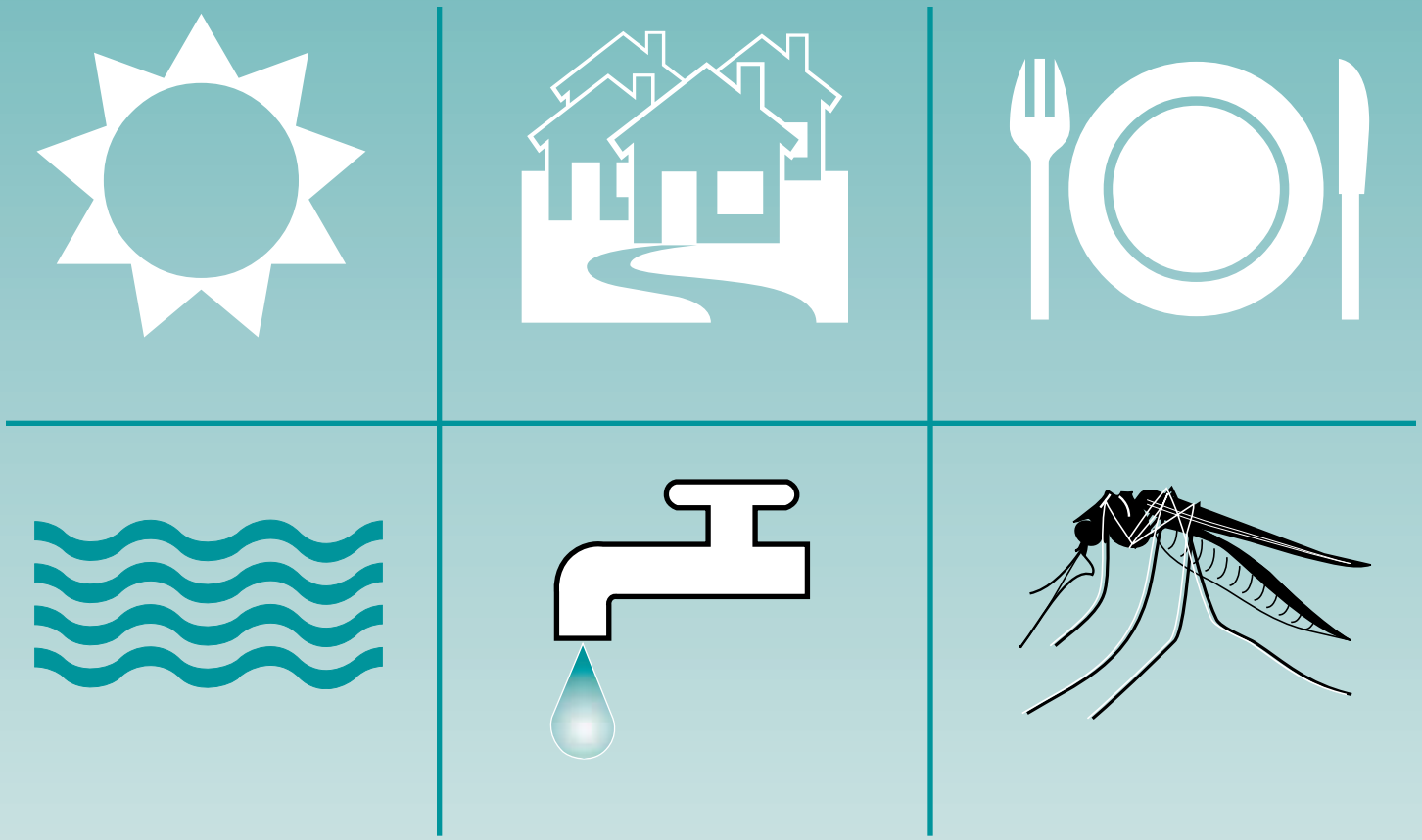
Environmental Health Report Card

For the City of Albuquerque and Bernalillo County



City of Albuquerque Environmental Health Department

Bernalillo County Environmental Health Department

Environmental Health Report Card

for the City of Albuquerque and Bernalillo County

Produced by the

Bernalillo County Turning Point Partnership

In partnership with:

Bernalillo County Environmental Health Department

City of Albuquerque Environmental Health Department

National Association of County and City Health Officials

New Mexico Department of Health, Public Health Division, District 1

New Mexico Department of Health, Office of Epidemiology

New Mexico Environment Department

University of New Mexico, Community Environmental Health Program

Sandia National Laboratories, Community Involvement and Issues Management

U.S. Centers for Disease Control and Prevention

W.K. Kellogg National Turning Point Project

Funding provided by the W.K. Kellogg Foundation (007:13.37)

W.K. KELLOGG FOUNDATION

TABLE OF CONTENTS

We are pleased to announce the publication of the first Environmental Health Report Card for the City of Albuquerque and Bernalillo County. This Report Card is the result of hundreds of hours of work by City and County staff and representatives of many federal, state, and local government, university, and non-profit agencies involved in protecting the environment and public health in our County. The Environmental Health Report Card highlights selected environmental issues of most concern to our health officials and our citizens, provides indicators by which we can measure our progress, and underscores the importance of a healthy environment to our quality of life. This project also is a tribute to the benefits of collaboration, and has provided an opportunity for City and County sister agencies to begin working more closely together as we prepare to become one metropolitan government.

We commend this collaborative effort by our community agencies and our citizens, and encourage you to work alongside of us to improve the health and environment of the community in which we live.

Mayor Jim R. Baca
City of Albuquerque

Steve D. Gallegos
Chair, Bernalillo County Commission

EXECUTIVE SUMMARY

The Albuquerque/Bernalillo County area experienced a 16% increase in population growth from 1990 to 2000. While many aspects of that growth are beneficial, it can be a source of concern, particularly as it relates to environmental health. For example, continued growth means greater production of pollutants. Air quality deteriorates as more individuals living at the fringe of the City drive personal vehicles to commute greater distances. At the same time, local governments are under increasing pressure to develop policies to protect the environment and the public's health. The Albuquerque/Bernalillo County Environmental Health Report Card is designed as a report to gauge the success of efforts to promote positive changes in environmental health conditions, given our growing and changing community.

The Albuquerque/Bernalillo County Environmental Health Report Card is an important environmental health educational tool for the community. Through the use of local indicators, the Report Card is designed to inform community members, policy makers and other decision-makers of environmental health status and conditions. Furthermore, it delivers trend information and provides a means of evaluating the success of environmental health initiatives and of tracking progress over time.

The Albuquerque/Bernalillo County Environmental Health Report Card is the product of an exemplary collaborative process. An Advisory Committee, consisting of local leaders and national experts from the fields of public health and environmental health, held monthly meetings over a two-year period to develop the Report Card. In addition to providing feedback and guidance, the Advisory Committee ensured technical and political credibility. The Advisory Committee also expanded its role to include developing and conducting a community environmental health assessment to gather information, which ultimately guided the selection of environmental health issues and indicators included in the 2001 Report Card.

The following environmental health issues comprise the core of the Report Card: drinking water quality, surface water quality, water quantity, air quality, food safety, solid waste, and vector borne diseases.

➤ It is anticipated that the Report Card will be updated on a regular basis. Readers are encouraged to submit comments for improvement of both content area and format. Please fill out the feedback card located in the center of this booklet.

KEY FINDINGS

While the Report Card reflects generally positive environmental health conditions and status, several areas of concern are highlighted. These problem areas will require policy development and improvement and concerted action by both local government and community members.

Drinking Water Quality

- ✔ Drinking water from the City of Albuquerque wells is excellent.
- ✘ Failure to connect to municipal sewer lines is a problem in the North and South Valley areas of Albuquerque/Bernalillo County, creating a potential threat to drinking water quality. It is estimated that 4,000 homes that could connect to a municipal sewer line have not done so.

Surface Water Quality

- ✔ Water quality in the Rio Grande is generally good.
- ✘ At this time, we cannot control many sources of surface water contamination.

Water Quantity

- ✔ In March 1995, the City of Albuquerque adopted a comprehensive water conservation strategy.
- ✘ Groundwater continues to be used at an unsustainable rate.

Air Quality

- ✔ The Vehicle Pollution Management Program has reduced vehicle emissions by more than 33%, and has contributed to a seven-year period without a violation of federal air quality standards.
- ✘ More stringent standards for ozone and particulate matter will be a challenge to meet.

Food Safety

- ✔ There is an increased focus on prevention of food-borne illnesses.
- ✘ Not all people who become ill from food seek medical care or report the illness.

Municipal Solid Waste

- ✔ There is mandatory curb-side pickup in the City and most of the County.
- ✘ Illegal dumping continues to be a problem in certain parts of Bernalillo County.

Vector-Borne Diseases

- ✔ Our community has made improvements in detecting and controlling rodent and insect-borne diseases.
- ✘ We live in an area that is susceptible to plague, hantavirus, and encephalitis.

✔ Positive ✘ Negative

ACKNOWLEDGMENTS

The Albuquerque/Bernalillo County Environmental Health Report Card is the product of a two-year collaborative process. Input from a multi-jurisdictional Advisory Committee, consisting of local leaders and national experts from the fields of public health and environmental health, drove the development of the Report Card. Not only was the Committee invaluable in providing depth and range of knowledge of environmental and public health, it also represented a wealth of community experience and gave considerable weight to the community's perspective. This Report Card could not have been possible without the expertise of the Advisory Committee. The Committee was compromised of members from the following organizations and agencies:

- Bernalillo County Environmental Health Department
- Bernalillo County Turning Point Partnership
- City of Albuquerque Environmental Health Department
- National Association of County and City Health Officials
- New Mexico Department of Health, Public Health Division, District 1
- New Mexico Department of Health, Office of Epidemiology, Environmental Health Unit
- New Mexico Environment Department
- University of New Mexico, Community Environmental Health Program
- Sandia National Laboratories, Community Involvement and Issues Management
- U.S. Centers for Disease Control and Prevention, National Center for Environmental Health
- W.K. Kellogg National Turning Point Project

The Advisory Committee hopes to strengthen its partnerships with the community to develop future iterations of the Report Card, addressing new and emerging environmental health issues. For the future iterations, the Advisory Committee encourages readers to submit comments for improvement of both content area and format.

Additionally, the Advisory Committee extends its appreciation to members of the following agencies and organizations for providing valuable review and contributing to the completion of this Report Card.

- City of Albuquerque Public Works Department, Water Conservation Office
- City of Albuquerque Solid Waste Management
- Indian Health Service, SIPI Dental Clinic
- SET for Health New Mexico
- W.K. Kellogg Community Voices

Finally, the Advisory Committee would like especially to thank Kellogg Community Voices New Mexico for providing significant financial and staffing support to layout and design this Report Card.

While numerous indicator reports were collected to determine what other communities had done, the Advisory Committee found the following reports particularly useful:

- Albuquerque 2000 Progress Report
- Central Texas Indicators 2000 – A Report on the Economic, Environmental and Social Health of the Central Texas Region
- Sustainable Seattle 1998 – A status report on long-term cultural, economic, and environmental health for Seattle/King County
- The State of Health in New Mexico, 1999 Report
- 1999 Environmental Snapshot, Columbus Health Department

INTRODUCTION

The City of Albuquerque and Bernalillo County present the first Albuquerque/Bernalillo County Environmental Health Report Card to inform community members, policy makers and other decision-makers of environmental health conditions. The Report Card was developed as part of the Bernalillo County Turning Point Partnership's efforts to increase the community's environmental health awareness and promote positive changes in environmental health conditions. It is a timely and important educational tool because national studies indicate that while there is a high level of public support for environmental protection, people do not have all the information they need to make important decisions about their health and environment. Not only is the Report Card an environmental health educational tool for the community, it is also a guide for setting benchmarks and developing policies and actions that address environmental health conditions.

The Albuquerque/Bernalillo County Environmental Health Report Card provides a snapshot of the overall environmental health of the community through the use of local indicators. The environmental health indicators presented in this Report Card are a way to capture the status of key environmental health issues identified for Albuquerque and Bernalillo County. Using the selected indicators, the Report Card is a tool to track environmental health trends for the community. In addition to being a valuable educational resource, the trend information presented will be a means of evaluating the success of environmental health initiatives and tracking progress over time.

The issues included in the Report Card are linked to public health and overall quality of life for the community. For example air pollution has a visual impact that degrades the environment and, if allowed to deteriorate, could adversely affect tourism and the quality of public health for everyone, especially children. Similarly, while it is important to preserve and protect the Rio Grande for environmental sustainability, policies preparing us for using river water to supplement our groundwater resources are an indication that keeping our surface water clean is important for public health as well.

REPORT CARD STRUCTURE

This Report Card presents seven environmental health issues, which are evaluated by selected indicators. The narrative of each issue contains the following sections:

- **Where Are We?** This section is a brief summary of the status of the environmental health issue. Positive news is indicated by a green checkmark; negative news is indicated by a red "x."

- **Background:** This section includes a definition of the issue, its importance to the overall environmental health of Albuquerque/Bernalillo County and environmental and public health impacts. Additionally, a discussion of the susceptible populations, health effects, and sources of the problem is included.

- **Indicators:** This section includes a summary of selected data that help to evaluate the environmental health issue. When possible, the data are presented in a graphic form to illustrate the trend of the environmental health issue in Albuquerque/Bernalillo County over the last several years.

- **What's In Place:** This section includes a brief description of local, state, and national environmental health programs and their prevention and control elements for addressing the environmental health issue.

- **Policy Implications:** This section includes a discussion of other issues that are linked to and affect the environmental health issue. This section also draws attention to broader issues for which policy development is needed in order to positively impact environmental health conditions.

- **Recommended Actions for Community:** This section recommends actions for community members to promote positive changes in environmental health conditions.

- **Recommended Actions for Government:** This section recommends actions for the local governments to continue current policy support and/or work to develop new policies for positive environmental health changes.

REPORT CARD PROCESS

While the Report Card process involved numerous steps, the following are highlights that may prove beneficial to other communities and organizations undertaking a similar endeavor:

- Establishing an Advisory Committee was the first step in developing the Report Card. The core of the Advisory Committee consisted of local leaders and national experts from the fields of environmental health and public health; members of the committee represented various nonprofit agencies and federal, state and local government organizations. For nearly two years, the multi-jurisdictional and multi-disciplinary group engaged in a collaborative process to ensure that the report card not only contained technical credibility and relevancy, but also public and political credibility. Among numerous tasks, the group developed and conducted a community environmental health assessment to determine environmental health issues of most concern to residents of Albuquerque/Bernalillo County. In addition members of the Advisory Committee wrote sections of the Report Card, reviewed drafts, and took on the role of obtaining political endorsements and publicizing the final product.

- Tasks from the Protocol for Assessing Community Excellence in Environmental Health (PACE-EH)* document were used as a guide for developing the Report Card. PACE-EH offers local health officials comprehensive guidance in conducting a community-based environmental health assessment and evaluating the environmental health status of their community. At the outset of each Advisory Committee meeting, the steps involved in developing the Report Card were compared to the tasks outlined in the PACE-EH document to ensure that there were no evident gaps in the process.

- The Green Mountain Institute for Environmental Democracy (GMI) facilitated sessions on indicator development to members of the Bernalillo County Turning Point Partnership and the Advisory Committee. The sessions helped the group to begin thinking about what to include in the Report Card and how to capture the status of environmental health conditions through the use of local indicators.

- To ensure that there was a systematic approach to evaluating the selected environmental health issues, the Advisory Committee developed, piloted and refined an environmental health matrix (see below). Collectively, the issue-specific matrices became the foundation for the Report Card. The matrices link environmental health to public health by enabling the issues to be defined according to exposure pathways, pollutant sources, environmental and health indicators, and outcomes. Additionally, the matrices include an opportunity to list current programs that address environmental health issues and an area to list recommended actions for both community members and government.

- The Advisory Committee recommended that a data subcommittee be formed to assist in obtaining relevant environmental health and public health data. This subcommittee convened its first meeting during the Report Card process and outlined plans for developing a health-tracking network. Indicator data found in this Report Card will serve as the foundation for the health-tracking network, which will enable city, county and state staff to share public health information and measure success.

- The process and draft product were shared at both national and local conferences during the two-year process, adding valuable input and credibility to the final product.

- An editor was hired to review text and a graphics designer, from W.K. Kellogg Community Voices, provided services *pro bono* for the layout and design of the Report Card.

** Published by the National Association of County and City Health Officials and the Centers for Envorimental Health of the Centers for Disease Control and Prevention, April 2000.*

Matrix Used To Frame the Environmental Health Issues

Sources	Pollutant	Exposure	Environmental Indicators	Health Risk/ Population at Risk	Health Indicators	Other Impacts/ Outcomes	Current Programs for Environmental Health Management	Recommended Actions for Community and Government

Air Quality

Where are we?

✔ Recent data indicate that the overall air quality of Bernalillo County has remained consistently good to moderate.

✘ Compliance with the more stringent National Ambient Air Quality Standards [NAAQS] mandated by the U.S. Environmental Protection Agency [EPA] for ozone (O_3) and particulate matter (PM) will be a challenge, since recent data have shown the potential to exceed the new standards.

Background

The quality of the air we breathe is a critical measure of our environmental health. Air pollution adversely affects our air quality. Exposure to polluted air can affect the entire population, contributing to burning eyes, nose and/or throat irritations, and troubled breathing. Children, the elderly, and those with respiratory illnesses, such as asthma, are generally more susceptible to air pollution for several reasons. Children are more susceptible than healthy adults, because they are still growing, are smaller, breathe faster and spend twice as much time outdoors when pollutant levels tend to be higher. Air pollution affects the elderly more because their body defense systems are generally weaker. Furthermore, air pollution worsens symptoms of already compromised respiratory systems in those who suffer from asthma, emphysema, chronic obstructive pulmonary disease (COPD) and other respiratory diseases.

Air pollution found at extremely high levels may cause cancer, birth defects, brain and nerve damage, and/or long-term injury to the respiratory system. Beyond health damage, air pollution injures our environment. Polluted air harms trees, surface waters, the protective upper level ozone layer, and buildings and other structures.

There are many sources of air pollutants within Bernalillo County. They include:

- vehicle exhaust
- wood burning fire places and stoves
- industrial and commercial sites
- pollen
- top soil disturbance

These sources of pollutants also contribute to Bernalillo County's wintertime "brown cloud." During the winter months, pollutant levels can be concentrated and remain suspended for extended periods of time before being dispersed by favorable wind currents.

Indicators

One of the indicators used to measure the overall air quality in Bernalillo County are results from the Air Quality Index (AQI) for four of the criteria air pollutants:

- Carbon Monoxide (CO)
- Ozone (O_3)
- Coarse Particulate Matter (PM_{10} - particulate matter equal to or less than 10 microns)
- Fine Particulate Matter ($PM_{2.5}$ - particulate matter equal to or less than 2.5 microns)

The AQI is used nationwide by the EPA and other air agencies as a means of reporting general air quality conditions to the public on a daily basis. AQI values are calculated from ambient air monitoring data and then categorized into health-related classes, with higher AQI values denoting greater potential for health risk.

The data suggest that air quality in Bernalillo County is generally "Good" to "Moderate" (figure 1). However, it will be increasingly important to track ozone and particulate matter trends closely in an attempt to maintain compliance with the National Ambient Air Quality Standards.

Complaints received by the Air Quality Division are another indicator used to determine the status of air quality. According to complaints reported to the Air Quality Division, noxious odors, dust and smoke are among the main concerns reported by residents (figure 2). However, it is often difficult to link odors to a specific air pollutant source.

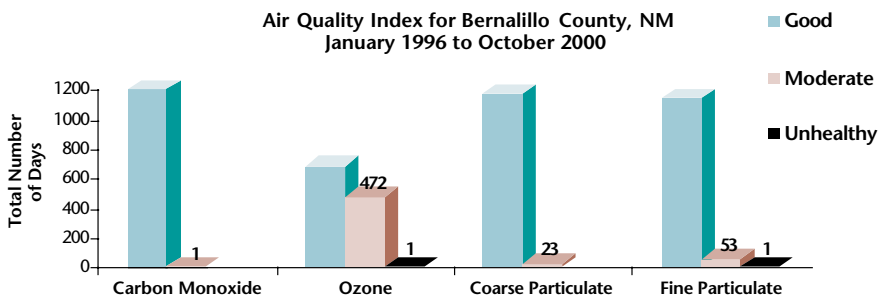


Figure 1: Air Quality Index data showing the number of days and categories for each of the four criteria pollutants gathered by the Albuquerque/Bernalillo County's Air Monitoring Network from January 1996 through October 2000. [Source: City of Albuquerque Air Quality Division]

Policy Implications

■ As the population in Albuquerque/Bernalillo County increases each year, the challenge to preserve our air quality also increases. More residents consequently mean more pressure to develop at the fringe of the developed areas,

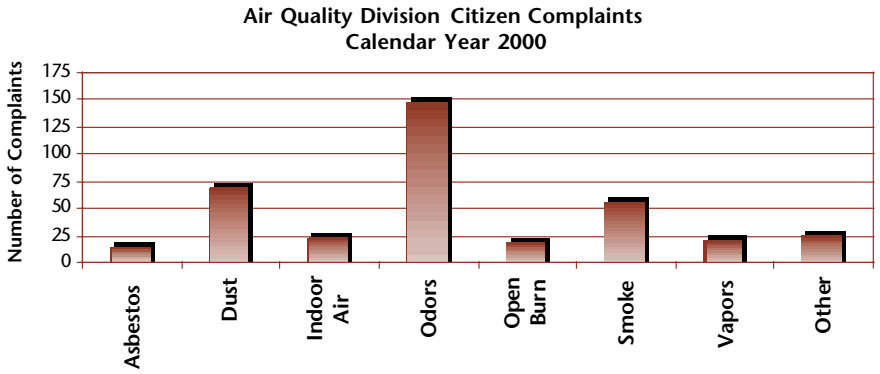


Figure 2: Complaints reported to the Air Quality Division in 2000. [Source: City of Albuquerque Air Quality Division]

leading to more vehicular traffic and more demand on public transit to accommodate communities at greater distances.

■ An increased population also lends itself to a growing commercial and industrial base, which contributes to increased amounts of air pollutants potentially being emitted into the community.

What's in Place?

■ The EPA granted the Albuquerque/Bernalillo County Air Quality Control Board the authority to adopt, administer, and enforce air quality control regulations in Bernalillo County. This Board consists of a total of seven appointed members, representing both the City and the County. The Albuquerque Environmental Health Department's Air Quality and Vehicle Pollution Management Divisions administer local, state and federal air quality control regulations for the entire County under the authority of the Board.

■ The **Air Quality Division** also administers several programs to ensure that Bernalillo County's air quality resources are maintained. The programs include:

- Oversight to assure that all air pollutant sources comply with federal, state and local air quality regulations.
- Involvement in strategic environmental planning to provide recommendations in relation to industrial growth, housing development and transportation projects.
- Maintenance of the Albuquerque/Bernalillo County Air Monitoring Network, which monitors pollutant levels for all of the criteria pollutants (carbon monoxide, oxides of nitrogen, ozone & particulate matter) except lead and sulfur dioxide (levels of these have historically been extremely low).
- Publication of daily Air Quality Index pollutant levels on a recorded message at (505) 766-7664, and in the daily newspapers using data collected at one of the ambient air monitoring sites within the network. Pollen counts can also be obtained at this number or in the newspapers, Monday - Friday, beginning in March through October.
- Provision of ongoing education, outreach and technical assistance to the general public and business communities on all air quality issues.
- Management of the No-Burn Program from October through February annually. Daily local radio broadcasts, television announcements and newspaper reports inform residents and businesses when they are allowed to use wood burning stoves and fireplaces. This program has contributed to the decrease of wintertime carbon monoxide and particulate matter levels and will be further developed to focus on decreasing "brown cloud" days based on visibility standards.

■ **The Vehicle Pollution Management Division** (VPMD), works to decrease air pollution in our community. The VPMD has implemented Inspection/Maintenance, Oxyfuel, Smoking Vehicle and Remote Sensing programs. These programs have reduced vehicle emissions by more than 33% and have contributed to a seven-year period without a violation of federal air quality standards.

Recommended Actions for Community

- Car pool, walk, bike or utilize public transportation whenever possible
- Use an EPA-approved wood or pellet stove, natural gas logs or radiant heat system
- Maintain wood-burning fireplaces or stoves for clean, efficient operation
- Be aware of the Red, Yellow, and Green alerts for voluntary and mandatory "No-Burn" notifications
- Keep motor vehicles well tuned

Recommended Actions for Government

- Revise local air quality regulations to reflect current data concerning health studies on the relationship between respiratory ailments and elevated levels of air pollution
- Increase community awareness of and involvement with air quality regulations and issues
- Increase coordination of economic development practices, transportation planning, and land use planning to achieve the greatest reduction in air pollution
- Work with Sandoval, Valencia and Torrance Counties to develop a regional approach to air quality management

Contact

City of Albuquerque Air Quality Division, 768-1930

Data Source

City of Albuquerque Air Quality Division

For Further Information

City of Albuquerque Air Quality Information: www.cabq.gov/airquality/index.html

EPA Air Quality Webpages: www.epa.gov/air

Food Safety

Where are we?

✔ There is an increased focus on prevention of food-borne illnesses.

✘ Not all people who become ill from food seek medical care or report the illness.

Background

Food safety is an important part of environmental health protection. Food-borne illnesses can be caused by improper preparation practices in food establishments and homes. Inappropriate storage, handling, holding times, and temperatures can lead to food contamination. Cross contamination of raw and/or cooked foods and contact surfaces is one of the leading factors responsible for foodborne illnesses. Other sources of contamination may include unclean cooking equipment, and poor personal hygiene habits of food handlers. Foods prepared at events and festivals have an increased chance of becoming contaminated because preparation and storage are less controlled than in restaurants or other food establishments.

Eating foods that contain unhealthy levels of bacteria, viruses, and biological and chemical toxins causes food-borne illnesses. Bacteria responsible for food-borne illnesses are found primarily in raw meat and dairy products. Common symptoms of food-borne illnesses include abdominal pain, headache, nausea, vomiting, fever, and diarrhea. Anyone can become ill from eating contaminated foods; however, young children, the elderly, pregnant women, and those with suppressed immune systems may be at a greater risk for more serious health effects.

Indicators

There are two indicators used to determine safety of food in Bernalillo County. One is the number of reported cases of potential food-borne illnesses caused by Campylobacter, Salmonella, Shigella, Hepatitis A and E.coli bacteria (figure 1) and the other is the percentage of reported food-borne illnesses over the last 10 years (figure 2). Reported cases are those that have been recorded by the New Mexico Department of Health. In addition, the cases are defined as "potential" food-borne illnesses because they may also be transmitted by other means (e.g. water, person to person contact).

Figure 1 represents reported cases of food borne illnesses caused by Campylobacter, E. coli, Salmonella, Hepatitis A and Shigella bacteria. These bacteria are commonly responsible for food-borne illnesses. Over the past ten years, the number of food-borne illness cases has remained fairly constant for Bernalillo County. It remains unclear why there was a peak of approximately 600 cases in 1995. It is important to note that the number of cases may be due to an increase or decrease in reporting.

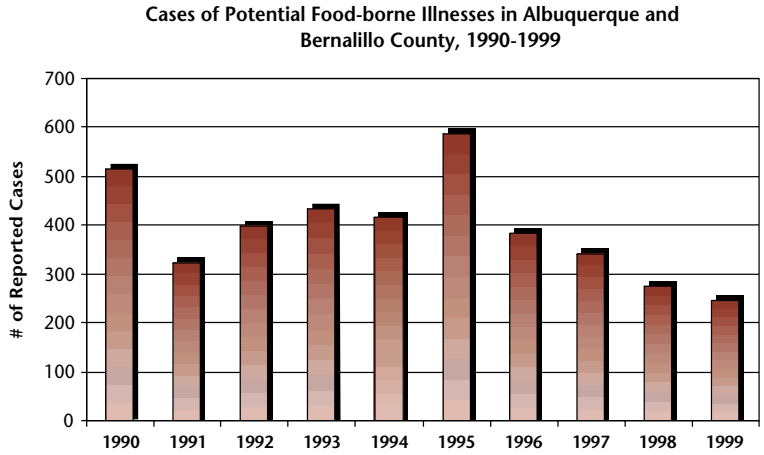


Figure 1: Reported Cases of Potential Food-borne Illness. [Source: National Electronic Telecommunication System for Surveillance (NETSS)]

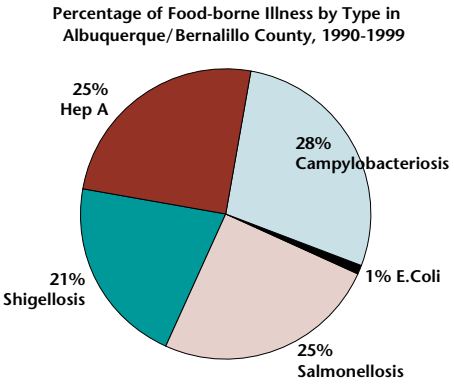


Figure 2: Percentage of Food-borne Illnesses by Type. [Source: National Electronic Telecommunication System for Surveillance (NETSS)]

Figure 2 represents the percentage of food-borne illnesses by type reported for Bernalillo County during 1990-1999. The data indicate that campylobacteriosis, salmonellosis, hepatitis A and shigellosis accounted for the majority of the cases of food-borne illnesses. E. coli accounted for only 1% of the cases reported.

What's in Place?

- Environmental Health Specialists and Inspectors utilize Hazard Analysis Critical Control Point (HACCP) concepts, which focus on the critical points of food preparation to minimize opportunities for contamination.
- The City and the County Environmental Health Departments inspect approximately 3,000 restaurants, retail

food services, and other institutional establishments and review blueprints for new and remodeling restaurants to ensure compliance with food safety codes.

- The City and the County Environmental Health Departments provide education and training on sanitary food service practices. The targeted audiences for educational activities are restaurant managers, organizers of special events and food service workers.
- The City and the County Environmental Health Departments issue temporary food vending and special events permits.
- The New Mexico Department of Health employs two infectious disease control nurses who assist the Environmental Health Departments in follow up of reported cases of food-borne illnesses.
- The Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) are responsible for the safe production of food, national food recalls and advising state and local governments on food safety standards for institutional food service, restaurants, and retail food establishments.

Policy Implications

- A safe and reliable food source, as measured by a reduction in the cases of food-borne illnesses, is dependent upon a number of factors such as community awareness, safe food practices by food providers and better reporting.
- Rapid expansion of development and increased population growth are likely to outstrip the City and County's ability to provide adequate prevention education, inspections and other services to control food-borne illnesses.

Recommended Actions for Community

- Promptly notify a physician and/or a health clinic if suspicious illness arises – especially after eating at a restaurant or event
- Look for restaurant approval rating in window before patronizing
- Buy products from food establishments that display an approval certificate from a regulatory agency
- Follow food safety measures
- Cook meats thoroughly
- Clean all cooking surfaces and utensils with hot soapy water
- Wash hands thoroughly after using the bathroom, changing diapers, handling pets or handling all raw foods
- Store food in suitable containers/wrappings and at appropriate temperatures before and after preparation
- Contact the New Mexico State University Extension Agency at 243-1386 for canning, freezing, drying, and/or butchering safety information

Recommended Actions for Government

Continue to:

- Perform inspections based on Hazard Analysis Critical Control Points and other educational efforts regarding the safe preparation of food
- Provide and improve food safety education
- Improve record keeping and data collection to track restaurant violations for the following areas of food safety: improper holding times and temperature, contaminated equipment, cross contamination, and poor personal hygiene
- Keep the public and food establishments informed of food recall notices
- Promote public education through media messages and/or community workshops on food safety
- Develop communication mechanisms with medical professionals to assure data sharing

Work to:

- Develop both clinical and laboratory methodology for improved diagnosis of food-borne illnesses
- Update and/or modify ordinances to address changing industry practices, national standards and emerging and resistant pathogens, bacteria and viruses
- Develop standard operating procedures for food-borne illness investigation for the City and County in cooperation with the New Mexico Department of Health
- Improve tracking, reporting and sharing of food-borne illness information among agencies, and public health and medical providers
- Develop policies and procedures for tracking and reporting pesticide, herbicide and other chemical contaminants that may affect food
- Train medical providers to recognize, diagnose and report food-borne illnesses

Contacts

Albuquerque Environmental Health Department, Consumer Health Protection, 768-2600

Bernalillo County Environmental Health, Community Services, 768-3651

New Mexico State University-Cooperative Extension Service, 505-243-1386

New Mexico Department of Health-Office of Epidemiology, 505-827-0006

New Mexico Environment Department, Community Services, 505-827-7541

Data Sources

National Electronic Telecommunication System for Surveillance (NETSS), 1997-2000).

McSwane D, Rue N and Linton R (2000). Essentials of Food Safety and Sanitation - Second Edition; Prentice Hall, NJ.

For Further Information

US Department of Agriculture: www.usda.gov

Centers for Disease Control and Prevention –Food borne Illnesses: www.cdc.gov/health/foodill.htm

Center for Food Safety and Applied Nutrition: vm.cfsan.fda.gov

Drinking Water Quality

Where Are We?

✔ Drinking water quality from the City of Albuquerque wells is excellent.

✘ It is estimated that 4,000 homes, which could connect to existing municipal sewer lines in the North and South Valley areas of Albuquerque/Bernalillo County, have not done so, thereby creating a potential threat to drinking water quality.

Background

The quality of our drinking water is an important measure of the overall environmental health of our desert environment. The Albuquerque water system supplies drinking water to 85% of the Albuquerque/Bernalillo County population. The remaining 15% of the population within the County rely on small community water systems or residential private wells for drinking water. Regardless of the water distribution system, groundwater is currently the sole source of drinking water in Bernalillo County for all residents. Community members and government must consider factors that influence the quality of the groundwater.

Leaking on-site septic systems are a major threat to our groundwater quality because they are a source of nitrate contamination, a proven hazard to health. Elevated nitrate in drinking water is primarily a concern for infants under four months of age, pregnant women and children of nursing mothers.

Due to a large number of on-site septic systems and agricultural practices, groundwater is susceptible to nitrate contamination in the North and South Valley areas. In the East Mountain area groundwater is also susceptible to nitrate contamination because of increased population growth, reliance upon on-site septic systems and geologic characteristics of the area.

In addition to leaking on-site septic systems, other contamination sources threaten our drinking water quality. They include:

- leaking underground storage tanks
- hazardous spills
- waste storage facilities
- high-density agricultural land use and fertilizers
- naturally occurring arsenic

Removal of leaking underground storage tanks is one way to prevent groundwater contamination.

Indicators

Albuquerque Public Water Supply System

Drinking water is safe for the residents being served by the Albuquerque public water supply system. The indicator used to measure "safety" is the number of violations to federal and state drinking water quality standards. The City of Albuquerque water supply system continues to meet all federal and state drinking water standards for chemical and bacterial contamination and has not had a single violation in more than 27 years. An annual water quality report is available on the web at **www.cabq.gov/waterquality.**

Community Public Water Systems

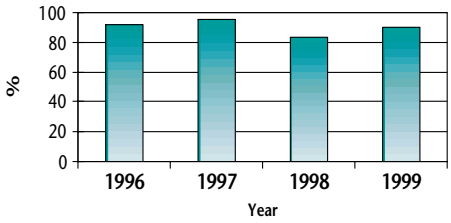
There are over 100 community water systems in Bernalillo County. Water supplied by properly maintained community systems is safe. The indicator used to measure "safety" is the number of health-based violations. Between 1995 and 1998, the EPA reported one or more health-based violations in 18 community water systems. Because those violations were corrected quickly, residents faced little or no risk.

Residential Private Wells

If private wells are properly installed, maintained and routinely monitored, they are safe. Over 3,500 private wells have been permitted in Bernalillo County. Due to less stringent monitoring and to a lack of regulations, water from private wells may pose a health risk.

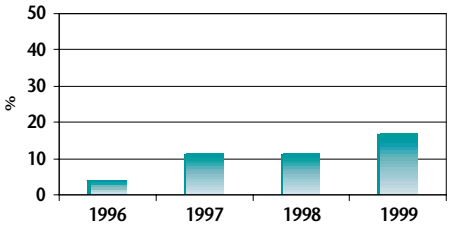
Nitrate and fecal coliform bacteria levels are indicators of contamination from leaking septic systems into private wells. The federal drinking water standard for nitrate is 10 mg/L. Between 83% and 95% of tested private wells met the nitrate federal drinking water standard (figure 1).

Figure 1: Percentage of Tested Residental Wells Meeting Federal Drinking Water Standard for Nitrate,1996-1999



Source: Bernalillo County Environmental Health Department. Well owners requested all tests.

Figure 2: Percentage of Private Wells Testing Positive for Total Fecal Coliform Bacteria



Source: Bernalillo County Environmental Health Department. Well owners requested all tests.

Measurements taken for total fecal coliform bacteria, a disease-causing bacteria, show that from 1996 to1999, between 4% and 17% of private wells tested positive for fecal coliform bacteria (figure 2).

Recommended Actions for Community

- Connect to a municipal sewer line, if available
- Test the microbial quality of wells annually, if privately owned
- Have septic systems inspected annually and pumped out on a regular basis
- Keep manure, fertilizers, and other nitrate-containing products at least 100 feet away and on a down gradient from the nearest drinking water well
- Support legislation for extending municipal water and sewer lines

Recommended Actions for Government

- Support ongoing groundwater protection programs and policies
- Promote extension of water and sewer service to areas not currently served
- Continue to educate the community about the importance of protecting and preserving the groundwater
- Develop a comprehensive water shed/quality approach to agricultural and storm water runoff
- Coordinate efforts to encourage development in areas that have existing access to sewer and water

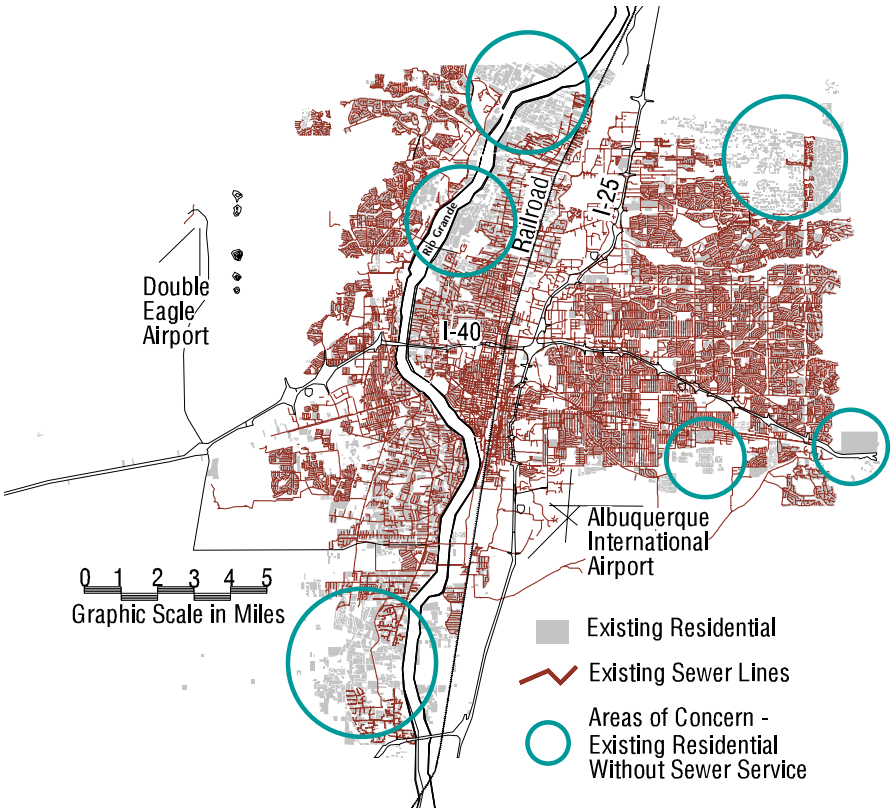
Connection to Municipal Sewer Lines

Since 1992, there have been approximately 25,000 new sewer connections in Albuquerque/ Bernalillo County. However, it is estimated that 4,000 homes in the North and South Valley areas of Bernalillo County have not connected to a municipal sewer line, even though municipal sewer lines are available.

Arsenic

Arsenic is a naturally occurring constituent in certain parts of Bernalillo County. As volcanic deposits decay, arsenic is released, accumulating in groundwater. The average arsenic concentration in the City water supply is 13 parts per billion (ppb).

The maximum contaminant level for arsenic in drinking water was recently set at 10 ppb in the last days of the previous presidential administration. Because of special concerns, the Administrator of the EPA has asked for a review of the new drinking water standard for arsenic. The review process is anticipated to take approximately four months with the new standard (if different than the current 10 ppb) published in February of 2002. The new standard must be met by January of 2006. If the standard of 10 ppb is adopted, it will have a significant economic impact on water rates and will dramatically alter the current operation of water utilities in Albuquerque/Bernalillo County and throughout the state of New Mexico.



Areas of concern: The map highlights existing residential areas without sewer service.

What's in Place?

■ The City of Albuquerque Water Supply System and the City of Albuquerque and the Bernalillo County Environmental Health Departments have water quality monitoring programs to assure that residents have high quality drinking water.

– continued on next page

Drinking Water Quality
(continued)

- Both the City and County work to extend municipal sewer lines in the North and South Valley areas to minimize groundwater contamination from failing septic systems.
- Bernalillo County passed a wastewater ordinance in 2000 that establishes practices that aid in reducing the risk of groundwater contamination by septic systems.
- The City and County work together to implement the jointly adopted Ground-Water Protection Policy and Action Plan (GPPAP) that proactively addresses various groundwater threats.
- Bernalillo County Environmental Health Department provides public education on well maintenance to private well owners.
- Through the Partners in Improving and Protecting the Environment (PIPE Program), Bernalillo County assists qualified homeowners connect to municipal sewer lines or upgrade septic systems where sewer lines are not available.

Policy Implications

- As the population increases and becomes more dense in certain areas, there is a greater need for wastewater disposal systems that do not pose a potential contamination threat to drinking water supplies.
- Current decreasing aquifer levels indicate that there is a greater need to employ water conservation strategies and develop plans to use surface water as a source of drinking water.

Contacts

Albuquerque Environmental Health Department, 768-2600

Bernalillo County Environmental Health Department, 924-3650

City of Albuquerque Department of Public Works, Water Utility Division, 857-8200

New Mexico Environment Department, Ground Water Quality Bureau, 505-827-2981

New Mexico Environment Department, Drinking Water Quality Bureau, 505-287-7536

U.S. Geological Survey, Water Resources Division, 830-7900

Data Sources and Related Publications

Gallaher B, McQuillian D,Chavez L, (1987). Groundwater Quality and Public Health-Albuquerque South Valley. New Mexico Health and Environment Department.

Gaume T, Witherspoon J, Montman C, et. al, (1993). Albuquerque/Bernalillo County Ground Water Protection Policy and Action Plan. Groundwater Contamination in Bernalillo County.

McQuillan D, Jasper M, and Swanson, B (1989). Groundwater Contamination by Septic-Tank Use: A Field Study in the Albuquerque South Valley-West Region Bernalillo County, New Mexico.

Thomson B, Stormont J, Lisa T, et al. (2000). Determination of Groundwater Contamination from On-Site Wastewater Treatment and Disposal Systems, Bernalillo County, New Mexico. Final Report Volume 1. Southwest Technology Development Institute Division of Environmental Systems. Civil Agricultural and Geological Engineering Department; New Mexico State University.

Well Owner's Guide, Bernalillo County Environmental Health Department, (2000).

City of Albuquerque Water Quality Report, www.cabq.gov/waterquality, (2000).

Groundwater Quality and Susceptibility of Groundwater to Effects from Domestic Wastewater Disposal in Eastern Bernalillo County, Central New Mexico, 1990-1991. U.S, Geological Survey, Water Resources Investigations Report 99-4096 (1999).

Albuquerque/Bernalillo County Groundwater Protection Policy and Action Plan (GPPAP) Annual Report. Water Resources Division Public Works Department. City of Albuquerque, (1997).

Groundwater Quality and Public Health. Albuquerque South Valley, May (1997).

Water Quality and Groundwater Level Data, Bernalillo County, Central New Mexico. U.S. Geological Survey 1995. U.S. Geological Survey, Open-File Report 96-578 (1996).

Groundwater Quality and Groundwater Level Data, Bernalillo County, Central New Mexico, 1990-93. U.S. Geological Survey, Open-File Report 95-385 (1995).

Albuquerque/Bernalillo County Ground-Water Policy and Action Plan (GPAP), August (1994).

Albuquerque and Bernalillo County Geographic Information Systems-Bernalillo County Information Technology Department, (2000).

Environmental Health Services Geographic Information Systems-City of Albuquerque Environmental Health Department, (2000-2001).

Center for Environmental Information and Statistics, tree2.epa.gov/ceis

Bernalillo County Environmental Health Department, Water Resources Division

For Further Information

City of Albuquerque Water Quality Information: www.cabq.gov/waterquality

City of Albuquerque Arsenic Information:www.cabq.gov/waterresources/arsenicremoval.gov

Environmental Protection Agency: www.epa.gov

U.S. Geological Survey: www.usgs.gov

Water Quantity

Where Are We?

✔ In March 1995, the City of Albuquerque adopted a comprehensive water conservation strategy to reduce the per person water use by 30% from 250 gallons per person per day to 175 gallons per person per day by 2004.

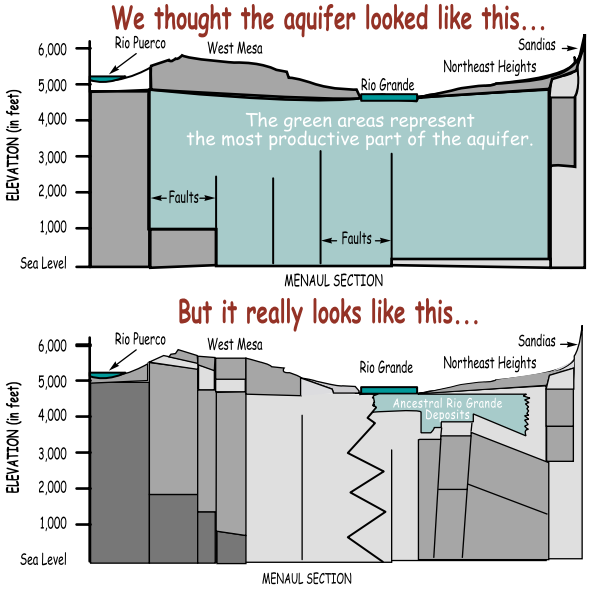
✘ Groundwater continues to be used at an unsustainable rate.

Background

It is important to public health that the community has a safe, sustainable, and long-term drinking water supply. Groundwater is currently the sole source of drinking water for commercial, industrial and domestic use in Bernalillo County. Groundwater is a limited resource that requires management strategies for preservation and protection.

Indicators

In 1988 federal, state and local agencies published extensive monitoring and scientific studies to determine groundwater availability in Bernalillo County. Results of the study indicated that groundwater supplies might be inadequate to meet future needs. The study also revealed that the amount of water recharged into the aquifer from the Rio Grande was far less than had been previously estimated.



(Source: City of Albuquerque. Public Works-Water Conservation Office)

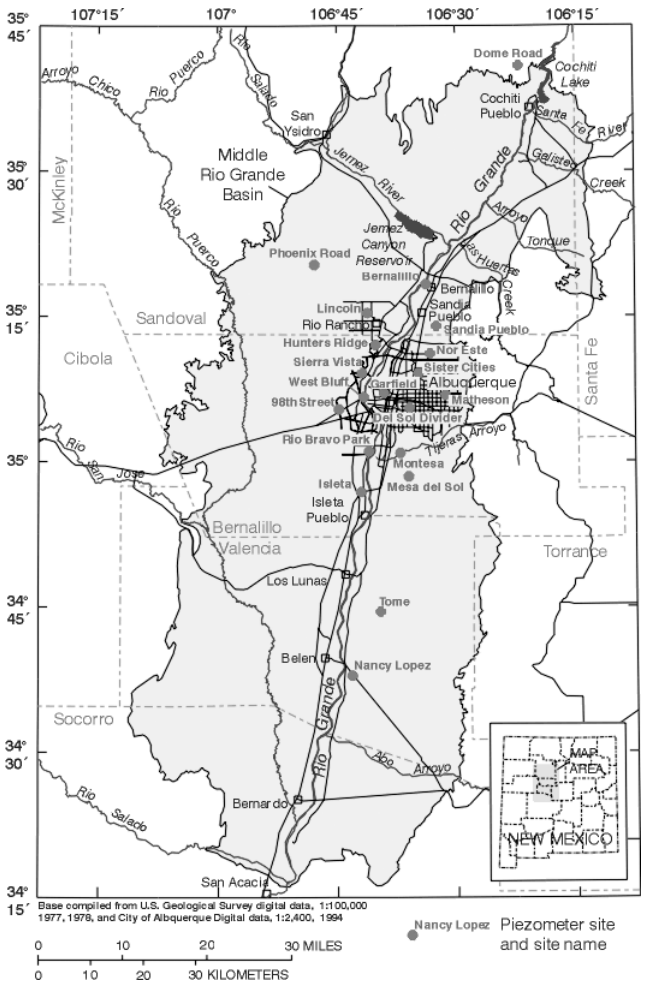
Declining water levels in certain areas of large pumping will lead to future subsidence problems. Subsidence causes the soil to settle and often results in property damage. These conditions indicate that the region is pumping water at a rate greater than it is being recharged or replaced.

What's in Place?

- The Middle Rio Grande Water Assembly, the Middle Rio Grande Water Resources Board, and the Estancia Basin Water Planning Committee are developing regional water plans.
- Bernalillo County government, in partnership with the United States Geological Survey, is studying groundwater in the East Mountain area in an effort to better manage it.
- The City of Albuquerque, Bernalillo County and the Village of Los Ranchos recently formed the Metropolitan Area Water and Wastewater Board to explore regional solutions for water and wastewater service issues.
- The Albuquerque City Council has adopted a long-range water supply to provide a safe and sustainable water supply strategy to the year 2060. The community, city, county, state and congressional leaders have supported the strategy.
- Operation Low Flow, a rebate program through the City of Albuquerque, provides individuals a rebate for installing low flow toilets.
- The City of Albuquerque has a Xeriscape Retrofit Incentive program that encourages ecological landscaping.
- The Office of the State Engineer adopted the "Middle Rio Grande Administrative Area Guidelines for Review of Water Right Applications" that establishes Critical Management Areas and protective measures for surface water rights.

– continued on next page

Monitoring Well Locations in the Region



(Sources: United States Geological Survey)

Water Quantity
(continued)

Policy Implications

■ The regional water planning programs will help government entities better manage water resources through conservation, cooperation and communication. These are important steps in the development of water use policies for our desert community.

■ There is a need to link water quality management programs and water quantity programs, as they influence each other.

Contacts

Bernalillo County Environmental Health Department, Water Resources Team, 924-3650

City of Albuquerque Public Works-Long Range Water Service Plan, 857-8610

City of Albuquerque Public Works-Water Conservation Office, 768-3655

City of Albuquerque Public Works-Water Resources Division, 768-2562

City of Albuquerque Public Works-Water Resources Management, 768-2562

Data Sources

Bernalillo County Environmental Health Department, Water Resources Team

City of Albuquerque Public Works, Water Conservation Office

City of Albuquerque Public Works, Water Resources Management

United States Geological Survey, Water Resources Division

For Further Information

City of Albuquerque Water Waste Hotline, 768-3640

City of Albuquerque Water Conversation: www.cabq.gov/waterconservation/index.html

City of Albuquerque Sustainable Water Strategy: www.cabq.gov/waterresources/index.html

Operation Low Flow, 768-3655

Xeriscape Retrofit Incentive Program, 768-3655

Recommended Actions for Community

- Work to conserve groundwater through the following methods:
  - Check all faucets, pipes, and toilets periodically for leaks
  - Install water-saving showerheads, low-flow plumbing, and low-flow faucet aerators
  - Use less water (e.g. shorter showers, turn faucets off while shaving, brushing teeth)
  - Make sure that dishwashers are full before running
  - Use proper amounts of water when doing laundry
  - Use automatic irrigation systems (e.g., automatic sprinklers and drip systems)
  - Plant drought resistant trees and plants or xeriscape yards
  - Report water waste (e.g., any water that flows or sprays into a public right-of-way, city storm drain, or adjacent private property) to the City of Albuquerque Water Waste Hotline
  - Follow Green, Yellow and Red water drop days

Recommended Actions for Government

Continue to:

- Support implementation of groundwater protection and preservation programs and policies
- Be involved in regional water planning data collection and cooperative implementation
- Investigate water use policies that incorporate land use planning and approval
- Involve citizens in program and policy development

Implement the following Water Resources Management Strategy Initiatives:

- Ensure competition and maintenance of regional water management and supply programs through appropriate water rate and water conservation pricing policies
- Construct planned non-potable supplies and treated wastewater effluent reuse for irrigation and industrial water uses
- Construct planned surface water diversion and treatment of San-Juan Chama project water for municipal drinking water supplies
- Develop a City/County Drought Management Plan and Groundwater Pumping Management Plan

Surface Water Quality

Where Are We?

✔ Water quality in the Rio Grande is generally good.

✘ At this time we cannot control many sources of surface water contamination.

Background

The Rio Grande, currently used for irrigation and recreational purposes, is the only continuously flowing body of surface water in Bernalillo County. The Rio Grande is important as an ecological system because it supports the Bosque and aquatic life. Studies indicate that sole reliance on groundwater as the water supply, as is currently practiced, will lead to extensive environmental consequences including deterioration of water quality, lowering of the shallow groundwater table and land surface subsidence. The City, in response to these studies, adopted a new water supply policy called the Water Resources Management Strategy. The plan calls for using the Rio Grande, supplemented by water from the San Juan-Chama project, as an alternative drinking water source. Therefore, it is important that community members and government work together to protect and preserve the water quality in the Rio Grande. It is also imperative that local government works with federal and state agencies in preserving and protecting the quality of water in the Rio Grande.

Upstream sources impact the Rio Grande before it flows into Bernalillo County. For example, multiple agencies are collecting data to evaluate the impact of the year 2000 Cerro Grande Fire on the River. There are also natural levels of arsenic in the Rio Grande that come from the Jemez River system. Additionally, the Rio Grande may be impacted by various activities within the County. Industrial and municipal wastewater discharges, irrigation return flows, decreased flow and storm water runoff all affect the water quality of the Rio Grande.

Indicators

Measurements of physical, chemical and bacteriological characteristics provide an indication of the Rio Grande's water quality. According to the New Mexico Environment Department (NMED) Water Quality Survey, the only concern at present is fecal coliform, which is an indicator that the river contains potential disease-causing bacteria.

Another indication of the health of the Rio Grande is the overwhelming number of discharging facilities that do comply with the discharge limits of their National Pollutant Discharge Elimination System (NPDES) permits. The permit requirements are designed to protect public health and aquatic life by setting discharge limits. Data from the U.S. Environmental Protection Agency (EPA) indicate that only 1 of the 14 permitted facilities in Bernalillo County has been cited for a NPDES discharge limit permit violation within the past five years.

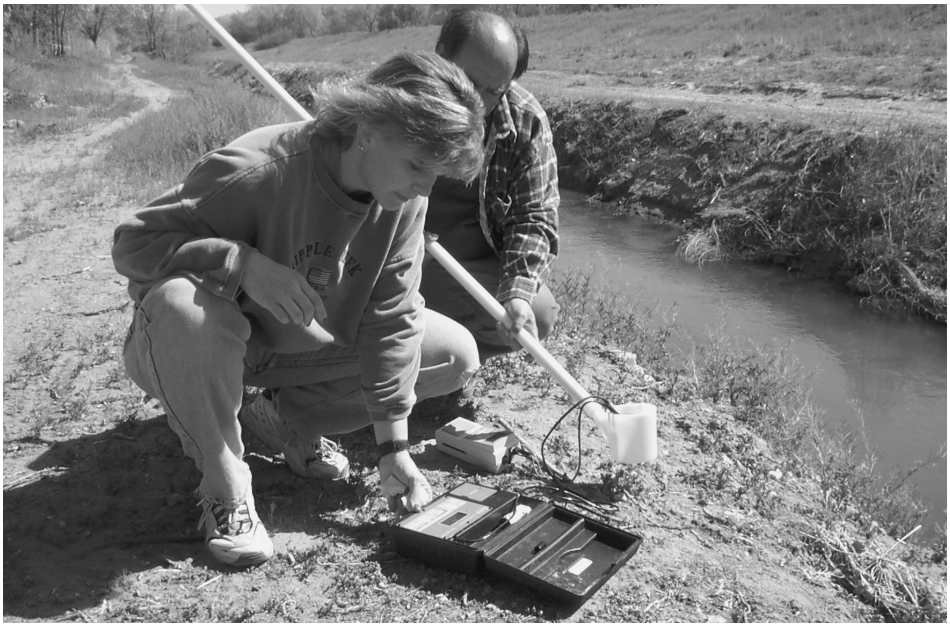
What's in Place?

- The EPA, through the Clean Water Act, requires that all identifiable sources (e.g. wastewater facilities, industries discharging pollutants into surface water) obtain a NPDES permit.
- The U.S. Geological Survey routinely measures the water quality of the Rio Grande.
- The New Mexico Environment Department (NMED) measures the water quality of the Rio Grande every five years as part of an intensive water quality survey.
- The New Mexico Water Quality Control Commission and each of the Native American Pueblos north and south of Bernalillo County have established designated uses and water quality standards for the Rio Grande.

Policy Implications

- The surface water quality of the Rio Grande is linked to the amount of pollutants in wastewater that is discharged by facilities located along the river. Improvements in treating wastewater can result in fewer pollutants being discharged, but it can also increase costs paid for by consumers. If an equal

– continued on next page



Surface water: Environmental Health trainees taking a stormwater sample.

Surface Water Quality
(continued)

amount of money were spent addressing storm water and other pollution sources, water quality might be improved more.

- Increased population growth results in greater demands for water. If limited groundwater supply leads to utilization of surface water as a drinking water source, upstream water quality will become more important. Under this scenario, upstream water quality would become more important and downstream users' needs must be recognized and addressed.
- Both municipal and industrial storm water runoff have the greatest impact on overall surface water quality. It is important for local policies to address these pollution sources.
- New health concerns may arise if the Rio Grande becomes a drinking water source.
- Agricultural practices are a source of pollution not currently regulated.

Contacts

Albuquerque Public Works Department, Water Resources Management, 768-2562

Albuquerque Public Works Department, Wastewater Utility Division, 768-3640

New Mexico Environment Department, Surface Water Quality Bureau, 827-0187

New Mexico Water Quality Control Commission, 505-827-2928

Data Sources

New Mexico Environment Department, Surface Water Quality Bureau

USEPA Region 6 Office

For Further Information

Water Quality and Water Pollution Control in New Mexico (2000): ftp://www.nmenv.state.nm.us/docs/swbq/305b/2000

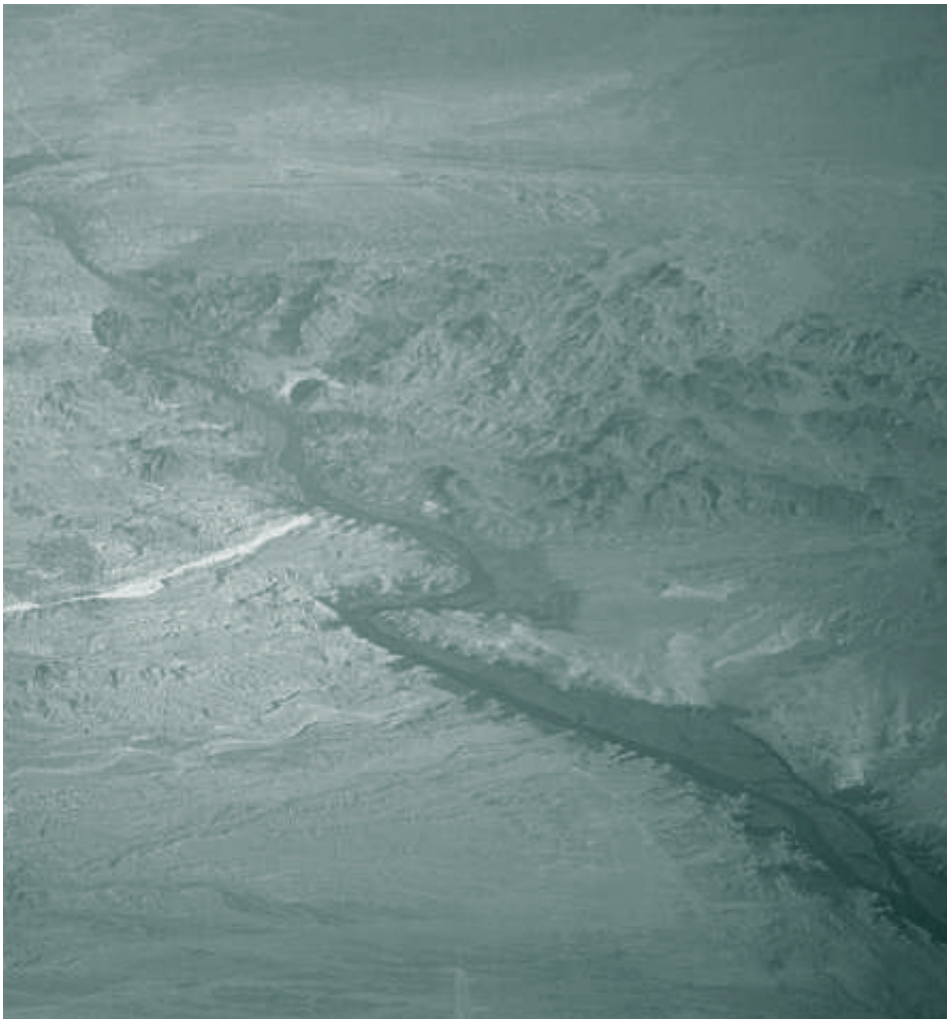
EPA Surface Water Webpages: www.epa.gov/ebtpages/wsurfacewater.html

Recommended Actions for Community

- Recycle and properly dispose of used automotive fluids, paint, pesticides, fertilizers and household cleaners
- Get involved by supporting pollution control activities
- Understand the Rio Grande's place in our community by visiting the Rio Grande Nature Center

Recommended Actions for Government

- Improve quality of storm water discharged into the river through pollution preventive efforts
- Assure that all discharging facilities meet NPDES permit requirements
- Establish a system to evaluate the water quality entering and exiting the County to better assess impacts on the overall water quality of the Rio Grande
- Increase education and outreach to communities concerning the dumping of hazardous materials into gutters that lead directly to the Rio Grande
- Continue to expand surveillance and collaboration with agencies to investigate the health impact of such things as drug residues (e.g., hormones, antibiotics and anti-inflammatory drugs) and pesticides in the Rio Grande
- Continue dialogue with other state, and federal health agencies to monitor water quality
- Work with other counties to develop a regional approach to surface water quality management
- Develop a surface water education program
- Support the need for some type of regulations for agricultural practices



Solid Waste

Where Are We?

✔ There is mandatory curbside pickup in the City and most of the County.

✘ Illegal dumping continues to be a problem in certain parts of Albuquerque/Bernalillo County.

Background

Municipal solid waste includes containers, food scraps, yard waste, and miscellaneous waste from residential, commercial and industrial sources. Proper and safe disposal of municipal solid waste is an important environmental health issue. The goal of municipal solid waste collection and disposal in Bernalillo County is to protect the health and welfare of residents. Successful solid waste disposal prevents the spread of disease and enhances the beauty of our environment.

Approximately 140,000 households in Bernalillo County use curbside garbage collection as their primary and most cost effective and efficient means of residential solid waste disposal. In 2000, the City of Albuquerque alone spent approximately ten million dollars to dispose of roughly 250,000 tons of residential solid waste.

Despite an efficient solid waste collection program and conveniently located disposal facilities, illegal dumping is a significant problem in Bernalillo County. Particularly problematic are sites containing discarded tires and hazardous materials. Illegally disposed solid waste poses a public health hazard by polluting the environment and creating a breeding ground for insects and rodents, known transmitters of harmful diseases. Illegally dumped solid waste also degrades the beauty of our landscape. Clean-up costs associated with illegally disposed municipal solid waste are significant; it is estimated that thousands of dollars are spent each year to clean up illegal dump sites.

Illegal dumping of discarded tires.

Indicators

The amount of residential solid waste collected has steadily increased in Bernalillo County (table 1). From 1997 to 2000, there has been an approximate 11% increase in municipal solid waste generated by residents, although the population has only increased approximately 5%.

What's in place?

■ In 1996, the Board of Bernalillo County Commissioners passed a solid waste ordinance that allowed the County to create a roadside trash pick-up program for all Bernalillo County residents. The program currently operates in the North and South Valleys and will be operating in the East Mountain Area in 2002.

■ The City of Albuquerque Solid Waste Management Department:

- Collects and disposes of municipal solid waste from residential and commercial clients
- Collects recyclable materials such as plastic, aluminum, tin and cardboard at the curbside on a weekly basis

– continued on next page

Residential Solid Waste History for Albuquerque and Bernalillo County, Tonnage History: 1997 – 2000

Location	1997	1998	1999	2000
Bernalillo County	19,140	15,750	18,343	13,257
City of Albuquerque	201,725	199,294	231,514	232,906
TOTAL	220,865	215,044	249,857	246,163
Bernalillo County Total Population	**525,206**	**524,686**	**523,472**	**556,678**

Table 1: Residential Solid Waste History. [Sources: City of Albuquerque Solid Waste Management Department, Waste Management of New Mexico, Inc., and Bernalillo County Solid Waste Department. US Census Bureau]

Solid Waste
(continued)

- Provides public education programs to encourage residents to protect and enhance Albuquerque's natural environment through responsible waste management such as recycling, composting and pollution prevention.

■ The City of Albuquerque sponsors the "Great America Clean-Up" in April of each year and supports two citywide green waste cleanups per year. It also assists neighborhood associations with up to three cleanups per year.

■ Sandia Heights Services collects solid waste generated by all Sandia Heights residents.

■ There are three City-operated solid waste convenience centers (Don Reservoir, Eagle Rock, and Montessa Park) and one County-operated convenience center (East Mountain Transfer Station).

■ "Keep Albuquerque Beautiful" provides community education on all solid waste management issues.

■ The County provides eight community clean-up events each year in all parts of the County. Trash, yard waste, large items and household hazardous waste brought to these event locations are disposed of for free.

■ The City and County provide for household hazardous waste collection and have established a hazardous materials reuse center where residents can obtain small amounts of unused products, like paint, for home use.

Policy Implications

■ The amount of municipal solid waste collected is strongly linked to factors such as increased population growth and residental consumption. As these factors increase, the amount of municipal solid waste generated will increase.

Recommended Actions for Community

- Generate less waste by "reducing," "re-using," and "recycling"
- Utilize the City of Albuquerque curbside recycle program by recycling cans, plastics, milk cartons, and cardboard
- Utilize the recycle drop-off areas in the East Mountain area and throughout the County
- Utilize the household hazardous waste collection center located at 6133 Edith NE
- Report immediately any illegal dumps or dumping to the State Police, the County Fire Department, the City/County Zoning Enforcement and/or the City/County Solid Waste Departments

Recommended Actions for Government

Continue to:

- Strengthen participation in solid waste collection programs
- Prevent illegal dumping of municipal solid waste
- Promote community clean-ups

Work to:

- Better define the enforcement process for illegal dumping
- Keep solid waste collection affordable for all residents
- Increase access to recycling for all residents and businesses
- Encourage activities to reduce unnecessary packaging for all items

■ Municipal solid waste is usually buried in landfills. Landfill capacity decreases as the amount of solid waste generated increases. The locations of landfills create concerns regarding odor, heavy truck traffic and potential for groundwater contamination.

■ Municipal solid waste disposal is an expensive part of local services. While landfills are available in the Southwest, unlike in many parts of the Country, a bigger issue than landfill space is cost. Disposal fees at local landfills are between $18 and $30 per ton. These costs, in addition to operation costs, are borne by all residents.

Contacts

Bernalillo County Solid Waste Department, 768-8100

City of Albuquerque Solid Waste Management Department, 848-1500

City Zoning Enforcement, 768-3850

County Zoning Enforcement, 924-3700

County Fire Department, 761-4225

Rinchem-Household Hazardous Waste Disposal, 345-1650

Data Sources

Bernalillo County Solid Waste Department, Fiscal Report 1997-2000.

City of Albuquerque Solid Waste Management Department, Fiscal Report 1997-2000.

US Census Bureau Web data: 1997-2000 (www.census.gov).

Waste Management of New Mexico, Inc., Annual Report 1997-2000.

For Further Information

Solid Waste Management Department City of Albuquerque: www. cabq.gov/solidwaste/html

Residents participating in a community clean up event

Vector-Borne Diseases

Where Are We?

✔ Improvement has been made in detecting and controlling rodent and insect-borne diseases.

✘ We live in an area that is susceptible to plague, hantavirus and encephalitis.

Background

Vectors are insects or animals that transmit diseases to humans. The prevention and control of vector-borne diseases is vital to the public health protection of residents. Plague, hantavirus and encephalitis are the three primary vector-borne diseases of concern to residents in Bernalillo County. The City of Albuquerque and Bernalillo County provide funding for the joint Vector Control Program managed by the City of Albuquerque Environmental Health Department.

Plague

Plague is transmitted to humans by infected animals and insects. As human migration into new housing developments in the foothills of the Sandia Mountains and in the East Mountain area of Bernalillo County increases, human exposure to plague-infected animals or fleas increases. In addition, exposure can increase during recreational activities such as camping, hiking and fishing.

Plague can be contracted if one is bitten by infected rodent fleas and/or handles plague-infected tissues of sick or dead animals. Animals that can carry plague include:

- rock squirrels
- chipmunks
- wood rats
- mice
- prairie dogs
- wild rabbits

Domestic cats can also contract plague and transmit it to human handlers or caregivers. In addition to cats, dogs may carry plague-infected fleas into the home. Symptoms of plague include high fever, headache, and chills. Pain and/or swelling in the lymph nodes of the groin, armpit or neck area may be other symptoms.

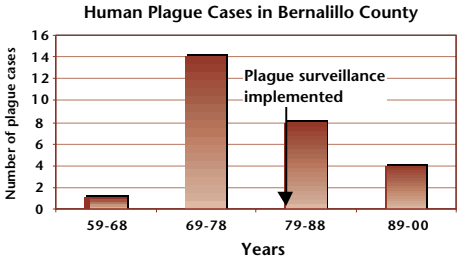


Figure 1: Number of plague cases, pre- and post-surveillance in Bernalillo County.

Indicators for Plague

Figure 1 illustrates the plague surveillance program in Bernalillo County. Prior to the inception of the program in 1978, the County ranked number one within the U.S in incidents of human plague. Surveillance efforts have resulted in only three human plague cases in the last five years, a significant improvement.

What's in Place for Plague?

The Vector Control Program does the following to prevent plague outbreaks:

- Conducts live animal surveillance and dead animal retrieval year round in areas of the County where plague is present.

Plague: The rock squirrel is the primary host of plague. Plague surveillance efforts focus on collecting these animals with the use of a special trap. Blood and flea samples are taken from the animal to test for plague.

- Follows up with surveillance, control measures, educational outreach, and case investigations in all cases where positive samples are identified.
- Collaborates with local veterinarians to share information regarding feline plague and its diagnosis.

Policy Implications – Plague

- As residential development expands to areas where plague incidents have occurred, the likelihood of human plague cases increases.

Recommended Actions for Community– Plague Prevention

- Clean up woodpiles, uncovered garbage, scattered pet food and rock piles around homes
- Elevate woodpiles and garbage cans off the ground
- Keep pets (especially cats) confined and dust them weekly with an approved flea powder if living in an plague endemic area
- Notify local environmental health departments if rodents are found
- Seal homes so that rodents cannot enter
- Avoid contact with items that may be contaminated by rodents

Recommended Actions for Government – Plague Prevention

Continue to:

- Maintain and expand proactive and reactive surveillance for plague in endemic areas
- Expand educational outreach in plague endemic areas including website development
- Enhance efforts to network with local state, and other federal health agencies
- Utilize Geographic Information Systems to track plague
- Develop and maintain electronic transfer of data to public health agencies (e.g. Centers for Disease Control and Prevention, New Mexico Department of Health, New Mexico Environment Department)

– continued on next page

Vector-Borne Diseases
(continued)

Hantavirus

Deer mice and other field rodents transmit hantavirus in their urine, saliva and droppings. Symptoms of hantavirus include fever and muscle aches followed by coughing and difficulty in breathing. Symptoms may also include headache, nausea, vomiting, diarrhea, and abdominal pain. Call a physician for medical advice if symptoms occur after contact with rodents or their droppings.

Indicator

Hantavirus Cases in New Mexico: 1997 – 2000

Location	Number of Reported Cases
Albuquerque/ Bernalillo County	0
Other Areas of New Mexico	26

Table 1: Reported hantavirus cases for New Mexico. [Source: Albuquerque Environmental Health Department-Environmental Health Services Division.]

While there have been reported cases of hantavirus throughout the state during the last four years, Bernalillo County has not had a single case (figure 1). The high incidence of hantavirus in other areas of New Mexico indicates that the County may be susceptible to hantavirus, and needs to enhance active surveillance to prevent the disease from becoming a problem.

What's in place for Hantavirus?

- The New Mexico Department of Health conducts active surveillance for hantavirus.
- The Vector Control Program develops educational messages for residents to prevent exposure to hantavirus.

Recommended Actions for Community– Hantavirus Prevention

- Keep all food, water, and garbage in metal or thick plastic containers with secured lids
- Never leave pet food and water outside over night
- Clean spilled food from counters and floors
- Seal up entry points in homes to keep rodents out
- Avoid rodent droppings
- Use spring-loaded rodent traps and EPA registered bait continuously to kill rodents, if rodent infestation is present
- Eliminate possible nesting sites such as junk cars, old tires, and trash piles

Recommended Actions for Government – Hantavirus Prevention

- Expand educational outreach to potential endemic areas such as the East Mountains and foothills including but not limited to website development
- Network with the University of New Mexico, New Mexico Department of Health, and the New Mexico Environment Department to stay current on the status of hantavirus in New Mexico and on the latest research technology
- Provide training to health care providers on the detection and prevention of hantavirus

Policy Implication

- As hantavirus affects other parts of the state, more active surveillance must be implemented to keep Albuquerque and Bernalillo County free of this disease.

Encephalitis

Mosquitoes are not only annoying, but they also carry diseases such as St. Louis and Western Equine Encephalitis, two diseases that have been documented in Bernalillo County. Migratory birds are sometimes also responsible for the spread of encephalitis. Adult mosquitoes that feed on infected birds and then bite humans are responsible for the spread of encephalitis to the human population.

The potential for disease transmission increases as the mosquito population increases. Stagnant water in ditches and backyard fish ponds, as well as artificial containers (e.g. discarded tires, cans, bottles) are breeding sites for mosquitoes. Symptoms of encephalitis include headache, stiff neck, confusion, nausea and/or vomiting.

Indicators for Encephalitis

Larval surveillance data show that Bernalillo County has not had any recent cases of encephalitis. Because mosquitoes in the larval or adolescent stage are confined to water, they are less mobile and more accessible for elimination than are adult mosquitoes. In 1999, 145 larval sites were surveyed and sprayed each week. This increased to 155 sites last year. In 1999 and 2000, 7100 and 8500 adult mosquitoes, respectively, were collected in surveillance efforts. This type of surveillance effort guides control measures to prevent larvae from developing into adult mosquitoes and reduces the potential for mosquito-borne disease transmission.

What's in Place for Encephalitis?

- The Vector Control Program has implemented a county wide integrated mosquito control program to control mosquito populations and to prevent the transmission of disease.
- The Program uses surveillance for collecting and identifying specimens to be tested for St. Louis and Western Equine Encephalitis.

- A regional task force has been formed with New Mexico, West Texas, Arizona and Juarez, Mexico to strategically implement mosquito surveillance.
- The Vector Control Program provides educational messages to public schools, neighborhood associations and public officials.
- The Vector Control Program collaborates with local veterinarians regarding encephalitis vaccination protocol.

Contacts

City of Albuquerque Environmental Health Department, Environmental Services, 768-2600

Data Sources

City of Albuquerque Environmental Health Department, Environmental Services

For Further Information

City of Albuquerque Webpages: www.cabq.gov/enservices/esmosquitoes.html and www.cabq.gov/enservices/esplague.html

Recommended Actions for Community – Encephalitis

- Eliminate standing water
- Eliminate containers where water collects
- Avoid over watering property
- Utilize mosquito-eating fish in existing ponds
- Utilize xeriscaping to landscape
- Clean ponds, birdbaths, and livestock watering areas regularly

Recommended Actions for Government – Encephalitis

Continue to:

- Expand encephalitis surveillance
- Develop local capacity for vector-borne disease testing and prevention
- Provide community outreach and education on encephalitis

Environmental Health Technician applying larvacide to a mosquito-breeding site.

CONCLUSION

Through an effective collaborative process, the Advisory Committee has developed an important educational tool. The Albuquerque/Bernalillo County Environmental Health Report Card inform community members and policy makers of local environmental health conditions and can facilitate environmental health policy development. Collectively, the information presented in this Report Card paints a comprehensive picture of environmental health conditions for Albuquerque and Bernalillo County. Through the use of local indicators, the content of this Report Card can serve as an educational opportunity to promote positive changes in environmental health conditions for our community.

From a public health perspective, the generally positive news reflected in the Report Card merits applause, as it recognizes local environmental health efforts and initiatives. Without continued effort by both the government and community members, the current positive environmental health conditions and status could change and become a cause for concern.

While much of the information in the Report Card is positive, several areas of concern are also highlighted. To address the identified areas of concern, supportive policies and vigilant monitoring are necessary. Appropriate actions, as suggested by the recommendations presented in the Report Card, are initial steps that can help to reverse the negative trends and areas of concern.

It is important to note that while the selected local indicators are appropriate and informative, they are far from exhaustive. Other indicators were recommended and could have been used to the capture the status of the seven selected environmental health issues, but no appropriate data were available.

Future Steps

In the process of developing this Report Card, the Advisory Committee's greatest challenge was collecting data to support the selected environmental health indicators. This experience led to the formation of a data subcommittee. This subcommittee convened its first meeting during the Report Card process and outlined plans for developing a health-tracking network, which will enable city, county and state staff to share public and environmental health information. Indicator data found in this Report Card will serve as the foundation for the health-tracking network. The collaborative relationships formed during the Report Card process will prove beneficial in implementing plans to develop and maintain the health-tracking network.

Finally, in looking to the future, we hope that this Report Card is updated every two to five years. This document is an initial community education endeavor that can help promote positive environmental health changes in our community. It is the hope of the Advisory Committee that community members, citizen groups, and local government communicate this information widely and explore ways to implement the listed recommended actions. In addition, the Advisory Committee encourages readers to take a moment to complete the feedback card. Your comments and suggestions will greatly enhance future editions of the Albuquerque/Bernalillo County Environmental Health Report Card. ■

GLOSSARY

Benchmark: A point of reference or a standard against which measurements can be compared; sometimes a goal or a target.

Convenience Centers/Transfer Stations: Designated locations where residents can drop-off municipal solid waste.

Criteria Air Pollutants: The 1970 amendments to the Clean Air Act required EPA to set National Ambient Air Quality Standards (NAAQS) for certain pollutants known to be hazardous to human health. EPA has set standards to protect human health and welfare for six pollutants: ozone, carbon monoxide, total suspended particulates, sulfur dioxide, lead and nitrogen oxides.

Cross-Contamination: The transfer of germs from one food item to another. This commonly occurs when germs from raw meat or poultry are transferred to a cooked or ready-to-eat food via contaminated hands, equipment or utensils. For example, bacteria from raw chicken can be transferred to a ready-to-eat food such as lettuce or tomato when the same cutting board is used without being washed between foods.

Environmental Health: Focuses on the health interrelationships between people and their environment, promotes human health and well being, and fosters a safe and healthful environment (source: PACE-EH 2000, NACCHO).

Endemic: Restricted or specific to a particular location or region, usually related to the outbreak of a disease.

Exposure: Human contact with environmental contaminants or concentrations of contaminants in food, water, and/or air.

Geographic Information System: Combines layers of information about a geographic location to visualize, manipulate, analyze and display spatial data. The information is usually displayed on color-coded maps.

Indicators: Tools that reflect the status of a system and quantify, through direct or indirect measures, a significant aspect of an environmental health issue. They can be used to assess and communicate the status of and trends in overall environmental health. For example, the number of complaints reported to the Air Quality Division is an indicator of air quality.

Issue: An environmental health topic being discussed (i.e., water quality, food safety, etc).

Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water.

Surveillance: The ongoing collection, analysis, and interpretation of data for use in the planning implementation, and evaluation of disease prevention efforts. May be either proactive or reactive.

Surveillance (proactive): A surveillance system that is designed to detect a potential disease outbreak before it actually happens.

Surveillance (reactive): A surveillance system that is designed to be readily responsive to disease outbreaks.

Recharge: Moisture filtering downward from the surface or seepage from a lake or stream to restore the water level in an aquifer.

Design: Paul Akmajian

University of New Mexico School of Medicine
Center for Community Partnerships

W.K. KELLOGG FOUNDATION
Community Voices

(Funding provided by Kellogg Community Voices, REF# P0060131).

Bernalillo County Environmental Health Department
600 Second Street. Suite 500
Albuquerque, NM 87102

(505)-924-3650

www.bernco.gov
(navigate to environmental health)

City of Albuquerque Environmental Health Department
P.O. Box 1293
Albuquerque, NM 87103

(505)-768-2600

www.cabq.gov/envhealth/index.html