

# BUILDING A RESTORATION ECONOMY: LEGISLATION AND PRACTICES AT THE STATE LEVEL



## EXECUTIVE SUMMARY

The restoration economy provides an exciting and necessary opportunity for Rocky Mountain states to promote environmental conservation and restoration while creating good jobs and increasing economic bases. This report surveys current state restoration activities and provides examples of suggested best practices. Among the findings in this review of activities and practices:

- **Montana** has the most developed restoration economy practices, including a **dedicated office** within the Department of Natural Resources and Conservation and **funding** for restoration economy programs from the legislature;
- several states have developed **strong forest restoration programs**, including **Arizona**, which created a **Restoration Economy Subcommittee within its Forest Health Advisory and Forest Health Oversight Councils**;
- **state-federal partnerships** can also be used in a creative manner, such as the **Colorado Mine-Scarred Land Initiative** that coordinates interagency activities and uses the expanded definition of brownfields to include mine restoration activities;
- **regional partnerships** also offer increased opportunities for restoration, such as the **Four Corners Sustainable Forests Partnership**, which brings together local, state and federal interests in Arizona, Colorado, New Mexico and Utah to address social and environmental issues that cross jurisdictional boundaries; **Educational institutions** provide excellent opportunities to develop restoration practices, train the next generation of restoration specialists, and keep money within the states.

Promoting restoration economy practices brings together a wide coalition of stakeholders, ranging from environmentalists to labor movements looking to create well-paying local jobs. The Rocky Mountain West is particularly well suited to restoration economic development due to a strong commitment to environmental resources and growing commitment to restoration coupled with expansive but unhealthy forests and scars left by mining and other industry. Restoring unhealthy forests, damaged lands and degraded watersheds provides an excellent opportunity to create well-paying restoration jobs and creating healthier, more productive lands that foster the livelihoods and lifestyles of people in the region.

One of the greatest challenges to restoration economy development will be finding ways to fund programs. The survey shows notable state practices, including license fees and voluntary individual state income tax refund check-off programs, to create funding for program development. Further, once the programs are up and running, the potential economic growth could offset the initial costs of establishing the programs.

Following on the heels of the Western Governor's Association Policy Resolution in favor of restoration economy and the Governor's Restoration Forum in Montana, instigating and implementing restoration economy practices at the state level has strong momentum. This report offers successful policies that can be adapted to each individual state's needs.

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## INTRODUCTION

In 2006, the Western Governor's Association released a Policy Resolution recognizing the increasing importance of developing a "Restoration Economy." The resolution followed a two-day forum, convened by Montana's governor, which explored ways to promote economic development through restoration projects. The purpose of this report is to expand on these events and add to current restoration economy discourse.

"Restoration Economy" is the development of economic activities, such as jobs and increased tourist revenue, stemming directly from activities and projects that restore damaged resources. Restoration ranges from repairing abandoned mine lands and brownfields to improving the health of degraded forests, rangelands and waterways. The restoration economy highlights the ability of environmental conservation and restoration to create good jobs and increased revenue, thereby bringing together two interests, jobs and the environment, sometimes portrayed as being at odds.

Moreover, the Rocky Mountain West is particularly well-suited to promoting and developing a restoration economy. The strong tradition of protecting nature coupled with the scars left by mining and resources extraction creates excellent opportunities for developing a restoration economy. A number of diverse stakeholders can be brought together to collectively develop a restoration economy due to the many interests that are affected.

This report is a survey of economically important restoration practices in the eight Rocky Mountain states: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming. Each state profile includes federal programs and state initiatives. While few programs explicitly reference "restoration economy," they are clearly within the ideals of restoration economy in that they stimulate economic development through restoration activities.

## PROJECT FINDINGS

The survey found that **Montana was the clear leader** in promoting the development of the restoration economy. Last year, Montana established a **dedicated restoration specialist position** within the state Department of Natural Resources and Conservation, with funding to develop a database and coordinate restoration activities. Montana takes a holistic approach to restoration in building the underlying foundation for creating a new economy, including **improving infrastructure** and **promoting job development** alongside the environmental benefits of restoration.

The remaining seven states have taken a more piecemeal approach to restoration. **Arizona's Forest Health Advisory and Forest Health Oversight Councils have** created a **Restoration Economy Subcommittee**. The subcommittee was established to work on a 20-year strategy for forest health and restoration, including promoting local economic development through forest restoration.

## NOTABLE BEST STATE PRACTICES

- **New Mexico** has also created strong forest restoration policies through the federal **Community Forest Restoration Act of 2000**. The act established the Collaborative Forest Restoration Program, which requires that projects include a diverse group of stakeholders in their design and implementation. The projects must also address specific objectives, including the creation of forest-related local employment. While not specifically using the term “restoration economy,” this program is clearly using the same ideals and bringing together a wide array of interests.
- As of 2005 **Arizona** is covered by the **Collaborative Forest Restoration Program** as a result of the **Community Forest Restoration Expansion Act of 2005**.
- **Colorado** also is active in forest restoration. In 2007, the legislature passed the **Colorado Forest Restoration Act** and the **Colorado Forest Improvement District Act**. The latter is a particularly good practice because it maintains more local control by allowing the governing body of a county or municipality to create a special taxing district to fund forest restoration initiatives. Colorado also allows its **Watershed Restoration Fund** to be added to the state individual income tax refund check-off program for voluntary contributions.
- **Wyoming** has created a state **Wildlife Natural Resources Trust Fund** that, among other activities, funds and coordinates restoration activities.
- The **Idaho Commission for Reinvestment Pilot Initiative** funds private and non-profit entities completing approved cleanups at any of the 10 selected brownfield properties.
- The **Utah Partners for Conservation and Development** promotes collaboration between landowners, private organizations, and state and federal agencies, an important step that diversifies stakeholders and creates wider coalitions.

## REGIONAL PARTNERSHIPS

The survey also suggests that **regional partnerships** could be a very effective tool for promoting restoration economy. The **Four Corners Sustainable Forests Partnership**, for example, was created to address social and environmental issues that crossed jurisdictional boundaries. The Partnership brought together local, state and federal interests in Arizona, Colorado, New Mexico and Utah. The seed money was provided by the U.S. Forest Service's State and Private Forestry Economic Action Program, and a number of diverse programs were funded through 2003. The partnership also is a strong example of the benefit of federal-state interaction.

The **Western Forestry Leadership Coalition** is another example of regional coordination through a state-federal partnership. Along with several other states and territories, the coalition works with people and resources in the eight-state Rocky Mountain region to deliver state and private forestry programs.

The Southwest Forest Restoration Institutes, established through the Southwest Forest Health and Wildfire Prevention Act of 2004, include the Ecological Restoration Institute at Northern Arizona University, the New Mexico Forest and Watershed Institute at New Mexico Highlands University and the Colorado Forest Restoration Institute at Colorado State University. The Southwest Forest Restoration Institutes illustrate the importance of encouraging and partnering with local educational institutions to develop and employ best practices for restoration. Montana State University also houses various institutes that research and develop restoration practices.

## CONCLUSION

The regional survey shows that there is positive momentum at the state level to encourage development of the restoration economy. Coordination and multi-interest coalitions are an important first step that must be established to maximize any legislation enacted to further advance the restoration economy.

## BEST STATE PRACTICES

- **Restoration Specialist**, Montana. The restoration specialist position, which the legislature in 2007 added to the Department of Natural Resources and Conservation, includes funding for database development and restoration economy project coordination.
- **Collaborative Forest Restoration Program**, New Mexico and Arizona. Established in 2000 by the Community Forest Restoration Act, it requires that projects include a diversity of stakeholders in their design and implementation and address specified objectives, including creation of forest-related local employment. Also brought together stakeholders for the creation of the *New Mexico Forest Restoration Principles*.
- **Restoration Economy Subcommittee**, Arizona Forest Health Advisory and Forest Health Oversight Councils. The subcommittee was established to work on a 20-year strategy for forest restoration and health. Produced both the *Guiding Principles for a New Economy Based on Forest Restoration* and the *Draft Report of a Statewide Strategy for Restoring Arizona's Forests*.
- **Colorado Forest Restoration Act**- Colorado. The state legislature authorized a pilot program to demonstrate community-based approaches to forest restoration.
- **Colorado Forest Improvement District Act**- Colorado. Allows the governing body of a county or municipality to enact an ordinance to create a special taxing district to fund forest restoration initiatives.
- **Watershed Restoration Program**- Colorado. Administers the following programs:
  - Colorado Watershed Restoration Fund - allows the fund to be added to the state individual income tax refund check-off program for voluntary contributions. The funds are used for local watershed restoration projects.
  - Fish and Wildlife Resources Fund Grant Program - grant program that funds projects that mitigate existing water diversion, delivery or storage facilities.
  - Watershed Restoration Grants - allows for planning and engineering studies for watershed restoration and flood mitigation projects.
- **State Wildlife Natural Resources Trust Fund**- Wyoming. Coordinates restoration projects funded through legislative appropriations, interest on the trust and direct donations.
- **Academic Institutions** – Southwest Forest Restoration Institutes and Montana State University. The Southwest Forest Restoration Institutes include the Ecological Restoration Institute at Northern Arizona University, the New Mexico Forest and Watershed Restoration Institute at New Mexico Highlands University and the Colorado Forest Restoration Institute at Colorado State University. They work together to research forest and watershed restoration issues. MSU has several programs dedicated to restoration.

## **FEDERAL-STATE PARTNERSHIPS**

### **IDAHO**

- Pacific Coastal Salmon Recovery Program: Created by Congress to provide assistance to tribes as participants in salmon recovery efforts along the Northwest coast and Idaho, the program is administered by the Office of Species Conservation.
- Coordinated Intermountain Restoration Project (CIRP): CIRP is administered by the Forest and Rangeland Ecosystem Science Center, which combines staff from the BLM, National Park Service, U.S. Fish and Wildlife Service, and focuses on rangeland restoration.
- Superfund Environmental Remediation Fund: Through the State Environmental Remediation Fund, the state contributes 10 percent of the cost of cleanup while the federal program contributes the balance.

### **ARIZONA**

- Five Star Restoration Program: The purpose of this nationwide program is to bring together five or more partners for each stream and wetland restoration project.
- Brownfields Cleanup Revolving Loan Fund: the Arizona Department of Environmental Quality was awarded \$1 million from the U.S. EPA to fund revolving loans to clean up brownfield sites in Tucson and Phoenix. The fund is managed by ADEQ, cities of Phoenix and Tucson, and the Water Infrastructure Finance Authority.

### **UTAH**

- Forest Restoration Partnership Working Group: Utah entered into a partnership with the U.S. Forest Service to create this working group that will monitor and guide programs to benefit forests and communities of the Central Colorado Plateau and the Great Basin.

### **NEVADA**

- Western Forestry Leadership Coalition: This is a state-federal partnership that works to deliver state and private forestry programs throughout the West.
- Shades of Green Project: This is an alliance of federal, state and local agencies, utility companies and organizations demonstrating the benefits of urban foresting practices in the Las Vegas area.

## **MONTANA**

- Montana State University programs:
  - Ecosystem Restoration website
  - Montana Water Center including the Center's Wildlife Fish Habitat Initiative
  - Center for Invasive Plant Management
  - Joe Skeen Rangeland Restoration Institute
- Fuels for Schools, jointly administered by the Montana Department of Natural Resources and Conservation, U.S. Forest Service and local resource conservation and development councils.

## **COLORADO**

- Mine-Scarred Land Initiative: an EPA-administered effort across several states involving nine federal agencies to improve collaboration among federal agencies in abandoned mining land cleanup.
- Federal Brownfields Program and Colorado Inactive Mine Reclamation Program – by classifying inactive mines as brownfields, Colorado is able to use brownfields grant money for mine reclamation.

Federal Program	State									
	Arizona	Colorado	Idaho	Montana	Nevada	New Mexico	Utah	Wyoming		
USDA Natural Resource Conservation Service										
Dam Rehabilitation	X					X	X			
Environmental Quality Incentives Program	X	X	X	X	X	X	X	X		X
Grassland Reserve Program		X	X	X	X	X	X	X		X
Research Conservation and Development	X		X			X	X		X	
Wetlands Reserve Program	X	X	X	X	X	X	X	X		X
Wildlife Habitat Incentives Program	X	X	X	X	X	X	X	X		X
Surface Mining Control and Reclamation- Abandoned Mine Land Program	X	X	X	X	X	X	X	X		X
Federal Superfund Program	X	X	X	X	X	X	X	X		X
Federal Brownfields Redevelopment	X	X	X	X	X	X	X	X		X
Northwest Power Conservation Commission- Columbia River Basin F&W Program		X								
National Fire Plan	X	X	X	X	X	X	X	X		X
2007 Forest Restoration Working Partnership		X	X							X
EPA Targeted Watershed Grants Program	X	X				X		X		
Community Based Watershed Restoration Partnership		X	X	X		X				
Federal Aid in Wildlife Restoration	X	X	X	X	X	X	X	X		X
Federal Aid in Sport Fish Restoration	X	X	X	X	X	X	X	X		X

## STATE-BASED PROGRAMS

### NEW MEXICO

- Collaborative Forest Restoration Program- established in 2000 by the Community Forest Restoration Act. CFRP requires that projects include a diversity of stakeholders in their design and implementation and address specified objectives, including the creation of forest-related local employment. CFRP brought together stakeholders for NM Forest Restoration Principles and provides access to Forest Guild members.
  - New Mexico Forest Restoration Principles – principles developed for use in designing and implementing projects with a primary objective of ecological restoration while promoting social benefits.
  - Forest Guild – organization of field foresters and associated land stewards who provide examples of sustainable forestry.
- New Mexico Forest and Watershed Health Plan – Gov. Richardson and the legislature called for the development of a statewide plan to address forest and watershed health. The state Forestry Division assembled a broad representative committee to develop the plan. The plan set out three principles: ecological, socio-cultural and economic.
- Habitat Stamp Fund – generated almost \$1 million in fees from hunters, anglers and trappers with funds going towards habitat conservation and rehabilitation projects, including water quality restoration.
- New Mexico Mining Act of 1993 – act requires hard rock mines to obtain permits, meet certain standards, develop an approved reclamation plan, and post financial assurances to support the plan.

### IDAHO

- Abandoned Mine Reclamation Act – set up the Abandoned Mine Reclamation Fund, which is a voluntary program for reclaiming abandoned mine land. A third of the state's Mine License Tax is diverted to the Abandoned Mine Reclamation Fund.
- Land Remediation Act – the Department of Environmental Quality's voluntary cleanup program that encourages innovation and cooperation between the state, local communities and private parties working to revitalize properties with hazardous substance or petroleum contamination.
- Idaho Commission for Reinvestment Pilot Initiative – \$1.5 million from the state budget to fund private and non-profit entities completing DEQ approved cleanups at any of the 10 properties selected as pilot brownfields.

## **ARIZONA**

- Restoration Economy Subcommittee of the Arizona Forest Health Advisory and Forest Health Oversight Councils – the Restoration Economy Subcommittee was established to work on a 20-year strategy for forest restoration and health. The subcommittee has produced two documents: the Guiding Principles for a New Economy Based on Forest Restoration and the Draft Report of a Statewide Strategy for Restoring Arizona’s Forests.
- Arizona Water Protection Fund – was established by the legislature, along with the Arizona Water Protection Fund Commission, to administer the expenditure of money to projects that address various water restoration projects.
- Superfund Voluntary Remediation Program – through this program, parties can investigate or clean up a contaminated site in cooperation with the Department of Environmental Quality. The benefit of the program is that it is a streamlined process with expedited review and approval of cleanup activities without further action determinations for successfully remediated properties.
- Water Quality Assurance Revolving Fund - the state’s Superfund program receives \$18 million from the legislature per year. However, the aim of the program is only to bring land back to a certain standard, i.e. industrial use, and then issue a declaration of environmental restriction that then runs with the land.
- Mine Land Reclamation Act – requires mine reclamation with the companies undertaking the mining determining reclamation costs. The problem with this program is that risk falls more on the state because there is no course of action if the mining company defaults on reclamation and only guarantees, not bonds, are required.

## **UTAH**

- Utah Reclamation Mitigation and Conservation Commission – the commission is part of the executive branch of the federal government and designs, funds and implements projects to offset watershed impacts that result from the Central Utah Project, which diverts, stores and delivers large quantities of water from various Utah rivers to central Utah.
- Watershed Restoration Initiative – partnership-driven effort to conserve, restore and manage ecosystems in priority areas across the state.
- Utah Partners for Conservation and Development – promotes collaboration between landowners, private organizations, and state and federal agencies.
- Abandoned Mine Reclamation Fund – established in 2007 to provide funds for the Abandoned Mine Reclamation Program, which is centered mainly on mitigating safety hazards.

## **NEVADA**

- Fuels for Schools – provides grant money and technical assistance for schools to convert heating systems to biomass.
- Wildlife Heritage Trust Account – the account is funded through bid, auction or partnership in wildlife drawings with funds used for the protection, restoration and management of wildlife.

## **MONTANA**

- Restore Montana – a new network representing business and industry, labor, state universities, government, sportsmen and conservation interests that successfully lobbied for a state restoration coordinator last year.
- Natural Resources Information System – searchable database with reports on restoration activities and practices.
- Governor’s Restoration Forum – two-day forum in 2006 for discussion of the restoration economy.
- Future Fisheries Program – established through the legislature and with funds from the sale of fishing licenses and the Resource Indemnity Trust Fund, focuses on fish restoration and protection, including stream and riparian area restoration.
- Natural Resource Damage Program – receives funds through settlement against ARCO and administers grants for watershed restoration and enhancement of natural resource-based recreational opportunities.
- Watershed Coordination Council – statewide coordination network for Montana’s natural resources agencies and private organizations.
- DEQ Non-point Source Program – encourages voluntary pollution control activities and provides guidance for projects and matching local funds.

## **COLORADO**

- Colorado Forest Restoration Act – through state legislature, authorizes a pilot program to demonstrate community-based approaches to forest restoration.
- Colorado Forest Improvement District Act – allows the governing body of a county or municipality to enact an ordinance creating a special taxing district to fund forest restoration initiatives. Watershed Restoration Program administers:
  - Colorado Watershed Restoration Fund – allows the fund to be added to the state individual income tax refund check-off program for voluntary contributions (best practices). The fund provides money for a competitive grant program to help local watershed restoration projects in Colorado.
  - Fish and Wildlife Resources Fund Grant Program – funds projects that mitigate existing water diversion, delivery or storage facilities with the goal of balancing the development of the state’s resources with the protection of fish and wildlife resources.
  - Watershed Restoration Grants – allow for planning and engineering studies for watershed restoration and flood mitigation projects.
- Colorado Surface Coal Mining Reclamation Act and Mined Land Reclamation Act – state versions of federal act. Goal of state acts is to allow coal mining operations only on land that can be successfully reclaimed and reclaiming coal mines that have had permits revoked due to non-compliance.
- Colorado HB 1306 – income tax credits for brownfields redevelopment

## **WYOMING**

- State Wildlife Natural Resources Trust Fund – coordinates restoration projects. Funding from the trust comes from legislative appropriations, interest on the trust and direct donations.
- Wyoming Association of Conservation Districts (WACD) and Wyoming Natural Resources Foundation (WNRF) – WACD is a state non-profit for local conservation districts to promote and assist in various environmental programs, including restoration. WNRF is the sister organization working to develop multi-interest partnerships.

## STATE-SPECIFIC PROGRAM SUMMARIES

### ARIZONA

Arizona's dedication to restoration is most apparent in the area of forest management. Gov. Janet Napolitano has created special councils to address forest issues, with one forest subcommittee dedicated to the restoration economy. Other restoration efforts revolve around Superfund cleanup projects and brownfields redevelopment, particularly in the urban areas of Phoenix and Tucson.

The Bureau of Land Management administers 12.2 million acres of public lands and an additional 17.5 million subsurface acres within Arizona. In addition to the public lands, Arizona State has state trust land, which is overseen by the Arizona State Land Department. All uses of the state trust land must benefit the 14 Trust beneficiaries, including schools, hospitals, the penitentiary and legislative, executive and judicial buildings.

Last year, the Land Department held 21 successful land auctions, for a total selling price of approximately \$544.3 million. Within the Land Department, there are various sections, including the Environmental Contamination Prevention and Remediation program, that oversee restoration or remediation activities on the state trust lands.

Lack of funding is an obstacle to expanding restoration programs. Amid budget problems in recent years, some state programs have not received the full funding authorized by law.

Arizona allots a percentage of lottery revenue for environmental projects. For example, the Heritage Fund, which receives up to \$10 million a year from lottery ticket sales, provides grants for projects ranging from conservation of threatened and endangered species to development of outdoor recreation opportunities.

The Ecological Restoration Institute at Northern Arizona University conducts and disseminates research about restoration strategies and techniques. The institute seeks to provide the best available knowledge about restoration to a wide variety of audiences, including professionals and members of the public. ERI has a variety of forest health and hydrogeological research projects across the Southwest. It draws from state and federal funding sources and competes for grants. The institute could be an excellent source for developing restoration practices that can be interweaved into the restoration economy.

## **FOREST RESTORATION**

In 2003, Gov. Janet Napolitano established two forest health councils to advise her on matters of wildland fire and forest health. The Advisory Council provides the scientific support for action. The Oversight Council develops recommendations and policies to address the wildland fire crisis and to advance socially acceptable treatment action.

In 2006, the two councils established a subcommittee to develop a 20-year strategy to restore forest health; protect communities from fire; and encourage appropriate, forest-based economic activity.

The subcommittee has produced two documents, the aforementioned Guiding Principles and a draft Statewide Strategy for Restoring Arizona's Forests.

## **GUIDING PRINCIPLES FOR A NEW ECONOMY BASED ON FOREST RESTORATION**

The preamble to the principles states, "It is recognized that there is a need to develop a viable restoration economy to accomplish the goals of community protection and forest restoration." The Restoration Economy Subcommittee, through collaboration, developed a zone of agreement for principles to guide the sustainable utilization of community protection and forest restoration by-products. They include:

- New and existing forest product industries should be developed and enhanced around the needs, goals, and by-products of collaborative ecosystem restoration and community protection. The restoration economy can and should provide sustainable economic, environmental and social amenities and benefits to Arizona's rural communities.
- A viable restoration economy includes tourism, recreation and other community economic benefits. These amenity-based economic benefits, which are tied to wildlife, watershed, scenic and other values, should be enhanced and developed in association with community protection and forest restoration.
- A viable restoration economy requires a reasonable predictability and a reasonable level of risk for business.
- A viable restoration economy should prioritize investments in local and regional Arizona based forest products industries.

## STATEWIDE STRATEGY FOR RESTORING ARIZONA'S FORESTS

The statewide strategy, published in June 2007, highlights the need for improved forest stewardship and underlines the importance of healthy forest to Arizona's economy. Besides their inherent value, forests are the backbone of the tourist-based economies of much of rural Arizona. Tourism generates roughly \$30 billion in direct, indirect and induced expenditures and provides \$1 billion in tax revenue annually.

The report also sets out five key strategies as the foundation for action:

- Increase the human and financial resources dedicated to restoring Arizona's forests and protecting communities.
- Coordinate and implement action at the landscape-scale.
- Increase the efficiency of restoration, fire management, and community protection activities.
- Encourage ecologically sustainable, forest-based economic activity.
- Build public support for accomplishing restoration, community protection and fire management across the state.

The report also provides 16 overall recommendations for executing the five strategies.

The report recommends that the Arizona legislature:

- Increase funding for restoration treatments
- Increase financial support to universities, state agencies and other organizations with applicable expertise to conduct applied research, translate scientific information and serve as neutral conveners within collaborative processes
- Develop land-use policies and practices that support forest restoration, community protection and fire management efforts
- Develop and expand the use of small-diameter wood and biomass generated from forest restoration work
- Educate the public about restoration, sustainable restoration-based businesses, fire management and community protection needs and responsibilities

## **SOUTHWEST FOREST RESTORATION INSTITUTES**

The Southwest Forest Restoration Institutes were established by Congress (PL108-317) in 2004 in Colorado, New Mexico and Arizona to conduct and disseminate research on forest and watershed restoration issues in the West and to partner with state and federal scientists. The Ecological Restoration Institute at Northern Arizona University, the New Mexico Forest and Watershed Institute at New Mexico Highlands University and the Colorado Forest Restoration Institute at Colorado State University are the three participating institutes. Collectively, they are called the Southwest Forest Restoration Institutes.

In 2005, at the Western Governors' Association annual meeting, the governors of Colorado, New Mexico and Arizona signed a charter with the universities to formalize the role of the institutes and provide a framework for collaboration.

Congress authorized spending through the Forest Service \$15 million annually for the institutes in 2004 under the Southwest Forest Health and Wildfire Prevention Act; actual funding in fiscal year 2005 was \$400,000.

## **WATERSHED RESTORATION**

In addition to the Ecological Restoration Institute, Northern Arizona University also houses the Center for Sustainable Environments (CSE). One of CSE's research areas focuses on water issues on the Colorado Plateau. One project example is the Fossil Creek Watershed and Riparian Restoration. Fossil Creek is a unique warm-water perennial stream located in the Mazatzal Mountains in Central Arizona.

Most of the flows from the springs at Fossil Creek have been diverted over the past century to power the Childs-Irving Hydroelectric Facility. In 1999, the Arizona Public Service signed an Agreement in Principle to decommission the facility and return full flows to Fossil Creek. The restoration of full flows at Fossil Creek provides one of the best opportunities for stream and riparian restoration in the Southwest where over 90 percent of wetland and riparian areas have been lost or severely degraded over the past century.

## **ARIZONA DEPARTMENT OF WATER RESOURCES- ARIZONA WATER PROTECTION FUND**

The Arizona Water Protection Fund was established in 1994 by the legislature and Arizona Water Protection Fund Commission. The fund pays for projects that address water quality or quantity and restoration of streams and riparian areas.

A 15-member commission votes on which projects to fund. Proposals submitted by private entities, state and federal agencies, and citizens compete for funding, with priority given to stream-improvement projects that use matching contributions, include provisions for continued project maintenance and enjoy strong local support.

## **DAM REHABILITATION PROJECTS**

U.S. Department of Agriculture's Natural Resources Conservation Service administers the Dam Rehabilitation Project. The process consists of four phases: assessment, planning design and construction. Arizona has nine dam/watershed rehabilitation projects in various stages.

For instance, in Maricopa County, the White Tanks No. 3 Floodwater Retarding Structure does not meet current dam design and safety criteria. The dam was built in 1954 and had subsided four feet. As a result, the dam no longer met safety standards. The downstream area, mostly agricultural when the dam was built, is undergoing rapid urbanization. The dam is the first upgraded under the Dam Rehabilitation Program. Federal funding under the program requires a 35 percent local match.

## **FIVE STAR RESTORATION PROGRAM**

The Five Star Restoration Program promotes partnerships among citizen groups, local businesses, schools, youth corps, private landowners and government agencies to restore local streams and wetlands. The National Fish and Wildlife Foundation, the National Association of Counties and the Wildlife Habitat Council jointly administer the program. The Environmental Protection Agency provides major funding; the National Marine Fisheries Service also contributes money through the Community-Based Restoration Program.

The program unites five or more partners under grants ranging from \$5,000 to \$20,000 per project. One example is the Navajo Nation's Pueblo Colorado Wash project, demonstrating cost-effective riparian restoration techniques applicable elsewhere within the Navajo Nation. The project is sponsored by the National Park Service in partnership with the Student Conservation Association, state of Arizona, and the Navajo Nation.

## **SUPERFUND AND BROWNFIELDS RESTORATION**

### **WATER QUALITY ASSURANCE REVOLVING FUND**

State Superfund program receives \$18 million a year from the legislature. The state hires contractors to conduct remediation of contaminated sites that are listed in order of priority. Once cleaned up to a given standard of use, such as industrial, a “declaration of environmental restriction” limits future use of the land to prevent unforeseen development that could expose additional contaminants.

### **ARIZONA BROWNFIELDS CLEANUP REVOLVING LOAN FUND**

The Department of Environmental Quality’s Arizona Brownfields Cleanup Revolving Loan Fund provides low-interest loans to clean up sites with completed contamination assessments. The U.S. Environmental Protection Agency provided \$1 million for the fund, which is managed collectively by DEQ, Phoenix, Tucson and the Water Infrastructure Finance Authority.

### **VOLUNTARY REMEDIATION PROGRAM**

Through the Voluntary Remediation Program, property owners, prospective buyers and other interested parties can investigate or clean up contaminated sites in cooperation with the DEQ. The program features a streamlined process with expedited review and approval of cleanup activities and offers no-further-action determinations for successfully remediated properties.

### **MINE RESTORATION**

Arizona has more than 23,000 active mining claims covering an estimated 600,000 acres. Hard-rock mining for gold, silver and other precious metals and minerals is the dominant mining industry in Arizona. The Arizona State Mine Inspector has a division of mined land reclamation and undertakes mine restoration programs funded entirely by the state.

In 1998, the state created the Abandoned Mine Safety Fund to repair physical hazards, but not pollution caused by abandoned mines. The state mine inspector administers the fund.

The 1994 Mined Land Reclamation Act, reauthorized in 1999, requires reclamation, the costs of which mining companies determine. State regulators accept “corporate guarantees” in lieu of cash, bonds, or paid-up insurance policies as assurance the work will be done. Taxpayers assume the costs when companies file bankruptcy before completing reclamation. The value of pending reclamation is an estimated \$2.5 billion.

## **IDAHO**

Idaho has no office dedicated to restoration. Idaho's policies generally focus on production, conservation and preservation of forest loss to fire or development, rather than restoration of natural resources.

The Department of Environmental Quality assesses mine sites, determining and approving reclamation plans focused on ground water quality. DEQ also oversees remediation of watershed contamination.

The state's Fish and Game Department receives no funding from the state's general fund. Instead, it relies on general license revenues, with over half of the revenue coming from out of state residents. For fiscal year 2007, the Department anticipates receiving \$32.5 million in general license revenue.

Idaho participates in several federal programs, including the Federal Aid in Wildlife Restoration Act, the Federal Aid in Sport Fish Restoration Act and the Aquatic Resources Trust Act. These programs, along with state hunting, trapping and fishing license revenues, have been critical to the establishment of state conservation agencies.

Even with several funding sources, Idaho struggles to provide enough funds for wildlife conservation and non-game wildlife conservation and management and such activities remain unpredictable.

## **ENDOWMENT TRUST LANDS**

Idaho has almost 64 percent of its land administered through federal agencies, mainly the U.S. Forest Service and the Bureau of Land Management. The Idaho Department of Land manages the Endowment Trust Lands, which are lands that were granted to the state by the federal government at the time of statehood reserved for the purpose of benefiting public schools. The express purpose of the lands is to provide revenue for the Trust beneficiaries. As such, there is a strong emphasis on timber production and logging to maximize revenue for the trust beneficiaries within the confines of acceptable practice as dictated by the Idaho Forest Practices Act and other guidelines.

## **IDAHO FOREST PRODUCTS COMMISSION**

The legislature in 1992 created the Idaho Forest Products Commission to promote the economic and environmental welfare of the state by disseminating information regarding management of public and private forests. The commission provides a variety of activities, educational programs and informational materials to educate audiences on the need for proper forest management. Mandatory assessments paid by the forest industry pay for the commission.

## **MINE RESTORATION**

Mine reclamation activities in Idaho generally involve stabilization, rather than restoration. Cleanup is done and paid for by mining companies, with oversight by the Department of Land and/or the DEQ. The Department of Land oversees soil stabilization, and the DEQ oversees the water quality.

## **IDAHO ABANDONED MINE RECLAMATION ACT**

Idaho legislators passed the Abandoned Mine Reclamation Act in 1994 in anticipation of federal mining law reform and the expectation that states would begin receiving federal money for abandoned mine reclamation. Reform legislation failed in Congress, however, and the state fund remains empty.

In 1999, the legislature modified Idaho's laws on the Mine License Tax and the Abandoned Mine Reclamation Act. As a result, one-third of the state's Mine License Tax is now diverted to the Abandoned Mine Reclamation Fund. The State Board of Land Commissioners administers the act, with work carried out by the Department of Land.

The Act is a voluntary program for reclaiming abandoned mine land. Money from the fund may be spent on the reclamation of any eligible mining operation. All abandoned mines on public land are eligible; private landowners also may request assistance for abandoned mines on their property.

## **MINES AND PROSPECTS DATABASE**

The Department of Lands and Geological Survey attempted to develop a mines and prospects database for the entire state. Reclamation work on those sites was scheduled to begin in 2000. A Memorandum of Understanding was signed with the Forest Service and the BLM to prioritize watershed for abandoned mine reclamation. Funds were secured but the database was never completed. Intermingled land ownership and jurisdictional issues complicated the task. For example, DEQ couldn't spend money from the U.S. Environmental Protection Agency to assess mines on federal land. Such complexities thwarted completion of the database.

## **AQUATIC RESTORATION**

The DEQ monitors and protects groundwater in Idaho through a series of partnerships with the state Department of Agriculture, the Department of Water Resources and other state, local and private agencies, organizations, businesses and individuals.

## **PACIFIC COASTAL SALMON RECOVERY PROGRAM**

Congress created the Pacific Coastal Salmon Recovery Program in 2000 to provide critically needed assistance to tribes as participants in growing salmon recovery efforts in the region. The funds are earmarked for salmon habitat restoration and other recovery and preservation efforts.

Idaho's Office of Species Conservation receives funds from salmon recovery program and, in turn, solicits, reviews and funds projects that contribute to the conservation, restoration and sustainability of salmon populations.

## **NORTHWEST WATER AND POWER CONSERVATION COMMISSION- COLUMBIA RIVER BASIN FISH AND WILDLIFE PROGRAM**

Under the Pacific Northwest Electric Power Planning and Conservation Act of 1980, Congress required the Northwest Power and Conservation Council to develop and adopt a program to protect fish and wildlife, enhance their habitat and mitigate habitat damage.

The Northwest Power Planning Council (NWPPC) is a four-state compact formed by Idaho, Montana, Oregon and Washington to oversee electric power system planning and fish and wildlife recovery in the Columbia River Basin. The Power Planning Council designated the Clearwater River sub-basin a focus program. The Clearwater focus program coordinates staff and funding resources for projects that improve and restore fish and wildlife habitat in the Clearwater River sub-basin. The Idaho Soil Conservation Commission and the Nez Perce Tribal Watershed Division jointly coordinate the program.

Focus program projects have been conducted on private, state, federal and tribal lands with partnerships developed for each project. In addition to the state and tribe, frequent project partners include the Forest Service, Natural Resources Conservation Service, Soil and Water Conservation Districts, private landowners, Idaho's Department of Fish and Game, and the Bureau of Land Management.

## **COORDINATED INTERMOUNTAIN RESTORATION PROJECT**

The Coordinated Intermountain Research Project evolved from the Intermountain Greenstripping and Rehabilitation Research Project, established by the Idaho office of the Bureau of Land Management. The Forest and Rangeland Ecosystem Science Center, which combines research scientists and support staff originating from the Bureau of Land Management, the National Park Service and the U.S Fish and Wildlife Service in Oregon, Washington and Idaho, administers the research project. The research project emphasizes restoration of native species on land infested with invasive weeds.

The state also maintains the "Care and Share" educational campaign promoting responsible use of open space.

## **SUPERFUND CLEANUP**

Northern Idaho has one of the nation's largest Superfund sites at Bunker Hill, a former zinc plant that has contaminated the town's soil and groundwater with lead. The site's human harm remediation is nearly complete and the land is becoming attractive to developers, bringing in investment and tourism to the community.

## **BROWNFIELDS REDEVELOPMENT**

The DEQ oversees the Brownfields Assessment Program, which funds and conducts environmental assessments of brownfield sites for which lack of environmental information complicates redevelopment or reuse. Specific brownfield redevelopment projects are funded through the EPA's brownfield grant program.

## **IDAHO LAND REMEDIATION ACT, IDAHO COMMUNITY REINVESTMENT PILOT INITIATIVE**

The legislature established the Idaho Land Remediation Act, which is DEQ's voluntary cleanup program, to encourage innovation and cooperation among the state, local communities and private parties working to revitalize properties with hazardous substance or petroleum contamination.

The 2007 state budget allots \$1.5 million to the Land Remediation Act, which funds the Community Reinvestment Pilot Initiative. The money is available to private and non-profit entities completing DEQ-approved cleanups at any of the 10 properties selected as pilot brownfields. The Community Reinvestment Rebate provides 70 percent of cleanup costs incurred, with a maximum rebate of \$150,000 per pilot brownfield.

## **NEW MEXICO**

New Mexico has a broad and deep commitment to restoration of natural resources and a “restoration economy.” New Mexico’s restoration efforts are well funded relative to other states in the region.

Restoration success varies by resource. Forest restoration has been more successful than the state’s water restoration. Efforts to restore the Upper Gila River, have involved coaxing stakeholders to work together and overcome long-standing mistrust and contentions among government agencies, ranchers and environmentalists. Now that a fragile partnership has been established, there is resistance from the general public. The Gila project is demonstrating the importance of diverse coalitions to help promote the benefits of restoration and the coinciding potential for economic development.

New Mexico also has academic programs dedicated to restoration at its universities. New Mexico Highlands University houses the New Mexico Forest and Watershed Restoration Institute. The institute provides state-of-the-art information about forest and watershed restoration to the public, federal and state agencies, tribes, and private landowners.

## **NEW MEXICO FOREST RESTORATION PRINCIPLES**

A wide coalition of participants, including advocates and federal and state agencies, collaboratively established 18 principles of forest restoration. The principles are meant to be used as guidelines for project development and represent the “zone of agreement” where controversy, delays, appeals, and litigation are significantly reduced. The principles were developed for use in designing and implementing projects with a primary objective of ecological restoration while promoting social benefits. Highlights include:

- Reducing the threat of unnatural crown fire, moving stands towards a more natural restored condition, and reducing the risk of unnatural crown fires within stands and across landscapes
- Prioritizing and strategically targeting treatment areas
- Using low-impact techniques: restoration treatments should strive to use the least-disruptive techniques and balance intensity and extensiveness of treatments
- Protecting and maintaining watershed and soil integrity sustainability
- Establishing monitoring and research programs and using adaptive management: well designed monitoring, research and documentation are essential to evaluate and adapt ongoing restoration efforts

The stakeholders were brought together by the Collaborative Forest Restoration Program, which was established in 2000 by the Community Forest Restoration Act. Projects must include a diversity of stakeholders in their design and implementation and address specified objectives, including the creation of forest-related local employment.

The act limits projects to four years and authorizes up to \$5 million annually. The funding comes from the state and can be used for any non-federal public or tribal land.

## **THE FOREST GUILD**

The Forest Guild is an organization of field foresters and associated land stewards providing examples of sustainable forestry. The Forest Guild helps grantees, such as those under the Collaborative Forest Restoration Program, define their assessment criteria, evaluate their projects and helps to disseminate this information. For instance, the Forest Guild learned that the cost of worker's compensation insurance for forest workers and loggers in New Mexico was high due to a lack of safety training or certification. As a result, local companies bidding on restoration work were failing to insure their workers or becoming uncompetitive when they did provide insurance. With funding from the Forest Products Lab and the state legislature, the Forest Guild created a safety-training program that lowers worker's insurance rates. This increased the pool of insured, certified workers and increased worker safety while making local businesses more competitive.

## **STATE FORESTRY DIVISION**

The New Mexico State Forestry Division is one of seven divisions within the Energy, Minerals and Natural Resources Department. The Forestry Division has statutory responsibility for wildfire suppression on all non-federal, non-municipal, non-tribal and non-pueblo lands.

The State Land Office manages all state trust lands. The Forestry Division provides technical advice on forest and resource management to private landowners. The division administers the Stewardship Advisory Committee, which approves forest stewardship plans. The Forest Stewardship and Stewardship Incentives Program assists private forest landowners in actively managing forests and related resources to keep these lands in a productive and healthy condition, increasing economic and environmental benefits.

## **THE NEW MEXICO FOREST AND WATERSHED HEALTH PLAN**

Gov. Bill Richardson and the legislature called for the development of a statewide plan to address forest and watershed health. The Forestry Division assembled a broadly representative committee to collaboratively develop a plan approved by the governor in 2005.

The plan recognizes, "the inseparability of ecological, social and economic sustainability" and sets out three principles:

- **Ecological:** Promoting ecological integrity, natural processes, and long-term resiliency is the primary goal of the New Mexico Forest and Watershed Health Plan.
- **Socio-Cultural:** The values of New Mexico's diverse human communities will be supported and sustained by ecological restoration.
- **Economic:** Economic productivity is dependent on healthy ecosystems and will be leveraged to full advantage in support of long-term ecological health.

## **WATER RESTORATION**

### **WATER QUALITY CONTROL COMMISSION**

The state Water Quality Act established the Water Quality Control Commission and specifies its duties and power and is the state water pollution control agency for all purposes of the federal Clean Water Act and the Wellhead Protection and Sole-Source Aquifer programs of the federal Safe Drinking Water Act.

In June 2007, the commission adopted amendments to the state's anti-degradation policy as it applies to Outstanding National Resource Waters. An essential component of New Mexico's Surface Water Quality Standards, the policy guards against degradation in all surface waters and provides special protection for outstanding waters. The amendments aim to implement watershed protection and restoration projects involving outstanding waters, even though temporary disruptions in water quality may result. The prohibition of any degradation had been viewed as a possible barrier to beneficial projects that serve the overarching protection and restoration goals of the Clean Water Act.

The amendments allow for temporary and short-term degradation of water quality, but only if it "can be shown to result in restoration or maintenance of the chemical, physical or biological integrity" of the outstanding waters. Approval must be obtained from the Surface Water Quality Bureau or a designated management agency, such as the U.S. Forest Service, or from the commission directly if the project includes use of a pesticide. Such degradation is to be limited to the shortest time possible and may not exceed 12 months, unless approval is obtained from the commission for a longer period.

### **THE HABITAT STAMP FUND**

The Habitat Stamp Fund generates almost \$1 million a year in fees from hunters, anglers and trappers on BLM lands and national forests. The program pays for habitat conservation and rehabilitation projects and also supports water quality restoration.

### **DAM RESTORATION**

New Mexico also participates in the U.S. Department of Agriculture, Natural Resources Conservation Service Dam Rehabilitation program. New Mexico has 32 small watershed projects with a total investment in the projects of approximately \$130 million. Seventy-one flood-control dams and 41 miles of diversions have been constructed under the program since 1957. Some of the structures will soon reach or surpass their design lives and will need rehabilitation to extend their lives or to address dam-safety concerns.

By 2010, 20 flood-control dams in New Mexico will need rehabilitation. In addition, at least nine flood-control dams have had significant downstream development since construction. These dams need to be upgraded to meet current safety laws. Twenty-three million dollars will be needed to rehabilitate the dams.

## **MINE RESTORATION**

New Mexico has eight operating hard-rock mines, along with an estimated 10,000 to 20,000 abandoned mines. Four of the mines are listed under the federal Superfund program. The Ground Water Quality Bureau in the Environment Department oversees mining and environmental compliance, as well as Superfund and brownfields cleanup.

## **NEW MEXICO ABANDONED MINE LAND PROGRAM**

The state has no dedicated funding source for cleaning up pollution from abandoned mines. The Abandoned Mine Land Bureau receives funding from the federal Surface Mining Control and Reclamation Act, but only to mitigate physical hazards.

The Abandoned Mine Land Program works to identify dangerous abandoned mine areas and to abate the hazards. The program is funded by the U.S. Department of the Interior through a fee on coal production. The Mining and Minerals Division estimates more than 15,000 unreclaimed mine hazards exist throughout New Mexico. The Abandoned Mine Land Program has closed more than 4,000 hazardous mine openings over the past 21 years.

One example of projects that have been funded: in 2007, The Mining and Minerals Division of the Energy, Minerals and Natural Resources Department awarded a construction contract to safeguard 56 abandoned mine openings in Lake Valley, south of Hillsboro in Sierra County. The competitively bid contract was awarded to St. Cloud Mining Company of Truth or Consequences for more than \$662,000. The project will include 14 bat-compatible structures to allow bats to continue to use the underground mine workings while protecting the bats from human disturbance. The company will include the use of an innovative technique to plug large mine openings using large, spent tires from earthmoving equipment.

## **NEW MEXICO MINING ACT OF 1993**

The purpose of the act was to promote, “responsible utilization and reclamation of lands affected by exploration, mining or the extraction of minerals.” The act establishes requirements for a broad range of “hard rock” mines to obtain permits, meet certain standards, develop an approved reclamation plan and post financial assurances to support the reclamation plan. The Mining Act is regulated by the Mining Commission and the Mining and Minerals Division of the New Mexico Energy, Minerals and Natural Resources Department.

The act also requires all mining operations to obtain permits and meet certain requirements. Each existing mine must submit a “closeout” plan with a restoration plan, and new mine applicants must collect at least 12 months of environmental baseline data in the permit area and have a proposed reclamation plan that is economically and technically feasible with all environmental requirements met without perpetual care. The act also created the Mining Act Reclamation Program to regulate certain hard-rock mining reclamation activities.

## **THE COAL MINE RECLAMATION PROGRAM**

This program was created in the early 1980s as part of New Mexico's enactment of surface coal mine reclamation regulations under the federal Surface Mining Control and Reclamation Act of 1977. All coal mines other than those on tribal lands are regulated under the program. The program covers permitting, inspection and enforcement. It also educates citizen about their rights when they believe coal mining may be affecting their health, safety or property.

## **SUPERFUND RESTORATION**

New Mexico has 11 Superfund sites, all overseen by the U.S. Environmental Protection Agency. The state Ground Water Quality Bureau has a Superfund Oversight Section that helps EPA in characterizing inactive hazardous waste sites, identifying sites warranting remedial action and providing management assistance at Superfund sites.

## **BROWNFIELDS RESTORATION**

The Ground Water Quality Bureau administers the New Mexico Targeted Brownfields Assessment Program. As in most states, the brownfields program in New Mexico receives money from the EPA, and the state agency does not undertake any remediation work. The brownfields program offers free targeted brownfield assessment services for site screenings, assessment activities and cost planning.

## **FEDERAL BROWNFIELDS TAX INCENTIVES**

The Federal Brownfields Tax Incentives allow eligible taxpayers to fully deduct certain environmental cleanup costs incurred during the tax year, rather than having to capitalize expenses over the long term. This tax incentive is meant to encourage businesses and industry to undertake brownfield cleanup.

## **WYOMING**

No state official is strictly dedicated to promoting restoration in Wyoming. The Wyoming Game and Fish Commission is authorized to develop restoration programs and cooperate with federal wildlife restoration projects. Wyoming has several state-based initiatives to encourage restoration, some working with federal resources and some based solely on state resources. These programs are detailed below.

Of Wyoming's 62.5 million acres, 57 percent are public lands. Of the 43 percent that is private, agricultural landowners hold 98 percent. Open spaces that can support wildlife and healthy fisheries are crucial to Wyoming's economy. Tourism is Wyoming's second-largest industry, contributing nearly \$1.9 billion annually to the economy and providing over 28,000 jobs. Fishing, hunting and other wildlife-related recreation are key components of the state's economy.

Wyomingites exhibit strong support for restoration activities. In a 2002 poll conducted by the University of Wyoming, 76 percent of respondents supported using public funds to help farmers and ranchers improve wildlife habitat and protect water and soil resources. However, there are few state-based programs solely devoted to restoration. The programs that exist are relatively well funded and have strong support from the governor. Due to the strong link between environmental sustainability and economic gain through tourism, there is some room for development of policies to encourage the idea of restoration as an industry or economy.

## **EXISTING RESTORATION POLICIES**

### **WYOMING STATE WILDLIFE NATURAL RESOURCES TRUST FUND**

The role of the state Wildlife Natural Resources Trust Fund is to coordinate restoration projects. The fund is prohibited from buying land, buying water rights, requiring access rights or introducing endangered species. Apart from the four restrictions, any restoration project may be funded, including land, stream and range restoration.

The funding for the trust fund comes from a combination of state legislative appropriations, from interest on the trust fund, and from donations. Now in its second year, the trust fund contributed to 48 projects in its first year and 32 projects in the first six months of 2007. The projects to be funded are decided by a nine-person panel appointed by the governor.

## **WYOMING ABANDONED MINE LAND PROGRAM**

In 1977, the Surface Mining and Reclamation Act authorized the reclamation and restoration of abandoned mines. Under the act, states receive money from a tax levied on coal production that is put into a fund. The amount of money each state receives is based on how much coal is produced in the state. To administer the funds, each state must have a regulatory program that is approved by the Department of Interior.

The primary purpose of the fund is to reclaim abandoned coal mines. New changes to the law, however, permit states to use any leftover funds to reclaim other mines, provided that all the coal mines are reclaimed.

Through the program, the state hires private contractors for the reclamation work. One limitation of the program, however, is that the majority of efforts emphasize mitigating hazards, not fully restoring land.

A recent inventory found a backlog of over \$200 million worth of coal mine reclamation and an additional \$200 million - \$300 million worth of other reclamation.

Due to the high volume of coal mining in the state, Wyoming receives roughly \$100 million a year for its Abandoned Mine Land program. However, the current infrastructure cannot implement more than \$30 million worth of work.

Wyoming is in the middle of a tremendous oil and gas boom, and reclamation projects must compete with the oil and gas projects for contractors. The state does not have the manpower or contractors necessary to initiate all the projects for which it has money.

## **FEDERAL AID IN WILDLIFE RESTORATION**

In a decades-old program, federal funds are given to states to restore, rehabilitate, and improve areas of land or water adaptable as feeding, resting or breeding grounds for wildlife. The funds are generated by an excise tax on sporting goods. In 2007, roughly \$267 million is available for states for wildlife restoration. States cover the full amount of an approved project and then apply for federal reimbursement of up to 75 percent of the project expenses. Wyoming's share of the funds is administered by the Game and Fish Commission.

## **FEDERAL AID IN SPORT FISH RESTORATION**

After a recent reauthorization, the federal Sport Fish Restoration program has around \$349 million available for state programs in 2007. The program is funded through an 18.3 percent tax federal tax on motorboats and small engines being paid by anglers and boaters. Roughly 32 percent of the Sport Restoration funds available to states are used to conduct research, surveys and inventories for sport fishing. Another 28 percent is used on operation and maintenance of over 15.4 million acres of state-owned facilities and public lakes. These funds are also administered by the Wyoming Game and Fish Department.

## **UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WILDLIFE HABITAT INCENTIVES PROGRAM**

The Wyoming Wildlife Habitat Incentives Program provides assistance to people who want to develop and improve wildlife habitat primarily on private land. The program is administered through the Natural Resources Conservation Service. The objective of the state program is to develop wildlife and fish habitat, with an emphasis on habitats of national and state significance and/or habitats experiencing decline or reduced populations.

Program priorities are based on recommendations from the Wyoming State Technical Committee, made up of representatives from various producer groups, conservation organizations, agribusinesses, and federal, state, and tribal government agencies. The program is a cost-sharing program providing 50 to 75 percent of the costs, depending on the project type. The Wyoming division of the Natural Resources Conservation Service works closely with the Game and Fish Commission.

## **FOREST STEWARDSHIP PROGRAM**

The Forest Service's Forest Stewardship Program was part of the 1990 Farm Bill. The Wyoming program is administered through the Wyoming State Forestry Division. The goal of the program is to provide sound resource management advice resulting in plans to improve the health and productivity of private forests. About 10,000 individuals own nearly 1.7 million acres of Wyoming forest. The Forest Stewardship Plan provides technical and planning guidance and encourages multiple resource management.

## **AGENCIES AND ORGANIZATIONS ADMINISTERING RESTORATION POLICIES**

### **WYOMING GAME AND FISH COMMISSION**

The commission is responsible for the control, management, protection and regulation of Wyoming wildlife. The commission is the policy-making board of the Wyoming Game and Fish Department. The majority of the funding for the commission comes from annual sales of licenses to hunters and fishermen. The remaining funds are from the federal government through the federal aid in Wildlife and Sport Fish Restoration.

### **WYOMING ASSOCIATION OF CONSERVATION DISTRICTS AND WYOMING NATURAL RESOURCES FOUNDATION**

The nonprofit Wyoming Association of Conservation Districts promotes and assists in various environmental programs, including conservation and water quality restoration and habitat restoration programs. The Wyoming Natural Resources Foundation works to develop partnerships among individuals, state agencies, organizations and business interests to further natural resources and conservation efforts in the state. The foundation is more of a funding organization and the WACD does more of the on-the-ground conservation and restoration work.

## **U.S. FISH AND WILDLIFE SERVICE AND THE PARTNERS FOR FISH AND WILDLIFE PROGRAM**

The Partners for Fish and Wildlife program is a broad-based partnership of Wyoming landowners, local communities, conservation districts, local communities, non-governmental organizations, federal and state agencies, and others who work together on wetland restoration, grassland restoration, riparian restoration, river and stream restoration and habitat restoration. Most of these projects in Wyoming involve a combination of restoration measures. The partners express hope to restore 15,000 acres of wetlands, restore or enhance 5 million acres of upland habitat, restore 1,000 miles of riparian habitat and restore 1,000 miles of in-stream habitat.

## **WYOMING STATE DEPARTMENT OF FORESTRY**

The State Forestry Division is in charge of two basic programs: forest management and protection of state trust lands, and forestry assistance. The trust land management program is administered by the Office of State Lands and Investments within the State Forestry Division and focuses on the care of state forests, including forest health and economic productivity from forests. The Assistance Forestry Division is responsible for promotion of good forest management and protection, including restoration programs.

The State Forestry Division also administers the Forest Stewardship Program mentioned above and other programs, such as the Silviculture Best Management Practices, a guide that is distributed to landowners and forest industry encouraging forest restoration and sustainability.

## **COLORADO**

Colorado has several state-specific programs established by the legislature to provide funds for restoration activities. Several programs are devoted to forest restoration, and Colorado State University has a Forest Restoration Institute. The institute works collaboratively with other regional academic institutes in Arizona and New Mexico. The potential for regional collaborative restoration policies is great and has already begun with the National Forest County Partnership Restoration Program, which undertakes restoration programs in National Forests in Colorado, Arizona and New Mexico.

Colorado also enacted its own state versions of mine reclamation requirements. Abandoned mines, however, are only rehabilitated to address safety concerns but not to reclaim, much less restore, the land.

Brownfields redevelopment programs are also advanced in Colorado, perhaps more so than any other state in the Rocky Mountain West. Denver is a federal Brownfields Showcase Community, identifying it as a model for brownfield redevelopment and the benefits of collaborative activity on brownfields.

More detailed descriptions of restoration activities and policies are listed below.

### **FOREST RESTORATION**

The 2007 legislature passed two bills aimed at forest improvement and restoration.

- The Colorado Forest Restoration Act – authorizes a pilot program to demonstrate community-based approaches to forest restoration. The act transfers \$1 million from the perpetual base account of the Severance Tax Trust Fund in the Department of Natural Resources to experimental forest restoration projects designed through a “collaborative community process.”

The projects may be entirely on, or on any combination of, private, federal, state, county or municipal forest lands, with the state share not to exceed 60 percent of the total cost of the project. The remaining portion of the project funding may be in the form of cash, stumpage or in-kind contribution.

Grant eligibility will be based upon 1) project location within an approved Community Wildfire Protection Plan; 2) meeting one or more of the following objectives for protecting watersheds and water supplies:

- Reducing the threat of large, high-intensity wildfires and the negative effects of excessive competition between trees by restoring ecosystem functions, structures and species composition, including the reduction of non-native species
- Preserving old and large trees to the extent consistent with ecological values and science
- Replanting trees in deforested areas if such areas exist in the proposed project area
- Improving the use of, or add value to small-diameter trees

- The Colorado Forest Improvement District Act – allows the governing body of a county or municipality (commission or town council) to enact an ordinance creating a special taxing district to:
  - plan and implement forest improvement projects in wildland-urban interface areas, including projects to reduce hazardous fuels and protect communities;
  - establish financial incentives for private landowners to mitigate wildfire risks on their property;
  - establish incentives for local wood products industries to improve the use of or add value to small-diameter or beetle-infested trees;
  - match state and federal grants for biomass heating conversion and infrastructure support for biomass collection and delivery; and
  - assist the Colorado State Forest Service in ensuring all communities at risk within the district have adopted Community Wildfire Protection plans.

Under this act, communities may elect to establish a uniform sales tax, subject to voter approval, that will be administered by a board of at least seven directors. The governing body of each county or municipality in the district shall have the power to appoint at least one director, as will the Colorado State Forest Service.

The board will also include at least one representative of:

- an environmental protection organization;
- a conservation district;
- a water conservancy district;
- a federal land management agency.

In 2001, Congress and the Western Governors' Association called for new local government and federal agency forest restoration partnership programs to reduce fire risk and restore watershed health, particularly in western conifer forests. The National Forest County Partnership Restoration Program (CPR) is the first effort to create a fully operational model of a county government/federal land manager partnership at a multiple National Forest scale that will coordinate joint and multi-agency activities. The partnership is led on a pilot basis by Apache/Sitgreaves National Forests in Arizona, Grand Mesa, Uncompahgre and Gunnison National Forests in Colorado, and Lincoln National Forest in New Mexico. Each state also has several participating counties.

In 2002, the Colorado Legislature passed a joint resolution in support of the partnership. The pilot program will run from 2002-2013. The average annual cost for the three forest programs totals an estimated \$12 million-15 million per year for the first five years. The long-term benefits to each forest from reduced costs of fire and resource impacts are expected to exceed proposed program costs. In Colorado, the Uncompahgre Plateau Project (UPP) is a collaborative effort of county governments, forest management agencies and other agencies, and interested citizens. The UPP has strong local and state support and has already completed several projects, including an interagency management plan for two watersheds totaling some 220,000 acres.

The Colorado Forest Restoration Institute is housed at the Warner College of Natural Resources at Colorado State University. The institute provides best available science in forest ecology, restoration and management and runs a number of programs. One of the programs is the Public Lands Partnership, which aims to influence the management of western Colorado's public lands to enhance and maintain healthy and viable economies, environments and communities.

The restoration institute collaborates with several governmental and advocacy organizations and also works with the Ecological Restoration Institute at Northern Arizona University and the New Mexico Forest and Watershed Restoration Institute.

## **WATERSHED RESTORATION**

Colorado has more than 40 local watershed initiatives involving citizen-based watershed groups. They vary in mission but share a common focus: a strong commitment to protect the health of the aquatic systems and the life that depends on them. Some of these groups are collections of existing groups that are interested in working toward consensus on common problems. The Colorado Water Conservation Board supports these efforts through the funds described below.

The Watershed Restoration Program is administered by the Colorado Water Conservation Board. The board represents each major water basin, Denver and other state agencies in the joint effort to use water in a sustainable manner. The board administers several grant programs for watershed restoration projects:

- The legislature established the Colorado Watershed Protection Fund in 2002 and adds the fund to the Colorado Individual Income Tax Refund Check-off Program for voluntary contributions. The check-off program allows taxpayers to designate a portion of their tax refund to charitable organizations or social programs.

The watershed fund provides money for a competitive grant program to help local watershed restoration projects within Colorado. For examples, the North Fork River Improvement Association was awarded a grant to reconstruct an irrigation ditch diversion on the North Fork Gunnison River to eliminate annual channel disruption by bulldozers. The project will improve water conservation and delivery efficiency while delivering full entitlement of water. It also increases stream flows, allowing for fish migration and safe passage of recreational boats.

The board administers the fund, but the law requires it to administer money in consultation with the Colorado Watershed Assembly, a statewide organization made up of more than 40 individuals watershed groups. The assembly works collaboratively with state and federal agencies to resolve watershed related issues.

- The Fish and Wildlife Resources Fund Grant Program was established in 2001 as a part of the Emergency Dam Repair Cash Fund. Under the statute, an emergency dam repair cash fund was established in the state treasury and the state treasurer is authorized to transfer funds from the Colorado Water Conservation Board construction fund to the emergency dam repair cash fund. This grant program funds projects that mitigate existing water diversion, delivery or storage facilities in a manner that maintains a balance between development of the state’s resources and the protection of the state’s fish and wildlife resources.
- Watershed Restoration Grants were created under the 2006 Construction Fund bill and allow for planning and engineering studies for watershed restoration and flood mitigation projects throughout the state.

The board also administers a low-interest construction loan program for projects that develop and or/ preserve waters statewide.

The U.S. Forest Service has a program of Community-Based Watershed Restoration Partnerships. In Colorado, the Upper South Platte Watershed Protection and Restoration Project, in the Pike and San Isabel National Forests, brought together the Forest Service, Colorado State Forest Service, U.S. Environmental Protection Agency, Natural Resources Conservation Service, U.S. Geological Survey, Denver Water Department, Coalition for the Upper South Platte and the U.S. Fish and Wildlife Service. The larger project is broken into several smaller projects. The Cheesman Canyon Restoration Project, for instance, included restoration of a trail along the “Gold Medal” reach of the popular fishing stream through a partnership between the Forest Service and Trout Unlimited.

## **MINE RESTORATION**

The Colorado Division of Reclamation, Mining and Safety is responsible for mineral and energy development, policy, regulation and planning. The division includes the Office of Mined Land Reclamation and the Office of Active and Inactive Mines. The division reports to the Mined Land Reclamation Board and the four-member Coal Mine Board of Mine Examiners.

The Office of Mined Land Reclamation issues reclamation permits from the Minerals Program or the Coal Program. The two programs’ primary objective is to review mining and reclamation permit applications and to inspect mining operations to make sure that reclamation plans are followed. The Office of Active and Inactive Mines reclaims and safeguards abandoned mine sites that are dangerous and create environmental hazards.

In response to the federal Surface Mining Control and Reclamation Act, the legislature passed the Colorado Surface Coal Mining Reclamation Act. The federal act requires all coal mines to meet minimum performance standards for environmental and public protection and reclamation. Colorado decided to administer its own coal regulatory act under which the Mined Land Reclamation Board promulgated rules and regulations for coal mining and reclamation activities beginning in 1980. The program allows coal mining only on land that can be successfully reclaimed and works to reclaim coal mines that have had permits revoked due to non-compliance.

The Mined Land Reclamation Board and Minerals Program issue and enforce mining and reclamation permits for all non-coal mines in Colorado on state, federal and private lands. The minerals program operates under the Colorado Mined Land Reclamation Act and the Colorado Land Reclamation Act for the Extraction of Construction Minerals. The minerals program is responsible for reviewing new mine permits, inspecting active mine sites and ensuring that financial warranties are posted for the actual cost of reclamation.

The Abandoned Mine Land Program receives an average of \$2 million a year for mine safeguarding work. The program focuses only on safeguarding abandoned mine land and not on restoration or rehabilitation of the land.

In 2002, the Brownfields Law expanded the definition of brownfields to include mine-scarred lands, providing a new tool for cleanup and revitalization of mining properties. Under the Brownfields and Land Revitalization Sector is the Mine-Scarred Lands Initiative, established as an interagency approach among nine federal agencies.

The Peanut Mine Reclamation Project near Crested Butte is an example of mine reclamation under the brownfields program. The project was a collaborative effort between local officials, the Crested Butte Land Trust, Peanut Mine, Inc., and state and federal agencies to restore a 16-acre portion of an 83-acre property impacted by a former coal mine and hard-rock ore processing operation in the Slate River watershed. The reclamation project was funded primarily by an EPA brownfields cleanup grant, with additional funding from the state Minerals and Geology Division's Colorado Inactive Mine Reclamation Program. The reclaimed land provided a recreational area used by local residents and prevented further environmental degradation.

## **BROWNFIELDS AND SUPERFUND RESTORATION**

The Department of Public Health and Environment, Hazardous Materials and Waste Management Division administers federal Superfund sites in Colorado. Colorado has two proposed sites and 17 active sites on the Superfund list.

The EPA awarded the Colorado Department of Public Health and Environment a Brownfields Revolving Loan Fund grant. The grant helps feed a revolving fund from which the department provides loans and grants to conduct cleanup activities. Denver is a federally designated Enterprise Community and a Brownfields Showcase Community. The Enterprise Communities program provides new opportunities for growth and revitalization through coordinating economic, physical, environmental, community and human development efforts. Brownfields Showcase Communities have three main goals:

- promote environmental protection, economic redevelopment and community revitalization through the assessment, cleanup and sustainable reuse of brownfields
- link federal, state, local and non-governmental action supporting community efforts to restore and reuse brownfields
- develop national models demonstrating the positive results of public and private collaboration addressing brownfields challenges

Denver identified a number of distressed neighborhoods around historically commercial and industrial properties with suspected or confirmed environmental contamination. Most residents in the target neighborhoods are low-income and people of color. Cleanup and revitalization of the target sites is expected to generate millions of dollars in annual economic activity; create new businesses, jobs, and housing; and restore green space in depressed areas in the region.

Colorado also has state incentives granted in the passage of House Bill 1306, which gives income tax credits for companies that develop brownfields. A maximum of \$100,000 credit per property is available: 50 percent of the first \$100,000 spent on cleanup, 30 percent of the next \$100,000 and 20 percent of the third \$100,000. To be eligible, the property must be located in a municipality with a population of at least 10,000. The act also provides for limited state authority to clean up sites where no other federal or state program that can accomplish the cleanup. It provides \$250,000 for such cleanup, which is designed first to protect human health and the environment and also improve the redevelopment potential of the property.

## **MONTANA**

Montana's restoration economy is one of the more advanced in the region. Restoration plays a prominent role in the governor's 2008-2009 budget highlights, including a commitment to invest in the restoration of lands and waters to return ecosystems to healthy function, improve the quality of life in Montana communities, increase property values, support growth of new industries and create well-paying jobs.

Community leaders representing business and industry, labor, state universities, government, sportsmen and conservation interests have joined as the Restore Montana network. One of the network's early successes was lobbying the 2007 legislature to establish a state restoration specialist position, which with funding for database development and project coordination.

Montana's approach to developing its restoration economy focuses on improving and increasing programmatic infrastructure – that is, going beyond funding programs for specific restoration projects and ensuring that Montanans know how to envision and execute programs and increasing community capacity for initiating restoration. These programs are described in detail below.

For example, the Natural Resources Information System is a searchable database with reports on restoration activities and practices that can be used as a resource for planning future restoration projects. Further, programs at Montana State University research and promote restoration activities and train individuals in restoration, creating a new generation of restoration practitioners. The University of Montana in fall of 2007 established a wildland restoration undergraduate degree program and operates a website dedicated to providing information for watershed planners for the conservation of the Clark Fork River Basin.

Montana also has a number of grant and loan programs specifically earmarked for restoration projects, and the legislature approved over \$34 million for restoration-related projects through 2009. Some of the funding is earmarked for specific areas, such as the upper Blackfoot watershed mining complex restoration and railroad fuel cleanup in Livingston. The remaining funds are for grant and loan programs. In addition, the appropriation created the statewide restoration specialist position in the Department of Natural Resources and Conservation.

The programs directly relating to “restoration economy” are discussed first and are followed by programs that focus on restoration but not necessarily under the rubric of “restoration economy.”

## GOVERNOR SCHWEITZER'S RESTORATION FORUM

Gov. Brian Schweitzer held a restoration forum in Billings in June 2006. The forum had a broad focus with 11 breakout sessions that examined restoration activities and potential in economic development and workforce enhancement and specific resources restoration, such as habitats, rangelands, forests, mine reclamation, invasive plant species, watersheds, and brownfield redevelopment.

According to the Montana Restoration Initiative website ([www.restoration.mt.gov](http://www.restoration.mt.gov)) and the governor's budget proposal, Montana's restoration goals are:

- Establish an integrated approach to state restoration activities
- Develop integrated ecosystem-based planning to best view and implement agency restorative efforts
- Enhance cooperation, collaboration and coordination among government, non-governmental organizations and stakeholders to encourage sharing of best restorative practices
- Create efficient allocations of available and potential resources to maximize and enhance the state's natural resources for the benefit of all Montanans
- Improve the exchange of restoration and ecological planning resources, activities and information
- Increase public awareness that integrated restoration creates economic growth based on the coordinated renewal of Montana's natural environment

In particular:

- A request of one-time funding to determine the nature and extent of contamination at the Mike Horse Mine near the headwaters of the Blackfoot River near Lincoln
- Continuation of cleanup activities at the Burlington Northern Santa Fe Railway refueling site in Livingston and development and implementation of a remedial plan for the entire project
- Legislation to better integrate state agency restoration programs with state colleges and universities
- Restoration workforce training and apprenticeship programs
- Infusion of one-time money to accelerate the cleanup of select state Superfund and abandoned mine sites
- Legislation to facilitate greater use of the Orphan Share State Special Revenue Account

The Governor's Forum opened dialogue on the idea of "restoration economy" and is continued through the Montana Restoration Initiative. The governor's office remains engaged and dedicated to promoting and developing a restoration economy.

## **FUTURE FISHERIES PROGRAM**

The Future Fisheries Program was established in 1995 by the legislature and is administered through the Montana Department of Fish, Wildlife and Parks. In 1999, the legislature expanded the program by adding funding from the Resources Indemnity Trust Fund and directing a portion of the funding to projects that specifically benefit bull trout and cutthroat trout, with emphasis on mineral reclamation projects.

Each year, the program provides about \$750,000 for wild fish population revitalization. A portion of Montana fishing license fees and the Resource Indemnity Trust Fund pay for the program. Potential projects must accomplish specific objectives outlined under the program, such as improving, fish passage, restoring riparian areas, improving stream flows or protecting pure strains of native fish.

Projects are evaluated by an independent review panel that submits a list of recommended projects to the FWP Commission, which grants final approval. In its 2007 report, the FWP anticipated spending between \$7.5 million and \$10 million on restoration projects in the next 10 years.

## **MONTANA STATE UNIVERSITY**

Montana State University (MSU) houses various programs devoted to restoration that conduct research and provide restoration resources, such as publications, consultants and policies. The restoration research at MSU is quite developed and is a mix of federal and state partnerships. A brief description of key programs follows.

Montana Water Center advances water research, information, education and problem-solving partnerships throughout Montana and beyond. It is one of 54 centers nationwide collectively known as the Water Resources Research Institutes. The centers were authorized by the Water Resources Research Act of 1964 and are charged with:

- arranging for competent research that addresses water problems or expands understanding of water and water-related phenomena;
- aiding the entry of new research scientists into the water resources fields;
- helping to train future water scientists and engineers;
- getting results of sponsored research to water managers and the public.

The program is under the general guidance of the Secretary of the Interior and is administered through the U.S. Geological Survey. The Center oversees seven Montana projects:

- Montana Water website, which is updated daily to provide reliable and comprehensive information on Montana's water
- Montana Watercourse, a statewide water education program, which provides unbiased information, resources, tools and education to support water resource decision-making and stewardship
- Montana Watersheds, which maintains the website for Montana Watershed Coordination Council
- Montana Water Research through the U.S. Geological Survey Water Research Program, which conducts research to address water problems, such as groundwater depletion, post-fire soil erosion and water degradation

- Whirling Disease Initiative, a national research program to conduct research that develops practical management solutions to maintain viable, self-sustaining wild trout fisheries in the presence of the whirling disease parasite
- Wild Fish Habitat Initiative, described in more detail below.
- Small Drinking Water System Technical Assistance, which works to protect public health and improve small public water system sustainability

Wildlife Fish Habitat Initiative is a cooperative effort between the Partners for Fish and Wildlife Program and the Montana Water Center. The initiative, established in 2002, conducts research by the Water Center staff and Montana State University biologists in collaboration with private landowners and private and public agency biologists.

The Partners for Fish and Wildlife Program is administered by the U.S. Fish and Wildlife Service. The program provides financial and technical assistance to private landowners interested in voluntary habitat restoration on their lands. The Partners Program was established in 1987 with a core group of biologists and on the ground wetland restoration projects on private land.

The Partners Program has grown throughout the years and in 2006, President Bush signed the Partners for Fish and Wildlife Act, which authorizes the Secretary of Interior to provide technical and financial assistance to private landowners to restore, enhance and manage private land to improve fish and wildlife habitats through the Partners for Fish and Wildlife Program.

WFHI seeks to augment the success of the Partners Program and other fish habitat restoration programs by conducting targeted research related to native fish habitat restoration techniques, and by implementing a technology transfer program to provide technical information to landowners and project managers.

Center for Invasive Plant Management promotes ecologically sound management of invasive plants. The center is a self-funded educational non-profit whose staff work in partnership with county, state and federal agencies, tribes, non-governmental organizations, private industry, commodity producers and academic institutions in support of ecologically-based invasive plant management. The center's objectives are to:

- facilitate collaboration and communication among scientists, land managers and policy-makers;
- serve as a respected, science-based information clearinghouse for ecological management of invasive plants;
- provide professional development opportunities for land managers and educators;
- serve as a resource center for Cooperative Weed Management Areas.

CIPM has a searchable Restoration Resource Database to find resources on restoration, particularly relating to invasive species.

The Joe Skeen Rangeland Institute is a consortium of three academic institutions including Montana State University, New Mexico State University and Texas A&M. The institute's mission is to conduct research and education programs for the purposes of expanding on-going state and federal range

management, education and extension programs, including maintaining and restoring the health and vitality of rangelands. Funding partners include USDA Cooperative Research, Education and Extension Service and the Forest Service' Rocky Mountain Research Station.

A Master's of Science in Land Rehabilitation is offered through M.S.U.'s College of Agriculture. The program is designed to prepare students in the new field of land rehabilitation. Site revegetation, soil remediation, riparian-zone restoration, stream channel restoration and remediation of contaminated sites are areas of study.

## **FOREST RESTORATION**

In 2003, the Legislature issued a Joint Resolution in support of the National Forest County Partnership Restoration Program (CPR), which was established in 2001 by Congress for implementation in national forests in the western states. The program emphasizes local government leadership in national forest work elevating fuels-treatment projects to a landscape scale and accelerating the identification, prioritization and restoration of areas at high-risk of damage through wildfire and pest infestation over a 10-year period. The three test-pilot forests are in Colorado, New Mexico and Arizona; however, the developing proposal includes national forests in Montana.

The National Fire Plan was developed in 2000, following a landmark wildland fire season. The NFP addresses five key points: firefighting, rehabilitation, hazardous fuels reduction, community assistance and accountability. The plan is administered by various federal agencies, including the Forest Service and the Department of Interior. When the program was first authorized, over \$62 million was allocated to Montana for rehabilitation and restoration of damaged forest lands.

As part of the restoration project, the Lolo National Forest entered into an agreement with the Bitterroot RC&D Area, Bitterroot Job Service, and AFL-CIO Project Challenge to host a national emergency grant program to provide work projects to the partners to employ workers directly affected by the 2000 wildfires.

In 2007, the State and Private Forestry Technology Marketing Unit of the Forest Service offered a one-time grant opportunity to highlight examples of landscape-scale partnerships involving forest restoration and the use of woody biomass. The 2007 Forest Restoration Working Partnership grants aimed to highlight successful projects and actions completed by the applicants to advance a shared vision of forest restoration and the many uses and benefits of woody biomass utilization. (Woody biomass is the material from trees and woody plants, including limbs, tops, needles, leaves and other woody parts that are the by-products of forest management, ecosystem restoration, or hazardous fuel reduction treatments. Woody biomass utilization is the harvest, sale, offer, trade and/or use of woody biomass to produce the full range of wood products.)

Montana's participation in the Fuels for Schools program is administered by the Montana Department of Natural Resources and Conservation, U.S. Forest Service and local Resource Conservation and Development Councils. The program helps hospitals and other public buildings, in addition to schools, use biomass productively, mainly as a heating source.

The program offers financial aid to help purchase new heating systems, sometimes with the requirement that half of the material the biomass burner burns come from timber projects on public and private lands for the first two years. By burning the biomass in efficient boilers, rather than in open piles as it the current practice, the air quality impact is dramatically reduced and heat that would otherwise be wasted is used. Darby School District, one of the first participants in the program, converted its heating system from natural gas to biomass, saving \$34,000 a year in heating costs.

## **WATERSHED RESTORATION**

In 1990, the Natural Resource Damage Program (NRDP) was created to obtain and allocate funds derived from settlement of the state's lawsuit against the Atlantic Richfield Co. (ARCO) for injuries to the natural resources in the Upper Clark Fork River Basin attributable to past mining and smelting. The Montana Department of Justice has settled several parts of the lawsuit and received \$230 million. Three remaining claims are still being litigated. In 1999, roughly \$130 million was earmarked to restore or replace the natural resources in the Upper Clark Fork River Basin. NRDP administers a grant program to improve water, fish and wildlife, public drinking water and public recreation. The governor makes final grant decisions based on recommendations of an appointed advisory commission. To date, 63 projects have been approved. The state also has used settlement money for special projects, such as the restoration planning for the Milltown Dam removal and the Silver Bow Creek watershed restoration.

Milltown Dam and reservoir on the Clark Fork River near Missoula were placed on EPA's Superfund list in 1983 based on high levels of arsenic detected in area drinking water wells and linked to large accumulations of mine wastes washed downstream into the reservoir. The dam is at one end of the nation's largest Superfund site, which extends more than 100 miles to the headwaters of the Clark Fork River at Butte. The dam and mining wastes have affected fisheries and the dam itself has been categorized as a high-hazard. Most of the dam is built on sand and gravel, which are subject to erosion during large floods. The cleanup plan covers 120 river miles upstream of the dam and will remove 167 acres of polluted soils along the river. The plan calls for removing nearly 2.4 million cubic yards of contaminated sediment from the reservoir itself. Crews will treat some 700 acres of soil in place; establish a 50-foot riparian area on each side of the river; and replant native willow, dogwood and cottonwood to stabilize 56 miles of stream bank against further erosion and prevent additional heavy toxic metals from entering the river. The clean up, expected to take 10 years to complete, will restore the historic confluence of the Blackfoot and Clark Fork rivers and includes recreational access and community revitalization measures.

The Milltown Dam removal and restoration project is described in more detail in the "Restoration Stories" section of this briefing book. Additional information is available at [www.cfrtac.org](http://www.cfrtac.org).

The Montana Watershed Coordination Council (MWCC) is a statewide coordination network for Montana's natural resources agencies and private organizations and a forum for local watershed groups to enhance, conserve and protect natural resources. The MWCC site is maintained by the Montana Water Center, as described above. The MWCC offers several resources, including funding and technical expertise directories for watershed restoration.

The EPA's Targeted Watershed Grants Program supports collaborative watershed partnerships ready to implement on-the-ground restoration and protection activities designed to achieve quick, measurable environmental results. The Tri-State Water Quality Council, for example, used a Targeted Watershed Grant to conduct restoration activities on the Clark Fork-Pend Oreille Watershed, which had been damaged by a long history of mining and logging and a recent surge of urbanization.

## **MINE RESTORATION**

Montana's DEQ has a Mine Waste Cleanup Bureau that is divided into two sections: Abandoned Mine Section and the Federal Superfund Section.

The Abandoned Mine Section administers the abandoned mine reclamation projects that are funded by federal grants derived from a tax on coal under the federal Surface Mining Control and Reclamation Act of 1977. In 1989, then-Gov. Stan Stephens certified to the Department of Interior Office of Surface Mining that the state had addressed all of its high-priority coal-related reclamation problems and as such, Montana was approved to use federal Surface Mining Control and Reclamation Act funds for reclamation of hard-rock mines.

As of 2005, Montana's abandoned mine reclamation program had overseen completion of 283 projects. Every year, Montana receives its allocation of abandoned mine reclamation funds granted to states by the federal government. Before any reclamation can be done on a specific project, DEQ must request funding through an individual project grant application process. Each grant application is prepared and coordinated by DEQ staff. As sites are chosen based on their priority, applications are submitted to the Office of Surface Mining for approval as specific projects to be funded.

Once a project has been funded, DEQ advertises the reclamation construction project for three consecutive weeks in five major newspapers and one local paper. Once all the bids have been submitted, DEQ verifies the contractor's compliance with necessary insurance and bonding requirements. Construction plans are then drawn up and executed. The abandoned mine site usually has its hazardous opening blocked, stream water is diverted from contaminated areas, topsoil is placed and the area is revegetated. DEQ subsequently monitors the reclamation site in the years following reclamation and mitigates any problems, such as invasive noxious weeds, that may arise.

The DEQ Superfund Section deals with the 15 federal Superfund sites, all but one related to mining. The section oversees or implements remedial actions at sites from EPA's National Priorities List that have been delegated to Montana for state-lead status under cooperative agreements with the EPA. The section also provides technical and management assistance to EPA for remedial investigations and cleanup actions at Superfund sites maintained in federal-lead status.

## **SUPERFUND AND BROWNFIELD REMEDIATION**

The Department of Environmental Quality's Site Response Section administers investigation and cleanup activities at sites addressed under Comprehensive Environmental Cleanup Responsibility Act, Voluntary Cleanup Responsibility Act, Controlled Allocation Liability Act, Water Quality Act, Agricultural Chemical Ground Water Protection Act, and Small Business Liability Relief and Brownfields Revitalization Act. They do not address the Superfund issues that arise out of mining activities.

The primary focus of SRS is to facilitate investigation and cleanup of releases of unregulated hazardous substances. In Montana, the majority of these releases occurred at sites where mining, smelting, wood treating, railroad fueling and maintenance, petroleum refining, landfilling and chemical manufacturing/storage activities were conducted

The contaminated sites are ranked based on potential risk to public health and the environment. Site investigation and cleanup activities focus primarily on the highest-priority sites. There are three funding mechanisms from which applicants can apply for brownfields funding:

- **Montana Targeted Brownfields Assessments:** for a Montana targeted brownfields assessment, DEQ hires one of its contractors to conduct an assessment of the property in question. DEQ only considers targeted brownfields assessments for sites on which it is currently working.
- **EPA Targeted Brownfields Assessments:** for an EPA targeted brownfields assessment, EPA hires one of its contractors to conduct an assessment of the property in question.
- **EPA competitive grants:** each year EPA solicits grant applications for assessment, cleanup, revolving loan funds and job training. EPA reviews these grant applications on a national basis and typically awards around \$100 million each year.

Only governmental entities, tribes, or certified regional development corporations can apply for brownfields grants. The Montana Department of Commerce certified certain regional development corporations. For instance, in central Montana, the certified regional development corporations are Northern Rock Mountain RC&D, Sweetgrass Development Corporation, Snowy Mountain Development Corporation, and Southeastern Montana Development Corporation.

Among the potentially hundreds of brownfield sites in Montana, there are two sites where federal brownfields funding has been spent: Brewery Flats and Berg Lumber, both in Lewistown. There are also brownfields programs on Fort Peck, Blackfeet, Fort Belknap and Confederated Salish and Kootenai tribal lands.

## **NEVADA**

Nevada, as many other states, does not have a formal office of restoration, nor is there much discussion of restoration practices as part of an “economy.” Nevada has almost 10 million acres of forest land and over 20 million acres of federal land. Eighty-six percent of public lands are managed by federal agencies, including the Bureau of Land Management and Forest Service.

The Nevada Department of Conservation and Natural Resources is the primary agency responsible for the state’s restoration programs, including programs administered by the Division of Forestry and Environmental Protection, which oversees brownfield and mining reclamation programs.

Similar to other states, Nevada has academic programs that focus on developing restoration practices. For instance, the Center for Watershed and Environmental Sustainability (CWES) is one of the centers of the Desert Research Institute, a nonprofit research campus of the Nevada System of Higher Education. CWES aims to become a leader in the emerging science of watershed restoration. Among its research programs is the development of regionally based research programs targeted at Eastern Sierra watersheds.

## **FOREST RESTORATION**

The state’s Division of Forestry works to improve and protect forests, rangeland and watersheds. The division develops partnerships with federal, state and local agencies, as well as with the private sector to improve Nevada’s watersheds. The division also enforces state laws and regulations, promotes conservation and best management practices and educates the public on land stewardship ethics.

## **WESTERN FORESTRY LEADERSHIP COALITION**

The Western Forestry Leadership Coalition is a state-federal partnership that works with people and resources in the West, delivering state and private forestry programs. Among the coalition’s priorities are maintaining healthy forests, water and watershed management and the economic and social well being of communities. This interagency partnership maximizes public and private resources and returns nearly \$10 in non-federal contributions for every federal \$1 invested. These non-regulatory programs are voluntary.

The cooperative program budget for Nevada is estimated to be over \$4.2 million in 2007. The cooperative programs are administered and implemented through partnerships between the state, Forest Service and other private and government entities. Among the program highlights are:

- Forest Health Protection
  - Thirteen National Fire Plan projects were completed throughout Nevada, focusing the effort on the wildland-urban interface, rural communities and Nevada State Park recreational areas. Three Forest Health Prevention, Suppression and Restoration projects were completed on adjoining properties in western Nevada to help improve forest health by removing infected trees, pruning out mistletoe infections and thinning.

- In addition, Nevada Department of Agriculture received \$170,000 to support its aggressive efforts to combat noxious weeds. Much of this money was granted to Cooperative Weed Management Areas, funding groups of neighboring landowners in their efforts to reduce, eliminate and prevent noxious weed infestations throughout the state.
- Economic Action
  - Using a proven technology that replaces fossil fuels with renewable wood chips, the Fuels for Schools Program provides grant funding and technical assistance for conversions to biomass heat. The program is a venture involving public schools, state foresters and the Northern and Intermountain regions of the Forest Service. The program helps public schools retrofit their current fossil-fuel heating systems to systems burning biomass.
  - The program benefits communities by developing consistent local markets for wood waste removed as part of hazardous fuel treatment projects, local wood manufacturers' waste and urban forest debris. Nevada has two of the most prominent demonstrations: The Ely School District Project and soon to be operational, the Northern Nevada Correctional Facility Project.
- Urban and Community Forestry
  - Nevada's Division of Forestry held various education events, including tree planting programs and the Nevada Shades of Green Project, which supports an alliance of federal, state and local agencies, utility companies and organizations that want to demonstrate how urban forestry practices can improve air and water quality in the Las Vegas area.

## **GREAT BASIN RESTORATION INITIATIVE**

The Great Basin encompasses most of Nevada, the lower third of Idaho, the western half of Utah, the southeast corner of Oregon and a narrow strip of California. Huge wildland fires in the summer of 1999 burned at least 1.7 million acres of land, wiping out much of the native shrub lands. Noxious weeds and exotic annual grasses have also contributed to the decline of the shrub lands, resulting in the loss of wildlife species, unstable watershed and degraded quality, less forage for wild horses, reduced livestock grazing, fewer recreational opportunities, and more dangers and costly wildland firefighting.

In 1999, a team of specialists met in Idaho to discuss the consequences of the fires, concluded that the Great Basin was in desperate need of restoration and began the Great Basin Restoration Initiative (GBRI). The Bureau of Land Management and participating states administer the GBRI.

One of the main goals of the GBRI is to “sustain long-term multiple use and enjoyment of public land in the Great Basin and provide potential economic opportunities to local communities in the restoration process.”

The initiative aims to build wide partnerships for restoration projects. For example, the Great Basin Native Plant Selection and Increase Project Cooperators include the BLM, U.S. Department of Agriculture, Utah Division of Wildlife Resources, Brigham Young University, the native seed industry and the Utah Crop Improvement Association.

## **MINE RESTORATION**

The state is not aggressive in pursuing companies to clean up contamination from closed mines. For instance, Yerington Mine, about eight miles from Reno, is a closed copper mine owned by Atlantic Richfield Company (ARCO) that is heavily contaminated by uranium in the ground and water table. The EPA and Sen. Harry Reid have called for federal Superfund designation, but Nevada’s former Gov. Kenny Guinn and the Department of Environmental Protection are resisting efforts to designate the site and are instead relying on voluntary efforts by ARCO to clean up the site and the surrounding area.

Mining interests have staked more than 110,000 active mining claims in Nevada, covering an estimated 2.5 million acres. The Bureau of Mining Regulation and Reclamation (BMRR), under the Nevada Division of Environmental Protection, oversees reclamation programs.

The bureau states on its website, “It is the mission of BMRR to ensure that Nevada’s waters are not degraded by mining operations and that the lands disturbed by mining operations are reclaimed to safe and stable conditions to ensure a productive post-mining land use.” Also on the website is a “Nevada Standardized Reclamation Cost Estimator” that can be used to estimate mine reclamation costs.

The Reclamation Branch of the BMRR issues permits to an operator before construction of any exploration, mining, milling or other beneficiation process activity that proposes to create disturbance over five acres or to remove more than 36,500 tons of material from the earth. A

valid reclamation permit requires that an acceptable surety be filed with the division or a federal land management agency prior to engaging in permitted activities. Acceptable surety includes: trust fund, bond, irrevocable letter of credit, insurance, corporate guarantee or a combination of these mechanisms. However, if a company goes bankrupt before reclamation is complete, the state assumes the burden of reclamation costs. Legislation was introduced in 2003 (AB 321) that would have prohibited the use of corporate guarantees, but the bill died in committee.

## **ABANDONED MINE LAND**

The Nevada Abandoned Mine Lands Program was initiated by the legislature and is administered by the state Division of Mines. There are approximately 200,000 abandoned mine “features” in Nevada from historical mining operations, of which about 50,000 may present physical safety hazards. There are two major tasks for the program:

- **Abatement of Hazardous Conditions:** The division identifies and ranks the hazardous condition and conducts ownership research to try to get responsible parties to abate hazardous conditions.
- **Public Awareness**

Fees paid by the minerals industry and grants from the Bureau of Land Management fund the program.

## **BROWNFIELDS RESTORATION**

The Nevada DEP has the authority to require cleanup of contaminated sites and set clean up standards within Nevada. The Nevada Land Recycling Program, which administers brownfields cleanup, works closely with the EPA, which is the major funding source.

The Nevada Brownfields Program operates a \$2 million revolving loan fund, the Land Recycling Program, intended to help property owners or developers cover costs associated with the cleanup of contaminated sites. The secured loans can be provided at below-market rates and with flexible repayment options. The loans may only be used for cleanup and not construction or development.

The Land Recycling Program also initiates relationships among municipal governments, private investors and other state and local redevelopment agencies to promote brownfields redevelopment.

## **WATERSHED RESTORATION**

The Nevada Department of Wildlife is the primary agency responsible for restoration of fish and wildlife resources. The Wildlife Heritage Trust Account is authorized and administered by the Nevada Board of Wildlife Commissioners. Money from the account is to be used only for the protection, restoration and management of wildlife. Among the projects funded are watershed restoration projects to protect instream habitats.

The trust account also funds multi-party restoration activities, including, for example, collaborative efforts of the Elko District of the BLM, Nevada Division of Wildlife, U.S. Fish and Wildlife, Newmont Mining Corporation, private ranchers and Trout Unlimited.

The Natural Resources Conservation Service (NRCS) under the U.S. Department of Agriculture

also administers several restoration projects in Nevada. For instance, NRCS scientists and specialists work with several other stakeholders in the rehabilitation of the Guanami mine. Acid runoff and metal loading from the abandoned mine were entering wetlands and streams that emptied into Pyramid Lake, which is located on Pyramid Lake Paiute tribal land.

Working with NRCS resource conservationist, the Pyramid Lake Paiute Tribe developed a conservation plan and secured a Wildlife Habitat Incentives Program (WHIP) contract to help restore wetland habitat and traditional uses of wetland areas. WHIP is a voluntary program for people who want to develop and improve wildlife habitat primarily on private land. WHIP, through the NRCS, provides both technical assistance and up to 75 percent cost-share assistance to establish and improve fish and wildlife habitat.

## **DAM RESTORATION**

Nevada is home to almost 500 dams, scores of which are rated as high hazards. The cost of rehabilitating the high-hazard dams is estimated at over \$77 million. Between 1998 and 2006, Nevada received a little over \$600,000 in state assistance grants for dams. The funds were used for contracts with private engineering consultants for dam safety inspections, equipment and training.

## **UTAH**

Utah is unique in that there is a dedicated commission within the federal executive branch that deals with reclamation, mitigation and conservation resulting from the Central Utah Project, which diverts water from various Utah rivers for delivery to central Utah residents. Many of the commission's projects focus on watershed and habitat restoration.

Utah also has research facilities dedicated to restoration. The Utah Division of Wildlife Resources' Great Basin Research Center is located in Ephraim. It conducts forest and rangeland restoration research needed to implement effective wildlife habitat conservation programs statewide. The primary objective is to develop the division's capability to restore poor-condition big game winter ranges.

Much of this research is carried out on public lands in cooperation with the Bureau of Land Management and the Forest Service. The Great Basin Research Center has a long history of cooperating with multiple agencies. The Forest Service Rocky Mountain Research Station and Shrub Science Laboratory, located in Provo, have a similar mission, and activities of both research facilities are closely coordinated.

The center researches methods to mitigate the damage caused by overgrazing by livestock and big game; wildfires (and the lack of wildfires); construction; mining; energy development; urban sprawl; defense work; certain land management practices; and the natural consequences of plant succession.

The agencies and programs addressing forest, watershed, mine restoration and brownfields and Superfund reclamation are detailed below.

## **UTAH RECLAMATION MITIGATION AND CONSERVATION COMMISSION**

The Commission is an executive branch agency of the federal government, authorized under the Central Utah Project Completion Act of 1992. The act sets terms and conditions for completing the Central Utah Project, which diverts, stores and delivers large quantities of water from various Utah rivers to central Utah.

The Mitigation Commission designs, funds and implements projects to offset the impacts to fish, wildlife and related resources resulting from the Central Utah Project and other federal reclamation projects in Utah. Several mitigation projects require completing efforts initially administered by the U.S. Bureau of Reclamation and Department of the Interior. Other mitigation projects are new mandates included as a condition of completion of the project.

Under the commission's umbrella authority, other federal and state agencies, local governments, universities, non-profit organizations and the Ute Tribe cooperate through agreements with the commission to conduct a wide variety of ecosystem restoration and wildlife conservation projects in the state. The commission is authorized to spend roughly \$170 million to carry out mitigation programs. Annual funding depends on Interior Department appropriations for the Central Utah Project. The commission may spend up to 10 percent of the total annual appropriations allotted for the Central Utah Project.

## **FOREST RESTORATION**

Utah has over 16 million acres of forested land and 2.8 million acres of nonindustrial private land. Over 64 percent of the land within Utah is managed by the federal government with another 10 percent of the land managed by the state.

Utah is also part of the Four Corners Sustainable Forests Partnership, along with New Mexico, Arizona and Colorado.

The Division of Forestry, Fire and State Lands is the primary agency for forest restoration activities. The Division oversees the Urban Forestry, Forest Health, Forest Legacy and Fuels for Schools programs. It is also a part of the Western Forestry Leadership Coalition. Financial support for the Forest Legacy program is supplemented by nonprofit organizations, including The Trust for Public Land, The Nature Conservancy, Utah Open Lands and The Rocky Mountain Elk Foundation. The Governor's Quality Growth Commission also supplements Forest Service funding.

The state also entered into a partnership with the Forest Service to create a Forest Restoration Partnership Working Group. The working group is charged with monitoring and guiding programs that will benefit forests and communities of the Central Colorado Plateau and Great Basin. The working group consists of eight members: the Forest Service supervisors of the Dixie, Fishlake and Kaibab national forests; Utah's state forester; the Utah Rural Development Council director; a commissioner from the Five Counties Association of Government service area; a commissioner from the Six County Association of Government service area; and one member from the Arizona Strip Alliance.

The Forest Service and BLM also have authority to enter into stewardship contracts with communities, the private sector and others for up to 10 years to meet land-management objectives. Stewardship contracts focus on producing desirable results on the ground that improve forest and rangeland health and provide benefits to communities.

For example, in Utah, BLM has a stewardship contract with the Gardner Canyon Vernal Field Office to conduct restoration treatments on an area that experienced a high-intensity wildfire in August 2002 and adjacent unburned areas. The project includes the salvage of dead and dying trees resulting from the fire and green, unburned trees selected as part of forest restoration treatments.

## **ENDOWMENT TRUST LANDS**

Endowment Trust Lands are lands that were granted to the state by the federal government at the time of statehood expressly for the purpose of benefiting public schools. The lands are administered by the Utah School and Institutional Trust Lands Administration to generate revenue for the beneficiaries. Trust lands may be leased for the production of oil and gas, coal, gold, gems and other commodities. Historically, mineral revenue has been the backbone of trust land operations. Approximately 3 million acres of trust land are permitted for grazing. In addition, about 250,000 acres of trust land are managed as forests. The Trust Lands Administration manages a 3.5 million-acre real estate portfolio.

## **WATERSHED RESTORATION**

The Utah Division of Wildlife administers the Watershed Restoration Initiative, which is a partnership-driven effort to conserve, restore and manage ecosystems in priority areas to improve native wildlife and biological diversity, water quality and yield, sustainable agriculture and quality of life through outdoor recreation.

The Utah Partners for Conservation and Development (UPCD) coordinates and shares participants' conservation concerns and priorities, discusses and implements solutions, and promotes an atmosphere of collaboration among landowners, private organizations and state and federal agencies. The UPCD has three general approaches to address the risks to the shared partnership interests:

- Ecosystem restoration is implemented through physical and mechanical habitat manipulation, such as seeding, reconstruction, vegetation management, species transplants and other means.
- Administrative changes in land management may be made through permitted or allowed uses and management prescriptions. This may be done either independently of, or together with, mechanical interventions.
- Communication and team building among the public, stakeholders and the UPCD is promoted to better understand the risks to natural resources and values, and to improve cooperation and problem solving across boundaries.

Projects are proposed by biologists within the partnership to the regional teams. Proposals are entered into a statewide habitat projects database and reviewed at regional team meetings. Proposed projects include all forms of restoration from habitat to watershed and rangeland restoration.

## **MINE RECLAMATION**

Utah has more than 23,000 active mining claims, covering an estimated 600,000 acres. Six of Utah's abandoned mines are Superfund sites. Utah requires mine site reclamation under the Mined Land Reclamation Act of 1975. The state accepts "corporate guarantees" in lieu of cash, bonds or paid insurance policies to cover cleanup costs. If the company goes bankrupt before cleanup is completed, the responsibility for cleanup costs falls to taxpayers. Estimates of the state's potential cleanup shortfall range from \$25 million to \$1.5 billion.

## **ABANDONED MINE LAND RECLAMATION**

The state's Abandoned Mine Reclamation Program is run by the Utah Division of Oil, Gas and Mining. The state receives around \$1.5 million from the federal Surface Mining Reclamation and Control Act to fix safety hazards, such as open mine shafts. Most activities are centered on mitigating safety hazards. In recent years, the state also has provided \$30,000 annually for cleanup.

The state also has an Abandoned Mine Reclamation Fund that was established in 2007 to pay for the Abandoned Mine Reclamation Program. Money from recovered liens, fees for the use of reclaimed lands, certain fines, donations feed the fund, and interest on the account returns to the fund.

## **BROWNFIELD AND SUPERFUND SITE REDEVELOPMENT**

The brownfield program is administered by the Utah Department of Environmental Quality Division of Environmental Response and Remediation. Voluntary cleanups can be tied to land use, allowing for a risk-based approach in cleanup. In some instances, the development of the property may be a component of the remedy.

A successful voluntary cleanup results in the issuance of a Certificate of Cleanup, which provides a limited release of liability to qualified applicants. The liability release is transferable to subsequent property owners.

The DEQ reviews applications, approves cleanup plans and certifies completed projects. Voluntary cleanups have no provisions for enforcement. The DEQ also conducts Targeted Brownfields Assessments (TBA) for qualified communities, local governments or non-profit groups. TBA are conducted for no charge and the assessments can be useful information for decision-making and/or cleanup.

Superfund activities are always done in coordination with the federal EPA. One major project was the Jordan River Floodplain Habitat Restoration Project, which was a combined effort between the U.S. Fish and Wildlife Service, Utah Reclamation Mitigation and Conservation Commission, Great Salt Lake Audubon, West Jordan City, and TreeUtah. The land along the Jordan River was purchased with funds from the Fish and Wildlife Service and the Utah Reclamation Mitigation and Conservation Commission to restore habitat for migratory birds and other wildlife.

The Fish and Wildlife Service funds came from a settlement for natural resources damage at the Sharon Steel Superfund site located downstream from the project areas. Several restoration projects took place to mitigate the damage to habitats and the stream from the Superfund site.

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