

CLEARING THE WATERS

Newsletter

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www.nmenv.state.nm.us/swqb/wps

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Vacas Asphalt Spill Cleaned Up

By Nina Wells, SWQB-WPS

On August 10th, 2010 an accident occurred on NM Highway 126 about 12 miles east of Cuba, New Mexico. The highway was undergoing a chip seal procedure, and one of the ingredients used was a "hot oil asphalt slurry." Rudy Rios, President of NM Trout, was working in the area and observed an overturned tanker truck spilling an unknown quantity of asphalt slurry from a 5,000 gallon capacity tanker into a side drainage that flowed to a beaver pond on the Rio de las Vacas. The Rio de las Vacas is in the headwaters of the Jemez watershed, and is a popular recreational area and fishery. The driver had been attempting to turn around when the truck flipped over, and the material spilled out an unsecured top door/valve. The driver was not seriously injured, and the Department of Public Safety was contacted. Cactus Transport Inc., the owner of the tanker truck, took responsibility for the incident.

When an incident like this occurs, there is a response process. If there is any danger to the public, a perimeter will be established by the Department of Public Safety (DPS). In this case, NM Highway 126 was closed and emergency personnel were engaged. The DPS notified the NMED Hazardous Waste Bureau and the Surface Water



Asphalt Spill. Photo courtesy of Rudy Rios.

Quality Bureau. NMED has an established notification process for spills and unauthorized discharges (see box on next page) to engage and inform the proper authorities.

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**NMED Surface Water Quality Bureau's
Watershed Protection Section**

www.nmenv.state.nm.us/swqb/wps

SPILL CLEANUP continued from page 1

Most transport companies carrying hazardous materials must have their tanks placarded and carry the Material Safety Data Sheet (MSDS). This information will assist emergency responders in the decision making process. Drivers should be aware of ways to contain materials in the event of an accident, and carry absorbent pads or blankets for petroleum products as part of a safety spill kit. In this event, the Santa Fe National Forest's Cuba Ranger District responded quickly by creating a berm that isolated the beaver pond, and diverted the flow of the Rio de las Vacas around the pond. Within several hours, they set up a series of straw bale check dams below the beaver pond to filter the flow without restricting the water.

The asphalt slurry cooled as it reached the stream and became less mobile. Most of the heavier hydrocarbons were contained in the beaver pond. There was no evidence that the beavers were active in this pond, and there was minimal fish mortality observed. It took approximately 12 weeks for the post-spill remediation to be completed. Cactus Transport Inc. worked diligently and stayed on site until the site was cleared by a multi-agency group that provided guidance. Although initial work is complete, the responsible party will continue to monitor the site.



Beaver Pond immediately after spill (above).

Photo courtesy of Rudy Rios.

Beaver Pond and drainage after remediation (below).

Notification of Spills and Unauthorized Discharges

Who Must Provide Notification?

The owner, operator, or person in charge of any facility where a discharge has occurred must provide notification of such release to the New Mexico Environment Department.

What Kinds of Discharges Must be Reported?

Any amount of any material in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property; or may unreasonably interfere with the public welfare or the use of property must be reported. This includes chemical, biohazardous, petroleum-product, and sewage spills and incidents. In addition to recent spills, the discovery of evidence of previous unauthorized discharges, such as contaminated soil or ground water, also must be reported.

Are There Reportable Quantities? New Mexico has not established reportable quantities.

When Must Notification Be Provided?

Verbal notification must be provided as soon as possible after learning of a discharge, but in no event more than twenty-four (24) hours thereafter.

How Should Notification be Provided?

- **For emergencies, call 505-827-9329 twenty-four hours a day.**
- For non-emergencies, call 866-428-6535 (voice mail, twenty-four hours a day).
- For non-emergencies, and to reach an on-duty NMED staff member during normal business hours, call 505-476-6000.

If applicable, cut out this information box and post at your workplace. In an emergency, time is critical!

Watershed Planning Update

EPA Accepts Watershed-Based Plan for the Rio Santa Barbara

By Abe Franklin, WPS Program Manager

In October 2003, the EPA published the *Nonpoint Source Program and Grants Guidelines for States and Territories* in the Federal Register. These guidelines limit expenditure of incremental Clean Water Act Section 319 funds to the implementation of watershed-based plans, and specify nine elements that must be included in the plans. EPA does not have authority to approve watershed-based plans, but reviews the plans and determines whether the planning requirements are satisfied prior to approving expenditure of Section 319 funds. 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 project funding, watershed-based planning helps foster communication and coordination between people and organizations with responsibility to protect and restore the environment.

EPA has accepted very few watershed-based plans to date. Until recently, the Plum Creek Watershed Protection Plan (<http://pcwp.tamu.edu/wpp>) in south central Texas, was the only example available in Region 6 of a plan that met the requirements. A long term effort by many agencies over approximately ten years was required to produce this plan, at considerable expense. The Plum Creek Watershed Protection Plan serves as a very valuable example for complex, urbanized watersheds including some in New Mexico. The relatively extensive monitoring and modeling used to produce the plan provided objective scientific information that was valuable in developing stakeholder consensus on fair and effective solutions.



Rio Santa Barbara

On the other end of the complexity and expense scale, EPA recently reviewed the Rio Santa Barbara Watershed Plan, which was developed by Surface Water Quality Bureau staff with input and review by several key stakeholders. This plan built on an earlier, more general effort for the larger Rio Embudo watershed. While the earlier plan described the watershed well and laid out many worthy goals related to water quality, it did not present quantitative information related to pollutant loading. The Rio Santa Barbara Watershed Plan focuses on the relatively short reach of the Rio Santa Barbara downstream of the Carson National Forest and not on Picuris Pueblo lands. This section of the Rio Santa Barbara has an established total maximum daily load (TMDL) for turbidity, which sets an overall pollutant load reduction goal of 1,503 pounds per day of total suspended solids. The plan identifies sources of pollutant loading, corresponding management measures that can reduce that loading, and programs that can implement these management measures.

EPA acknowledged in their review that data gaps and uncertainty remain, and conveyed an expectation that the plan will be revised as more information is collected. However, the EPA agrees that with this watershed-based plan in place, “there’s sufficient information to implement the TMDL.”

The Rio Santa Barbara Watershed Plan and the acceptance letter from EPA are available on line at: www.nmenv.state.nm.us/swqb/RioSantaBarbara/WBP.

Surface Water Quality Bureau Update

Two Requests for Proposals to be released

By Abe Franklin, WPS Program Manager

The Watershed Protection Section plans to release two requests for proposals (RFPs) in late February. One RFP will solicit proposals to develop new watershed plans or update existing watershed plans to include information specified in the *Nonpoint Source Program and Grants Guidelines for States and Territories* available at www.epa.gov/owow/nps/cwact.html. Each new planning project must address at least one total maximum daily load (TMDL) for an impaired water, but may also identify other actions required to protect water quality in areas already meeting standards.

The second RFP will solicit proposals for on-the-ground projects that implement watershed-based plans, focusing exclusively on meeting the goals of TMDLs. The RFP will ask for citations of either a watershed plan or equivalent documents to support the proposed work. The ultimate goal of this approach is to delist impaired streams.

The RFPs will be open for approximately eight weeks. Projects funded under either RFP will require a minimum forty percent non-federal match, which may consist of cash expenditures or in-kind contributions of labor, equipment, and materials. Both RFPs will include opportunities for potential applicants to ask questions. Public meetings are planned around the state (See calendar on back page), and a deadline for submitting written questions will be provided in the RFPs. For more information, see www.nmenv.state.nm.us/NMED/RFP, or contact Abe Franklin at 505-827-2793 or abraham.franklin@state.nm.us.

Hydrology Protocol Released

SWQB has released a revised version of the Hydrology Protocol, a technical document developed to distinguish between ephemeral, intermittent and perennial streams and rivers in New Mexico. Such determinations are often key to applying the appropriate water quality standards to a waterbody. The protocol relies on hydrological, geomorphic, and biological indicators of the persistence of water. These characteristics are then ranked using a weighted, four-tiered scoring system for an objective, practical scoring mechanism. The protocol can be used to provide technical support for a use attainability analysis (UAA), or to identify unclassified waters within an otherwise classified segment. However, the protocol is designed solely to aid in water quality standards determination and the resulting determinations have no bearing on water rights or other non-SWQB programs.

The Hydrology Protocol went through one round of public comment in 2009. SWQB made appropriate revisions, wrote a response to comments, and now proposes the protocol be approved as an appendix to the *Statewide Water Quality Management Plan and Continuing Planning Process (WQMP/CPP)*. The WQMP/CPP is currently open for public comment, and provides a concise summary of the water quality management system in New Mexico and the roles of the major participants in that system. For more information, see www.nmenv.state.nm.us/SWQB/planning/wqmp-cpp/index.html and www.nmenv.state.nm.us/swqb/Hydrology/. Public comments on this update must be received by 5:00 PM on Feb. 28, 2011. Please direct them by e-mail, fax or regular mail to Pam Homer, Water Quality Standards Coordinator; pamela.homer@state.nm.us; PO Box 5469, Santa Fe, NM 87502-5469; 505-827-0160 (fax).

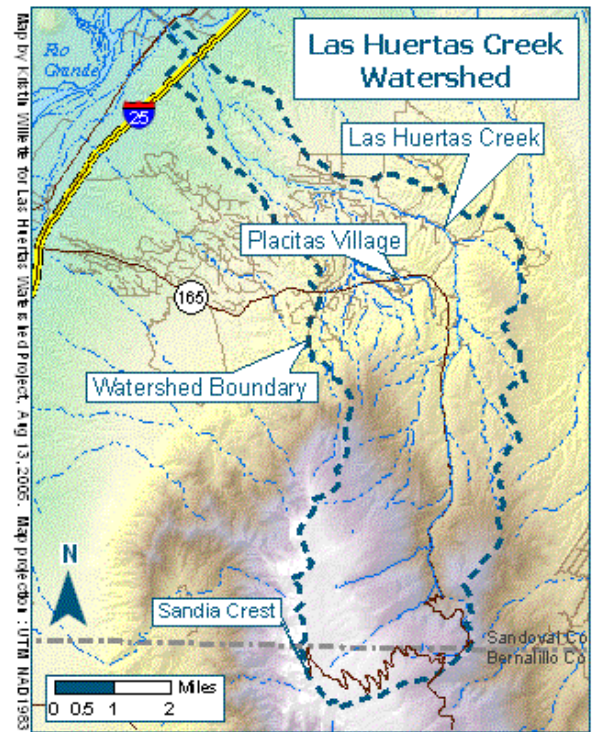


Perennial example - Rio Nutria
Zuni Watershed

Las Huertas Creek: Visions of orchards and gardens.

By Nina Wells, SWQB-WPS

The Las Huertas (“gardens”) watershed is full of history of human settlement. Las Huertas Creek has its origins in the Sandia Mountains and winds its way through the Cibola National Forest down to the village of Las Placitas before descending into the Rio Grande. Las Huertas Creek has been the lifeblood of this valley, watering heirloom apple trees and classic vineyards for hundreds of years, while its cottonwoods sheltered a generation of freethinkers in the 1960’s. The Sandia Man Cave (a shelter dated to the archaic time period) is an attraction in Las Huertas Creek canyon off of State Road 165. This may have been a beautiful, paradisiacal stream in the past, but it has suffered in recent years. As often happens with water in the southwest, the river channel becomes dry and the water table drops due to surface and groundwater demands. As it drains the somewhat urban setting of Las Placitas and the impervious surfaces associated with roads and parking lots, water flows pick up additional sediment and any other pollutants that may be on the hardscape. The creek has become “civilized” and is often channelized to the point that the river’s access to the floodplain is restricted to accommodate roads or homes. During the summer rainstorms, extreme events can lead to downcutting of the river bed - without accessing its floodplain it has nowhere to release its energy except downwards. Such was the case determined by the Las Placitas Watershed Association when in 2006 they applied for and were awarded a Clean Water Act (CWA) Section 319 (h) “on-the-ground” watershed restoration project.



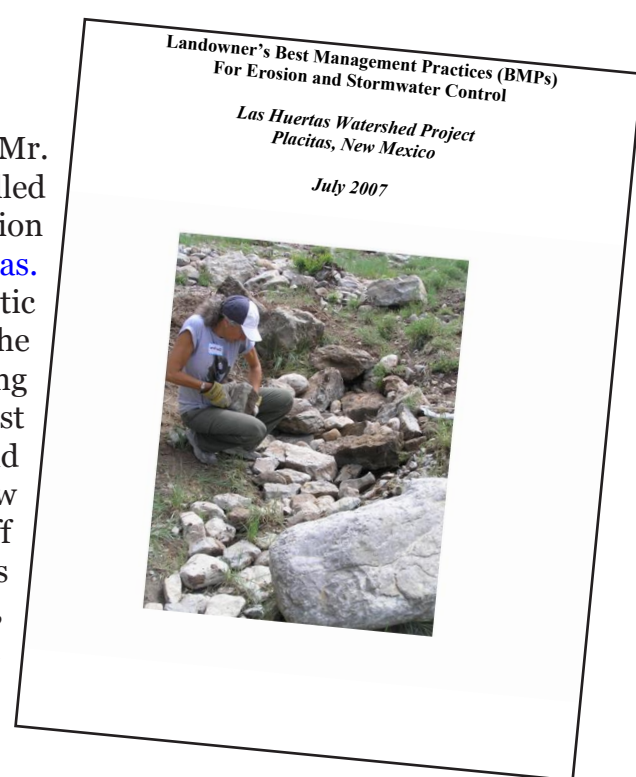
Flood damage on Las Huertas Creek, July 2006

The NMED Surface Water Quality Bureau found the Las Huertas Creek was not attaining its water quality standard for Coldwater Aquatic Life due to sedimentation/siltation, and in the 2004-2006 State of New Mexico Integrated List included these possible sources of the impairment: highway, road, and/or bridge runoff; impervious surface – parking lot runoff; loss of riparian habitat; streambank modifications leading to destabilized banks and other recreational pollution sources. Earlier, the citizens of the watershed had put together a document charting the history and future of the ecosystem that Las Huertas Creek is an integral part of. The Watershed Restoration Action Strategy (Plan) was completed in September 2005 (www.lasplacitas.org/lpa_pdfs/wras_text.pdf) and is dedicated to conserving and enhancing the ecological health of the

Las Huertas watershed. It included a watershed assessment and implementation opportunities. This was a good segue for the community to implement some of the identified management practices from the Plan through the “on-the-ground” grant.

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One of the first activities for the watershed group coordinator, Mr. Reid Bandeen, was in formulating a brochure specific to the area called “The Landowner’s Best Management Practices (BMPs) for Erosion and Stormwater Control,” which can be accessed at www.lasplacitas.org/lpa_pdfs/bmp_ver2.pdf. Many residents were enthusiastic about the planned work on Las Huertas Creek, especially since the summer of 2006 rains flooded the watershed with overwhelming consequences. Two federal agencies, the United States Forest Service and the Bureau of Land Management, also manage land in this watershed and were part of the collaborative process. New Mexico Department of Transportation and Sandoval County staff participated in correcting drainage issues on roads. Las Placitas Open Space, part of the Albuquerque Open Space Division, went through a series of treatments including an improved trail network design. And there was always trash to be picked up in stream corridor.



In 2005, the NMED Surface Water Quality Bureau conducted an intensive survey on this watershed as part of the data collection for the middle Rio Grande tributaries. Las Huertas Creek was determined to be in full support for sedimentation/siltation in its designated use for coldwater aquatic life and the impairment “sedimentation/siltation” was removed from the CWA Section 303(d) list. However, it was still deemed to be impaired. A nutrient assessment indicated impairment due to nitrogen, phosphorus and chlorophyll a values above applicable numeric thresholds – so Benthic-Macroinvertebrate Bioassessments (streams) and nutrients were added as causes of non-support. An interim study was conducted and the 2010 – 2012 State of New Mexico Integrated List showed Las Huertas as not meeting its water quality designation because of turbidity as well as the nutrients.



Restoration of deep downcut gully and back-eddy area at Van Driessche/Bladergroen property boundary – (view upstream). Note baffle installation on right and restoration of floodplain. Photos courtesy of R. Bandeen

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As the project was winding down, we looked closely to see how these changes in water quality impairment listing affected the practices that were put in place to improve the integrity of the watershed. It is certainly possible that these pollutants, turbidity and nutrients, could also be transmitted through storm runoff, and the riparian vegetative buffer still is not sufficient to prevent nutrients and fine grained material from entering the creek. As noted earlier, dewatering of the creek had severely impacted potential vegetative growth. With time and attention, we are hoping to see the native bosque brought back. The practices identified in the watershed plan and the project workplan are still applicable. Better drainage on dirt roads, increased vegetative buffer to the stream and improved trails on the open space areas are all consistent with ecosystem improvement. Information continues to be disseminated to interested individuals, especially those with access to the creek or its tributary arroyos, and there are more interested individuals than before. One of the most interesting treatments done through this project was the use of natural channel design, and providing a floodplain to the river. This methodology includes the use of induced meandering and other structures that stabilize the channel bed so that it starts to aggrade rather than erode. Several landowners participated in this endeavor and it will be worth watching the changes in Las Huertas through the next couple of years. As these and other treatments continue to improve the health of the watershed, so too increases the beauty and value of the watershed.

Load Reduction Calculation

Pollutant load reductions for the Las Huertas Watershed Project were estimated using the Spreadsheet Tool for Estimating Pollutant Loads (STEPL). EPA developed this model to assist project managers with basic watershed planning and reporting. STEPL can be downloaded for free at <http://it.tetrattech-ffx.com/steplweb/>.

STEPL generates a set of Excel spreadsheets that are relatively easy to navigate and understand. STEPL provides the means to separately estimate erosion from upland areas, and from streambanks and gullies. It also includes an urban practices module. The estimates from upland areas are based on the universal soil loss equation, and the estimates from streambanks and gullies are based on volumetric calculations. Loading estimates may be calculated for several land-use categories and/or separate sub-watersheds.

For the Las Huertas Watershed Project, a sediment load reduction was estimated based on implementation of three types of best management practices (BMPs). Each type of BMP was either in-stream or in the riparian area; permitting an assumption that erosion rates are roughly equivalent to sediment loading to the stream. Fencing of riparian areas (mainly to exclude wild horses) was applied on eight percent of the “pastureland” land use category. The BMP was assumed to be effective at reducing sediment and nutrient loading by 60% from the area where it was applied. A separate wetland restoration was applied to 0.005% of a user defined rangeland land use category. That BMP was assumed to reduce sediment loading by 50%, nitrogen loading by 20%, and phosphorus loading by 40%. Approximately 4,000 feet of streambank, with an average height of approximately ten feet, were stabilized with vanes, weirs, baffles, and cross vanes installed following a natural channel design based in fluvial geomorphology. An average lateral erosion rate of 0.03 ft per year was estimated for these 4,000 feet of streambank, and the structures were assumed to reduce the lateral erosion rate by 45%.

Taken together, the above practices were estimated to reduce pollutant loads by 23.4 tons per year (or 128 pounds per day) of sediment, 0.05 lb/day of phosphorus, and 0.19 lb/day of nitrogen. Streambank stabilization practices accounted for about 80% of these load reduction estimates.

GET INVOLVED!

See the events below for opportunities to learn about watersheds and how to restore them.

February 24-25th, 2011 - 16th Water Conservation / Xeriscape Conference. In addition to Pat Mulroy as the water keynote, the sub-theme of getting back to nature – reconnecting with nature and the environment - will feature Mitchell Joachim, Fran Mainella, Patty Glick, Jennifer Rigby, Rachel Pringle, Patrick Dougherty and others. Albuquerque Hilton. www.xeriscapenm.com

March 7th - 319 RFP Public Meeting, Harold Runnels Building Auditorium. 1190 St. Francis Drive, Santa Fe, NM. 4:00 – 6:00 pm

March 8th - 319 RFP Public Meeting, Rio Grande Gorge Visitor Center, 2873 North State Road 68, Pilar, NM. 4:00 – 6:00 pm

March 10th - 319 RFP Public Meeting, Silver City, City Hall Annex, Upstairs Meeting Room, 1203 N Hudson, Silver City, NM 4:00 – 6:00 pm

March 14th - 319 RFP Public Meeting, Abiquiu, Rural Event Center, 122 State Route 554 (on the highway to El Rito, between Abiquiu and El Rito) 4:00 – 6:00 pm

March 15th - 319 RFP Public Meeting, USDA Building, Room 145. 6200 Jefferson NE, Albuquerque, NM. 4:00 – 6:00 pm

March 16th - Rivers at the Roundhouse. All day event highlighting the beauty and importance of New Mexico's rivers at the State Capitol. A special ceremony will be held from 12:00pm-1:00pm. Santa Fe. For more information, contact Steve Harris of Rio Grande Restoration at 575-751-1269 or Karyn Stockdale of Audubon New Mexico at 505-983-4609.

March 22-23rd - 2nd Annual Conference on Green Infrastructure & Low Impact Development Methods for Stormwater Management in Arid Environments. At the National Hispanic Cultural Center in Albuquerque. For more information see www.regonline.com/builder/site/?eventid=914466

March 23rd - Bosque Planting Workshop hosted by the NM State Land Office and the NRCS Plant Materials Center. The workshop will demonstrate the deep planting technique in riparian zones at the South Valley Bosque near Albuquerque. Limited to government agency personnel. To sign up or for more information, contact Ann Demint at 505-827-5856 or ademint@slo.state.nm.us.

March 25-27th - Riparian & Wildlife Habitat Restoration Workshop. Quivira Coalition. Red Canyon Reserve, Socorro County, NM. For more details see <http://quiviracoalition.org>.

April 15-17th - Cebolla Canyon Volunteer Restoration Weekend. Albuquerque Wildlife Federation. <http://abq.nmwildlife.org>

April 26-29th - Emerging Challenges and Opportunities for Irrigation Managers. USCID conference, the U.S. society for irrigation and drainage professionals. Albuquerque, New Mexico. www.uscid.org/11nmconf.html

April 29-May 1st - Riparian & Wildlife Habitat Restoration Workshop. Quivira Coalition. Red Canyon Reserve, Socorro County, NM. For more details see <http://quiviracoalition.org>.

May 14-15th - Ampersand Sustainable Learning Center Land Stewardship and Erosion Awareness Workshop. Quivira Coalition. Cerrillos, NM. For more details see <http://quiviracoalition.org>.

May 24-26th - Streambank Stabilization Workshop. NRCS, NMED, and Grant Soil and Water Conservation District. Silver City, NM. To sign up, contact Matt Schultz at matthew.schultz@state.nm.us or 575-956-1550.

If you have an event that you would like posted, please email matthew.schultz@state.nm.us