

FILES



RECLAMATION IN THE
UPPER COLORADO REGION



GCS OFFICE COPY
DO NOT REMOVE

550.00
PRJ-23.001
C719
19971

18

MGT 0505

FOR INTERNAL USE ONLY

Errata Notice

**Page 4, Agriculture, Paragraph 2, Line 10, should read
as follows:**

**"Farmers also produced 75 tons of spearmint,
21,000 tons of sweet corn, and"**

Our Mission

To manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.



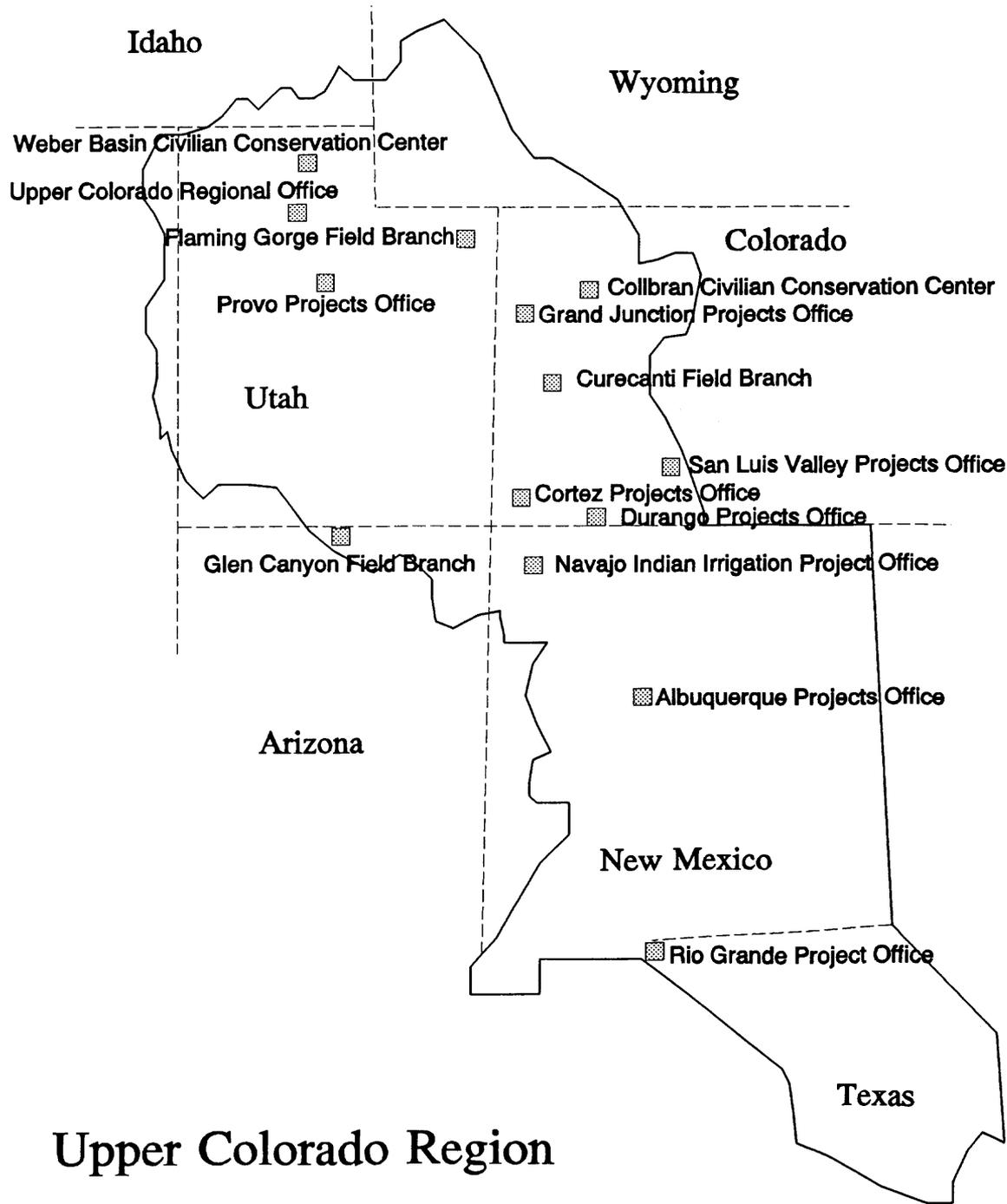
**RECLAMATION IN THE
UPPER COLORADO REGION**



Scenic Provo River, Utah.

CONTENTS

UC Region	3
CRSP	14
States	
Arizona	16
Colorado	20
New Mexico	28
Idaho and Wyoming	34
Texas	38
Utah	42



Upper Colorado Region



Upper Colorado Region

In the mid-nineteenth century there were few reliable water supplies in the harsh country known as the Upper Colorado River Basin. Mother nature simply could not keep up with the demands of the great western migration. The first attempt to solve this problem was made in 1891 by a group of hard-driven Westerners who originated in Salt Lake City, Utah, and called themselves the National Irrigation Congress. This group found support from President Theodore Roosevelt and in 1902 the Bureau of Reclamation was born.

One of five regional offices, the Upper Colorado Region encompasses almost all of Utah and New Mexico, the western part of Colorado, northeastern Arizona, southwestern Wyoming, the southwest corner of Texas, and a small portion of Idaho. Our region includes one of the most complex and extensive river resource developments in the world, the Colorado River Storage Project.

President Roosevelt's vision of 1902, to improve the quality of life through management, conservation, and development of water and related land resources, is truly reflected in the work of the Upper Colorado Region. We provide 11.8 million acre-feet of water

annually serving urban and industrial users, agriculture, and the environment. Our recreation areas entertain millions of visitors each year and our wetlands provide habitat for birds and other small animals. Flood control, power generation, and recreation provided by our region have dramatically improved the quality of life in the West.

The Bureau of Reclamation has controlled devastating floods and provided reliable sources of water to a thirsty nation for over 90 years. However, Reclamation's focus in the future will shift from building new structures to improving the management and environmental integrity of resources that have already been developed. The introduction of the Strategic Plan and our new mission statement demonstrate our collective desire for change.

The Upper Colorado Region is evolving to meet new and often conflicting demands with an increased sensitivity toward environmental needs. The challenge that lies ahead of us is to carefully balance our precious water resources, particularly in light of recent drought conditions, with the diverse and ever-growing demands of the Intermountain West.

Montrose, Colorado, celebrates the dedication of the Gunnison Tunnel, part of the Uncompahgre Project, in 1909. This was one of the first Reclamation projects to be built in the West.



The Region

Our Benefits

As a leading agency in water resources management and development, the results of Reclamation's efforts touch the lives of everyone who lives, works, or plays within the boundaries of the Upper Colorado Region. Water, the West's most valuable treasure, determines the quality of life for all. We are a fortunate generation.

Agriculture

Today, Reclamation project lands produce more than half of America's vegetables and about one quarter of its fruit and nut crops. Reclamation facilities provide irrigation water to almost 10 million acres on about 137,000 individual farms. The annual cumulative gross crop value is \$9 billion or enough food to feed 37 million people for one year. The Bureau of Reclamation also helps farmers identify effective conservation measures, increase project efficiencies, and update present irrigation systems.

The Upper Colorado Region provides irrigation water to about 2.5 million acres on nearly 38,300 individual farm units. The main crops produced within our boundaries are hay, wheat, nuts, and many fruits and vegetables. Our work is literally fruitful. During 1991, an annual gross crop value of \$440 million was realized from Reclamation projects in our region. In fact, farmers harvested 1.2 million tons of alfalfa hay and 46,000 tons of apples with irrigation water provided by our projects. Farmers also produced three tons of spearmint, 31 tons of sweet corn, and \$62.5 million dollars worth of pecans for those with a taste for confection.



Harvesting hay grown with water from the Middle Rio Grande Project, New Mexico.

Communities

The value of our projects adds to the overall community and improves the "liveability" of the arid and rugged country known as the Upper Colorado Region. Large cities and towns now thrive because of clean, adequate supplies of water. Agriculture is now a leading industry in what used to be a vast desert. Lack of water has always been a serious problem in this dry region and the Intermountain West would not reflect its current character without the benefits of Reclamation projects.



The Anasazi Heritage Center in Cortez, Colorado, houses nearly two million artifacts from the Dolores Project.

Cultural Resources

Cultural resource sites are the physical remains of the past that can be studied by archeologists and other scholars to answer questions about history and prehistory. They include building remains, burials, and other physical evidence of past societies and cultures. These sites are especially important to the preservation and understanding of our nation's heritage because they are the main source of our knowledge about the prehistoric past.

As a Federal agency, the Bureau of Reclamation has several historic preservation responsibilities. We preserve, protect, and manage significant historical buildings, objects, prehistoric sites, and engineering and architectural properties. The Upper Colorado Region designed and constructed the Anasazi Heritage

The Region

Center which houses nearly two million artifacts found during a 10-year archeological excavation of the Dolores Project near Cortez, Colorado. The Anasazi were prehistoric village-dwelling farmers that flourished in the Four Corners area over 800 years ago. The Dolores Project Cultural Resources Program was one of the largest archeological projects ever undertaken by either the private or public sector. The Upper Colorado Region is also studying cultural resources in the Grand Canyon below Glen Canyon Dam. Throughout the Colorado River corridor are places of historical, cultural, and religious importance to Native Americans. In addition to ceremonial uses of water, the Colorado River and its tributaries provided domestic water for both people and livestock for many generations. The results of this study will be included in the Draft Glen Canyon Dam Environmental Impact Statement scheduled for completion in mid-1993.

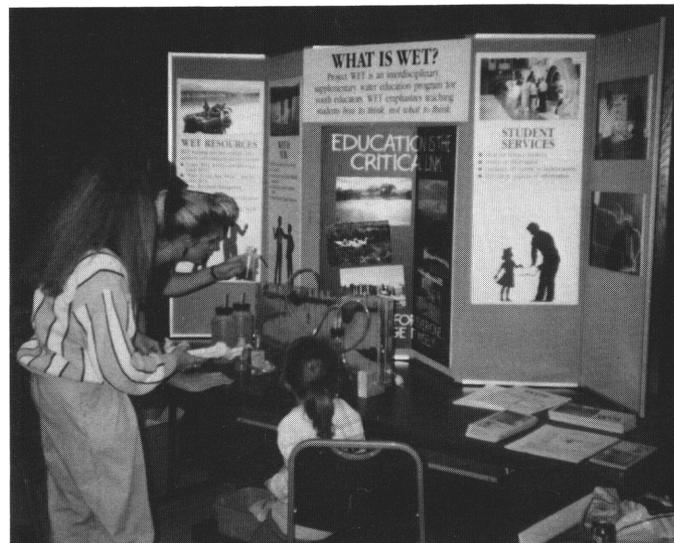
Economics

Water is more than a resource, it is a responsibility that must be carefully managed and protected. The Bureau of Reclamation provides water and food for all Americans, and we provide a return on your investment. Since 1971, Reclamation projects have generated over \$53 billion in Federal tax revenues alone. From 1902 to 1990, Congress invested approximately \$16 billion in Reclamation facilities. About 80 percent of this investment will be repaid over time to the Federal treasury by users of Reclamation project water and hydroelectric power. The remaining 20 percent, funded by the Federal Government, contributes to the public good by providing recreation, environmental protection, and flood control. Power generated on Reclamation projects annually produces about \$600 million in revenues. And, from 1906 to 1990, crops produced from Reclamation water projects totaled \$156 billion, far exceeding the Congressional investment of \$16 billion.

The direct output of our region's projects, represented by dollars generated in gross crop values and other direct benefits, is only "a drop in the bucket" when you consider the total impact that our projects have on our economy. It has been estimated that for every direct benefit dollar from Reclamation projects, an additional \$6 to \$7 are generated in the community area.

Education

The Bureau of Reclamation is the sponsor of a national water education program called Project WET (Water Education for Teachers). Project WET is an interdisciplinary water education program for youth educators that emphasizes teaching students how to think, not what to think. The goal of Project WET is to facilitate and promote the awareness, appreciation, knowledge, and stewardship of water resources through the development and dissemination of classroom-ready teaching



Reclamation employees demonstrate groundwater model.

aids, and through the establishment of state-sponsored Project WET programs. Topics covered in WET materials include atmospheric, surface, and groundwater resources; water quality and quantity; water management; and water conservation.

Reclamation will assist western states interested in promoting a water education program. Funds may be used to enhance an existing program or to start a program where none is established.

Wise water management is crucial for providing tomorrow's children social and economic stability in a healthy environment. Education is the critical link to saving our precious water resources. By using Project WET services and resource materials, young people will gain the knowledge, skill, and commitment needed to make informed decisions about water resource uses and conservation.

The Region

Electrical Power

In addition to creating green plains, the water stored in Reclamation dams is a source of great hydroelectric power, a clean, renewable form of energy. Reclamation is one of the largest operators of Federal power-generating stations. The agency uses some of the power it produces to run project facilities, such as pumping plants. By law, excess hydropower is sold first to preference customers, such as rural electric power co-ops, public utility districts, municipalities, and State and Federal agencies. Any remaining power may be sold to private electric utilities. Reclamation generates enough hydropower to meet the needs of millions of people, and power revenues equal about \$600 million a year. Power revenues are returned to the Federal Treasury to repay the cost of constructing, operating, and maintaining projects.

The Upper Colorado Region's 18 hydroelectric powerplants, with an installed capacity of about 1.7 million kilowatts, annually produce an average of over 5.7 billion kilowatt-hours of electricity, adding hundreds of thousands of dollars in revenues to the Treasury each year. That's enough to meet the annual residential electrical needs of over 400,000 people living in the Intermountain Region. It would take more than 15 million barrels of oil or 2.9 million tons of coal to produce that much energy.

Water is one of the most promising and coveted energy sources we have. As part of the President's National Energy Strategy, the Bureau of Reclamation is researching new ways to make the most of our Nation's hydroelectric power potential. This research is part of the national effort to achieve energy self-sufficiency.



Generators at Glen Canyon Dam in Page, Arizona.

Fish and Wildlife

The Upper Colorado Region encompasses some of the driest areas of the United States. Reclamation project water and lands are therefore critical to the protection and enhancement of numerous fish and wildlife species. Reclamation reservoirs support a variety of game fish species; higher elevation waters provide habitat for trout and kokanee salmon, while lower elevation reservoirs host a diversity of warm water fishes such as bass, crappie, and walleye. Tailwaters below Reclamation dams contain some of the highest densities of trout in the world. From high elevation lands that support large herds of big game to low elevation wetlands and riparian areas that are home to a unique variety of birds, the Upper Colorado Region supports and protects a great diversity of terrestrial and wetland species.



Elk grazing near Flaming Gorge Reservoir, Utah/Wyoming.

Endangered species issues constantly challenge Reclamation employees to find new ways to operate facilities while protecting rare resources. Unique and creative endangered species recovery efforts are the result of Reclamation's efforts to balance often conflicting resource uses. Reclamation is currently a critical cooperator in the recovery of four Colorado River Basin fishes and is attempting to modify operation of large dams on the Green, Gunnison, San Juan, and Colorado Rivers to provide suitable native fish habitat conditions while providing for a multitude of other traditional uses. The Upper Colorado Region is also an active participant in fish research and recovery programs in the Pecos River and Rio Grande drainages. These

The Region

drainages contain a unique number of warm water fish and Reclamation is actively investigating ways to balance water user and fishery needs in these dry regions.

Besides active research and recovery programs for native fish species, Reclamation is a participant in managing and recovering endangered populations of wildlife. These activities include providing conservation pools in reservoirs and minimum streamflows in rivers to support endangered bald eagles, wetland habitat for rare plant species and amphibians, and riparian habitat to enhance populations of neotropical birds.



Biologist removes tissue sample from Colorado squawfish for genetic analysis, Yampa River, Colorado.

The Bureau of Reclamation continues to play an active role in protection and enhancement of fish and wildlife populations. From the development of expertise in wetland design and construction, to instream flow modeling and fish habitat protection, the Upper Colorado Region reaffirms its commitment to work closely with various entities to better operate our facilities for the betterment of fish and wildlife.

Flood Control

Flooding destroys crops, property, and lives. Flood control provided by Reclamation facilities helps prevent these tragedies. Since 1950, flood control benefits amount to approximately \$149 million throughout the Upper Colorado Region. In 1992, flood damages prevented in this region alone totaled \$2,448,000.

Reclamation facilities are credited with preventing \$2,390,000 in flood damages on the Rio Grande. In the Great Basin, Deer Creek Reservoir and Echo Reservoir

prevented \$45,000 in flood damages along the Provo and Weber Rivers in 1992, and in the Upper Colorado Basin, the operation of four reservoirs prevented \$13,000 in flood damages.

Hazardous Waste Technical Assistance

Since 1988 the Upper Colorado Region has provided technical and project management assistance to other Federal and State agencies in the protection and restoration of the Nation's surface and groundwater resources from hazardous waste contamination. Reclamation's role in the hazardous waste technical assistance field developed as a result of the need for more Federal presence on Environmental Protection Agency and other Government agency work. This need was stated by Congress through Office of Technology Assessment reports wherein a conflict of interest was noted when the private sector began creating policy and then bidding on jobs resulting from those policies. It is often more cost-effective for Government agencies to use existing capabilities within the Federal sector to manage hazardous waste cleanups than to create the same capabilities in each agency.



Crew recovering soil samples at Sierra Blanca hazardous waste site near Carrizozo, New Mexico.

To date, The Upper Colorado Region has provided approximately \$6.5 million of reimbursable technical and management assistance to five other Government agencies on 15 sites in Utah, Wyoming, Colorado, and New Mexico. Much of the work has been in procuring and managing contracts, but some work has also been

The Region

conducted in-house to develop and maintain expertise to oversee contract activities.

Recreation

More than 300 recreation areas have been created by Reclamation projects in the 17 Western States; many of these areas are among the Nation's most popular recreation spots. The areas contain approximately five million acres of water and land surface for public recreation, including our region's Lake Powell which has more shoreline than California has on the Pacific Ocean. Visitation to Reclamation facilities, which offer camping, boating, fishing, scuba diving, parasailing, windsurfing, and other recreation activities, exceeds 80 million people each year.

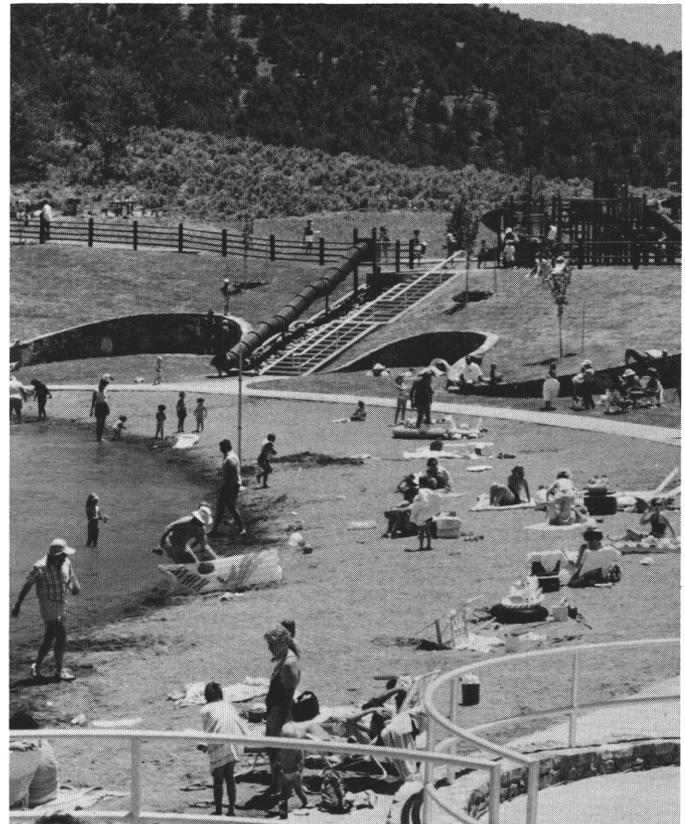
Projects in the Upper Colorado Region have become the playgrounds for ever increasing numbers of people. Over 13 million visits were recorded in 1992 alone. Some of the Intermountain West's most popular sites are either on the Region's reservoirs or in the tailwaters



Fishing on Grand Mesa, Colorado.

below our dams. The San Juan River below Navajo Dam in northern New Mexico offers anglers a "blue ribbon" trout fishery, while the Green River below Flaming Gorge Dam in northeastern Utah sports a "world class" trout fishery.

Opportunities to promote our region's recreation facilities extend far beyond the borders of the United States. Thousands of foreign visitors enjoy our facilities each year; and to enhance their experience, we provide signs and brochures in three different languages at two of our Visitor Centers. Another integral part of our recreation program is to ensure that all of our facilities are accessible to the physically challenged. In 1989, our region received the first National Barrier Free Design Award from the Physically-Challenged Access to the Woods organization for the development of the Dutch Charlie Recreation Area at Ridgway Reservoir. Clearly the Upper Colorado Region is committed to making its sites accessible, safe, and enjoyable for all recreation enthusiasts.



Dutch Charlie Recreation Area at Ridgway Reservoir, Dallas Creek Project, Colorado.

The Region

Youth Programs

The Job Corps is a U.S. Department of Labor funded program operated through private contractors and the U.S. Departments of the Interior and Agriculture. It was established in 1964 and has enrolled over 1,250,000 youth. Today, there are approximately 40,500 students enrolled in the program at 108 Centers.

The Upper Colorado Region operates two Job Corps Training Centers: Weber Basin Civilian Conservation Center in Ogden, Utah, and the Collbran Civilian Conservation Center in Collbran, Colorado. At any one time, the centers together train about 400 young adults. The program is open to disadvantaged or handicapped youth, between the ages of 16 and 21, who are in need of training for employment. Job Corps training programs utilize a unique approach of open-entry, individualized, competency-based instruction. The combination of training and support services is designed to help each enrollee become a responsible, productive citizen. Upon completion of the program, youth are better prepared to obtain and hold gainful employment or realize their untapped potential through the pursuit of further education or training.

The benefits of the Job Corps Program are many. Among them are job training and placement, and assistance in skills needed for carpentry, brick masonry, welding, painting, food service, and dental or clerical occupations. Job Corps students may also earn their high school diploma or GED certificate. Vocational and personal counseling are also available.



Collbran Job Corps student learns the art of welding.



Weber Basin Job Corps students assisted with the construction of the Ronald McDonald House in Utah.

The Region

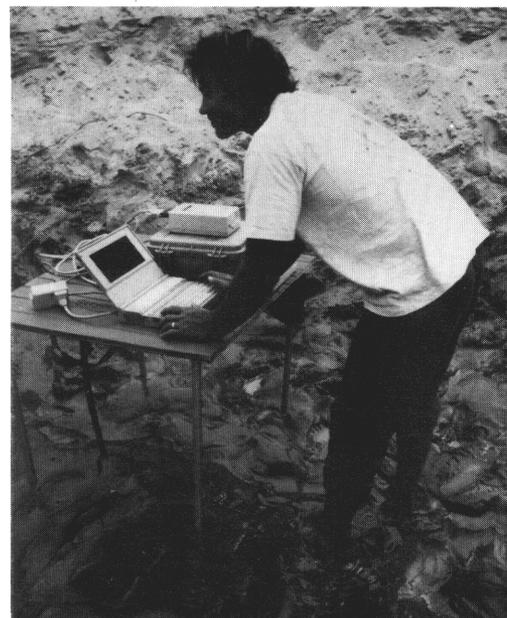
Our People

Reclamation's success today and in the future depends on the contributions and commitment of its employees. We know that our people are our most valuable asset. The combined knowledge and ability of our talented workforce represents an immeasurable asset to the communities we live and work in. Our employees not only research, plan, design, study, construct, operate, and maintain projects, but our talent pool continues to

respond to environmental concerns and commitments and contribute to solutions of water-related problems beyond project boundaries. Reclamation has benefited greatly from having highly talented and knowledgeable people in its workforce, and is committed to developing, attracting, and retaining top-quality people to help meet the future challenges we face.



Employees of the Durango Projects Office, Colorado.



Biologist collects data for the Glen Canyon Dam Environmental Impact Statement.



The Grand Junction Projects Office in Colorado sponsors the "Otto Otter" water safety program.

Upper Colorado Region Employment - March 1993

Location	Permanent Full Time	All Employees
Albuquerque Projects Office	122	132
Cortez Projects Office	79	79
Durango Projects Office	85	88
Grand Junction Projects Office	94	97
Navajo Indian Irrigation Project	28	28
Provo Projects Office	140	144
Regional Office - Salt Lake City	392	427
Rio Grande Project Office	39	40
San Luis Valley Projects Office	20	20
Collbran Job Corps Center	48	62
Weber Basin Job Corps Center	51	61
Regionwide Totals:	1,098	1,178

The Region

Human Resources

Through the process of developing the Strategic Plan, it has become clear that skilled, motivated employees are essential for achieving quality stewardship of our western water resources. To that end, a number of regionwide human resources programs have been initiated. Several are highlighted here.

Two projects offices, Grand Junction and Albuquerque, have implemented the Total Quality Management philosophy in their everyday way of doing Reclamation's business. In both instances, a Quality Council was established to develop mission and vision statements as well as implementation of goals and objectives established for their respective strategic plans. Many employees have had the TQM Overview training and others have gone on to more specialized training in areas such as TQM workshop, problem-solving, team building, and facilitator skills. The success of these two field offices provides a framework for the rest of the region to follow and learn from. In all cases, the overriding objective of the TQM program is to improve service to the customer, be it the public, State and local governments, or other Federal agencies.

A process has been instituted to provide for a temporary workplace arrangement. This allows an employee to work at home due to illness or injury of the employee or family member or during maternity or paternity situations which often prevent the employee from working at the office.

The Upper Colorado Region has made a commitment, through the Cooperative Education Program, to increase the diversity of our workforce. The COOP program provides the opportunity for students in college or high school to gain practical work experience while continuing their education. Students generally receive academic credit for their internship styled work experiences. The program benefits both the students and the agency. For the student, upon graduation and successful completion of their work experience, they may be noncompetitively converted to permanent appointment with Reclamation. In turn, Reclamation has an opportunity to hire employees with proven skills and abilities who can "hit the ground running".

In 1989, the First Regional Office Safety Team (FROST) was formed. While the field offices have long had aggressive safety team programs, the Regional Office did not. FROST's major purpose has been to help make employees aware of possible safety hazards in their work areas and to encourage elimination of any hazards. FROST also provides a continuing education program on proper safety procedures for the workplace and home. A weekly safety contest is sponsored by FROST and a special awards program has been initiated to recognize employees who have rendered extraordinary service during accidents or other emergency situations. Through these efforts, employees have come to realize that even traditional office environments pose safety risks that can be minimized or eliminated.



FROST sponsored CPR training for employees.

Each year, the Upper Colorado region holds a Regional Management Committee meeting involving all principal managers. The meeting focuses on more than day to day issues. The broader direction of the region and its programs are discussed in workshop style. In 1992, significant emphasis was placed on human resources issues. Some specific topics included the Reclamation-wide human resource surveys, Total Quality

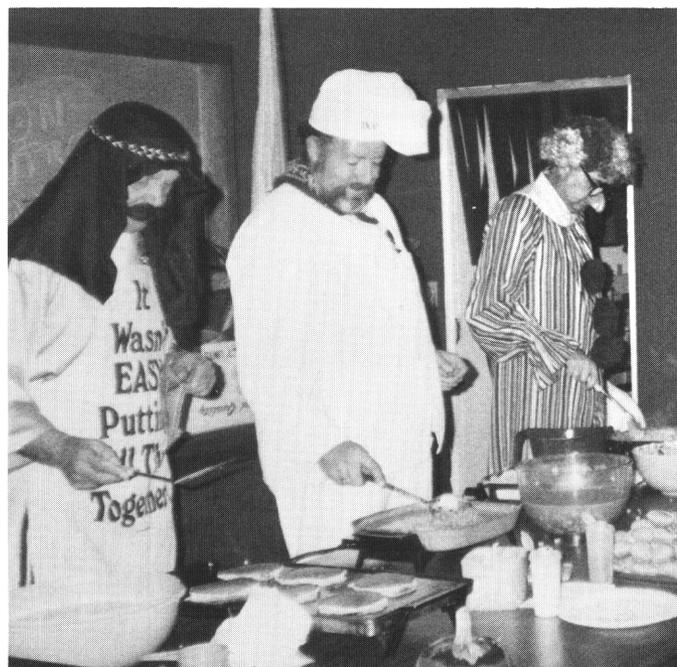
The Region

Management training and opportunities, alternative work schedules, staffing needs, and several resource related topics.

In September 1992, a compressed work week program, called the 5/4-9 schedule, was approved. The program allows the employee to design a work schedule that compresses normal 80 hour work schedules over a 10 day period into 9 days. Initial enrollment throughout the region was 124 people representing approximately 10 percent of the total workforce. The program has been available to employees not represented by collective bargaining units. Presently, we are investigating the possibility of the program being adopted in those offices with union employees.

Each month, the Regional Personnel Office includes a special column in The Spillway, a monthly employee newsletter distributed to the 1,178 employees of the region. Vital information on issues affecting employees is presented.

The Local Secretarial Advisory Council was established to provide avenues for professional growth and advancement in the secretarial and clerical profession. This came in recognition that in order to attract and retain quality employees in the secretarial field, special emphasis needed to be placed on employee development.



Regional Director and staff cook Halloween breakfast.

Each projects office and the regional office have in place an employee association. Numerous activities, including educational, community service, and social, are conducted. Examples include: blood drives, self-defense and safety programs, employee social activities, and field trips to agency projects for employees who normally are "office-bound." The association activities provide an opportunity for sharing information, development of camaraderie and an esprit de corps, and improving the overall life of the communities in which we live.

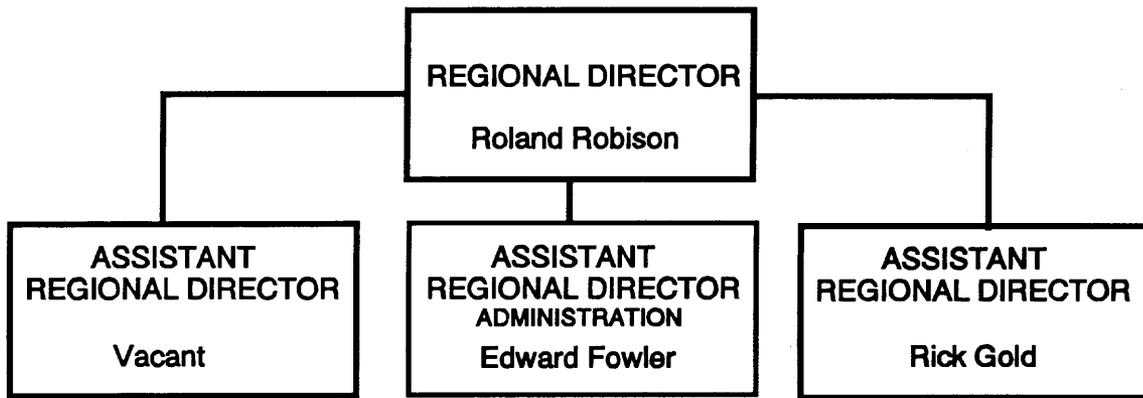
Strategic Plan

The Bureau of Reclamation has responded to the challenge of helping develop the West by providing for sustained economic growth, an improved environment and an enhanced quality of life. Reclamation's multi-purpose projects provide safe and dependable water supplies for agricultural, municipal and industrial, and domestic users. Clean, renewable hydroelectric energy is produced at Reclamation powerplants while water quality is protected and improved. Equally important, recreation and fish and wildlife benefits are provided for the public; river regulation and navigation are enhanced; and damaging floods are controlled.

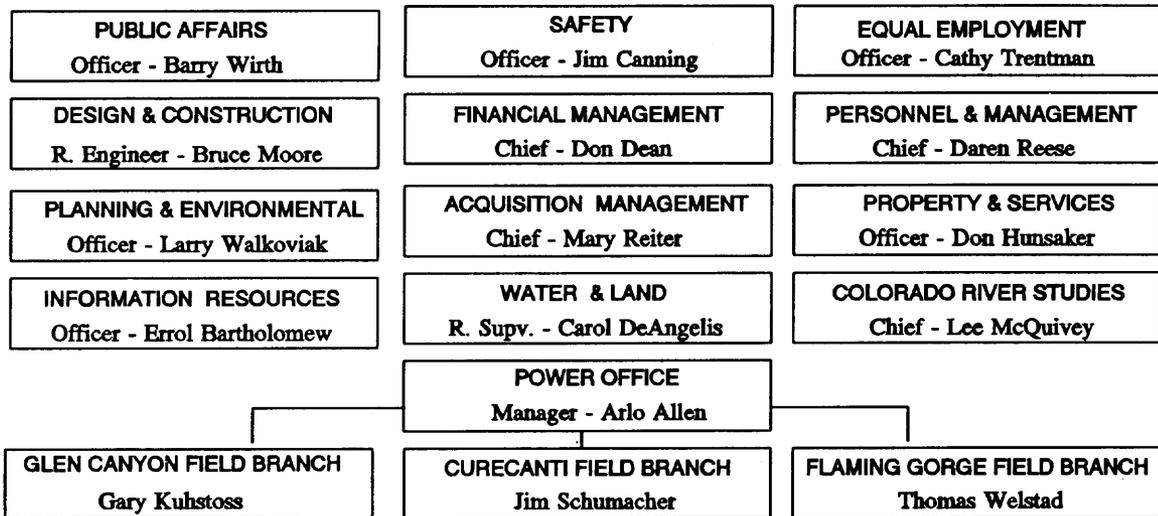
President Theodore Roosevelt is often recalled for initiating Western growth through the founding of the Bureau of Reclamation in 1902. In addition to his legacy of using Reclamation to develop the West, President Roosevelt also said: "As a people we have the right and duty . . . to protect ourselves and our children against the wasteful development of our natural resources." It is in that spirit of seeking the proper balances of development and resource management in today's modern West that Reclamation has developed its Strategic Plan, a long-term framework for water resources management, development and protection.

The Strategic Plan focuses on a number of opportunities grouped into five categories: managing and developing resources; protecting the environment; safeguarding the investment; building partnerships; and fostering quality management.

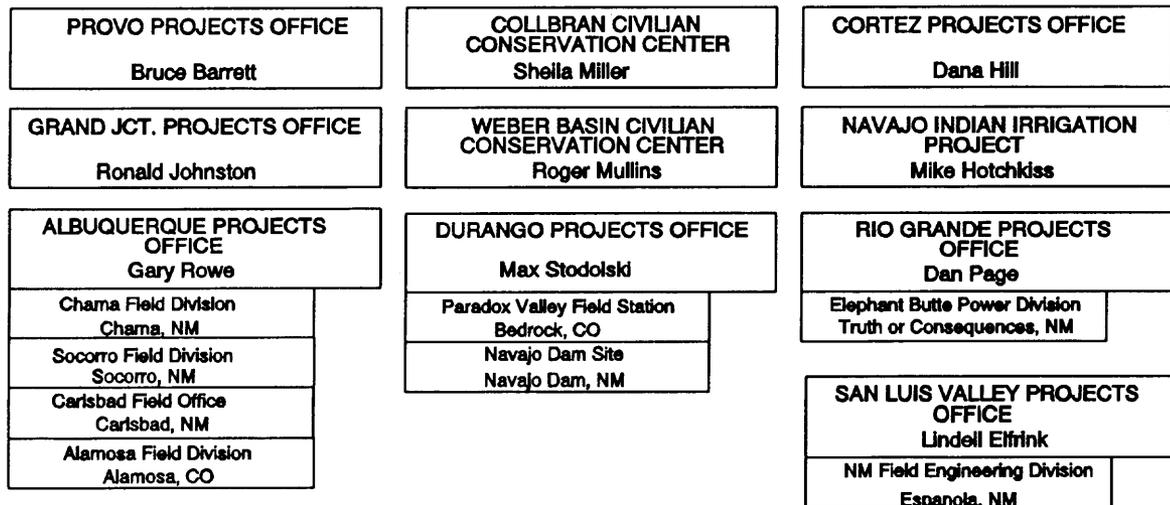
Upper Colorado Region



Regional Office



Operating Offices







Colorado River Storage Project

Managing and Developing Resources

The Colorado River Storage Project (CRSP) provides for the comprehensive development of the Upper Colorado River Basin. The project furnishes the long-term regulatory storage needed to permit States in the Upper Basin to meet their flow obligation at Lees Ferry, Arizona, as defined in the Colorado River Compact. By meeting that obligation, the States of Colorado, New Mexico, Utah, and Wyoming can then utilize their apportioned water from the Colorado River system. In addition to storage and power generation, Reclamation is pursuing a balanced program that stresses innovative management together with environmental compatibility in the way CRSP is operated.

Water stored by the project provides a portion for direct use in the Upper Basin. Sediment and flooding are better controlled and recreational development and fish and wildlife conservation benefits have been enhanced. In addition, project development provides for a significant amount of electrical energy to be produced.

Revenues from power generation do two things. First, they provide for repayment of project costs. Second, they create the Upper Basin Fund, which provides for significant payment of irrigation features in projects known as participating projects. In those cases, power revenues pay for project costs above the computed ability of the farmers to pay.

The CRSP includes four storage units: Glen Canyon Dam on the Colorado River in Arizona; Flaming Gorge on the Green River in Utah; Navajo on the San Juan River in New Mexico; and the Wayne N. Aspinall Storage Unit on the Gunnison River in Colorado. The Aspinall Unit includes three dams: Blue Mesa, Morrow Point, and Crystal.

Among them, the CRSP has a total storage capacity of nearly 34 million acre-feet. Stored water is released to meet the Upper Basin obligation to the Lower Basin States, and by way of treaty, the Country of Mexico.

A significant benefit of the CRSP is through recreational opportunities that have been created. Not only have millions of people enjoyed diverse activities in the Upper Basin States, but significant economic benefits

from recreational industries have been generated. Excellent trout fisheries have been created in the cool, clear waters released from the dams. River runners enjoy rafting opportunities provided by an assured, scheduled release of water. Wildlife values are improved, either as a direct benefit or through extensive mitigation plans, to replace values lost to construction of the dams. Annually, there are more than 8.2 million visitor days of use on the reservoirs and other project features. A visitor day is based on a combination of people and hours totaling 12, such as one person for 12 hours, 2 people for 6 hours, and so forth.



Navajo Dam and Reservoir on the San Juan River in north-west New Mexico.

Colorado River Storage Project

The steady increase in visitation to Reclamation's facilities is consistent with the growth in visits over the years to all such facilities. By applying an average value of \$14.22 per visitor day, the value of recreation in 1992 at Reclamation's CRSP facilities, based on National Economic Development benefit evaluation procedures, was approximately \$116 million.

Protecting the Environment

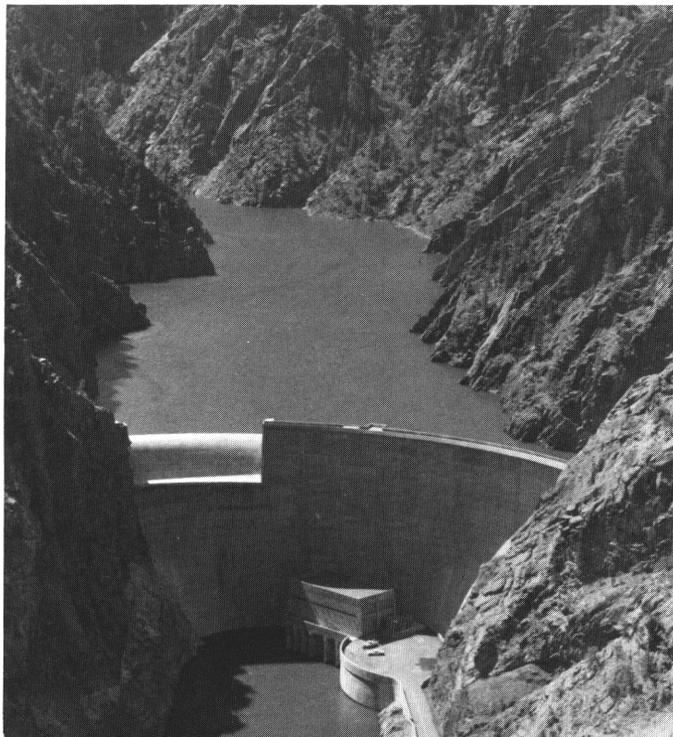
Operation of the CRSP in recent years has led to several intensive, and high profile, studies and changes. First is the Environmental Impact Statement (EIS) being prepared on the operation of Glen Canyon Dam. That EIS is discussed in more detail in the Arizona section of this briefing document.

The CRSP also is under scrutiny concerning its impacts upon endangered species and other environmentally sensitive issues. A Recovery Implementation Program (RIP) for the upper Colorado River tributaries has been developed and implemented. The goal of the RIP is to allow continued water development while protecting and recovering listed species. Significant to the RIP is the 1992 Final Biological Opinion from the Fish and Wildlife Service concerning operation of Flaming Gorge Dam. The Opinion will alter traditional water release patterns by leading to operations that mimic the natural hydrograph for the benefit of the endangered fishes. This means releases will be higher in the spring and lower in the summer, fall, and winter.

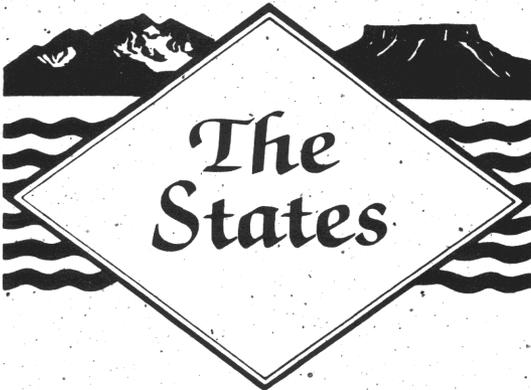
Finally, Reclamation is engaged in negotiating a water service contract to deliver water to the Black Canyon of the Gunnison National Monument (BLCA) and Gunnison Gorge. This affects operation of the Aspinall Unit. Reclamation views this contract as an innovative way to protect environmental and developmental interests under the jurisdiction of the contracting parties. It is consistent with potential legislation that would designate the Gunnison River as a Wild and Scenic River through the BLCA and the Gunnison Gorge. Endangered Species Act Section 7 consultation for the contract will be coordinated with the recently initiated 5-year endangered fish consultation for the Aspinall Unit to resolve most water allocation issues at one time.



A 52-pound lake trout caught in Flaming Gorge Reservoir.



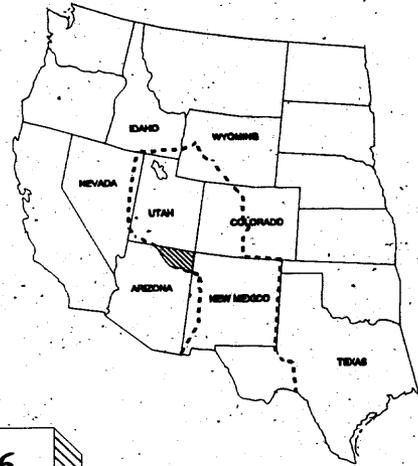
Crystal Dam, Wayne N. Aspinall Unit, located on the Gunnison River, Colorado.



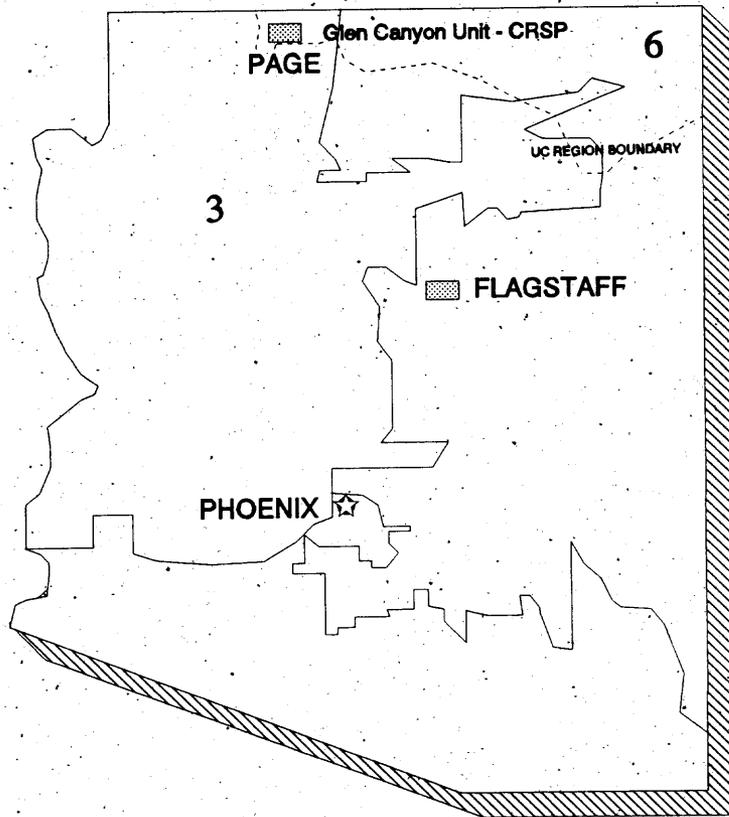
*The
States*



ARIZONA



UPPER COLORADO REGION PROJECTS



Senators

Dennis DeConcini
John McCain

Representatives

Bob Stump
Karan English

District

3
6

GLEN CANYON FIELD BRANCH
805 Hemlock
PO Box 1477
Page AZ 86040-1477
(602) 645-2481

Arizona

Arizona

Managing and Developing Resources

The Upper Colorado Region's involvement in Arizona is limited to a relatively small geographic area. However, much of the Nation's spotlight in environmental affairs is focused upon that program of work.

Page is the site of Glen Canyon Dam, the principal feature of the Colorado River Storage Project. At Glen Canyon Dam, Reclamation operates the 710-foot-high structure that, when full, provides up to 27-million acre-feet of storage in a reservoir 186 miles long with more shoreline than the coast of California. Water released from the dam passes through eight generators, with a generation capacity of 1,356 megawatts, that historically provided substantial capacity and energy marketed by the Western Area Power Administration.



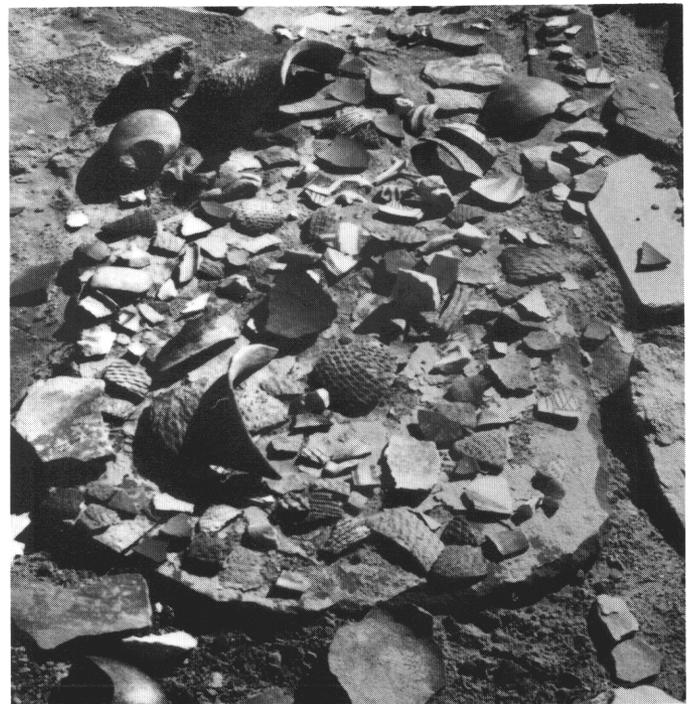
Glen Canyon Dam, Page, Arizona.

Protecting the Environment

Reclamation's increased emphasis on improved management and protection of resources is reflective of greater environmental knowledge, and changing societal values and needs. Significant concern over the years was expressed over the potential impacts of the fluctuating releases from the dam. In response to those concerns, Reclamation, in 1982, began a process called the Glen Canyon Environmental Studies (GCES).

Phase I of the GCES was completed in 1988. Phase II began in 1989 in conjunction with a decision by the Secretary of the Interior to undertake an Environmental Impact Statement on the impacts of the operation of the dam on downstream resources of Glen Canyon National Recreation Area and Grand Canyon National Park. The GCES program is providing much of the scientific and technical data necessary for the development of the Glen Canyon Dam Environmental Impact Statement (GCDEIS).

Initial scoping for the GCDEIS began in March 1990. Through this period, Reclamation has served as the lead agency with cooperating agencies including: the U.S. Fish and Wildlife Service, National Park Service, Bureau of Indian Affairs, Western Area Power Administration, State of Arizona's Game and Fish Department, Havasupai Tribe, Hopi Tribe, Hualapai Tribe, and the Navajo Nation. In January of 1993, the Pueblo of Zuni, San Juan Southern Paiute Tribe, and the Southern Paiute Consortium were also added as cooperating agencies.



Archeological artifacts found in the Grand Canyon are part of the GCES.

Arizona

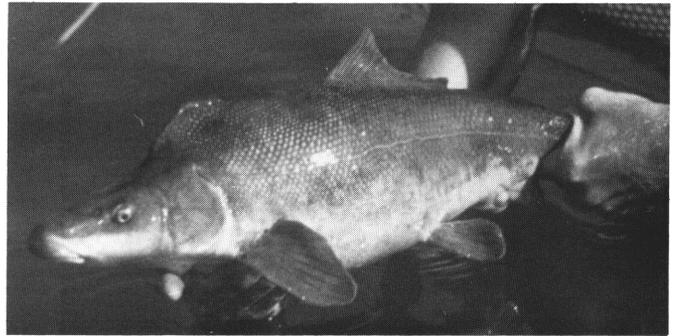
On November 1, 1991, the Secretary of the Interior implemented Interim Operating Criteria for the dam designed to help protect downstream resources until the EIS is completed and a long-range operating plan is implemented. Those interim operations include 20,000 cubic-feet-per-second (cfs) maximum flow from the dam, a minimum flow of 8,000 cfs between 7 a.m. and 7 p.m., and a nighttime minimum flow of 5,000 cfs. Flows are not to increase more than 2,500 cfs each hour, or decrease more than 1,500 cfs each hour. In addition, maximum daily fluctuations are limited to 5,000 to 8,000 cfs, depending on the monthly volume of water to be released from the dam. Those interim operations are in effect until the GCDEIS is completed. Historic flows have included a high of 31,500 cfs in high volume months, and daily fluctuations up to 30,500 cfs from Labor Day to Easter, and 28,500 cfs from Easter to Labor Day. Minimums have included 1,000 cfs from Labor Day to Easter and 3,000 from Easter to Labor Day. The rate of change in flows, both increasing and decreasing, was not restricted.

In addition to the interim operations, the Grand Canyon Protection Act of 1992 (Title XVIII of P.L. 102-575) provides specific direction regarding completion of the GCDEIS, by October 30, 1994, protection of the Grand Canyon, consultation requirements, long-term monitoring, and the nonreimbursability of the costs of the studies.

The costs through Fiscal Year 1992 have been about \$31 million for the environmental studies, \$4 million for the GCDEIS, and \$2.7 million for monitoring the interim operations. Costs up to the point of the Grand Canyon Protection Act were added to repayment obligations borne by public power interests.

The public is paying very close attention to the GCDEIS. The current public involvement mailing list includes nearly 20,000 individuals and organizations. All meetings of the cooperating agencies are open to the public. In addition, an extra round of public involvement was conducted concerning the development of alternatives in 1991.

The Draft GCDEIS will be released for public review and comment in July 1993. There are eight alternatives in the GCDEIS. They include: No Action Alternative; Maximum Powerplant Capacity Alternative; Restricted



Adult razorback sucker from Lake Powell, Utah/Arizona.



Bald eagle in flight.



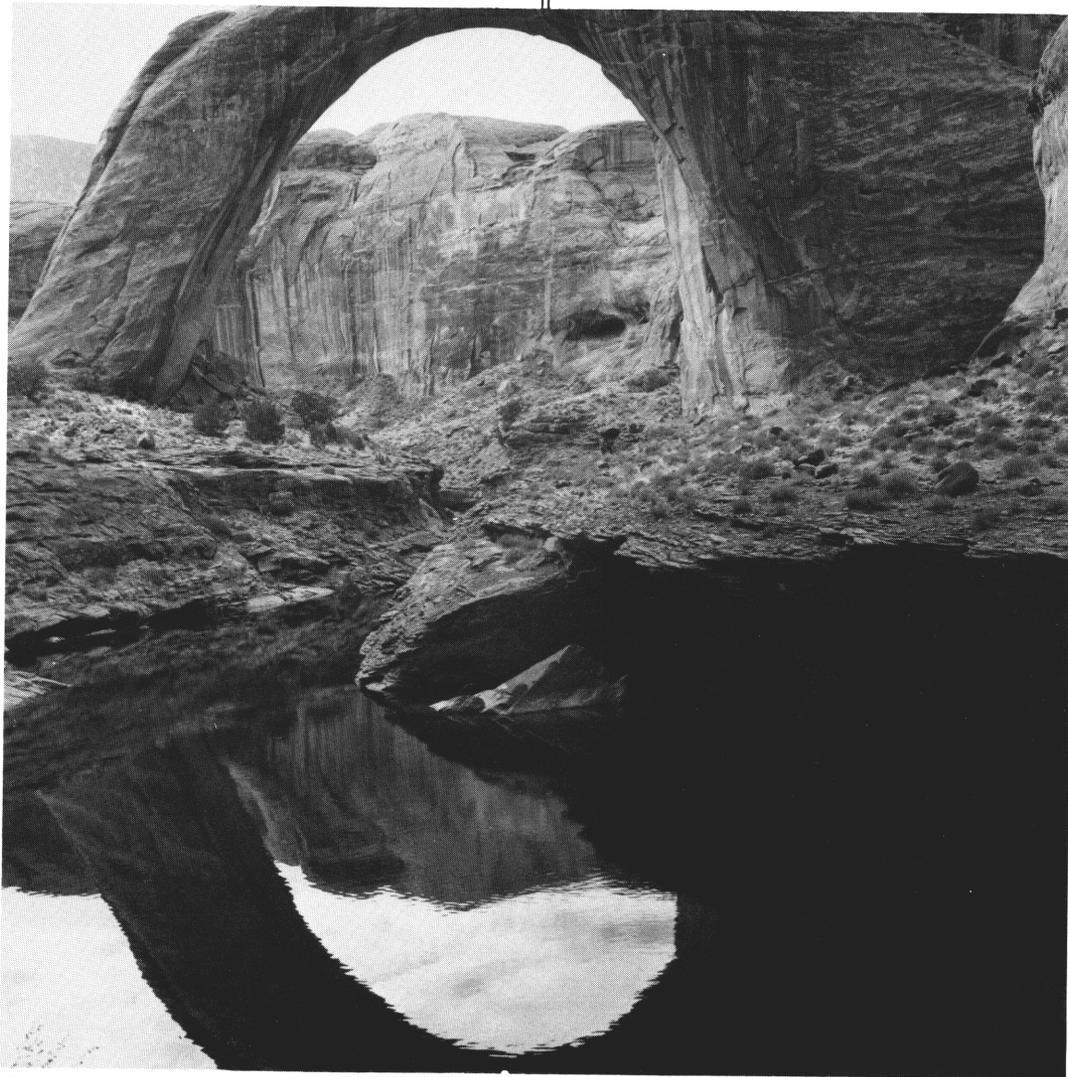
Children at the Flagstaff Festival of Science climb aboard a research raft and learn about the Colorado River.

Arizona

Fluctuating Flow Alternatives, including a High, Moderate, Low; and Steady Flow Alternatives, including Existing Monthly Volumes, Seasonally Adjusted, and Year-Round Alternatives.

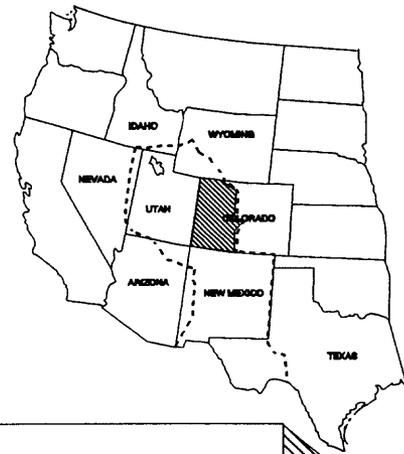
Following the release of the Draft GCDEIS, public involvement sessions and formal public hearings will

take place over a 90-day period. Following that, the comments will be evaluated and a Final GCDEIS will be prepared. That document is expected in the fall of 1994. From that, the Secretary of the Interior will reach a final operational decision to be implemented by way of a Record of Decision document near the end of 1994.

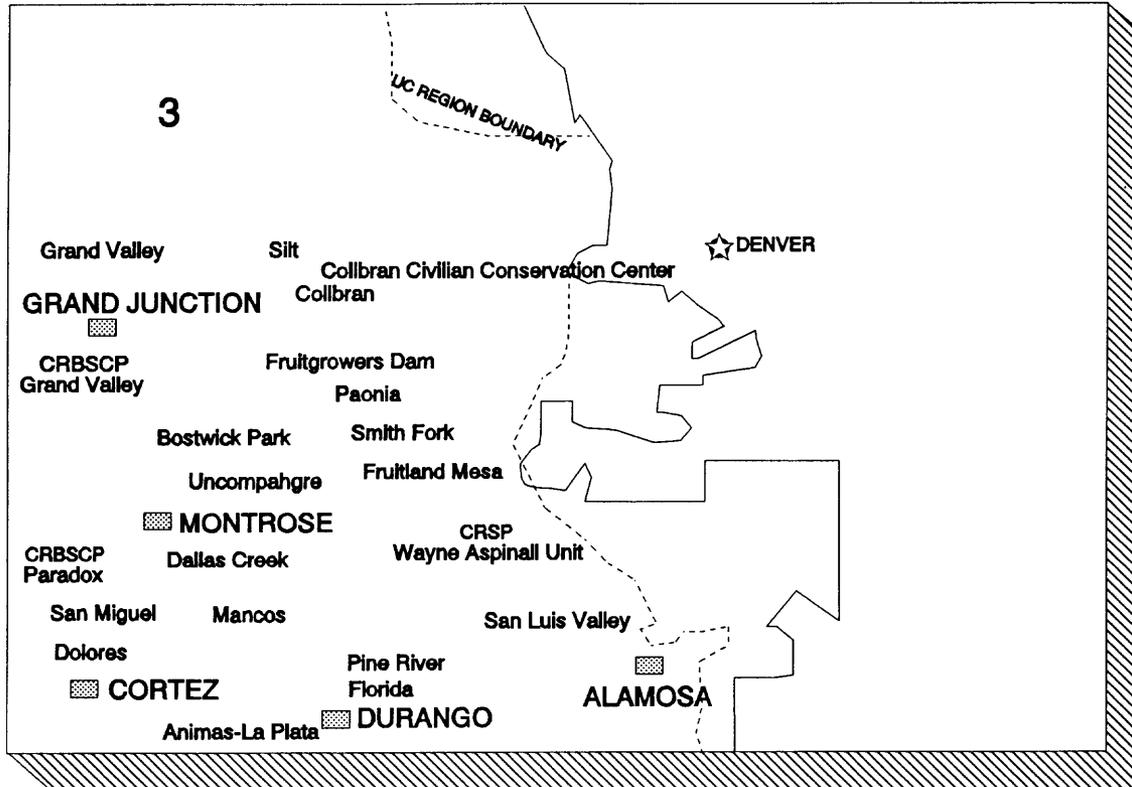


Rainbow Bridge reflecting into the waters of Lake Powell, Utah/Arizona.

COLORADO



UPPER COLORADO REGION PROJECTS



Senators
 Hank Brown
 Ben Nighthorse Campbell

Representative
 Scott McInnis

District
 3

CORTEZ PROJECTS OFFICE
 60 South Cactus
 PO Drawer Q
 Cortez CO 81321-0707
 (303) 565-0500

CURECANTI FIELD BRANCH
 1820 South Rio Grande Avenue
 Montrose CO 81401-4859
 (303) 240-6301

DURANGO PROJECTS OFFICE
 835 East Second Avenue
 PO Box 640
 Durango CO 81302-0640
 (303) 385-6500

GRAND JUNCTION PROJECTS OFFICE
 2764 Compass Drive
 PO Box 60340
 Grand Junction CO 81506-8748
 (303) 248-0600

**COLLBRAN CIVILIAN
 CONSERVATION CENTER**
 R.R. No. 1, 5760 Highway 330
 Collbran CO 81624-9702
 (303) 487-3576

SAN LUIS VALLEY PROJECTS OFFICE
 10900 Highway 160 East
 Alamosa CO 81101-9518
 (303) 589-5855



Colorado

The North and South Platte Rivers, Arkansas River, and the Rio Grande all begin in the Colorado mountains. Sharing its beginnings with the State of Wyoming, the Colorado River begins modestly as year-round snowmelt and infrequent summer rains on the high mountain peaks of north-central Colorado. For the earliest explorers of what would become Colorado, these rivers served as byways, as well as rich environments for food and other necessary provisions. Limited water supplies and rapid growth provided the only ingredients necessary for serious, often violent conflicts. The Bureau of Reclamation's efforts toward resolving these conflicts through development of multipurpose projects that provide safe, dependable water supplies for agriculture, municipal, industrial and domestic use as well as hydropower, made possible the settlement and sustained economic growth of the western United States.

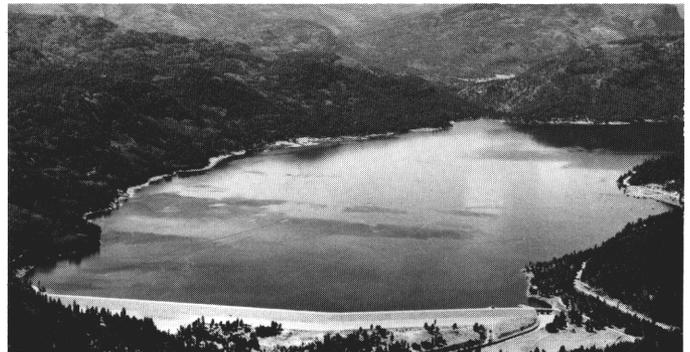
Within Colorado, Reclamation serves over 156,414 acres of irrigated lands. The Upper Colorado Region projects offices in the State are responsible for implementing many Reclamation programs in areas west of the Continental Divide. These include planning, construction, operation and maintenance, mitigation, endangered species, water quality, salinity control, in-stream flows, hazardous waste cleanup, protection of wetlands, and many others.

Managing and Developing Resources

The distribution system for the water supplied by Vallecito Reservoir that was constructed near the turn of the century, is in poor repair. During fiscal year 1992, a feasibility level design and cost estimate was prepared to provide gravity pressurized water to approximately 40,000 acres. During fiscal year 1993, an option will be developed to provide gravity pressurized water to the Indian lands only.

In line with efforts to improve the efficiency and effectiveness of project operations, Reclamation is working with the National Park Service, the Bureau of Land Management, the Colorado Water Conservation Board, the Western Area Power Administration, and the Fish & Wildlife Service towards a contract to deliver water to the Black Canyon of the Gunnison National Monu-

ment. The goal is to protect the natural resources of the monument and the long term functions of the Aspinall Unit such as water storage, conservation, hydropower, recreation and recovery of endangered fish. This contract is consistent with our responsibilities under the Fish and Wildlife Coordination Act and the Endangered Species Act. This is discussed in greater detail in the CRSP section.



Vallecito Dam on the Pine River, Colorado

In cooperation with the Colorado Department of Natural Resources and the Colorado River Water Conservation District, Reclamation is developing a detailed hydrologic model and accounting system for the Upper Gunnison River Basin. These products will be used by Federal, State, and local entities to resolve Federal reserved water rights, Colorado River endangered fish species, and other issues relating to Aspinall Unit operations. Technical work is being accomplished by the Grand Junction Projects Office.

Since many parts of the West have experienced six consecutive years of drought conditions, Reclamation implemented drought management measures to allocate and conserve water supplies, especially where reservoir inflow was severely below average.

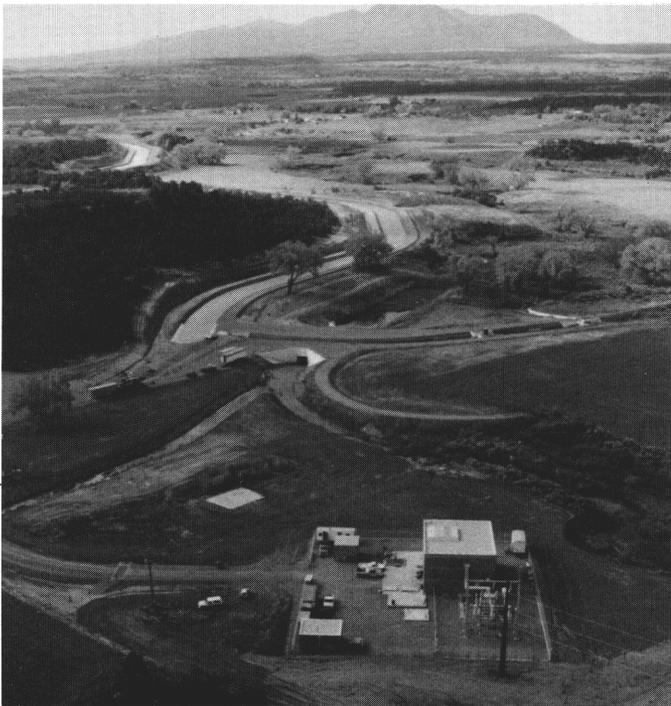
Reclamation is currently participating in a cooperative study effort with the U.S. Geological Survey to project the effects of a prolonged drought cycle on the Gunnison River Basin as a result of potential global climate change scenarios. The study will result in the preparation of drought contingency plans for coping with the agricultural, municipal, environmental, and recreational effects of a prolonged drought.

Colorado

The continued construction of multipurpose water projects remains an important part of Reclamation's program.

The Dolores Project, a multipurpose project in southwestern Colorado, will provide hydropower, irrigation, municipal and industrial water supplies, recreation, fish and wildlife enhancement, and flood control once completed.

Reclamation has completed the South Canal and Dove Creek Canal, and is continuing work on the McPhee Powerplant and Towaoc Canal Power Plant on the Towaoc Canal and Distribution System. Towaoc Canal Reach 3 is 77 percent complete and will be finished in 1993. The completion date for the Towaoc Laterals is May 1, 1994, but we expect that Weeminuche Construction Authority, a Ute Mountain Ute Indian Tribe owned company, will finish this work ahead of schedule. The development of the delivery system will be final once the construction of the laterals is complete.



Towaoc Canal Powerplant and Switchyard, part of the Dolores Project, Colorado.

Work in providing water to the Ute Mountain Ute Tribe is ahead of schedule. The first water deliveries to the Tribe's center pivot irrigation system could happen as

early as mid-summer 1993. This would be 8 months ahead of the established water delivery date. Once work is completed on the project, the reservation will be able to irrigate 7500 acres of land and establish an agricultural economic base. The Tribe's intention is to start irrigation to establish crops in late 1993. This depends on Weeminuche Construction Authority finishing Towaoc Canal Reach 3 and a portion of the Towaoc Laterals by that time.

The Cortez Projects Office will begin to experience decreased work load in the fall of 1993. This decrease will continue through the completion of the Dolores Project expected in early 1996.

The Closed Basin Project consists of the installation of a system of wells, laterals, and a main canal, to salvage groundwater which is being lost through evapotranspiration within the Closed Basin. Construction continues with installation of the lateral system in Stage 5 and other minor contracts. The Project was 98 percent complete at the end of fiscal year 1992 and is scheduled to be completed in fiscal year 1994 with the majority of construction completed in fiscal year 1993.

Reclamation has been asked by Montrose Partners to consider entering into a lease of power privilege for development of the AB Lateral Hydropower Facility near Montrose, on the condition that certain environmental requirements are met. This 43-megawatt capacity hydroelectric powerplant would be privately financed and operated by Montrose Partners and the Uncompahgre Valley Water Users Association. It would divert water from the Gunnison River through the existing Gunnison Tunnel, with discharge from the powerplant into the Uncompahgre River. Reclamation issued a Record of Decision on December 20, 1991.

Rocky Point Project is a pumpback project proposing the use of Taylor Park Reservoir (Uncompahgre Project) as an afterbay. Reclamation would license facilities on Reclamation land and the Federal Energy Regulatory Commission would license the remainder. The Upper Gunnison River Water Conservancy District is requesting that Reclamation deny the license due to concerns over potential impacts to the local economy which centers around tourism and recreation. Residents are concerned over possible consequences to the lake fishery and aesthetic impacts to Taylor Park Reservoir as a result of daily fluctuations of the reservoir.



Reclamation supports the enhancement of recreational opportunities on federally-owned project lands and water surface areas. The Upper Colorado Region in partnership with the Colorado Division of Wildlife and the Colorado Water Conservation Board are finalizing the design and construction of recreation and fish and wildlife enhancement facilities as part of the Closed Basin Division of the San Luis Valley Project in Alamosa County. The 2.5 million dollar project that was initiated in 1984, is scheduled for completion in the summer of 1993.

Minor construction activities continue to complete the Dallas Creek Project. The project has increased usable water supplies for irrigation, municipal and industrial uses in west-central Colorado. The project will also provide recreation development and improved wildlife habitat. In September 1989, Reclamation was recognized by P.A.W. (Physically-Challenged Access to the Woods) for work done at Ridgway Reservoir to increase accessibility for persons with disabilities. This area allows access to all activities that are available to the public by incorporating special design features into all constructed facilities.

Reclamation has entered into an Interim Memorandum of Agreement (MOA) with the State of Colorado for their continued management of Vega, Rifle Gap, Crawford, Paonia, and Navajo Reservoirs. Under this MOA, Reclamation will identify actions necessary to bring existing recreation facilities up to current public health and safety standards and into compliance with Section 504 of the Rehabilitation Act of 1973.

Protecting the Environment

Reclamation's project operations and management strategies stress the appropriate balancing of all uses including conserving and enhancing fish and wildlife habitat and resources. This is reflected in the agency's current activities for recovering and managing endangered species associated with Reclamation projects.

Reclamation is in the fifth year of the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin. Keystone to the program is an annual \$2.3 million budget which comes from participating States (Utah, Wyoming, and Colorado), appropriated Federal funds, and revenues from the generation of power at Colorado River Storage

Project facilities. Significant progress has been made in research, habitat, management, and determination of instream flow needs for the endangered fish.

In Mesa County, Reclamation has constructed six ponds and a water supply system to maintain endangered fish species for research and to provide protection against catastrophic events on the natural river system.

Reclamation announced its intent to prepare a Draft Supplement to the Final Environmental Statement for the Animas-La Plata Project and began preparation of the draft Supplement. The draft was filed with EPA on October 13, 1992, and released to the public for review and comment. Reclamation continued to work with the U.S. Fish and Wildlife Service, project beneficiaries, and other entities to further the research and recovery efforts for the Colorado squawfish and razorback sucker on the San Juan River. During the year, a Recovery Implementation Program was negotiated and on October 28, 1992, signed by the Secretary of the Interior. In February 1992, a lawsuit was filed by Sierra Club Legal Defense Fund on behalf of several groups. The lawsuit contends that Reclamation was not in compliance with the National Environmental Policy Act and the Clean Water Act. Legal proceedings continued during the year but have not yet been completed.

In response to increasing demands for fish mitigation at Federal reservoirs, Reclamation is designing and constructing an oxygen supplemental system in western Colorado. The system will increase the Hotchkiss National Fish Hatchery's capacity for rearing fish without increasing the water supply or the hatchery facilities.



One- and two-year-old Colorado squawfish.

Colorado

Closed Basin Project mitigation commitments have been completed in conjunction with construction of project facilities (the Franklin Eddy Canal System). Final mitigation commitments continue with a contract awarded for the development of Russell Lakes in December 1992.

The water quality of San Luis Lake has dramatically improved due to the flow-through operations of the Closed Basin Project. Total Dissolved Solids (TDS) have improved seven to 10 times over the original TDS.

In cooperation with the Colorado Division of Wildlife, Reclamation is currently developing a project to create and enhance approximately 78 acres of wetlands along the Dolores River below McPhee Dam. This development will partially fulfill the mitigation requirements resulting from the addition of salinity control measures to the Dolores Project.

The wise stewardship of natural resources entails conservation and enhancement of fish and wildlife resources in conjunction with the development and management of water and land resources. The Upper Colorado Region has transferred approximately 225 acres of recently acquired land located adjacent to the Gunnison River in Delta County, to the Bureau of Land

Management to provide wildlife habitat and angler access opportunities to the public. Approximately 59 acres of additional river access were acquired in Gunnison County. In Mesa County, 150 acres were acquired for wetland development in association with the Grand Valley Unit Salinity Control Project.

Water quality is an area of increasing importance in meeting the Nation's need for safe and reliable water supplies. The Colorado River Basin Salinity Control Program is designed to reduce salt loading of the Colorado River.

Plans for deep well injection testing were formalized on the Paradox Valley Unit. The Paradox Valley Unit was 66 percent complete at the end of fiscal year 1992.

Work on completing the salinity control portion of the Dolores Project continues. Seepage from the Rocky Ford Laterals is being eliminated by replacement of the open lateral system with a closed pipe system. Work is progressing with probable completion by fall 1993. At this time, 25 percent of the work is complete, and the contract completion date is January 6, 1994. We will award the contract for relining of MVIC Canal this winter. The scheduled finish date is in December of 1995.



San Luis Lake, Closed Basin Project, Alamosa, Colorado.

Colorado

As part of its San Juan River Studies, Reclamation prepared a draft planning report evaluating alternatives to control salinity on the Hammond Project and began investigations of the Hogback Project. Reclamation also initiated a study, in cooperation with the USGS, to investigate the Aneth Oil Field and to identify sources of salinity in that area.

Reclamation is investigating the feasibility of using private cogeneration/desalination to control salinity in the Colorado River near Glenwood Springs. In 1992, the private sponsors and Reclamation evaluated alternative sites for the facility.

As part of the Lower Gunnison Basin Unit of the Salinity Control Program, Reclamation is currently completing preconstruction activities to replace the five open lateral systems, on the east side of the Uncompahgre River, with an enclosed pipeline. Construction is scheduled to be initiated in fiscal year 1995.

Reclamation continued land acquisition, preconstruction, and construction activities on the Grand Valley

Unit and Lower Gunnison Basin Unit. An \$11.5 million contract was awarded to line East End Government Highline Canal.

In cooperation with Colorado State University, Reclamation is sponsoring a research and demonstration program to apply surge irrigation technology for the primary purpose of reducing salt contributions from irrigated lands in western Colorado.

The Dolores River Water Quality study was initiated in fiscal year 1992 to identify the source of the heavy metals which are causing elevated levels of mercury found in fish from McPhee, Narraguinnep, and Totten Reservoirs. This study reflects Reclamation's continuing efforts toward protecting the environment not only to provide suitable water supplies for domestic and municipal and industrial use, but also for fish and wildlife. An intense, basin wide water quality sampling program was conducted this past year and sampling will continue during fiscal year 1993. A special report to be completed in fiscal year 1993 documenting the findings of the study, will be distributed to the Colorado Department of Health, Colorado Department of Mined Land, and the Environmental Protection Agency, for consideration for remedial action.

As a result of greater environmental knowledge, and changing societal values and needs, Reclamation has increased its emphasis on improved management and protection of resources. To ensure that instream quantity and quality needs are consistent with other project purposes and State law, the Dolores Project Resources Optimization Study was initiated in 1990, in cooperation with numerous interested agencies and groups. The purpose is to research the needs and opportunities for enhancement of the project's resources. Currently, alternative operating criteria are being developed and evaluated, and interagency studies are being conducted to evaluate the downstream fishery needs below McPhee Dam. The study is ongoing and should be in the completion stage by the end of fiscal year 1993.

Reclamation is currently participating in a cooperative study effort with the U.S. Geological Survey and Fish and Wildlife Service to address toxic drainage induced by Federal irrigation developments. The study effort is focused on the Grand Valley and Uncompahgre Project areas and is in Phase 3 of a five-phase study effort.



East End Government Highline Canal, Colorado.



Safeguarding the Investment

Reclamation continues to work with contracting entities to ensure that recipients of Federally-subsidized irrigation (project) water only receive the benefits prescribed by Reclamation law. Contracting entities in Colorado have had difficulty in administering various provisions of the Reclamation Reform Act (RRA) including the annual requirement for filing of landholder forms. The annual filing by landholders provides the basis to determine if they are eligible to receive project water and if a higher rate than the contract rate is required.

Current RRA rules and regulations require all landholders receiving project water, with more than 40 acres both owned and/or leased westwide, to file annually on a form prescribed by the Secretary of the Interior to be eligible for project water. The various contracting entities are responsible for providing the forms to their landholders. Project water is not delivered unless a current appropriate form is on file.

Policy requires that the unsubsidized rate, known as the compensation rate, be billed when contracting entities deliver project water without the annual filing requirement being met.

At the present time, Reclamation is required to conduct a review of each water district every three years on a rotating basis or more frequently if needed to ensure compliance with Reclamation laws. Reclamation is also required to conduct audits of individual landholders if circumstances warrant such action. Written guidance, as well as annual training, are provided to district personnel. Open dialogue is maintained with each contracting entity to assist in their administration responsibilities.

Building Partnerships

Reclamation is pursuing opportunities to work in partnership with others in confronting the economic and technological changes of the 1990's and beyond.

Currently, at the request of the Colorado Department of Health, Reclamation is providing technical assistance to help quantify possible groundwater contamination

problems in the Vallecito Lake area. Several ground water monitoring wells have been drilled and completed, and both surface and groundwater samples have been analyzed. A public involvement program is being conducted in cooperation with the local health department.

At the request of the Colorado Water Conservation Board, Reclamation agreed to study the possibility of using existing facilities to divert La Plata River water into certain areas of the basin that need additional water. The engineering portion of the study was completed in March 1992. The hydrology portion of the study will be completed in early fiscal year 1993.

Also at the request of the Colorado Water Conservation Board, Reclamation investigated alternative methods of rehabilitating Sheriff Reservoir or replacing its raw water storage capacity with alternative water supply options. Sheriff Reservoir is owned and operated by the Town of Oak Creek. The dam and reservoir are under operational constraint by the Colorado State Engineer's Office due to an inadequate spillway capacity. Plan formulation and technical services are being provided by Reclamation staff.

The western side of the San Luis Valley in southern Colorado diverts water from the Rio Grande for irrigation purposes. Later in the season, shallow groundwater is pumped to irrigate the crops. The State of Colorado and local sponsors are initiating studies to determine the advisability of developing a groundwater recharge program to enhance water management. Reclamation, in support of this larger effort, completed a comprehensive crop consumptive use analysis of the study area.

Reclamation is also providing scientific, engineering, and technical support to Department of the Interior and other Federal agencies including Reclamation's current assistance to the Colorado Division of Wildlife in addressing dam safety deficiencies at Lake Avery. Lake Avery is a Colorado Division of Wildlife facility which was constructed in the 1960's to enhance the fish and wildlife resources of northwestern Colorado. The Colorado State Engineer's Office has imposed operational restrictions on the dam due to safety concerns. Reclamation is participating in this effort through the Technical Assistance to States Program.



Under the same program, Reclamation is participating in a study to develop and implement a long term plan which will address water quality problems in the headwaters of the Gunnison River in western Colorado's East River Basin. The area is experiencing significant recreational related growth which is compromising the water quality and related environmental resources of the basin.

Reclamation completed a hydraulic model and analysis of the Taylor Draw Dam spillway and stilling basin. Taylor Draw Dam is an existing storage facility owned and operated by the Rio Blanco Water Conservancy District. The work was completed under a 50/50 cost-sharing agreement with the District and the Colorado Water Conservation Board at the request of the Board. Resulting construction has been 100 percent funded by State and local entities.

A hydraulic model and analysis of the Rischard Dam outlet works and spillway was completed. Muddy Creek Reservoir/Rischard Dam is a proposed facility which is being developed by the Colorado River Water Conservation District. The work was completed under a 50/50 cost-sharing agreement with the District at the request of the Colorado Water Conservation Board. Resulting construction will be 100 percent funded by State and local entities.

Recreation planning and assistance was provided by Reclamation to the Uncompahgre River Way Inc. at the request of the Colorado Department of Parks and Outdoor Recreation. Uncompahgre River Ways is a Colorado nonprofit corporation which is leading an effort to develop a recreational trail system from Delta to Ouray. The trail system will be integrated with other recreational developments at the Dallas Creek Recreation area. Trail development is being funded by State and local contributions.

The Colorado Department of Parks and Outdoor Recreation also requested that Reclamation provide recreation planning and engineering assistance to the Mesa County River Front Commission, a nonprofit organization which is leading an effort to rehabilitate and restore the Colorado River corridor and associated riparian areas in Mesa County. The river front restoration and recreational trail development are being integrated with environmental mitigation associated

with the Grand Valley Unit salinity control program and is being funded by State and local contributions.

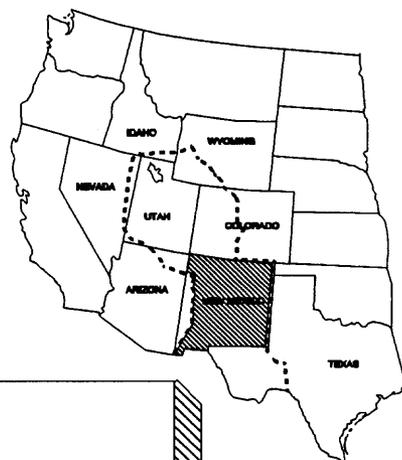
As an outcome of the Non-Point Source Control Screening Studies in Utah and Colorado, Reclamation began working in cooperation with the Bureau of Land Management (BLM) to evaluate the effectiveness of various range land management techniques for erosion and salinity control. In 1992, the monitoring program was up and fully operational in two study areas in Utah. In Colorado, Reclamation and BLM scoped plans to evaluate the effectiveness of grazing management to improve soil and salinity conditions in the Grand Junction area.

The Upper Colorado Region, together with the Department of Labor, operates one Job Corps Center in the State of Colorado, the Collbran Civilian Conservation Center. The Center was opened in May 1965 and since then has grown to its present capacity of 200 young men and women. Ninety-five percent of the students enrolled at Collbran are from the State of Colorado.

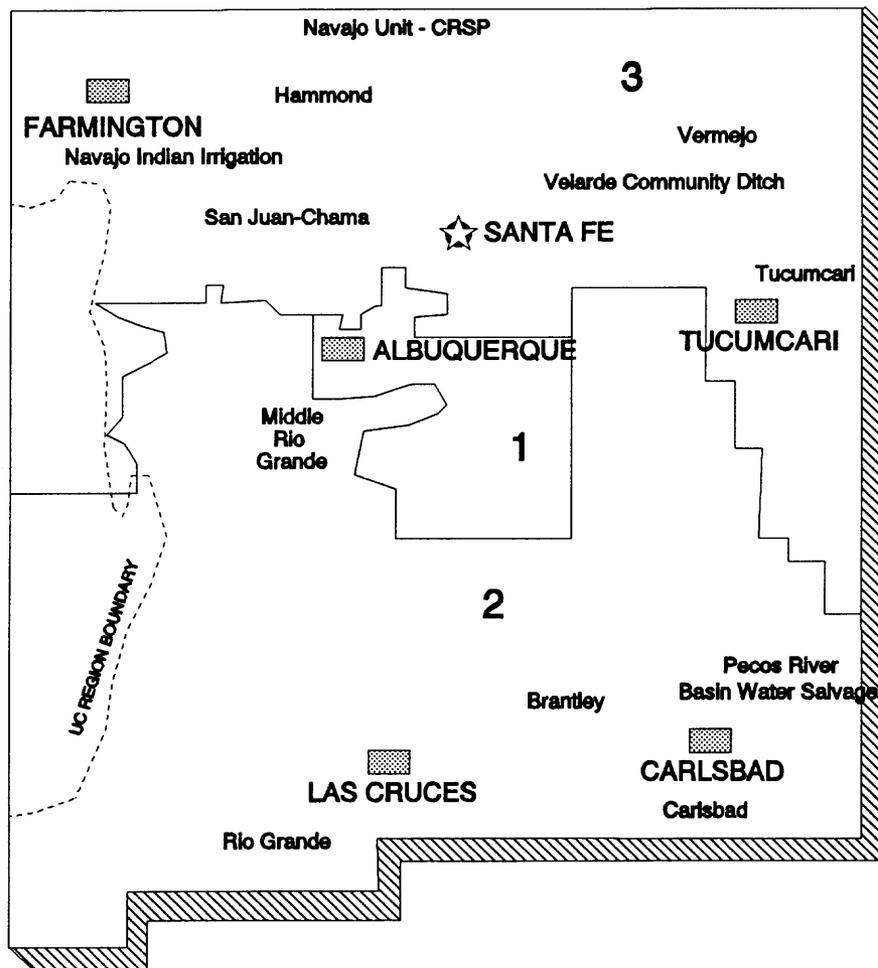
The mission of the Collbran Center is: "Each young person who enters the Center receives an opportunity to obtain the academic, social, and vocational skills needed to serve as a gainfully employed member of society, to contribute to the welfare of all other citizens, and to enjoy the rights and freedoms guaranteed by our heritage."

The Center, in cooperation with the local school district, offers a regular public high school (not an alternative high school) on the Center. Instructors at the school are employed by the local school district, not the Job Corps Center, and graduates from the school are presented with accredited high school diplomas that are accepted by all colleges and universities, and the military. This program offers an unusual opportunity for students because it is the only one of its kind in the entire Job Corps Program.

NEW MEXICO



UPPER COLORADO REGION PROJECTS



Senators

Pete V. Domenici
Jeff Bingaman

Representatives

Steven H. Schiff
Joe Skeen
Bill Richardson

District

1
2
3

ALBUQUERQUE PROJECTS OFFICE
505 Marquette N.W. Suite 1313
Albuquerque NM 87102-2162
(505) 887-1188

NAVAJO INDIAN IRRIGATION PROJECT OFFICE
501 Airport Drive, Suite 107
Farmington NM 87401-2646
(505) 325-1794

RIO GRANDE PROJECT OFFICE
700 East San Antonio Avenue, Room B318
El Paso TX 79901-7020
(915) 534-6307



New Mexico

The availability of useable water supplies for agricultural purposes has always been a pivotal factor in the settlement of the American Southwest. Early Indian occupation of this region, as well as later Spanish, Mexican, and Anglo settlements within the Rio Grand and Pecos River Basins, developed around accessible water systems in the area.

Federal interest in, and involvement with the problems of regional flood control and irrigation projects began during the waning years of the 19th century and continue to the present time. The activities of the Bureau of Reclamation began to play an important role in the region's development during the first decade of the 20th century, concentrating on salvage and beneficial conveyance of irrigation water within the Rio Grande and Pecos River basins. Reclamation's Albuquerque Projects Office has administrative jurisdiction over ten operating projects within New Mexico, southern Colorado, and west Texas.

Managing and Developing Resources

The San Juan-Chama Project, in southern Colorado and northern New Mexico, diverts water from the Colorado River Basin through a series of tunnels through the Continental Divide into the Rio Grande Basin. The project provides nearly 100,000 acre-feet of water annually to ten villages, towns and municipalities, two irrigation/conservancy districts, nine Indian Pueblos, and to the Jicarilla Apache Tribe. Some 800,000 acre-feet of water stored for these users in seven Federal reservoirs provides additional benefits for recreation, fish and wildlife, and other uses.

Through the Middle Rio Grande Project, Reclamation, in cooperation with the State of New Mexico, the Corps of Engineers, the Middle Rio Grande Conservancy District (MRGCD), and other State and Federal agencies and Indian Pueblos, maintains the Rio Grande from Velarde, New Mexico, to Caballo Reservoir. The project minimizes the flooding potential and assures effective transport of water for irrigation use by the MRGCD and to meet New Mexico's delivery requirements to Texas under the Rio Grande Compact, as well as to Mexico in compliance with 1906 Treaty obligations.

The Pecos River Water Salvage Project represents Reclamation's efforts toward more efficient management and conservation of water supplies. In cooperation with the Carlsbad Irrigation District and the States of New Mexico and Texas, Reclamation continues to salvage water through mechanical control of 54,000 acres of saltcedar along the banks of the Pecos River from Ft. Sumner, New Mexico, to Girvin, Texas. Removal of the water-ravenous saltcedar plant, and maintenance of the cleared area, has greatly benefitted the water supply.

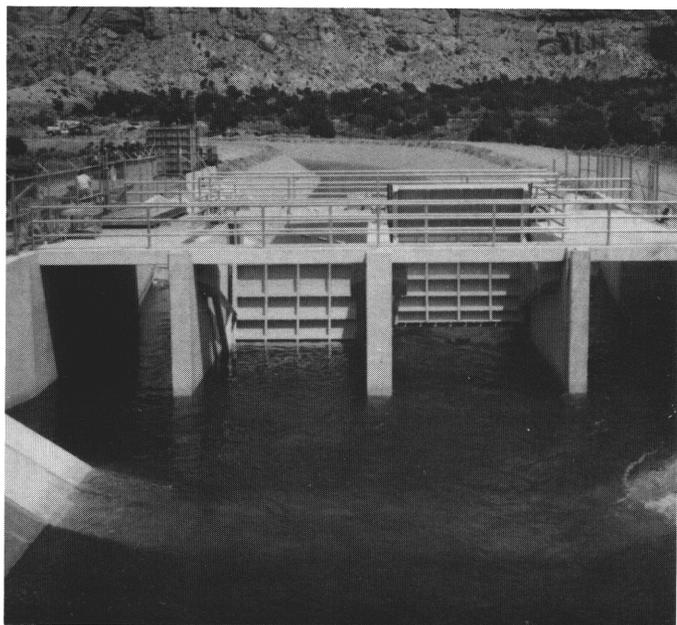
Through the office in Farmington, New Mexico, Reclamation is involved in the development of Native American water supplies on tribal lands to support the trust responsibilities of the Secretary of the Interior. Reclamation supervises construction of the Navajo Indian Irrigation Project in New Mexico by providing design and construction management for the Bureau of Indian Affairs. By the end of 1992, six blocks and schedules 1, 2, and 3 of Block 7 were completed,



Cabbage crop growing in Middle Rio Grande Valley, New Mexico.



capable of irrigating approximately 60,000 acres of land. Construction of Block 7, Schedule 4, is underway with completion scheduled in late 1993. The four schedules of Block 7 will add about 10,000 additional acres of irrigated land to the project. The entire project involves 11 blocks and will have a total of 110,630 acres of irrigated land. Construction of Block 8 was initiated in 1992 and will continue for the next several years.



Upstream view of canals on the Navajo Indian Irrigation Project, New Mexico.

In addition, the Albuquerque Projects Office spent considerable time with the Navajo Nation and City of Gallup providing planning and technical assistance for the Gallup-Navajo Water Supply Project. This study is funded by a \$300,000 fiscal year 1993 Congressional write-in for environmental and cost estimates of a potable water pipeline project.

Reclamation is committed to assist in providing safe and reliable water supplies consistent with the Clean Water Act and the Safe Drinking Water Act. In response to a Congressional write-in, Reclamation prepared a report for the Eastern New Mexico Water Supply Project. The evaluation and report summarized the effects that two project alternatives would have on biological and cultural resources. Hydrologic studies were also completed. The Eastern Plains Council of Governments and the State of New Mexico were the cost sharing partners for this effort.

In conjunction with efforts being made to improve and enhance recreational opportunities on Federally-owned water projects, Reclamation is working to provide accessibility to outdoor recreation opportunities for the physically challenged. Partnerships with local and State Governments and private organizations including P.A.W. (Physically-Challenged Access to the Woods), ensure that recreational areas and facilities are safe for public use and are accessible to persons with disabilities.

Through a cooperative agreement, Reclamation and the New Mexico State Park and Recreational Division will modify facilities at Elephant Butte Lake, Caballo Lake, and Percha State Parks to provide access to people with disabilities. Barrier-free access will be provided to trails, marinas, playgrounds, and fishing docks in accordance with Title III of the Americans with Disabilities Act, and the Rehabilitation Act of 1973, as amended.

Federal investment in research and planning contributes to the Nation's economic success and environmental quality. Reclamation is working to develop and improve technology in cooperation with others to more effectively deal with growing demands on natural resources.

Currently, Reclamation is participating with the New Mexico Interstate Stream Commission in developing hydrologic information that the Commission will incorporate into a State Water Plan.

In conjunction with the U.S. Geological Survey, the New Mexico Bureau of Mines and Mineral Resources, and the City of Albuquerque, Reclamation is identifying groundwater recharge opportunities in the Albuquerque Basin. This year, the first funded year of the study, was spent finalizing the scope of study and executing the cost-sharing agreement with the City. Denver Office personnel will provide the technical staff to complete the study.

Protecting the Environment

The Tucumcari Project, in east-central New Mexico, provides water to irrigate approximately 40,000 acres of land in the Canadian River basin. Two playa lakes

New Mexico

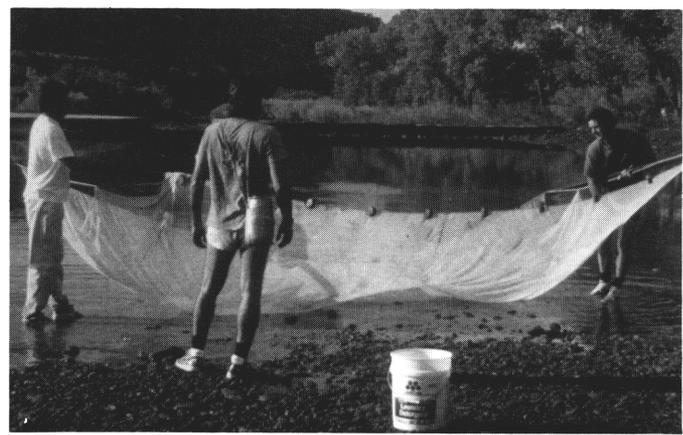
within the project, used primarily for irrigation water regulation, are being studied in cooperation with the Arch Hurley Conservancy District, State Game and Fish, and the U.S. Fish and Wildlife as potential waterfowl habitats.

Also in the Canadian River Basin, the Vermejo Project provides irrigation water for about 7,400 acres of lands within the Vermejo Conservancy District of north-eastern New Mexico. The project's Lake 13 is also managed as part of the Maxwell National Wildlife Refuge.

The Carlsbad Project, including Brantley Dam, provides the Carlsbad Irrigation District (CID) with irrigation water for 25,000 acres of land, and communities in southeast New Mexico realize a measure of flood control through operation of the project's dams and reservoirs. Through a partnership with the State, CID, and the Fish and Wildlife Service, current operations of upstream reservoirs are also being used to encourage recovery of the endangered Pecos bluntnose shiner.

Canals, ponds, and other structures play an important role in ensuring the continued survival of fish and wildlife. Reclamation develops and manages projects and lands to conserve and, where appropriate, enhance fish and wildlife habitat.

As an outgrowth of the Endangered Species Act Section 7 consultation for the Animas-La Plata Project, the Bureau of Reclamation, through its Durango Projects



Researchers collect fish on the Pecos River, New Mexico.

Office, is continuing a seven-year research study for implementation of the recovery of endangered fish in the San Juan River (Colorado, New Mexico, and Utah). A San Juan Recovery Implementation Program (RIP) was developed as a joint effort between the Fish and Wildlife Service, Bureau of Indian Affairs, Bureau of Reclamation, New Mexico Department of Game and Fish, water users, the States of Colorado and New Mexico, and four Indian Tribes; Ute Mountain Ute, Southern Ute, Navajo Nation, and Jicarillo Apache. The Secretary of the Interior signed the RIP on October 28, 1992. Additional information is available in the Colorado section.



Brantley Dam, New Mexico

Safeguarding the Investment

The review of operations and maintenance is an important part of safeguarding the investment in existing facilities to ensure their continued safe and reliable operation.

Reclamation is currently working with the Conejos Water Conservancy District, the State of Colorado, and the Corps of Engineers to ensure that operation of Platoro Dam by the District complies with all governing compacts, treaties, and State and Federal laws.

Reclamation continues to work with contracting entities to ensure that recipients of Federally-subsidized irrigation (project) water only receive the benefits pre-



scribed by Reclamation law. Contracting entities in New Mexico have had difficulty in administering various provisions of the Reclamation Reform Act (RRA) including the annual requirement for filing of landholder forms. The annual filing by landholders provides the basis to determine if they are eligible to receive project water and if a higher rate than the contract rate is required.

Current RRA rules and regulations require all landholders receiving project water, with more than 40 acres both owned and/or leased westwide, to file annually on a form prescribed by the Secretary of the Interior to be eligible for the project water. The various contracting entities are responsible for providing the forms to their landholders. Project water is not delivered unless a current appropriate form is on file.

Policy requires that the unsubsidized rate, known as the compensation rate, be billed when contracting entities deliver project water without the annual filing requirement being met.

At the present time, Reclamation is required to conduct a review of each water district every three years on a rotating basis or more frequently if needed to ensure compliance with Reclamation laws. Reclamation is also required to conduct audits of individual landholders if circumstances warrant such action. Written guidance, as well as annual training, are provided to district personnel. Open dialogue is maintained with

each contracting entity to assist in their administration responsibilities.

Building Partnerships

In an effort to improve the efficiency and effectiveness of project operations, Reclamation is proceeding, under legislation passed in November 1992, to transfer title to much of the Federal interests acquired for the Vermejo Project to the Vermejo Conservancy District.

Just north of Espanola, New Mexico, along the banks of the Rio Grande, Reclamation, in cooperation with the local Acequia Association, is rehabilitating the Association's diversion dams and acequias. The Velarde Community Ditch Project is helping preserve and maintain the traditional way of life in northern New Mexico.

Reclamation's unique scientific, engineering, and technical resources and expertise, in partnership with those of other Federal and non-Federal entities, make finding balanced solutions to today's complex water resource problems possible.

The Albuquerque office helped initiate and is participating in the Rio Grande Initiatives, a multi-agency coordination effort that is looking at specific measures to improve water management of the Middle Rio



Rafting on the Rio Chama, New Mexico.

New Mexico

Grande Basin. The major accomplishment of this effort was the signing of an agreement between two key entities that provides for minimum flows in a specific reach of the Rio Grande.

The Albuquerque Projects Office is also involved in a public effort, the Bosque Initiative, sponsored by Senator Domenici, to develop a management regime for the Middle Rio Grande cottonwood riparian zone.

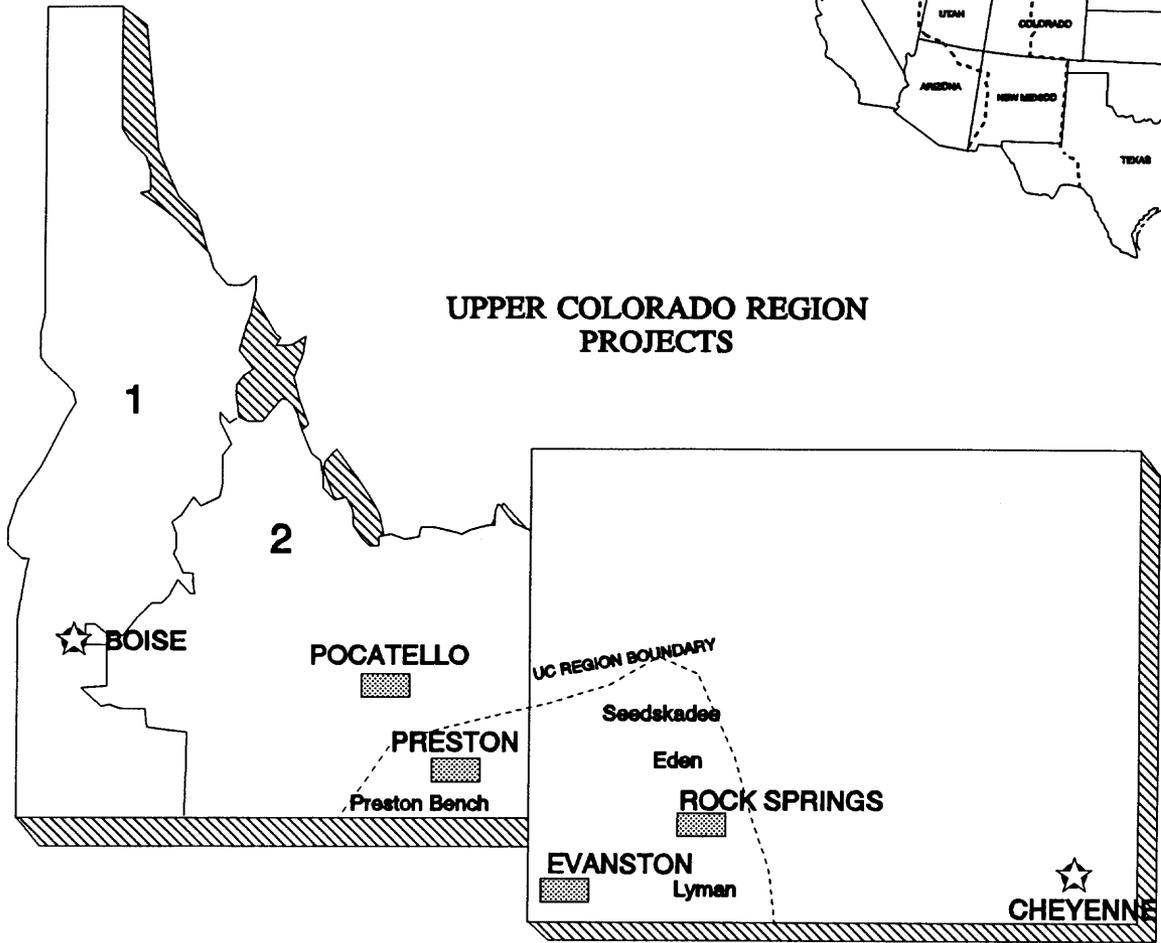


Blue heron nesting at Caballo Reservoir, New Mexico.

This office is actively participating with Federal and State agencies to form an ad hoc Rio Puerco Coordinating Committee, which in turn is creating a framework for interagency cooperation for water quality and sediment control activities in the Rio Puerco watershed. In addition, Reclamation has established an extensive partnership for multiple-use operations of the Rio Chama reservoir system in northwestern New Mexico.

In compliance with the Indian Self-Determination Act, Reclamation is assisting Native Americans within the Upper Colorado Region to develop and improve their own water resources by providing engineering and technical support. Reclamation is currently working with the Bureau of Indian Affairs, the Mescalero Apaches, and the Navajo Nation for necessary modifications to existing dams on the reservation to ensure structural safety of the dams.

IDAHO/WYOMING



UPPER COLORADO REGION PROJECTS

IDAHO

Senators
Larry E. Craig
Dirk Kempthorne

Representatives
Michael D. Crapo

District
2

WYOMING

Senators
Malcolm Wallop
Alan K. Simpson

Representative at Large
Craig Thomas



Idaho

The Upper Colorado Region operates in the Southeastern corner of Idaho and activities are managed from the Provo Projects Office in Utah.

Managing and Developing Resources

The Upper Colorado Region's involvement in Idaho is limited to the Preston Bench Project which supplies supplemental irrigation water for 5,170 acres. Crop values in 1990 from the project constructed in the late 1940's totaled \$1,616,824.

Safeguarding the Investment

Reclamation continues to work with contracting entities to ensure that recipients of Federally-subsidized irrigation (project) water only receive the benefits prescribed by Reclamation law. Contracting entities in Wyoming have had difficulty in administering various provisions of the Reclamation Reform Act (RRA) including the annual requirement for filing of landholder forms. The annual filing by landholders provides the basis to determine if they are eligible to receive project water and if a higher rate than the contract rate is required.

Current RRA rules and regulations require all landholders receiving project water with more than 40 acres, both owned and/or leased westwide, file annually on a form prescribed by the Secretary of the Interior to be eligible for project water. The various contracting entities are responsible for providing the forms to their landholders. Project water is not delivered unless a current appropriate form is on file.

Policy requires that the unsubsidized rate, known as the compensation rate, be billed when contracting entities deliver project water without the annual filing requirement being met.

At the present time, Reclamation is required to conduct a review of each water district every three years on a rotating basis or more frequently if needed to ensure

compliance with Reclamation laws. Reclamation is also required to conduct audits of individual landholders if circumstances warrant such action. Written guidance, as well as annual training, are provided to district personnel. Open dialogue is maintained with each contracting entity to assist in their administration responsibilities.

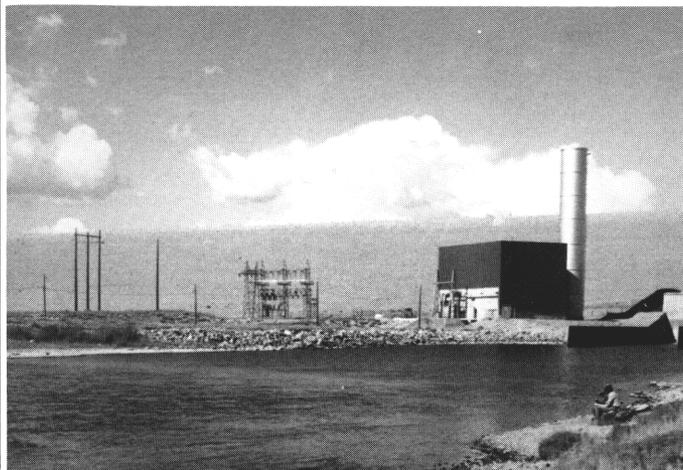
Wyoming

The Upper Colorado Region operates in the southwest portion of Wyoming and activities are managed from the Provo Projects Office in Utah.

Managing and Developing Resources

There are three projects in Wyoming including the Eden, Lyman, and Seedskadee Projects. All three are constructed and are operational. In addition, Flaming Gorge Reservoir is in Wyoming and the dam is located in Utah. Flaming Gorge is a component of the Colorado River Storage Project, discussed in another section of this document.

Benefits from the projects include irrigation, municipal and industrial water, flood control, power generation, recreation, and wildlife improvement. The three projects irrigate 54,896 acres of land and provide 120,476 acre-feet of municipal and industrial water.



Fontenelle Powerplant, Seedskadee Project, Wyoming.



Crop values in 1990 (last reporting date) for the Eden and Lyman Projects total \$2,785,033 from a total of 10,454 acres of full-service irrigation (Eden Project) and 37,190 acres of supplemental irrigation service (Lyman Project). There is no irrigation water provided by the Seedskadee Project.

Protecting the Environment

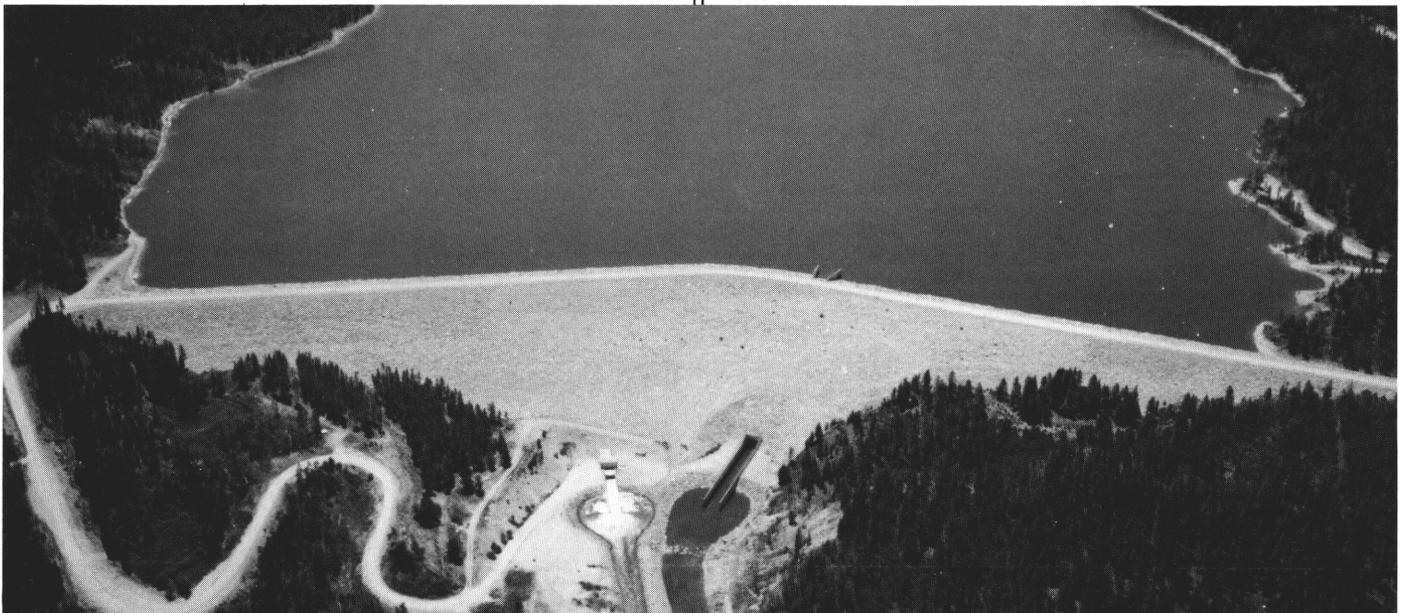
As part of Reclamation's commitment to manage water resource projects for enhancement of fish and wildlife resources as well as development and conservation of water and land resources, wildlife benefits are most significant on the Lyman and Seedskadee Projects. In the case of Lyman, measures for fishery enhancement are provided in the streams below both Stateline and Meeks Cabin Dams. In conjunction with Fontenelle Dam of the Seedskadee Project, the Seedskadee National Wildlife Refuge was established in 1965. The refuge lies along 35 miles of the Green River, about 6 miles below the dam. Reclamation has entered into an interagency agreement with the U.S. Fish and Wildlife Service for the continued acquisition of lands and development of the refuge. At the present, the refuge is approximately 14,000 acres and provides habitat for 230 species of birds and 46 species of mammals. In addition, it provides a variety of recreational opportunities.

A substantial fishery has been developed in both the reservoir and in the stream between Fontenelle and Flaming Gorge Reservoir. In addition, Reclamation's efforts have resulted in the doubling of the capacity of the Flume Creek Fish Hatchery, located just below Fontenelle Dam, and operated by the Wyoming Game and Fish Department.

Safeguarding the Investment

Fontenelle Dam has had a difficult past. The dam experienced difficulties during initial filling in 1965. The reservoir was evacuated and repairs were completed in 1967. Again, in the mid-1980's, problems were detected at the dam. At that time, newly developed technology involving the construction of a concrete diaphragm wall which runs from the crest of the dam all the way through the structure and into the foundation below was applied. The diaphragm wall now extends across the entire 5,421-foot dam and has created a waterstop, ending the seepage problems. Through Reclamation's Safety of Dams Program utilizing state-of-the-art technology, Fontenelle Dam is now a safe, fully functional facility.

Dam safety is also a concern at Meeks Cabin Dam on the Lyman Project. To ensure that the dam is maintained in a safe condition to protect the public and



Meeks Cabin Dam, Lyman Project, Wyoming.

Idaho Wyoming

property, Meeks Cabin is awaiting modification to the left abutment to control seepage. Construction of a diaphragm cutoff in the abutment area is expected to begin in 1993.

Reclamation continues to work with contracting entities to ensure that recipients of Federally-subsidized irrigation (project) water only receive the benefits prescribed by Reclamation law. Contracting entities in Wyoming have had difficulty in administering various provisions of the Reclamation Reform Act (RRA) including the annual requirement for filing of landholder forms. The annual filing by landholders provides the basis to determine if they are eligible to receive project water and if a higher rate than the contract rate is required.

Current RRA rules and regulations require all landholders receiving project water with more than 40 acres, both owned and/or leased westwide, to file annually on a form prescribed by the Secretary of the Interior to be

eligible for project water. The various contracting entities are responsible for providing the forms to their landholders. Project water is not delivered unless a current appropriate form is on file.

Policy requires that the unsubsidized rate, known as the compensation rate, be billed when contracting entities deliver project water without the annual filing requirement being met.

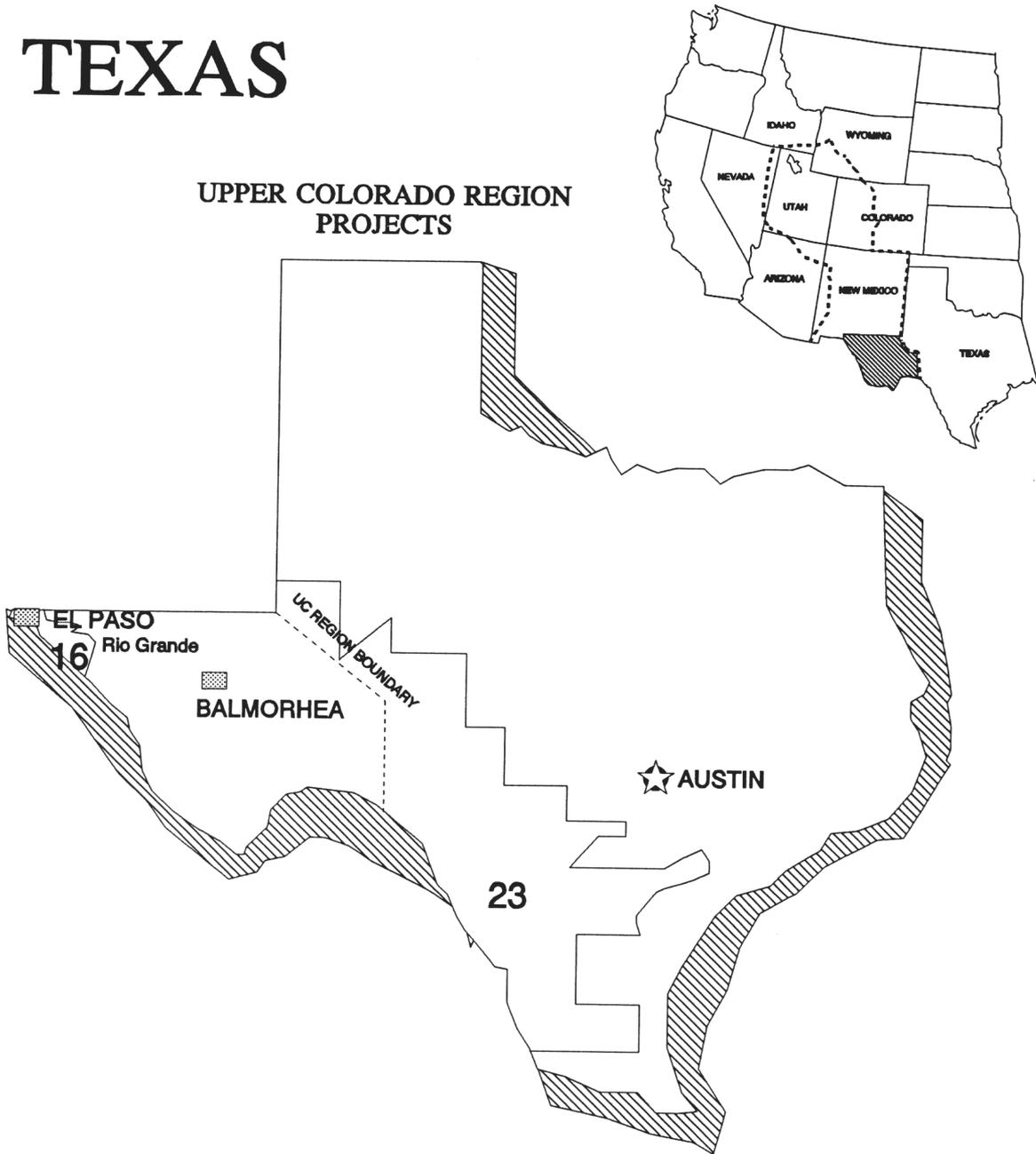
At the present time, Reclamation is required to conduct a review of each water district every three years on a rotating basis or more frequently if needed to ensure compliance with Reclamation laws. Reclamation is also required to conduct audits of individual landholders if circumstances warrant such action. Written guidance, as well as annual training, are provided to district personnel. Open dialogue is maintained with each contracting entity to assist in their administration responsibilities.



Wetland enhancement at Fontenelle Dam and Reservoir, Wyoming.

TEXAS

UPPER COLORADO REGION PROJECTS



Senators
Vacant
Phil Gramm

Representatives
Ronald D. Coleman
Henry Bonilla

Districts
16
23

RIO GRANDE PROJECT OFFICE
700 East San Antonio Avenue, Room B318
El Paso TX 79901-7020
(915) 534-6307

Texas

Texas

For hundreds of years, beginning with the Spanish explorers that arrived in the Rio Grande Valley at the beginning of the 16th century, the mild climate, rich soil, and easily accessible irrigation water from the Rio Grande have attracted settlers. The early irrigation structures that were built along the Rio Grande during the 1840's have since been replaced by modern facilities such as Elephant Butte Dam and Caballo Dam, both in the State of New Mexico, which provide water for irrigation and power generation as well as flood control benefits and recreation.

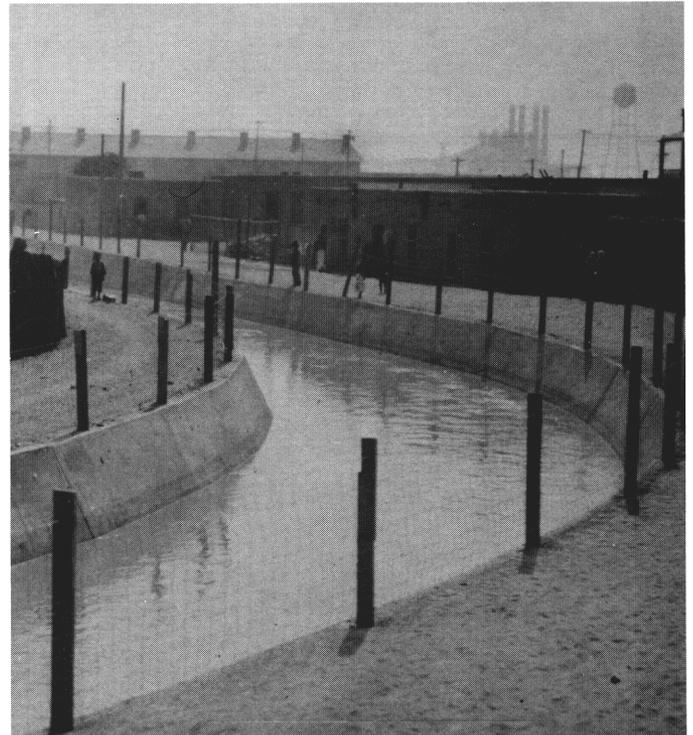
During the 1890's, water development along the Rio Grande involved increasing diversions from the river

shortages in Mexico which led to a conflict between the Mexican Government and the United States. As a result, the Mexican Treaty of 1906 was signed which guaranteed water delivery to Mexico from the Rio Grande. In order to fulfill this promise, the United States provided for the construction of Elephant Butte Dam and Reservoir by the Bureau of Reclamation.

Geographically, the Rio Grande Project is divided into five local or subvalley units by short canyon sections. These are Elephant Butte Reservoir, Caballo Reservoir, and the project agricultural areas consisting of Rincon, Mesilla, and El Paso valleys.



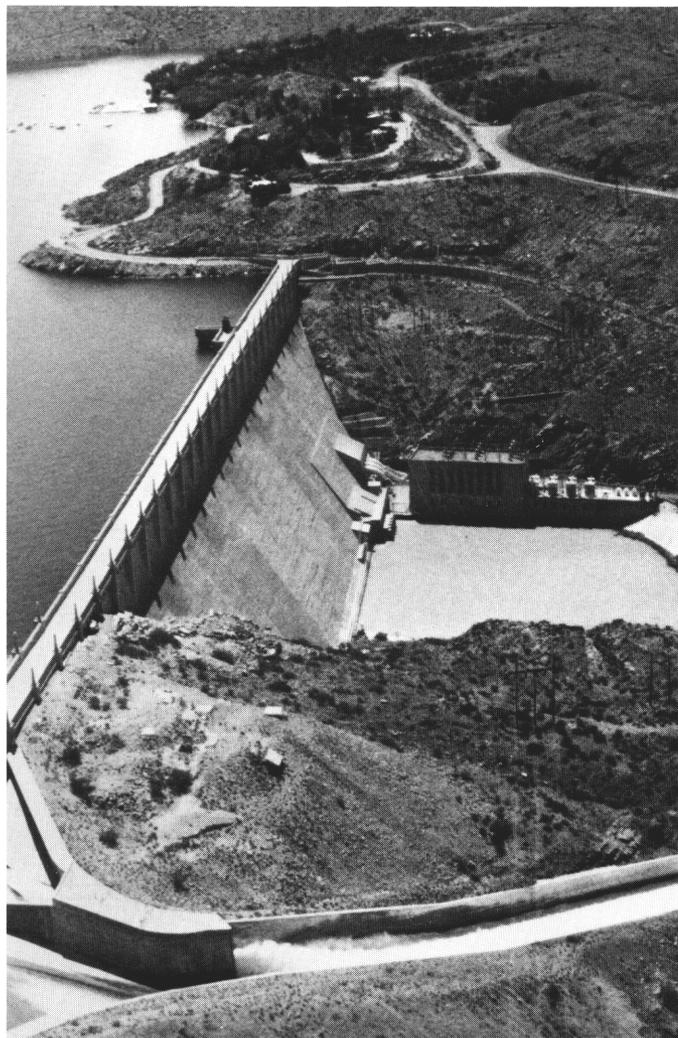
Portion of the Franklin Canal (approximately mid-1800's) in what is now downtown El Paso, Texas, prior to addition of concrete lining.



The Franklin Canal, acquired and rehabilitated by Reclamation between 1912 and 1914, inspired greater cooperation between the United States and Mexico.

Texas

The Rio Grande Project water supply is comprised of the storage water and regulated release flood waters of the Rio Grande. The Rio Grande Basin, above Elephant Butte Dam, contains 25,923 square miles and the 78-year average inflow into the reservoir is 872,527 acre-feet. The normal annual release from the project's reservoirs for irrigation, including 60,000 acre-feet for Mexico, is 790,000 acre-feet. The power system, with a 30,900 kilowatt hydroelectric plant at Elephant Butte Dam, radiates throughout a considerable part of the surrounding territory.



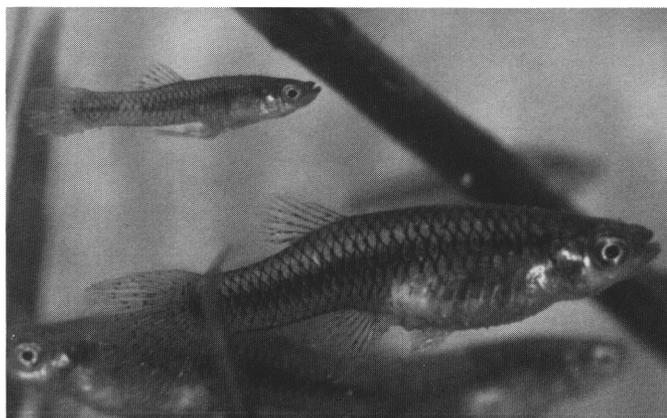
Elephant Butte Dam and Powerplant on the Rio Grande, New Mexico.

Managing and Developing Resources

The ability to meet the future demands for water will depend on the development of additional traditional, and nontraditional, water and energy supplies that are economically and environmentally sound. In the fiscal year 1994 budget, Reclamation has included funding for the studies of water resources in the southern New Mexico and west Texas areas. The purpose of this special investigation is to study how the demands for water are changing, to evaluate what the trends in water resources are, and where the future demands for water will be in the future. Planning for this study will begin in 1993.

Protecting the Environment

In an effort to foster better management of our water supplies while providing benefits for endangered fish, Reclamation is constructing a refugium channel at Phantom Lake Springs in the Pecos River Drainage of western Texas. Work is underway on channel construction and modification of the spring outlet for the purpose of diverting water from the canal into the refugium channel. Water flow through this channel will reduce water loss to evaporation while ensuring the continued survival of endangered fish such as the Comanche Springs pupfish and the Pecos gambusia by providing protected habitat.



Male and female Pecos gambusia, an endangered fish, Pecos River drainage, Texas.



As part of Reclamation's planning program, Reclamation engineers have been involved in developing solutions for diverse problems such as reducing salinity of river flows. Currently, the El Paso Office and the Red Bluff Water Power Control District of Pecos, Texas, are reviewing a proposal by United Salt Company, a private salt mining company, to reactivate the salinity alleviation program at Malaga Bend, New Mexico. The proposal is being reviewed for environmental compliance with existing regulations that were not in effect when the project was first activated back in the mid-sixties. This reactivation could lower the salt levels in the Pecos River waters.

Building Partnerships

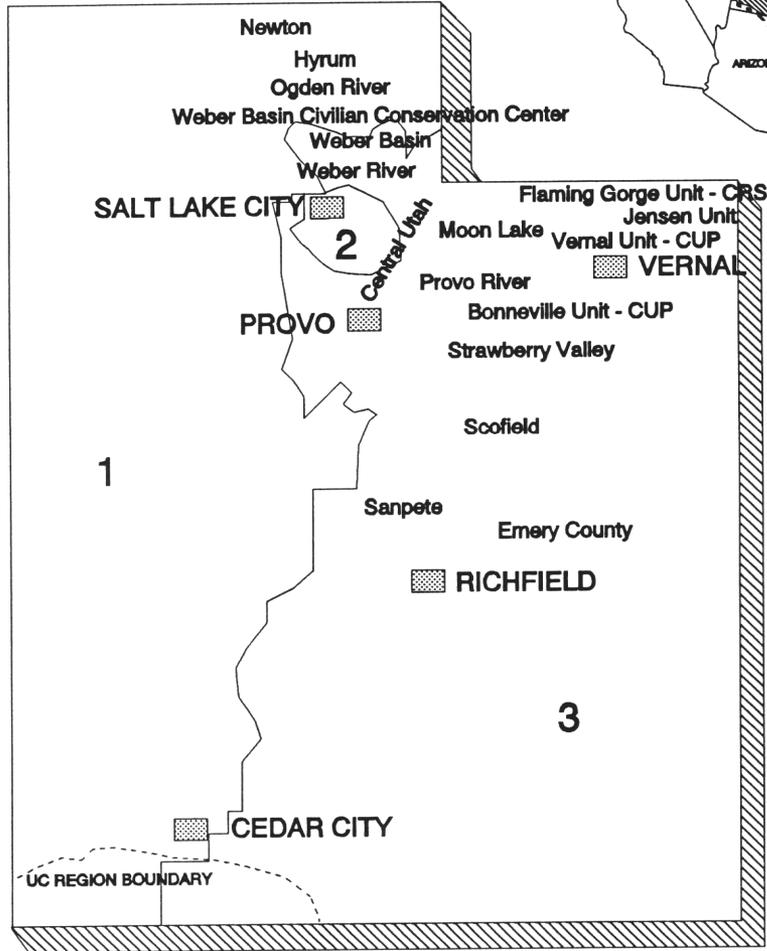
Reclamation is committed to developing solutions to complex water resource problems through partnerships with other Federal, State, and local governments and the private sector. In order to improve the efficiency and effectiveness of many project operations, Reclamation has identified opportunities to transfer the operational responsibilities to local districts.

During the 1992 irrigation season, Reclamation worked closely with both the Elephant Butte Irrigation District and the El Paso County Water Improvement District #1 to transfer all irrigation system operations to them. Maintenance responsibilities for the irrigation systems were transferred to the Districts earlier. The results of transferring the operation and maintenance functions are cost savings to the Districts and more local control.

Also, in October 1992, President Bush signed Public Law 102-575 which allows the Secretary to transfer title of lands owned for irrigation purposes to the Districts. Reclamation will work toward this transfer in the coming year.

UTAH

UPPER COLORADO REGION PROJECTS



Senators

Orrin G. Hatch
Robert F. Bennett

Representatives

James V. Hansen
Karen Shepherd
Bill Orton

District

1
2
3

WEBER BASIN CIVILIAN
CONSERVATION CENTER
Highway 89 (mouth of Weber Canyon)
R.F.D. #6
Ogden UT 84405-9605
(801) 479-9806

FLAMING GORGE FIELD BRANCH
PO Box 278
Dutch John UT 84023-0278
(801) 885-3106 or 3121

UPPER COLORADO REGIONAL OFFICE
125 South State
PO Box 11568
Salt Lake City UT 84147-0568
(801) 524-5403

PROVO PROJECTS OFFICE
302 East 1860 South
PO Box 51338
Provo UT 84605-1338
(801) 379-1000



Utah

In the coming decade, the Bureau of Reclamation's role in the State of Utah will continue to evolve from one of constructing new facilities to one of managing and protecting water and related resources, working with the rehabilitation and repair of existing facilities, upgrading existing dams to new safety standards, providing technical assistance and oversight, and reclaiming hazardous waste sites.

Many people think of Reclamation in Utah in terms of the Central Utah Project (CUP), not realizing that Reclamation has constructed and administers 11 other projects in Utah. Now, however, that perception is changing.

Reclamation has been, and will continue to be, more to Utah than just the CUP. Reclamation's involvement in Utah extends back to the turn of the century. In 1903 the first reconnaissance and preliminary surveys were started for the Strawberry Valley Project, making it one of the earliest activities under the Reclamation Act of 1902.

Managing and Developing Resources

Reclamation's active involvement in planning and construction of the CUP is drawing to a close. With the 1993 completion of Jordanelle Dam, coupled with completion of the Syar Tunnel in 1992 and the Sixth Water Aqueduct in 1995, Reclamation will have achieved its mission of building the municipal and industrial (M&I) component of the Bonneville Unit of the CUP. To that point, Reclamation will have constructed five dams, built 37 miles of tunnels and pipelines as part of the Strawberry Collection System, and completed the 55-mile long Jordan and Alpine Aqueducts along the Wasatch Front. As part of the M&I System, Reclamation also constructed the Bottle Hollow Reservoir to compensate the Ute Indian Tribe and provide recreation, fishing, and wildlife activities on Tribal lands.

In addition, Reclamation completed the Vernal Unit of the CUP in 1962 and the Jensen Unit in 1980. Both provide irrigation and M&I water in northeastern Utah in the Vernal, Ashley Valley, and Jensen areas.



The last load of fill materials completes Jordanelle Dam.

Prior to March 1987, Reclamation and the Western Area Power Administration (Western) were attempting, through a public process, to establish a plan for constructing power features of the Bonneville Unit utilizing non-Federal financing in lieu of appropriated funds. However, on March 20, 1987, Reclamation and Western were requested by the Utah Congressional delegation to delay such activities until the Central Utah Water Conservancy District (CUWCD) determined its interest in power development.

In the ensuing years, the CUWCD has not finalized their position concerning their interest in participating in development of power with the Strawberry Valley Water Users Association which has leasing authority and could develop their share of the water. The CUWCD would also like to develop their share of water through a lease of power privilege to generate revenues to repay their share of the Central Utah Project. However, the CUP Completion Act titles of Public Law 102-575 only allow the CUWCD to recover their costs pertaining to financing the hydropower development. This conflicts with their concept of developing the site through a lease of power privilege to provide additional project repayment revenues.

To date, 14 projects (counting the CUP's three units) have been constructed totaling 22 reservoirs, not including Flaming Gorge and Lake Powell. They are not local Utah water projects and are discussed under the Colorado River Storage Project section of this report.



Reclamation has also contributed to Utah through construction of many smaller projects under the Small Reclamation Projects Construction Program.

Reservoir capacities total 2.4 million acre-feet, with reservoir surfaces totaling 51,000 acres. That's 51,000 acres generally available for recreational use. The projects provide supplemental and full service irrigation to 330,000 acres of farm lands while utilizing 430,000 acre-feet of water.

The 1991 crop value from those lands was \$120 million. The cumulative value of crops grown over the years on irrigated farmlands is about \$2 billion.

To deliver water to farms and cities, Reclamation has constructed 455 miles of canals and aqueducts. Municipal and industrial water is supplied to about 960,000 people, a high percentage of the State, utilizing 240,000 acre-feet of water.

Over 2 million visitor days of recreational use take place each year on Reclamation's Utah projects, both on the reservoirs and on the streams below the dams. There are 47.8 miles of Class 1 fishery streams below the projects, which is about 75 percent of the total Class 1 fishery streams in the entire State.

Presently, Reclamation is funding over \$3.8 million for the completion of recreation facilities at Strawberry Reservoir and \$1.3 million to complete development of recreation facilities at Starvation Reservoir. With the completion of this work, the recreation experiences for the public will be greatly enhanced.

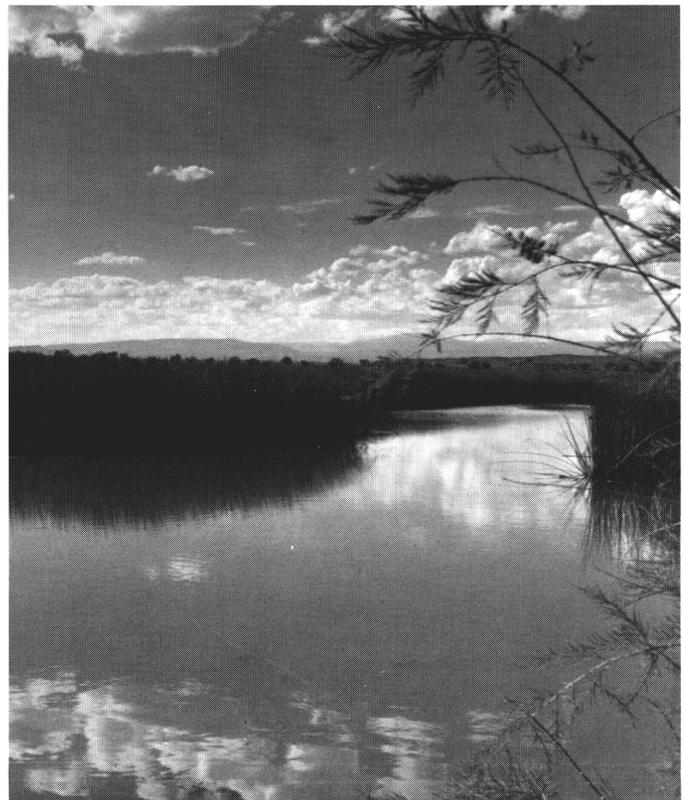
With the passage of Public Law 102-575, Reclamation Projects Authorization and Adjustment Act of 1992, the role of the Bureau of Reclamation as defined in Title II of the Act changed. As noted, Reclamation will complete the M&I portion of the Bonneville Unit. That work was contracted under the previous appropriations ceiling. All new planning and construction towards development of the irrigation and drainage (I&D) system features, additional work in the Uinta Basin, and some additional work in Wasatch County, will be undertaken by the CUWCD.

As stipulated in the Act, the CUWCD is recognized as a Federal agency for purposes of producing the Definite Plan Report and the necessary Environmental Impact Statement. In addition, the CUWCD must negotiate a

cost-share agreement with the Secretary of the Interior as one of the prerequisites towards construction.

Protecting the Environment

The Middle Green River Basin Study of the National Irrigation Water Quality Program is now in Phase IV. This program reviews irrigation drainage concerns that the Department of the Interior has responsibility for through a five-phase program. During the first three phases, interagency teams of specialists from the U.S. Geological Survey, the U.S. Fish and Wildlife Service, and the Bureau of Reclamation conducted investigations related to water quality, local geology, and presence of irrigation and its proximity to State and National waterfowl areas. A selenium problem was identified in the Middle Green River Basin. The Provo Projects Office is conducting Phase IV of the program which identifies potential alternatives to remediate the problems, evaluate the alternatives, and select a preferred plan of action.



Stewart Lake Waterfowl Refuge near Jensen, Utah.



The Bear River Basin Water Quality and Watershed Management Study will assist the State of Utah, local governments, and water districts in identifying and evaluating sources of pollution and measures that could be implemented to restore water quality in the lower reaches of the Bear River. The study will also look at methods of preserving the high quality water in the upper reaches of the river basin. The study is being cost shared by the State of Utah.

The Utah Lake Water Management Study will evaluate management options and develop a management plan for Utah Lake and associated watersheds in the areas of improvements to water quality, recreation, wetlands, fish and wildlife areas, water resource management, reduction in flood damages, and protection of the June Sucker, an endangered species. The study is being cost shared by several State agencies and counties.

Water quality is a major component of the Weber Basin Water Quality and Watershed Management Study. The study is also looking at ways to improve water management and determine which measures should be implemented to preserve and improve water quality. The study is being cost shared by the State of Utah and the Weber Basin Water Quality Management Council.

Safeguarding the Investment

A commitment has been made to ensure that Reclamation dams are safe and are maintained to protect the public, property, and natural resources. The Safety of Dams (SOD) Program is a significant activity in Utah. The principal concerns center around the capability of the dams to withstand earthquakes or the maximum possible flood that the drainage might expect. It should be noted that many of the dams were constructed prior to the level of earthquake knowledge and design capability that exists today.

Currently, the majority of the Upper Colorado Region's SOD activities involve Utah dams. To date, modifications have been completed on Pineview Dam on the Ogden River to allow it to withstand the maximum earthquake that might be expected in the area.

Construction work to modify Steinaker Dam, an offstream reservoir adjacent to Ashley Creek, will begin in the spring of 1993, again to provide the capability to withstand an earthquake. Other Utah facilities



Steinaker Dam and Reservoir, Vernal, Utah.

currently being studied include Deer Creek on the Provo River, Lost Creek on Lost Creek, Joe's Valley on Cottonwood Creek, Scofield on the Price River, and Causey on the South Fork Ogden River. In addition, studies will be conducted in the coming years on Red Fleet on Brush Creek, Hyrum on the Bear River, Echo on the Weber River, and Wanship on the Weber River.

The Provo Projects Office also administers projects in southwest Wyoming and southern Idaho. Meeks Cabin and Stateline Dams on the Utah-Wyoming border are also being studied. Work to modify Meeks Cabin is projected to begin in 1993, and is described in the Wyoming section.

In all cases, Reclamation identifies any problems that may exist and then develops alternatives for repair. A Modification Report is provided to Congress for 60 days of review. Following that review, Reclamation may then proceed to construction. All safety modification costs are shared with project sponsors who pay 15 percent of the total cost with the government paying 85 percent.

At the time of planning and construction of the Jensen Unit, the United States was striving to reduce the dependence upon foreign energy sources through Project Independence. That initiative was to aid in the production of energy, particularly oil and gas.

The demand for M&I water in the Jensen Unit was based upon the development of the local oil shale resource. However, the eventual curtailment of oil exploration and oil shale development resulted in a diminished demand for water, and therefore fewer funds with which to repay the project.



Public Law 102-575 provides for an amendatory contract with the Uintah Water Conservancy District to align the reduced demand for M&I water with revenues obtainable. A pricing mechanism to assure eventual recovery of costs as water demand develops and revenues become available is provided. An amendatory contract was executed on December 30, 1992.

Reclamation continues to work with contracting entities to ensure that recipients of Federally-subsidized irrigation (project) water only receive the benefits prescribed by Reclamation law. Contracting entities in Utah have had difficulty in administering various provisions of the Reclamation Reform Act (RRA) including the annual requirement for filing of landholder forms. The annual filing by landholders provides the basis to determine if they are eligible to receive project water and if a higher rate than the contract rate is required.

Current RRA rules and regulations require all landholders receiving project water with more than 40 acres, both owned and/or leased westwide, to file annually on a form prescribed by the Secretary of the Interior to be eligible for project water. The various contracting entities are responsible for providing the forms to their landholders. Project water is not delivered unless a current appropriate form is on file.

Policy requires that the unsubsidized rate, known as the compensation rate, be billed when contracting entities deliver project water without the annual filing requirement being met.

At the present time, Reclamation is required to conduct a review of each water district every three years on a rotating basis or more frequently if needed to ensure compliance with Reclamation laws. Reclamation is also required to conduct audits of individual landholders if circumstances warrant such action. Written guidance, as well as annual training, are provided to district personnel. Open dialogue is maintained with each contracting entity to assist in their administration responsibilities.

Building Partnerships

Reclamation is pursuing opportunities to work in partnership with others through rehabilitation and betterment programs as a means to further effective and efficient management of water resources that might otherwise not occur. The Weber Basin Water Conser-

vancy District has received a \$19.6 million Federal loan from Reclamation for the rehabilitation and betterment of the project. Increasing M&I demands in the Weber and Davis County Fronts have caused several critical facilities to be operated year-round instead of seasonally, resulting in the need for improvements to the system.

Of particular concern is the integrity of a mile-long reach of the Gateway Canal. Landslides there have jeopardized the integrity of the canal. A failure would cut off water service to numerous agricultural enterprises as well as about 370,000 people in Weber and Davis counties.

In February 1990, the Ogden River Water Users Association received a \$11,869,000 Federal loan for rehabilitation and betterment of Ogden River facilities. Many of these facilities have been in operation for over 50 years. The major facilities being rehabilitated are the Pineview Dam outlet works, Ogden-Brigham Canal, and the five-mile long, 75-inch diameter wood-stave Ogden Canyon Conduit which outlived its design life by more than a decade and requires total replacement. The construction program is approximately 50 percent completed and is scheduled for completion in 1996.

The Hyrum Project Rehabilitation and Betterment Program repayment contract was executed in April 1990. The amount of the loan was \$2.1 million. The work included rehabilitation of the spillway, outlet works facilities including the intake structure, pump turbine plant, and irrigation conveyance facilities. Rehabilitation of these facilities is expected to be completed by May 1993.

The Strawberry Water Users Association is repaying a \$7,372,000 Rehabilitation and Betterment Project Loan for rehabilitation of Strawberry Valley Project facilities. Construction of these facilities extended from 1984 through the spring of 1990. This project included replacement of the Spanish Fork Diversion Structure and placing a majority of the Power Canal in conduit.

As a result of the 1983 High Plains States Groundwater Demonstration Program Act, the Upper Colorado Regional Office and the Salt Lake County Water Conservancy District entered into a partnership in 1990 to construct and operate an artificial groundwater recharge project in Sandy City.

Utah

This multi-benefit project, which became operational in January 1992, utilizes available aqueduct conveyance capacity during the winter for transporting water from Deer Creek Reservoir. The water is treated to drinking water standards and then injected for storage into an existing aquifer beneath Sandy City. This process recharges the aquifer, makes water available for peak summertime demands, maintains minimum fishery flows in the Provo River, and is less costly both environmentally and financially than alternative methods for water storage.

This project's first year of operation was very successful in satisfying the increase in demand for water without shortages or having to compromise traditional summertime activities.



Deputy Commissioner Joe Hall, former Assistant Regional Director Wes Hirschi, and Regional Director Roland Robison commemorate the first water pumped back to the surface from the groundwater recovery well located in Sandy, Utah.

The Upper Colorado Region, together with the Department of Labor, operates one Job Corps Center in the State of Utah, the Weber Basin Civilian Conservation Center. The Center, located in Ogden, was opened in December 1965 and since then has grown to its present capacity of 200 young men and women. Seventy percent of the students enrolled at the Center are from the State of Utah. The remaining 30 percent come from other States in the West. Weber Basin, in cooperation with Utah State University, offers students a unique educational enrichment program. The program, tailored to the needs of Job Corps enrollees, offers eligible students the opportunity to earn up to 45 quarter hours of college credit at the University. Students must be high school graduates or have their GED certificates to participate in the program. The program has been very successful and participants often go on from the Center to graduate from Utah State University.