

**Final Report**  
**December 2012**  
**New Mexico Wetlands Monitoring and Assessment Strategy**  
**Development of Elements 1 and 2**  
**Assistance Agreement No. CD #966558-01-0 B (FY2007)**

(This project is Part B of a larger 2007 grant award to NMED Wetlands Program entitled “2007 New Mexico Wetlands Awards Project.”)



**Backwater wetland on the Gila River – Gila NMRAM lowland site 2012**

### **Project Goals and Objectives**

The SWANCC Decision has had severe implications for the protection of New Mexico (NM) wetlands, including isolated and those within closed basins within greater than 20% of NM land area. In the third driest State where water resources are crucial and much of our wetland acreage is left without federal protection, responsibility at the state level to develop a comprehensive strategy to inventory, monitor, assess wetlands resources and track wetland condition and trends is an absolute necessity for future wetland protection and management efforts.

When this project started in November 2007, very little was known about the function, condition, quantity, distribution, types or quality of wetlands in New Mexico. Threats to wetlands and identification of those at risk came primarily from intuitive observations. Previous efforts to characterize wetlands had been one-time efforts targeted at specific wetland types (i.e. playas) in the 1990's, data from localized projects that included wetlands, or any data that might be collected by other programs and agencies. However, data is generally unavailable or hard to locate and these efforts lacked statewide coordination. Also, in order to collect meaningful and relevant data, program goals and objectives needed to be developed and important questions about wetlands needed to be formulated.

The goal of this project is to plan and coordinate New Mexico's long-term comprehensive wetlands assessment and monitoring program that facilitates statewide wetlands management and is coordinated with our State water monitoring strategy. The SWQB Wetlands Program' wetlands assessment and monitoring strategy considers monitoring design, assessment parameters, methods for assessment, quality management objectives, data management and analysis, data gaps, coordination with other monitoring programs, reporting and general support and infrastructure. This strategy is developed for implementation during the next ten years.

New Mexico has developed the New Mexico Rapid Assessment Method (NMRAM) assessment process, and is in the process of mapping, classifying and identifying relevant functions for un-mapped wetlands in approximately 15% of the wettest areas of the State. In addition, New Mexico has developed relationships and projects with other agencies and universities to collect and share wetlands information. New Mexico has organized a multi-agency wetlands work group (Roundtable), has developed advisory committees for developing assessment protocols and mapping and data management strategies, and is working towards integrating these agencies into long-range assessment and monitoring tasks. The SWQB Wetlands Program and its partners are considering ways to achieve sustainability and long-term program funding for assessment and monitoring, staffing and resource needs.

The final product for this project is the *State of New Mexico Assessment and Monitoring Program Strategy for Wetlands* (see attachment). The goals and objectives of this strategy will be revisited during its implementation as validation that wetlands assessment and monitoring is meeting the State's wetlands management and protection needs and water quality goals.

This project has directly increased the State's ability to protect, manage, restore and increase its wetlands resources.

## **Project Location**

This project has statewide application

## **Original Timeframe**

NM Monitoring Strategy Final Report  
December 2012

A timeline was created for this project that began in November 2007 and was to be completed by June of 2009. The project was amended for a no cost extension, due to a reduction in SWQB staff and a hiring freeze, and also to complete value added subtasks and deliverables including completing the entire *State of New Mexico Wetlands Assessment and Monitoring Program Strategy for Wetlands*, not just Elements One and Two. Completing the entire Strategy during the concurrent development of New Mexico's key assessment methodologies has led to a more integrated and affective wetland monitoring program that provides results to decision-makers for important planning decisions and constructive outcomes.

## **Partners Involved**

The SWQB Wetlands Monitoring and Program Planning Team (WMPPT) was established to provide input and direction to the development of the preliminary draft wetlands monitoring strategy, and for cross-coordination and training. The WMPPT met monthly at the beginning of the project. The WMPPT was composed of representatives from Monitoring and Assessment, Standards Development, Watershed Protection Sections and the Wetlands Program. A preliminary draft of Elements One and Two were the results of these meetings.

During the development of the strategy, presentations and updates were made to the NM Wetlands Agency Roundtable where participants were able to provide input about what should be included in the strategy.

The Draft Strategy was presented to SWQB management and EPA and ASWM representatives for their input to the process. A draft was also presented for comment to SWQB staff and selected entities.

A questionnaire was distributed to 75 entities including federal and state agencies, universities, consulting firms, non-profits, watershed groups, and restoration and monitoring specialists.

## **Funding**

The original Federal amount was **\$91,000.00** which was spent and **\$33,915.00** match. The **final match amount** was **\$36,550.94 (29%)**. See semi-annual reports for details.

## Major Project Highlights and Chronology

- Signatures on the Cooperative Agreement between NMED and EPA were completed on November 1, 2007. This project is Part B of a larger 2007 grant award to NMED Wetlands Program entitled “2007 New Mexico Wetlands Awards Project.”
- The Wetlands Monitoring Program Planning Team (WMPPT) was established and meetings were set for the first Wednesday of each month. Karen Menetrey is the Project Officer for this project. A shared folder is established for meeting minutes and to share papers and information with the WMPPT.
- Maryann McGraw (Wetlands Program Coordinator) gave a presentation on the Elements of a State Wetlands Monitoring Strategy to the WMPPT on February 7, 2008.
- Esteban Muldavin (UNM Natural Heritage) gave a presentation to the WMPPT on developing a wetlands assessment method and on Level 1, 2, and 3 methods on March 18, 2008.
- Major staff changes and a hiring freeze led to a delay in this project. Chris Cudia is now the Project Officer and WMPPT meetings resumed.
- In November 5, 2008, the WMPPT meeting consisted of an update of the project and the Elements of a State Wetlands Monitoring Strategy to new WMPPT members.
- At December 18, 2008 and January 22, 2009, the WMPPT developed draft wetlands monitoring goals and objectives. The workgroup adopted a primary goal to *Protect, Improve, and Restore Wetlands*. All subsequent goals and objectives would be supportive of these guiding elements. The group also decided these interests will be best served by insuring that the wetlands monitoring program is built on the same foundation that supports other Surface Water Quality Programs. This foundation being designated uses and water quality standards respectively.
- The WMPPT determined that each of the primary goals (Protect, Improve, Restore) necessitated different strategies, resources, and/or level of intensity to achieve. This means that goals and objectives may follow parallel paths to the same endpoint while continuing to intersect at key milestones. Although a full suite of wetland-specific water quality standards is one ultimate achievement, the group wanted each step in the development process to yield tools that can be used immediately. The rapid assessment method NMRAM is a good example.
- The NMRAM will ultimately facilitate development of wetland-specific water quality standards criteria necessary for the long-term *protection* of wetlands. However before that goal is completed the NMRAM will already be a useful tool for monitoring wetlands *improvement/restoration* projects, determining and reporting overall wetland condition, and in assessing potential impacts/mitigation for dredge and fill activities (404/401).
- The New Mexico Wetlands Roundtable was conducted on November 12, 2008. Monitoring and Assessment topics were presented by three speakers as examples of the different levels of intensity:

- [Gar Clark \(Office of the State Engineer\) and Kerri Mitch \(USFS\) presented an effort to digitize all NWI wetlands for Forest Service lands in Arizona and New Mexico.](#)  
(Level 1)
- Elizabeth Milford (Natural Heritage New Mexico) presented an update of the development of the NMRAM.  
(Level 2)
- Paul Bauer (NM Bureau of Mines) presented a progress report on NM Techs' hydrogeology study of the "Seeps and Springs in the Rio Grande Gorge Area" Research Project  
(Level 3)
- In addition, Maryann McGraw conducted a brief update on the progress of the Monitoring and Assessment Strategy
- Maryann McGraw WPC and Chris Cudia (WPO) attend the National Wetlands Monitoring and Assessment Work Group Conference in Crystal City, Virginia December 5-8, 2008. Maryann presented "Cross-Program Coordination to initiate a Wetlands Monitoring Program – The New Mexico Experience."
- Maryann McGraw gave an update of the Monitoring and Assessment Strategy and the NMRAM at the USFS/NMED annual meeting on January 21, 2009.
- Three more meetings of the WMPPT were conducted February 24, March 27 and April 16, 2009. Discussions included how the strategy would support our stated goals and objectives. The classification of wetlands that would be most useful was the March meeting topic. Maryann provided an update on the development of the NMRAM methodology where we are using the Brinson HGM classification and why we chose that classification. We also discussed the use of the Cowardin classification and decided that using both classifications for now during the development of our monitoring and assessment program. The Landscape position, landform, water flow path, water body type (LLWW) (developed recently by Ralph Tiner) would be researched for its applicability to New Mexico wetlands. The group discussed the proposed metrics for the NMRAM at the April meeting and how those metrics would answer important questions about the State's wetlands and serve the needs for protection, management and restoration. The April meeting also included discussions of the wetland definition. As part of NMRAM development, wetlands are not limited to the jurisdictional definition, rather "wetlands" includes wetland and riparian areas and a buffer. This is because ecosystem services and functions (designated uses?) are tied to the continuum and mosaic of these ecosystems. In addition, the hyporheic zone (local water table) is also part of the continuum. Linkages include exchange of water and materials along longitudinal connections from streams to rivers, lateral connections between river and floodplain systems, and vertical surface and subsurface (hyporheic) water exchanges (see Hauer, 2003.)
- The WPC continues to participate in the National Wetlands Monitoring and Assessment Workgroup. Some conference calls include presentations on aspects of wetlands monitoring. Relevant presentations are copied to the public file "Wetlands Monitoring Strategy" for sharing. The WPC also participates in the updating of the Core Elements of a Comprehensive State Wetlands Program.



- Monitoring and Assessment continues to be a prime core element and the guidance provided by EPA through this effort will be used to develop the New Mexico Wetlands Monitoring and Assessment Strategy.
- A folder of other States' Wetlands Water Quality Standards is added to the Shared Folder.
  - The New Mexico Wetlands Roundtable was conducted on November 19, 2009. Maryann McGraw (WPC) provided an update of the Monitoring and Assessment Strategy Project, and announced that the agency interviews would commence in the early part of 2010 to evaluate the level of wetland monitoring activity conducted by other agencies. A questionnaire outlining key evaluation factors for the agency interviews and a request for information on the appropriate agency contact person was distributed.
  - Because of project delays caused by staff changes, a request to EPA to extend the grant period was approved on December 16, 2009.
  - Wetlands Program monitoring and assessment activities are included in elements 1 through 4 of the *State of New Mexico Surface Water Quality 10-Year Monitoring and Assessment Strategy* in 2009. **Milestone**
  - The first working draft Wetlands Monitoring and Assessment Strategy for Elements 1 and 2 is completed in December 2009. **Milestone**
  - Task 4 Agency Interviews was expected to start in early 2010. However, the response to the questionnaire handed out at the last Roundtable was poor and no SWQB staff was available to conduct the interviews. Staff reductions were in effect and the hiring freeze would not allow a paid intern to be hired. The WPO sent out a request to UNM Water Resources Program to find a student volunteer to help with this task. On June 11, 2010, Jason Gable begun volunteering 12 hours per week, but because he could not drive a State Vehicle, the WPC and WPO decided to develop and distribute a questionnaire using Survey Monkey. Group specific questionnaires were developed by Jason Gabel and were e-mailed to 75 different agencies, NGOs, watershed groups, consultants, universities and other groups.
  - Because of staffing limitations, communication between core WMPPT members to provide review and comment on project progress was kept active through e-mail, phone calls, and one-on-one communications.
  - In January, 2011, the WPC completes the first Wetlands Program Plan for New Mexico in which the Monitoring and Assessment core element was addressed.
  - Julia Hosford Barnes (facilitator) is contracted on March 18, 2011 to help complete Tasks for this grant and to assist in developing ways to increase receptivity and ensure acceptance of wetlands assessment into the overall monitoring goals and decision-making processes of SWQB.
  - Jeanne Christi (Association of State Wetland Managers) is consulted in phone calls and is invited by WPC to present and help complete Tasks for this grant. Even though Elements 1 and 2 of the Wetlands Monitoring Strategy are developed, it was determined by the WPC and WPO that there was no buy-in or commitment for integrating wetlands monitoring and assessment into the overall SWQB Program for the long-term, and in the monitoring and assessment process

by staff or management. So even though a major milestone was reached on paper, it did not influence programmatic changes, participation, or decision-making by other SWQB staff.

- The Wetlands Program is now involved in mapping wetlands, applying classification, monitoring restoration, conducting rapid assessments, developing a VIBI, identifying wetland functions for wetland types and other assessment activities. There is a need to ensure that all these activities are complimentary, providing the right types of data for Wetlands Program, for other SWQB water quality programs, and State's planning and decision-making needs.



Advisory Team Meeting for developing LLWW Classification (NWI+) for New Mexico.

- The results of the Wetlands Monitoring and Assessment Survey have been tabulated and analyzed. The results will be incorporated into the Monitoring and Assessment Strategy.
- In February 2011, the USACE Engineering Research and Development Center (ERDC) completed a draft of "A Hydrogeomorphic Classification of New Mexico Wetlands." The WPC and Peggy Johnson (New Mexico Bureau of Geology and Mineral Resources) provided comments on the draft.
- On March 18, 2011, the WPC meets with Julia Barnes (facilitator) and James Bearzi (new SWQB Bureau Chief) to discuss supporting progress toward completing the entire strategy and integrating this strategy.
- The WPC participates in the National Wetlands Condition Assessment under the CWA 106 program. Participation provided invaluable information, field experience and training for continuing to develop New Mexico's Monitoring and Assessment strategy.



**National Wetlands Condition Assessment Survey Site on Johnson Mesa, Colfax County.**

- The NM Wetlands Roundtable has now been split into two groups – The NM Agency Wetlands Roundtable and the NM NGO Wetlands Roundtable. A meeting of the NM NGO Roundtable was conducted on May 11, 2011. An open discussion session was conducted to brain-storm “Monitoring for a Healthy Bosque, Citizen and Landowner Involvement Techniques.” Notes from this discussion will be incorporated into the Wetlands Monitoring and Assessment Strategy.
- In May 2011, the WPC attended the National Wetlands Condition Assessment training in Fort Collins Colorado under CWA Section 106.
- A request to EPA to extend the grant period was approved on September 13, 2011.
- The WPC met with the facilitator on September 28 and November 17, 2011 to strategize the involvement of SWQB staff in wetlands assessment activities.
- In January, 2012, a draft of all elements of the NM Wetlands Monitoring and Assessment Strategy is completed and sent out for SWQB internal review.
- On February 22, 2012 a SWQB Management Meeting was held to discuss Wetlands Monitoring and Assessment in the morning and Wetlands Standards development in the afternoon. Key sections of the Wetlands Monitoring and Assessment Strategy were emphasized and discussed. Jeanne Christi (ASWM) and Richard Prather (EPA Region 6) attended, presented and helped provide examples and ideas from other states and the national perspective. James Bearzi, SWQB Bureau Chief is very supportive of the program.
- The draft New Mexico Wetlands 10-year Monitoring and Assessment Strategy was presented at the New Mexico Agency Wetlands Roundtable on February 23, 2012 and input from the attendees was requested. Jeanne Christi (ASWM) and Richard Prather (EPA Region 6) both attended and presented.



- The WPC and facilitator meet to review the wetlands monitoring strategy draft and comments and it was determined that the draft needed extensive revision. The reason being that the activities for the next ten years will emphasize baseline assessment since New Mexico has been data poor in the past. The Strategy would now be called the New Mexico Wetlands Assessment and Monitoring Strategy.
- The final draft of the State of New Mexico Assessment and Monitoring Strategy for Wetlands was distributed and reviewed by SWQB Staff in the fall 2012, and key staff were also interviewed for input on the Strategy.
- The final draft version of the State of New Mexico Assessment and Monitoring Strategy was presented at the combined New Mexico NGO and Agency Wetlands Roundtable on October 30, 2012 and input from the attendees was requested. The Santa Fe Girls School was invited to the Roundtable to present a report on monitoring their wetland preserve on the Santa Fe River. The goal was to show the utility of volunteers to monitor wetlands.



Santa Fe Girls School students take piezometer readings and wetland site on the Santa Fe River.

- The final draft version of the State of New Mexico Assessment and Monitoring Strategy for Wetlands was presented by the WPC at the USFS/NMED Annual meeting on November 7, 2012.
- The WPO and Wetlands Program Staff met with the new Standards Coordinator for SWQB, Kris Pintado, to discuss the 10-year strategy for Assessment and Monitoring of Wetlands on November 9, 2012.
- The WPC communicated with Richard Prather EPA Region 6 regarding the final version of the State of New Mexico Assessment and Monitoring Program

Strategy for Wetlands and how EPA will review and approve. EPA provides comments on the Strategy.

- The *State of New Mexico Assessment and Monitoring Program Strategy for Wetlands* is completed.

## List of Major Deliverables

- WMPPT meeting notes and presentations
- Draft 2010 Elements 1 through 4 of the *State of New Mexico Surface Water Quality 10-Year Monitoring and Assessment Strategy* with wetlands incorporated
- WPC power point presentations from National meetings and Roundtables
- Meeting agendas and sign-in sheets for Roundtables, relevant notes from Roundtables
- Elements 1 and 2 of the Wetlands Monitoring Strategy white paper
- Final *State of New Mexico Assessment and Monitoring Program Strategy for Wetlands* (Attached).
- Semi-Annual and Final Reports, Match reporting

## Lessons Learned

*What made the project successful?*

This project is successful for producing products and outcomes beyond the original expectations when the project was first conceived.

- 1) Because the SWQB Wetlands Program was in initial development at the start of the project, the longer timeframe and consideration of all elements simultaneously along with experience gained through the development and use of assessment methods, led to a better product and more meaningful and influential outcomes.
- 2) The WMPPT provided insight from other related programs and ensured that wetlands assessment evolves in a way that is compatible and synergetic with other water quality programs.
- 3) The involvement of the Wetlands Roundtable was invaluable to ensure that our monitoring strategy was steered in the right direction.
- 4) The SWQB Management meeting in February 2012 was critical to ensure positive steps towards inclusion of the Wetlands Program in SWQB water quality monitoring activities. It is still up the Wetlands Program to collect and analyze wetlands data in the context of overall watershed health and stream health.
- 5) The completion of the entire *State of New Mexico Assessment and Monitoring Program Strategy for Wetlands* is proving much more valuable for planning purposes and conducting meaningful data collection and analyses.

*What made the project not so successful?*

The project progressed slower than expected. In 2008, the Wetlands Program lost key staff due to a hiring freeze and staff shortage. This project was delayed until reassignments could be made. In addition, frequent changes in SWQB staff and NM Monitoring Strategy Final Report

December 2012

management involved in the project also delayed progress. However, continued development of key wetlands assessment techniques and data collection provided guidance and insight that made the final product more useful, relevant and comprehensive.

*What would you do differently in terms of effectiveness?*

In the future, updates to management may likely result in more influence and change in SWQB Bureau activities that should include wetlands assessment. Inclusion of EPA Region 6 staff in more meetings would also influence the impact of wetlands assessment on future SWQB activities.

### **Technical Transfer**

*What information can you pass along to other agencies, cooperators or local landowners in other watersheds about this project?*

The *State of New Mexico Assessment and Monitoring Program Strategy for Wetlands is posted on the NMED* website at <http://www.nmenv.state.nm.us/swqb/>. As is often the case, the process of developing the strategy is as productive as having the strategy. Stakeholders are important in planning processes such as the development of this strategy to help coordinate wetlands assessment efforts and to increase receptivity of data and information statewide and with many partners. Goals and objectives are necessary in order to ensure that data collection will meet the needs of decision-makers, such as planners, resource managers, business and industry, political offices such as planning commissions, watershed groups, the regulators and the regulated community, and other influential entities.

### **EPA Feedback Loop**

*What would you suggest that EPA do differently to improve the process in regard to this project?*

EPA was very supportive in all aspects of this project during the project period, especially allowing grant period extensions to complete high quality and meaningful work.

### **Future Activity Recommendations**

- Assessment efforts should continue to support and improve water quality standards for wetlands.
- Trainings should be conducted in wetlands assessment methods to engage others in collecting needed wetlands data.
- The Wetlands Program must focus on engagement of other agencies, entities and volunteers as a result of the Questionnaire information to avoid duplication and increase progress in assessing the State's wetlands.
- The Wetlands Program should work to include more assessment methods in the SOPs for SWQB monitoring programs.

- Wetlands assessment should continue to be an action item in Wetlands Action Plans.
- Isolated wetlands such as playas and in closed basins should be more robustly protected by the State, and the Wetlands Program should continue to pursue ways to assess and monitor isolated wetlands.
- All wetlands assessment data should be housed in a one-stop web-based accessible database.