

Annual Report

2012

Prepared by the
Albuquerque / Bernalillo County
Water Protection Advisory Board

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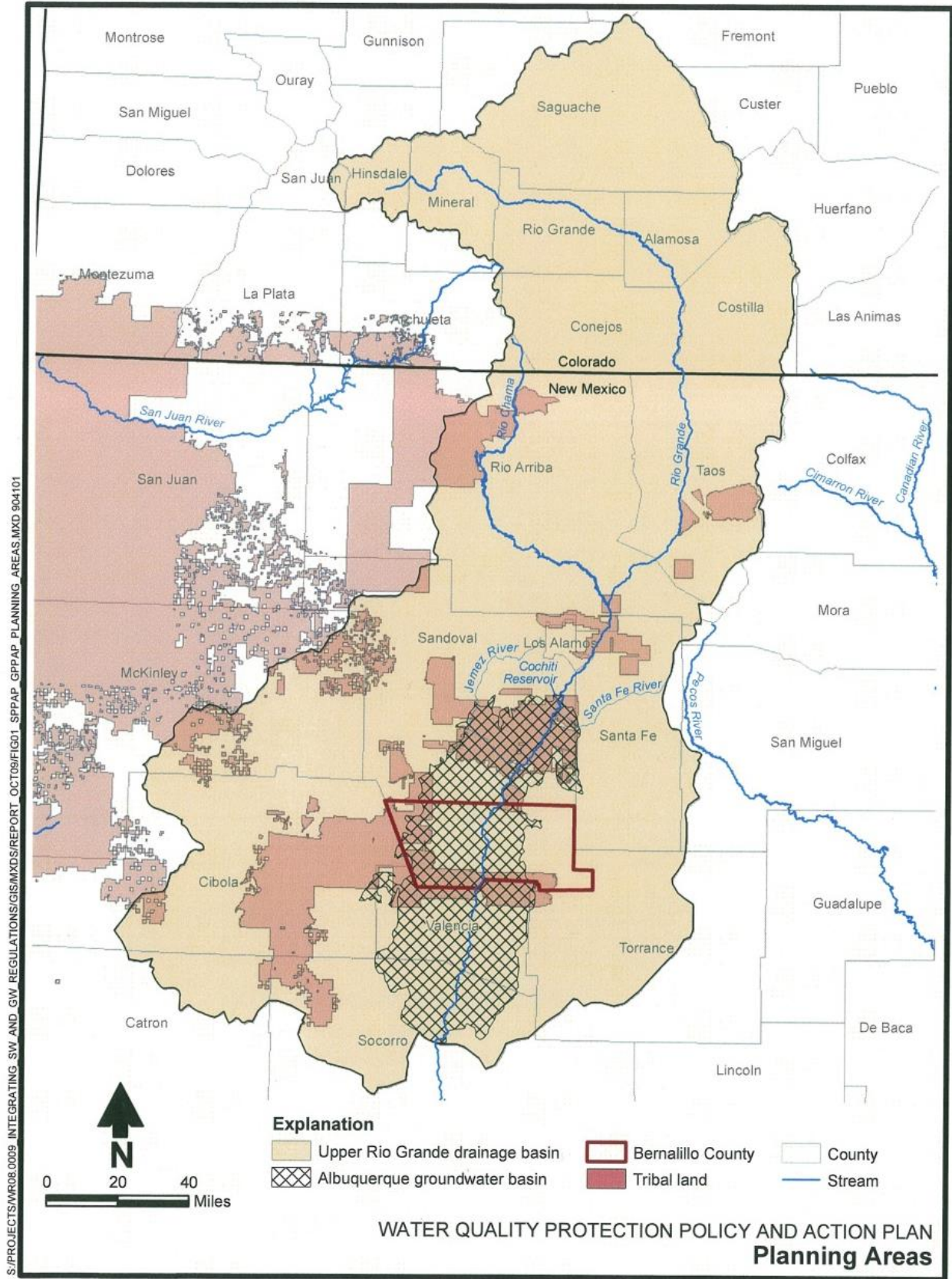
This report presents an overview of the Water Protection Advisory Board's (WPAB) areas of focus, activities, and accomplishments, during calendar year 2012. In addition to summarizing Board activities, this report offers a brief evaluation of the progress and effectiveness of the implementation of the Surface Water Protection Policy and Action Plan, in keeping with the Board's stated mission.

Introduction

Starting in 1988, the City of Albuquerque (City) and Bernalillo County (County) passed resolutions calling for action to clean up and protect the Middle Rio Grande's (MRG's) shared groundwater resources. After five years of planning and research, the Albuquerque/Bernalillo County Ground-Water Protection Policy and Action Plan (GPPAP) was adopted by the County in November 1993, the City in August 1994, and subsequently by the Albuquerque Bernalillo County Water Utility Authority (Water Authority) after its creation in 2003. The groundwater plan was updated and revised in 2009 to include a Surface Water Protection Policy and Action Plan, resulting in a single Water Quality Protection Policy and Action Plan (WQPPAP). The WPAB was established by parallel City, Authority, and County ordinances and is made up of citizen members appointed by those governments.

The WPAB was charged with studying surface and groundwater protection concerns and advising the City, the Authority, and the County accordingly. The WPAB was also tasked with overseeing implementation of the Groundwater Protection Policy, including conducting periodic reviews and evaluations of the effectiveness of the Groundwater Protection Policy and Action Plan and recommending any necessary changes to it. Figure 1 shows the WQPPAP planning area within the MRG basin. The planning area corresponds to the watersheds that lay within or cross the Bernalillo County border.

Figure 1 – WQPPAP planning area



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The purpose of the WPAB is to:

- Study and advise the Authority, City, and County on surface and groundwater protection concerns;
- Oversee implementation of the Water Quality Protection Policy and Action Plan;
- Promote consistency in Authority, City, and County actions to protect surface and groundwater quality; and
- Advocate effective protection of surface and groundwater quality.

The WPAB consists of nine members, two appointed by the Water Authority, three appointed by the Mayor with the advice and consent of the City Council, and three appointed by the County Commission. One member is appointed jointly by the County Commission and the Mayor with the advice and consent of the City Council. A Policy Implementation Committee (PIC), comprised of members from several organizations with water quality protection programs in the region, is responsible for implementing the WQPPAP. The PIC also helps the WPAB fulfill its purpose through technical assistance, administrative services, and staffing resources.

Water Protection Advisory Board Activities for 2012

The WPAB is required to hold quarterly meetings, but usually regularly holds meetings on the second Friday of each month, addressing specific water-quality concerns at each per an agenda agreed to by the board members. The board receives much of its information from formal presentations. In 2012, the WPAB meeting agenda topics included presentations in the following areas, consistent with the board's priorities for the year:

- Groundwater contamination in the Middle Rio Grande Basin
 - KAFB Bulk Fuels Facility Spill
 - Superfund Sites
 - Mountain View Nitrate Plume
 - Regulations and Compliance Enforcement
- Implementation of new surface water protection measures as defined by PIC agency activities
 - Stormwater Quality Control
 - Surface Water Quality
 - Regulations and Compliance Enforcement
- Fostering intergovernmental coordination, cooperation and communication
 - Watershed-based Municipal Separate Stormwater Sewer Systems (MS4) MRG Basin Pilot Permit
 - Middle Rio Grande Water Quality and Protection efforts with regards to the Los Conchas Fire.

Staff representing the following entities provided information and/or presentations to the WPAB during 2012:

- Albuquerque Bernalillo County Water Utility Authority (Water Authority)
- Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)
- City of Albuquerque Environmental Health Department (COAEHD)
- New Mexico Environment Department – Ground Water Quality Bureau (GWQB)
- New Mexico Environment Department – Hazardous Waste Bureau (HWB)
- New Mexico Environment Department – Petroleum Storage Tank Bureau (PSTB)
- New Mexico Environment Department – Surface Water Quality Bureau (SWQB)

- Our Endangered Aquifer Working Group (OEA)
- Citizen Action New Mexico (CANM)
- U.S. Army Corp of Engineers (USACE)
- U.S. Department of Energy – National Nuclear Security Administration (DOE-NNSA) Sandia National Laboratories, Environmental Restoration Operations
- U.S. Environmental Protection Agency – Region 6 Stormwater Group
- U.S. Geological Survey (USGS)

During 2012 the board was provided with 18 informational presentations regarding various water quality issues in the MRG. In addition, WPAB was regularly updated on federal, state and local legislative issues, PIC agency activity updates, Kirtland Air Force Base (KAFB) Bulk Fuel Facility Spill Investigation activities, and the Watershed-based Municipal Separate Stormwater Sewer Systems Pilot Permit for the Middle Rio Grande Basin. The information provided assisted the WPAB in monitoring implementation of the WQPPAP and in promoting actions to protect Albuquerque and Bernalillo County's water, a critical resource.

Summary of Major Topics

The following paragraphs describe the major topics considered by the Board during 2012.

Groundwater Contamination in the MRG Basin

- Board members received regular updates from PIC staff regarding investigation and remediation activities at the KAFB Bulk Fuels Spill site. In addition, the NMED Hazardous Waste Bureau (HWB), the regulatory agency overseeing the corrective action activities at the site, provided a presentation regarding the progress and plans for a soil vapor extraction (SVE) pilot test that was to begin by the end of 2012. During the presentation, NMED staff told the board that the eight million gallon spill estimate previously used may be much lower than the actual amount of fuel product released from the former BFF. NMED staff said that the light non aqueous phase liquid (LNAPL) containment well that was drilled to stop the forward movement of the fuel product floating on the water table have been delayed due to some concerns raised at the NMED that the

wells may act to pull the LNAPL plume further down-gradient, rather than halt its movement. NMED staff told the board that the three concerns they have for the status of this site are (1) the data gap that exists for the extent of the dissolved phase plume, (2) the existence of ethylene dibromide (EDB) above the drinking water standards at all depths, and (3) the evidence of a “diving” EDB plume at the farthest reach of the dissolved phase plume.

- Members of the local environmental advocacy group, the Our Endangered Aquifer Working Group, presented to the board their concerns regarding environmental restoration sites they are reviewing data for independently on Sandia National Laboratories property, located on Kirtland Air Force Base. OEA requested that WPAB join other organizations in recommending that the Department of Energy - National Nuclear Security Administration (DOE-NNSA, Sandia’s controlling agency) provide sufficient funding from the Fiscal Year 2013 federal budget to conform with the 2004 Compliance Order on Consent being enforced by the New Mexico Environment Department (NMED). Citizen Action New Mexico (CANM), another environmental advocacy group, believes that DOE-NNSA has not met the requirements of the Compliance Order. This view is based on Notice of Deficiencies issued by NMED after the Order and CANM’s assessment that monitoring wells around many of the solid waste management units are insufficiently placed or sampled to be an accurate measurement of the local ground water quality. In response, WPAB voted unanimously to prepare a letter to the Water Utility Authority Governing Board requesting that the DOE-NNSA’s environmental restoration budget at the Sandia National Laboratories be included as a federal legislative priority for the Water Authority. As a result of this recommendation the Water Authority included endorsing support of the increased budgets for SNL environmental restoration activities by the New Mexico Congressional Delegation in their federal legislative priorities.
- DOE-NNSA staff provided the board with a presentation on the status of Sandia National Laboratories (SNL) environmental restoration (ER) activities on Cold War contamination sites. SNL has successfully closed 278 of 314 ER sites with regulatory oversight by the NMED, with efforts continuing on the remaining 36 ER

sites. DOE-NNSA maintained that SNL is in complete compliance with the NMED Compliance Order on Consent for ER Operations issued by the NMED in 2004. DOE-NNSA reported that there are seven ground water protection projects at SNL, including the Groundwater Protection Program, the Mixed Waste Landfill, the Chemical Waste Landfill, the Burn Site, Tijeras Arroyo Site, Technical Area V (five), and miscellaneous solid waste management units. The Mixed Waste Landfill, which contains tritium among other contaminants of concern, has four groundwater monitoring wells that are sampled semiannually and that no analytes of concern have been found above regulatory standards. DOE-NNSA contended that the remaining inactive legacy sites are well characterized and not a threat to the Albuquerque water supply aquifer and the completion of ER activities at SNL is scheduled for 2020.

- Water Authority Staff provided an update on two ongoing groundwater remediation projects, the Fruit Avenue Plume Superfund site and the Former Sparton Technologies Site, that have contaminated the aquifer with by chlorinated solvents and are being actively remediated with pump and treat activities that have either contained or reduced concentrations of the contaminant mass in the aquifer.
- NMED Petroleum Storage Tank Bureau staff informed the board that the number of underground storage tanks in the state has dropped from 8,297 to 3,370 since 1991, and in Albuquerque and Bernalillo County combined there are 113 active leaking underground storage tank (LUST) sites being addressed by the NMED. There are currently 509 sites where “no further action” is required in the city and county. NMED staff reported that the Corrective Action Fund, which is accrued through the petroleum products loading fee taken during wholesale transfers, currently provides an approximately \$24 million budget for remedial activities across the state. LUST sites considered to be the highest priority for access to funds include those that are known to have impacted ground water and are an imminent threat to public and private water supplies.
- NMED Ground Water Quality Bureau Staff provided the board with an update on the remediation activities at the Mountain View Nitrate Plume in the South Valley Area of Bernalillo County. NMED is conducting a pilot study for the removal of the

nitrate through the use of subsurface de-nitrification “walls” and containment pumping and reinjection wells.

- Bernalillo County Environmental Health Office (BCEHO) staff explained that the county Wastewater Ordinance of 2000 had been recently changed to remove a 2015 deadline for required system upgrades for all lot sizes. The proposed amendment currently being considered by the Bernalillo County Commission would require homeowners with lots $\frac{3}{4}$ acres or less in size, with an onsite septic system that is at least 30 years old, to be tested by an independent inspector, starting on July 1, 2012. If a system fails an inspection, the system would need to be updated by 2015. Based on current septic system permits, BCEHO staff estimated that approximately 400 homeowners would be affected during the first round of inspections, and 350 homeowners would be affected by the ordinance amendment between 2015 and 2020. In comparison, it was stated that approximately 14,000 homeowners would have been affected by the 2015 deadline, to varying degrees of required upgrades, if the deadline had remained in place. BCEHO staff summarized the situation by stating that different areas may be more at risk based on the local geology, but vulnerability studies used to develop the original 2000 wastewater ordinance accounted for the risk factors in their design requirements. The board voted to prepare a letter to send to the Bernalillo County Commission in support of the proposed amendment being sponsored by Commissioner Maggie Hart Stebbins.
- Citizen Action New Mexico (CANM) requested that the board join it and other organizations in requesting a Public Hearing for the Long-term Monitoring and Maintenance Plan (LTMMP) for the DOE Mixed Waste Landfill (MWL) at the SNL facility. A hearing, unlike a public meeting (of which there have been several), includes recorded testimony, evidentiary material and expert witnesses. CANM said that within the Public Hearing process, negotiations can take place, much like mediation in the litigation process, where disputing parties can have an opportunity prior to a hearing to settle differences. The public hearing would be facilitated by the state environment department and the department’s hearing officer. CANM is concerned that the corrective measures for the MWL and the resulting LTMMP are

based on faulty data and believes that a Public Hearing is necessary to get proper attention paid to these concerns. The WPAB reaffirmed a 2001 Resolution regarding the MWL, and amended the resolution by adding a paragraph encouraging more data sharing and access to technical documents for members of the public.

Implementation of the New Surface Water Protection Measures

- The NMED DOE Oversight Bureau provided the board with an update on the sampling activities on the MRG during and after the Los Conchas Fire. Three hundred water-quality samples were being assessed in the study. NMED reported that additional sampling of the sediments which spread onto the flood plain on Cochiti Pueblo will be used to determine the potential levels of radionuclides and other fire related contaminants settled on the topsoil of these terraces. A risk assessment model, developed and used for the Cerro Grande fire in 2000, will be employed using the Los Conchas fire environmental sampling results. Resulting storm flows in the watersheds impacted by the Los Conchas fire are expected to be 150 times the normal for the next two to three years, based on observations from the Cerro Grande fire.
- Staff from the City of Albuquerque Stormwater Quality Section updated the board on the City's response to the New Mexico Environment Department's (NMED) recent Draft 2012 – 2014 State of New Mexico Clean Water Act Sections 303(d) / 305 (b) Integrated List of Assessed Surface Waters, in particular, gross-alpha radionuclides. The City was concerned with the new levels being proposed due to the high natural background levels of gross-alpha emitting particles in the MRG, and the procedures by which the NMED determined the levels used to determine the proposed impairment designation for the middle Rio Grande. City staff said that the City believes that NMED did not follow their own protocol for determining "background" levels, and instead, captured levels during storm flows, which due to the nature of these intermittent surges, introduce higher than normal levels of gross-alpha emitting material. Compliance samples collected by NMED during

storm can provide higher concentration of contaminants, but does provide a “worst-case scenario” screening of the water body’s water quality.

- AMAFCA staff provided a presentation on the Stormwater Quality Protection Measures within the AMAFCA flood control facilities and infrastructure. AMAFCA is concerned about storm water quality for many reasons, including the watershed-based MS4 pilot permit, maintenance issues and infrastructure capacity. AMAFCA described several types of features built within the flood control drains, including intake structures, debris basins, debris screens, baffle chutes and coanda screens designed to remove floatable trash and larger sediment from the flood flows, to prevent stormwater pollution of the MRG. Many of the features were designed, installed, and improved after infrastructure were modeled, tested in the lab, and observed in actual storm flow conditions.
- Water Authority staff provided the board with an update on the Administrative Order (AO) issued to the Water Authority by the EPA on May 17, 2011, which addressed three of the five sections of the Water Authority’s National Pollution Discharge Elimination System (NPDES) Permit. Violations cited in the AO occurred as far back as May, 2005. Water Authority staff explained that violations included discharge of pollutants into the Rio Grande in exceedance of permit limits, reporting errors and/or oversights in Discharge Monitoring Reports, industrial pre-treatment program implementation, and a number of sanitary sewer overflows. The Water Authority will be addressing the violations through system upgrades at the wastewater treatment plant are expected to cost \$250,000,000 over the next ten years. The Water Authority added that other concerns at the wastewater treatment plant, such as chlorination, have been dealt with through the transition from chlorine gas to ultraviolet treatment and chlorine pellets for supply tanks, and odor control, remains a top priority.
- COA Environmental Health Department Staff updated the board on the monitoring and remediation efforts of the solvent plume at the former COA Los Angeles landfill, providing subsurface 3D maps of different solvent chemicals below the landfill and highlighting the estimated capture zone for the onsite extraction well. Staff reported that the COA has found the costs for the acid

required to maintain the treatment infrastructure to be one of the most expensive items for the project. COA is considering alternative ways to re-use the treated water produced by the remediation activities.

- USGS staff from the New Mexico Water Science Center provided the board with a presentation on wildfire debris-flow assessment, demonstrating how they are utilizing a model calibrated from previously observed debris flows resulting after fires during monsoon season events. The USGS is using the model to make predictions for future debris flows occurring in watersheds affected by the Los Conchas Fire and is available to study impacts of potential debris flows from fires in the east mountains and other nearby watersheds.

Fostering Intergovernmental Coordination, Cooperation and Communication

- WPAB staff informed board that the core Policy Implementation Committee (PIC) members met to discuss the watershed-based Municipal Separate Storm Sewer Systems (MS4s) permit and the update to the Water Quality Protection Policy and Action Plan (WQPPAP) activity update. PIC Staff provided a brief summary of the PIC agency WQPPAP activities since 1998, citing that approximately 55 projects had been completed costing the local agencies nearly \$600,000,000. PIC agencies are currently working on 75 WQPPAP activities with a combined annual budget of \$18,257,000 for ongoing costs and an additional \$21,274,000 for one time water quality related projects.
- NMED Surface Water Quality Bureau staff provided an update on the status of the Middle Rio Grande Basin (MRG Basin) watershed-based MS4 Pilot Permit. U.S. Environmental Protection Agency (EPA) expects that the final permit is to be issued in late Fall 2012, however, there has not been a total maximum daily load (TMDL) written for any of the pollutants of concern, except E. coli, on the 303(d)/305(b) list, including PCBs. NMED staff stated that an agreement between the permit sharing entities has not yet been established, which was confirmed by the staff of pilot permit PIC agencies present at the meeting. With EPA grant funding managed by the Ciudad Soil and Water Conservation

District, a graduate student from New Mexico Tech is working on a consensus-based algorithm that will allow equitable distribution of permit costs based on population density, percentage of impervious surface, average slope and distance from the Rio Grande. The algorithm will be a tool for permittees, but not a requirement. According to NMED staff, the EPA has indicated that future MS4 permits will be watershed-based. The board unanimously approved preparation of a letter to the City Council and County Commission regarding concerns members had regarding the status of the pilot permit. These concerns included the timing of the draft permit, the lack of a binding agreement between entities, the issuance of a permit without well-defined requirements, and the permit area boundaries. EPA Stormwater Quality Group staff provided a follow up update to the board, regarding the board's concerns for the status of the watershed-based MRGB MS4 Pilot-Permit.

- U.S. Army Corps of Engineers (USACE) staff discussed the effects of the Los Conchas Fire on the Cochiti reservoir and Bland Canyon watershed. During the storm events following the wildfire, great damage was done through Cochiti Canyon. The Dixon Apple Orchard was largely destroyed by slurry and debris flows. USACE staff explained that long-term re-vegetation are underway by the U.S. Forest Service's Burned Area Emergency Response Team, but USACE anticipated full recovery, based on previous wildfire experience in nearby watersheds, will take 3-8 years. Currently, runoff flow models are being used to help predict the impacts of 2012 summer rains on the watersheds affected by the fire. Several agencies, including the Water Authority, are in contact on a daily basis monitoring flow conditions above and below the Cochiti Reservoir.

Summary of Board Priority Activities for 2013

Based on study and analysis of the topics and issues described above, the Board identified three areas of focus as priorities for calendar year 2013.

Groundwater Contamination in the MRG

WPAB will continue to monitor the progress groundwater remediation and investigation projects in the MRG, including the Kirtland Air Force Base Bulk Fuel Facility Spill project, Superfund sites, and other contamination sites that threaten our water supply.

Implementation of the new surface water protection measures

Adopted approximately a year ago, implementation of the surface-water protection measures outlined in the Water Quality Protection Policy is in the early stages. The Board will work with the Policy Implementation Committee to help ensure adequate progress occurs on these measures.

Foster intergovernmental coordination, cooperation, and communication

More than a dozen local, regional, state, and federal agencies have the authority and responsibility to further the aims of the Water Quality Protection Policy. Building on the efforts noted above, the Board intends to continue to be an effective forum to foster communication among these groups.