

Open Space Conservation on Former Mining Sites in Summit County, Colorado



EPA Brownfields Assessment and Cleanup funding was pivotal in the reuse of former mining properties for public open space in Summit County, Colorado. The project serves as a model for overcoming liability issues associated with former mining properties, while supporting a tourism economy and improving water quality.

Economic Transition from Mining to Tourism

From the mid-19th century to the early 20th century, mining of gold, silver, and other metals was the main economic driver for Summit County, Colorado. Like many communities in the rural West, mining brought prosperity to the region, but also left a legacy of abandoned mine lands issues including acid mine drainage, open adits, waste rock and tailings, and collapsed buildings.

Today, Summit County has transitioned to a tourism economy. The ski resorts of the area—Keystone, Arapahoe Basin, Copper Mountain, and Breckenridge—are the economic pillars of the region, and activities such as hiking, biking, and fishing are available in the area year-round. With only approximately 19,000 actual residents, the county draws more than 2 million visitors each year.

Environmental Assessments Enable the County to Acquire Priority Properties

Development in the area has rapidly increased in recent years. In order to ensure the continued success of its tourism industry, Summit County is focused on preserving open space. One of the county's priority areas is the Peru Creek Basin, an approximately 15-square-mile former mining area that included more than 70 separate property owners and 1,200 acres of privately-owned mining claims. The county is working to acquire many of these private lands with the eventual goal of transferring them to the U.S. Forest Service to be protected as open space. However, property-specific information on the type and amount of contamination, owners' willingness to sell and liability issues vary widely. A \$250,000 EPA Brownfields Assessment Demonstration Pilot awarded in 2001 was pivotal in enabling Summit County to assess potential environmental liabilities and prioritize properties before acquiring them.

Legal issues present some of the most challenging aspects of cleaning up abandoned mine lands, as communities or individuals can be held responsible for significant costs, even if they did not cause the contamination. The Trust for Land Restoration, a nonprofit land trust dedicated to evaluating and managing the legal complexities surrounding mine land liability issues, was a key partner in navigating the legal issues associated with land acquisition. They led activities such as conducting legal analysis of liability issues, due diligence, coordinating stakeholder involvement, conducting landowner interviews, and engaging regulators.



The Shoe Basin Mine was converted to open space, while preserving historic structures.

KEY ACCOMPLISHMENTS

- An Environmental Liability Management Analysis was developed to guide decision making
- 252 mining claims were assessed for environmental impacts
- 90 mining claims comprising approximately 430 acres were acquired or otherwise protected by Summit County, and conserved as open space
- The Shoe Basin Mine property was cleaned up, providing open space and improving water quality

"Summit County serves as Colorado's playground—open space, remaining largely undeveloped, is a huge component of the overall economic vitality of the area."

—Brian Lorch,
Summit County Open Space
and Trails Department

As a result of the environmental assessments and property prioritization conducted between 2001 and 2003, Summit County was able to acquire 90 mining claims comprising approximately 430 acres. These acquisitions were funded through the county's Open Space funds, which are generated from real estate property taxes. The consolidation of these sites opened up new opportunities for cleanup and restoration into recreational open space, and reduced the fragmentation of habitat and recreational areas that would have resulted from dispersed development.

Cleanup Provides Recreational Opportunities and Improves Water Quality

As a result of the Brownfields Assessment Pilot, one site, the 108-acre, Shoe Basin Mine property, was prioritized for county acquisition and cleanup. This abandoned mine site was causing metal loading into Peru Creek (the primary contributor of metals into the Snake River) and had reuse potential as a developed backcountry trailhead/parking area. A \$195,000 EPA Brownfields Cleanup Grant was awarded to the county in 2004, and the State of Colorado and the owners of Arapaho Basin Ski Area each contributed an additional \$20,000. Cleanup involved moving approximately 4,000 cubic yards of mining waste piles out of the stream onto higher ground, where they were re-graded and capped. Drainage controls were installed around the site to prevent clean water from coming into contact with the capped piles. A small area of wetland was also recreated by re-seeding and planting native species at the edge of the stream. The cleanup began and was completed in the summer of 2006, and the project was approved by the Colorado Voluntary Cleanup Program, providing future liability relief.

Reuse Supports the Economy and Serves as a Model for Other Mining Communities

Reuse as protected open space is essential to the economy of Summit County, as visitors travel from far and wide to experience the area's undeveloped character. With the area becoming more and more commercially developed, restoring former mining land to its natural state is especially important to the county's tourism-based economy. Through the support of a range of resources and partners, the Shoe Basin Mine property is an example of this type of reuse, and now serves as a gateway to the Continental Divide National Scenic Trail and other hiking areas. The property is also no longer loading metals into Peru Creek, contributing to water quality improvement efforts for the larger Snake River Watershed. This project serves as a model of how to overcome the complex ownership and liability issues inherent to abandoned hard rock mining sites.



Mine tailings at the Shoe Basin Mine before reclamation.

LEVERAGED RESOURCES

- \$225,000 from an EPA Brownfields Assessment Demonstration Pilot
- \$195,000 from an EPA Brownfields Cleanup grant
- \$242,000 from Summit County Open Space acquisition funds
- \$26,000 in private property donations
- \$20,000 from the Colorado Dept. of Public Health and Environment
- \$20,000 from the Arapaho Basin Ski Area

For additional information, please contact:

Summit County Open Space and Trails: (970) 668-4060 • www.co.summit.co.us/openspace

EPA Region 8 Brownfields Program: (303) 312-7074 • www.epa.gov/region8/brownfields



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