

South Central-West Region

Texas, Oklahoma, Arkansas, Louisiana, Utah, Colorado, Arizona, New Mexico



American Fork Canyon Home Rivers Project

Cleaning Up Runoff From Abandoned Hard Rock Mines

Location: American Fork Canyon, Utah

Project Summary: Trout Unlimited, a third party “Good Samaritan,” will restore abandoned mines on private property to improve trout habitat in American Fork Canyon.



Oxidation ponds (lower left) installed at Pacific Mine help reduce levels of heavy metals in mine drainage before it enters the river.

Resource Challenge

Experts believe that there are more than 500,000 abandoned hard rock mines in the West that are adversely affecting 40 percent of the region’s stream headwaters as they leach heavy metals into ground and surface waters. Federal land management agencies are reclaiming the most problematic mine sites on their lands, but they do not have programs or funding for the thousands of abandoned mines located on privately owned lands.

The American Fork watershed, southeast of Salt Lake in the Wasatch Mountains, is still being adversely affected by long-abandoned gold and silver mines. Of particular concern is a fragile population of native Bonneville cutthroat trout, which have persisted despite the river’s mine-related issues.

Trout Unlimited recently began a mine reclamation initiative on private lands in American Fork Canyon with a demonstration project on landscapes owned or managed by Snowbird Ski Resort. The Resort acquired the mineral-patented lands and abandoned mines in the 1960s, before concerns over mine contamination impacts to human health and natural resources grew to their current levels. Concerns over potential liability have long discouraged voluntary cleanups. The U.S. Environmental Protection Agency (EPA) Region 8 and Trout Unlimited are working on an administrative order to clarify the responsibilities and minimize potential liabilities as the cleanup moves ahead.

Examples of Key Partners

Trout Unlimited, Utah County, Utah Department of Environmental Quality, Snowbird Ski Resort, the True North Foundation, Tiffany & Company Inc., EPA, USDA Natural Resources Conservation Service (NRCS), and others.

Results and Accomplishments

The administrative order between the EPA and Trout Unlimited is the first time the agency has allowed a “Good Samaritan” to restore an abandoned mine, providing a national model for federal agencies to enable cooperative conservation efforts. Mine wastes with elevated levels of heavy metals will be removed from the abandoned Pacific mine, Blue Rock mine, Scotchman No. 2 mine, and the Pacific mill. They will be safely encapsulated in a permanent repository to be constructed at Pacific mine on Snowbird’s property. As a result, water quality will improve in ten miles of Canyon streams that traverse the Unita National Forest and Timpanogos Cave National Monument. This will help recover a rare resident population of Bonneville Cutthroat Trout.

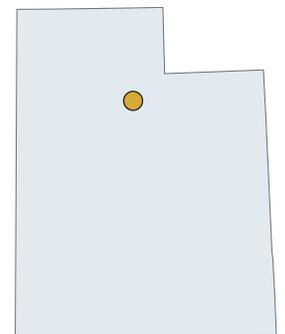
Innovation/Highlight

Using diverse partnerships and third party “Good Samaritan” organizations to successfully reclaim abandoned mines on privately owned lands.

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Army Compatible Use Buffer Project

Conservation Leases Ensure Compatible Land Uses for Permanent Protection

Location: Fort Carson, Colorado

Project Summary: Conservation easements on lands adjacent to Fort Carson are being created to buffer the Fort from development and to maintain open space and wildlife habitat.

PHOTO BY PETER MCBRIDE/AURORA PHOTOS



The partnership between TNC, Fort Carson, and private landowners provides for training while conserving natural resources.

Resource Challenge

Suburban sprawl has been edging steadily toward Fort Carson for the past twenty years. Residential development along the installation's borders is putting pressure on prairie habitats that support several listed species, including the Mexican spotted owl, mountain plover, greenback cutthroat trout, and black-tailed prairie dog.

Fort Carson launched a Compatible Use Buffer Project to help protect sensitive habitat and resolve encroachment issues. In cooperation with state and federal agencies, universities, and non-government organizations, Fort Carson developed an encroachment mitigation plan that relies on acquiring conservation easements from willing landowners as a core strategy. Challenges to building a successful partnership program included: 1) meeting the needs of multiple agencies and private entities with sometimes divergent goals; 2) dealing with policies, procedures, and internal processes of three very different entities: the Department of the Army, The Nature Conservancy (TNC), and private landowners; 3) funding the project; 4) acquiring funds for private landowners in a timely manner; and 5) succeeding with new and/or non-existent guidance while maintaining compliance.

Examples of Key Partners

Mr. Gary Walker, private landowner; USDI Fish and Wildlife Service (FWS); TNC; Colorado Heritage Program; and Colorado Department of Natural Resources.

Results and Accomplishments

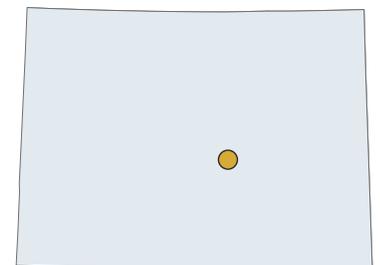
- In 2003, Fort Carson, TNC, and the US Department of the Army negotiated short-term conservation leases with the owner of a privately-held ranch adjacent to 7 miles of Carson's border, restricting development on approximately 30,000 acres. The leases were executed temporarily to allow enough time to complete in-perpetuity easements.
- In February 2005, the US Department of the Army funded the first easement acquisition phase, working toward an ultimate target of more than 60,000 acres of conservation easements along Fort Carson's southern and eastern boundaries. To date, this is the largest conservation easement the Department of the Army has acquired to mitigate encroachment on a major military installation. The permanent buffers will ensure compatible uses such as agriculture, green space, and habitat conservation on adjacent lands. It also will provide a useful buffer to reduce the number of complaints about dust and noise that frequently arise from training exercises.
- Examples of the roles various partners played include biological surveys, real estate estimates, Threatened and Endangered Species surveys, legal reviews, development and negotiation of the conservation lease and the easement, habitat development planning, and wildlife surveys.
- In March 2005, the FWS awarded its first Military Installation Conservation Partnership Award to Fort Carson, citing its outstanding on-the-ground management and conservation leadership.

Innovation/Highlight

The project partners negotiated conservation leases to ensure compatible land uses adjacent to Fort Carson.

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Bahia Grande Estuary Restoration

Reflooding, Replanting, and Restoring the Bahia Grande

Location: Brownsville, Cameron County, Texas

Project Summary: Restored tidal exchange and estuary functions of an 11,000-acre barren basin and the reestablished critical habitat for fish, wildlife, and waterfowl.

PHOTO BY CARRIE ROBERTSON



A student volunteer plants a mangrove seedling on the shores of Bahia Grande.

Resource Challenge

The Bahia Grande is an 11,000-acre complex of dried-up basins that were once an estuary teeming with marine life. Old-timers still remember the shrimp, waterfowl, and other life that once made it a sportsman's paradise and an important habitat for fish and wildlife. In the 1930's, the Port of Brownsville dredged a ship channel, cutting off the tidal system's water supply with large spoil banks. The Bahia Grande became arid, dry, and barren, and its drifting and blowing sands the source of numerous health and industrial problems.

The USDI Fish and Wildlife Service (FWS) and the USDA Natural Resources Conservation Service (NRCS) purchased the property to add to the Laguna Atascosa National Wildlife Refuge. In 2000, Ocean Trust, a national non-profit conservation and research organization, and the FWS began working with the NOAA Community-based Restoration Program, preparing to cut channels to re-flood the estuary, the first step toward returning it to its natural state and relieving Brownsville of its blowing dust. Once channels are completed, the complex will be ready for the re-introduction of tidal water from San Martine Lake and the Ship Channel. Channel construction will begin in 2005.

Examples of Key Partners

Laguna Atascosa National Wildlife Refuge, Ocean Trust, USDI Fish and Wildlife Service, Natural Resources Conservation Service (NRCS), Texas Coastal Program, National Fisheries Institute, Marco Sales, Episcopal Day School, National Fish and Wildlife Foundation, Gulf of Mexico Foundation, University of Texas Brownsville-Texas Southmost College, Port of Brownsville, Texas A&M, Marine Advisory

Service, Brownsville-Port Isabel Shrimp Producers Association, Texas Coastal Conservation Association, Cameron County Parks, and others.

Results and Accomplishments

- Hydrological and archeological studies have been completed to obtain federal and state permits for channel construction.
- Ocean Trust, with grants from the Gulf of Mexico Foundation and NOAA, built two nurseries to grow native vegetation, including mangroves and marsh grasses, for the restoration.
- The project distributed mangrove seedlings to more than 1,000 students to grow in their classrooms during the school year. Students came to the nursery to plant the young trees they grew.
- Several partners are helping to collect seeds and propagate native estuary grasses. There are now 20,000 seedlings growing in local schools and in the Bahia Grande nursery.
- More than 100 local community members have volunteered to plant seedlings. Planting will continue once the channels are reopened and the area begins to return to a thriving estuarine ecosystem.

Innovation/Highlight

Once, completed, the project will be one of the largest wetland restorations ever at an estimated 9,800 acres, reestablishing critical habitat for fish, wildlife, and waterfowl.

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Central Texas Sustainability Partnership

Cattlemen's Trail Leads to Vital Songbird Habitat

Location: Central Texas

Project Summary: The conflict over habitat for two endangered species resulted in a diverse working group able to address the needs of both the species and affected landowners.



Tree shear working to clear Ashe juniper.

Resource Challenge

Land management plans often include brush control to conserve water and provide forage for wildlife and livestock. In the mid-1990s ranchers in central Texas hit a snag when they planned to remove overgrown Ashe juniper, a brush species that provides habitat for the Golden-cheeked Warbler and Black-capped Vireo, two birds listed under the Endangered Species Act (ESA).

Area ranchers were prevented from clearing Ashe juniper due to the ESA. However, they wanted to actively manage the resources on their lands and initiated the formation of a diverse core group to seek a solution to ESA-imposed restrictions. The group supported a common goal—restoring habitat for the warbler and vireo—but opinions varied greatly about how to do it.

The situation also affected Fort Hood, the largest Army training base in the United States, which shares borders with many ranchers in central Texas. Army training routines were disrupted when 70,000 acres of its 217,000-acre base were determined to be habitat for the endangered birds.

Examples of Key Partners

Central Texas Cattlemen's Association, USDA Natural Resources Conservation Service (NRCS), Environmental Defense, Texas A&M University, U.S. Army (Fort Hood, Texas), Texas Department of Agriculture, Texas Wildlife Association, USDI Fish and Wildlife Service, The Nature Conservancy, Leon River Restoration Project (LRRP), Texas Parks and Wildlife Department.

Innovation/Highlight

The project participants overcame communication barriers and misunderstandings to create an effective working model that can be transferred to similar situations across the nation.

Results and Accomplishments

During roundtable discussions, group members gained a better understanding of the project's many aspects. As they let down their guard, the growing trust and understanding brought great accomplishments. Their efforts led to the Leon River Restoration Project. By treating re-growth Ashe juniper rather than removing it entirely, and supplementing the treatment by re-seeding native grasses where needed, they improved habitats and increased the number of Black-capped Vireo and Golden-cheeked Warbler. Old-growth Ashe Juniper was left to provide nesting sites for the birds. In addition to improving wildlife habitat, ranchers discovered that water quality and quantity improved as well.

The success of the LRRP led to the development of a Biological Opinion under Section 7 of the Endangered Species Act. The LRRP Biological Opinion served as the framework to develop another Biological Opinion statewide. Ranchers are now able to actively manage their land, and the Army has been able to open up its land for training. Landowners now see the habitat as an asset. As a result, both the Golden-cheeked Warbler and the Black-capped Vireo are thriving.

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Cooperative Conservation in Louisiana

Wetlands, Birds, and Bears: a Louisiana Happening

Location: Louisiana

Project Summary: Partnership seeks to restore thousands of acres of black bear, waterfowl and songbird habitat throughout Louisiana's "hardwood rain forest."



A curious, young Louisiana black bear climbs a tree in the bottomland hardwood forests of the Mississippi River Valley.

Resource Challenge

During the 1960s, 70s and 80s, thousands of acres of lower Mississippi River Valley bottomland hardwoods were converted to other uses. Hundreds of square miles of biologically important forests were converted to row-crop agriculture. Migratory waterfowl and neotropical songbirds suffered tremendously because of the habitat loss. The black bear was especially hard hit because of ecological fragmentation and lack of genetic interchange among individual black bear populations.

Over time, the converted woodlands proved unsuitable for row-crop agriculture. Flooding and wet conditions prevailed, causing poor crops and/or failed harvests. As a result of increasing crop failures, bankruptcies, and associated problems, rural communities faced financial despair. Land that was formerly so productive from a natural, ecological standpoint was now unproductive for both people and wildlife.

Examples of Key Cooperators

Cooperating landowners, Ducks Unlimited, Black Bear Conservation Committee, USDI Fish and Wildlife Service, Nature Conservancy, Louisiana Soil and Water Conservation Districts, U.S. Geological Survey National Wetlands Research Center, National Wild Turkey Federation, USDA Farm Service Agency, USDA Natural Resources Conservation Service, and many other local, state and federal agencies, committees, societies, refuges and land trusts.

Results and Accomplishments

Passage of a new Farm Bill in 1992 created a conservation opportunity in rural Louisiana. Farmers began enrolling in the Wetlands Reserve Program (WRP), a voluntary program that offers payments to landowners who restore wetlands that were previously drained and converted to agricultural uses. The WRP has become a catalyst for many efforts and initiatives already underway, adding to their capacity to restore the critical wetlands and woodlands of the Mississippi Delta.

The Black Bear Corridor Special Project, an initiative designed to create a contiguous wooded and wetland corridor between two existing black bear populations in Louisiana, is one of many projects benefiting from the WRP. The Black Bear Corridor Special Project is actively targeting easement acquisition and restoration on 56,250 acres in the State. Future goals include a wooded/wetland corridor from northeast Louisiana to the Gulf of Mexico. The project will also provide uninterrupted habitat for neotropical songbirds and waterfowl during spring and fall migrations between South America and Canada.

To date, the lower Mississippi River Valley WRP of Louisiana has enrolled more than 213,000 acres in the program and restored 145,000 acres.

Innovation/Highlight

Project re-established specialized habitat corridors for the Louisiana Black Bear, waterfowl, and neotropical songbirds.

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Envision Utah

Engaging the Public in Growth Planning

Location: Greater Wasatch Area of Northern Utah

Project Summary: Envision Utah, an unparalleled public-private partnership, educates citizens about urban growth and methods for maintaining quality of life and natural beauty.



Participants at an Envision Utah visioning workshop share ideas for future transportation and land use.

Resource Challenge

By the year 2020, the population of Utah’s Greater Wasatch Area is expected to increase by a million residents. This rapid growth threatens air quality, water supplies, and land available for agriculture and recreation. To address the challenges and opportunities of this growth, the Envision Utah Public/Private Partnership was formed in January of 1997. This partnership, composed of 130 key community leaders, guided the development of a broad, publicly supported Quality Growth Strategy—a vision to protect Utah’s environment, economic vitality, and quality of life for generations to come.

Examples of Key Partners

Governor’s Office of Utah, cities and counties along the Wasatch Front, Utah Transit Authority, Jordan Valley Water Conservancy District, The Nature Conservancy, Kennecott Land Development, Economic Development Corp. of Utah, Church of Jesus Christ of Latter-day Saints, KSL Television, and others.

Results and Accomplishments

From 1997 to 1999 the Utah Public/Private Partnership held more than 50 workshops, with thousands of participants, to solicit community input on how and where growth should be accommodated. Four scenarios emerged. Envision Utah developed models to analyze the environmental, fiscal, and quality of life impacts of the different scenarios. The team distributed a questionnaire to area residents asking them to choose which scenario best represented how they wanted Utah to grow. The 17,500 respondents chose a scenario that creates more walkable neighborhoods, uses existing infrastructure more efficiently, offers

transportation and housing choices, and leaves more land for open space and agriculture.

The Quality Growth Strategy was released in 1999. Since then, Envision Utah has introduced the Quality Growth Strategy to 93 city councils and county commissions, created a Quality Growth Toolbox which has been presented to more than 3000 people, and involved the public in developing the long-range transportation plan. Envision Utah has also assisted dozens of municipalities in making specific changes to their codes, ordinances and general plans to protect the environment, maintain economic vitality and accommodate anticipated growth. Envision Utah has earned top planning awards from the American Planning Association, the Urban Land Institute, and the Alliance for Regional Stewardship.

Implementing the Quality Growth Strategy over the next 20 years is expected to:

- Conserve 171 square miles of land.
- Reduce commute times by 5.2 percent and increase transit trips by 37.5 percent.
- Save approximately \$4.5 billion in infrastructure costs.
- Reduce water consumption.

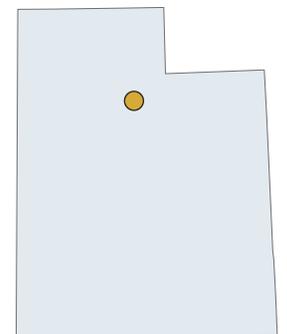
Innovation/Highlight

The Envision Utah Partnership engaged the public, creating an urban vision to preserve critical lands, promote water conservation and clean air, improve transportation systems, and provide housing options.

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Grand County Recreation Partnerships

Local and Federal Cooperation Yields Visitor Satisfaction

Location: Moab Area, Grand County, Utah

Project Summary: Through county and agency agreements, the USDI Bureau of Land Management (BLM) Sand Flats Recreation Area and the Moab Information Center are managed by non-federal partners.



Mountain bikers enjoy the view from the world-famous Moab Slickrock Bike Trail near Moab, Utah.

Resource Challenge

The Sand Flats Recreation Area near Moab became a major recreation destination for mountain biking and camping in the early 1990s. Increasing recreation pressure, however, quickly overwhelmed BLM visitor facilities and staff. Soils and vegetation at Sand Flats were impacted, and the site’s scenic values were threatened. Given the importance of tourism to Moab’s economy, the natural resource values at stake, and the immediate need to provide quality visitor management, the BLM and Grand County implemented an innovative cooperative agreement to protect the heavily used Slickrock Bike Trail and the surrounding Sand Flats area.

At the time of the cooperative agreement, Grand County, the BLM, the USDI National Park Service (NPS), and the USDA Forest Service (USFS) had separate visitor facilities, all of which were open during standard business hours, and all of which faced increasing challenges in providing full-service information to over two million visitors annually. The county, the federal agencies, and the Canyonlands Natural History Association (CNHA) developed an interagency agreement to cooperatively develop and operate the Moab Information Center (MIC).

Examples of Key Partners

Grand County, USDI (BLM), USDI National Park Service, USDA Forest Service, and Canyonlands Natural History Association (CNHA).

Results and Accomplishments

Under the cooperative agreement, the BLM authorized the county to act as its agent for fee collection at Sand Flats, and to use those funds to provide both visitor services and recreation management in the recreation area. In addition, the county was able to use fee revenue to lease in-held state lands, bringing the 7,240-acre Sand Flats area under unified management. The county received additional support from Americorps and Utah Travel Council grants for development of visitor facilities. The BLM contributed planning, law enforcement, and construction. A Citizens Stewardship Committee, established by the cooperative agreement, now advises Grand County on fee levels and expenditures.

For the MIC, Grand County purchased the land and borrowed facility construction funds that it is paying back with a transient room tax collected from area visitors. The county leases the facility to CNHA. As managing partner, CNHA covers all operating costs from sales revenue collected from over 200,000 visitors annually. Each agency provides annual staff training. The Federal agencies and Grand County each fund one CNHA employee to provide information. A local inter-agency board oversees MIC operation.

Both partnerships—the cooperatively-managed recreation area and the co-managed Moab Information Center—meet visitor expectations, help conserve the environment, and generate revenue to cover most expenses. They are models of innovative local/federal financing, ownership, and management, providing long-term employment and a world class visitor experience.

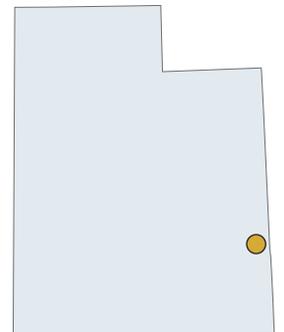
Innovation/Highlight

Cooperative management of federal lands and a multi-agency information center improves recreation management and visitor services.

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www.discovermoab.com/visitorcenter.htm



Henry Mountain Bison Herd

Balancing Livestock and Wildlife

Location: Southern Utah

Project Summary: Sportsmen and ranchers negotiate win-win solutions to maintain livestock grazing and ensure quality bison hunts in the Utah Henry Mountains.



Introduced to the Henry Mountains in 1941, this bison herd is one of the few genetically pure herds left in the world.

Resource Challenge

The Henry Mountains of central Utah are the key feature on two million acres of remote land managed by the USDI Bureau of Land Management (BLM). Mt Ellen is the tallest of the Henry's five peaks at 11,600 feet. Two major grazing allotments are located in the high elevation summer range of the Henry Mountains. Livestock operators share winter grazing on adjacent ranges that are exclusively winter use allotments.

Bison were introduced into the area in the mid-1940s. Recently, the bison herd has increased to more than 400 head, and is now competing with livestock for summer range forage. This has created the potential for conflict between cattle ranchers on one hand and sportsmen on the other who consider the Henry Mountains prime bison hunting country. In recent years, each bison permit that has been issued by the State of Utah has had 100 applicants.

Examples of Key Partners

USDI Bureau of Land Management (BLM), BLM grazing permittees, Utah Department of Natural Resources, Utah Division of Wildlife Resources, Utah Sportsmen for Habitat, and other interested parties.

Results and Accomplishments

Sportsmen for Habitat, a Utah-based conservation group, discovered a win-win solution to the emerging conflict between stockmen and sportsmen. It is compensating the BLM permittees—in the amount of \$400,000—for the value of forage lost to Bison and the reduction in authorized stocking that has resulted.

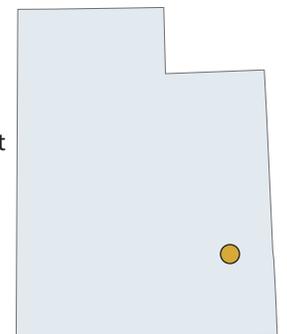
Sportsmen for Habitat is also providing funding to the permittee of one allotment to assist the rancher in changing his management to benefit both cattle and bison. Most recently, Sportsmen for Habitat purchased the ranch of a permittee who chose to retire from the livestock business. By so doing, the group was able to retire the grazing permit linked to the ranch. The outcome of these voluntary negotiations between ranchers and sportsmen has been to ensure the long-term sustainability of livestock ranching, to maintain grazing levels on rangelands at ecologically sound levels, to protect wildlife habitat, and to maintain quality bison hunting opportunities.

Innovation/Highlight

The Sportsmen For Habitat, a private conservation group, compensates public land ranchers for forage used by bison.

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Houston-Galveston Navigation Channel

Collaboration Team Solves 300 Million Cubic Yard Problem

Location: Galveston Bay, Texas

Project Summary: The inter-agency effort restores a key commercial navigation channel, using dredged materials to create two islands and over 4,000 acres of wetlands in Galveston Bay.



Marsh planting with the Natural Resource Conservation Service and Port of Houston Volunteers.

Resource Challenge

Galveston Bay is one of the most important commercial and recreational fisheries on the Gulf coast. It also is the site of the country's second largest port, Houston. The Houston-Galveston navigation channels allow ships to reach the deep-water ports of Houston, Texas City, and Galveston. When dredging was proposed to deepen and widen 50 miles of navigation channels, it meant the work would take place in the most productive estuary on the Texas Coast—and would generate nearly 300 million cubic yards of dredged material.

The project set off a firestorm of controversy among environmentalists, recreational users, and commercial fisheries. Issues included what to do with the dredged material, intrusion of salt water into the bay, overall water quality, impacts on oyster reefs and fisheries, and contaminants. The project was on the verge of litigation when the U.S. Army Corps of Engineers established an Interagency Coordination Team (ICT) to help identify and mitigate environmental impacts, and to locate areas for potential ecosystem restoration.

Examples of Key Partners

Ports of Houston and Galveston, U.S. Army Corps of Engineers (Corps), U.S. Environmental Protection Agency (EPA), U.S. National Marine Fisheries Service, USDI Fish and Wildlife Service, USDA Natural Resource Conservation Service (NRCS), Galveston Bay Estuary Program, Texas Parks and Wildlife Department, Texas General Land Office, Texas Water Development Board, Texas Commission on Environmental Quality, U.S. Coast Guard, Texas

Innovation/Highlight

This is one of the first Army Corps navigation projects to form an interagency team to help identify environmental impacts and areas for ecosystem restoration.

Governor's Office, Texas Historical Commission, Galveston-Texas City Pilots Association, Houston Pilots Association, Galveston Bay Foundation, and Texas Waterway Operators Association.

Results and Accomplishments

Using a collaborative process, the ICT was able to meet both commercial and environmental needs and is touted as one of the most successful navigation projects in the country. It met commercial navigation needs by deepening and widening the existing ship channel to provide for safer navigation. The project also created more than 4,000 acres of wetlands in Galveston Bay using dredged material, constructed a new island for birds and one for boaters, and refilled subsided areas.

The ICT process was a transparent, inclusive stakeholder process that relied on science rather than agency agendas to arrive at a consensus. As a result, the ICT process is used extensively by the Galveston District on other projects. In addition, it has built an ongoing level of trust among federal and state agencies, making the relationship more productive going forward.

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Kasha-Katuwe Tent Rocks National Monument

Nation-to-Nation Agreement for Managing Monument

Location: Central New Mexico

Project Summary: Kasha-Katuwe Tent Rocks National Monument is jointly managed by Bureau of Land Management (BLM) and the Pueblo de Cochiti, with support from county and state partners.



2004 National Public Land Day volunteers improving the 3-mile National Recreation Trail.

Resource Challenge

Kasha-Katuwe Tent Rocks in north-central New Mexico became a National Monument in 2001. Spanning 4,000 acres, the Monument's most prominent feature is a cone-shaped structure, the "tent," formed from volcanic rock millions of years ago. Located within an hour of Santa Fe, Albuquerque, and Rio Rancho, the Monument hosted more than 50,000 visitors in 2004.

A three-mile access road leading to the National Monument traverses Pueblo de Cochiti Tribal land. In 1997 and 2000, the USDI Bureau of Land Management (BLM) and the Pueblo de Cochiti entered into Inter-Governmental Cooperative Agreements to jointly manage the Monument. Sandoval County maintains the access road and the University of New Mexico provides geologic interpretation. These agreements address access, visitation, budget priorities, cultural and sacred sites, facilities, operation and maintenance, natural resource management, environmental education, and land use planning.

The Pueblo is actively involved in the planning process for the Monument's General Management Plan. Both the BLM and the Pueblo de Cochiti are pursuing additional funding and grants for on-site improvements.

Examples of Key Partners

BLM, Pueblo de Cochiti, County of Sandoval, University of New Mexico Department of Earth and Planetary Sciences, Dr. Gary Smith.

Results and Accomplishments

Since 1997, the Pueblo de Cochiti has provided staff to assist BLM in management and site maintenance. In 2002 and 2003, BLM funded a project to upgrade five miles of dirt road. The Pueblo de Cochiti provided water for the project and the Sandoval County Highway Department provided labor and equipment for the roadwork.

The University of New Mexico provided geologic expertise for the Monument brochure and interpretive panels. The New Mexico Native Plant Society provided materials for a Monument wildflower brochure and student environmental education workbook.

In 2004, a ceremony was held dedicating a Memorial Scenic Overlook to American Veterans. A bronze plaque was installed at the Overlook. Kirtland Air Force Base donated the concrete block for the construction of the Scenic Overlook and the Pueblo de Cochiti and Sandoval County assisted with landscaping and roadwork.

The Pueblo de Cochiti has received grant funding through the Enterprise Foundation for planning and design of the Kasha-Katuwe Tent Rocks National Monument Regional Visitor/Cultural Center. The Pueblo will also seek funding for construction of the center, to be owned by the Pueblo and built on Tribal land. A Memorandum of Understanding was signed by Federal, State, and county agencies to support the Center through leasing, exhibit design, and tourism training.

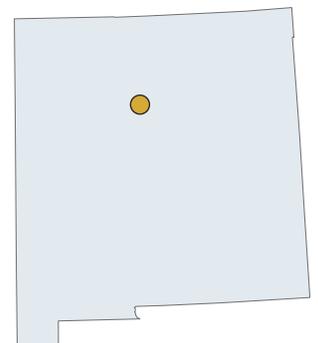
Innovation/Highlight

Joint management of a National Monument using inter-governmental agreements.

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Louisiana Coastal Area Land Change Study Group

Advanced Technologies Spur Partnership Action

Location: Coastal Louisiana

Project Summary: The Louisiana Coastal Area Ecosystem Restoration Study (LCA Study) uses partnerships, science, and geospatial/visualization technologies to address land loss.

PHOTO BY MIKE MAPLES



Eroding cemetery near Port Fourchon, a critical U.S. energy area, demonstrates Louisiana’s devastating land loss.

Resource Challenge

Louisiana’s coastal problems are dramatic and somewhat unique. Its land is not just degrading—it is literally vanishing. More than 1,900 square miles have slipped into the Gulf of Mexico since 1932—an area larger than the State of Delaware—and an additional 700 square miles could disappear by 2050 without aggressive action. Most scientists believe the problem is related to wetland losses caused by human activities as well as natural forces. When wetland plants disappear, there is nothing to hold the soil in place.

In the past, coastal restoration has been addressed sporadically in a piecemeal manner. That changed in 2001, when state and federal agencies, academics, non-governmental organizations, and the private sector began working together to address this national-scope issue. Restoration strategies presented in a 1998 report entitled *Coast 2050: Toward a Sustainable Coastal Louisiana* formed the basis for the broader-scaled LCA Study.

Examples of Key Partners

Coalition to Restore Coastal Louisiana, Governor’s Advisory Commission on Coastal Restoration and Conservation, America’s Wetland campaign, IAP World Services, Inc., Louisiana State University, University of New Orleans, University of Louisiana at Lafayette, Louisiana Department of Natural Resources and Governor’s Office of Coastal Activities, U.S. Geological Survey, U. S. Army Corps of Engineers, USDA Natural Resources Conservation Service, USDI Fish and Wildlife Service, and numerous local governments and private entities.

Innovation/Highlight

The LCA Study incorporates advanced geospatial technologies to show people how the loss of wetlands will advance without remedial action.

Results and Accomplishments

One of the most important parts of the LCA Study was projecting conditions along the Louisiana coast over the next 50 years if no further restoration measures are completed. Scientists working as part of the LCA Land Change Study Group, including the U.S. Geological Survey, U.S. Army Corps of Engineers, Louisiana Department of Natural Resources, and Louisiana universities, developed new land loss projections. They also incorporated current and projected land loss data into the Louisiana Coastal Area Ecosystem Model, which establishes a process to evaluate proposed restoration projects.

The Louisiana Coastal Ecosystem Model uses advanced technology to help scientists, elected officials, and the public see areas where land is projected to disappear. In addition to geospatial data, it uses animated computer simulations to show where land will slowly erode and slip into the sea. By actually seeing land loss models and visualizations, the public is better able to see what is at stake, and scientists can target restoration projects. These visualizations offer a common language for communication across scientific disciplines, political affiliations, private interests, and the general public.

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Malpai Borderlands Partnership

Improving Rangeland and Preserving a Way of Life

Location: Southwest New Mexico and Southeast Arizona

Project Summary: The rancher-led partnership is protecting privately-owned land and working landscapes through easements, grassbanking, and habitat restoration.



A U.S. Forest Service Hot Shot lights the Maverick Burn in the Peloncillo Mountains, in Cottonwood Basin.

Resource Challenge

The Malpai Group was organized and led by area ranchers who saw that the land—and their way of life—were threatened by deteriorating rangeland and by the spread of development and subdivisions from nearby towns. Also, the lack of natural wildfires to rejuvenate the landscape and the hit-or-miss rainfall so typical of Southwestern grazing lands contributed to the land’s deteriorating condition.

The group originated as a series of informal discussions among ranching neighbors and was formally organized as a non-profit organization in 1994. Since then, the group has pursued activities to protect and restore the ecological diversity and productivity of the land, including rangeland restoration, reintroduction of fire, wildlife conservation, and endangered species recovery.

Examples of Key Partners

Arizona and New Mexico Ranchers, USDA Forest Service, USDA Natural Resources Conservation Service, Hidalgo & Whitewater Draw Natural Resource Conservation Districts, USDI Bureau of Land Management, USDI Fish and Wildlife Service, Arizona State Land Department; Universities in New Mexico and Arizona, Arizona & New Mexico Game and Fish Departments, the Animas Foundation, The Nature Conservancy.

Results and Accomplishments

- Protected 77,000 acres of private land through conservation easements, preventing subdivision and development and ensuring that these lands will remain natural wildlife habitat and productive ranch land.
- Pioneered the GrassBank, which allows ranchers to rest their grasslands while sustaining their livestock. Grass on one ranch is made available to another rancher’s cattle in return for conveying land-use easements prohibiting subdivision. The Malpai Borderlands Group holds the easements.
- Reintroduced fire to more than 75,000 acres. Monitoring indicates that ecological conditions on Malpai ranches have improved.
- Hosted several meetings every year, sharing new scientific and land management information with neighbors and cooperators.

One participant explained his feelings about the results:

“There’s nothing better, nothing more a man can do than to leave something that’s going to continue on. And I hope someday, somewhere down the years that’s coming along, that somebody will say—that’s a great move they made.”

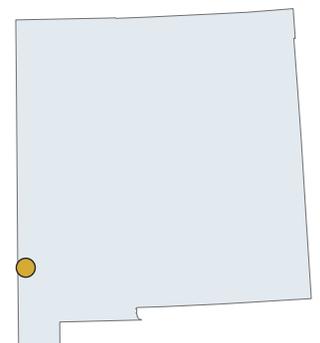
—Ed Elbrock, Grassbanker

Innovation/Highlight

The group invented grassbanking, allowing ranchers to rest their land by temporarily moving herds to “greener pastures” in exchange for conservation easements.

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Marsh Terracing Project

Using New Technology to Restore Marshlands

Location: Galveston Island State Park, Texas

Project Summary: The project incorporated marsh terracing to restore fishery habitat and to test the cost effectiveness of this new restoration technique.

PHOTO BY KERRY STANLEY



Father and son volunteers plant smooth cordgrass on terraces at Galveston Island State Park.

Resource Challenge

When Galveston Island State Park was established in the 1960's, it had 900 acres of salt marsh. Fifty years later, that amount had dwindled to just 100 acres because of "land subsidence" and shoreline erosion. Land subsidence, or sinking, in the state park was caused when groundwater outside the park was removed for residential and agricultural uses. Over the years, much of the Park's salt marsh habitat was converted to shallow, open water, too deep to support marsh vegetation.

The Texas Parks and Wildlife Department and the USDI Fish and Wildlife Service (FWS) launched a restoration plan, funded from grants through the Coastal Wetlands Planning Protection and Restoration Act, National Estuary Program, and Natural Resource Damage Assessment program.

Examples of Key Partners

National Oceanic and Atmospheric Administration (NOAA) Fisheries Service, Texas General Land Office, FWS, Texas Commission on Environmental Quality, Texas Parks and Wildlife Department, Reliant Energy, Galveston Bay Foundation.

Results and Accomplishments

A restoration team devised plans to restore park wetlands using marsh terracing, a relatively new technique used to convert shallow water to marshland. Under this method, terraces, or ridges, are constructed at the correct elevation for marshes. NOAA Fisheries Service asked planners to incorporate three different sizes of terrace cells so they could assess their relative value in restoring marsh habitat.

The cells, or ridges, were arranged in a checkerboard pattern, and following construction, were planted with smooth cordgrass. More than 125 acres of marsh terraces were constructed. NOAA's follow-up research showed that marsh terracing rated very highly compared to other restoration methods, and that constructing terrace fields with the medium-sized cells was more cost effective than building the terrace fields from small or large cells. The research results should lead to more effective, efficient marshland restoration on future projects, both at the Galveston Park and elsewhere.

The restoration team was awarded a Coastal America Partnership Award in 2001 to recognize its efforts to restore Galveston Island State Park's coastal habitat.

Innovation/Highlight

Project partners designed an experiment to test a new technique for restoring the Park's marsh habitat, providing valuable information for future projects.

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Partnerships for Bat Conservation

Protecting Bat Habitat in Mines and Caves

Location: San Antonio, Texas, and Nationwide

Project Summary: Targeted conservation efforts involving a diverse array of partners are protecting bats and their habitats in caves and mines.



Bats in flight at the Bracken Bat Cave.

Resource Challenge

Millions of North American bats gradually have taken refuge in abandoned mines as humans evicted them from natural caves. By the early 1990s, thousands of occupied mines were slated for federal and state-mandated safety closures, threatening many of the continent's largest remaining bat populations, including federally-listed threatened and endangered species. Threats to these vital bat habitats were so great that, without prompt action, even abundant species could have become endangered.

Separately, an extraordinary bat habitat, Bracken Bat Cave near San Antonio, Texas, has required extensive conservation efforts to protect this vital home to an amazing 20 million Mexican free-tailed bats, the world's largest remaining community of the mammals.

Examples of Key Partners

Bats and Mines Partnership: National Fish and Wildlife Foundation; National Speleological Society, American Cave Conservation Association, mining companies, and federal agencies. **Bracken Bat Cave:** Private foundations and conservation organizations, state and federal agencies, Edwards Aquifer Authority, San Antonio Water Systems, Bexar Grotto of National Speleological Society.

Results and Accomplishments

Bats and Mines Partnership: Under this cooperative effort, mining companies, state and federal government agencies, and local municipalities have avoided substantial but mandated mine closure costs, protected the public from safety hazards, and addressed critical habitat needs for more than a dozen bat species. The partnership prevented additional species from being federally-listed as endangered, including the little brown bat (*Myotis lucifugus*) and the Townsend's big-eared bat (*Corynorhinus townsendii*). Listed species such as the Federally-endangered Indiana bat (*Myotis sodalis*) also have benefited greatly from the project.

Bracken Bat Cave: With assistance from private funding sources, the BCI purchased the Bracken Bat Cave and surrounding acreage in 1992. In 2002, working with private and public interests, BCI was a key force in protecting nearly 700 acres of land in the Edwards Aquifer and Recharge Zone, which serves as a conservation buffer zone around Bracken Cave. The BCI plans to establish a world-class interpretive center about bats on a small part of this land.

Innovation/Highlight

The collaborative approaches developed by Bat Conservation International (BCI) to save bats in mines have now become a model for a "Bats in Forests Project."

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Pathfinders on the Colorado "GMUG" National Forests

Balancing Healthy Streamflows and Human Water Needs

Location: Colorado National Forests

Project Summary: The Pathfinders developed 27 strategies to achieve instream flows without imposing restrictions on water diversions in three Colorado National Forests.

PHOTO BY JOHN ALMY



Pathfinder Project Steering committee members inspect stream flow effects of a private water diversion on Willow Creek.

Resource Challenge

Colorado water users and water providers have often challenged USDA Forest Service restrictions on bypass flows—water that can be diverted from the stream for other uses such as irrigation or livestock—versus water that needs to remain in the stream to support wildlife, fish, and environmental health on National Forests. The USDA Forest Service initiated a collaborative process to address instream flow management on the Grand Mesa, Uncompahgre, and Gunnison National Forests (GMUG).

Pathfinders is a community-based group convened in 2000 to identify instream flow needs for the GMUG National Forests. The group integrates local needs, science-based analysis, and USDA Forest Service management objectives, finding ways to maintain adequate stream flows while meeting human needs.

Three issues were considered in detail:

- The USDA Forest Service did not rely on the State’s Instream Flow Program as administered by the Colorado Water Conservation Board (CWCB).
- The USDA Forest Service sometimes set conditions on special use permits requiring “bypass” flow to provide instream flows.
- The USDA Forest Service should adhere to state water laws, recognize private water rights, and the State’s ability to adjudicate water for instream flow.

Examples of Key Partners

Club 20 (individuals, businesses, and local governments from western Colorado), Colorado Division of Wildlife, Colorado Division of Water

Innovation/Highlight

Specific tools developed to provide collaborative-based options that will ensure appropriate water flow levels.

Resources, Colorado Water Conservation Board, Trout Unlimited, San Miguel Watershed Coalition, local Rancher, Overland Ditch and Reservoir Company, Colorado River Water Conservation District, Ute Water Conservancy District, High Country Citizen’s Alliance, USDA Forest Service National Forests (GMUG).

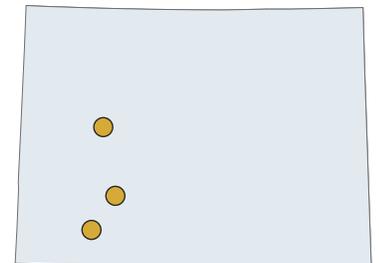
Results and Accomplishments

One of the primary objectives of Pathfinders was to find “tools” that the USDA Forest Service could use to achieve instream flows without imposing bypass flow requirements on special-use permits. Pathfinders identified 27 strategies that will be implemented in a tiered fashion. Some provide direct instream flow protection, while others contribute to instream flows as one of several actions. First tier tools are less controversial, while the second tier requires greater coordination and, possibly, negotiated agreements. Actions include: reopening diversion or water storage facilities, variable water use, acquisition, and better diversion monitoring and management.

The Pathfinder strategy is progressive, seeking cooperation first, and moving to more collective, coordinated actions. It provides a variety of options before the USDA Forest Service would need to impose bypass flow requirements on special-use permits, an alternative considered the last resort.

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Rio Arriba County Project

Creative Land Exchange Protects Bottomland and Farming Tradition

Location: Rio Arriba County, New Mexico

Project Summary: Partners identified Bureau of Land Management (BLM) lands next to communities for transfer to and future development by private owners in exchange for conservation easements.



Traditional irrigated farmlands that are now protected from further development by Rio Arriba's conservation ordinance.

Resource Challenge

Rio Arriba County is among the poorest counties in New Mexico and ranks among the most impoverished in the Nation. Residents want to preserve their traditional lifestyle, including their rural environment, yet they also want to provide economic opportunities for their citizenry—particularly their youth. Among the local traditions is family and community-based agriculture using acequias, which are community-operated irrigation systems. These systems represent not only a water-carrying network, but a political and cultural structure as well. Located on rich bottomlands, they occupy land that has been farmed for thousands of years, dating back to the Anasazi people. Around 1200 A.D., Tewa Pueblo people constructed the first of these irrigation networks, which were expanded by native people and Spanish settlers starting around 1600.

Conflicting with this farming tradition is the emerging pattern of housing development, which is occurring disproportionately on the bottomlands, the most productive farming areas. Uplands which are more suitable for development are federal lands managed by the Bureau of Land Management (BLM).

Examples of Key Partners

USDI Bureau of Land Management (BLM) Taos Field Office, Rio Arriba County government, local communities, and the Sonoran Institute.

Results and Accomplishments

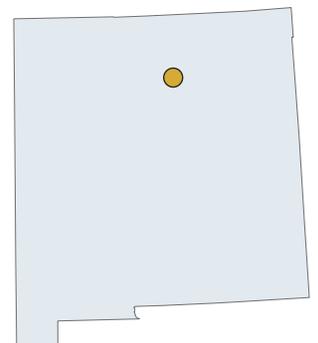
The County of Arriba, with the assistance of the Sonoran Institute, has developed a comprehensive plan to deal with development and threats to traditional family farms. As a result of collaboration between the County, residents, the BLM Taos, and other organizations, partners have identified a solution to the threat to open space and traditional lifestyles. In exchange for placing voluntary easements on critical farmlands, selected federal lands adjacent to the communities will be transferred to cooperating private property owners for future development. Under this plan, new communities will be built that are patterned after traditional ones, but on BLM uplands. Bottom farmlands, in turn, will be protected from development in perpetuity. This strategy also protects the riparian systems along the streams.

Innovation/Highlight

Federal lands are transferred to communities for development in exchange for conservation easements on sensitive privately-owned bottomlands.

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Salt Cedar Brush Management

Supplementing Federal Cost-Share Speeds On-the-Ground Conservation

Location: Hartley, Oldham, and Potter Counties, Texas

Project Summary: Texas landowners with federal cost-share funds are eradicating salt cedar in sections of the Canadian River to increase flow and benefit listed fish species.



On-site evaluation for the treatment of salt cedar along the Canadian River northwest of Amarillo, TX.

Resource Challenge

The Canadian River, largest tributary of the great Arkansas River, originates in the mountains of Colorado, flowing 760 miles to the Lake Meredith impoundment 45 miles northeast of Amarillo. The reservoir supplies eleven communities and 500,000 people with drinking water. Low water levels have shrunk the impoundment by several thousand acres.

Lower water levels in the reservoir reflect lower water levels in the river. One of the prime factors is the tamarisk, or salt cedar, a non-native plant that invades drainages along rivers in Texas and the southwest. A deep-rooted plant, a single specimen can absorb as much as 200 gallons of water from the soil each day—water that normally would have entered the River.

The Arkansas River Shiner, a federally threatened species with habitat in three Texas Counties, depends on a healthy flow of water in the Canadian River. In the 1950s, the plains minnow and the Arkansas River shiner made up more than 90 percent of the fishes in the River; in 1996, each species comprised less than one percent.

The U.S. Department of the Interior Fish and Wildlife Service (FWS) agreed that if a restoration and reclamation plan was in place for the shiner, critical habitat and additional restrictions on landowners with habitat might not be needed.

Examples of Key Partners

USDA Natural Resources Conservation Service (NRCS), Canadian River Municipal Water Authority (CRMWA), Texas Department of Agriculture (TDA), USDI Fish and Wildlife Service (FWS), Texas Parks and Wildlife Department (TPWD), Texas Farm Bureau (TFB), Texas Wildlife Association (TWA).

Results and Accomplishments

The centerpiece of the restoration and reclamation plan is removal and control of the salt cedar. A chemical control program was designed to complement biological control. The NRCS provided Environmental Quality Incentives Program (EQIP) cost share funds to local producers to remove tamarisk. The Canadian River Municipal Water Authority supplemented EQIP funds, encouraging more landowners to participate, which upped the number of acres treated. The FWS endorsed the project as a way to document that a reclamation and restoration plan was being implemented. Other organizations supported the salt cedar control project by providing outreach and information.

About \$324,000 in EQIP funds were dedicated to controlling salt cedar; the CRMWA matched the funds with an additional \$108,000. All told, 2,000 acres were treated—more than 50 percent of the infested acres—in just the first year of the program. Funds went to eleven producers.

Innovation/Highlight

The advancement of conservation by matching Federal cost-share funds with municipal funds to achieve conservation goals.

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Sonoita Valley Planning Partnership

Local Collaboration to National Conservation Area

Location: Sonoita, AZ

Project Summary: Disparate and previously conflicted interests collaborated to develop a watershed-wide plan to promote ecological health, leading to the creation of the Las Cienegas National Recreation Area.



View of Empire/Las Cienegas landscape in southern Arizona.

Resource Challenge

Sonoita Valley, just 50 miles southeast of Tucson, is a vast, high desert basin of oak-studded hills, rolling grasslands, and the lush riparian corridor along Cienega Creek. It is an important wildlife corridor, connecting the Sonoran desert of the Southwest and northern Mexico. Half public and half private land ownership, it has traditionally supported ranching, grazing, and mining. Recently rediscovered as a recreational paradise, the valley is feeling the effects of Tucson's booming growth.

In a land exchange, the U.S. Department of the Interior Bureau of Land Management (BLM) acquired desert lands close to the Mexican border and filed an Environmental Impact Statement to extend grazing leases. In the early 1990s that process became litigious. The BLM drew together a large group of stakeholders, including federal, state, and local agencies, organized groups, and individuals who eventually realized their common interests, forming the Sonoita Valley Planning Partnership (SVPP) and expanding the planning area to include the watershed. The SVPP members share a common interest in the future of the Valley's public lands.

Examples of Key Partners

USDI Bureau of Land Management (BLM), USDI Fish and Wildlife Service (FWS), Arizona Game and Fish, Santa Cruz and Pima Counties, Sonoita, Elgin, Tucson, Universities, a variety of non-government organizations, and others.

Innovation/Highlight

Developed an inclusive process that digs deep to find commonality, sticks to core principles, takes the time needed to reach consensus, shares ownership for outcomes, and holds each other responsible and accountable.

Results and Accomplishments

- Produced a plan to nurture landscape health at the watershed level without regard to ownership.
- Negotiated agreements and understandings that human uses need to be compatible with ecosystem functions and that the total capacity of the land to support plants, animals—and humans—is a composite, rather than a single use.
- Reached consensus on balancing resource conservation objectives with traditional multiple uses.
- Integrated the protection and celebration of cultural heritage with healthy environments that support balanced use.
- Formed a foundation of understanding, trust, and responsibility that will mature into a forum where all owners and stakeholder groups can effectively implement strategies to protect the region's natural assets for future generations.
- Helped model and participated in integrating the work of the SVPP into the larger context of the Pima County Sonoran Desert Conservation Plan, a visionary plan to effectively integrate the interests of both natural and human communities.

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Sonoran Pronghorn Captive Breeding Program

Rescuing the Sonoran Pronghorn from Potential Extinction

Location: Cabeza Prieta National Wildlife Refuge, Arizona

Project Summary: A cooperative captive breeding program was established in Arizona to halt the decline of the endangered Sonoran Pronghorn and to seed new populations of the species in the state.

PHOTO COURTESY OF JOHN HERVERT



Pronghorn in captive breeding enclosure at Cabeza Prieta National Wildlife Refuge.

Resource Challenge

The Sonoran pronghorn once roamed vast areas of the Sonoran Desert, but is now limited to three small populations: two in Mexico and one in southwestern Arizona. In 1991, Arizona's population dropped to just 250 animals. In the 1990s a severe drought set off an even more precipitous decline; by 2003, only 21 animals remained.

Federal land managers and the Arizona Game and Fish Department (AGFD) resolved to save the U.S. species by establishing a captive breeding program. The Department of Defense (DOD) provided funds and program planning, the AGFD managed day-to-day operations, and the USDI Fish and Wildlife Service furnished the breeding location.

The Sonoran pronghorn is shy; land managers worried that the animals might die from stress during capture, transportation, and confinement. Also, they were not sure if the enclosure would ward off predators. If they failed, it could lead to extirpation of the species.

Examples of Key Partners

AGFD, Marine Corps Base Yuma, Luke Air Force Base, Cabeza Prieta National Wildlife Refuge, Organ Pipe Cactus National Monument, USDI Bureau of Land Management (BLM), USDI Fish and Wildlife Service (FWS), Phoenix Zoological Park, and the San Diego Zoological Park.

Innovation/Highlight

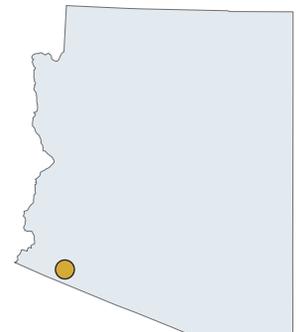
Program partners developed a double fence, electrified on the outside perimeter, to protect the pronghorn. Advanced handling techniques avoided stress-related deaths.

Results and Accomplishments

- In 2003, a captive breeding facility was established on the Cabeza Prieta National Wildlife Refuge, populated with pronghorn from both Mexico and Arizona. Biologists enclosed 640 acres with a double fence, the outer portion electrified. Food plots were established and irrigated. Despite careful handling, the first animals moved to the breeding facility died from stress. Eventually, two females from Mexico were captured and successfully relocated to the enclosure. Later, several more animals from the Barry M. Goldwater Range were successfully captured and relocated.
- Ten fawns were born this year; all are likely to survive because of the abundant food supply and protection from predators. Fewer than 50% generally survive in the wild. To maintain genetic diversity, male fawns will probably be released this winter. The females, plus as many as 15 more Mexican animals, will be bred until the population reaches at least 300 animals.
- Though the species is not entirely out of danger, the recovery team is beginning to think about how best to release the pronghorns from the enclosure. They also are studying locations where a second population could be established, including two adjoining areas: the Kofa National Wildlife Refuge and the U.S. Army's Yuma Proving Ground.

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Thunderbird/Tajique Landscape Projects

Reducing Fire Risk and Improving Forest Health

Location: New Mexico, Cibola National Forest

Project Summary: Two landscape-scale projects with large partnerships are working to reduce fire hazards, improve forest health, and create jobs for community sustainability.



Portable sawmill makes wood pallets out of small diameter material.

Resource Challenge

The Thunderbird and Tajique project areas, totaling 27,500 acres, are located in the Manzano Mountains in central New Mexico. The Mountainair Ranger District of the Cibola National Forest manages 135,000 acres in the mountain range. Both areas have dense stands of ponderosa pine and pinyon-juniper. Excessive tree density and undergrowth, coupled with a high incidence of lightning strikes, limited road access, and intensive recreation, are contributing to a growing risk of wildfires. The State of New Mexico has listed Thunderbird and Tajique in its “Top 20 Communities at Risk.”

Because of these conditions, forest health continues to decline, showing poor tree regeneration, few grasses and shrubs, and little species diversity. Environmental stress from high stand densities and the recent drought has increased tree mortality from insects and diseases. The quality of wildlife habitat is also declining as meadows and riparian areas give way to encroaching trees.

Hispanic communities, the Isleta Pueblo, private lands, housing developments, and summer youth camps border the forest. Torrance County has a high unemployment rate and is among the poorest in the country. Many of its communities depend on wood for heating and cooking.

Examples of Key Partners

Las Humanas, P&M Signs, local villages, Claunch-Pinto and East Torrance Soil and Water Conservation Districts, Isleta Pueblo, Forest Guild, Youth Conservation Corp, New Mexico State Forestry, Wild Turkey Federation, Ecological Restoration Institute, and others.

Innovation/Highlight

Strong local collaboration, formalized by the Healthy Forest Restoration Act (HFRA), has made landscape level planning and plan implementation effective and efficient.

Results and Accomplishments

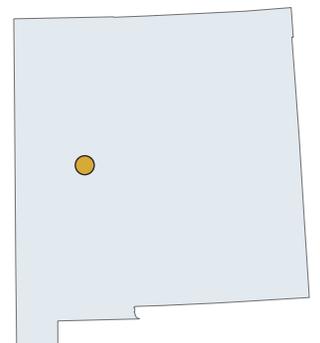
Accomplishments of the Thunderbird and Tajique projects include:

- Treating areas at a watershed scale has increased efficiency of treatments and leveraged other funds, resulting in more cost-effective treatments.
- Helping Las Humanas citizens restore forests, while creating family wage jobs on restoration and hazardous fuels reduction projects throughout the county.
- Creating quality wood products from recycled plastics and wood chips from small diameter trees.
- Creating training opportunities through the Collaborative Forestry Restoration Program—a factor in the growth of local community forest-based businesses.
- Focusing efforts on reducing fuel loads to reduce fire hazard and restore forest health—twin goals helped by the Tajique Project’s standing as one of the first HFRA projects in the country.
- Utilizing the Tribal Forest Protection Action authorities to enhance collaboration with the Isleta Pueblo in addressing natural resource issues.
- Using stewardship contracts to allow multi-year treatments of forests, ensuring steady, long-term supplies of wood materials to local forest-based industries.

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Uncompahgre Plateau Project

Public Lands Partnership is Looking “UP”

Location: Southwest Colorado

Project Summary: “UP” is a collaborative agency/community-based effort to restore the wildlife, native plants and natural ecological functions of the Uncompahgre Plateau.



A group on a field trip to the Burn Canyon fire discusses a burned area recovery plan.

Resource Challenge

Colorado’s Uncompahgre Plateau (UP) covers about 2,300 miles on the western slope of the Rockies. Its high-domed upland rises 10,000 feet from the Colorado River and southward to the San Juan Mountains.

More than a decade ago, the Colorado Division of Wildlife, the USDA Forest Service (USFS), and the USDI Bureau of Land Management (BLM) became concerned about the Plateau’s environmental health, especially about the decline in mule deer. Excessive soil erosion, an invasion of non-native plants and pinyon-juniper, low vegetation diversity, fewer neo-tropical birds, and riparian areas and aquatic habitats in poor condition were just some of the worries. The Plateau’s condition was also beginning to affect grazing, wood cutting, hunting, and other forms of recreation—and, therefore, the region’s economic vitality.

To address the ecological crisis, several organizations and interested citizens established the Public Lands Partnership in 2001. The group’s Executive Committee oversees the Partnership, while the Technical Committee is the working group and backbone of the organization. The Collaborative Council, which is open to all, is made up of members of Partnership organizations, interest groups, and the public. The Partnership calls on the Collaborative Council whenever they need public input.

Examples of Key Partners

BLM, USFS, Colorado Division of Wildlife, Public Lands Partnership (citizens and local governments of four counties: Delta, Montrose,

Ouray, and San Miguel), Colorado State University, Western Area Power Administration, and Tri-State Generation.

Results and Accomplishments

The following restoration projects are underway to meet the ecological needs of the Uncompahgre Plateau:

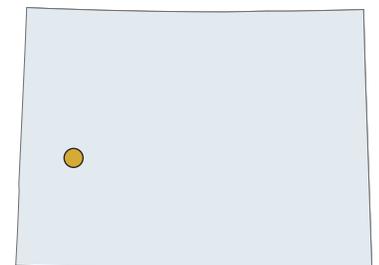
- Fuel reduction and invasive species removal, especially on utility rights-of-way. Corridors are particularly susceptible to lightning-caused fires because of highly flammable plants, many of which are non-native.
- Native species reseeded: removing invasive species and re-establishing natives to restore the plateau’s ecological health, reduce wildfire danger, and enhance productivity. Partners are currently targeting utility corridors and adjacent lands.
- Studies by Uncompahgre Plateau Project partners to support fuel reduction, invasive species control, and native plant reseeded; examples include:
 1. A comprehensive Geographic Information System for the plateau.
 2. Landscape health assessment.
 3. Revisions to the Grand Mesa, Uncompahgre, and Gunnison National Forest plans.
 4. Fire history studies.
 5. Native plant seed production and seeding rehabilitation research and development.
 6. Mule deer studies.
 7. Gunnison sage grouse study.
 8. Fuel reduction program as part of National Fire Plan.

Innovation/Highlight

Multi-interest partnership includes an open-membership Collaborative Council to provide public input.

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White Mountain Apache Tribe

Restoring Wolves, Owls, Trout and Ecosystems

Location: East-central Arizona

Project Summary: The White Mountain Apache Tribe has created innovative strategies for balancing economic development and resource conservation.



The Apache trout is native to the White Mountain Apache Tribe's 1.6 million acre homeland.

Resource Challenge

The Fort Apache Indian Reservation in East-Central Arizona is the homeland of the White Mountain Apache people. The more than 1.6 million-acre Reservation ranges from high-elevation forests to desert scrub and is blessed with sparkling lakes, more than 500 miles of cool water streams, and abundant wildlife. The great diversity of vegetation, wildlife, water resources, and pristine areas makes the Reservation one of the premiere recreation locations in the Southwest.

Tribal lands are also home to five federally-listed species: Apache trout, Mexican spotted owl, Mexican wolf, bald eagle, and loach minnow. A challenge to the Tribe is to promote a thriving resource-based economy while establishing an ambitious conservation program in an era of budget cuts.

Through innovative funding and management initiatives, logging, ranching, world-class trophy elk hunting, and a thriving outdoor recreation program coexist with and complement conservation programs. Cooperative efforts are a key component of the Tribe's strategy, and the Tribe has forged relationships with many state and federal agencies and conservation organizations.

Examples of Key Cooperators

White Mountain Apache Tribe, USDI Fish and Wildlife Service (FWS), Arizona Game and Fish Department, USDA Natural Resources Conservation Service (NRCS), USDA Forest Service (USFS), U.S. Environmental Protection Agency.

Innovation/Highlight

The Tribe used a court settlement to establish a permanent fund for restoring Reservation ecosystems and for scholarships for Tribal members pursuing natural resources studies.

Results and Accomplishments

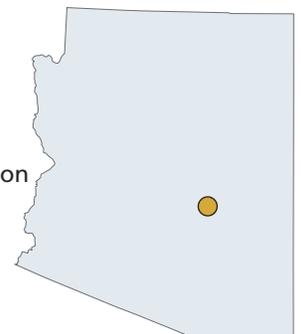
The Tribe, FWS, State of Arizona, and USFS cooperate on various aspects of Apache trout recovery. Projects have restored habitat, established a rearing program in reservation fish hatcheries, and transplanted trout into streams and lakes on the Reservation and adjacent National Forest. To date, 21 Apache trout streams have been restored, non-native trout were removed from 14 streams, and eight new populations of Apache trout were established. The Apache trout was downlisted from endangered to threatened, which led to the establishment of an Apache trout sport fishery. The Apache trout may become the first fish species to be delisted under the Endangered Species Act.

The Tribe is proactive in Mexican wolf recovery, and the Reservation is home to two distinct wolf packs. The Tribe protects the Mexican spotted owl, managing Tribal forests on an ecosystem basis and implementing silvicultural practices designed to improve overall forest health.

The Tribe's hydrology and watershed programs carry out riparian and wetland restoration projects, often in cooperation with the U.S. Environmental Protection Agency. The range management program works with livestock associations and NRCS.

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White Mountain Stewardship Project

Community Collaboration Leads to Forest Restoration

Location: Eastern Arizona

Project Summary: A ten-year stewardship contract was awarded to thin 150,000 acres of forest to protect communities from wildfire and stimulate wood industry.



Community participants, fire departments, and agencies meet to prepare Community Wildfire Protection Plans.

Resource Challenge

In 2002, the Rodeo-Chediski Fire burned 468,000 acres in the White Mountains of Eastern Arizona. The loss of 400 homes was a wake-up call for local communities situated among the pine forests that extend from the Apache-Sitgreaves National Forest, to White Mountain Apache Tribal lands, to the communities. Four county governments pooled their money to complete community fire plans that seamlessly span the wildland urban interface (WUI) across the White Mountains. A citizen-based Natural Resources Working Group has been providing collaborative input to forest management for eight years.

The White Mountain Apache Tribe had already accelerated their thinning and burning programs around the communities. Based on the WUI boundaries and priorities set forth in the plan, the Apache-Sitgreaves National Forest determined that there were 150,000 acres of ponderosa pine forests in the WUI that were seriously overstocked and vulnerable to catastrophic fire and insect attacks.

The forest offered a ten year stewardship contract to thin at least 150,000 acres. Contract goals were to treat all the pine within the WUI, support local economies, reduce the per-acre treatment cost, and encourage new wood fiber industries by providing a commitment of wood for ten years. Because this was the first long-term stewardship contract offered in the country, many issues had to be addressed and resolved prior to its formal offering.

The Forest is using the Healthy Forest Restoration Act's environmental assessment tools to streamline environmental analysis.

Environmental organizations are supporting the contract and a multiparty monitoring board has been established for the project.

Examples of Key Partners

Local homeowners, County Partnership for Restoration, White Mountain Apache Tribe, Arizona State Forester, Arizona Department of Fish and Game, Four Corners Sustainable Forestry Partnership, The Nature Conservancy, Rocky Mountain Elk Foundation, USDA Forest Service, Natural Resource Working Group, and others.

Results and Accomplishments

- Completed a seamless four-county Community Wildfire Protection Plan.
- Accelerated thinning and burning near communities.
- Executed the first ten year stewardship contract; at least 150,000 federal acres will be thinned at a 30-50 percent lower cost than before the contract.
- Created a multi-party monitoring board using a pre-existing citizen-based Natural Resources Working Group to provide forest management input.
- Encouraging new wood fiber businesses that can stimulate the local economy, take advantage of, and better utilize, the potential long-term supply of forest resources.

Innovation/Highlight

The first long-term (ten years) stewardship contract offered on federal lands to thin overgrown forests adjacent to communities vulnerable to wildfire.

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