ADEQ
Arizona Department of Environmental Quality

Arizona's 2012 Nonpoint Source Annual Report

Nonpoint Source Program July 1, 2011 - June 30, 2012

Prepared by
Water Quality Division, Surface Water Section

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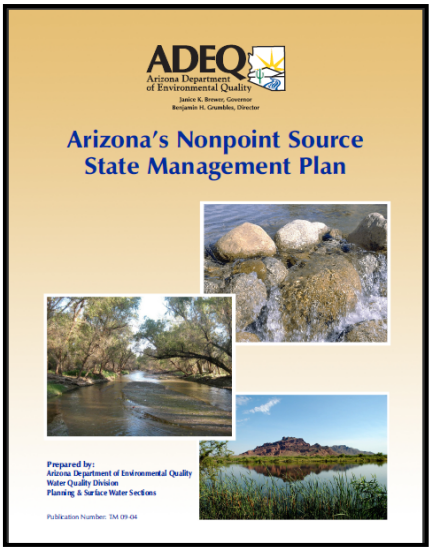
Acronym List

- **ADEM** Arizona Division of Emergency Management
- **ADEQ** Arizona Department of Environmental Quality
- **ADOA** Arizona Department of Administration
- **ADOT** Arizona Department of Transportation
- **ADWR** Arizona Department of Water Resources
- **AGWA** Automated Geospatial Watershed Assessment
- **ASLD** Arizona State Land Department
- **AZPDES** Arizona Pollutant Discharge Elimination System
- **BLM** Bureau of Land Management
- **CGP** Construction General Permit
- **CWA** Clean Water Act
- **DO** Dissolved Oxygen
- **EPA** Environmental Protection Agency
- **MSGP** Multi Sector General Permit
- **NRCS** Natural Resource Conservation Service
- **PGP** Pesticide General Permit
- **TMDL** Total Maximum Daily Load
- **USDA** United States Department of Agriculture
- **USFS** United States Forest Service
- **WBP** Watershed Based Plan
- **WIP** Watershed Implementation Plan
- **WLA** Waste Load Allocation
- **WQIG** Water Quality Improvement Grant

I. Executive Summary

Arizona's Nonpoint Source (NPS) Annual Report for Fiscal Year 2012 presents a synopsis of the Arizona Department of Environmental Quality (ADEQ) NPS Program activities for fiscal year 2012 (July 1, 2011 through June 30, 2012). The majority of work performed by ADEQ's NPS Program is funded by Clean Water Act Section 319(h) grant monies, awarded by the U.S. Environmental Protection Agency (EPA). Section 319(h)(11) requires states to report annually on progress in meeting the schedule of milestones contained in their Nonpoint Source Management Plans, and, to the extent that appropriate information is available, report reductions in nonpoint source pollutant loadings and improvements in water quality resulting from program implementation. Arizona's current Five –Year Management Plan (NPS Management Plan) is available for viewing and download on the ADEQ Web site. This report summarizes activities carried out during year three of the current five-year plan.



Overall, ADEQ is on track to complete the majority of the goals set forth in the current NPS Management Plan. State programs have made significant progress in the following areas:

- Development of broad-based watershed plans for Arizona's 10 major watersheds
- Creation of a "BMP Toolbox", in conjunction with the University of Arizona, with a focus on best management practices that apply to arid environments
- Development of an Interactive Mapping Service (IMS) that gives the public access to a wide variety of GIS layers and allows them to create their own maps for grant applications and other watershed planning purposes
- Ensuring that ADEQ's sampling methods and protocols are up to date and readily available to the public via the ADEQ website
- Developing AZPDES permit language requiring that surface water quality monitoring meet ADEQ's credible data requirements
- Adapting and completing EPA's Environmental Monitoring and Assessment Program (EMAP) for Arizona
- Training watershed stakeholders in ADEQ's Targeted Watersheds to perform watershed surveys, water quality sampling and data analysis

ADEQ has seen a 25 percent staffing decrease in water programs since the original writing of the existing NPS plan. This has had an effect on progress rates toward achieving certain goals. Strategies that have been impacted include grant-specific effectiveness monitoring, TMDL/TIP development, and outreach and education activities. In addition, the state moratorium on rule making has prevented progress in developing and implementing new water quality standards to support water quality assessments and impairment identification.

ADEQ has funded the development of plans for each of the state's 10 major watersheds:
Colorado River/Grand Canyon
Little Colorado (and the San Juan watershed)
Colorado River/Lower Gila
Bill Williams
Verde
Middle Gila (and the Agua Fria sub-watershed)
Salt
Santa Cruz
San Pedro
Upper Gila

Table 1: Watershed plans have developed for ADEQ's 10 major watersheds

ADEQ has strived to adapt and find new ways to meet its NPS management goals in recent years. Increased emphasis has been made on finding common priorities both across internal programs and with external partners to maximize the potential of our combined resources. Some examples of this include coordination with:

- Coordination with US Forest Service (USFS) and Bureau of Land Management (BLM) to identify annual shared monitoring and implementation priorities
- Coordination with Arizona Game and Fish Department (AZGFD) to update GIS coverage for Arizona lakes
- Coordination with Arizona Department of Emergency Management (ADEM) to address post-fire erosion control needs in the Wallow Fire burn area
- Coordination between Grants and Outreach (G&O) and Total Maximum Daily Load (TMDL) staff to identify and support Targeted Watershed projects
- Partnership with the University of Arizona to provide technical support to Targeted Watershed projects
- Partnership with local groups such as the Upper Gila Watershed Partnership, Prescott Creeks Preservation Association, Oak Creek Watershed Council, Little Colorado River Resource Conservation & Development (RC&D) council, and Coronado RC&D council to develop community-driven watershed based plans

While ADEQ's NPS Program has faced staffing and budget challenges in recent years, there is an ongoing, demonstrable commitment to achieving the goals set out in the current NPS Management Plan. The Program continues to be successful in adapting current strategies and coordinating resources both internally and externally in order to maximize effectiveness. During the remaining two years covered by the current NPS Management Plan, staff will focus on increased coordination with state and local entities to address pollutants in impaired and non-attaining water bodies. Additional efforts will also be made to assess the effectiveness of WQIG projects and report to EPA on CWA Section 319-leveraged watershed improvements in order to better communicate the continued success and relevance of nonpoint source efforts in Arizona.

II. Arizona's Nonpoint Source Management Program

Background

ADEQ's NPS Program uses a combination of tools to protect the state's water resources from nonpoint source pollution. Identifying and addressing water quality concerns are part of an ongoing cycle that includes water quality standards development, surface and groundwater monitoring, water quality assessment reports, Total Maximum Daily Load (TMDL) studies, TMDL implementation plans (TIPs), watershed inventories and characterizations, watershed-based plans, and Water Quality Improvement Grant (WQIG) projects.

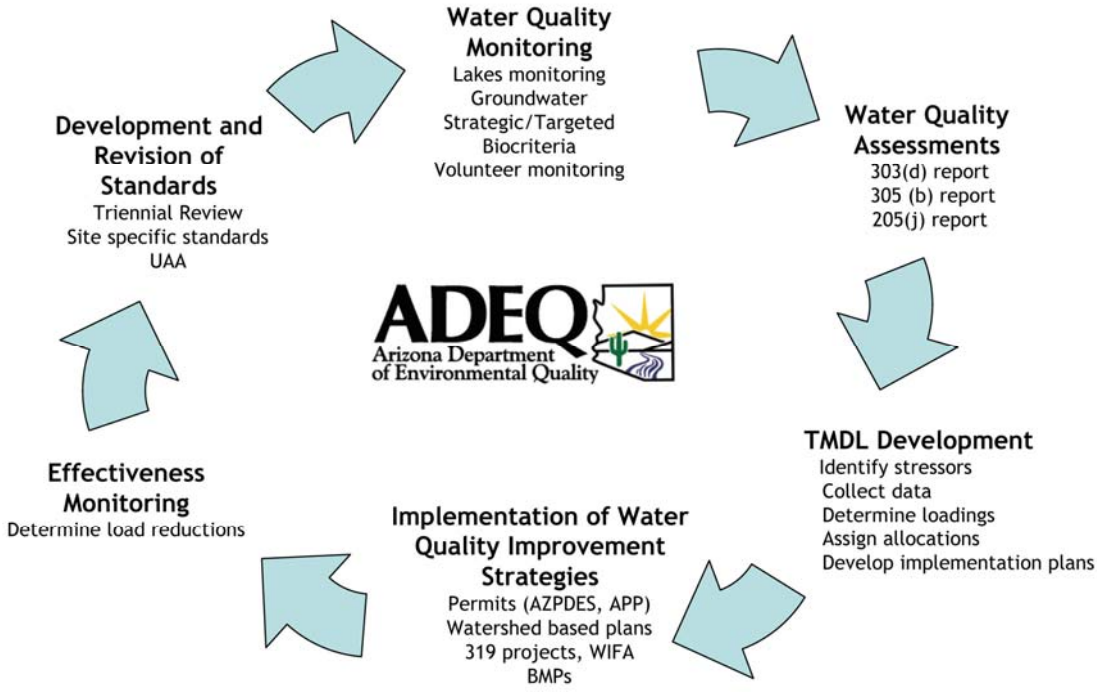


Figure 1: Identifying and addressing water quality concerns are part of an ongoing cycle.

Arizona's Primary Nonpoint Source Pollutants

Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even groundwater.

Today, nonpoint source pollution remains the nation's largest source of water quality problems. It is the main reason that approximately 40 percent of our surveyed streams and lakes are not clean enough to meet basic uses such as fishing or swimming. The primary nonpoint source pollutants causing impairments in Arizona's most recent assessment (draft 2010) are:

- Suspended sediment
- Nutrients or related parameters (nitrogen, phosphorus, low dissolved oxygen, high pH)
- *E. coli* bacteria
- Metals and low pH
- Selenium
- Boron
- Historic pesticides

Sources of these pollutants include livestock grazing, recreation, crop production, mining, forestry, and wildlife.

Some lakes and streams are listed as impaired for more than one of these pollutants. The draft 2010 Status of Ambient Surface Water Quality in Arizona (Arizona's Integrated 305(b) and 303(d) Listing Report) indicates that Arizona has 21 lakes listed as impaired for 32 pollutants and 64 streams reaches for 118 pollutants. These numbers may change prior to finalizing the current draft document, as EPA will have the opportunity to list additional water bodies and/or pollutants. Although in a few drainages point sources may be contributing, these impairments are primarily the result of nonpoint source contributions.

Use Support Category	# Lakes	Acres	# Reaches	Miles
Category 1 (Attaining all uses)	0	0	25	292.6
Category 2 (Attaining some uses)	6	23609.38	78	976
Category 3 (Inconclusive)	29	14229.14	154	1458.36
Categories 4A, 4B, 4A/5 (Not attaining)	12	2732.1	42	308.95
Category 5 (Impaired)	21	59892.7	64	919.87
Total Assessed	68	100463.3	367	3955.78
Total Attaining or Impaired	39	86234.18	213	2497.42

Table 2: Draft 2010 Status of Assessed Waters

Funding Allocations

ADEQ receives two types of nonpoint source funding, base and incremental, from EPA pursuant to CWA Section 319. The total amount of Section 319 funding available nationally in given year is determined by Congressional appropriation. State shares of that total are determined by a state-by-state allocation formula developed by EPA in conjunction with the states.

In FY12, the total nonpoint source award of $2,756,000 was divided equally into the base and incremental categories. Figure 2 demonstrates the allowable use of each type of funding, and how that funding is allocated by ADEQ to manage and implement the state nonpoint source program. Half of the overall funding was committed to funding on-the-ground implementation, watershed planning, and stakeholder education and training projects via the Water Quality Improvement Grant (WQIG) program. The remaining was utilized internally to fund NPS Program and supporting staff and TMDL development.

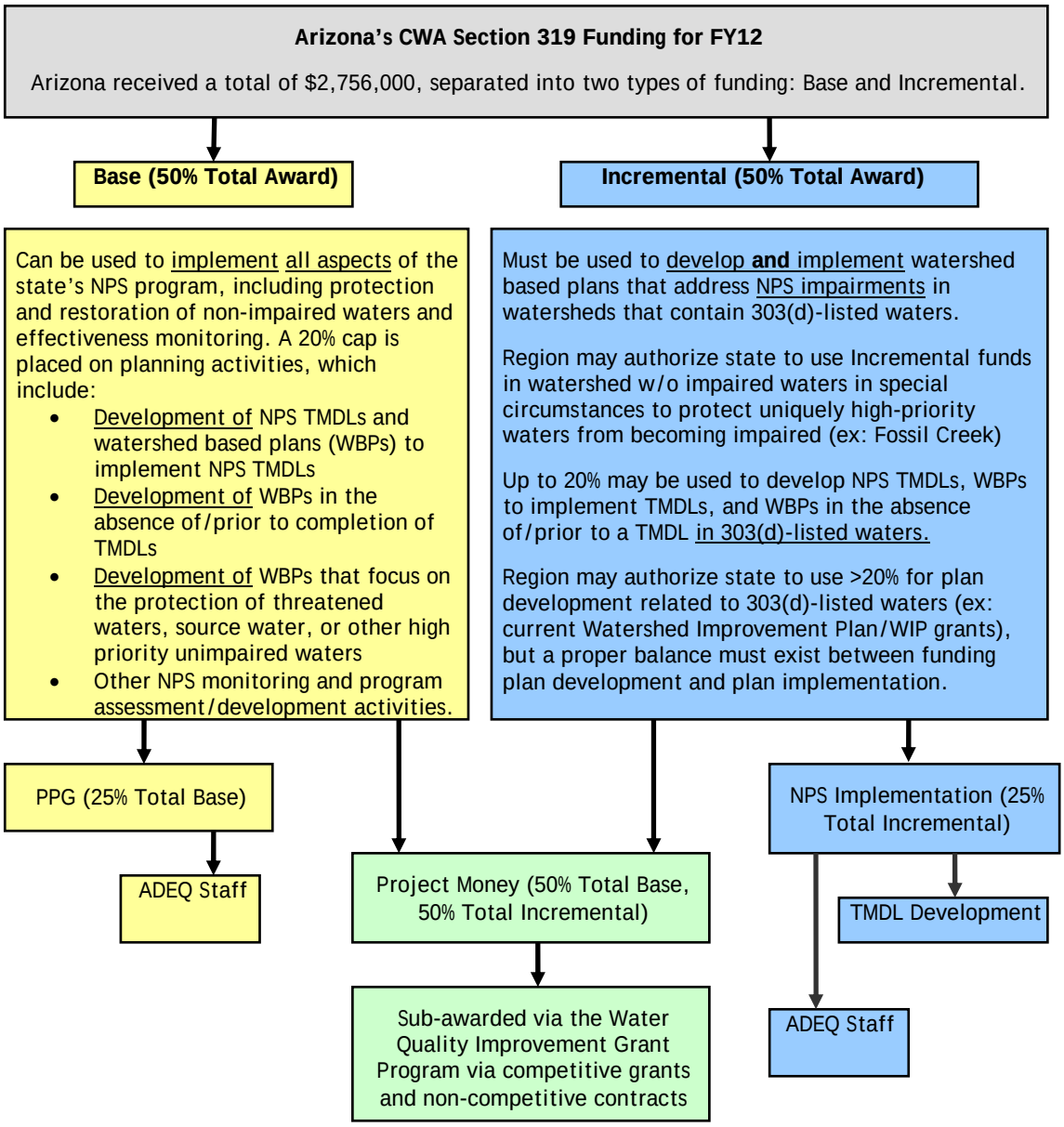


Figure 2: ADEQ's Use of Base and Incremental Funding to Support Nonpoint Source Activities.

Nonpoint Source Program Goals

ADEQ's NPS Program operates primarily under the direction of the NPS Management Plan. The current State Management Plan identifies nonpoint source goals and strategies for 2010-2014, and identifies four broad goals (identified below).

Goals Identified in the 2010-2014 Arizona Nonpoint Source Five-Year Management Plan

1. Prevent and reduce nonpoint source pollution discharges to protect surface or groundwater resources.
2. Coordinate efforts of various programs within ADEQ and with other agencies and partners to reduce nonpoint source pollution impacts to surface and groundwater.
3. Identify and mitigate impairments to surface water or groundwater quality.
4. Evaluate and improve the effectiveness of the nonpoint source pollution program and communicate success.

The state's progress in meeting these goals and the specific objectives, strategies, and milestones defined therein is detailed in Section III: Nonpoint Source Strategic Plan and in Appendix A: Strategic Planning Table Update.

Determining Nonpoint Source Priorities

The Impaired Waters Strategy

Arizona's NPS Program has promoted and facilitated statewide efforts to manage the impact that nonpoint source pollution has on our surface and groundwater. ADEQ continues to focus efforts on restoring waters that have been listed as impaired on the Arizona Integrated 305(b) Assessment and 303(d) Listing Report, as well as protecting waters that are attaining their designated uses. In order to identify the highest priority NPS activities for a given year, ADEQ considers each water quality impairment that is influenced by nonpoint source pollution and the different factors that influence the ability to mitigate the impairment (pollutant of concern, land ownership, potential local watershed partners/local interest in the impairment). One tool for assessing this information is the Impaired Waters Table. An abridged version of this table is included in Appendix B of this document, titled "The Impaired Waters Table Update." Detailed information Arizona's impaired water bodies can be found on the ADEQ website.

Measure W Watersheds

EPA's "Measure W" is another tool utilized by the state when determining nonpoint source priorities. "Measure W" (also known as the Watershed Improvement Measure (WIM) and SP-12) is a key performance measure in EPA's Strategic Plan. The measure tracks watersheds where water quality conditions have improved by utilizing a watershed approach. One of the primary purposes of this measure is to model and demonstrate the effectiveness of the watershed approach. EPA has a nation wide goal to improve water quality conditions in 250 watersheds for 2012. EPA Region 9 and our state water quality agency partners have agreed to track the following watersheds for purposes of reporting on this measure and documenting environmental results, and to better focus our water quality restoration activities by identifying needs, sharing information, providing assistance and learning more about the related challenges. ADEQ anticipates that all of these watersheds with the exception of Boulder Creek will show improvement by 2012 for the identified pollutant. ADEQ is currently coordinating with EPA and other partners to initiate project implementation on Boulder Creek during FY12. Additional watersheds may be added and/or substituted.

- Boulder Creek
- Alum Gulch
- Turkey Creek
- Tonto Creek
- Pinto Creek

Targeted Watersheds

Beginning in FY09 and continuing through FY12 and future fiscal years, the NPS Program has focused Water Quality Improvement Grant (WQIG) funding and technical support resources into formally identified Targeted Watersheds (Appendix B). Targeted watersheds are identified using the Impaired Waters Strategy, and influenced by their potential to satisfy EPA's "Measure W". Key criteria for Targeted Watersheds include the presence of a NPS-related impairment as well as local stakeholder interest and ability to effectively address that impairment. As of the close of FY12, ADEQ has seven Target Watersheds, listed below. For ease of reference, watersheds have been grouped into three sets based on grant cycle.

Cycle 11 Competitive Targeted Watersheds (State FY 09-10)
Granite Creek (WQIG #11-T01)
Oak Creek (WQIG #11-T02)
San Francisco/Blue Rivers (WQIG #11-T03)

Cycle 12 Competitive Targeted Watersheds (State FY 10-11)
Little Colorado River Headwaters (WQIG #12-002)
San Pedro River (WQIG #12-003)
Tonto/Christopher Creeks (WQIG #12-007)

Non-Competitive Targeted Watersheds (State FY11)
Boulder Creek/Hillside Mine

Competitive Targeted Watersheds are awarded funding via a competitive grant cycle; Non-Competitive Targeted Watersheds are allocated funding based on ADEQ priorities and the potential to significantly address the primary NPS source of concern. A primary goal of the Targeted Watershed approach is to provide funding and technical support for the development of locally-led Watershed Implementation Plans (WIPs). These plans identify the implementation practices and ongoing management measures necessary to address the NPS pollutants that are contributing to impairments in the Targeted Watersheds. The WQIG will use these WIPs to determine future funding priorities in these watersheds. Currently, one WIP (for the San Francisco and Blue rivers) has been completed. Three others are in various stages of development (for the San Pedro River, Oak Creek, and Granite Creek).

Boulder Creek from Wilder Creek to the confluence of Butte Creek was identified as a non-competitive Targeted Watershed during FY10. This reach of Boulder Creek is currently impaired due to elevated levels of arsenic, copper, and zinc. The TMDL for this reach identifies three mine tailings piles (referred to as the upper, middle, and lower piles) as the primary sources contributing to these impairments, as well as an adit discharge located at the middle pile site. Each pile is located on lands managed/owned by different entities (the upper pile is located on BLM land; the middle on private land, and the lower on State Land), making watershed-scale mitigation efforts historically difficult to organize. BLM began work in FY10 to update its assessment of the issues at the upper pile site and develop a plan for mitigation. Around the same time, the EPA Region 9 Superfund program expressed interest in allocating funding toward a project in Arizona. In order to maximize the benefits of these efforts, ADEQ and EPA initiated discussions with the Arizona State Lands Department (ASLD) and the Arizona Department of Administration (ADOA) Risk Management to develop a plan to address the lower tailings pile. ADEQ, EPA Superfund, and ADOA have committed funding funds to the project. In addition, Freeport McMoRan (whose Bagdad mine is located adjacent to the lower pile but is not a contributor to the Boulder Creek impairments) has agreed to donate rock and fill material to facilitate the capping and stabilization of the pile. As of the writing of this report, ADEQ is awaiting response from EPA regarding the specific terms of use of Superfund dollars in support of this project. If all parties are in agreement with the terms of use of both Superfund and NPS dollars, project design and planning will recommence.

The progress that has been achieved to date in each of the Targeted Watersheds will be detailed throughout this report.

Partnerships and Support

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. Arizona achieves these partnerships 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 works with a variety of entities to incorporate other appropriate water quality controls and further the goals of the Nonpoint Source Program.

NPS Program staff work closely with stakeholders in Targeted Watersheds to develop community-led, watershed-based planning efforts. These local planning efforts assist the department in developing WIPs and other programs and outreach activities appropriate to the specific area and current issues. A list of Arizona Watershed Partnerships can be found on ADEQ's website. Within these watershed partnership structures, ADEQ and its partners are able to more easily identify, assess, and help implement voluntary efforts to control nonpoint source pollution.

In FY12, ADEQ focused on updating an existing partnership agreement with the Bureau of Land Management (BLM) to maximize the potential for collaboration in future years. In addition, NPS Program staff worked closely with the Arizona Department of Emergency Management (ADEM) and local stakeholders to create funding opportunities to mitigate the devastating effects of the Wallow Fire. This fire burned 538,049 acres in eastern Arizona during the spring and summer of 2011, impacting two of ADEQ's targeted watersheds (the Little Colorado River Headwaters and the San Francisco/Blue Rivers). Staff also coordinated with EPA Region 9 Superfund Staff, the Arizona State Lands Department (ASLD), and the Arizona Department of Administration (ADOA) to develop a joint effort to address runoff from mine tailings impacting the impaired Boulder Creek in Bagdad, Arizona. Staff also provided recommendations for priority watersheds to the Natural Resource Conservation Service (NRCS) for the FY12 National Water Quality Initiative (NWQI). More information about these and other partnership efforts can be found in Appendix A.

Measures of Success

Each project funded by the WQIG program to implement on-the-ground water quality improvements must describe a process for evaluating the effectiveness of the implementation efforts over time. Monitoring can include photographic tracking of project progress, vegetative transect data, and/or actual water quality monitoring data. Information on reductions in nitrogen, phosphorus, and sediment nonpoint source loads are tracked and reported in EPA's Grant Reporting and Tracking database (GRTS). GRTS enables EPA and states to demonstrate the accomplishments achieved with the use of 319(h) funding. The data entered into GRTS is used by the EPA to respond to inquiries received from Congressional committees, the White House, and various constituent groups.

For FY12, ADEQ continued to utilize the Automated Geospatial Watershed Assessment (AGWA) Tool to estimate pollutant load reductions from projects that did not conduct pre- and post-implementation water quality monitoring. AGWA uses widely available standardized spatial datasets to develop input parameter files for two watershed runoff and erosion models: KINEROS2 and SWAT. ADEQ chose to utilize AGWA beginning in FY11 primarily because it can be calibrated to reflect characteristics unique to arid areas. This is a capability that is not well supported by common GRTS load reduction tools such as the EPA Region 5 and STEP-L models. ADEQ anticipates that the use of AGWA will result in realistic, scientifically defensible load reduction estimates when "real-world" data is not readily available for completed projects.

Arizona's FY12 load reductions were determined based on a combination of AGWA estimates and grantee-provided data. Total load reductions are listed in Table 3 below.

Pollutant of Concern	Estimated Load Reduction	Unit of Measure
Nitrogen	96,463.48	lbs/yr
Phosphorus	477.64	lbs/yr
Sediment	535.91	tons/yr

Table 3: Load Reduction Estimates Reported to EPA for State FY12

Not all WQIG projects are able to provide load reduction data. Education-based and technical support projects help ensure the long-term success of NPS Program efforts by broadening public understanding of nonpoint source issues, encouraging public participation, and providing critical support for watershed-based planning and implementation efforts. One example of the many successful education and technical support projects is the Coyote Creek Watershed Education and Training Grant. This project was initiated to educate local ranchers about sediment impairments in the Little Colorado River (to which Coyote Creek is a tributary), determine effectiveness of past BMP implementation, and make recommendations for future BMPs. The project was so successful that it was expanded to include an implementation phase—a step that ADEQ could not have reached so quickly on its own. Please refer to Appendix F for additional information about this project.

III. Nonpoint Source Strategic Plan

The foundation of the 5-year Nonpoint Source Management Plan and subsequently this Annual Report is the strategic plan described in this section and detailed in Appendix A. It contains specific goals, objectives, and strategies that ADEQ will implement to strengthen its Nonpoint Source Program.

The strategic plan describes how resources will be allocated to achieve the mission of Arizona's Nonpoint Source Program, which is to:

> *Achieve and maintain water quality standards through the reduction of nonpoint source pollutant contributions to Arizona's surface and groundwater.*

The components of ADEQ's strategic plan:

- **Goals** – Goals are like Generals. They look at the big picture. Goals show us what the world will look like after we achieve our objectives – the desired outcomes. Goals are broad and inclusive, yet attainable and realistic.
- **Objectives** – Objectives are like Sergeants, taking directions from the Generals (goals). They describe the broad changes needed to achieve a goal.
- **Strategies** – Strategies are the foot soldiers. Strategies are specific actions needed to accomplish an objective.
- **Milestones** – Milestones are steps, stages, or phases of implementing the strategy. They allow us to determine progress in accomplishing the strategies. They may include tactics – the tools that must be developed.
- **Responsible Parties** – These are the major players who are committed to implementing the strategy.
- **Measures of Success** – Indicators of success must be chosen for each strategy. These need to be quantifiable and directed at achieving the objective or goal.

Strategic planning starts with the end in mind by establishing broad goals and objectives. Four broad goals were established for this nonpoint source strategic plan:

Goal #1: Prevent and reduce nonpoint source pollution discharges to protect surface or groundwater resources.
Goal #2: Coordinate efforts of various programs within ADEQ and with other agencies and partners to reduce nonpoint source pollution impacts to surface and groundwater.
Goal #3: Identify and mitigate impairments to surface water or groundwater quality.
Goal #4: Evaluate and improve the effectiveness of the nonpoint source pollution program and communicate success.

Objectives and strategies are then selected to achieve each goal. Definable milestones, responsible parties, and measures of success are then developed for each strategy to direct implementation of the plan and to evaluate success. Measures of success will be monitored and results analyzed to document whether and how well desired outcomes were achieved. Analyses provide the information needed to direct strategic plan changes. Milestone percent completion estimates are based on the completion of the Milestones over the course of the five-year NPS period. Milestones for which work is consistent and ongoing over the five-year period are generally ascribed a completion percentage of 20% per year. Annual reports to EPA will use these milestones and measures of success to report on progress.

Appendix A: Arizona Nonpoint Source Strategic Plan (FY 2010 - FY 2014)

Goal 1: Prevent and reduce nonpoint source pollution discharges to protect surface or groundwater resources.									
Objective 1.A	**Invest in Water Quality Improvement and Education Grants (319(h) Grants) that are likely to provide long-term load reductions and changes in behavior and to achieve watershed-wide improvements in water quality.**								
Strategy 1.A.1	**Grant proposals must demonstrate:** **►How grant implementation will improve water quality on a watershed-scale basis** **►That grantee has sufficient resources, technical skills, and commitments to implement and maintain the grant beyond the grant implementation cycle** **►That grantee has sufficient resources, technical skills, and commitments to implement and maintain the grant beyond the grant implementation.**								
Success Indicators	1) Documented long-term grant project success after implementation of this objective 2) More grant proposals fulfill this objective								
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**	
			FY10	**FY11**	**FY12**	**FY13**	**FY14**		
1) The grant manual revised to clarify grant requirements	The Grants & Outreach (G&O) Unit began developing revised grant documents for WQIG Cycle 13, which will be finalized in FY13. Cycle 13 documents will focus on the implementation of Watershed Improvement Plans (WIPs).	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	20			**60**	
2) Grant process revised	G&O staff developed a funding opportunity for nonpoint source mitigation projects in the Wallow Fire burn area via an Interagency Service Agreement (ISA) with the Arizona Department of Emergency Management (ADEM). A total of $250,000 was awarded to ADEM to identify, award, and manage erosion control projects in the burn area, with highest priority given to projects that we also within an ADEQ Targeted Watershed. See Appendix E for additional details. Staff also began examining past grant processes and identifying ways to improve upon them for WQIG Cycle 13 (FY13). Opportunities for improvement were identified in relation to project budget justification, maintenance commitments, and internal review time for project applications. These improvements will be a main focus for FY13 activities.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	20			**60**	
3) Technical assistance and training for grantees to improve grant proposals	G&O staff reviewed and provided feedback on draft sub-award applications submitted to the Arizona Department of Emergency Management under ISA # EV12-0005 (AZ DEMA Wallow Fire Nonpoint Source Mitigation).	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	20			**60**	
Objective 1.B	**Encourage management practices that mitigate nonpoint source pollutant loadings.**								
Strategy 1.B.1	**Develop a "BMP toolbox" of watershed remediation methods applicable to Arizona's hydrologic and geologic conditions and provide hands-on educational opportunities for target audiences in implementing these practices. Next 5-year focus: homeowner storm water management, recreation, grazing, septic systems, and shallow lake management.**								
Success Indicators	1) Use of website and tools documented 2) Demonstration sites visited 3) New improvement projects associated with website use and demonstration site visits								
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**	
			FY10	**FY11**	**FY12**	**FY13**	**FY14**		
1) BMP toolbox available on website with user-friendly tools	This milestone has been completed. ADEQ contracted with the Arizona Nonpoint Source Education for Municipal Officials (NEMO) program in FY09 to develop a web-accessible BMP manual. This manual was completed during FY11, and can be found online at http://nemo.srnr.arizona.edu/nemo/index_old.php?page=bmpmanual.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	25	75	n/a	n/a	n/a	**100**	

2) Training and education opportunities created where needed	In FY10 and 11 the WQIG program funded three projects that focused specificaly on providing education and on-the-ground training regarding proper BMP identification and implementation. These projects were #11-007 (Sediment Reduction from Runoff Using BMPs), #12-002 (Coyote Creek Watershed-scale Education and Training Grant), and #12-004 (Community Stewardship Model for Green Streets). **This milestone update was inadvertantly omitted from the FY10 and FY11 reports; please note the updated percents completion reported at right.* The majority of the training activities funded under these projects took place during FY12. In addtion, the Coyote Creek project was expanded during FY12 to include on-the-ground implementation of high priority identified BMPs.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards) ►TMDL Program	0	20	40			**60**
Strategy 1.B.2	**Complete state-wide watershed-based plans for use by local watershed partners that:** **►Characterize the watershed** **►Identify pollutants of concern** **►Determine high-risk sub-watersheds for specific pollutants groups** **►Include EPA's nine key elements for a watershed plan**							
Success Indicators	1) Pollutant loading reductions in watershed because Information in plans used to: a) Initiate new water quality improvement projects b) Institute new land management decisions c) Implement new BMP's							
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) Plans completed for the last four watersheds: Colorado-Grand Canyon, Colorado-Lower Gila, San Juan (part of the Little Colorado), and the San Pedro.	Final plans for each of Arizona's ten 8-digit watersheds are available on the AZ NEMO Web site at the following location: http://nemo.srnr.arizona.edu/nemo/index_old.php?page=characterization	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards) ►Watershed Partners	100	n/a	n/a	n/a	n/a	**100**
2) Education and training about these watershed-based plans for government leaders, resource managers, and other watershed partners	FY12 resources were focused on ADEQ's Targeted Watersheds, which are much more refined in scale than the NEMO-generaged 8-digit HUC plans. Targeted Watershed grantees, however, were educated about and directed toward these watershed based plans as references for subwatershed prioritization and WIP development. Staff plan to update WQIG website in FY13 to improve access to these plans and to better explain the role they play ADEQ's Nonpoint Source Program and how they should be used by the public. Additional formal workshops focusing on the NEMO WBP's will not be conducted as they do not directly pertain to ADEQ's current watershed priorities. However, the content of these plans will be shared and untilized as applicable at the smaller watershed scale.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	0	0	20			**20**
3) Interactive Mapping Service available on line so interested watershed partners can work with GIS covers used to develop these plans	The IMS is accessible on the AZ NEMO Web site (www.arizonanemo.org). While GIS layers were updated and will continue to be updated by NEMO as new versions become available, this milestone is considered complete for the purposes of this report.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	90	0	10	n/a	n/a	**100**

Objective 1.C	Encourage the use of legal authorities to reduce nonpoint source contributions to surface or groundwater, rather than relying on voluntary actions.							
Strategy 1.C.1	**Educate watershed partners about potential legal authorities to control nonpoint source loadings to surface or groundwater.** **Examples include, but are not limited to:** **►Existing state and federal regulations (aquifer protection (A.A.C. R18-9), nitrogen management areas (A.A.C. R18-9), pesticide use and disposal (A.A.C. R18-6), hazardous waste use and disposal practices (A.A.C. R18-8), underground storage tanks (A.A.C R18-12), solid waste disposal regulations (A.A.C R18-13)** **►Federal or state land use or permit restrictions (e.g., grazing permits, off-road vehicle use areas, road closures, MS4 permits)** **►Local planning and zoning restrictions - existing and potential ordinances**							
Success Indicators	1) Watershed partners use legal authorities to reduce pollutants of concern							
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) Education materials and training opportunities for watershed partners (e.g., authorities, process, where best used, and contact for info).	G&O staff worked with WIP grantees during FY12 to identify legal authorities that could be utilized to help address water quality impairments, such as local ordinances controling manure pile management. Staff continued to compile resources to aid in future web site updates (included in the FY13 workplan) to include relevant links and contact information for legal authorities that may be utlized to address nonpoint source concerns. Surface Water staff led and/or participated in meetings on the applicability of MSGP's, CGP's, and PGPs to a variety of municipal, federal, state, and special interest groups with a combined total of over 500 attendees.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards ►Aquifer Protection Permit Program ►Hazardous Waste Program ►Solid Waste Program ►Underground Storage Tanks Program ►Pesticide Program (Arizona Department of Agriculture) ►AZPDES Permits, including Storm Water Management	0	20	40			**60**
Strategy 1.C.2	**Identify methods for using land use management and written agreements to assure long-term load reductions for water quality improvement grants (319(h) Grants). For example, use of conservation easements, deed restrictions, Memorandums of Understanding.**							
Success Indicators	1) Land management restrictions are used to assure load reductions. 2) Grant project evaluations show that written agreements incorporated into grant process have assured project effectiveness well beyond the two year grant period.							
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) Education materials and training for watershed partners.	G&O staff educated interested WIP grantees about cooperative agreements and their potenial use in securing support for projects recommended in WIP documents. Drafts of existing ADEQ agreements were provided as reference. ADEQ will assist in the development of future agreements to support WIP implementation as requested or deemed necessary.	►Grants and Outreach, including 319 grants (e.g., NEMO and Master Watershed Stewards)	5	0	45			**50**
2) Water Quality Improvement Grant agreement procedures modified to incorporate written agreements that better assure long-term load reductions.	G&O staff began researching options for improved long-term maintenance agreements. One option being considered is developing cooperative agreements for grantees that would last beyond the term of the grant agreement and include language commiting the grantee to maintain 319-funded BMPs for their estimated service life. Staff will continue to research this option in FY13, with potential to implement the practice during FY13 or FY14 grant cycles.	►Grants and Outreach, including 319 grants (e.g., NEMO and Master Watershed Stewards)	0	0	20			**20**

Goal 2: Coordinate efforts of various programs within ADEQ and with agencies and partners to reduce nonpoint source pollution impacts to surface and groundwater.									
Objective 2.A	**Encourage public involvement and locally-driven efforts.**								
Strategy 2.A.1	**Empower watershed partners to develop and implement watershed improvement and education projects by providing technical assistance, education, and training.**								
Success Indicators	1) Increased knowledge results in more effective project implementation, higher load reductions, and more commitment to continue water quality improvements. 2) Grant proposals submitted by watershed partners require less revision and less direct assistance from ADEQ staff to develop or implement. 3) Monitoring data collected by watershed partners meet Credible Data requirements and can be used by ADEQ for assessments. 4) Modeling, mapping, and GIS analyses available at website are used by local watershed partners to support water quality improvement project development.								
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) Target education grants to provide needed technical assistance, education, and training for watershed partners.	G&O staff continued to support education-based contracts and grant agreements during FY12. This included: • Two Watershed-scale Education and Training Grants (#12-002 and #12-007, the latter of which was cancelled due to lack of local activity) to provide nonpoint source impairment-specific education and training to watershed stakeholders. For project #12-007, TMDL and Grants staff meet with Gila County and reviewed basic WQ sampling techniques. The County considered taking over the Tonto Creek targeted grant but later decided not to commit resources to that effort. Additional training will occur on an as requested basis. • Three contracts with the University of Arizona (EV11-0009, EV11-0010, EV11-0011) to fund AZ NEMO Program, Master Watershed Steward (MWS) Program, and Dr. Channah Rock to provide technical support and training services to ADEQ-identified targeted watersheds. • One additional contract (EV11-0008) with the U of A to fund Project WET Water Festivals, providing statewide youth education regarding water and water quality.	►ADEQ Nonpoint Source Programs ►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	20			**60**
2) Provide education and training opportunities on water quality topics of concern as requested by watershed partners, such as: sampling, credible data requirements, data tracking, field survey methods to identify pollutant sources and remediation projects, GIS mapping and modeling capabilities, grant writing.	G&O and TMDL staff worked closely with watershed stakeholders throughout FY12 to provide watershed-specific education and training. Efforts were focused on Targeted Watersheds. ADEQ activities included organizing a WIP Leaders Meeting to encourage communication between the WIP watersheds, in-the-field sampling and field survey trainings with the San Pedro, San Francisco, and Oak Creek watershed groups; as well as regular ADEQ data collection and interpretation updates for the Tonto/Christopher Creek group. In addition, the U of A NEMO program worked with targeted groups on GIS mapping, field survey methods, modeling, and data tracking techniques; MWS staff developed targeted watershed education courses and assisted in the development of presentations and educational materials; and Dr. Channah Rock worked extensively with the San Pedro, San Francisco, Granite Creek, Oak Creek, and Tonto Creek groups on E. coli sampling plan development and data interpretation methods.	►ADEQ Nonpoint Source Programs ►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	20			**60**

Objective 2.B	**Encourage land and resource management agencies and tribal authorities to identify and mitigate nonpoint source pollution impacts in Arizona.**							
Strategy 2.B.1	**Strengthen working relationships with other agencies and tribes to encourage development of effective water quality improvement projects and avoid projects or practices that would contribute to impairment of surface or groundwater quality.**							
Success Indicators	1) New strategies identified and implemented resulting in reduced pollutant loadings. 2) Funds from multiple funding sources used to implement priority water quality improvement projects. 3) More tribal representation in planning and watershed partner meetings. 4) Tribal 319(h) grant proposals reflect a watershed approach to identify priority projects							
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) Memorandums of Understanding with other agencies and tribes updated to better support this 5-year strategic plan.	ADEQ worked closely with the BLM during FY12 to update an existing cooperative agreement between the two agencies. As of the close of FY12, this agreement is under review by the Attorney General's office. Finalization of the agreement is expected early in FY13. In light of the USDA National Water Quality Initiative announced during FY12 and its inclusion of enhanced cooperation between Farm Bill and CWA-funded grant programs, the decision was made to re-prioritize future MOU updates to focus next on ADEQ's agreement with the NRCS. Updating this agreement will be a focus in FY13.	►ADEQ Nonpoint Source Programs ►Federal and state agencies who have signed MOUs with ADEQ ►ADEQ and EPA tribal liaisons ►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	10	5	*20*			**35**
2) ADEQ participation in coordinated resource planning efforts of federal and state agencies (e.g., planning, federal action reviews).	The WQD provided comments on approximately 198 environmental reviews received from various federal, state, and local agencies. The Hillside Mine project continues to evolve and move forward. Multiple teleconferences and site visits were conducted in FY12. ADEQ continues to coordinate efforts between the local stakeholders and EPA R9. Currently, if progress continues at its current pace final design work, contracting and construction will take place in FY13. Cooridination continues with the USFS statewide on-scene coordinator and individual forests. Yearly workplans are reviewed for overlapping priorities and activities. Post forest fire monitoring coordination in priority watersheds, like Turkey Creek, occurs when necessary.	►ADEQ Nonpoint Source Programs ►ADEQ WQD Director's Office ►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	*20*			**60**
3) Coordinate with other agencies to leverage funding opportunities, especially for priority projects within impaired watersheds (Objective 3.B.1).	Grants and Outreach staff coordinated with NRCS to identify potential priority watersheds for the USDA National Water Quality Initiative. The NWQI mandates that states prioritize 5% of their available EQIP funded (managed and awarded by NRCS) toward impaired watersheds. In addition, representatives from the USFS, BLM, EPA, AZG&F, ADEM, ASLD, ADOA and ADOT have actively participated in planning and implementing WQIG-funded projects (most specifically the WIP projects, Wallow Fire mitigation projects, and the proposed Hillside Mine project at Boulder Creek). In addition, the TMDL group continues to coordinate annually with USFS to determine where mutual priorities exist across the state.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	*20*			**60**
4) Tribal participation in watershed planning, educational opportunities, and priority water quality.	G&O staff provided presentation slides and program information to ADEQ's tribal liaison for the 2012 meeting of the Intertribal Council of Arizona. Staff also met with landowners and managers in the Wallow Fire burn area, including Navajo Nation representatives, to discuss potential uses of 319 funding for post-fire mitigation projects. For FY13, staff will focus on including tribal entities whenever possible on WIIP-recommended projects for WQIG Cycle 13. G&O staff has requested that EPA provide a contact list for tribal nonpoint source contacts in Arizona to assist in this activity.	►ADEQ and EPA tribal liaisons ►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	0	*20*			**40**

Goal 3: Identify and eliminate impairments to surface water or groundwater water quality.									
Objective 3.A	**Assess water quality of surface waters and groundwater.**								
Strategy 3.A.1	**Perform state-wide surface and groundwater quality monitoring according to ADEQ's Monitoring Strategy (revised 2007) and analyze data to fulfill requirements of the Clean Water Act and state water statutes.**								
Success Indicators	1) ADEQ continues to submit superior quality assessment and impaired waters identification reports that are approved by EPA. 2) Groundwater basin reports complete at least one report per year.								
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) State-wide surface water monitoring is completed in a three year cycle.	50 randomly selected sites were sampled from 2008 to 2010 and a final report is being drafted. The final report should be available by December 2012. The next cycle of montioring will begin in FY13.	►Ambient Monitoring Program	20	20	*20*			**60**
2) Groundwater quality is characterized and reported for watershed partner use.	A final report for the Ranegras Plain was completed in April 2012. An online copy should be available once upper management and communications finishes their review.In addition a comprehensive statewide report was completed that include 15 years worth of data (over 1500 wells). This report provides well owners vital information about their water quality and suggestions on what parameters they should have their well tested for.	►Ambient Monitoring Program	0	40	*30*			**70**
3) ADEQ submits assessment report, assessment database, and list of impaired waters every two years to EPA.	During FY12, the Assessment Program developed the draft 2010 Integrated 303(d)/305(b) Report and released it for public comment. Work on the draft 2012 IR was initiated, as well. ADEQ requested data submissions from statewide external sources in April 2012. Data requests will now be made on an annual basis rather than the previous practice of requesting data only when beginning a new 305(b) Assessment. Targeted Watershed grantee data will also be incorporated for use in future assessments. The 2010 IR will be submitted to EPA during FY13, with the 2012 following in FY14.	►Assessment Program	30	60	*5*			**95**
4) Impaired waters list and supporting GIS maps updated and available on internet.	The impaired waters waters list and supporting maps will be updated in FY13 when the 2010 IR is finalized.	►Assessment Program	20	70	*0*			**90**
Strategy 3.A.2	**In-stream water quality sampling data submitted to ADEQ to evaluate effectiveness of grants or treatment, ambient conditions, or impacts from potential pollutant sources:** **►Is reliable, scientifically based, and meets credible data requirements established for listing impaired waters** **►Is formatted so it can easily be loaded into ADEQ's database** **►Includes supporting metadata needed to properly interpret the water quality data** **►Is collected using protocols established by ADEQ, if applicable standards would require these protocols**								
Success Indicators	1) Monitoring data submitted to ADEQ meets credible data requirements, contains supporting metadata, and is easily loaded into ADEQ's database.								
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) Current ADEQ's sampling methods and protocols are available over the internet.	ADEQ's current sampling methods and protocols are available online at: http://www.azdeq.gov/environ/water/assessment/download/sampling.pdf	►Ambient Monitoring Program ►TMDL Program	100	n/a	*n/a*	n/a	n/a	**100**
2) Components of the Sampling Analyses Plans (SAPs) and Quality Assurance Plans (QAPs) required to meet credible data requirements are either provided in the permit or submitted to ADEQ with all in-stream surface water quality data.	The Permits Unit has developed improved permit language for those AZPDES permits which require ambient surface water quality monitoring in order to ensure the data collected will meet ADEQ credible data requirements. The Permits Unit will continue to coordinate with the Ambient Monitoring and Assessment Programs to ensure appropriate guidance documents are available to permittees and referenced in the permits.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards) ►AZPDES Permit Programs	20	30	*50*	n/a	n/a	**100**
3) The potential value of in-stream sampling requirements are considered for all AZPDES Permits, especially if the discharge might impact an impaired surface water.	Boilerplate permit language has been revised to require permit writers to consider these issues when processing permit applications. Criteria is being developed to ensure in-stream monitoring requirements are incorporated into new and renewal permits when appropriate.	►AZPDES Permit Programs	50	10	*40*	n/a	n/a	**100**
4) Guidance documents establish credible data and submittal requirements, including supporting metadata requirements.	Most of the guidance document has been drafted; however there area still a few on-going modifications that will be included at at later time. No additional work on this project was completed in FY12.	►Assessment Program	70	0	*0*			**70**

Strategy 3.A.3	**Develop and implement new tools, water quality standards, and sampling methods to support water quality assessments and identification of impairments, sources, and key projects.**							
Success Indicators	1) Arizona assesses a higher percentage of perennial waters. 2) Fewer surface waters must be added by EPA to Arizona's 303(d) List of impaired waters. 3) Assessment reports are completed in a timely manner. 4) New methods provide scientifically reliable evidence of source contributions 5) New water quality improvement projects significantly reduce pollutant loading and lead to delisting of water quality impairments							
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) Water quality standards developed or revised in accord with the Triennial Review Process.	The revised Surface Water Quality Standards Rules were finalized on January 31, 2009. ADEQ is in the process of identifying proposed changes for the 2012 triennial review. The initiation of the formal rule making process is on hold due to the Arizona moratorium on rule making.	►Assessment Program ►Rule Development Program ►Data Management Program	40	0	*0*			**40**
2) EPA's Environmental Monitoring and Assessment Program (EMAP) random monitoring approach is adapted for use in Arizona's arid environment.	50 random wadeable perennial stream sites were chosen in FY10; sampling occurred in FY12 to provide a statistically valid assessment of Arizona.	►Ambient Monitoring Program	90	0	*10*			**100**
3) Arizona's Impaired Water Identification Rule is revised to incorporate new water quality standards and better reflect EPA's impaired waters listing guidance.	Arizona's Impaired Water Identification Rule established methods and criteria for identifying impaired waters and developing a Total Maximum Daily Load analysis. This rule was adopted in 2002 and revisions begain in 2010 to incorporate new procedures for identifying impaired waters based on violations of narrative water quality standards.There is no timeframe for new rules because all rule development is on hold due to the Arizona moratorium on rule making. Accordingly, progress on this task has been halted.	►Assessment Program	40	0	*0*			**40**
4) New components are developed for Arizona's Assessment Calculator (AZAC) to provide computer assisted data analyses for water quality assessments.	AZAC was updated to reflect water quality standards approved by EPA during the 2009 Triennial Review prior to running the 2012 Assessment data. Additional minor updates were made to the program utilizing internal staff. No external contract was sought to perform more extensive programming updates	►Assessment Program	0	15	*20*			**35**
5) A data submittal process is established so that external data can be readily loaded into ADEQ's Water Quality Database.	G&O staff worked with the U of A NEMO program during to develop databased for all WIP grantees so that monitoring data can be easily loaded into ADEQ's database.	►Assessment Program	30	0	*20*			**50**
6) New methods developed to survey watersheds and to identify sources and key project sites that will significantly address impairments.	G&O and TMDL staff worked with all WIP grantees to updated watershed shed survey methods as needed. FY12 assistance focused on assisting with the development and review of social surveys for watershed stakeholders. The TMDL Unit has begun using GIS to identify target areas for additional monitoring by looking at perennial waters to see if samples have been collected near potential pollution sources (historic mines, grazing, etc.). In addition, they have also begun looking at the watershed scale at which TMDLs are completed to determine if concentrating at a smaller scale would lead to greater implementation potential.	►TMDL Program ►Grants and Outreach Program	20	20	*20*			**60**
7) Develop new databases to track field survey data and new methods to interpret field survey data.	G&O staff worked with the U of A NEMO program during to develop databased for all WIP grantees so that monitoring data can be easily loaded into ADEQ's database. Database development for all current WIP grantees was completed during FY12. ADEQ and U of A staff also assisted WIP groups in the interpretation of their field data and the translation of this data into BMP recommendations for the WIP documents to be finalized in early FY13.	►Grants and Outreach Program	20	10	*50*			**80**

Objective 3.B	Target resources in watersheds with impaired waters to identify sources and implement plans to reduce pollutant loadings.							
Strategy 3.B.1	**Establish an intra-agency team and an external partnership for each impaired surface waters to help identify and implement new strategies to mitigate impairments.**							
Success Indicators	1) New strategies are developed and implemented that result in water quality improvements.							
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) High priority impaired watersheds are identified for targeting resources such as 319(h) Grant resources, educational opportunities, and potential legal authorities.	Grants & Outreach and TMDL staff continued to work with EPA Region 9, ADOA Risk Management, and ASLD to initiate an implementation plan and secure funding for projects at the Boulder Creek/Hillside Mine site. Freeport MacMoRan Bagdad agreed to provide soil cover, rock, and water toward capping the lower tailings pile. Ongoing activities at this time include scope of work and land access negotions with ASLD and ADOA, project design development, determination of donated materials value for match purposes, planning for biological and historical surveys, and sourcing of additional construction water.	►Grants and Outreach Program ►TMDL Program ►ADEQ Permit Programs (AZPDES, APP, etc) ►Monitoring and Assessment Programs ►Federal and State Agencies with MOUs	10	15	*20*			**45**
2) Two types of teams are created to identify resources and potential actions for high priority watersheds: a) A multi-programmatic ADEQ team with a focus on legal authorities. b) A multi-agency team with watershed partners to identify and implement other strategies.	ADEQ's internal team, consisting of TMDL and G&O, continued to focus on project development at the Boulder Creek/Hillside Mine site. In addition to the external team consisting of EPA Region 9 Nonpoint Source and Superfund staff, ASLD, and ADOA formed during FY11, Freeport MacMoRan Bagdad was also included as an external partner (see above for additional details). No additional priority watersheds were selected for FY12. The Impaired Waters table was updated based upon reviewing the draft 2010 303d list	►Grants and Outreach Program	10	30	*10*			**50**
Strategy 3.B.2	**Assist locally-driven efforts to develop and implement Watershed Improvement Plans (WIPs) in targeted watersheds that identify water quality improvement projects, education and training needs, and other actions needed to mitigate impairments.**							
Success Indicators	1) Watershed plans fulfill EPA's nine key elements for a watershed plan. 2) Implementation is initiated through locally-driven efforts. 3) Measurable improvements in water quality after implementation of projects.							
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) Watershed Improvement Council establishment and education.	WICs have been established for all current Targeted Watersheds. ADEQ and WIC members continue to reach out to watershed stakholders to encourage active participation and input. ADEQ aims to increase tribal partcipation in appropriate targeted watershed moving into FY13. The Watson Lake/Granite Creek TMDL project manager engaged the WIC throughout the year and gave them periodic project updates.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards) ►TMDL Program ►Assessment Program	20	20	*40*			**80**
2) Volunteers trained to conduct field surveys and water quality sampling.	Volunteers have been trained in the Cycle 11 and Cycle 12 Targeted Watersheds. Ongoing FY12 training focused primarily on the San Pedro and Tonto Creek watersheds. During FY12, an equipment loan program was developed to allow grantees to utilize state-owned equipment in lieu of purchasing new equipment with 319 funding.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards) ►TMDL Program ►Ambient Monitoring Program	20	20	*40*			**80**
3) Methods for field surveys and sample collection are developed, approved by ADEQ staff, and implemented.	Methods for field surveys and sample collection have been developed for all Targeted Watersheds. Some plans were adapted during FY12 to account for additional sampling needs.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards) ►TMDL Program ►Assessment Program	20	20	*40*			**80**
4) Field surveys, sample collections, and other information are analyzed to identify key project sites.	Analysis of field survey and sampling data continued in all WIP-developing watersheds during FY12. The TMDL Unit provided SAP update and data review for all targeted watershed groups in FY12. TMDL staff reviewed the Oak Creek and San Francisco River WIPs and made suggestions regarding data interpretation and BMP selection.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards) ►TMDL Program	20	20	*20*			**60**

5) Project sites are prioritized and best options for mitigating pollutant loading identified.	All WIP-developing watersheds worked toward prioritization of sub-watersheds and specific sites during FY12. It became clear that WIPs would not be able to provide a comprehensive list of specific BMPs at specific locations due to the fact that not all landowners/managers have been willing to participate in WIP development. Instead, WIPs will identify a series of high-priority specific projects, and identify methods for determing sites and BMPs for additional projects to address impairments.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	0	20	*40*			**60**
6) Planning documents are finalized.	Draft WIP documents or portions thereof were submitted to ADEQ review during FY12 for all WIP watersheds, with the San Francisco WIP document finalized at the end of FY12. The remaining WIPs will be finalized early FY13.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	0	20	*40*			**60**
7) 319(h) Grant fund used to implement plans, as appropriate.	319(h) grant funding was utlized to implement ADEQ-approved education and outreach portions of the draft WIPs submitted by the San Francisco and Oak Creek grantees.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	0	*20*			**40**
Strategy 3.B.3	**Develop and implement TMDLs to identify source contributions and load reductions needed to meet standards.**							
Success Indicators	1) EPA approves ADEQ's TMDLs. 2) TMDL implementation results in pollutant reductions							
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) Scientifically-based TMDLs are developed according to the TMDL schedule.	Although only 2 TMDLs were submitted to EPA for approval several additional TMDLs were drafted. TMDLs developed in FY12 incorporated new language to include WLAs for general permits. Incorporation of this langauge proved challenging and delayed submission of several TMDLs.	►Federal and State Agencies with MOUs ►ADEQ Permit Programs (AZPDES, APP, etc) ►Monitoring & Assessment Programs ►TMDL Program ►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	0	40	*20*			**60**
2) Status of TMDL development and existing TMDLs are available for stakeholders.	Draft and approved TMDLs were posted on the ADEQ TMDL webpage. A TMDL Listserv was developed and used to disseminate TMDL and Assessment related information.	►TMDL Program	20	20	*20*			**60**
3) Public involvement in TMDL Implementation Plan (TIP) development and implementation.	TIPs were developed for the Gila River and Little Colorado River SSC and E.coli TMDLs along with the San Pedro E. coli TMDL. All of these were incorporated into the TMDL document due to the size of the watershed and lack of interested stakeholders. As these projects move through the public comment process the opportunity for expanded TIP development will be explored. If opportunity presents itself more informative, stand alone TIPs will be developed with stakeholders. WIP development for the San Francisco/Blue, San Pedro, and Granite Creek watersheds is publically driven, and is intended to eliminate the need for TIP development in these areas. While a TIP was included in the Oak Creek TMDL, the WIP for that watershed will serve to update implementation recommendations.	►TMDL Program	0	10	*40*			**50**
4) Nonpoint Source Grant funds used to implement TIP as appropriate.	Nonpoint source funding supported the projects under the LCR Headwaters targeted watershed grant which are supported by the 2002 TMDL for turbidity and the implementation recommedations therein. G&O staff also intiated planning for Grant Cycle 13 during FY12. Projects that are recommended by WIPs, TMDLs, and TIPs will be prioritized for funding during this cycle, which will be announced the fall of FY13.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	0	0	*30*			**30**

Goal 4: Evaluate and improve the effectiveness of the Nonpoint Source Program and communicate success.								
Objective 4.A	**Evaluate ADEQ's Water Quality Improvement Grants (319 Grants) and TMDLs to determine their effectiveness at creating long-term reductions in pollutant loadings.**							
Strategy 4.A.1	**Evaluate past grant projects and TMDLs to determine conditions that lead to project success or reasons why pollutant loads have not diminished sufficiently to allow the pollutant of concern to be delisted.**							
Success Indicators	1) Grant evaluations lead to adjustments in grant funding decisions. 2) TMDL evaluations result in adjustments to TMDLs. 3) Water quality improvements are documented.							
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) ADEQ staff will evaluate effectiveness of education and on-the-ground improvement projects several years after the final project closeout.	A framework for evaluating closed projects was developed during FY09. Staffing shortages have prohibited site visits beyond those conducted for active and recently closed out projects during FY12. G&O staff do not foresee a staffing change in the near future, and began to coordinate with existing monitoring efforts conducted by TMDL effectiveness monitoring staff to aquire data relevant to past projects whenever possible. During FY12, data was collected that ties WQIG projects to water quality improvements in the Verde River, Pinto Creek, and potentially other waters. This date will be further analyzed during FY13, and Success Stories/Measure W reports will be submitted to EPA as appropriate.	►Grants and Outreach Program	10	0	*10*			**20**
2) TMDL effectiveness is determined five years after completing the TMDL based on samples collected during critical conditions when past exceedances had occurred.	TMDL Effectiveness Monitoring (EM) continued on the Tonto and Christopher Creek and Turkey Creek TMDLs. Additional samples were collected along the Verde River in conjunction with the ambient monitoring program. The Wallow Fire delayed additional sampling along Nutrioso Creek and LCR. TMDL EM efforts in FY12 were similar in scope and extent as previous efforts in FY11. FY12 efforts focused on the Tonto and Christopher Creek and Turkey Creek projects. However, the main EM staff member left the agency in February 2012 hampering efforts to collect additional EM data through the end of FY12. Data analysis on the Tonto TMDL project is on going and will be completed by the end of FY12. Staff will be reassigned in FY13 to continue EM on priority projects which will include Boulder and Pinto Creeks if remedial projects are completed in FY13 .	►TMDL Program	20	20	*20*			**60**
3) All grant projects have a monitoring component that measures water quality improvements and/or determines long-term behavioral changes.	G&O and TMDL staff continued to work with grantees througout FY12 to develop and adapt monitoring plans nd provide mointoring resources, including training and equipment.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	*20*			**60**
4) Submit load reduction reports for nutrients and sediment reductions to EPA using their Grant Reporting and Tracking System.	Load reduction estimates were entered into GRTS for eight projects during FY12. The load reductions associated with these projects totaled 96463.48 lbs/yr of nitrogen, 477.64 lbs/year of phosphorus, and 535.91 tons/year of sediment.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	*20*			**60**
5) Develop better methods for determining load reductions of all types of pollutants in arid conditions.	ADEQ contracted with AZ NEMO in FY11 to calculate load reductions for WQIG projects that will reduce nitrogen, phosphorus, and/or sediment and will not be conducting monitoring sufficient to provide their own load reduction data. AZ NEMO continued to utlize the AGWA program to calculate loard reduction data in FY12.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	*20*			**60**

Objective 4.B	Communicate Nonpoint Source Program successes and lessons learned.							
Strategy 4.B.1	**Document "success stories" or "lessons learned."**							
Success Indicators	1) Stories increased public awareness of these programs. 2) Grant proposal methods reflect past successes and lessons learned.							
Milestones	**Progress Summary**	**Responsible Parties**	**Percent Completion per FY**					**Overall Percent Completion**
			FY10	**FY11**	**FY12**	**FY13**	**FY14**	
1) Grantees provide information and graphics in their final reports for these stories.	All final reports submitted to ADEQ during FY12 were in accordance with the final report format revised in FY09. This format follows the EPA 319(h) Success Story format to allow for smooth transition between final reports and success story submissions. TMDL EM monitoring results were shared with interested stakeholders in several watersheds.	►Grants and Outreach Program and grantees (e.g., NEMO, Master Watershed Stewards)	20	20	*20*			**60**
2) Grant and TMDL effectiveness documented and communicated to the public.	TMDL EM monitoring results were shared with interested stakeholders in the Tonto and Christopher Creek watershed as data became available. While this monitoring reflects the effectiveness of past WQIG projects, direct determinations were not made regarding specific project sites. Results from Turkey Creek and Alum Gulch were shared with the USFS.	►TMDL Program	20	20	*20*			**60**

Appendix B: Impaired Waters Table Update

ADEQ has a comprehensive strategy for improving water quality on Arizona's impaired waters that will lead to these waters meeting standards. The TMDL and WQIG programs bring together the resources needed to move the surface water through a series of steps or levels until the impairment has been mitigated and the stream or lake is meeting standards for the pollutants of concern. The Impaired Waters Table is tool utilized to track surface waters based on Management Strategy and Priority Level.

The following table is a slightly abridged version of the tool utilized by ADEQ. This table has been updated based on Arizona's Draft 2010 Integrated 305(b) Assessment and 303(d) Listing Report. It is primarily organized based on ADEQ's Priorization Level. Waters are prioritized in one of the following ways:

- **High priority for attaining standards** (color coded blue)
- **Potential for improvement in the near future** (color coded green)
- **Explore opportunities** (color coded yellow)
- **Federal responsibility to mitigate** (color coded orange)
- **Potential de-list** (color coded pink)
- **Not an implementation priority/primarily point source in nature** (color coded white)

In the far left column, the table notes the Management Strategy that applies to each surface water. Since the Management Strategy informs ADEQ's prioritization scheme, there is some overlap in the six Prioritization Levels and the six Management Strategies. The six Management Strategies (Level A through F) are:

- **Level A – Investigate and develop TMDL.** Most impaired waters start in Level A. The TMDL Program will develop further monitoring data to determine the extent of impairment (e.g., seasonality, area), likely sources, and develop a Total Maximum Daily Load (TMDL) that indicates the load and waste load reductions needed for the surface water to meet standards.
- **Level B – Develop a plan or other strategy that identifies and prioritizes effective water quality improvement projects.** This step is key to diminishing the pollutant sources and impacts and may be initiated even before a TMDL has been completed if there is adequate local support for development of a plan or if the land owner wishes to actively remediate the pollution. If the pollutant can be mitigated easily, a formal TMDL may not be necessary. Watershed Improvement Plans, TMDL Implementation Plans, or other formal strategies developed must include EPA's nine key elements of a watershed plan. These plans include a load or waste load reduction estimation, although not at the level of sophistication of a TMDL. If a TMDL has been completed first, the surface water automatically moves to Level B for development of the TMDL Implementation Plan (i.e., TIP). ADEQ works with watershed groups, other agencies, land owners, and other interested parties in Level B phase, bringing in expertise needed to identify and technically evaluate key projects.
- **Level C – Implement the plan or other strategy.**Level C - Surface waters move to Level C when the Watershed Improvement Plans, TMDL Implementation Plan, or other strategy is being implemented. Implementation may take years and require multiple phases.
- **Level D – Re-evaluate impairment due to watershed improvements, new standards, or natural conditions.** The impairment decision will be re-evaluated when water quality improvements are implemented, when relevant water quality standards change, or when preliminary data indicates that pollutants are solely due to natural conditions. New data are collected during this stage during critical conditions (conditions when exceedances have occurred in the past).

- **Level E – Request removal from Arizona's impaired water list.** If the data evaluation indicates that the surface water is no longer impaired by the pollutant(s) of concern, the surface water moves to this level for a short time. This level reflects the reality that surface waters must be officially removed from the impaired waters list, and this may take time.
- **Level F – Assign to EPA because ADEQ lacks jurisdiction (e.g. pollutant source are entirely in Mexico).** When all pollutant sources are outside of Arizona, particularly in Mexico, EPA will be notified and will be expected to take the lead in implementing pollutant mitigation actions. The spreadsheet shown in this appendix is a tool to coordinate efforts between several of ADEQ's programs and help focus efforts and funding opportunities with other federal, state, and local agencies. Improving water quality on *all* surface waters listed as impaired is a high priority for ADEQ, so the level does not infer a priority.

Appendix B: Impaired Waters Table Updates

KEY:	High focus for attaining standards	Potential for improvement in the near future/some activity	Explore opportunities	Federal responsibility to mitigate	Potential Delist	Not an implementation priority/primarily point sources.

Mngmnt. Strategy	Internal Prioritization	Targeted Status	Watershed	Surface Water	Assessment Unit	WBID	Pollutants (First Listed)	Assessment Category	TMDL Development	Potential Sources	Previous Projects and Other Comments	Support / Partnerships	County
D	**High focus for attaining standards**	**Potential Measure W/SP-12**	Santa Cruz	Alum Gulch (from headwaters to end of intermittent flow and tributaries (e.g.Humboldt Canyon))	Humboldt Canyon (Headwaters to Alum Gulch)	15050301-340	Cadmium (1996) Copper (1996) Zinc (1996) Low pH (1996)	4a	TMDL completed in 2003	Mine tailings and adit	TMDL sources identifed: Remediate mining sources. USFS has remediated Worlds Fair Mine and Humboldt Canyon Mine. Remaining sources are Humboldt Canyon and January adits (point sources), and are a low priority for USFS at this time. Tiny subdrainage of Sonoita Creek 15050301-02	Friends of Sonoita Creek and Friends of Santa Cruz	Santa Cruz
					Alum Gulch (Headwaters to Tributary at 312820 / 1104351);	5050301-561A	Cadmium (1996) Copper (1996) Zinc (1996) Low pH (1996)						
					Alum Gulch (Tributary at 312820 / 1104351 to Tributary at 312917 / 1104425)	15050301-561B	Cadmium (1996) Copper (1996) Zinc (1996) Low pH (1996)						
					Alum Gulch (Tributary at 312917 / 1104425 to Sonoita Creek)	15050301-561C	Cadmium (1996) Copper (1996) Zinc (1996) Low pH (1996)						
C	**High focus for attaining standards**	**ADEQ NPS Funding Target AND Potential Measure W/SP12**	Bill Williams	Boulder Creek (from Wilder Creek to Butte Creek)	Boulder Creek (Wilder Creek - Butte Creek)	AZ15030202-005A	Arsenic Copper Zinc	4a	Completed TMDL in 2004 Completed TIP in 2005	Mining	TMDL identified sources: Remediation at Hillside Mine. Identify and prioritize other mining contributions in the drainage. ADEQ coordinating with ASLD, EPA, ADOA and Freeport McMoRan to address lower tailings pile. Construction expected in Spring 2013. BLM currently developing plan to address upper pile. Middle pile under private ownership.	Arizona State Lands Dept Arizona Risk Management BLM Freeport McMorRan EPA Region 9	Yavapai
B/C	**High focus for attaining standards**	**ADEQ NPS Funding Target**	Verde	Granite Creek/Watson Lake	Granite Creek (Headwaters to Willow Creek)	15060202-059A	DO (2004 - EPA) *E. coli* (2010)	5	TMDLs to be completed in FY13	Urban, old city infrastructure, hobby farms, recycled wastewater, inadequate facilities for day workers, etc	Developing a WIP to dentify and prioritize sources and implement appropriate BMPs. DO listing on Granite may come off in the 2012 assessment. WQIGs: 1. Retention basin improvement and street sewer eduction program (2007) 2. Granite Creek channel recontouring in Watson Woods. 3. Granite Creek riparian improvement in Watson Woods (Watson Woods is just above Watson Lake) 4. Granite Creek Watershed Improvement Plan (2009) Other Work completed by watershed group (Prescott Creeks): ambient monitoring to determine sources of nutrients and *E. coli* bacteria. Other monitoring is proposed.	Prescott Creeks Preservation Association City of Prescott ADOT	Yavapai
					Miller Creek (Headwaters to Granite Creek)	15060202-767	E. coli (2010)						
					Watson Lake	15060202-1590	Nitrogen Low DO High pH (EPA 2004)						
D	**Not an implementation priority/primarily point sources.**	**Potential Measure W/SP-12**	Santa Cruz	Lakeside Lake	Lakeside Lake	15050302-0760	Ammonia Low DO High pH Cholorophyll-a Nitrogen Phosphorus	4a	TMDL completed in 2005	This lake formerly but no longer receives effluent. Wildlife, duck feeding, dog droppings may contribute some nutrients.	TMDL identified: Further treatment of effluent (tertiary or constructed wetland); provide more well water (not effluent); reduce storm water entering lake, dredge lake to remove nutrients in sediment; upgrade aeration system in lake; use alum to remove phosphorus from water column; use algaecides; and drop lake level in spring to minimize algae growth WQIGs: Treating lake with Alum to remove phosphorus New permit indicates that city will not be discharging effluent to the lake.	City of Tucson Park and Recreation. Arizona Game and Fish Department	Pima

KEY:	High focus for attaining standards	Potential for improvement in the near future/some activity	Explore opportunities	Federal responsibility to mitigate	Potential Delist	Not an implementation priority/primarily point sources.

Mngmnt. Strategy	Internal Prioritization	Targeted Status	Watershed	Surface Water	Assessment Unit	WBID	Pollutants (First Listed)	Assessment Category	TMDL Development	Potential Sources	Previous Projects and Other Comments	Support / Partnerships	County
D	**High focus for attaining standards**	**ADEQ NPS Funding Target**	Little Colorado River	Little Colorado River (from West Fork LCR to to Lyman Lake) (several reaches)	Little Colorado River (West Fork Little Colorado River to Water Canyon);	15020001-011;	Turbidity	4a	TMDL, including TIP completed in 2002. Need to reevaluate using SSC standards, so will sample for SSC and turbidity in 2009-sampling continues	Grazing, recreation, silviculture (forestry), roads smaller urban areas. Stream bank and channel degradation.	Proposed: Identify and prioritize sources and implement appropriate BMPs. Implementation plan has been developed for the Coyote Creek subwatershed as part of grant #3 listed below. WQIGs: 1. Coyote Creek sediment reduction (1998) 2. Big Ditch project (2000) 3. Coyote Creek Targeted Watershed Improvement Grant (2010)	US Forest Service MOU Little Colorado River Watershed Coordinating Council	Apache
					Little Colorado River (Water Canyon to Nutrioso Creek);	15020001-010	Turbidity						
					Little Colorado River (Nutrioso Creek to Carnero Creek);	15020001-009	Turbidity						
					Little Colorado River (Coyote Creek to Lyman Lake)	15020001-005	Turbidity						
B/C	**High focus for attaining standards**	**ADEQ NPS Funding Target**	Verde	Oak Creek (from headwaters to Spring Creek - 5 reaches) **and** Spring Creek (from headwaters to Oak Creek)	Oak Creek (Dry Creek to Spring Creek);	15060202-017	*E. coli* (2006)	4a	TMDL completed 2011	Recreation, septic systems, urban runoff, grazing	Developing a WIP to dentify and prioritize sources and implement appropriate BMPs. WQIGs: 1.Sediment traps - Guardian Project 2000. 2. 10 Septic systems 2000-2002 3. Don't trash Slide Rock 4. Sediment catchments 2000-02 5. Slide Rock educaiton and outreach (1997) 6. DNA Genotyping (1999) 7. Septic systems (1998) 8. Outfall pipe (2000) 9. Septic survey (2001) 10. Trailhead toilets and riparian improvements (2002) 11. Redrock State Park constructed wetland (2006) 12. Oak Creek WQIG (toilets and campground improvements) (2006) 13. Oak Creek Watershed Improvement Plan (2010)	Oak Creek Watershed Council Coconino National Forest	**Yavapai - Coconino**
					Oak Creek (West Fork Oak Creek to Tributary at 345709 / 1114513);	15060202-018A	*E. coli* (2006)						
					Oak Creek (Tributary at 345709 / 1114513 to Slide Rock State Park);	15060202-018B	*E. coli* (1994)						
					Oak Creek (Slide Rock State Park to Dry Creek);	15060202-018C	*E. coli* (2006)						
					Oak Creek (Headwaters to West Fork Oak Creek);	15060202-019	*E. coli* (2006)						
					Spring Creek (Coffee Creek to Oak Creek)	15060202-022	*E. coli* (2006)						
A	**High focus for attaining standards**	**Potential Measure W/SP-12**	Salt	Pinto Creek (from headwaters to Roosevelt Lake)	Pinto Creek (Headwaters to Tributary at 331927 / 1105456)	15060103-018A	Copper (1990)	4a	Phase 1 completed in 2001. Phase II under development. TMDL waiting for a site-specific copper standard. Selenum TMDL not yet completed.	Historing and current mining	TMDL indicated sources: 1. Mining, especially at Gibson Mine. 2. Survey area to identify other abandoned mining operations and prioritize for remediation. WQIG: 1. Gibson Mine remediation (2006) 2. NPS Reduction of Copper to Pinto Creek (2010) ADEQ is attempting to set a site specific copper standard	Friends of Pinto Creek	Gila
					Pinto Creek (Tributary at 331927 / 1105456 to West Fork Pinto Creek)	15060103-018B							
					Gibson Mine Tributary (Deadwaters to Pinto Creek	15060103-887							
					Pinto Creek (West Fork Pinto Creek to Roosevelt Lake)	15060103-018C	Copper (1990) Selenium (2004)	4a (*also 5)					
B/C	**High focus for attaining standards**	**ADEQ NPS Funding Target**	Upper Gila	San Francisco (from Blue River to Limestone Gulch) **and** Blue River (from Strayhorse Creek to San Francisco River)	Blue River (Strayhorse Creek to San Francisco River);	15040004-025B	*E. coli* (2006)	5	On hold due to WQIG/WIP development.	Grazing, recreation, urban runoff, septic systems. Upper Gila Watershed Partnership and County Health Department believe the problem is human recreation without proper facilities.	Small scale riparian improvements, fencing, and alternative water sources for cattle have been funded peicemeal throughout the watershed. Developing a WIP to identify and prioritize sources and implement appropriate BMPs. WQIGs: 1. Martinez Ranch riparian improve and grazing BMPs 2. Kaler Ranch erosion control Phase I (2006) 3. Cole Creek and White Mule Creek sediment reduction (2004 4. San Francisco/Blue River Targeted Watershed Improvement Plan (2009) 5. Kaler Ranch erosion control Phase II (2010)	Upper Gila Watershed Partnership Greenlee County Health Dept Friends of the Frisco	Greenlee
					San Francisco River (Blue River to Limestone Gulch);	15040004-003	*E. coli* (2006)						
					San Francisco River (Limestone Gulch to Gila River)	15040004-001	*E. coli* (2010)						
B/C	**High focus for attaining standards**	**ADEQ NPS Funding Target**	San Pedro	San Pedro River (from Babocomari Creek to Dragoon Wash)	San Pedro River (Babocomari Creek to Dragoon Wash)	15050202-003	*E. coli* (2004)	5	Initiated in 2006. TMDL currenlty on hold due to WQIG/WIP development.	Grazing Septic systems and urban runoff in Fairbank and Benson area	Developing a WIP to identify and prioritize sources and implement appropriate BMPs. WQIGs: 1. San Pedro urban sediment reduction (Sierra Vista, 1995) 2. San Pedro sediment reduction (1997) 3. Borderlands upland improvements (2002) 4. Fort Huachuca road closure & crossing improve (2002) 5. San Pedro Watershed Improvement Plan (2010)	Coronado RC&D, Clean Water Alliance	Cochise

KEY:	High focus for attaining standards	Potential for improvement in the near future/some activity	Explore opportunities	Federal responsibility to mitigate	Potential Delist	Not an implementation priority/primarily point sources.

Mngmnt. Strategy	Internal Prioritization	Targeted Status	Watershed	Surface Water	Assessment Unit	WBID	Pollutants (First Listed)	Assessment Category	TMDL Development	Potential Sources	Previous Projects and Other Comments	Support / Partnerships	County
B	**High focus for attaining standards**	**ADEQ NPS Funding Target AND Potential Measure W/SP12**	Salt	Tonto Creek (from headwaters to unnamed tributary) **and** Christopher Creek (from headwaters to Tonto Creek	Tonto Creek (Headwaters to Tributary at 341810 / 1110414)	15060103-018B	*E. coli* (1998) Low DO (EPA 2004) Nitrogen (1998)	4a	TMDLs for nitrogen and *E. coli* were completed in 2005	Grazing. Fish hatchery Inadequate septic systems for campgrounds and subdivisions.	TMDL identified sources: Inadequate septic tanks and recreational sources. WQIGs: 1. Gila County septic system upgrades (2006) 2. R-Bar-C Boy Scout septic improvements (2007) 3. Tonto Baptist Camp septic upgrade (2008) 4. Tonto Watershed Improvement Grant (2010) (CANCELLED - lack of organization at the local level)	Tonto Watershed Improvement Group Gila County Department of Health Services Arizona Game and Fish Tonto National Forest	Gila
					Tonto Creek (Tributary at 34180 / 1110414 to Haigler Creek)	15060103-018C	*E. coli* (1998) Low DO (EPA 2004) Nitrogen (1998)	4a					
					Christopher Creek (Headwaters to Tonto Creek)	15060103-018A	*E. coli* (2004)	4a					
							Phosphorus (2006)	5	TMDL not yet scheduled				
D	**Not an implementation priority/primarily point sources.**	**Potential Measure W/SP-12**	Middle Gila	Turkey Creek (from unnamed tributary to Poland Creek)	Turkey Creek (Tributary at 341928/1122128 to Polan d Creek)	15070102-036B	Copper (1992)	4a	TMDL completed in 2008. ADEQ is doing effectiveness monitoring.	Historic mining	Completed: US Forest Service has remediated tailings at Golden Belt and Golden Turkey mine sites. Doing effectiveness monitoring. MSGP may address sources from Blue Bell mine.	USFS plans to remediate the mine site believed to be contributing the majority of pollutants.	Yavapai
							Lead (2004)						
C	**Potential for improvement in the near future/some activity**	**N/A**	Bill Williams	Boulder Creek (from Butte Creek to Copper Creek)	Boulder Creek (Butte Creek - Copper Creek)	AZ15030202-005B	Arsenic	4a	Completed TMDL in 2004 Completed TIP in 2005	Mining	See comment above [Boulder Creek (from Wilder Creek to Butte Creek)] . This reach is below Hillside mine; implemenation activities at Hillside should reduce loadings to this reach.		Yavapai
							Copper						
							Zinc						
A	**Talk about opportunities**	**N/A**	Upper Gila	Gila River (Apache Creek to Skully Creek)	Gila River (Apache Creek to Skully Creek)	15040002-002	*E. coli* (dissolved) (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
				Gila River (from Skully Creek to San Francisco River)	Gila River (Skully Creek to San Francisco River)	15040002-001	~~Selenium (2004)~~ *E. coli* (2010)	5	Selenium delisted in 2010 based on recent data collection . *E. coli* TMDL not yet initiated	Crop production, grazing,a g return flows	Proposed: Identify and prioritize sources and implement appropriate BMPs. Selenium from ag return flows is a point source, but these flows are exempt from permit requirements.	Upper Gila Watershed Partnership	Greenlee
B	**Potential for improvement in the near future/some activity**	**N/A**	Upper Gila	Gila River (from Bonita Creek to Yuma Wash)	Gila River (Bonita Creek to Yuma Wash)	15040005-022	*E coli* (2004)	5	*E. coli* TMDL completed in 2012. Sediment TMDL to be completed FY13.	Grazing, roads, mining, recreation	Proposed: Identify and prioritize sources and implement appropriate BMPs. Selenium from ag return flows is a point source, but these flows are exempt from permit requirements. WQIGs: Gila River clean up (2006)	Upper Gila Watershed Partnership	Graham
							Suspended sediment concentration (2004 by EPA)						
							Lead (total) (2010)						
B	**Potential for improvement in the near future/some activity**	**N/A**	Upper Gila	Gila River (from New Mexico to Bitter Creek)	Gila River (New Mexico border to Bitter Creek)	15040002-004	*E. coli* (draft 2006)	5	*E. coli* TMDL completed in 2012. Sediment TMDL to be completed FY13.	Grazing, agriculture crop production, septic systems	Proposed: Identify and prioritize sources and implement appropriate BMPs. WQIG: 1. Duncan Valley canal replacement (2007), 2. Gila Watershed Stewards Ph. I (2008), 3. Gila Watershed Stewards Ph. II (2010)	Upper Gila Watershed Partnership	Greenlee
							Suspended sediment concentration (2006)	5					
F	**Potential for improvement in the near future/some activity**	**N/A**	Santa Cruz	Nogales and East Nogales Wash (from Mexico to Portrero Wash)	Nogales Wash (Mexico border to Potrero Creek)	15050301-011	*E. coli* (1988)	5	Loss of resources has delayed the development of this TMDL. **EPA may fund TMDL in FY13.**	Infrastructure deterioration in Mexico, which allows raw sewage to flow into Arizona. Chlorine is added to reduce human health risks.	Infrastructure (point source) upgrades must be accomplished to properly address primary sources.	Friends of the Santa Cruz	Santa Cruz
							Ammonia (2004)						
							Chlorine (1988)						
							Copper (2004)						

KEY:	High focus for attaining standards	Potential for improvement in the near future/some activity	Explore opportunities	Federal responsibility to mitigate	Potential Delist	Not an implementation priority/primarily point sources.

Mngmnt. Strategy	Internal Prioritization	Targeted Status	Watershed	Surface Water	Assessment Unit	WBID	Pollutants (First Listed)	Assessment Category	TMDL Development	Potential Sources	Previous Projects and Other Comments	Support / Partnerships	County
D	**Potential for improvement in the near future/some activity**	**Potential Measure W/SP-12**	Santa Cruz	Pena Blanca Lake	Pena Blanca Lake	15050301-1070	Mercury in fish	4a	TMDL completed in 1999, included TIP.	Three sources identified in TMDL: 1) atmospheric deposition, 2) St. Patrick Mine ball mill site, 3) natural substrates.	TMDL identified: Remove tailings at St Patrick Mine Ball Mill site and reduce sediment to lake. USFS has completed the remediation of ST Patrick mine. USFS dredged lake in 2009 to remove mercury recycling in lake sediments. Lake has been refilled and restocked, but it will take several years to determine new fish tissue levels.	Friends of Santa Cruz	Santa Cruz
C	**Potential for improvement in the near future/some activity**	**N/A**	Little Colorado River	Rainbow Lake	Rainbow Lake	15020005-1170	Narrative nutrient (weeds) (1992) High pH (1992) Low DO	4a	Completed TMDL and TIP in 2000	Primarily nutrient recycling. Implementing many BMPs and sewered area around lake to mitigate nutrients. May be grazing or urban runoff issues upstream.	Proposed: Identify and prioritize sources not identified in the TMDL and prioritize implementation. ADEQ conducted preliminary monitoring to determine if dredging would be effective. WQIG funds can't be used for in-lake treatments until all watershed contributions are addressed. Stormwater runoff contributions are still a concern. Watershed group has focused its efforts on herbicide application for the past few years, and is currently pursuing grass-eating carp as an in-lake treatment. Completed: Sewering the area WQIGs: Rainbow Lake Water Qualtiy Improvement Project (2008) --installing buffer strips around lake.	Little Colorado River Watershed Coordinating Council and Show Low Watershed Enhancement Partnership	Apache
A	**Talk about opportunities**	**N/A**	Upper Gila	San Francisco River (Limestone Gulch to Gila River)	San Francisco River (Limestone Gulch to Gila River)	15040004-001	*E. coli* (2010)	*5*	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A/B	**Potential for improvement in the near future/some activity**	**EQIP Priority Watershed**	San Pedro	San Pedro River (from Aravaipa Creek to Gila River)	San Pedro River (Aravaipa Creek to Gila River)	15050203-001	*E. coli (2004)* ~~*Selenium (2004)*~~	5	TMDL to be completed in FY13 Selenium impairment dropped in 2010 due to a change in the applcation of the standard.	Grazing Mining Stream bank and channel destabilization	Proposed: Identify and prioritize sources and implement appropriate BMPs. WIP being developed for the middle San Pedro (2010 Targeted Watershed) will likely be able to be used as a guide for identifying sources in this reach. ASARCO land swap taking place to mitigate loss of other riparian corridors may help. WQIGs: 1. Arivaipa Canyonn riparian restoration (2000) 2. San Pedro riparian improvements (2000) 3. Wildlife habitat restoration (2003) 4. San Pedro cleanup trash (near St David) (2003) 5. 3 Links Farm riparian restoration (2005) 6. S.P Initiative identified sediment controls in The Narrows (2000) 7. Manzanita Erosion control (2006)	Coronado RC&D, Clean Water Alliance	Pinal
A/B	**Talk about opportunities**	**N/A**	San Pedro	San Pedro River (from Dragoon Wash to Tres Alamos Wash)	San Pedro River (Dragoon Wash to Tres Alamos Wash)	15050202-002	~~Nitrate (1990)~~ de-listed 2012 *E. coli* (2010)	5	*E. coli* : Newly listed/not yet initiated	This reach is immediately downstream from the 2011-awarded San Pedro WIP reach. May be able to apply recommended practices to this reach as well.	WQIGs: San Pedro River cleanup near St David (2003)	Community Watershed Alliance (Middle San Pedro) **Identified as a priority watershed for WQIP funding by USDA/NRCS under the Nationl Water Quality Initiative for FY12.**	Cochise

KEY:	High focus for attaining standards	Potential for improvement in the near future/some activity	Explore opportunities	Federal responsibility to mitigate	Potential Delist	Not an implementation priority/primarily point sources.

Mngmnt. Strategy	Internal Prioritization	Targeted Status	Watershed	Surface Water	Assessment Unit	WBID	Pollutants (First Listed)	Assessment Category	TMDL Development	Potential Sources	Previous Projects and Other Comments	Support / Partnerships	County
F	**Potential for improvement in the near future/some activity**	**N/A**	Santa Cruz	Santa Cruz River (from Mexico to Nogales WWTP)	Santa Cruz River (from Mexico to Nogales WWTP)	15050301-010	*E. coli* (2002)	5	Initiated in 2007-TMDL on hold due to loss of staff. EPA may fund TMDL in FY13.	Grazing, unknown sources in Mexico.	Proposed: Identify and prioritize sources and implement appropriate BMPs. WQIG funds could be used to address grazing issues. EPA identified this as a national Targeted Watershed in 2008 and granted the Sonoran Institute $858,612 to identify pollutant sources in the watershed,develop a plan of action, and implement education and on-the-ground strategies. WQIGs: 1. Sante Fe Ranch riparian area improvement (2000) 2. Riparian improvement and monitoring (2003) 3. SC River sediment control (2006)	Friends of Santa Cruz	Santa Cruz
A	**Talk about opportunities**	**N/A**	Little Colorado River	Little Colorado (from Silver Creek to Carr Wash)	Little Colorado River (Silver Creek to Carr Wash)	15020002-004	*E. coli* (2004) Sediment (EPA 2004)	5	TMDLs to be completed in FY13	Grazing, small urban areas.	Proposed: Identify and prioritize sources and implement appropriate BMPs. WQIGs: Silver Creek sediment reduction (1994)	Silver Creek Advisory Commission and the Show Low Creek Partnership (Two groups working with the Little Colorado River Watershed Coordinating Council)	Apache
B	**Talk about opportunities**	**N/A**	Upper Gila	Luna Lake	Luna Lake	15040004-0840	High pH (1998) Low DO (1998) Narrative nutrients (1998) Ammonia	4a	TMDL completed in 2000, including TIP	Grazing, septic systems, sporadic NPDES discharges, recycled nutrients in lake	Eliminate nutrient discharges from Alpine Sanitary District (WIFA?). TMDL identified: Upgrade septic systems, grazing BMPs, urban BMPs, filter strips, riparian improvements, weed harvesting, dredging, and raise lake levels (reducing water diversions). WQIG: Luna Lake septic system upgrades (2001)	Upper Gila Watershed Partnership	Apache
D	**Delist/Potential Delist**	**N/A**	Upper Gila	Cave Creek (from headwaters to South Fork of Cave Creek)	Cave Creek (Headwaters to South Fork Cave Creek)	15040006-852A	Selenium (2004)	5	Initated in 2006. New monitoring shows no exceedances.	Unknown. This is a pristine area.		Upper Gila Watershed Partnership	Cochise
A	**Delist/Potential Delist**	**N/A**	Salt	Crescent Lake	Crescent Lake	15060101-0420	High pH (2002 - EPA)	5	TMDL de-prioritized based on potential de-list.	Grazing	Proposed: Identify and prioritize sources and implement appropriate BMPs. **Possible de-list.**	Friends of the Forest	Apache
A	**Delist/Potential Delist**	**N/A**	Santa Cruz	Rose Canyon Lake	Rose Canyon Lake	15050302-1260	Low pH (2004 by EPA)	5	May be natural low pH values (occuring 4 meters deep in this 7 acre lake.) Likely de-list.	Unknown.	Proposed: Identify, prioritize and implement appropriate nutrient BMPs.		Pima
F	**EPA responsibility to mitigate?**	**N/A**	Santa Cruz	Portrero Creek (Interstate 19 to Santa Cruz River)	Potrero Creek (Interstate 19 to Santa Cruz River)	15050301-500B	Chlorine (2010) Low DO (2010) E. coli (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A	**Not Categorized**	**N/A**	Middle Gila	Agua Fria River (Sycamore Creek to Big Bug Creek)	Agua Fria River (Sycamore Creek to Big Bug Creek)	15070102-023	E. coli (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				

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Mngmnt. Strategy	Internal Prioritization	Targeted Status	Watershed	Surface Water	Assessment Unit	WBID	Pollutants (First Listed)	Assessment Category	TMDL Development	Potential Sources	Previous Projects and Other Comments	Support / Partnerships	County
A	**Not Categorized**	**N/A**	Bill Williams	Alamo Lake	Alamo Lake	15030204-0040	Mercury in fish (2002 by EPA) (ADEQ had it listed prior 2002)	5	TMDL to be completed in FY13	Mining Air deposition	Proposed: Identify, prioritize, and remediate mining sites in drainage, especially adjacent to streams and washes.		Mohave and La Paz
A	**Not Categorized**	**N/A**	Bill Williams	Alamo Lake	Alamo Lake	15030204-0040	Ammonia (2004) pH (1996) DO (2006)	5	No plans to initiate TMDLs at this time.	Grazing Recreation	Proposed: Identify and prioritize nutrient sources and implement appropriate BMPs.	Lake operated by Corps of Engineers. Routine monitoring by USFWS	Mohave and La Paz
A	**Not an implementation priority/primarily point sources.**	**N/A**	Middle Gila	Alvord Park Lake	Alvord Lake	15060106B-0050	Ammonia (2004)	5	TMDL to be completed in FY13	Urban, duck feeding, unknown Source of water?	Proposed: Identify and prioritize sources and implement appropriate BMPs. Known source from a landscaping/garden business; considered "exempt point source" and as such ineligible for NPS funding. In general for uban lakes: impairments are due to in-lake issues, so WQIG eligible projects are limited. *E. coli* impairments may be dropped due to the use of the wrong standard in the original listings.	City of Phoenix Parks Department	Maricopa
A	**Not Categorized**	**N/A**	Salt	Apache Lake Canyon Lake Salt River just below Saguaro Lake	Apache Lake Canyon Lake Salt River (Stewart Mountain Dam to Verde River)	15060106A-0070; 15060106A-0250 15060106A-003	Dissolved oxygen (2006) Dissolved oxygen (2004) Dissolved oxygen (2004)	5	Loss of resources has delayed the development of this TMDL	Dam operations Wildfires Grazing Forestry Roads Small town urban sources	Proposed: Identify and prioritize sources and implement appropriate BMPs. WQIGs: Trees for the Rim (after wildfire)	USFS and Friends of the Forests	Maricopa
C	**Not Categorized**	**N/A**	Santa Cruz	Arivaca Lake	Arivaca Lake	15050304-0080	Mercury in fish (1992)	4a	TMDL completed in 1999, included TIP.	TMDL identified primary sources as air deposition and natural deposition from local substrates.	TMDL sources identifed: Manage lake to reduce production of methylmercury. Possibly dredge lake sediments	Friends of the Forest	Pima
A	**Not Categorized**	**N/A**	Middle Gila	Arnett Creek (Headwaters to Queen Creek)	Arnett Creek (Headwaters to Queen Creek)	15050100-1818	Copper (dissolved) (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A	**Not Categorized**	**N/A**	Little Colorado River	Bear Canyon Lake	Bear Canyon Lake	15020008-0130	Low pH (2004 by EPA)	5	Originally initated in 2007; de-prioritized based on likelihood of naturally-occuring high pH.	Unknown (recreation, grazing?)	Proposed: Identify and prioritize sources and implement appropriate BMPs. May eventually de-list based on natural conditions.	US Forest Service MOU	Coconino
A	**Not Categorized**	**N/A**	Bill Williams	Bill Williams River (from Alamo Lake to Castaneda Wash)	Bill Williams River (Alamo Lake to Castaneda Wash)	15030204-003	Ammonia (2006) High pH (2006)	5	TMDL to be completed in FY13 (combined with Alamo Lake TMDL)	See source discussion for Alamo Lake nutrient impairments	Proposed: Identify and prioritize nutrient sources and implement appropriate BMPs.	See discussion for Alamo Lake nutrient impairments	Mohave and La Paz
A	**Not Categorized**	**N/A**	Little Colorado River	Black Canyon Lake	Black Canyon Lake	15020010-0180	Ammonia (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A	**Not Categorized**	**N/A**	Bill Williams	Boulder Creek (Tributary at 344114/1131800 to Wilder Creek)	Boulder Creek (Tributary at 344114/1131800 to Wilder Creek)	15030202-006B	Beryllium (dissolved) (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A	**Not Categorized**	**N/A**	Middle Gila	Chaparral Lake	Chaparral Park Lake	15060106B-0300	DO (2004) *E. coli* (2004)	5	TMDL to be completed in FY13	Urban lake. If connected to Indian Bend Wash, it receives urban drainage during storms from an area of Scottsdale.	Proposed: Identify and prioritize sources and implement appropriate BMPs.	City of Scottsdale Parks Dept	Maricopa

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Mngmnt. Strategy	Internal Prioritization	Targeted Status	Watershed	Surface Water	Assessment Unit	WBID	Pollutants (First Listed)	Assessment Category	TMDL Development	Potential Sources	Previous Projects and Other Comments	Support / Partnerships	County
A	**Not Categorized**	**N/A**	Colorado - Lower Gila	Colorado River (Bill Williams River to Osborne Wash)	Colorado River (Bill Williams River to Osborne Wash)	15030104-020	Selenium (total) (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A	**Not Categorized**	**N/A**	Colorado - Lower	Colorado River (from Hoover Dam to Lake Mohave)	Colorado River (from Hoover Dam to Lake Mohave)	15030101-015	Selenium (total) (2004)	5	Loss of resources has delayed the development of this TMDL	Natural springs, ag return flows, and out of state sources most likely.	Proposed: Identify and prioritize sources and implement appropriate BMPs. Identify source loads contributed from other states. Selenium from ag return flows is a point source, but these flows are exempt from permit requirements.		Mohave
A	**Not Categorized**	**N/A**	Colorado - Lower Gila	Colorado River (Imperial Dam to Gila River)	Colorado River (Imperial Dam to Gila River)	15030107-003	Selenium (total) (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A	**Not Categorized**	**N/A**	Colorado - Grand	Colorado River (from Lake Powell to Paria River)	Colorado River (Lake Powell to Paria River)	14070006-001	Selenium (total) (2006)	5	Loss of resources has delayed the development of this TMDL	Natural springs, ag return flows, and out of state sources most likely.	Proposed: Identify and prioritize sources and implement appropriate BMPs. Identify source loads contributed from other states (how remediate these?). Selenium from ag return flows is a point source, but these flows are exempt from permit requirements.	Same as Colorado reach above.	Coconino
A	**Not Categorized**	**N/A**	Colorado - Lower	Colorado River (from Main Canal to Mexico)	Colorado River (Main Canal to Mexico border)	15030107-001	Selenium (total) (2006) Low DO (2006)	5	Loss of resources has delayed the development of this TMDL	Agriculture (crop production), WWTP discharges, septic systems, out-of-state loads	Proposed: Identify and prioritize sources and implement appropriate BMPs. Identify source loads contributed from other states. Selenium from ag return flows is a point source, but these flows are exempt from permit requirements.	California's Colorado River Basin Board has also listed this portion of the river as impaired due to selenium.	Yuma
A	**Not Categorized**	**N/A**	Colorado - Grand	Colorado River (from Parashant Canyon to Diamond Creek)	Colorado River (from Parashant Canyon to Diamond Creek)	15010002-003	Selenium (2004) Suspended sediment concentration (2004)	5	Loss of resources has delayed the development of this TMDL	Natural sandstone formations (SSC) Natural springs (Se) Grazing (SSC) Recreation (SSC) Out of state sources (Se)	Proposed: Identify and prioritize sources and implement appropriate BMPs. Identify source loads contributed from other states (how remediate these?). WQIGs: 1. Kaibab Ind Moccasin Wash range and crop BMPs (1997) 2. Fredonia (Pratt Tank) riparian improvement 3. Milkweed riparian restoration (Hualapai) (2000) 4. Mohawk Canyon (Hualapai) 2000 5. Red Springs fencing (Hualapai) 1998 6. Bank stabilization at Spencer Beach (2007) 7. Road Stabilization at Diamond Creek (2008)	Colorado River Salinity Control Program (B of R); Lower Colorado River Basin Compact (with other states)	**Coconino-Mohave**
A	**Not Categorized**	**N/A**	Bill Williams	Coors Lake	Coors Lake	15030202-5000	Mercury in fish (EPA listed in 2004)	5	TMDL not yet scheduled	Mining	Proposed: Identify and prioritize mercury sources and implement appropriate remediation.		Yavapai
A	**Not Categorized**	**N/A**	Middle Gila	Cortez Park Lake	Cortez Park Lake	15060106B-0410	DO (2004) High pH (2004)	5	Data collection complete TMDL development ongoing	Urban lake. Duck feeding.	Proposed: Identify and prioritize sources and implement appropriate BMPs.	City of Phoenix Parks Department	Maricopa
A	**Not Categorized**	**N/A**	Verde	East Verde River (from American Gulch to Verde River)	East Verde River (From American Gulch to Verde River)	15060203-022C	Arsenic (2006) Boron (2006)	5	Inititated in 2007; to be completed FY14	Probably natural. Concentration increase when water is not being transferred into this river from East Clear Creek.	Proposed: Identify and prioritize sources and implement appropriate BMPs. Recent data shows no exceedances.	Verde Watershed Association	Gila
A	**Not Categorized**	**N/A**	Verde	East Verde River (from Ellison Creek to American Gulch)	East Verde River (Ellison Creek to American Gulch)	15060203-022B	Selenium (2004)	5	TMDL in progress; to be completed FY14	Unknown. May be natural	Proposed: Identify and prioritize sources and implement appropriate BMPs.	Verde Watershed Association	Gila
B	**Not an implementation priority/primarily point sources.**	**N/A**	Middle Gila	French Gulch (from headwaters to Hassayampa River)	French Gulch (Headwaters to Hassayampa River)	15070103-239	Copper (1994) Zinc (1994) Cadmium (1994)	4a	Completed in 2004	Mining (primarily Zonia Mine). Primarily point source.	Identified in TMDL (still proposed): Remediate mining issues at Zonia Mine Identify, priortize, and implement appropriate BMPs at other mines.		Yavapai

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A	**Not Categorized**	**N/A**	Middle Gila	Gila River (from Centennial Wash to Gillespie Dam)	Gila River (Centennial Wash - Gillespie Dam)	15070101-008	Selenium (total) (2004) DDT metabolites, toxaphene and chlordane in fish tissue (2002- EPA) Boron (total) (1992)	5	TMDL in progress; to be completed FY15	Wastewater discharges Agricultural crop production, including canal return flows Natural sources	Proposed: Identify and prioritize sources and implement appropriate BMPs. Selenium from ag return flows is a point source, but these flows are exempt from permit requirements.	Corps of Engineers	Mohave
A	**Not Categorized**	**N/A**	Colorado - Lower	Gila River (from Coyote Wash to Fortuna Wash)	Gila River (Coyote Wash to Fortuna Wash)	15070201-003	Selenium (2004) Boron (total) (2004 relist)	5	TMDL in progress; to be completed FY15	Unidentified at this time.	Proposed: Identify and prioritize sources and implement appropriate BMPs. Selenium from ag return flows is a point source, but these flows are exempt from permit requirements.		Yuma
A	**Not Categorized**	**N/A**	Middle Gila	Gila River (San Pedro River to Mineral Creek)	Gila River (San Pedro River to Mineral Creek)	15050100-008	SSC (2006)	5	Loss of resources has delayed the development of this TMDL	Wildfire a few years ago. Grazing Forestry Roads Small town urban sources	Proposed: Identify and prioritize sources and implement appropriate BMPs. WQIGs: Trees for the Rim (after wildfire)		Pinal
A	**Not Categorized**	**N/A**	Upper Gila	Gila River (from Skully Creek to San Francisco River)	Gila River (Skully Creek to San Francisco River)	15040002-001	*E. coli* (2010)	5	*E. coli* TMDL not yet initiated	Unidentified at this time.	n/a	Upper Gila Watershed Partnership	Greenlee
B	**Not Categorized**	**N/A**	Santa Cruz	Harshaw Creek	Unnamed Trib to Harshaw Creek (Headwaters to Harshaw Creek) Harshaw Creek (Headwaters to Sonoita Creek)	15050301-888 15050301-025	Cadmium Low pH Cadmium Low pH	4a	TMDL completed in 2003	Mine tailings	TMDL sources identifed: Remediate mining area by: removing or filling over mining residue; redirecting runoff away from mining deposits; removing mine wastes in the stream bed or combine with neutralizing materials; and constructing wetlands to treat mine discharges.	Friends of Sonoita Creek and Friends of Santa Cruz PARA (Patagonia area landowners' group)	Santa Cruz
B	**Not Categorized**	**N/A**	Middle Gila	Hassayampa River (from headwaters to Copper Creek, including tributaries such as Cash Mine Creek)	Hassayampa River (Headwaters to Copper Creek) Cash Mine Creek (Headwaters to Hassayampa River) Unnamed Tributary to Cash Mine Creek (Headwaters to Cash Mine Creek)	15070103-007A 15070103-349 15050100212	Cadmium (1992) Copper (1992) Zinc (1992) Low pH (2006) Cadmium (1992) Copper (1992) Zinc (1992) Cadmium (1992) Copper (1992) Zinc (1992)	4a	TMDL Completed in 2002	Mines in the upper Hassayampa River area, including, but not limited to McCleur Mine, Senator Mine, Sheldo Mine, and Cash Mine.	Identified in TMDL and Proposed: Remediate abandoned or inactive mine sites (McCleur Mine) contributing pollutants, including tailings and adits at these sites.	Prescott National Forest	Yavapai
A	**Not Categorized**	**N/A**	Colorado - Lower Gila	Lake Mohave	Lake Mohave	15030101-0960	Selenium (total) (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
B	**Not Categorized**	**N/A**	Little Colorado River	Long Lake (lower)	Long Lake (Lower)	15020008-0820	Mercury in fish (2004 by EPA)	4a	TMDL completed 2012; TIP in progress	Air deposition	Proposed: Identify and prioritize mercury sources and implement appropriate remediation.	Little Colorado River Watershed Coordinating Council	Coconino
A	**Not Categorized**	**N/A**	Little Colorado River	Lyman Lake/Reservoir	Lyman Lake	15020001-0850	Mercury in fish (2004 by EPA)	5	TMDL to be completed in FY13	Air deposition	Proposed: Identify and prioritize mercury sources and implement appropriate BMPs.	Little Colorado River Watershed Coordinating Council	Apache

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C	**Not an implementation priority/primarily point sources.**	**N/A**	Middle Gila	Mineral Creek (from Devils Canyon to Gila River)	Mineral Creek (Devil's Canyon to Gila River)	15050100-012B	Selenium (2004) Copper (1992) Low DO (2006)	5	Consent decree requires mine to meet all surface water standards; therefore, TMDL has not been initiated.	Mining (Ray Mine and Gibson Mine)	ASARCO is looking at ways to mitigate selenium contamination and low dissolved oxygen occurring in mining tunnel constructed to direct surface water around mining operation. ASARCO has mitigated manganese and the majority of copper pollutants. WQIG - Gibson Mine Mineral Creek - far upstream; not likely to impact this reach.	USFS	Pinal
A	**Not Categorized**	**N/A**	San Pedro	Mule Gulch and tributaries, including Brewery Gulch (from headwaters to Highway 80 bridge) (3 reaches)	Brewery Gulch (Headwaters to Mule Gulch) Mule Gulch (Headwaters to above Lavender Pit) Mule Gulch (Above Lavender Pit to Bisbee WWTP discharge) Mule Gulch (Bisbee WWTP discharge to Highway 80 bridge)	15080301-337 15080301-090A 15080301-090B 15080301-090C	Copper (dissolved) (2004) Copper (dissolved) (1990) Copper (dissolved) (1990) Low pH (EPA 2004) Cadmium (dissolved) (1990) Copper (total and dissolved) (1990) Low pH (1990) Zinc (dissolved) (1990)	5	Developing site specific standards	Current and historic mining	Proposed: Identify and prioritize sources and implement appropriate BMPs. Completed: FMI has re-routed stormwater and seeps to minimize impacts to Mule Gulch ADEQ is working on a site-specific copper standard		Cochise
D	**Not Categorized**	**N/A**	Little Colorado River	Nutrioso Creek (from Nelson Reservoir to Little Colorado River)	Nutrioso Creek (Nelson Reservoir to Picnic Creek) Nutrioso Creek (Picnic Creek to Little Colorado River)	15020001-017B 15020001-015	Turbidity (1992) Turbidity (1992)	4a	Completed TMDL in 2000 and TIP in 2002 Delisted upper portion (headwaters to Nelson Reservoir).	Grazing, forestry, roads Stream bank and channel destabilized.	Proposed: Identify, prioritize, and implement sediment sources and implement appropriate BMPs WQIGs: 1. EC Bar Ranch grazing projects (pasture and riparain improvements, alternative water (2000-2007), fencing, etc) 2. Rogers Ranch improvements (riparian and upland improvements, alternative water, fencing (2000), 3. Murray-Saffel Canyon sediment controls (2001, 4. Greenwood sediment reduction (2003)	Little Colorado River Watershed Coordinating Council	Apache
A	**Not Categorized**	**N/A**	Colorado - Lower	Painted Rocks Borrow Pit Lake	Painted Rock Borrow Pit Lake	15070201-1010	DDT metabolites (EPA 2002) Toxaphane and chlordane in fish tissue (EPA 2002) Low DO (1992)	5	Will initate when lake refills to stable level.	Urban, agriculture, grazing, roads, construction. Prior diagnostic feasibility study indicated problem is primarily due to lake management and flow.	Proposed: (based on diagonistic feasibility study in 1990's) Operate lake in a manner that increases DO levels (e.g. higher levels). Low priority--borrow pit only fills during flood events.		Maricopa
A	**Not Categorized**	**N/A**	Colorado - Grand	Paria River (from Utah border to Colorado River)	Colorado River (Lake Powell to Paria River)	14070006-001	Suspended sediment concentration (2004) *E. coli* (2006)	5	Loss of resources has delayed the development of this TMDL	Natural sandstone formations (SSC) Natural springs (Se) Grazing (SSC) Recreation (SSC) Out of state sources (Se and SSC) Potentially area may provide data for natural background conditions	Proposed: Identify and prioritize sources and implement appropriate BMPs. Identify source loads contributed from other states (how remediate these?) Exceedances possibly primarily due to natural conditions (sandstone)	National Parks Service MOU	Coconino
A	**Not Categorized**	**N/A**	Santa Cruz	Parker Canyon Lake	Parker Canyon Lake	15050301-1040	Mercury in fish (2004 by EPA)	5	TMDL to be completed in FY13	Air deposition. No obvious watershed sources.	Proposed: Identify and prioritize sources and implement appropriate BMPs.		Cochise - Santa Cruz

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B	**Not Categorized**	**N/A**	Verde	Peck's Lake	Peck's Lake	15060202-1060	High pH (1998) Low DO (1998)	4a	TMDL Completed in 2001, including TIP	TMDL indicated sources primarily recycling of nutrients. Watershed is so tiny and not developed, so little would be contributed.	TMDL sources identfied: Improve riparian conditions to remove sediments that might add more nutrient loads. Lake is on private (Freeport) land; ADEQ has no current samples.	Northern Arizona Audubon Society Verde Watershed Association	Yavapai
	Not an implementation priority/primarily point sources.	**N/A**	Little Colorado River	Pintail Lake	Pintail Lake	15020005-5000	Ammonia (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A	**Not an implementation priority/primarily point sources.**	**N/A**	Little Colorado River	Puerco River	Puerco River (Dead Wash to Ninemile Wash)	15020007-007	Copper (dissolved) (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A	**Not Categorized**	**N/A**	Middle Gila	Queen Creek and tributaries	Queen Creek (from headwaters to Superior WWTP)	15050100-014A	Copper (dissolved) (2002) Lead (total) (2010)	5	Model is being update to include recent data collected, site specific standard will likely no be developed	Historic and current mining.	Proposed: Identify and prioritize sources and implement appropriate BMPs.	Arizona Parks Department and friends of Boyce Thompson Arboretum.	Pinal
					Queen Creek (Superior WWTP to Potts Canyon)	15050100-014B	Copper (dissolved) (2004)						
					Queen Creek (Potts Canyon to Whitlow Canyon)	15050100-014C	Copper (dissolved) (2010)						
					Tributary to Queen Creek (Headwaters to Queen Creek)	15050100-991	Copper (dissolved) (2010)						
					Unnamed tributary to Queen Creek (Headwaters to Queen Creek)	15050100-1843	Copper (dissolved) (2010)						
					Unnamed tributary to Queen Creek (Headwaters to Queen Creek	15050100-1000	Copper (dissolved) (2010)						
A	**Not Categorized**	**N/A**	Salt	Salt River (from Pinal Creek to Roosevelt Dam)	Salt River (Pinal Creek to Roosevelt Lake)	15060106A-004	Suspended sediment (2006) *E. coli* (2010) Nitrogen (2010) Phosphorus (2010)	5	TMDL to be initiated in 2015	Grazing, forestry, roads Stream bank and channel destabilized. Wildfires. Mining.	Proposed: Identify and prioritize sources and implement appropriate BMPs. WQIG: Trees for the Rim (wildfire)	USFS Friends of the Forest	Gila
A	**Not Categorized**	**N/A**	Middle Gila	Salt River /Gila River (including tributaries and reservoirs)	Salt River (23rd Ave WWTP - Gila River)	15060106B-001D	DDT metabolites (EPA 2002) Toxaphene and chlordane in fish tissue (EPA 2002)	5	Loss of resources has delayed the development of this TMDL	These are historically used pesticides. Residual pesticides are likely being contributed from areas where the pesticides were sprayed historically. Some concern that banned pesticides may have been dumped or improperly burried.	Proposed: Identify and prioritize sources and implement appropriate BMPs. Currently collecting fish for fish tissue analysis.		Maricopa
					Hassayampa River (from Buckeye Canal to Gila River)	15070103-001B	DDT metabolites (EPA 2002) Toxaphene and chlordane in fish tissue (EPA 2002)						
					Gila River (from Salt River to Painted Rocks Reservoir) (8 reaches)	15070101-001; 15070101-005; 15070101-007; 15070101-008; 15070101-009; 15070101-010; 15070101-014;	DDT metabolites (EPA 2002) Toxaphene and chlordane in fish tissue (EPA 2002)						
					Painted Rocks Reservoir	150100-014A	DDT metabolites (EPA 2002) Toxaphene and chlordane in fish tissue (EPA 2002)						

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A	**Not Categorized**	**N/A**	San Pedro	San Pedro River	San Pedro River (Mexico border to Charleston)	15050202-008	*E. coli* (2010) Copper (dissolved) (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A	**Not Categorized**	**N/A**	Santa Cruz	Santa Cruz River	Santa Cruz River (Josephine Canyon to Tubac Bridge)	15050301-008A	*E. coli* (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
					Santa Cruz River (Canada del Oro to HUC 15050303 Boundary)	15020301-001	Ammonia	4b	TMDL completed		The Nogales International Wastewater Treatment Plant has been upgraded and fully operational since 2009. The facility is now capable of meeting all effluent discharge permit limits. Effectiveness of chlorine removal by the new treatment plant will be determined in 2012 assessment.	Sonoran Institue	Santa Cruz
					Santa Cruz River (Nogales WWTP to Josephine Canyon)	15050301-009	Chlorine	4b					
					Santa Cruz River (HUC 150303 Boundary to Baum)	15050303-005A	Copper (dissolved) Lead (dissolved)	4b					
					Santa Cruz River (Rover road WWTP Outfall to Intermittent Reach)	15050301-003B	Ammonia	4b					
B	**Not Categorized**	**N/A**	Little Colorado River	Soldiers Lake and Soldiers Lake Annex	Soldier Annex Lake	15020008-1430	Mercury in fish (2004 by EPA)	4a	TMDL completed 2011	Air deposition	Proposed: Identify and prioritize mercury sources and implement appropriate remediation.	Little Colorado River Watershed Coordinating Council	Coconino
A	**Not an implementation priority/primarily point sources.**	**N/A**	Santa Cruz	Sonoita Creek	Sonoita Creek (1600 feet below Patagonia WWTP discharge to Patagonia Lake)	15050301-013C	Zinc (2004) Low DO (2006)	5	ADEQ to extend EDW, which would eliminate the DO impairment	Mining in the watershed or wastewater discharges. DO impairment due to ground water upwelling.	Proposed: Identify and prioritize sources and implement appropriate BMPs. WQIGs: 1. Audobon septic system improvements (2002) 2. Cattle exclosure at Audobon research (2002) 3. C6 Ranch grazing BMPs (on Redrock Cyn) (2002) 4. Redrock grazing improvements (2006)	Friends of Sonoita Creek and Friends of Santa Cruz	Santa Cruz
D	**Not Categorized**	**N/A**	Verde	Stoneman Lake	Stoneman Lake	15060202-1490	Low DO (1998) Narrative Nutrients (1998) High pH (1998)	4a	TMDL Completed in 2001, including TIP	TMDL indicated sources primarily recycling of nutrients. Septics maybe.	TMDL sources identified: Septics. Increase water sources for lake. Lake is ephemeral; low/fluctuating water levels make it difficult to meet standards. WQIGs: Replace septic systems, create grey water use systems, and construct sediment catchments.	Stoneman Lake Owners Association	Coconino
B	**Not an implementation priority/primarily point sources.**	**N/A**	Little Colorado River	Telephone Lake	Telephone Lake	15020005-1500	Ammonia (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				

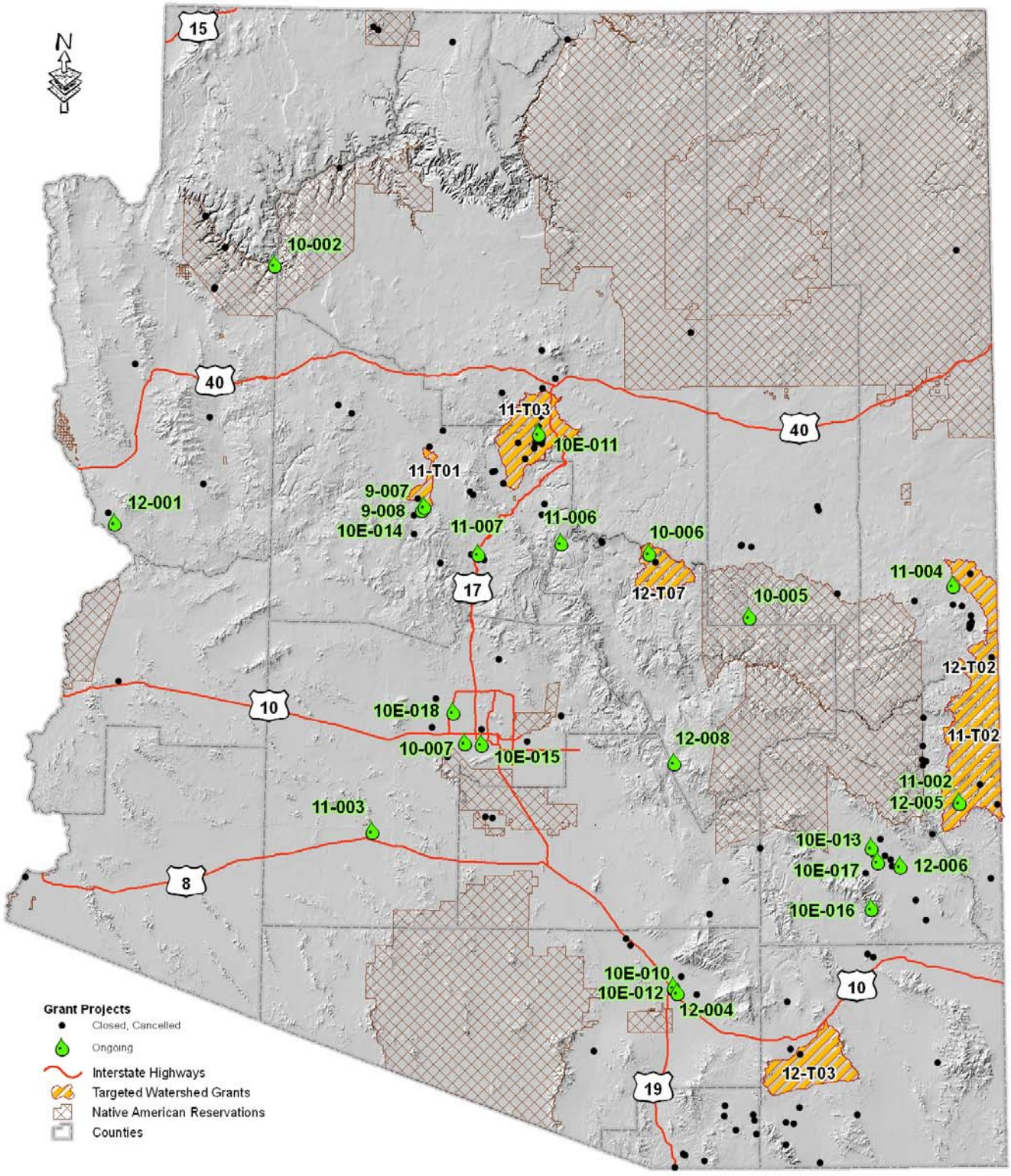
KEY:	High focus for attaining standards	Potential for improvement in the near future/some activity	Explore opportunities	Federal responsibility to mitigate	Potential Delist	Not an implementation priority/primarily point sources.

Mngmnt. Strategy	Internal Prioritization	Targeted Status	Watershed	Surface Water	Assessment Unit	WBID	Pollutants (First Listed)	Assessment Category	TMDL Development	Potential Sources	Previous Projects and Other Comments	Support / Partnerships	County
B	Not Categorized	N/A	Santa Cruz	Three R Canyon (from headwaters to Sonoita Creek and tributaries (Cox Canyon))	Unnamed Tributary to Cox Gulch (Headwaters to Cox Gulch);	15050301-890	Cadmium (1994)	4a	TMDL completed in 2003	Extensive mining in this small drainage, which includes unnamed tributary and Cox Gulch	TMDL sources identifed: Remediate mining area by: removing or filling over mining residue; redirecting runoff away from mining deposits; removing mine wastes in the stream bed or combine with neutralizing materials; and constructing wetlands to treat mine discharges.	Friends of Sonoita Creek and Friends of Santa Cruz	Santa Cruz
							Copper (1994)						
							Zinc (1994)						
							Low pH (1994)						
					Cox Gulch (Headwaters to Three R Canyon)	15050301-560	Cadmium (1994)						
							Zinc (1994)						
							Low pH (1994)						
					Three R Canyon (Headwaters to Tributary at 312819 / 1104556)	15050301-558A	Cadmium (1994)						
							Zinc (1994)						
							Copper (1994)						
							Low pH (1994)						
					Unnamed Tributary to Three R Canyon (Headwaters to Three R Canyon)	15050301-889	Cadmium (1994)						
							Zinc (1994)						
							Copper (1994)						
							Low pH (1994)						
					Three R Canyon (Tributary at 312835 / 1104619 to Tributary at 312827 / 1104712);	15050301-558B	Cadmium (1994)						
							Zinc (1994)						
							Copper (1994)						
							Low pH (1994)						
					Three R Canyon (Tributary at 312827 / 1104712 to Sonoita Creek)	15050301-558C	Cadmium (1994)						
							Zinc (1994)						
							Copper (1994)						
							Low pH (1994)						
A	Not Categorized	N/A	Little Colorado River	Lake Mary	Upper Lake Mary	15020015-0900	Mercury in fish (2002 by EPA)		TMDL completed 2011. TIP under development.	Primarily air deposition	Proposed: Identify and prioritize mercury sources and implement appropriate remediation.	US Forest Service MOU City of Flagstaff	Coconino
					Lower Lake Mary	15020015-0890	Mercury in fish (2002 by EPA)						
A	Not Categorized	N/A	Verde	Verde River (Bartlett Dam to Camp Creek)	Verde River (Bartlatt Dam to Camp Creek)	15060203-004	Arsenic (total) (2010)	5	Status based on Draft 2010 Integrated Report; addional information to be added once draft is finalized.				
A	Not Categorized	N/A	Colorado - Grand	Virgin River (from Beaver Dam Wash to Bend Wash)	Colorado River (Lake Powell to Paria River)	14070006-001	Selenium (2004)	5	Loss of resources has delayed the development of this TMDL	Natural sandstone formations (SSC) Natural springs (Se) Grazing (SSC) Out of state sources (Se and SSC)	Proposed: Identify and prioritize sources and implement appropriate BMPs. Identify source loads contributed from other states (how remediate these?). ADEQ has very little data on this reach.		Mohave
							Suspended sediment concentration (2004);						
							E. coli (2010)						

Appendix C: Map of WQIG Projects and Targeted Watersheds

ADEQ Arizona Department of Environmental Quality

Water Quality Improvement Grants



This map is for general reference only and may not be all inclusive. ADEQ program's data collection efforts are ongoing. More detailed information and specific locations can be obtained by contacting the Arizona Department of Environmental Quality.

Appendix D: Active WQIG Projects and Budget Reporting

(As of June 30, 2012)

				(Expired/Expiring EPA Nonpoint Source Grants)							Open EPA Nonpoint Source Grants							
				2002	2005	2006	2007		2008		2009		2010		2011		2012	
							C9-969984-07-0		C9-989613-08-0		C9-979596-09-0		C9-989613-10-0					
							$ 804,731.00	$ 804,730.00	$ 792,900.00	$ 792,900.00	$ 792,900.00	$ 792,900.00	$ 792,900.00	$ 792,900.00	$689,000.00	$689,000.00		$1,326,629.00
	Total Award	Title	Project End	Inc	Inc.	Inc.	Base	Inc.	Base	Inc.	Base	Inc.	Base	Inc.	Base	Inc.	Base	Inc.	Total Assigned
9-007	$ 99,062.00	Granite Creek Watershed - Water Quality Improvement Phase II	3/31/2013		$ 55,064.93	$ 14,996.88		$ 15,907.83		$ 8,092.36				$ 5,000.00					$ 99,062.00
9-008	$ 483,191.00	Watson Woods Riparian Preserve - Restoration Project Phase I	3/31/2013	$ 4,634.54	$ 273,426.64	$ 45,531.00		$ 42,226.66		$ 55,616.78		$ 34,655.04		$ 5,000.00		$ 22,100.34			$ 483,191.00
10-006	$ 260,000.00	Tonto Rim Christian Camp Water Quality Improvement Project	6/30/2012		$ 145,569.97	$ 74,430.03		$ 9,156.07			$ 30,843.93								$ 260,000.00
10-007	$ 251,400.00	Sustainable Design for the Southwest Family Services Center Pervious Concrete Demonstration to Mitigate Stormwater Pollution	6/30/2012						$ 176,396.53		$ 75,003.47								$ 251,400.00
11-004	$ 74,145.00	Wenima Wildlife Area Stream Restoration	6/30/2013			$ 24,000.00		$ 500.00		$ 15,623.19				$ 34,021.81					$ 74,145.00
11-006	$ 211,825.00	Middle Fossil Creek Water Quality Improvement Project	9/30/2012			$ 25,999.83	$ 12,276.59	$ 30,000.00	$ 6,403.01	$ 86,295.36		$ 50,850.21							$ 211,825.00
11-007	$ 37,452.85	Sediment Reduction from Runoff Using Best Management Practices	12/31/2012					$ 10,000.00		$ 27,452.85									$ 37,452.85
11-T01	$ 520,500.24	Granite Creek - Watson Lake Watershed Improvement Plan (EV09-0035)	12/31/2012			$ 78,363.99		$ 109,262.82		$ 13,491.85				$ 200,000.00		$ 119,381.58			$ 520,500.24
11-T02	$ 290,894.18	San Francisco - Blue River Watershed Improvement Plan Grant (EV09-0035)	6/30/2012			$ 109,159.64		$ 42,873.98	$ 29,978.60	$ 17,367.09	$ 91,514.87								$ 290,894.18
11-T03	$ 536,545.36	Oak Creek Targeted Watershed Improvement Plan (EV09-0035)	09/30//2012			$ 32,144.65		$ 139,990.71		$ 80,000.00		$ 120,410.00		$ 164,000.00					$ 536,545.36
12-002	$ 494,087.60	Coyote Creek Watershed-scale Education and Training Grant	6/30/2013			$ 26,855.35		$ 83,823.77		$ 23,000.00		$ 23,946.69		$ 136,461.78		$ 200,000.01			$ 494,087.60
12-003	$ 265,551.00	San Pedro River Watershed Implementation Plan	9/30/2012							$ 88,759.63		$ 51,380.06		$ 125,411.31					$ 265,551.00
12-004	$ 163,396.20	Community Stewardship Model for Green Streets	10/31/2012				$ 5,355.36		$ 133,144.65		$ 24,896.19								$ 163,396.20
12-006	$ 44,200.00	The Upper Gila Watershed Steward Project	6/30/2013					$ 9,132.37						$ 35,067.63					$ 44,200.00
12-008	$ 701,470.00	NPS Reduction of Copper to Pinto Creek	6/30/2013							$ 38,138.20	$ 279,826.54		$ 383,505.26						$ 701,470.00
EV11-0008	$ 29,261.87	Arizona Water Festivals - Building on an Effective Education Model	9/30/2012						$ 29,261.87										$ 29,261.87
EV11-0009	$ 334,183.00	Arizona Nemo Nonpoint Source Education for Municipal Officals	6/30/2013			$ 30,979.24		$ 50,000.00		$ 161,312.91		$ 60,000.00		$ 31,890.85					$ 334,183.00
EV11-0010	$ 210,588.00	Arizona Master Watershed Stewards (MWS) Educational Outreach and Technical Support Program Continuation (2010-2012)	6/30/2013			$ 24,000.00		$ 15,141.48		$ 75,000.00		$ 40,400.00		$ 56,046.52					$ 210,588.00
EV11-0011	$ 59,482.00	Arizona NEMO - Training and Analytical Support Program 2010-2012	12/31/2012			$ 12,776.37				$ 38,978.38		$ 7,727.25							$ 59,482.00
EV12-0005	$ 250,000.00	DEMA Wallow Fire Mitigation Funding	8/31/2013								$ 250,000.00								$ 250,000.00
							$ 17,631.95	*$ 558,015.69*	*$ 375,184.66*	*$ 729,128.60*	*$ 752,085.00*	*$ 389,369.25*	*$ 383,505.26*	*$ 792,899.90*	*$ -*	*$ 341,481.93*	*$ -*	*$ -*	*$ 5,317,235.30*
		Total of Closed and Open					$ 804,731.00	$ 804,730.00	$ 792,900.00	$ 792,900.00	$ 784,111.27	$ 792,900.00	$ 383,505.26	$ 792,899.90	$ -	$ 341,481.93	$ -	$ -	
		Unallocated					$ -	$ -	$ -	$ -	$ 8,788.73	$ -	$ 409,394.74	$ 0.10	$ 689,000.00	$ 347,518.07	$ -	$ 1,326,629.00	

Un-allocated Base Funds	$	1,107,183.47
Un-allocated Incremental Funds	$	1,674,147.17
Total Un-allocated Funding	**$**	**2,781,330.64**
Pending Projects		
Hillside Mine	$	1,200,000.00
Remainder (to be used for WQIG Cycle 13)	*$*	*1,581,330.64*

Appendix E: WQIG Funding Awarded During FY12

EPA Grant Number	State Project Number	Project Title	Contractor Name	Watershed	Impairments	Plan/Model Support
97959609	EV12-0005	DEMA Wallow Fire Mitigation Funding	Department of Emergency and Military Affars, Arizona Division of Emergency Management	San Francisco, Blue, and Little Colorado River watershed areas directly impacted by the Wallow Fire.	Sediment *E. coli*	WIP concurrently developed for San Francisco/Blue watershed; AGWA modeling conducted for burn area to target subwatersheds at highest risk for sediment loss post-fire.

Overview	Sub-Awards	Sub-Award Funding	Sub-Award Match
The recent Wallow Fire impacted two watersheds that have been targeted by ADEQ as priority locations for addressing nonpoint source water quality issues (the Little Colorado River Headwaters, impaired due to sediment; and the San Francisco/Blue, impaired due to E. coli). The goal of this funding is to allow for early implementation of erosion control measures to protect water quality in these and other watersheds impacted by the burn. DEMA is working closely with federal, state, county, and other local stakeholders to coordinate fire mitigation projects in the Wallow and other burn areas throughout the state. This NPS funding was made available to subgrantees via an ADEM request for proposals to support projects with direct ties to protecting water quality by reducing nonpoint source pollution.	AZ Community Tree Council	$ 9,822.00	$ 6,548.00
	Alpine Domestic Water Aquifer Protection Project	$ 15,084.00	$ 10,056.00
	Alpine Sanitary District	$ 27,348.00	$ 18,232.00
	EC Bar Erosion Control	$ 3,000.00	$ 2,000.00
	EC Bar Willow Planting	$ 13,000.00	$ 9,000.00
	Fite Farms Pond Project	$ 36,120.00	$ 24,080.00
	Montlure	$ 47,919.60	$ 31,947.00
	Sakellar	$ 47,340.00	$ 31,560.00
	Philip R. Thompson	$ 6,585.82	$ 4,390.54
	*Other (funds/match not yet awarded)**	*$ 23,158.64*	*$ 11,629.00*
	Total Sub-Awarded Funding	$ 229,378.06	$ 149,442.54
	Administrative Costs	$ 20,621.94	$ 13,781.35
	Total Grant NPS Award	$ 250,000.00	$ 163,223.89

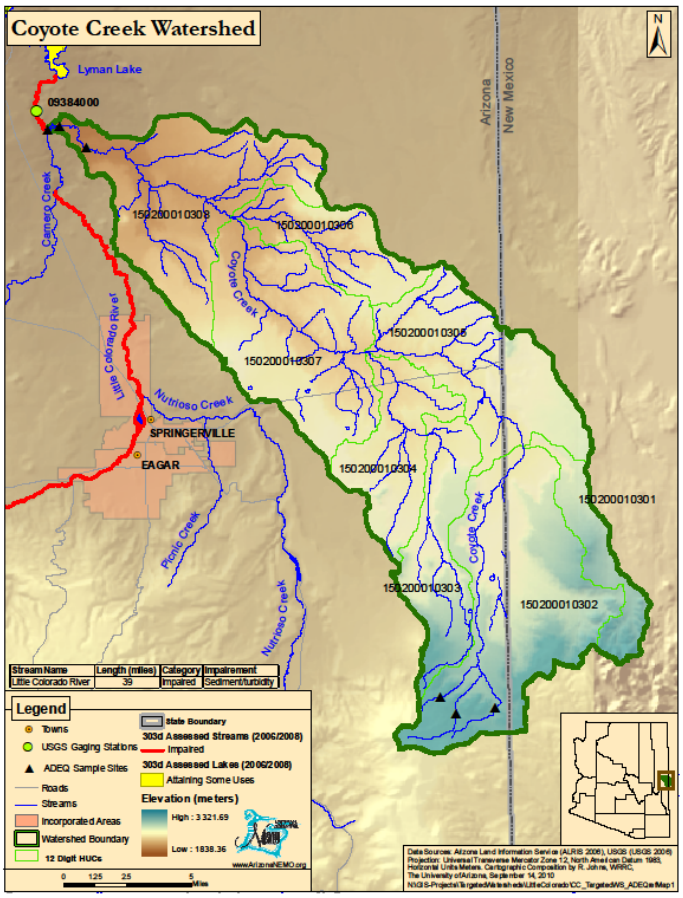
**Funds that are not sub-awarded will be returned to ADEQ at the end of the project period. Match will not be required for returned funds.*

Appendix F: Project Highlight

WQIG #12-002- Coyote Creek Watershed-scale Education and Training Grant

LOCATION AND WATERBODY IMPROVED

Coyote Creek, located in HUC 1502000103 of a 230 square mile sub watershed of the Little Colorado River located in Apache County, Arizona and Cantrell County, New Mexico. Approximately 50 square miles of the watershed are located in New Mexico with the remainder in Arizona. Elevations range from 7,900 feet in the eastern watershed to 6,000 near the confluence with the Little Colorado River. Flows are intermittent along the majority of the 41 miles of Coyote Creek channel.



Coyote Creek is a major tributary of the Little Colorado River in eastern Arizona. While the majority of the channel is ephemeral, there is a significant yield of sediment from the watershed to the Little Colorado River. Sediment and turbidity contributions are significant enough to influence the capacity of Lyman Lake, a major irrigation impoundment on the Little Colorado River, and to cause water quality impairment of the Little Colorado River.

Coyote Creek has been well documented as having water quality issues related to sediment yield for several decades. Recommendations from several reports have generally agreed upon the source of sediments and types of practices required to alleviate sediment yield from the watershed. But many recommendations have not been implemented due to lack of funding or support from public/private land managers. The approach of this project is to have direct input from land owners and managers as to the types of practices they believe will best benefit the land and their interests. The set of practices was evaluated to assess the potential impact on water quality improvement and a decision-making rubric was established that can be utilized by the watershed improvement group. The prioritization process was somewhat subjective and the decision making process was meant to guide the process and not confine it.

PROJECT OVERVIEW

In 2010, the WQIG program awarded a Watershed Education and Training (WET) grant to the Little Colorado Plateau RC&D with the objective of establishing a watershed council and identifying effective and appropriate sediment control BMPs for the watershed. WET grants were offered by the WQIG during the FY10 grant cycle to provide a mechanism for raising the level of public awareness and motivation in preparation of future planning and/or implementation grants. These grants were geared

towards watersheds where nonpoint source pollution water quality issues exist, but the community as a whole may not yet have a broad enough understanding or interest to participate in the development of a WIP.

The original scope of work for the Coyote Creek WET included on the development of a Watershed Improvement Council (WIC) to ensure that a broad spectrum of stakeholder interests were represented and considered as the project developed. The WIC, which consists of local landowners and managers, had an express purpose of bringing together landowners, lessees, managers and technical providers; changing behaviors of permittees in the management of public lands; and establishing BMPs, planning for purpose-designed monitoring, and developing site selection criteria for prioritizing future implementation projects. The goal of the RC&D and the WIC was to foster the connection between ranch management benefits and water quality improvement benefits among local land managers. This understanding is key to ensuring that BMPs are not only implemented, but maintained in the long-term.

The WIC worked closely with Flagstaff-based geomorphology firm Natural Channel Design (NCD) to evaluate the effectiveness of past BMPs, as well as make recommendations for future BMP implementation to protect water quality. NCD worked closely with land managers to survey their property and identify erosion control needs that would protect water quality while also benefitting ranch activities by reducing soil loss and improving grazing practices. The NEMO and Master Watershed Steward programs were also contracted to assist with education and training activities and the analysis of potential load reductions from recommended BMPs. One of the main projected outputs of the project was a planning document that would identify and prioritize BMPs in the Coyote Creek drainage, with applicability to other similar drainages in the LCR headwaters. It was anticipated that land managers would apply for funding in subsequent WQIG cycles to implement those BMPs.

Actively eroding head cuts such as this have been prioritized for implementation projects in the Coyote Creek watershed.

The initial phase of the Coyote Creek WET project was so successful that land managers were found to be in support of on-the-ground water quality improvement projects much sooner than initially anticipated. Due to this success, the WQIG program amended the grant agreement during FY11 to provide additional funding to implement those BMPs identified as highest priority in the Coyote Creek

WET Watershed Improvement Plan. BMPs that are currently in various stages of completion include sediment retention basins, off-channel watering troughs and wells, and bank sloping and stabilization. While the Coyote Creek WET plan does not meet all of EPA's nine key elements for watershed plans (and is therefore not considered an official "WIP" by ADEQ), it does comprehensively address BMP needs in the Coyote Creek drainage. Suggested BMPs were analyzed for cost, acreage protected, time frame for sediment reduction benefits, maintenance efforts to maximize the benefits, and sediment reduction potential due to placement within the watershed. The cost per acre of benefit was weighted by these four factors to provide a means of prioritizing BMP types and locations for implementation. This weighed cost benefit allows for comparison of projects for sediment reduction. Other factors such as habitat enhancement, producers' requirements and other concerns of the WIC are considered in the prioritization process as well. The Coyote Creek WET Watershed Improvement Plan is currently available for review upon request, and will be made available via the ADEQ website in the near future.

Cooperative effort has been key in the success of this project to date. ADEQ Community Liaison Byron James, Little Colorado Plateau RC&D Watershed Projects Director David Newlin, and the WIC members played key roles in communicating nonpoint source goals in a way that paralleled those of rural landowners and local citizens. In addition, the cooperation of the Apache Natural Resource Conservation District (NRCD) has allowed the process to move forward in water quality improvement efforts. The majority of the land managers/stakeholders in the area are also members of the Apache NRCD. Other partners have included:

- Meeting and Training Facilitators: Debra Mendelssohn and Suzanne Menges; also Jan Holder, Gila Watershed Partnership; Dr. George Ryle, PhD, University of Arizona College of Agriculture and Life Sciences, Arizona NEMO Program and Master Watershed Steward Program headed up by Dr. Phil Guertin and Dr. Channah Rock.

- G. Allen Hayden and others, Natural Channel Design; Dr. George Ruyle, PhD, University of Arizona College of Agriculture and Life Sciences.

- Natural Channel Design, Flagstaff, AZ and/or Bill Zeedyk (New Mexico).

- Seventeen identified ranch land owners and lessees.

Agencies contributing match for this project include Arizona Department of Water Resources, Arizona State Land Department, and Arizona Game and Fish Department. USDA EQIP funding is also being leveraged to fund a portion of the recommended BMP implementation.

The Coyote Creek WET project is an excellent demonstration of how targeted education efforts are often a critical first step toward on-the-ground implementation. There is a common misconception that water quality improvement projects cannot coexist with agricultural and ranching objectives. When agencies take advantage of local partnerships and make connections between water quality and stakeholder goals, great success can be achieved.