cleaning deposits fine grained, loose sediments on the down slope side, concentrating them in an area susceptible to erosion. It is estimated that this area generates 270,000 tons of soil annually with 70% of it reaching the river. Efforts to reverse the erosion and sedimentation of this area will begin with the replacement of the Valley Canal.

9-005	Town of Pinetop-Lakeside	Rainbow Lake Water Quality Enhancement	$32,000.00

Rainbow Lake is a 125 acre man made impoundment on Walnut Creek, located in the Silver Creek sub-watershed of the Little Colorado watershed. The lake has been determined as eutrophic by ADEQ, with the current major source on nutrients being the macrophyte and sediment cycling of those nutrients. Runoff from lands surrounding the lake also contributes high nutrient loadings related to domestic and livestock animal wastes and fertilizers. The project will directly address this nonpoint pollution source through the construction of vegetated buffer strips designed to capture nutrients from overland flow.

9-006	City of Tucson Parks & Recreation Dept	Optimizing Reclaimed Water, Groundwater, and Stormwater Inputs at Tucson's Lakeside Lake	$54,978.00

The overall goal of the project is to optimize reclaimed water, groundwater, and stormwater inputs at Tucson's Lakeside Lake to improve urban fishing and recreational uses and related habitats. The City of Tucson will employ multiple activities to control pollutants from nonpoint sources that contribute to Lakeside Lake. Alum dosing treatment will address both the point source (reclaimed water line) and nonpoint source (general dispersal in the lake) to remove phosphorous as recommended in the TMDL report for this water body. However, this grant will only fund the nonpoint source portion (40%) of the alum treatment. Other nonpoint source activities include controlling landscape drainage, providing fishing bait disposal options, removing debris from Lakeside Lake Park and Atterbury Wash, and providing active public outreach regarding BMPs to prevent pollution of washes in the area. Ongoing operation of an aerator system at the lake is included in the project.

9-007	Prescott Creeks Preservation Association	Granite Creek Watershed - Water Quality Improvement Phase II	$99,062.00

This project will build upon ADEQ and EPA's past investment by implementing water quality improvements, protections, and maintenance to the area directly downstream from the redesigned and reconstructed storm water detention basin addressed in ADEQ grant # 8-013. It will also have direct benefit to Granite Creek and Watson Lake – both impaired waters. This will be the second phase of the Granite Creek Watershed Water Quality Improvement and Monitoring Program to restore the stability of the Granite Creek stream channel while maintaining natural dynamic stream processes: proper hydrologic conditions and functions, stream morphology and channel characteristics, and floodplain functions - all resulting in water quality improvements for Granite Creek and Watson Lake.

9-008	Prescott Creeks Preservation Association	Watson Woods Riparian Preserve - Restoration Project Phase I	$483,191.00

This water quality improvement project at Watson Woods Riparian Preserve will result in direct benefits to two impaired water bodies through implementation of a series of interconnected, ecosystem-wide efforts that include on the ground implementation of numerous best management practices, community involvement and education, as well as project performance monitoring. Watson Woods Riparian Preserve is a Fremont cottonwood/red willow gallery forest located along Granite creek, a mixed perennial/intermittent headwater creek in the Verde Watershed. The 126 acre Preserve is the remaining portion of what was once a 1000 acre riparian gallery forest near Prescott, Arizona. This project will restore the stability of the Granite Creek stream channel while maintaining natural dynamic stream processes: proper hydrologic conditions and function, stream morphology and channel characteristics, and flood plain functions – all resulting in water quality improvements for Granite Creek.

Attachment # 2

Current Water Quality Improvement Contracts Funded by Open NPS Project Grants

Project (Contract) Title	Contract No.	Contract Expiration Date	Award Amount	Funding Source
Frye Mesa Vegetative Rehabilitation	5-002	6/30/2007	$171,500	NPS XIII Inc
Overgaard Townsite	6-008	11/30/2007	$123,543	NPS XIII Base
Peterson Wash Stabilization	6-010	7/31/2007	$115,950	NPS XIII Base
West Clear Creek Tributary Watersheds	6-019	9/30/2008	$224,177	NPS XVI Base
Oak Creek Canyon Task Force Water Quality Program	6-023	12/31/2007	$131,904	NPS XIV Inc.
Compomocho-Sacaton Watershed Stormwater Runoff Control Phase II	7-002	2/28/2008	$179,800	NPS XIV Inc.
Central Detention Dam Rehabilitation	7-006	4/30/2008	$15,600	NPS XIII Base
Kaler Ranch Erosion Control Project	7-007	4/30/2008	$167,000	NPS XIII Inc. NPS XIV Strmwtr.
Partnership to Improve Water Quality in Red Rock Canyon/Upper Santa Cruz Watershed	7-008	2/28/2008	$249,302	NPS XIII Base.
CWA Manzanita Erosion Control Project	8-001	4/30/2008	$27,033	NPS XV Base
Hart Prairie Sediment Control Project	8-002	4/30/2008	$27,422	NPS XV Inc.
R-Bar-C Boy Scout Sewer Facilities Upgrade	8-003	4/30/2008	$162,300	NPS XV Base
Gibson Mine TMDL Reduction to Mineral Creek	8-004	4/30/2008	$140,171	NPS XV Base NPS XVI Base
Gila County Ground and Surface Water Improvement Project Phase II	8-005	4/30/2008	$258,300	NPS XV Base
Gila River Clean-up Project	8-006	4/30/2008	$110,500	NPS XIV Strmwtr. NPS XV Base
Upper Eagle Creek Watershed Restoration Project	8-007	4/30/2008	$360,930	NPS XVI Inc.
Kaler Ranch Erosion Control Project Phase II	8-008	4/30/2008	$169,800	NPS XIII Inc. NPS XV Inc.
Bank Stabilization at Spencer Beach	8-009	4/30/2008	$50,000	NPS XV Base
Composting Restroom for the Hualapai Helipad Tourist Destination	8-010	4/30/2008	$52,160	NPS XV Base
Watershed Approach to Improving Water Quality in Red Rock Canyon Phase II	8-012	4/30/2008	$35,102	NPS XV Base

Granite Creek Watershed – Water Quality Improvement and Monitoring Program	8-013	4/30/2008	$217,982	NPS XV Inc.
Sediment Reduction in Whitewater Draw: A Watershed Partnership Approach	9-001	6/30/2009	$114,950	NPS XVI Base
Graham County Abandon Vehicle Removal	9-002	6/30/2008	$71,950	NPS XVII Inc.
Eagle Creek Watershed Restoration - Double Circles Ranch Phase I	9-003	6/30/2009	$95,100	NPS XVII Inc.
Gila River Water Quality Improvement- Duncan Valley	9-004	6/30/2009	$250,000	NPS XVI Base NPS XVII Base
Rainbow Lake Water Quality Enhancement	9-005	6/30/2009	$32,000	NPS XV Inc. NPS XVI Inc.
Optimizing Reclaimed Water, Groundwater and Stormwater Inputs at Tucson's Lakeside Lake	9-006	6/30/2010	$54,978	NPS XVII Inc.
Granite Creek Watershed – Water Quality Improvement and Monitoring Program Phase II	9-007	6/30/2010	$99,062	NPS XVI Inc. NPS XVII Inc.
Watson Woods Riparian Preserve Restoration Project	9-008	6/30/2010	$483,191	NPS XVI Inc.
U of A – Master Watershed Stewardship Program	EV04-0013	06/30/2006	$259,820	NPS XVI Base
2008 Canon Envirothon	EV06-0063	12/1/2008	$100,000	NPS XVI Base
Arizona State Envirothon	EV07-0028 EV07-0136	12/1/2007	$39,000	NPS XV Base NPS XVI Base NPS XVII Base
Children's Waterfest (Arizona Make a Splash with Project WET Water Festival) 2006-2008	EV07-0073	11/30/2008	$30,000 ($10,000/yr for 3 yrs.)	NPS XVI Base
U of A Non-point source Education for Municipal Officials (NEMO)	EV02-0149	11/30/2008	$235,400	NPS XV Inc. NPS XVI Base

208 CONSISTENCY REVIEW FORM

ADEQ Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

PLEASE COMPLETE SECTIONS 1-10

Application Submittal: submit application to the 208 Program. Email application to emv@azdeq.gov; call (602) 771-4606 for assistance, or go to http://azdeq.gov/environ/water/watershed/regional.html for further information. Along with this completed, signed application, the applicant MUST submit a map with the information noted in item 4 below. Failure to include the map will result in the application being considered incomplete.

Facility Information	**Explanation (*Provide a brief description*)**
1. Facility Name, Name of Owner, Name of Applicant, and a Contact Number.	
2. Permit Type **a. AZPDES *(existing or new)*** **b. APP *(existing or new)***	
3. Facility location ***(watershed, county, township, range & section)***	
4. Attach a descriptive map that includes at a minimum a. Facility/site location b. Discharge location(s) c. Adjacent urban areas d. Nearest surface ` water(s)	
5. Type of permit action a. New WWT facility b. Existing - expansion c. Modification to an existing facility d. Existing - change in outfall e. Change of ownership in Pima County	

6. Treatment method (explain). For existing facilities, explain any changes in treatment process, flow or disposal?	
7. What is the design capacity of this facility? (design flow for annual average daily flow)	
8. What is/are the effluent disposal method(s)? *If discharge is to a surface water, provide name of surface water*	
9. What type of entity will operate the facility? a. municipal/ public utility b. Private utility c. Semi-public *(sanitary district, improvement district)* d. Other (explain)	
10. What is the service area for this facility? Is this a change in service area? ***Attach map & legal description*** a. New service area for CC&N b. Expansion of existing CC&N service area c. No change in service area	

For ADEQ 208 Review Staff Only –

Facility Information	Explanation (Reference the page(s) from DPA WQMP)
1. DPA	
2. Permit(s) number	
3. Service area Is this a new service area? Is this an expansion of an existing service area?	
4. Planning area Is this project in an entity's planning area?	
5. Designated Management Agency a. Is the applicant a DMA? b. Distance to nearest DMA? c. Is there an ordinance requiring hookup? d. Is the applicant a private utility?	

Special Conditions	Explanation
6. Does the facility discharge to a unique water?	
7. Does the facility discharge to an impaired/ not attaining water?	
8. Does the facility discharge to a surface water with pollutant load allocations specified in a TMDL?	
9. Is the facility located in a nitrogen management area?	
10. Is this a request for change in ownership? *(Pima County only)*	
11. Are Actions Needed?	

Application Submittal by one of the following:

Applicant:	**Date**:
Permit Writer:	**Date**:

Based on Section 208 of the Federal Water Pollution Control Act, Arizona Administrative Code R18-9-108(B) (10), and/or the Certified Area WQMP, this request for 208 Conformance Review has been completed.

Reviewed By:	**Date:**
Unit Manager:	**Date:**

Please note that Permits, Construction Authorization, or Approval of Sanitary Facilities will not be issued solely on the basis of this review. However, this review is based on the facility applying for, and receiving, the appropriate permits to start and maintain operation under compliance with federal and state regulations.

ADEQ Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

CWA 208 Consistency Review of On-site Wastewater Treatment Facilities

Project Name:	Permit Number
Project Engineer:	Date Received:

Water Quality Factors

Is the application located:

yes	x	Within ¼ mile of an impaired/not attaining stream?
yes	x	Within ¼ mile of a unique water?
yes	x	Within ¼ mile of a stream or lake with a completed TMDL?
yes	x	If yes, are there wasteload allocations that must be addressed in the permits?
yes	x	Within a nitrogen management area, as defined by ADEQ?

WQM Plan Factors

yes	x	Is this application an expansion of an existing project?
yes	x	Is the project identified in the current CWA WQM (208) Plan?
yes	x	Is it within the service area of an existing DMA or sewer provider?
yes	x	Does the plan call for connection to regional sewer?
yes	x	If so, is there a sewer available?
If yes, how far from available sewer?		
yes	x	Is there a local ordinance requiring hookup?
If so, how close?		

+

yes	x	Does the Plan or the county approval form identify other water quality issues in this area?

COMMENTS:

208 Staff Signatures

Reviewer:	Date:
Unit Manager:	Date:

ADEQ Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

Appendix C – Application for 208 Regional Planning Conformance Review for Onsite Wastewater Treatment

Along with this completed, signed application, please submit a project map that includes, at a minimum, the facility/site location, nearest town and/or highway, property boundaries, adjacent land uses, and surface waters near the property. The application will be considered incomplete without the map.

1. Facility Information

Name of Project:
Owner Name:
Applicant Name (if not owner):
Relationship to owner:
Contact Information (Address & Phone No.):

2.Facility Location

County _____	Township ___	Range ___	Section ____
Latitude ____ ____ ____		Longitude ___ ____ ____	

3. Type of Facility

☐ new on-site subdivision	☐ expansion of existing subdivision

4. Subdivision Information

_____No. of lots	____No. of acres	____ No. of on-site units proposed
Use A.A.C. Title 18, Chapter 9, Table 1 (and references) to calculate the total design flow:		
_____ gpd/lot	_____ No. of phases	_____Total project flow
Example: *a 100 space RV Park. Table 1 says 100 gpd/space* *Total design flow: 100 spaces X 100 gpd/space = 10,000 gpd total design flow*		
Distance to nearest sewer (in feet or miles) _____		

5. Treatment method (please indicate number and types of General Permit technologies being used – General Permit Categories are found in A.A.C. Title 18, Chapter 9, Part E)

_____

6. Entity Type

☐ municipal/public utility	☐ private utility	☐ semi-public (e.g., sanitary district, improvement district)	☐ other

If other, please explain:	

Did you include a map with this 208 application?	☐ Yes	☐ No. If no, you must include a map with the 208 Consistency Conformance Review. See instructions at the top of this form.

I, the undersigned, verify that the information provided in this application and the necessary attachment is complete and accurate to the best of my knowledge.

Signed: _____	Date: _____

ADEQ use only

Name of Reviewer:
ADEQ File Number:
LTF #
Date sent to 208 Program

Permit Writer's Checklist for CWA 208 Consistency Review

Facility Name _____ Inventory No._____

A-Level Criteria: Applications that DO NOT require CWA 208 Consistency Review:

☐ application for an existing municipal/private domestic WWTP that is improving treatment technology without an increase in design flow

☐ application for an existing municipal/private domestic WWTP that is changing its method of wastewater disposal (without an increase in design flow):
- from or to land disposal, recharge, or reuse; OR
- from an AZPDES discharge to land disposal, recharge or reuse

☐ permit modification to expand the design capacity of an existing municipal/private domestic WWTP within the terms of a previous CWA 208 consistency review approval

☐ renewal of an AZPDES permit for a municipal/private domestic WWTP that is not increasing its design flow or the location of the discharge

☐ permit application for the components of a sewage collection system

☐ minor technical corrections to a permit (except change of ownership of a municipal/private domestic WWTP in Pima County which requires a B-level review)

If your application meets one of the A-level criteria above, check the criterion, sign this form and place it in the permit file → CWA 208 Review is complete.

B-Level Criteria: Applications that DO require CWA 208 Consistency Review:

☐ permit application for a new municipal/private domestic WWTP

☐ permit application for an existing municipal/private domestic WWTP that is adding an AZPDES discharge or changing the location of a previously approved discharge point

☐ permit application for an increase in design flow beyond that approved in previous CWA 208 review (includes up to 10% increase above stated design flow)

☐ permit application for a service area expansion not within the previous CWA 208 review

☐ application for Approval of Sanitary Facilities utilizing on-site wastewater treatment

☐ change of ownership of a WWTP in Pima County

If your application meets one of the B-level criteria, check the criterion that applies, sign this form and place it in the file. Complete the CWA 208 Consistency Review Form and send it and a copy of this form to the Surface Water Section CWA 208 Program for action.

Permit Writer: _____ Date Checklist Filled Out: _____

Date Form Sent to CWA 208 Program for Review: _____

ADEQ Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

Water Quality Improvement Grant Program
Request for Grant Applications EV07-0034

The 2006-2007 Grant Cycle is underway. The Arizona Department of Environmental Quality (ADEQ) is requesting applications for projects that implement on-the-ground water quality improvements to manage nonpoint source pollution in Arizona.

The Money

Approximately $1.5 million is available for multiple awards. The funds are made available under section 319(h) of the Clean Water Act.

The Requirements

For a grant application to be considered eligible for evaluation, it must accomplish all of the following.

- **Improve**, protect or maintain water quality in a water body in the state of Arizona by addressing a nonpoint source of pollution.
- **Demonstrate** acceptable water quality management principles, sound design and appropriate procedures.
- **Yield benefits** at a level commensurate with project costs for the benefit of the state.
- **Have an on-the-ground implementation component** within the state of Arizona.
- **Provide for at least 40 percent** of the project costs as non-federal match.
- **Support** the ADEQ, Water Quality Division Mission Statement. (www.azdeq.gov/environ/water/index.html).
- **Be eligible** under applicable state and federal regulations, and comply with the application process described in the *2004-2007 Water Quality Improvement Grant Manual.*

The Evaluation

ADEQ considers its 319(h) resources investment capital. The return on investments made must come in the form of water quality improvements. To receive an investment, an application must be clear and convincing. ADEQ will evaluate applications using the following principles:

1. Scope of Work
   - Water Quality Problem
   - Action Plan
   - Projected Outcomes
   - Outcome Verification
   - Public Education, Outreach, and Partnerships
   - Key Personnel
   - Location & Site Plan
2. Project Milestones
3. Connection to Water Quality Improvement Plan(s)
4. Budget
5. Compliance with the grant application process

Note - applicant interviews and site visits may be requested.

The Deadline

The deadline to submit grant applications for this grant cycle is **3 p.m., January 3, 2007**.

The Awards

We expect to announce awards in the Spring of 2007.

Location	2006 Dates / Time	Location	Address
Flagstaff	September 25 at 2:00 p.m.	Arizona Department of Environmental Quality, Northern Regional Office, Suite 117	1801 W. Route 66
Eagar	Sept 26th at 10:30 a.m.	Eagar Council Chambers	22 W. 2nd Street
Tucson	September 28 at 1:00 p.m.	Arizona Department of Environmental Quality, Southern Regional Office, Suite 433	400 W. Congress
Payson	October 2 at 1:00 p.m.	Payson Public Library	328 N. McLane Road
Prescott	October 3 at 10:00 a.m.	The Grove Studio (next to Prescott Creeks)	119 Grove Avenue
Safford	October 11 at 10:00 a.m.	Graham County General Services Building	921 Thatcher Boulevard

The Application

The *2004-2007 Water Quality Improvement Grant Manual* details the grant program, includes application forms and instructions on how to apply. **PLEASE NOTE: Changes/revisions have been made to the Grant Application, Grant Instructions and Appendices and must be accessed/downloaded from our web page.**

If you wish to have a hard copy of the grant manual sent to you, please call Bertha Thomas at
(602) 771-4630 or, toll free, (800) 234-5677, Ext. 771-4630