Clearing the Waters Newsletter

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2012 Watershed Forum Recap

By Abe Franklin, WPS Program Manager

NMED sponsored a series of workshops this past fall called the 2012 New Mexico Watershed Forum. The previous Forums were held in Albuquerque in 2008 and 2010, and we received feedback from many attendees that participation from more parts of New Mexico would be increased and a greater variety of projects could be highlighted if the Forum were held in other communities. Thus, the decision to decentralize.

Like before, a planning committee of people from different natural resource agencies and nongovernmental organizations assisted with designing the forum. But the local organizations that implemented the workshops and all the people who attended to share their experiences in watershed restoration and management carried the weight this time around. Let me offer a hearty "Thank You" to everyone who participated in making the 2012 Watershed Forum a success!

Over 300 people attended the seven workshops (with a range of about 30 to 175). We received almost entirely positive feedback on evaluation forms, but I also know that the Forum was a success because I attended every workshop, and observed first-hand the learning and sharing that took place. Sample highlights from each workshop follow.

Brian Drypolcher, River Coordinator for the City of Santa Fe, describes a River Ecosystem Restoration Initiative project on the Santa Fe River during the 2012 Watershed Forum.

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"Caring for Arroyos in Your Neighborhood" (Santa Fe, September 21-22)

Presenter Jan-Willem Jansens summarized a hydrologic analysis of the Santa Fe River watershed completed by the US Army Corps of Engineers in 2008, in which increases in flood event magnitude for various frequencies were projected due to predicted changes in climate and watershed characteristics. Larger two-year flood events mean larger stream (and arroyo) channels, and Jan-Willem led the group through calculations estimating that 11,000 tons per year of additional sediment may be sent downstream from the banks of the Arroyo de los Chamisos as a result. Long-time Santa Fe residents were also surprised to learn that a city street (Lorenzo Road) lies *within the bed for several blocks* of the Cañada Ancha, an arroyo with a watershed area of nearly two square miles. No wonder the residents of that street sometimes have problems getting to or from their homes!

"A Changing Landscape: The Pecos Watershed and Its Future" (Pecos, September 26-27)

Held at Brush Ranch in the Pecos River Canyon, this workshop began with an announcement by the Upper Pecos Watershed Association of the completion of the new Upper Pecos Watershed Protection and Restoration Plan, available on line at www.nmenv.state.nm.us/swqb/Pecos/Upper/WBP. Dr. Craig Allen of the USGS Jemez Mountains Field Station presented new research linking mechanisms of tree mortality and climate change, and the increasing certainty that the forests of 2040 will be very different from today's. Dr. Allen contended that we are already seeing that change take place in our recently burned forests. New Mexico Department of Game and Fish (NMDGF) staff presented plans for restoring NMDGF lands in the Pecos Canyon for the benefit of fish and anglers. A lengthy field trip stop occurred at the complex of hard-used recreation sites near the confluence of the Pecos River and Rio Mora, where NMDGF staff were conducting a pre-project fish survey prior to installing habitat and bank stabilization structures.

New Mexico Department of Game and Fish staff conducting an electrofishing survey, prior to a fish habitat improvement project on the lower Rio Mora.

Kent Reid, of the New Mexico Forest and Watershed Restoration Institute, guides forum participants through ponderosa stands thinned under three different prescriptions.

"Preparing for and Adapting to Ecological Change" (Las Vegas, September 28-29)

Well attended by foresters, ranchers, and landowners, this workshop provided information on managing ranch and forest lands through the trials of drought. An example of the type of information shared by Mollie Watson of the Quivira Coalition is that the common dewormer Agri-mectin can inhibit microbial communities in soil, slowing decomposition and incorporation of organic matter, which in turn can reduce available soil moisture, inhibiting plant growth, which results in reduced plant production and can reduce infiltration of precious precipitation. One technique for slowing this cycle of degradation is to administer the dewormer in the winter, so that it dissipates or is broken down by the time the soil warms in the spring. Combined with other best management practices, this knowledge may even help ranchers reverse

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the direction of the cycle of degradation, turning it into a cycle of regeneration. Hosts Werner and Helen Muller led a tour of their creative water management on their farm. Kent Reid of the New Mexico Forest and Watershed Restoration Institute and forestry consultant Bob Lineback led a tour of ponderosa pine stands on the Pritzlaff Ranch, where attendees could compare the results of thinning under the Northern Goshawk, Ecological Restoration Institute, and "Clumpy 40" guidelines.

"Rainwater Harvesting: A Graceful Resolution for the Urban River" (Silver City, October 4-5)

Silver City Forum participants pose in the midst of an earthwork which they had just completed. The earthwork holds and uses roof runoff from the Silver City Visitors' Center. The Big Ditch is just beyond the trees.

Silver City is not among the largest cities in New Mexico, but its water problems are shared by many New Mexico communities. The San Vicente Arroyo, better known as the Big Ditch, provides a potent reminder in downtown Silver City of the importance of wise watershed management. This workshop featured several convincing examples of street runoff used for urban landscaping. Diverting storm flows out of the street and into yards, parks, and city rights of way provides a source of water for landscaping and keeps the water from creating more Big Ditches. Lead instructors Van Clothier (local stream restoration and water harvesting contractor) and Catlow Shipek (from Tucson's Watershed Management Group) provided basic instruction in design (e.g., three critical elevations which must be surveyed). Town of Silver City staff provided information on curb cut permitting. And Mayors Mulcahy and Marshall of Truth or Consequences and Silver City, respectively, as well as many interested residents from the region were on hand to contribute and learn.

"The Cutting Edge: Catching , Sinking, Storing, and Using Water Where it Falls" (Cerrillos, 10/6-7)

Forum participants from the Cerrillos area become acquainted with principles of water harvesting at the Ampersand Sustainable Learning Center.

This workshop was my first exposure to the Ampersand Sustainable Learning Center, where Amanda and Andy Bramble have opened their off-grid home and property to those interested in learning more about sustainable living. Many of the attendees were from the immediate area, and are very aware of the resources which they use and produce. Amanda led a tour of the property, highlighting their water harvesting system (roof runoff for drinking and household use, grey water for gardening, and attention to surface runoff as a resource), and demonstrating several ways that on-site and imported materials are used or repurposed for the home and outbuildings. Andy, Amanda, and one other permanent resident import almost no water, and they do not have a well. Renowned water harvesting author Brad Lancaster presented the basics of design for energy and water conservation, and shared his inspirational experiences from Tucson. Co-instructors Craig Sponholtz and Steve Carson described erosion prevention structures built on the property with support from the US Fish and Wildlife Service Partners Program. Participants analyzed erosion and runoff problems, designed low-tech solutions, and then implemented them using a native seed mix, rock mulch, and straw.

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"Canadian River Riparian Restoration Project" (Tucumcari, October 11-12)

This relatively large workshop featured a series of projects that have eradicated over 4,000 acres of salt cedar in the Canadian and Ute Creek watersheds, funded by the New Mexico Legislature at the recommendation of the Water Trust Board. The workshop was well attended by staff of the Natural Resources Conservation Service (NRCS) and New Mexico State University (NMSU), who also presented information on methods of salt cedar eradication (chemical and mechanical), revegetation methods (e.g., tall pots and deep pole planting), and monitoring. The field trip was especially inspirational, with visits to Jack and Tuda Crews' ranch on Ute Creek and the National Grasslands land in Mills Canyon. The Crews entered six miles of Ute Creek into the NRCS Continuous Conservation Reserve Program (with a long term agreement to defer grazing), used NRCS Environmental Quality Incentives Program funds to pay for fencing, and the Ute Creek Soil and Water Conservation District eradicated the salt cedar with aerial application of herbicide. Nearly a decade later, the channel has evolved from a sandy wash into a continuous wetland, vegetated all the way across with rushes, sedges, and cattails. The adjacent terrace is vegetated with a combination of range plants and weedy colonizers that is far preferable to the salt cedar monoculture that was present before. The Crews report more reliable flow in Ute Creek, even in dry years. The other site at Mills Canyon is at an earlier stage of recovery, but also shows promising results.

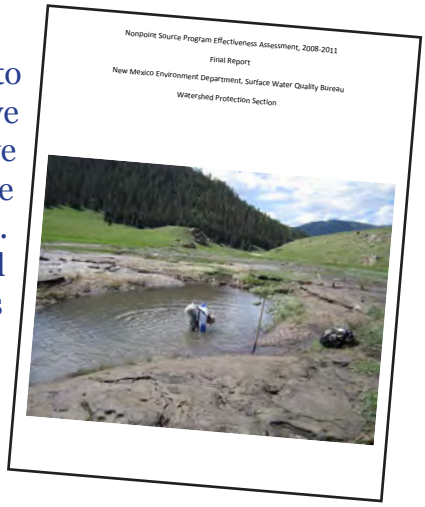
"Four Corners River Health Workshop" (Farmington, October 16 – 17)

The Four Corners River Health workshop attained full convention proportions, with 175 attendees on October 16 at the Farmington Civic Center, and 95 field trip attendees on October 17. This workshop brought together people from many water-related fields who care about the San Juan, Animas, and La Plata Rivers, and presented on a variety of topics related to water quality, endangered fish species, wetlands, and riparian ecology. At least 60 different organizations were represented. Related to Clean Water Act programs, San Juan Watershed Group coordinator David Tomko shared the basics of the total maximum daily loads for the basin. A presenter from the Mountain Studies Institute summarized the results of an isotope study that is helping to identify sources of nutrients in the Animas. Anne Oliver of the Animas Watershed Partnership summarized the Animas River Watershed Based Plan, and Peter Butler of the Animas River Stakeholder's Group (and Colorado Water Quality Control Commission) provided a clear yet technical description of legacy mining impacts in the upper Animas watershed. Several people also attended an optional tour of coal mine restoration sites offered by BHP Billiton on the days before and after the main workshop, and an optional evening social event. The San Juan Watershed Group plans to post presentations and other workshop documents on their web site at https://sites.google.com/site/sanjuanwatershedgroup.

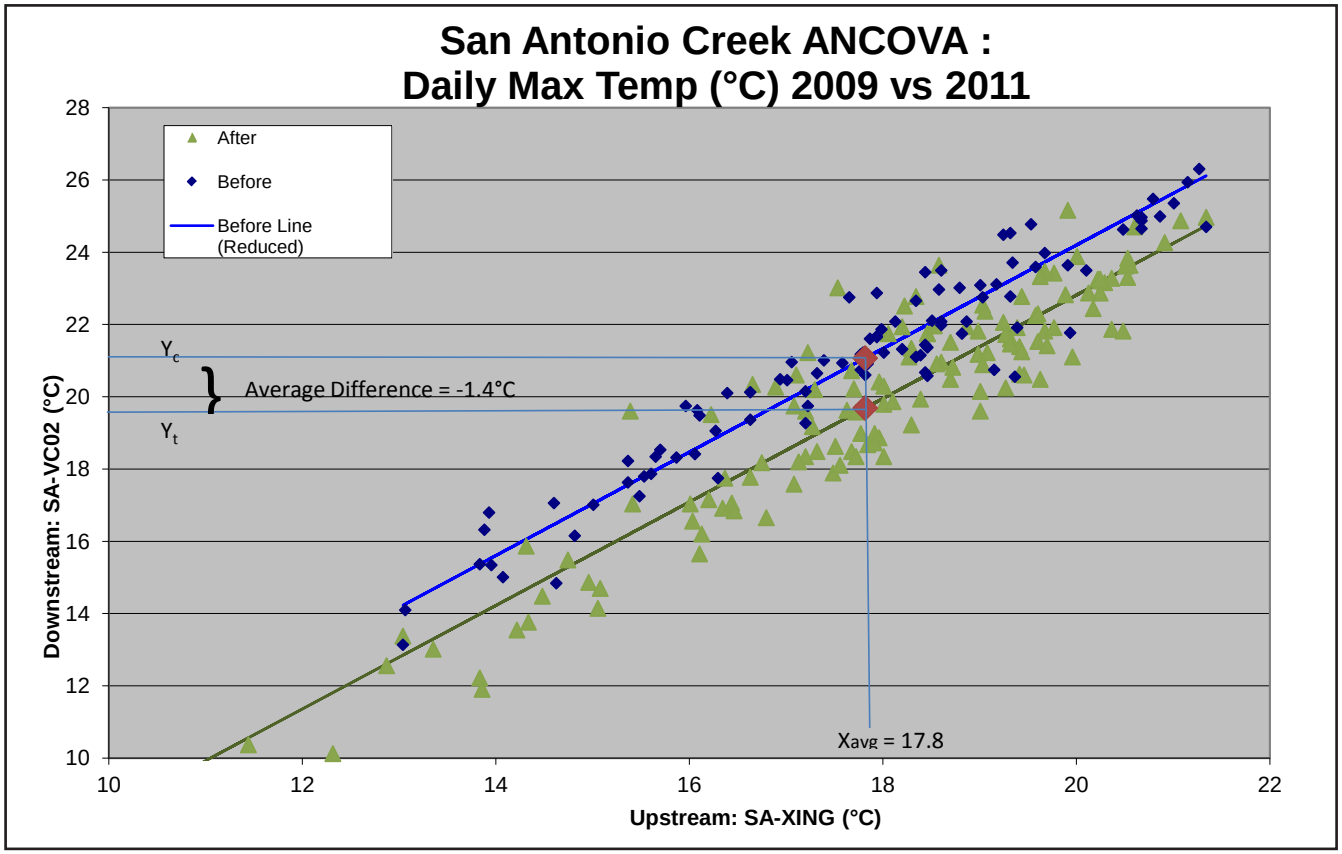
At the Four Corners River Health Workshop, Jose Pino, Hilary Bravenec, Ana Gomes and Chambliss Lantana (all with NRCS) demonstrating how vegetation helps precious rainfall infiltrate the soil to grow more vegetation, and reduces soil, bacteria, and nutrients leaving the site.

Effectiveness Monitoring Report Now Available Online

By Dan Guevara, NMED-SWQB



Since 2008, the SWQB has monitored water quality and related parameters to determine the effects of selected 319, River Ecosystem Restoration Initiative (RERI), and Wetland Program Development Grant projects. SWBQ staff have completed a report presenting three years of data for multiple streams, and the monitoring and data analysis methods employed can also be used by cooperators. This report, entitled the "Nonpoint Source Effectiveness Assessment, Final Report for 2008 to 2011," is now available on the SWQB website. It presents the results for restoration projects on New Mexico streams including: Comanche Creek, San Antonio Creek, Rio de los Pinos, and Bluewater Creek, among others. Streams were monitored using the upstream/downstream before/after study design (Grabow et al. 1998) to isolate the effects of the projects and analyze for significant changes to water quality parameters of interest. Improvements were detected on Comanche and San Antonio Creeks, but other streams had inconclusive results and continued monitoring will be required to account for lag time and drought. Two other streams (Rio Cebolla and the Lower Santa Fe River) were determined to be effective using the weight of evidence approach, and were nominated as success stories to the EPA. For more information and to download the report, visit the NMED SWQB website: www.nmenv.state.nm.us/swqb/wps/Effectiveness/



Regression Lines for San Antonio Creek Before and After Stream Restoration Projects showing a decrease in water temperature of 1.4 degrees C

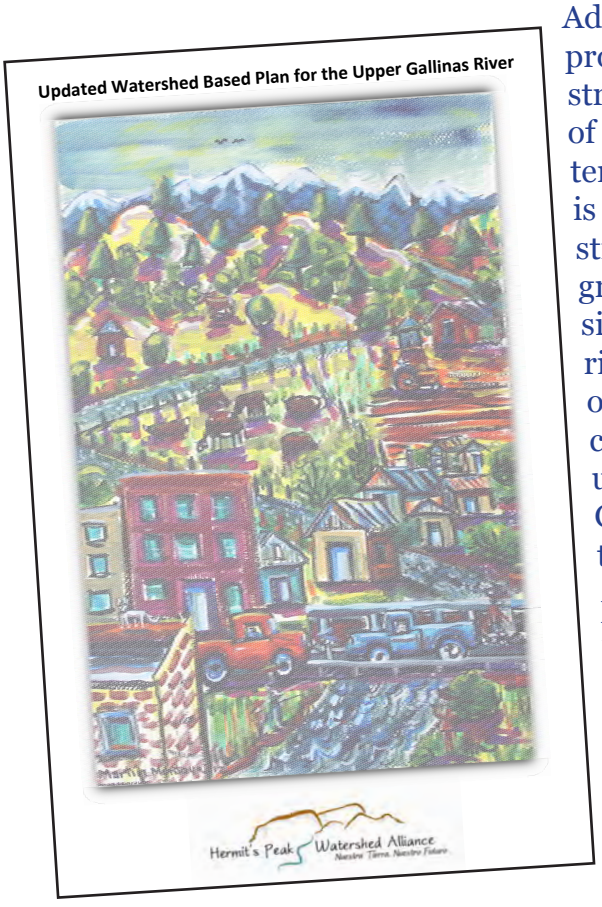
Reference

Grabow, G.L., J. Spooner, L.A. Lombardo, D.E. Line, and K.L. Tweedy. 1998. Has Water Quality Improved? Use of a Spreadsheet for Statistical Analysis of Paired Watershed, Upstream/Downstream and Before/After Monitoring Designs. NCSU Water Quality Group.

EPA Accepts Watershed-Based Plan for the Upper Gallinas River

In New Mexico, watershed-based planning is an important component of the Nonpoint Source Management Program. More than just a requirement for on-the-ground 319 funding, watershed-based planning helps foster communication and coordination between people, organizations, and programs working to protect and restore the environment. The EPA recently reviewed and accepted a watershed-based plan (WBP) for the Upper Gallinas River Watershed, which was developed by the Hermit's Peak Watershed Alliance (http://hermitspeakwatersheds.org/) with oversight provided by SWQB staff and input by several key stakeholders. This plan built on earlier efforts for the broader Pecos River Watershed.

The most recent 303(d) list of assessed surface waters categorizes the Gallinas River (Las Vegas Diversion to USFS boundary) and its tributary Porvenir Creek (Gallinas River to SFNF bnd) as temperature impaired meaning they do not support their designated use for high quality coldwater aquatic life. In order to fully support high quality coldwater aquatic life, water temperatures should not rise above 68°F (20°C). The purpose of the updated watershed-based plan for the Upper Gallinas River is to help guide land management and restoration efforts in the Gallinas Watershed towards reducing stream temperatures to meet state water quality standards. This plan incorporates the nine key elements (see sidebar) of a sound watershed plan. It provided an opportunity to examine the current condition of the Gallinas River and Porvenir Creek, identify specific causes and sources of impairment, and recommend efforts that can help restore healthy conditions considering existing ecological and social circumstances.



Addressing stream temperature issues in the Gallinas Watershed provides an avenue to simultaneously improve many other important stream and watershed health related concerns. The component of stream systems that contributes most significantly to stream temperature regulation and can be influenced by land management is riparian vegetation, through stream shading and anchoring streambanks to prevent stream channel widening. Air temperature, ground water inputs and the quantity of stream flow also play significant roles, but are largely beyond human control. Increasing riparian vegetation is thus the central focus of this plan. Future 319 on-the-ground implementation grants and other sources of funding can then help provide the support to put this plan into action. The ultimate goal of the WBP and its implementation is to remove the Gallinas River and Porvenir Creek from the list of impaired waters through improved land management and restoration efforts.

Hermit's Peak Watershed Alliance approached the Upper Gallinas Watershed Based Plan by using local contractors and staff to conduct the planning process. This enabled the development of a plan that was deeply rooted in the community with hopes for a greater likelihood of continued support beyond 319 funding. A cornerstone of the planning process was individual meetings with numerous landowners to incorporate their personal land management challenges into an overarching management plan. By building strong relationships with landowners and using local people to develop the plan,

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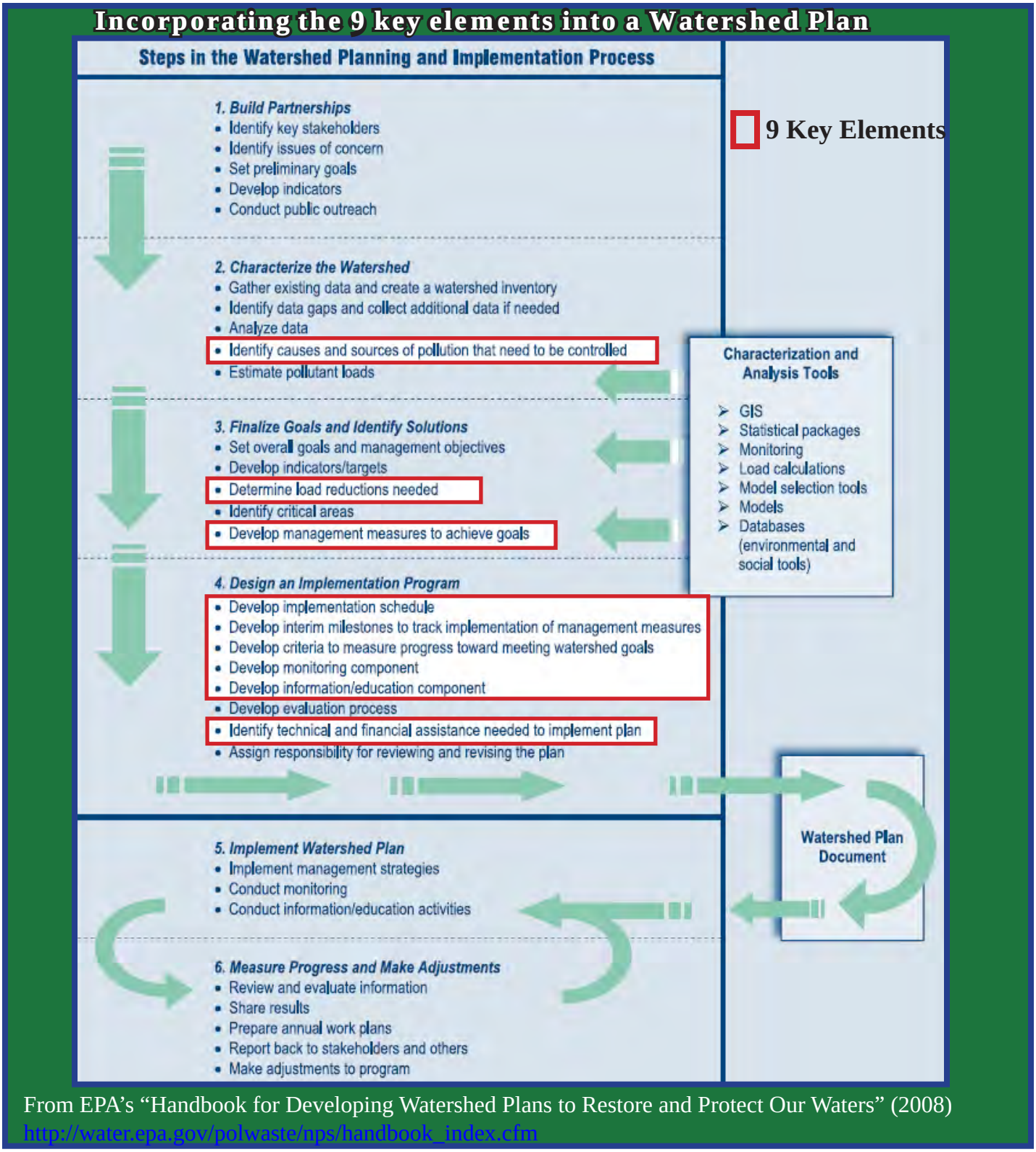
the Watershed Based Plan hopes to combine local input with sound watershed management. With the support of 319 funding and the WBP as a vehicle, the Hermit's Peak Watershed Alliance was able to begin the process of engaging local community members in the care of their watershed. Sound data collection to determine the condition of the watershed, the establishment of restoration needs and priorities, coupled with community education and engagement activities created a strong foundation upon which to restore and maintain the health of the Upper Gallinas Watershed. This foundation will be built upon as HPWA moves toward implementing the WBP in a manner that uses 319 funds as the seed to be complemented by many other collaborative sources.



From EPA's "Handbook for Developing Watershed Plans to Restore and Protect Our Waters" (2008)
http://water.epa.gov/polwaste/nps/handbook_index.cfm

GET INVOLVED!

December 11th, 2012 - New Mexico Riparian Council Annual Award Ceremony, 11:30 at O'Neills Irish Pub, 4310 Central Ave, SE, Albuquerque, NM.

January 8th, 2013 - Malpai Borderlands Group 2013 Science Conference. Cochise College, Douglas, Arizona. For more details, see http://www.malpaiborderlandsgroup.org/featureevent.asp?eventID=34 or contact mbg@vtc.net.

January 10th - New Mexico Water Dialogue 19th Annual Statewide Meeting "Reviving Water Planning: Successes, Challenges, and Opportunities." Indian Pueblo Cultural Center in Albuquerque. For more details, see www.nmwaterdialogue.org/up_events.html.

February 7-9th - 46th Joint Annual Meeting 2013 AZ/NM Chapter of the American Fisheries Society and AZ & NM Chapters of the Wildlife Society. "Ecosystem Thresholds: Fire, Water, and Climate." Albuquerque. For more details, http://joomla.wildlife.org/nm/.

February 28-March 1st - 2013 Arid LID and XeriscapeConference Albuquerque. For more details, see www.aridlid.org/arid-lid-conference/.

March 5th - The University of Arizona Water Resources Research Center 2013 Conference "Water Security from the Ground Up" UA Student Union Memorial Center, Tucson, AZ. For more details, see http://wrrc.arizona.edu/conferences.

April 15-18th - New Mexico Rural Water Association. 35th Annual Conference. Albuquerque. For more details, see www.nmrwa.org/conference.php.

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