

*When hazardous substances enter the environment, fish, wildlife, and other natural resources are often injured. The Department of the Interior, along with State, Tribal and other Federal partners, act as “trustees” for these resources. Trustees seek to identify the natural resources injured and determine the extent of the injuries, to recover damages from those responsible, and to plan and carry-out natural resource restoration activities. These efforts are possible under the Natural Resource Damage Assessment and Restoration Program, the goal of which is to restore natural resources injured by hazardous substances. The Department, along with other trustees, is accomplishing this goal in southwestern New Mexico, bringing a cleaner, healthier environment to the people of the area.*

## **Introduction**

Located at the headwaters of a small tributary of Little Walnut Creek, 5.5 miles north of Silver City, in Grant County, New Mexico is the Cleveland Mill Superfund Site. This Site is an abandoned lead, zinc, and copper mine and mill that operated in the early 1900's. It covers about 4 acres in mountainous terrain, and another 14 acres extending down a drainage area and into the streambed of Little Walnut Creek. The Site is located in a rapidly developing residential area that is adjacent to the Gila National Forest and private lands.

## **The Problem**

Tailings from the mill were uncovered, unstabilized and unlined, and had washed into Little Walnut Creek causing acidification and metal contamination of water, soils, sediments, and biota. Residential wells along the creek, though not contaminated with metals, contained other chemical parameters which indicated that they had been affected by the mine tailings. A nearby reservoir used for recreational purposes was not affected by the Site. The population within a 3 mile radius of the Site is estimated to be 1,200.

## **Solving the Problem**

A Record of Decision (ROD) for the Site was signed in September 1993, by the Environmental Protection Agency (EPA) in consultation with the New Mexico Environment Department (NMED), that would have addressed the threats to human health and the environment at the Site. However, this 1993 ROD remedy was not implemented because unanticipated weather events caused extensive contaminant migration. This increased the potential risk to human health and the environment and made the risk more immediate. Therefore, to address the immediate risks, on July 11, 1997, the EPA with concurrence of the NMED, issued an Action Memorandum that authorized a time-critical removal action to physically address the Site contamination and to restore affected surface areas. Through an Administrative Order on Consent, effective on September 23, 1997, with the EPA and the Responsible Parties, a remedial action was implemented to: (1) excavate contaminated tailings and sediments from the mine area, the mill area, and the streambed; (2) neutralize the acidic excavated material through admixing with limestone; (3) dispose of the neutralized material in a limestone cell constructed at the Site, covered with a multi-layer cap; (4) construct erosion control measures such as terraces; and, (5) reseed the disturbed areas of the Site and the disposal cell cap. A September 20, 1999 amended ROD, stated that monitoring for contamination of ground water and surface water, and operation and maintenance of the constructed remedy, would continue. Implementation of institutional controls would also continue, limiting the use of ground water and advising future

owners about the risks of disturbing the cover and/or the underlying material. The Site risks associated with the tailing and sediment have been eliminated, or reduced to acceptable levels, through institutional controls, excavation, treatment, and onsite disposal. The Cleveland Mill Superfund Site met with all the site completion requirements and was deleted from the National Priorities List on July 23, 2001.

### **Restoring the Resources**

Restoration work was also done off site to compensate for the loss of natural resources. The New Mexico Office of the Natural Resources Trustee, the U.S. Department of the Interior, and the U.S. Department of Agriculture's Forest Service (collectively, the Natural Resource Trustees), contracted the U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program to oversee the restoration of the Berrenda Creek Watershed, a privately owned ranch near Hillsboro, New Mexico. Berrenda Creek, the primary watercourse of the Black Mountain watershed, is the main contributor of flashy, high energy water events. These events were once dampened by natural wetlands. However because of human settlement and conversion of native grasslands and wetlands to agricultural production (grazing and farm fields), and alterations including levees, channelization, and dams, the Berrenda Creek watercourse had become severely degraded. During the Restoration, two wetlands (80 acres) were created that allowed for a more natural flow to Berrenda Creek. Meanders were restored and reestablished with side-channel wetlands hydrologically connected to the floodplain that allowed for water-energy dissipation as well as the re-creation of natural areas for sediment deposition. The restoration benefitted both the landowner, by allowing the riparian zone to be part of a livestock grazing rest-rotation plan, and migrating and resident wildlife. The Natural Resources Conservation Service, a service agency for the U.S. Department of Agriculture, implemented a one time funding agreement with the landowner in 2000 through the Wetland Reserve Program, making the restored site, in effect, a permanent environmental success.

### **A Partnership for Success**

The Cleveland Mill Site had the potential to cause severe impacts on human health and the environment. However, State and Federal agencies and non governmental organizations joined efforts to secure a cleaner environment for the people, plants and animals of southwestern New Mexico. The area is rapidly developing and residents are being educated on the importance of long term care of our natural resources.

*For more information, contact: The U.S. Fish and Wildlife Service, 2105 Osuna Rd., Albuquerque, NM 87113; 505-346-2525. Also visit the USFWS web site at <http://www.fws.gov>*