# A Legacy of Progress Environmental Results in the Rocky Mountains and Plains Region 2001 - 2008









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 resultsoriented 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

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# Hazardous Waste Cleanups

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

> 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.

Superfund, Brownfields and other programs.

# 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.

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

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.

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.

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# SECTION

# Addressing a Health Crisis in a Montana Community

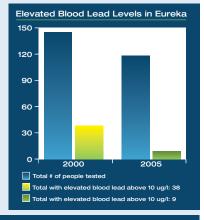
Since 2000, EPA has spent nearly \$220 million on the cleanup of asbestos in and near the town of Libby, Montana, where the W.R. Grace Company operated a vermiculite mine and processing facilities from 1963 to 1990. Beginning in the late 1990s, news reports and site investigations revealed that the vermiculite 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

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



specific health effects of Libby Amphibole Asbestos and inform future cleanup actions.

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.

# 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, dibromochloropropane 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 acres 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.

#### 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
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# Partnerships and Collaboration

#### SECTION

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.



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.

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



Acid mine drainage near Utah's American Fork River.

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.

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# 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

# 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. 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.

# 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

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 precedentsetting 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.

# SECTION 3

#### Protecting Wetlands in NW Montana

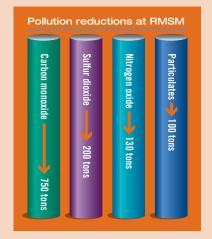


The Gallatin River. Wetlands play an important role in the watershed by providing wildlife habitat, absorbing flood runoff, filtering pollution and protecting downstream riparian areas.

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.



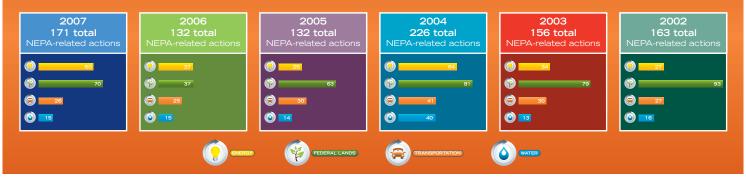
The M.R. Young Power Station in North Dakota has spent \$100 million on controls that are reducing air emissions by more than 33,000 tons per year.

# 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.



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.

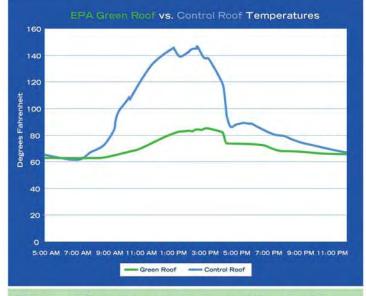


#### U.S. EPA Region 8

1595 Wynkoop St. Denver, Colorado 80202

On the Web: www.epa.gov/region8

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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.