



## Annual Report

2011

Prepared by the

Albuquerque / Bernalillo County  
Water Protection Advisory Board

### Members:

Michael J. Bitner, P.G., Chair

Lawrence Barela, Vice-Chair

Rip Anderson, Ph.D.

John S. Derr, Ph.D.

Susan Kelly, J.D.

Thomas McHugh

Elizabeth H. Richards, Ph.D.

Judy Vredenburg

Erik K. Webb, Ph.D.

This report presents an overview of the Water Protection Advisory Board's (WPAB) recent activities, its primary accomplishments, and its areas of focus going forward. In addition to summarizing Board activities, this report also offers a brief evaluation of the progress and effectiveness of the implementation of the Surface Water Protection Policy and Action Plan.

## **Introduction**

The City of Albuquerque and Bernalillo 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 Groundwater 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 after its creation in 2003. The plan was updated and revised in 2009 with a Surface Water Protection Policy and Action Plan and integrated into a single Water Quality Protection Policy and Action Plan (WQPPAP). WPAB was established by parallel City, Authority, and County ordinances and is made up of citizen members appointed by those governments. We were given the charge to study and advise the City, the Authority, and the County on surface and groundwater protection concerns and to oversee implementation of the Groundwater Protection Policy and conduct a periodic comprehensive review and evaluation of the effectiveness of the Groundwater Protection Policy and Action Plan and recommend any necessary changes to it.

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 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), comprising 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 2011**

The WPAB holds regularly scheduled meetings on the second Friday of each month, addressing specific water-quality concerns. The board solicits information and data in different ways; many entities and specialists provide presentations directly to the board during their meetings. In 2011, the WPAB meeting agenda topics included information in the following areas:

- Emerging drinking water compliance topics;
- Interagency / intra-basin collaboration efforts;
- Surface and storm water quality topics;
- Rules and regulations; and
- Groundwater investigation and cleanup projects.

Staff representing several entities that provided information and presented to the WPAB during the last year included the following:

- Agency for Toxic Substances and Disease Registry (ATSDR)
- Albuquerque Bernalillo County Water Utility Authority (ABCWUA)
- Bernalillo County Water Resources Program (BCWRP)
- Bernalillo County Environmental Health Office (BCEHO)
- Bernalillo County Public Works Department (BCPWD)
- City of Albuquerque Environmental Health Department (COAEHD)
- Intera Incorporated (Intera)
- New Mexico Environment Department Surface Water Quality Bureau (SWQB)

- New Mexico Environment Department Ground Water Quality Bureau (GWQB)

During 2011 the board was provided with 22 informational presentations regarding several water quality issues in the MRG. In addition, WPAB was regularly updated on federal, state and local legislative issues, PIC agency activity updates and Kirtland Air Force Base (KAFB) Bulk Fuel Facility Spill Investigation activities. The information provided has assisted the WPAB in overseeing implementation of the WQPPAP and in promoting actions to protect Albuquerque and Bernalillo County's precious water resources.

### **Summary of Major Topics**

The following paragraphs describe the major topics considered by the Board over the last year.

### **Emerging Drinking Water Compliance Topics**

- The U.S. Environmental Protection Agency (EPA) has been reviewing Chromium VI for a potential Maximum Contaminant Level (MCL) for several years. California has proposed a public health goal of 0.06 parts per billion for chromium VI, which is much lower than the current EPA MCL (standard) of 100 parts per billion for total chromium.
- The ABCWUA reported the results of the first sampling regime for an ongoing study of the occurrence of Pharmaceutical and Personal Care Products (PPCPs) in source water, drinking water, and treated wastewater. Two EPA approved laboratory methods were used, which were used to detect 113 analytes. Results indicate that of the four sampling events, eight-one percent of the samples did not have detectable levels of PPCPs in them. The highest concentration of a PPCP found, cholesterol, was detected in finished drinking water at a concentration of 4 µg/L, or the dosage equivalent of a person consuming two liters of finished drinking water a day for 67 years to reach the recommended daily dietary target of 200 mg.

## Interagency / Intra-basin Collaboration Efforts

- The EPA has responded to a recent National Academy of Sciences / National Research Council study on the water quality of the Middle Rio Grande by placing the basin within a watershed-based MS4 Pilot Permit. This pilot permit, which is one of only three in the country, will require 20 entities including municipalities, flood control authorities, federal facilities and pueblos to coordinate stormwater quality improvement activities. The Board recommended to the City Council and County Commission to fully endorse cooperation and full participation in the pilot-permit through their respective agencies.
- Bernalillo County Public Works Department (BCPWD) is developing an “Environmental Atlas” identifying several potential and known threats to our ground water. With data from the NMED, BCPWD has displayed locations for NMED Petroleum Storage Tank Bureau regulated sites, Superfund sites, Comprehensive Environmental Response, Compensation, and Liability Information System sites and properties, and sites with a National Pollution Discharge Elimination System Permit. BCPWD is working to add Sandia National Laboratory Environmental Restoration sites on the atlas.
- BCPWD and ABCWUA fund the County’s Partners in Protecting the Environment (PIPE), which is an assistance program for qualified low-income residents who are required to connect their homes to ABCWUA sewer lines. Funding for sewer connections is made available through contributions from the Water Authority and Bernalillo County via bond funding. \$5.3 million has been expended to date. BCPWD currently has \$815,000 available for this service. New septic systems are funded solely by the County, which has a budget of \$22,000. Systems can cost from \$4,000 to much more in the Carnuel and East Mountain areas. There is a \$4,500 cap for sewer connections, but up to \$9,000 per household for water and sewer connections.
- NMED and BCPWD collaborated on an effort to show dairies on a single map, which also represents the locations of nitrate concentrations from domestic wells used in area studies. Based on the mapping of data, correlations between nitrate

contamination, from the dairies, down gradient monitoring wells and domestic wells are decipherable. However, historic septic system leaching may also be responsible for the presence of nitrate in the area.

- ABCWUA and the City of Albuquerque Environmental Health Department (COAEHD) is participating as members of the KAFB BFF Spill Leadership Team and Technical Task Force with other stakeholder entities affected by the jet fuel plume emanating from the air force base. The board has discussed inviting Leadership Team entities to a future meeting to provide presentations regarding long-term strategies for the site.

### Surface and Storm Water Quality

- ABCWUA's Southside Water Reclamation Plant receives waste streams from different types of industrial dischargers, and the Water Authority has the statutory responsibility for permitting and regulating these discharges. ABCWUA ensures that the flows that come to the plant are safe for its employees to handle, as well as treatable to the water quality standards required of WUA's effluent to the Rio Grande.
- ABCWUA temporarily shut down its diversion dam below the Alameda bridge from Sept. 1 to Nov. 5 to alleviate the accumulation of floating debris from the Los Conchas fire at the surface water treatment plant. The board provided a letter to the editor of the Albuquerque Journal to ensure readers that the ABCWUA and other agencies acted appropriately with regards to ensuring that the public drinking water supply was safe from the runoff from the Los Conchas fire.
- BCPWD released the first series of results for a study on the occurrence of polychlorinated biphenyls (PCBs) in Bernalillo County stormwater facilities. Due to the widespread use and applications of the chemically persistent PCBs a half century ago, they are ubiquitous in our watershed. Preliminary data suggests, however, that stormwater flows that are flushed through artificial wetlands designed to filter contaminants physically and biologically, have greatly reduced levels of PCBs in the water released from these types of facilities.

## Rules and Regulations

- Bernalillo County Environmental Health Office (BCEHO) is working with the County Commission on an amendment to the 2000 Wastewater Ordinance. The proposed amendment removes a 2015 deadline for compliance with the performance standards established in the 2000 ordinance, and replaces it with a requirement for homes on a  $\frac{3}{4}$  acre lot with an onsite wastewater treatment system that is older than 30 years must be evaluated, with failing systems to be upgraded. The board recommended to the County Commission an alternative to address failed septic systems upon the removal of the 2015 deadline for homeowner compliance with the county's Wastewater Ordinance of 2000.
- State environmental regulations for dairy facilities were amended this year to allow dairies with clay-lined ponds that have demonstrated no groundwater contamination below their operations to keep their current liners without having to be upgraded to synthetic liners. The Water Quality Control Commission (WQCC) that two-thirds of the clay-lined dairy ponds in the state have groundwater contamination beneath them. Bernalillo County has three Dairy facilities, and are known to have associated contamination.

## Groundwater Investigation and Cleanup Projects

- NMED's Remediation Oversight Section, within the Ground Water Quality Bureau, is overseeing and enforcing the investigation and or cleanup of 19 groundwater contamination sites in the MRG. These sites include, for example, facilities such as dairies, bulk fuel terminals, and old landfills that have been identified as either sources of contamination to the aquifer, or threats to the aquifer through soil contamination.
- ABCWUA contracted with Intera, Inc. to perform a third-party review of technical documents being produced for the KAFB BFF Spill investigation and cleanup project. Intera reported to the board that elements of the proposed activities to contain the light nonaqueous phase liquid ( LNAPL) and dissolved-phase jet fuel plume, which has spread below the KAFB and beyond the base boundaries, may

be insufficient to meet the goals of interim containment. KAFB's contractor wants to arrest the downgradient movement of the contamination plume towards the ABCWUA wells, while monitoring data and hydrologic characterization of the aquifer is performed over the next couple of years. In addition, Intera suggested that the tests being performed to determine hydraulic parameters of the vadose zone and aquifer may also not be adequate to for developing an accurate conceptual model for designing a final remediation system. The Board was regularly updated with current data and technical proposals by PIC staff.

- BCEHO performed an assessment of arsenic in drinking water from private wells in the North Albuquerque Acres area. Residents voluntarily provided an estimated 150 samples to the County for analysis. Results were provided directly to the resident.
- KAFB and their contractor, Shaw Environmental have completed four sampling events during 2011, three of which have been reported at the time of this report. The Quarter 3 sampling results, for the activities for July through September, indicate that the plume contaminated with ethylene dibromide (EDB) extends approximately 1,200 feet further downgradient than estimated in December of 2010. Soil Vapor Extraction of jet fuel located at the surface of the ground water and the soil column below the source of the plume (the former Bulk Fuel Facility) have removed approximately 223,000 gallons of the estimated 2 to 8 million gallons of jet fuel.
- NMED completed the initial investigation of the Mountain View Nitrate Plume and has designed a remediation system to address the long-time nitrate plume in the South Valley community. The plan is to extract the "hot spots" of nitrate from the aquifer, and draw the contaminated water towards barriers of soybean oil, which will accelerate microbial metabolism and enhance the denitrofication of the contaminated ground water.



## Summary of Board Priority Activities for 2012

Based on study and analysis of the topics and issues described above, the Board identified three areas of focus as priorities for calendar year 2012.

### ***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, Mountain View Nitrate Plume, and other contamination sites that threaten our water supply.

- **KAFB BFF Spill** -- The Board will continue to be updated on the progress of this large jet fuel contamination investigation and remediation project and work to foster the communication of the stakeholders long-term strategies for this site.
- **Superfund Sites** – Updates for the Fruit Ave. Plume site and the South Valley Superfund Site will be provided to the board during 2012.
- **Mountain View Nitrate Plume** – The board will learn of the progress of NMED's remediation of the large nitrate plume in the South Valley area and the use of soybean oil to remediate this contamination.
- **Regulations and Compliance Enforcement** – The board will assess the impact of recent regulation changes to the County Wastewater Ordinance and Water Quality Control Commission "Dairy Rules", and monitor compliance and enforcement activities in the basin.

### ***Implementation of the new surface water protection measures***

Adopted only around a year ago, implementation of the 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 make sure adequate progress occurs on these measures. In 2012, the WPAB will work towards the following:

- **Stormwater Quality Control** – The board will hear presentations of best management practices and other control methods that positively influence the water quality of stormwater surges in the MRG.
- **Surface Water Quality** – The board will continue to support and assess the surface water quality monitoring programs being performed in the MRG.
- **Regulations and Compliance Enforcement** – The board will be updated with regulations monitor compliance and enforcement activities in the basin.

***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. As noted above, the Board has proven to be an effective forum to foster communication among these groups. In 2012, the WPAB will perform the following for this priority:

- **MRG Watershed-based MS4 Pilot Permit** – The board will work to help foster the necessary relationships and intergovernmental agreements needed to successfully satisfy the MS4 Pilot Permit requirements.
- **Data Sharing and Agency Coordination** – The board will assess the flow of data between Policy Implementation Committee agencies to determine if their data collection and sharing efforts are effectively being used to develop and plan appropriate response for source water protection activities.