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SAB Science Integration for Decision Making Fact Finding Interviews
EPA Region 8
December 15, 2009

SAB Committee on Science Integration for Decision Making
Visit to EPA Region 8
Tuesday, December 15, 2009
Sagebrush Conference Room
Schedule

10:00 a.m. **Interview with Region 8 Scientific and Technical Staff**

EPA Region 8 participants will include regional scientific and technical staff from regional programs which include: indoor air, toxics and transportation; groundwater; water quality monitoring and assessment; pollution prevention and toxics; solid and hazardous waste; and watersheds and aquifers.

11:30 a.m. **Lunch**

1:00 p.m. **Interview with Region 8 Managers**

EPA Region 8 participants will include a manager from the Office of Ecosystems Protection and Remediation and a manager from the Office of Technical and Management Services.

2:30 p.m. **Break**

3:00 p.m. **Interview with Acting Regional Administrator, Carol Rushin**

3:45 p.m. **Adjourn**

Directions and Visitor Information

The EPA Region 8 office is at 1595 Wynkoop Street, along the 16th Street Mall in downtown Denver. The building is located adjacent to Union Station and across from the Tattered Cover bookstore.

Visitors to EPA's regional office must show identification and pass through security screening at the building entrance

Region 8 Organization

The EPA Region 8 Office, located in Denver, Colorado, is headed by an Acting Regional Administrator. The Region 8 Acting Regional Administrator, Carol Rushin, reports directly to EPA Administrator Lisa Jackson, located at EPA Headquarters in Washington, DC.

Seven multiprogrammatic Offices within the Region are directed by an Assistant Regional Administrator (ARA) or Office Director, who each report directly to the RA and Deputy Regional Administrator (DRA). The organization structure is shown below.

Mike Shanahan Chief of Staff	**Acting Regional Administrator** Carol Rushin	**Regional Counsel** W. Robert Ward Peter Ornstein Deputy Regional Counsel
Patti Tyler Science Advisor	**Acting Deputy Regional Administrator** Mike Gaydosh	Nat Miullo Revitalization Coordinator
David Hogle Energy Advisor		Jennifer Meints Agriculture Coordinator
Montana Operations Office Julie Dalsoglio Acting Director	**Communications & Public Involvement** Larry Grandison Director	**Technical & Management Services** Judy Wong Assistant Regional Administrator Paula Smith Deputy ARA
Ecosystems Protection & Remediation Carol Campbell Assistant Regional Administrator Martin Hestmark Deputy ARA	**Enforcement, Compliance & Environmental Justice** Eddie Sierra Acting Assistant Regional Administrator Sharon Kercher Acting Deputy ARA	**Partnerships & Regulatory Assistance** Steve Tuber Assistant Regional Administrator Debra Thomas Deputy ARA

SAB Science Integration for Decision Making Fact-Finding Interview
With Scientific Staff, EPA Region 8
1595 Wynkoop Street, Denver, Colorado
Sagebrush Room
Call-in Number: 866-299-3188, access code 343-9981 and press the # sign
December 15, 2009, 10:00 - 11:30 a.m.
Draft Agenda

Purpose of Interview: to help SAB Committee members learn about Region 8's current and recent experience with science integration supporting EPA decision making so that the SAB can develop advice to support and/or strengthen Agency science integration efforts.

1. Introductions facilitated by the SAB Staff Office
   - Practices for integrating science to support decision making
   - Consideration of public, stakeholder, external scientific, and other input in science assessment
   - Drivers and impediments to implementing past recommendations for science integration
   - Ways program receives feedback on how science is used in decision-making
   - Workforce to support science integration for decision making
2. Discussion facilitated by SAB Members
3. Identification of any follow-up actions

Planned participants

EPA Region 8

Mr. Bob Brobst, Environmental Engineer, Office of Partnerships & Regulatory Assistance, Wastewater Unit
Dr. Angelique Diaz, Environmental Engineer, Office of Partnerships & Regulatory Assistance, Indoor Air, Toxics & Transportation Unit Program
Dr. Susan Griffin, Senior Toxicologist, Office of Ecosystems Protection & Remediation, Technical Assistance Unit
Ms. Mary Goldade: Environmental Scientist, Office of Ecosystems Protection & Remediation, Technical Assistance Unit:
Mr. Karl Hermann, Water Quality Monitoring and Assessment Coordinator, Office of Ecosystems Protection & Remediation, Water Quality Unit
Ms. Marcella Hutchinson, Environmental Scientist, Office of Ecosystems Protection & Remediation, Watershed and Aquifer Protection Unit
Mr. Dan Jackson, UIC Program Energy Coordinator, Environmental Engineer, Office of Partnerships & Regulatory Assistance, Groundwater Unit
Dr. Kristen Keteles, Toxicologist, Office of Partnerships & Regulatory Assistance, Pollution Prevention, Pesticides and Toxics:
Steve Wharton, Risk Assessor, Office of Partnerships& Regulatory Assistance, Solid & Hazardous Waste Program:

SAB Committee on Science Integration Committee Members

Dr. Rogene Henderson, Lovelace Respiratory Research Laboratory
Dr. Catherine Kling, Iowa State University
Dr. Terry Daniel, University of Arizona (by telephone)

SAB Staff Office

Dr. Anthony Maciorowski, Associate Director
Dr. Angela Nugent, Designated Federal Officer

Biographies of
EPA Region 8 Science & Technical Staff

Bob Brobst, Environmental Engineer, Office of Partnerships & Regulatory Assistance, Wastewater Unit: Robert B. Brobst, P.E. is employed as an environmental engineer for the United States Environmental Protection Agency in Denver, CO, for the last 20 years. Currently his responsibilities include Regional Biosolids Program Manager, National Center of Excellence in Biosolids and member of EPA's Pathogen Equivalency Committee. Bob has conducted research in beneficial use of biosolids in the reclamation of arid lands and areas devastated by wildfires. He is currently in a Ph.D. program at Colorado State University, Department of Soils and Crop Sciences. He received a Masters of Science in Civil Engineering from University of Colorado-Denver in 1996, a Bachelor of Science in Engineering from Michigan Technological University, Houghton, MI in 1977 and a Bachelor of Science in Environmental Science from Lake Superior State University, Sault Ste. Marie MI in 1976. He is a registered Professional Engineer in Colorado and Wisconsin.

Angelique Diaz, PhD, Environmental Engineer, Office of Partnerships & Regulatory Assistance, Indoor Air, Toxics & Transportation Unit Program: Dr. Angelique Diaz joined EPA Region 8 in June 2008 as Environmental Engineer in the Air Program's radiation group. She has a B.S. in Chemical and Petroleum Refining Engineering from the Colorado School of Mines (CSM) in Golden, CO as well as a M.S. and Ph.D. in Environmental Science and Engineering from CSM. Dr. Diaz's dissertation topic is, "Biogeochemcial Cycling of Plutonium: Effect of Natural Organic Matter, Microbial Activity, and Time" where she studied the fate and transport behavior of plutonium under varying environmental conditions. Dr. Diaz has as diverse technical background which includes experience in the oil and gas industry, chemical processing, water and wastewater treatment, microbiology, geochemistry, nuclear science and applied radiochemistry. In Region 8, here current role is to implement the program that regulates radioactive air emissions from processes including uranium mining and milling and to provide radiological assistance to the region

Susan Griffin, PhD, DABT, Senior Toxicologist, Office of Ecosystems Protection & Remediation, Technical Assistance Unit: Dr. Griffin has completed several hundred human health baseline risk assessments for hazardous waste sites listed in the National Priority List and endangerment assessments for emergency response actions in Colorado, Utah, South and North Dakota, Montana, and Wyoming. These assessments examined contaminants such as inorganics, volatile organic compounds, PCBs, dioxins, asbestos, and mineral fibers from multiple media and exposure pathways. Educated and informed the communities at public meetings about the risks associated with these hazardous waste sites or emergency spills/fires/explosions, etc. Negotiated with regulated parties, and provided technical and policy information to public officials, special interest groups, and the media concerning these exposures and risks. Provided expert toxicological and risk assessment advice to EPA Legal Counsel and the Department of Justice on legally contentious Superfund sites and provided expert witness testimony for several cases. Designed and managed research investigations to obtain scientifically sound basis for Regional risk assessment activities. Examples include the bioavailability of lead and arsenic in soil from *in vivo* and *in vitro* models, and the conduct of medical screening studies (i.e., CT scans, chest X-rays) to evaluate exposure to erionite fibers. Actively involved in writing and developing national Superfund guidance documents, such as the Probabilistic Risk Assessment Guidance for Superfund, the Superfund Guidance for Inhalation Risk Assessment, the Guidance Manual for the Integrated Exposure Biokinetic Uptake Model, and developing chemical toxicity values for EPA's Integrated Risk Information System (IRIS) database as an IRIS consensus

reviewer. Provided expert toxicological, risk assessment and field sampling training and consultation for Health Canada, the U.S. State Department, U.S. AID and the Chilean Ministry of Mining in Canada, Romania, Republic of Georgia and Chile.

Mary Goldade: Environmental Scientist, Office of Ecosystems Protection & Remediation, Technical Assistance Unit: Mary is an environmental scientist and chemist providing technical support primarily in the area of sampling, analysis and data interpretation for the Superfund program. Mary has experience working in commercial analytical laboratories, consulting, and has worked as a chemist at EPA for 10 years.

Karl Hermann, Water Quality Monitoring and Assessment Coordinator, Office of Ecosystems Protection & Remediation, Water Quality Unit: EPA Region 8 Water Quality Monitoring and Assessment Coordinator since 1996; Ecosystem Initiative Coordinator, 1994 - 1996, University of Tennessee with the National Biological Service Cooperative; Project Scientist, 1989 - 1994, ManTech Environmental, contractor to EPA Office of Research and Development, Research Triangle Park, NC; PhD studies, North Carolina State University, Forestry, MS Colorado State University, Resource Economics.

Marcella Hutchinson, Environmental Scientist, Office of Ecosystems Protection & Remediation, Watershed and Aquifer Protection Unit: She is responsible for Watershed and Non Point Source programs for the State of Colorado. She has a Bachelor of Arts and a Master of Science, both in Geology, with a specialty I water-rock interaction chemistry, from the University of Colorado at Boulder. Ms. Hutchinson has worked in EPA's water programs for since 1996.

Dan Jackson, UIC Program Energy Coordinator, Environmental Engineer, Office of Partnerships & Regulatory Assistance, Groundwater Unit: Dan's work for the past eighteen years at the EPA has focused on protecting ground water from contamination by injection wells. At present, Dan is the Energy Coordinator and a UIC program expert in the Ground Water Unit's Underground Injection Control program.
Prior to his work as an Environmental Scientist at the EPA, Dan worked for over twelve years in the energy industry as a well site geologist, exploration geophysicist, and seismic data processor. Dan attended and earned a Bachelor of Science degree in Geology and Science from Bowling Green State University in 1976.

Kristen Keteles, PhD, Toxicologist, Office of Partnerships & Regulatory Assistance, Pollution Prevention, Pesticides and Toxics: Dr. Keteles came to EPA from the National Park Service (NPS) where she was a contaminants specialist and prior to that she was faculty in the Biology Department at University of Central Arkansas. Her expertise and background includes the fate and effects of contaminants of emerging concern and how biological and environmental factors influence the availability and toxicity of contaminants, important considerations for ecological and human health risk assessment. She has a Ph.D. in biology from Louisiana State University in Biology with an emphasis in Environmental Toxicology. She did a post doctoral research at the FBI Academy in Quantico, Virginia developing a method to detect biothreats in water and soil.

Steve Wharton, Risk Assessor, Office of Partnerships& Regulatory Assistance, Solid & Hazardous Waste Program: Steve is an environmental scientist specializing in systematics & ecology. His past positions include: RCRA Permit Writer, Superfund RPM, Ecological Risk Assessor. He is a past member (two terms) with ORD's Risk Assessment Forum and is Region 8's representative on the Dioxin Agency Review Committee.

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December 15, 2009, 1:00 - 2:30 p.m.
Draft Agenda

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3. Identification of any follow-up actions

Planned participants

EPA Region 8

Dr. Mark Burkhardt, Director of Golden Laboratory, Office of Technical and Management Services
Ms. Karen Hamilton, Chief of the Water Quality Unit, Office of Ecosystems Protection & Remediation.
Ms. Patti Tyler, Science Advisor and Science Liaison to ORD, Office of the Regional Administrator

SAB Committee on Science Integration Committee Members

Dr. Rogene Henderson, Lovelace Respiratory Research Laboratory
Dr. Catherine Kling, Iowa State University
Dr. Terry Daniel, University of Arizona (by telephone)

SAB Staff Office

Dr. Anthony Maciorowski, Associate Director
Dr. Angela Nugent, Designated Federal Officer

Region 8 Manager Biosketch

Mark Burkhardt, PhD, Director of Golden Laboratory, Office of Technical and Management Services: Dr. Burkhardt is responsible for all strategic, operational, and policy aspects (includes ethical, human resource initiatives diversity, leadership, and supervisory training initiatives, etc.), safety, scientific, business, method development, and data quality of the Organic, Inorganic, Radiochemistry, and Biological Programs. Manages approximately 15 trained analysts (FTE's, Contractors, and Students) ranging in educational backgrounds from high school diplomas to Ph.D.s. These trained analysts monitor environmental levels of organic, inorganic, and radiochemical containing chemicals in water, soil, and tissue samples using GC, LC, LC/MS/MS, GC/MS, and wet chemical techniques. The Biological Unit performs taxonomic evaluations of samples from around the United States in order to evaluate invertebrate populations, diversity, and as water quality indicators. The Chemical Services section performs approximately 250,000 individual determinations per year. The Laboratory management team is primarily responsible for the development of strategic plans, policies, and operations of the Laboratory and communicating these goals to the analysts and customers. This includes USGS, USEPA, and other national policy issues on items such as data quality objectives, significant figures, data deliverable formats, etc. The management team is also responsible for all scientific methods used in the all of the above-mentioned Programs and for the development of new ones. Our duties included generating and implementing balanced operating budgets, performing cost analyses of all aspects of the laboratory, hiring and evaluating employees, establishing and monitoring short-term and long-term goals, and setting prices for analytical services. They also make presentations, generated proposals, and performed joint venture evaluations. The Laboratory's operational expenditure is approximately 4 million dollars per year. Prior to joining EPA in January 2009, Mark worked for the USGS National Water Quality Laboratory for 19 years as a research chemist, analytical services section chief and organic program chief. Mark has a Ph.D. in analytical chemistry and a B.S. in chemistry and mathematics.

SAB Science Integration for Decision Making Fact-Finding Interview
With the Acting Regional Administrator, EPA Region 8
1595 Wynkoop Street, Denver, Colorado
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December 15, 2009, 3:00 - 4:30 p.m.
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EPA Region 8
Ms. Carol Rushin, Acting Regional Administrator

SAB Committee on Science Integration Committee Members
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Dr. Terry Daniel, University of Arizona (by telephone)

SAB Staff Office
Dr. Anthony Maciorowski, Associate Director
Dr. Angela Nugent, Designated Federal Officer

Carol Rushin Biosketch

Carol Rushin is the Acting Regional Administrator for Region 8. From January to June 2008, she was Deputy Regional Administrator or 'Chief Operating Officer,' for the Region, managing an organization of 770 employees, with an annual budget of approximately $320 million, with responsibility for environmental programs in six states and 27 Indian reservations.
From January 2007 through January 2008, Ms. Rushin was the Assistant Regional Administrator (ARA) for the Office of Ecosystems Protection and Remediation (EPR). The ARA for EPR position encompassed: (1) cleanup of sites contaminated with hazardous substances or oil, under CERCLA and the Clean Water Act, and restoration of areas to productive use, including remedial, removal, Federal Facilities and Brownfields programs; (2) watershed protection and restoration under the CWA and SDWA, including water quality standards, total maximum daily loads, nonpoint source, wetlands, and source water programs; (3) review and rating, under NEPA and CAA 309, of environmental impact statements prepared by other federal agencies regarding major federal actions, including energy, water supply, transportation and forest management projects; and (4) homeland security, including preparing, planning and training to respond to incidents of national significance that could involve releases of biological, industrial chemicals, chemical warfare agents or radiological material. As ARA for EPR, Ms. Rushin directed a staff of 182 and a budget of $198 million.

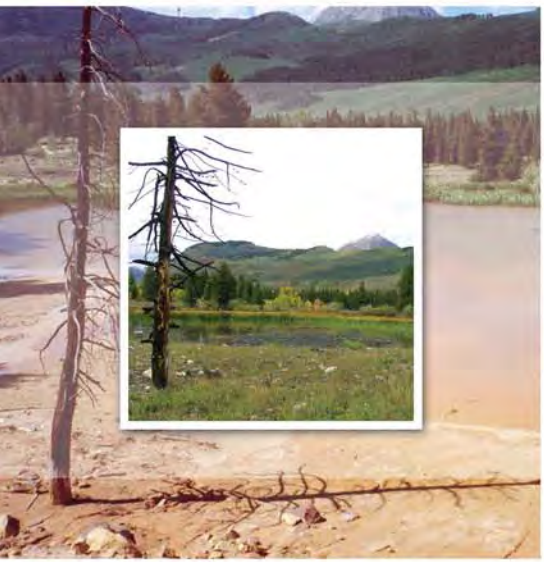
Prior to that, Ms. Rushin served for 11 years as the ARA for the Office of Enforcement, Compliance, and Environmental Justice in EPA, Region 8. Her office was a unique blend of both legal and technical staff who were responsible for: compliance monitoring, compliance assistance, civil enforcement actions, assisting on criminal enforcement actions, maintaining most national data systems for the Region, coordinating within the Region, and–with our state partners–enforcement planning and targeting, developing and supporting environmental justice activities in Region 8, and oversight of our delegated state enforcement programs including capacity building efforts where program deficiencies are noted. Ms. Rushin came to this position from EPA, Region 10, Seattle, Washington, where she held the positions of Associate Director of the Hazardous Waste Division, Acting Associate Regional Administrator for Alaska Operations Office, Chief of the Superfund Remedial Branch, Deputy of National Priorities List Operations, and a served on a detail to EPA Headquarters as the Acting CERCLA Compliance Branch Chief.

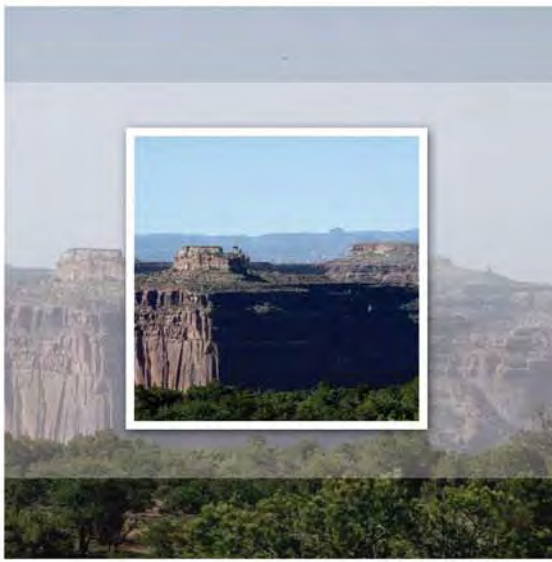
Prior to joining EPA in 1984, Ms. Rushin was sanitary engineer with the Washington State Department of Ecology. She also held a position as Supervisor of the Naval Blood Research Laboratory's Biochemistry Division.

She graduated magna cum laude in 1976 with a Bachelor's Degree in Biology from St. Lawrence University. She received her Master's Degree in 1983, from Harvard University School of Public Health with dual

A Legacy of Progress

Environmental Results in the Rocky Mountains and Plains Region 2001- 2008





Colorado | Montana | North Dakota | South Dakota | Utah | Wyoming | 27 Tribal Nations

908-R-08-0019

Welcome to EPA's Legacy Report, a summary of EPA's achievements in the Rocky Mountains and Plains since 2001.

EPA Region 8 — the Mountains and Plains region — encompasses some of the nation's most vibrant landscapes and communities. Over the past eight years, the 700 employees who work in our Denver headquarters, Golden, Colorado laboratory, and Helena, Montana field office have worked to maintain the integrity of those landscapes and communities by taking actions that protect human health and the environment.

We have done so in many ways -- some dramatic and well-publicized, some smaller, but no less meaningful. We have taken actions to control emissions from oil and gas production activities that protect air quality, human health and the vistas that define the West. We have made progress cleaning up some of the most dangerous hazardous waste sites in the nation and set them firmly on the path to productive reuse. We have leveraged enforcement agreements with companies that reduce pollution and provide a deterrent against future violations of environmental laws. We have cleaned up harmful emissions from school buses and have removed dangerous chemicals from schools. We have delivered safe drinking water to rural communities and farm worker camps and reduced exposure to toxics in environmental justice communities. These, and the projects included in this report, are representative of a long list of results-oriented successes.

This report is a testimony to the power of collaboration. While the EPA employees I have the privilege of working with are dedicated and skilled professionals, they will be the first to acknowledge that our Agency's success depends on the commitment of all the citizens, business owners, and partners in other agencies and organizations across our six states and 27 tribal nations. Without the efforts and commitment of many, none of the successes outlined in this report would have been possible.

Looking back at the past eight years, I have no doubt that we all have made significant progress in securing cleaner air, water and land. Today, more than ever, our success as an Agency depends on finding new ways to collaborate with citizens and partners. By working together, we will define the environmental progress we will celebrate tomorrow.

Carol Rushin
EPA Acting Regional Administrator
Denver, Colorado

EPA's Region 8 office works to protect human health and the environment in Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 sovereign tribal nations.

CONTENTS

Hazardous Waste Cleanups

SECTION 1

EPA has made progress on several large, high-profile hazardous waste sites since 2001. These successes include addressing threats to communities and ecosystems through Superfund, Brownfields and other programs.

EPA has reached several milestones in the Clark Fork River watershed, including the removal of the Milltown Dam. The breaching of the dam and removal of contaminated sediments is improving water quality and habitat for fish and wildlife.

Dismantling a Dam and Restoring a River

EPA has made remarkable progress restoring water quality and river habitat in the Clark Fork watershed in Montana — an area with a long history of pollution associated with hard-rock mining. One long-awaited milestone was achieved in 2008, with the dismantling of the Milltown Dam near Missoula. This dam had become a significant problem due to large amounts of metals from historic upstream mining activity that had accumulated in the reservoir and sediments. Over time, arsenic leached into the Milltown aquifer, polluting the local drinking water supply. In addition, copper would periodically scour from reservoir sediments and kill fish downstream of the dam.

On March 28, 2008, the Milltown Dam was officially breached, a big step in restoring the Clark Fork and Blackfoot Rivers to a natural and free-flowing state for the first time in 100 years. As of July 2008, more than one million tons of sediment have been removed from the former reservoir bed. Fish continue to move upstream in the water flowing through the former dam site.

Cleanup actions along the Clark Fork River are benefiting native trout and other species who depend on the river, such as the bald eagle and northern river otter.

EPA has also secured legal settlements that have made cleanup actions along the Clark Fork River possible. In 2005, the Atlantic Richfield Company and the NorthWestern Corporation agreed to complete the $100 million–plus cleanup of the Milltown Reservoir. In February 2008, EPA reached a separate $186 million agreement with Atlantic Richfield on the Clark Fork River site, an area covering more than 120 miles of the river contaminated with cadmium, arsenic, lead, copper and zinc. This cleanup will remove 167 acres of polluted soils, treat 700 acres of soil in place, establish 50-ft. wide riparian areas, replant native willows, dogwood and cottonwood, and stabilize 56 miles of stream bank against further erosion. Collectively, these actions are reviving an entire watershed and restoring a recreational and aesthetic amenity for the citizens of Montana.

Addressing a Health Crisis in a Montana Community

Since 2000, EPA has spent nearly $220 million on the cleanup of asbestos in and near the town of Libby, Montana, where the W.R. Grace Company operated a vermiculite mine and processing facilities from 1963 to 1990. Beginning in the late 1990s, news reports and site investigations revealed that the vermiculite ore was contaminated with a dangerous form of asbestos that causes lung cancer and mesothelioma, a lethal tumor of the lining of the chest and abdominal cavities. Libby Amphibole Asbestos has been found in homes, businesses and outdoor areas. The impacts to human health in the community have been significant.

To date, over 1,000 properties have been cleaned up, and 500,000 cubic yards of asbestos-contaminated soil have been removed. This work includes material from homes, yards, businesses, schools, the high school track and other sources. In June 2008, EPA and the Department of Health and Human Services announced an intensive $8 million research effort to study the specific health effects of Libby Amphibole Asbestos and inform future cleanup actions.

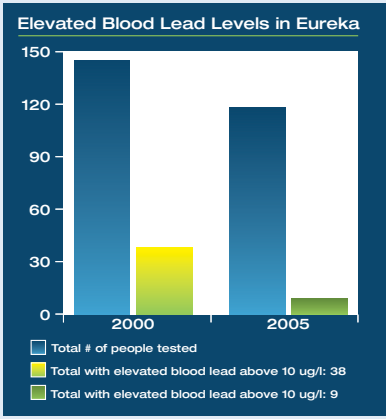
Removal of soils at a residence in Libby. EPA has addressed contamination at more than 1,000 properties.

EPA has been successful in pursuing the legal case against W.R. Grace. In March 2008, the company agreed to pay the government $250 million, the highest sum in the history of the Superfund program. This money will be used for future cleanup actions.

Reducing Lead Risks in Eureka

EPA has been addressing health and environmental concerns at the Eureka Mills Site, a former silver and gold mining area in Juab County, Utah, since 2002. The site includes extensive lead and arsenic contamination of properties in Eureka — population 800 — and adjacent mining areas. EPA has taken actions to cap large mine waste piles throughout the mining district and remove lead-contaminated soils at approximately 700 residential properties. The total cost for the nearly completed project will be $80 million.

Health concerns associated with lead exposure have driven EPA's cleanup goals at Eureka. In 2006, EPA began a program to sample tap water, household dust and paint for lead in homes. The results are providing residents with information about reducing potential lead exposures in the home.



Blood-lead levels in Eureka are decreasing. Follow-up testing has shown a steady decline in people with blood-lead levels above the Centers for Disease Control standard of 10 micrograms per deciliter (ug/l).

Safer Neighborhoods in NE Denver

An extensive lead-paint abatement program helped eliminate sources of exposure throughout NW Denver neighborhoods at the VB-I70 site

The investigation and cleanup of lead and arsenic in residential soils at the Vasquez Boulevard & I-70 site near downtown Denver was completed in August 2006 at a cost of $30 million. This residential soils project encompassed more than four square miles and approximately 4,500 properties. EPA took 30 soil samples at each of 4,315 residential yards and removed, replaced and re-landscaped yards at 761 contaminated properties. This effort included the removal of 91,000 cubic yards of soil and the installation of 1.5 million square feet of clean sod.

The "Most Dangerous Site in the Nation" Comes in Clean and Under Budget

For nearly 40 years, the U.S. government manufactured nuclear weapons components at the 6,500-acre Rocky Flats site northwest of Denver. In 1989, production was halted, leaving large portions of the site's structures, soils and groundwater contaminated with highly radioactive materials. EPA and its partners have taken steps to transform what was once notoriously considered one of the most contaminated places on earth. Removal actions included removing and safely disposing of 565,000 cubic meters of radioactive waste and 820,000 cubic meters of sanitary wastes. In July 2007, the Department of Energy transferred 4,000 acres of the Rocky Flats for use as a National Wildlife Refuge.

Demolition of the "most dangerous building" in America

EPA s partnership with the State of Colorado and the Department of Energy cleaned the Rocky Flats site at a cost of $7 billion — $30 billion under original estimates and 13 years ahead of schedule.

From Chemical Waste Dump to World-renowned Soccer Complex

The former Rocky Mountain Arsenal site encompasses 17,000 acres northeast of Denver that were used to manufacture chemical weapons and agricultural pesticides from 1942-1982. Waste disposal practices during these years resulted in extensive contamination of structures, soils, surface water, and groundwater with aldrin, dieldrin, dibromochloro-propane and arsenic.

EPA has achieved several significant goals at the Arsenal since 2001, including the transfer of over 13,000 acres of the 17,000 acre site for reuse. The Department of Defense transferred 12,000 acres that are now a wildlife refuge visited by over 30,000 people each year. The refuge is home to more than 330 species of wildlife, including the bald eagle and a buffalo herd that is thriving in the wetlands and short-grass prairie habitat. In 2004, 917 acres of the Arsenal site were transferred to Commerce City — this property houses a new city hall and the world's largest soccer complex.

Dick's Sporting Goods Park, a 20,000-seat stadium for the Colorado Rapids soccer club, is a symbolic centerpiece of the now revived Rocky Mountain Arsenal.

Former Defense Facilities Enjoy a Renaissance

Closed in 1994, the former Lowry Air Force Base is now a thriving urban mixed-use development.

EPA has worked with the Department of Defense and state agencies to secure the cleanup and redevelopment of several former military facilities in Region 8. Of the five Base Realignment and Closure sites in the region, four have transferred 100% of their property for redevelopment.

Since 2006, the redevelopment of the once-contaminated Lowry Air Force Base has included 3,500 homes and apartments for approximately 8,300 residents. Over 100 employers now call Lowry home, providing 7,000 jobs and adding 3.4 million square feet of commercial space to Denver's tax base. The City estimates that the redevelopment has provided an economic benefit of $5.7 billion.

1 Cleanup Programs in Action: Protecting the Poudre River From Coal Tar Waste

Tar sludge in riverbank

Installation of barrier wall

Aztlan Community Center

In 2003, the City of Fort Collins, Colorado, applied for an EPA Brownfields Assessment grant to investigate a property along the Poudre River – an important recreational amenity and fishery. The property, located close to downtown, was the site of a former landfill and a manufactured gas plant that operated from 1900 to 1930. A major byproduct from the plant's operation was coal tar, which over the course of several decades had migrated slowly in an underground plume to the river. Contaminants associated with both the landfill and the coal tar were identified in groundwater and in the river.

EPA was a partner in extensive cleanup activities at the site, which were completed in 2007. The remedy included removing contaminated sediment and bedrock from a 500-foot stretch of the Poudre River and building a permanent, underground barrier wall. The barrier wall system includes groundwater control wells, pumps and an on-site water treatment system that will prevent the coal tar from moving toward the river. Following the installation of the wall, EPA and partners restored the river channel and reintroduced native vegetation.

The property itself has been revitalized as a thriving asset. Today, the 19-acre property includes the Northside Aztlan Community Center, a United Way facility, a park, playground and bike path. The restoration of the site and the river provides public access to the river and is protecting recreational users, fish and wildlife habitat.

BY THE NUMBERS

Small Cleanup Grants Leverage Big Community Benefits

EPA s Brownfields program provides grants and loans that help communities revitalize blighted areas where environmental contamination is an obstacle preventing productive use. Results since 2001 include:

- 1,015 properties assessed
- 26 cleanups complete
- 854 acres ready for reuse
- 658 new jobs leveraged
- $296 million leveraged for cleanup and redevelopment

Partnerships and Collaboration

SECTION 2

EPA s success depends on building effective partnerships with government agencies, nonprofit organizations, businesses and citizens. Region 8 supports these partnerships with grants, technical expertise and other forms of assistance. Over the past eight years, these efforts have secured cleaner air and water resources, improved human health, and encouraged resource-saving practices.

Solar panels at Yellowstone.

The Pepsi Center

EPA s "greening" efforts are helping a diverse set of facilities. A partnership with Yellowstone National Park has leveraged significant energy savings and a nearly achieved goal of diverting 90 percent of the park's solid waste. The Pepsi Center's participation in EPA s Energy Star, Climate Leaders and Waste Wise programs has reduced waste volumes sent to landfills, cut annual energy consumption by 40,000 kilowatt hours, and reduced 8,000 tons of greenhouse gas emissions. The Pepsi Center now recycles 100 tons of cardboard annually and buys renewable energy certificates for power use.

Promoting Green Practices Through Voluntary Partnerships

Region 8 has taken a leadership role in helping other federal agencies and businesses reduce energy and water consumption, solid waste production, and toxic chemical use.

This includes helping the National Park Service reduce the impacts of providing services in some of our nation's most ecologically sensitive places. With EPA's assistance, Yellowstone National Park has developed a state-of-the-art environmental management system. Eighty percent of the waste generated by Yellowstone's 3.5 million annual visitors is now being recycled as part of the Park's "recycle on the go" campaign. This includes a model program to recycle disposable propane bottles. EPA is also helping Colorado's Great Sand Dunes National Park, an area with access to significant renewable geothermal and solar power. EPA has assisted with a greenhouse gas analysis and emission reduction plan to help Great Sand Dunes become the nation's first carbon-neutral park.

Region 8 is also helping Colorado businesses adopt green practices. A recent effort with Denver's 19,000-seat Pepsi Center has bolstered the facility's "Play Clean" program — a comprehensive commitment to energy and water conservation, green products procurement, resource conservation and recycling, reduced use of toxics, and transportation. Highlights include a 10-kilowatt solar array installed on the roof that produces 13,000 kilowatt-hours of energy annually and a recycling effort that diverts 20,000 pounds of material from landfills each year.

Advancing "Good Samaritan" Mine Cleanups

EPA has made steady progress promoting the cleanup of abandoned mines that contribute to water quality degradation throughout the Rocky Mountains. Over the past years, Region 8 has been a leader in using grant programs and new partnerships to assess and cleanup mines and has advanced a framework for liability relief that encourages "Good Samaritans" to take on cleanup activities.

Acid mine drainage near Utah's American Fork River.

In one example, EPA's collaboration with U.S. Forest Service and Trout Unlimited led to the restoration of a stretch of the American Fork River in Utah. This effort removed contaminated mine tailings near the river and restored several acres of public and private land. Following an initial removal of waste from public lands, Trout Unlimited, in partnership with Snowbird Ski Resort and the Tiffany & Co. Foundation, removed 33,000 cubic yards of waste rock and tailings with elevated levels of heavy metals at mines on private property. These wastes are now safely encapsulated in a permanent repository. As a result of these actions, water quality is protected and the river now supports a rare, native cutthroat trout in a 10-mile stretch downstream of the mine site.

Addressing Air Deposition in Rocky Mountain National Park

Alpine wallflower in Rocky Mountain National Park. EPA is working with partners to assess and respond to nitrogen deposition in the Park. Water quality changes, fewer tundra wildflowers and spruce tree vulnerability to drought and insects are among the impacts being studied.

EPA Region 8, the Colorado Department of Public Health and Environment, and the National Park Service are implementing an innovative project to address air quality issues and nitrogen deposition in Rocky Mountain National Park. EPA's involvement has helped establish a consensus-based strategy to evaluate and solve the problem. This includes developing scientific data and building agreement on levels of acceptable deposition and interim goals to drive an adaptive management response.

Encouraging Safer Alternatives to Pesticides

EPA's Strategic Agriculture Initiative is helping agricultural producers transition from using higher risk pesticides to sustainable, reduced-risk practices such as biological pesticides, advanced pest monitoring, and other integrated pest management practices. Since 2002, the initiative has funded 23 projects totaling $850,000 and helped implement reduced-risk pest management strategies on over 500,000 acres of farmland and rangeland.

Ridding Schools of Toxic Chemicals

EPA Region 8 continues to work with schools in Indian Country to clean out hazardous and toxic chemicals from school laboratories, utility and storage areas, and other sources. These include laboratory chemicals, old paints, used oil, pesticides and landscaping products and other potentially hazardous substances. Chemicals include corrosives, flammables, and suspected and known carcinogens like ammonium hydroxide, hydrochloric and sulfuric acid, methanol, hexane, mercury, formaldehyde, and potentially toxic vapors like ammonia and cyanide compounds.

To date, 50,000 pounds of hazardous chemicals have been removed and safely disposed at 119 schools in Region 8.

Cleaning Up Sick Buildings in Fort Totten

In 2005, EPA provided the Spirit Lake Tribe with an $800,000 Brownfields cleanup grant to target several hazardous buildings in Fort Totten, North Dakota. These funds are being used to dispose of asbestos, lead-based paint, and other sources of contamination at approximately 20 homes, the Old Fort Totten Hospital, the Old Fort Totten Community Center and the Saint Michaels Mission School. EPA's Brownfields job training program resulted in the successful hire of tribal graduates to conduct the specialized cleanup work that is restoring these buildings for eventual reuse.

The Old Fort Totten Hospital — one of several contaminated buildings targeted for cleanup by the Spirit Lake Tribe.

Building a Green Luxury Resort in Park City

EPA s agreement with DV Luxury Resort has secured a mine site cleanup and the construction of a LEED-certified Silver ski resort complex.

In 2007, EPA, local officials, and DV Luxury Resort kicked off the first "Environmentally Responsible Redevelopment and Reuse" program project in the nation in Park City, Utah. The project involves the construction of a luxury hotel, spa and condominium complex at the Daly West Mine Site. DV Luxury Resort is contributing to the cleanup of contamination at the former mine site and will incorporate extensive sustainable features into the design, construction and operation of the resort.

Specific features include a conservation easement for 2,800 acres of open space in Park City, the application of energy and water-saving features in the resort's design, recycling of unused building materials, use of sustainable exterior building materials, use of a constructed wetland to treat runoff, the use of native vegetation, the purchase of wind-generated power, the implementation of indoor air quality performance standards, and the use of chlorine alternatives for disinfecting pools and spas.

Harnessing Landfill Gas to Power Homes in Salt Lake City

In 2006, EPA and partners launched the Salt Lake Valley Landfill Gas Energy Project, a clean-energy effort that is bringing power to homes in Utah. This project captures landfill gas from the Salt Lake Valley Solid Waste Management Facility and uses it to power three reciprocating engines that produce three megawatts of clean power — enough electricity to power over 2,500 homes in Murray City. EPA's Landfill Methane Outreach Partnership prevents emissions of methane, a greenhouse gas, and develops clean power sources through landfill gas energy projects.

Advancing Environmental Protection Through Tribal Delegations

Members of the Northern Cheyenne Tribe and the Tongue River. In 2006, the Northern Cheyenne assumed responsibility for setting and managing water quality standards in Reservation waters. EPA Region 8 encourages and assists Tribes in developing the capacity to manage environmental programs.

EPA continues to strengthen tribal sovereignty and improve environmental protection by delegating key environmental responsibilities to tribes. Since 2005, EPA has approved the Northern Cheyenne (Wyoming) and Ute Mountain Ute (Colorado) applications for Treatment in a Manner Similar to a State for purposes of establishing water quality standards and issuing water quality certifications under the Clean Water Act. In 2008, EPA proposed approval of the Fort Peck (Montana) Tribes' Class II Underground Injection Control program, a step that would give the tribe the responsibility for controlling underground discharges from oil and gas operations. If approved later this year, Fort Peck will be the first tribal government in the nation to implement its own UIC program.

Improving Watershed Health

A farmer takes a catch cup sample to assess irrigation needs and reduce runoff to Utah's Upper Sevier River.

EPA supports water quality protection by funding large, multi-year watershed projects throughout Region 8. In recent years, EPA has provided grants to Colorado's South Platte River, Montana's Clark Fork-Pend Orielle watershed, and Utah's Bear River and Sevier River.

In 2003, EPA awarded the Coalition for the Upper South Platte River $600,000 to enhance fire recovery and restoration, protect streams and wetlands, and promote volunteer cleanup efforts following the Hayman Fire — one of the largest forest fires in Western history. The grant has helped revegetate critical areas, reduce runoff and erosion, and improve water quality and fisheries throughout the watershed. These activities have also protected a primary drinking water source and water treatment facilities that serve hundreds of thousands of residents and businesses in the Denver area.

In 2005, EPA awarded $600,000 for water quality improvement efforts in Utah's Upper Sevier River watershed. This grant, managed by the Utah Department of Environmental Quality, is reducing sediment and nutrient pollution and establishing a Blue Ribbon trout fishery by restoring impacted river reaches and encouraging the use of more efficient irrigation and grazing practices. The ongoing project is improving stream channel condition and restoring habitat in 24 miles of river.

Saving Money and Preventing Air Pollution through Energy Star

Region 8's Energy Star-labeled buildings leverage significant pollution reductions and cost savings.

- 210 buildings
- 37 million square feet of floor space
- $26 million in energy cost savings annually
- 704 million pounds of greenhouse gas emissions reduced annually

EPA's Energy Star program continues to help buildings and facilities improve energy efficiency and reduce air pollutant emissions throughout Region 8. As of 2007, more than 200 buildings representing 37 million square feet of floor space in Region 8 have earned the Energy Star for steps facility managers have taken to reduce energy use through improvements to lighting, building design features, operational adjustments, HVAC efficiency, and other measures. EPA's Energy Star program has rated more than 3,000 buildings in the Region, providing a benchmark for facility managers investing in energy efficiency improvements.

Improving Solid Waste Management in Indian Country

EPA s collaboration with the Indian Health Service and other federal partners has led to improved solid waste management, including the cleanup of dozens of hazardous open dumps, in reservations throughout North and South Dakota. This $1.3M waste transfer station was built at Spirit Lake in 2008.

More than 400 open dumps contribute to environmental and public health issues on Region 8 Tribal lands. EPA Region 8 is addressing this pressing issue by providing financial and technical resources to build self-sustaining solid waste utilities. Recent successes have been leveraged through solid waste circuit riders that help secure waste management training, environmental assessments and cleanup actions, and infrastructure and equipment – such as collection trucks, dumpsters, roll-offs, recycling equipment and garbage carts.

In one recent example, EPA worked with the Indian Health Service, the U.S. Department of Agriculture's Rural Development Agency and the Bureau of Indian Affairs to build a solid waste program at the Turtle Mountain Reservation in North Dakota. The partnership has successfully closed an open dump, built a waste transfer station, constructed a landfill for construction and demolition materials and cleaned up 20,000 tons of waste.

Enforcement, Compliance Assistance, Environmental Justice Actions

SECTION 3

EPA enforcement actions ensure compliance with federal laws and improve environmental quality. Over the past eight years, EPA Region 8 actions have prevented hundreds of millions of pounds of pollutants from reaching our land, air and water and secured millions of dollars in pollution control investments. In 2007 alone, Region 8 actions led to more than 28 million pounds of pollutant reductions, cleaned up nearly 100 million cubic yards of contaminated soil and water, and compelled regulated parties to spend $20 million in control and cleanup activities.

Utah's picturesque and ecologically rich Uinta Basin is benefiting from recently negotiated controls at gas operations in Utah and Colorado.

Reducing Emissions at Colorado and Utah Natural Gas Facilities

In 2007, EPA and the Department of Justice reached a precedent-setting Clean Air Act settlement with Kerr-McGee Corporation to reduce harmful emissions and conserve natural gas at production facilities across Utah and Colorado. Kerr-McGee will spend $18 million on control measures and operational improvements that are expected to reduce annual emissions of air pollutants by more than 5,500 tons per year. The agreement also required the company to pay a $200,000 penalty and spend $250,000 on a project to reduce dust emissions from company service roads in Utah and an effort to retire polluting cars and trucks in the Denver area.

The total expected annual emission reductions from the pollution controls and environmental projects include 1,750 tons of nitrogen oxides, 1,156 tons of carbon monoxide, 686 tons of sulfur dioxide, and 2,195 tons of volatile organic compounds. The action will save enough natural gas to heat 7,200 homes per year and reduce the impact on climate change equivalent to the planting of more than 60,000 trees. The efficiencies achieved by these controls will also bring more gas to market. Kerr-McGee's fields will return an estimated 456 million standard cubic feet of natural gas to the marketplace in the first year following implementation of pollution control measures.

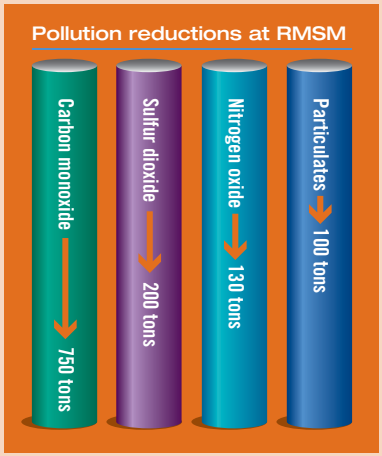
Protecting Wetlands in NW Montana

The Gallatin River. Wetlands play an important role in the watershed by providing wildlife habitat, absorbing flood runoff, filtering pollution and protecting downstream riparian areas.

Over the past several years, EPA has conducted a series of Clean Water Act wetlands enforcement actions in the Gallatin River watershed in Montana. In August 2004, the Yellowstone Mountain Club, a residential and recreational development near Big Sky, was fined $1.8 million by EPA for 60 unpermitted construction activities, the largest ever in a wetlands case. Violations consisted of dumping fill or dredged mud into federally protected wetlands and streams in the Gallatin River, causing serious erosion and deep gullies. The settlement also required wetland restoration and mitigation projects covering 6.5 acres.

In 2005, EPA reached a settlement with the Lone Moose Meadows development that included a $165,000 penalty and restoration work after the developers destroyed wetlands while building a ski-in/ski-out village. Dredged fill mud was discharged into wetlands near the Gallatin River, culverts and a sewer line were installed in wetlands, and two bridges were built across the river — all without permits.

Cutting Pollution at Rocky Mountain Steel Mills, Pueblo, Colorado



In April 2003, EPA reached an agreement with Rocky Mountain Steel Mills to invest $25 million to modernize its Pueblo, Colo., facility and pay a $450,000 penalty. The mill installed upgrades and pollution control equipment which have cut air pollution by approximately 50 percent. More than 750 tons of carbon monoxide, 200 tons of sulfur dioxide and 130 tons of nitrogen oxide emissions have been reduced annually. Annual reductions of particulate matter emissions are about 100 tons, including 800 pounds of lead. The company has since spent another $435,000 on community projects focused on addressing lead risks in homes, providing outreach on asthma and other childrens health issues.

Protecting Agricultural Workers in Colorado

In 2003, EPA issued administrative complaints against five Colorado growers for violations of the Federal Insecticide, Fungicide, and Rodenticide Act Worker Protection Standard (WPS), a regulation that requires actions that reduce the risk of pesticide poisonings and injuries to agricultural workers and pesticide handlers. The complaints included more than 220 violations at Colorado's David Petrocco Farms and proposed the largest federal WPS misuse penalty in EPA history. In 2005, a judge issued a decision against Petrocco representing an important precedent and deterrent against future WPS violations.

Cleaning up Groundwater at Utah's Bingham Canyon Mine

In 2007, EPA and the State of Utah reached a $197 million settlement with Kennecott Utah Copper Corp. to clean up an aquifer contaminated by mining activities at the mammoth, open-pit Bingham Canyon Mine. The agreement requires Kennecott to treat a 20-square mile groundwater plume contaminated with high concentrations of sulfates and metals. Under the agreement, the company must extract and monitor groundwater to reduce pollution levels and prevent the plume from moving. The company will also prevent recontamination by intercepting and containing source area waters and maintaining a system to prevent leaks into the aquifer.

The Bingham Canyon mine, one of the largest man-made excavations on earth, has produced nearly 20 million tons of copper and other metals since 1903.

Improving Human Health in Environmental Justice Communities

EPA s mobile lab provides drinking water information and test kits in the largely Hispanic San Luis Valley. Of 400 households participating, more than 70% have taken steps to treat their drinking water.

Region 8 has implemented targeted efforts to improve human health conditions in environmental justice communities. The EJ program has developed several effective partnerships focused on drinking water, exposure to lead and toxics, air quality and other issues.

In 2006, EPA's San Luis Valley Drinking Water Well project provided free sampling and analysis of drinking water from private household wells in an agricultural area in southern Colorado. About 30% of San Luis Valley area residents obtain their water from these household wells and are not served by regulated public water systems, making them more at risk for drinking water-related health issues.

EPA's initial testing in the San Luis Valley revealed that nearly 1/3 of household wells were positive for bacteria. Other contaminants detected included arsenic, uranium, fluoride, nitrates and lead. Participants with positive bacteria test results were shown how to apply a simple shock-chlorination technique to make their drinking water safe. Residents were also given information on point-of-use treatment systems, such as reverse osmosis, that remove other potential contaminants.

Reducing Pollution from Power Plants

EPA Region 8 has reached several significant Clean Air Act settlements with power plants that reduce emissions and secure environmentally beneficial projects. In 2006, EPA concluded a settlement with Minnkota Power and Square Butte Electric to control pollution at the M.R. Young Station – a power plant that ranked second in the nation for nitrogen oxide pollutants. The agreement, the first New Source Review settlement with power utilities in the western United States, is reducing sulfur dioxide emissions by 23,000 tons per year and nitrogen oxide emissions by nearly 10,000 tons per year. Pollution control measures at the plant cost $100 million and the utilities are also providing $5 million for renewable energy projects.

The M.R. Young Power Station in North Dakota has spent $100 million on controls that are reducing air emissions by more than 33,000 tons per year.

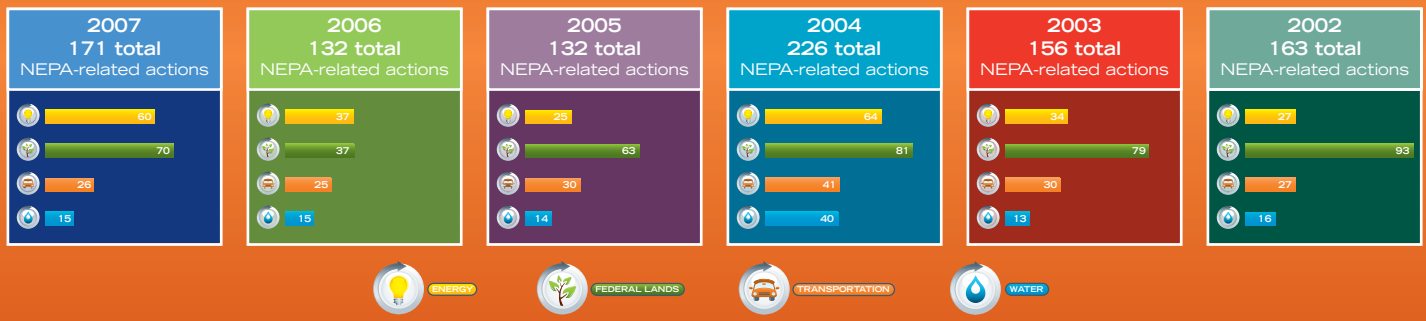
Providing Compliance Assistance to Governments and Businesses

EPA Region 8 has initiated several successful efforts to increase compliance with federal environmental laws and protect human and environmental health. This compliance assistance includes visits, phone calls, workshops and written materials that provide detailed guidance to thousands of regulated entities each year. In 2007 alone, half of the 4,888 regulated entities provided assistance took some steps to improve compliance. Highlights over the past several years include a 2003 effort to reach more than 6,000 regulated entities with information on Clean Water Act oil pollution compliance. In 2004, the Region implemented integrated strategies for the Auto Service and Local Government sector areas. More recent activities have focused on Tribal Schools and Clean Water Act stormwater regulations.

BY THE NUMBERS

Securing Environmental Results under NEPA

Since 2001, EPA Region 8 has reviewed more than 1,000 federal actions under the National Environmental Policy Act. These reviews ensure the disclosure and mitigation of significant environmental impacts associated with energy development, water diversions and reservoirs, forest management activities, highways and roads, and other federal projects with the potential to impact the environment.



A New Highway and Nature Preserve Near Salt Lake City

EPA helped identify an environmentally preferable alternative for the Legacy Parkway that protected 900 acres of wetlands and created a nature preserve.

In 2001, the Federal Highway Administration and the Utah Division of Transportation developed an Environmental Impact Statement for a proposed highway near Salt Lake City. Though designed to alleviate congestion along the growing Wasatch Front, the original proposal presented major impacts to ecologically valuable wetlands adjacent to the Great Salt Lake. EPA's involvement led to a 2005 decision to route the highway in a way that minimized impacts to wetlands and created a 2,100-acre preserve. This area is now preserved in perpetuity, and the highway is scheduled to open in the fall of 2008.

Reducing Emissions in Wyoming's Jonah Gas Field

In 2005, EPA's review of the Jonah Infill gas development project in central Wyoming led to mitigation measures to protect air quality in a pristine wilderness area just north of the gas field. EPA worked closely with BLM and the Wyoming Department of Environmental Quality to develop a strategy to reduce projected pollution emissions by 80% and minimize visibility impacts in the Class I Bridger Wilderness. These measures include pacing gas development over time and reducing emissions from diesel-powered drilling rigs.

EPA s review of the Jonah Infill gas project led to measures to protect air quality in the community of Pinedale and the Bridger Wilderness.

Reducing Resource Use and Protecting Habitat in St. George, Utah

EPA's review of the Southern Corridor Highway project in St. George, Utah, led to measures that significantly reduced environmental impacts associated with the highway and related developments. EPA worked with the Federal Highway Administration and the Utah Department of Transportation to secure funding for a grant that helped plan a 26-acre mixed-use site adjacent to the new highway and the local airport. Results include a savings in water use, infrastructure costs, and energy, and the creation of open space. The plan also helped preserve habitat for several plants and animals, including two endangered plants.

U.S. EPA Region 8

1595 Wynkoop St.
Denver, Colorado 80202

On the Web:
www.epa.gov/region8

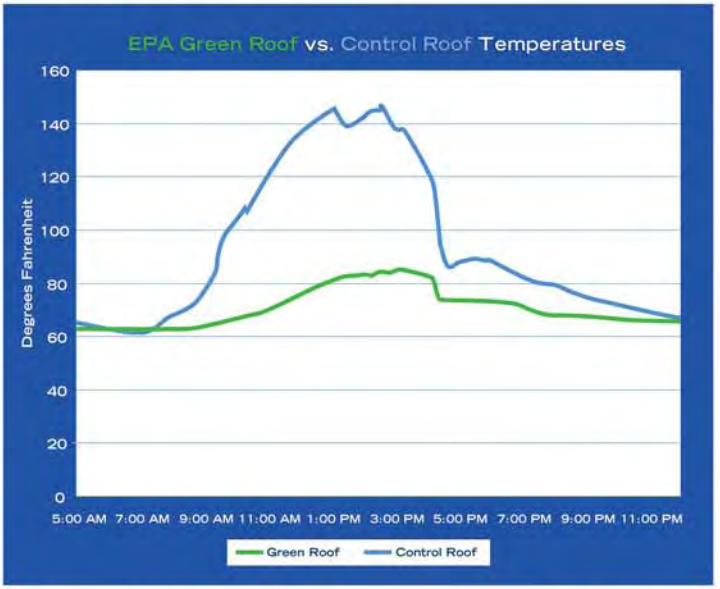
Phone: 800.227.8971
or 303.312.6312

EPA moved into a new headquarters at 1595 Wynkoop St. in January 2007. The building achieved a Gold Leadership in Energy and Environmental Design (LEED) certification, making it one of the "greenest" buildings in the United States.

The EPA building includes 292,000 square feet of office and commercial space and is located in the heart of Denver's growing public transit district. Opus Northwest developed the building is leasing the property to EPA through the U.S. General Services Administration.

EPA partnered with Opus and GSA to ensure the integration of green features in the building's design, construction and operating systems. Energy-saving features include a solar panel array, a nine-story atrium with reflective sails, and an innovative underfloor air delivery system for workspaces.

The building also employs exemplary resource conservation measures in other areas. High efficiency plumbing fixtures are reducing water use by nearly 50% compared to an average building. Recycled- content materials are used in everything from rugs, floors and furniture to counter-tops and work-station surfaces.



EPA's green roof uses native vegetation to manage and clean rain water, reduce heating and cooling costs, reduce urban heat island effects, and improve air quality by soaking up carbon dioxide, a greenhouse gas.

Region 8 Priorities

(the material below is excerpted from the Region 8 Web site http://www.epa.gov/region8/about/priorities.html)

Since EPA's creation in 1970, efforts to implement and enforce environmental laws have achieved remarkable success protecting human health and the environment. By many standards, air is cleaner, water is purer, drinking water and food are safer, and land is better protected - both nationally and in Region 8.

Still, persistent problems remain and new challenges are emerging. Ozone is becoming a problem in some of our most populated areas. Runoff from mines, farms and urban areas remains a stubborn source of water pollution. Energy development activities pose potential threats to water quality and ecosystems. These are just some examples.

While there is important work to be done in many areas, Region 8 has identified six priorities that we will focus on with our state and tribal partners. Collectively, these priorities reflect the context in which we will work to achieve and maintain cleaner air, purer water, and better protected land and ecosystems in upcoming years.

Regional Priorities

- Agriculture
- Climate Change
- Direct Implementation of Environmental Programs
- Energy
- Homeland Security
- Revitalization
- Supporting State Capacity
- Mercury

Agriculture

Agricultural activities represent the largest land use and the most widespread set of potential impacts on the environment in Region 8. Agriculture, and the industries it supports, is also one of the most important economic sectors for our states and tribes. With over half of Region 8's land area devoted to crop and livestock production, our ability to help and encourage ranchers and farmers practice environmental stewardship is critical.

EPA Region 8 will work in partnership with the agricultural community, other federal agencies, states, tribes, and others to help achieve continual environmental improvement and promote the sustainable production of safe, abundant supplies of food and fiber.

- Agricultural Pollution Prevention Resources (PDF, 6 pp, 27K; about PDF files)
- Air Quality Compliance Agreement for Animal Feeding Operations
  On January 21, 2005 EPA announced an air quality compliance agreement to address emissions from certain animal feeding operations, also known as AFOs.

The EPA Region 8 Agriculture Priority brings together agriculture-related state and federal members and producers of the six Region 8 states. Through regular meetings and outreach, Region 8 works closely with agriculture to address mutual environmental concerns.

In terms of sheer geography, agricultural activities represent the largest land use and the most widespread set of potential impacts on the environment in our region. Agriculture, and the industries it supports, is also one of the most important economic sectors in our states and tribes. Since over half of EPA Region 8's land area is devoted to crop and livestock production, our ability to help and encourage ranchers and farmers to practice environmental stewardship is critical.

EPA Region 8 has established working relationships with agricultural producers, federal, state and local agencies and others to improve the management of environmental impacts. Our programs deal with things like the proper management and application of pesticides, farm worker safety, the protection of rivers and lakes, wetlands, and rangeland ecosystems, and the management of wastes from animal feeding operations. Additional efforts include technical assistance and grants that focus on reducing the risks from harmful pesticides, supporting the development of waste management plans, minimizing erosion and the runoff of wastes and pesticides, promoting integrated pest management, protecting watersheds and sources of drinking water, and conserving vital water, land and wildlife resources. We will continue to work on these issues and to find cost-effective ways of achieving environmental results.

Climate Change in EPA Region 8

Region 8 Activities

- Activities in Region 8
- Regional Impacts
- States
- Local Governments
- Climate Education
- Region 8's Green Building

Addressing climate change is a priority for EPA Region 8. We seek to lead by example, as well as build knowledge and encourage actions by individuals, communities, businesses, states, local governments, and tribes. On this Web site, we provide links to a variety of information and resources EPA has to offer.

Climate Change by Topic	EPA Partnership Programs
• Clean Energy • Transportation • Smart Growth • Water Infrastructure • Waste	• Climate Leaders • Green Power Partnership • ENERGY STAR • Natural Gas STAR • AgSTAR • WasteWise • GreenChill

Direct Implementation

National Information

- Office of State and Local Relations

Regional Information

- Region 8 State Assistance Program
- Region 8 Tribal Assistance Program
- Region 8 Program Delegations Table

EPA Region 8 has a large workload devoted to directly implementing environmental programs on tribal lands, in states that have not accepted responsibility for certain programs, and for programs that legislation does not allow us to delegate. Region is home to 27 tribal nations with a land area of 15 million acres. In almost all cases, Region 8 is charged with the full range of environmental programs on these lands.

> This challenge will continue to demand attention and resources, especially as increased activities in sectors such as energy and agriculture add workloads to programs. In addition to our own program implementation responsibilities, Region 8 will continue to help partners develop and maintain effective environmental programs.

Region 8 Energy Strategy

Region 8 contains extensive fossil fuel and renewable energy resources – so extensive that the Region is in many ways the center of the nation's energy future. With the current emphasis on resource extraction and electricity production to meet growing demand, energy projects in our Region are increasing.

Many of EPA Region 8's programs protect air, water, land and ecosystems from the potential impacts of energy development and production and encourage energy conservation and renewables. The Region has developed a Draft Energy Strategy which outlines key goals and objectives that will guide these efforts.

Homeland Security

As part of efforts to improve preparedness and the ability to respond to terrorist attacks, EPA has been called upon to play a strategic role in homeland security. The president has given EPA the responsibility for safeguarding the nation's drinking water supplies and delivery systems and for responding to biological, chemical and hazardous waste risks posed by potential terrorist attacks.

Region 8 will continue to strengthen the communications network we have established with federal, state and local response authorities; enhance expertise and readiness through training and coordinated exercises; and take additional steps to secure infrastructure and hazardous materials. In the long term, our efforts will minimize the likelihood of terrorist incidents and assure time-critical and coordinated responses to any incidents that do occur.

Revitalization

Revitalization, in the broadest sense, means to impart new life, energy, or activity to something.
The EPA is committed to restoring land and other natural resources into sustainable community assets that maximize beneficial economic, ecological and social uses and ensure protection of human health and the environment. The revitalization initiative seeks to resolve barriers to reuse and promote the reuse of sites that are being or have been cleaned up. EPA works to reuse and redevelop various contaminated sites, including Brownfield properties, Superfund sites, RCRA (Resource Conservation and Recovery Act) sites, Underground Storage Tank (UST) sites, and more.

Region 8 Cleanup Programs

The following links summarize the types of contaminated sites you will encounter when redeveloping a potentially contaminated or formerly contaminated site or property. To learn more about each cleanup program, click on one of the types of contaminated sites below.

Brownfields

Brownfield sites are real properties, the expansion, development, or reuse of which may be complicated by the presence of a hazardous substance, pollutant, or contaminant.

Resource Conservation and Recovery Act (RCRA)

Past and present activities at RCRA facilities have sometimes resulted in releases of hazardous waste and hazardous constituents into soil, ground water, surface water, sediments, and air; requiring the investigation and cleanup, or remediation, of these hazardous releases.

Superfund

Superfund sites are uncontrolled or abandoned sites or properties where hazardous waste or other

contamination is located, possibly affecting local ecosystems or people. Superfund sites can include properties on the National Priorities List, as well as removal action sites.

Underground Storage Tanks

Underground storage tank sites are sites that contain contamination from petroleum products or CERCLA hazardous substances that were released from underground storage tanks.

State Partnerships

Region 8 of the Environmental Protection Agency is composed of six states -- Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming. Each of these states works in partnership with the EPA to carry out the requirements of various environmental statutes for which the US Congress has charged the EPA with implementation.

Through delegation of these programs from EPA to the states, our states help us to dedicate significantly more resources to the business of protecting the environment than EPA alone could provide.

States are vital partners in achieving EPA's mission. A large percentage of EPA's programs are delegated to Region 8 states, which also carry out other environmental work through cooperative agreements, contracts and other arrangements. In 2004, EPA provided more than $166 million to environmental health, protection and agriculture agencies in Region 8 states, including $100 million for clean water and drinking water revolving loan funds.

To maintain and improve the effectiveness of the programs that we delegate to states, EPA continues to build strong, collaborative relationships with state agencies that leverage respective authorities and responsibilities. EPA plays an oversight role in these situations, and focuses on providing states with adequate resources and technical support.

Region 8 and the states have agreed to add a new State Capacity Enhancement priority to the Region 8 Strategic Plan. This priority is intended to further improve the federal-state working relationship and to identify opportunities to enhance state capacity to deliver environmental program services. The elements of the priority include: ensuring adequate resources and staff; partnering and work-sharing; technical assistance; training opportunities; and, innovations and flexibility.

Another focus area in our partnership with states is improving the ability to focus limited resources on priorities. In Region 8, EPA and states are collaborating on a priority-driven resource allocation process that makes sure that resources are deployed to the most critical environmental problems.

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