

Upper Colorado River Basin Fish and Wildlife Mitigation Program

Fiscal Years 1994 - 1998

Prepared by:

Central Utah Project Completion Act Office
Provo, Utah



A program funded by Section 314(c) of the Central Utah
Project Completion Act - P.L. 102-575

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Executive Summary

This report documents accomplishments of the Upper Colorado River Basin Fish and Wildlife Mitigation Program (the Program), authorized by Section 314(c) of the Central Utah Project Completion Act (CUPCA) P.L 102-575 for Federal Fiscal Years 1994 through 1998.

The purpose of the Program is to benefit fish and wildlife resources adversely affected by the construction and operation of Federal water resource developments, particularly those authorized by the Colorado River Storage Project Act of 1956 (P.L. 84-485). During the first five years of Program operations, big river (Colorado River and major tributaries) riparian and aquatic habitats and dependent fish and wildlife species have been the principal targets of mitigation, restoration and research projects. Special emphasis is placed on projects and activities that will restore or enhance native species and ecosystems, including endangered and threatened species. This report is intended to document the goals of the Program and progress toward achieving fish and wildlife habitat improvements in accordance with the criteria established by the CUPCA legislation.

In its first five years of active operations, the Program expended \$1.43 million to complete 35 projects in four states of the upper Colorado River basin. Federal and state agencies, universities, and private groups have been funded for projects that comply with program criteria established in the enabling legislation.

A summary of expenditures by state for 1994-1998 indicates that Colorado (11 projects) received 34 percent; Arizona (8 projects) 27 percent; Wyoming (11 projects) 25 percent; and New Mexico (5 projects) 13 percent of Program funds. No applications for projects were received from Nevada. Under the terms of Section 314(c) of CUPCA, Utah is not eligible to receive funding under the Program.

Funding allocated by project categories was: Migratory Birds/Waterfowl 8 percent; Non-game Wildlife 15 percent; Upland Species 15 percent; Aquatics 28 percent; and Wetland/Riparian 34 percent.

For program information, application procedures, and current evaluation criteria contact:

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Introduction

The Upper Colorado River Fish and Wildlife Mitigation Program (the Program) was authorized by Congress in 1992 as part of the Central Utah Project Completion Act, Public Law 102-575 (CUPCA). With this new authorization, a portion of the funds allocated for completion of the Central Utah Project is directed to fish and wildlife improvement projects in the other upper Colorado River basin states.¹ Generally, the Department administers the available funds to conserve, mitigate and enhance fish, wildlife and recreation resources to offset the adverse effects of construction and operation of Federal reclamation projects in the upper Colorado River basin, particularly the facilities of the Colorado River Storage Project (CRSP).² The Program supplements the historic mitigation efforts that have occurred and expands those efforts to address unforeseen circumstances and otherwise benefit wildlife habitat and related public interests.

The Central Utah Project Completion Act Office (CUPCAO) of the Department of the Interior, located in Provo, Utah, operates the Program and administers all funds. The CUPCAO solicits project proposals in September of each year from state and federal agencies, local wildlife improvement organizations and the public at large. Continual efforts are made to expand the target audience of possible grant recipients. Project proposals are ranked in accordance with the program criteria established by CUPCA (see below) and award decisions are announced in December. Administrative files and reports on all projects are maintained in the CUPCAO.

This report provides details on the funding and accomplishments of the Program from 1994-1998, the first five years of activities. Appendix A contains a summary of financial information on all completed projects. Appendix B contains project highlights. Appendix C is a synopsis of all projects completed during this reporting period. Appendix D is an example solicitation letter.

¹ Per Section 314c of CUPCA, Utah, an Upper Colorado River basin state, is excluded from funding under the Program. The Utah Reclamation Mitigation and Conservation Commission, created by Title III of CUPCA, receives separate appropriations to fund environmental mitigation measures necessary to address impacts of the Central Utah Project and other Federal Reclamation projects in Utah.

²The Colorado River Storage project was authorized by the Act of April 11, 1956 (70 Stat. 105, Ch. 203; 43 USC 620 et seq.; P.L. 84-485). The CRSP consists of four main storage reservoirs on the Colorado River and its tributaries upstream of Lees Ferry, Arizona, plus a number of "participating projects" constructed at various locations in the Upper Colorado River Basin. The purpose of the CRSP is comprehensive development of the water resources of the Upper Colorado River Basin for irrigation, river regulation, hydropower generation, and flood control. The Central Utah Project is the largest participating project within the CRSP.

Program Purposes and Project Criteria

Section 314 of CUPCA defines the standards (see box) for selecting proposals to be funded. Consistent with CUPCA, the Department has focused the Program on those ecosystems in the upper Colorado River basin that have substantial potential for producing fish, wildlife and recreation benefits.

PROGRAM ELIGIBILITY

All Federal, state and local government agencies, as well as private groups and individuals are eligible to receive funding support under the Program. Typically, recipients have been Federal natural resource agencies (Fish and Wildlife Service, Bureau of Land Management, Forest Service, Bureau of Reclamation), state fish and wildlife agencies, and Indian tribes. In addition, grants have been awarded to non-governmental conservation groups such as The Nature Conservancy, and to other private entities. Criteria for evaluating proposals and ranking applications for funding have been developed by the CUPCAO consistent with the legislative guidance for the Program. See Appendix D. Public lands and waters receive priority consideration for Program expenditures. However, opportunities to implement projects with private entities that generate other types of public benefits, such as public access for recreation and education are also considered.

Program purposes established by CUPCA are to:

- Restore damaged natural ecosystems on public lands and waterways affected by the Federal Reclamation program;
- Acquire, from willing sellers only, other lands and properties, including water rights, or appropriate interests therein, with restorable damaged natural ecosystems, and restore such ecosystems;
- Provide jobs and sustainable economic development in a manner that carries out the other purposes of this subsection;
- Provide expanded recreational opportunities; and
- Support and encourage research, training, and education in methods and technologies and ecosystem restoration.

In implementing the program, priority is accorded to proposals that will:

- Reconstitute natural biological diversity that has been diminished;
- Assist the recovery of species populations, communities, and ecosystems that are unable to survive on-site without intervention;
- Allow reintroduction and reoccupation by native flora and fauna;
- Control or eliminate exotic flora and fauna that are damaging natural ecosystems;
- Restore natural habitat for the recruitment and survival of fish, waterfowl, and other wildlife;
- Provide additional conservation values to state and local government lands;
- Add to structural and compositional values of existing ecological preserves or enhance the viability, defensibility, and manageability of ecological preserves; and
- Restore natural hydrological effects including sediment and erosion control, drainage, percolation, and other water quality improvement capacity.

Source: CUPCA Sections 314(d) and (e)

Project funding is approved by the CUPCA Program Director following project review and recommendation of staff. The CUPCAO monitors progress on all projects, tracks funds and performs administrative functions of the Program with the assistance of the Financial Management Division, Upper Colorado Region, Bureau of Reclamation.

MITIGATION OBJECTIVES

Program funds are expended in a manner that will result in the greatest positive impact for fish and wildlife and their habitats, as well as improve public access, use and enjoyment of these resources. In practice, during the first five years of Program operations, big river (Colorado River and major tributaries) riparian and aquatic habitats and dependent fish and wildlife species have been the principal targets of mitigation, restoration and research projects. The construction of CRSP reservoirs has inundated and fragmented riparian communities (including wetlands). As a result, associated wildlife species and habitats have declined in distribution, abundance and vigor. While expenditures have been generally balanced among project categories, riparian and wetland habitats have received the largest share of Program expenditures during this reporting period.

FUNDING

Under CUPCA, the Department of the Interior is authorized to expend a total of \$4.35 million (1992 dollars) over the life of the Program.

The Program is funded by 3 percent of funds appropriated to the Utah Reclamation Mitigation and Conservation Commission (Commission), a Federal Commission also created by CUPCA to plan, coordinate and implement mitigation and conservation projects for the Central Utah Project. Because funding is proportional to Commission appropriations, actual funding will depend on the amount that Congress appropriates to the Commission on an annual basis. Approximately, \$300,000 per year is available to the Program.

Appropriations are displayed in Table 1 for Federal Fiscal Years 1994 -1998. For information purposes, Table 2 provides a summary of funding and expenditures from 1999 through 2002. Table 2 will be revised and updated in later reports as these projects are completed.

Requests typically exceed available funding each fiscal year. In response, emphasis is placed on prioritizing habitat issues and partnering with other agencies and organizations to implement proposals that will yield maximum benefits for fish and wildlife and the public.

Table 1. Program Expenditures 1994-1998 for Complete Projects

Fiscal Year	Annual Appropriation	Annual Expenditures	Cumulative Appropriations	Cumulative Expenditures	Percent ^a
1994	145,500	129,590	145,500	125,590	89
1995	334,000	287,652	479,500	417,242	87
1996	485,000	419,580	964,500	836,822	87
1997	300,000	222,864	1,264,500	1,059,686	85
1998	260,000	374,258 ^b	1,524,500	1,433,944	94 ^c

^a Cumulative expenditures as percent of cumulative appropriations.

^b Expenditures exceeding appropriations include unexpended funds from prior years which have been carried-over.

^c Unexpended funds remain available and will be expended in later fiscal years.

Table 2. Program Expenditures 1999-2001 for Projects in Progress

Fiscal Year	Annual Appropriation	Annual Expenditures	Cumulative Appropriations	Cumulative Expenditures	Annual Percent ^a
1999	274,000	250,215	1,798,500	1,684,159	94
2000	277,000	206,334	2,075,500	1,890,493	91
2001	389,000	154,247	2,464,500	2,044,740	83
2002	260,000		2,724,500		

^a Cumulative expenditures as percent of cumulative appropriations.

While no cost-share participation is required, the Program attempts to maximize available funds by giving priority to cost-sharing partnerships. Cost-sharing improves program performance by increasing the investment of recipients in the success of projects. Cost-sharing can be a contribution of funds, in-kind staff time, and/or equipment. Generally, it is expected that project sponsors will assume the responsibility to operate and maintain project features to insure continuing benefits. The Program has benefited from over \$1.1 million in additional project benefits by means of cost-share contributions from project sponsors. See Appendix A.

PROGRAM PERFORMANCE

Thirty-five (35) mitigation projects were completed during the first 5 years of Program operations. Over \$1.5 million was appropriated to the Program during 1994-1998. Of this amount, 94.7 percent, or over \$1.43 million, was expended on eligible projects during the report period. See Table 1. All funds support mitigation and conservation projects; no administration, overhead or operating expenses are paid from Program funds.

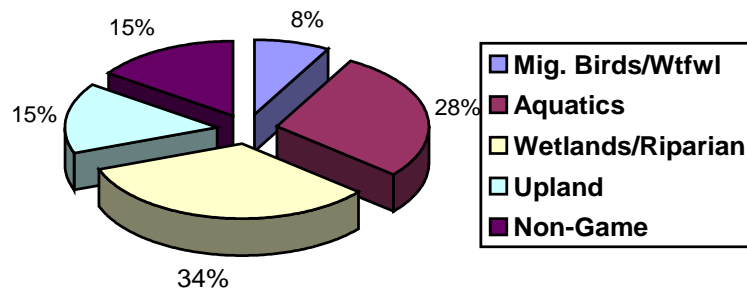
All funds are available until expended; excess funds are recycled back into the Program for use on other projects. This important feature conserves resources by discouraging expenditures on projects that only marginally reflect Program mitigation goals.

Monitoring and evaluation of completed projects is an important program element. Follow up evaluations of effectiveness ensure that maximum benefits are maintained and provide important feedback to the Program evaluation criteria.

PROJECTS

In addressing the mitigation objectives, the Program has funded projects in five broad categories: aquatics, upland game habitats, wetlands/riparian, migratory birds, and non-game species (including endangered and threatened species and species of special concern).³ Figure 1 and Table 3 depict the allocation of Program funding among these categories. The Program seeks to fund projects yielding direct resource benefits to fish and wildlife and associated habitats. Research proposals that address important fish and wildlife management problems or improve knowledge of ecosystem restoration are also encouraged.

Figure 1. Expenditures by Project Category 1994-1998



³ Projects that emphasize recreation and public access or research are also evaluated within these categories.

Table 3. Projects Expenditures Summary 1994-1998

	Wyoming	Colorado	Arizona	New Mexico	TOTALS
Aquatics	99,400	148,700	153,600	-0-	401,700
Upland Game/Habitat	-0-	135,500	10,000	74,000	219,500
Wetlands/Riparian	253,350	161,400	60,650	-0-	475,400
Migratory Birds/Waterfowl	-0-	-0-	-0-	113,850	113,850
Non-Game Species/Habitat	-0-	45,900	171,300	-0-	217,200
TOTALS	352,750	491,500	395,550	187,850	1,427,650

The Program has made conscious efforts to balance projects and funding throughout the upper basin states of the Colorado River. See Figure 2 and Table 4. This trend is expected to continue.

Figure 2. Expenditures by State 1994-1998

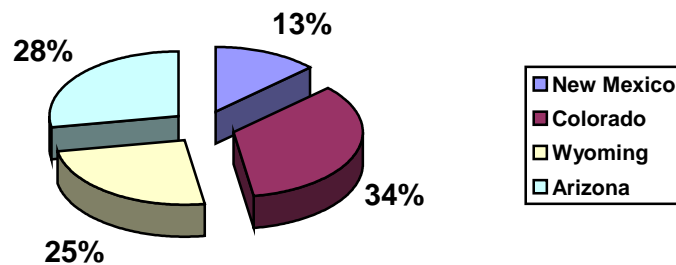


Table 4. Completed Projects 1994-1998

	No. Projects	Budget
Colorado	11	491,500
Wyoming	11	352,750
New Mexico	5	187,850
Arizona	8	395,550
Nevada	0	

OUTREACH

Special outreach efforts to the individual state fish and game agencies are a routine part of Program advertisements. The Program began in 1994 with an interagency meeting of representatives of the state resource management departments/agencies to describe the goals of the Program and invite applications for funding. Most states designated agency coordinators who interact regularly with Program staff. These interagency communications ensure that state fish and game agency mitigation goals and objectives are represented in the Program.

Continuous efforts are made to ensure the widest possible distribution of program application materials. An extensive mailing list of potential grant recipients ensures widespread distribution of Program solicitations. Private entities such as native plant societies, land trusts, and citizen fishing/hunting groups make up a substantial portion of the mail list.

Appendix D is an example of the solicitation letter used during 1994-1998 to guide applicants in the preparation of project proposals.

**Appendix A
Completed Projects 1994-1998**

Project Name	Sponsor	Cost (Rounded)	Cost Share (Est.)
1994			
Colorado Cutthroat Trout Habitat Enhancement	WGFD	11,300	
Colorado Cutthroat Trout Habitat Enhancement	CDOW	7,400	
Fontenelle Wetlands	WGFD/BOR	18,150	
Urraca WMA Pre-treatment Survey	NMDGF	24,500	
Rio Chama /W.A. Humphries WMA Water	NMDGF	19,500	45,000
Edward Sargent WMA Fence Removal	NMDGF	30,000	
Herptile Survey	CDOW	45,900	
1995			
Big Sandy Rock Sills	WGFD/BLM	28,000	25,000
LaBarge Creek Rehabilitation	WGFD	5,800	
Muddy Creek Habitat Enhancement	WGFD	30,000	
Killdeer Wetlands	BLM	51,200	7,200
Col. River Cutthroat Trout Recovery	CDOW	95,450	
Little Hills State Wildlife Management Area	CDOW	50,000	
1996			
Bonytail Pen Culture Research	USFWS	10,500	
'Ahakhav Tribal Preserve	CRIT	45,800	90,000
Grand Junction Wetlands	West. Col. Botanical Soc.	6,500	
Bat Population and Cave Survey	NAU	27,000	
Lake Havasu Native Fish Management Plan	BLM	46,600	170,000
Achii Hanyo Fish Ponds	USFWS	96,500	100,000
Henry=s Fork Wetlands	USFS	79,000	287,000
Little Hills State Wild. Mgmt Area	CDOW	68,000	

Project Name	Sponsor	Cost (Rounded)	Cost Share (Est.)
1997			
Bunker Ranch	The Nature Conservancy	\$100,000	200,000
Red Creek Habitat Improvement	WYGFD	14,700	
Billy Creek State Wildlife Management Area	CDOW	50,000	
Green River Tree Jams	BLM/WGFD	39,600	
Kanab Ambersnail Recovery	AGFD	144,300	
Southwestern Willow Flycatcher Survey	Ecosphere Env. Svcs.	109,250	40,000
1998			
Southwestern Willow Flycatcher Survey	Ecosphere Env. Svcs.	109,250	
Aerial Photo Survey, SW Willow Flycatcher Habitat	Rhea and Assoc.	4,600	
Muddy Creek Habitat Enhancements	Little Snake River RCD	50,000	
'Ahakhav Tribal Preserve Fencing	CRIT	14,850	
Imperial National Wildlife Refuge	USFWS	10,000	
Sage Grouse Study	BLM	17,500	
Horsethief Canyon Riparian Restoration	BLM	4,900	
Upper Fontenelle Wetlands (Glade Jones)	BOR	25,000	
Jarvis Backwater Enhancement	Col. Soil Cons. Bd.	45,850	179,000
TOTAL			1,137,200

AGFD
BOR
BLM
CRIT
CDOW
NAU
NMDGF
USFS
USFWS
WGFD

Arizona Game and Fish Department
Bureau of Reclamation
Bureau of Land Management
Colorado River Indian Tribes
Colorado Division of Wildlife
Northern Arizona University
New Mexico Department of Game and Fish
Forest Service
Fish and Wildlife Service
Wyoming Game and Fish Department

Appendix B Highlights of Projects Completed During 1994 - 1998

Colorado Project Highlights - 1994 -1998



Acquisition of the 345-acre **Bunker Ranch** on the San Miguel River (Montrose County) helped to preserve an important native riparian community in southwest Colorado. The river is relatively unregulated by dams and native riparian forests still abound. The Program was a cost-share partner with The Nature Conservancy in this property acquisition.

In a major cooperative effort with Colorado Division of Wildlife, a variety of projects were completed on the **Little Hills State Wildlife Management Area** (Rio Blanco County). Wetlands were constructed to capture and hold local springflows. The managed impoundments have increased waterfowl habitat and are a popular local fishing resource.



A total of seven miles of lower Stake Springs Creek were fenced to protect wetlands, springs and riparian (streamside) wildlife habitats in the creek bottom. The fence was designed to allow free movement of big game wildlife. A Water gap in the fence allow cattle access to water and the ability to cross to neighboring pastures. These measures have helped to secure the cooperation of local livestock interests. Vegetation and wildlife habitat conditions along Stake Springs Creek showed a positive response in the first growing season. Streamflows have actually increased to the benefit of all water users, including livestock and wildlife.

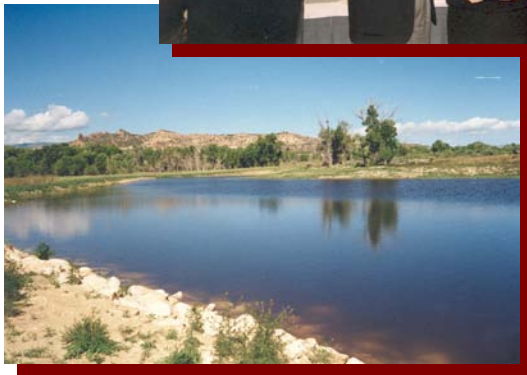


Cathedral Springs and Brush Creek Springs, vital water sources on state-owned big game summer range, were fenced to protect against trampling. Such damage reduces spring discharges, destroys riparian vegetation and pollutes water supplies needed for big game, cattle and other wildlife on these remote, high elevation habitats.

Wyoming Project Highlights – 1994 - 1998



Henry's Fork Wetlands, a series of managed ponds, emergent marsh wetlands, and wet meadows have provided over 300 acres of waterfowl habitat adjacent to Flaming Gorge Reservoir (Sweetwater County). The project improved valuable stop-over habitat for migrating waterfowl in the vicinity of three National Wildlife Refuges. For its support of the project, the Program was awarded the 2000



Taking Wing Award from Ducks Unlimited in the category of Community Partnerships. Sharing the award were the Forest Service, Wyoming Department of Transportation and Bureau of Reclamation.



Ten Big Sandy River Rock Sills (Sweetwater County) have helped to improve aquatic habitats for sport fish. The sills, constructed on public lands, have created pool and riffle habitats for fish, improved grade control in the river and increased riparian community vegetation. The sills were constructed using heavy rocks anchored in the bank and laid across the riverbed in an upstream AV at configuration. This design has introduced habitat diversity to the river and redirected river flows to the center of the channel creating pools and reducing bank scour and siltation. Sport fish harvest and biomass in the vicinity of the sills improved markedly in the first year after sills were installed.

The Killdeer Wetlands, a key component of the Greenbelt Master Plan for the City of Green River, (Sweetwater County) restored 45 acres of old river channels and oxbows into functioning perennial wetlands. This partnership among local government, state and federal agencies, local industry and private citizens was an effort to maintain and enhance the values of the river through the town. The project has created habitats for shorebirds and waterfowl along the Green River. The city plans to develop the area as a outdoor education site for local schools. A future trail will link the wetlands with other city parks, trails, and wildlife habitats throughout the Agreenbelt.



New Mexico Project Highlights - 1994 - 1998



The New Mexico Department of Game and Fish constructed eight water catchment basins on selected spring drainages on the **Rio Chama** State Wildlife Management Area (Rio Arriba County). The reservoirs function as vital water supplies for deer, elk, turkey and numerous other wildlife species. In conjunction with this project the state constructed eleven additional earthen reservoirs and created a 10,000-acre roadless area on surrounding lands to improve this important big game range.

It required three seasons to complete a comprehensive **Southwestern Willow Flycatcher Survey** on the San Juan River (San Juan County) from Navajo Dam to the Utah state line. Increasing development pressures have reduced the habitat integrity of riparian (streamside) and flood plain corridors the bird depends on to survive. The southwestern race of the species is now on the endangered species list. Survey results confirmed that the flycatcher uses the river corridor primarily for spring migration to more northern locales. However, the survey also documented the first confirmed nesting and successful reproduction of the species along the San Juan River.



Arizona Project Highlights – 1994 - 1998



An aggressive native plant restoration program was completed at the 'Ahakhav Tribal Preserve, on the Colorado River Indian Tribal reservation near Parker (La Paz County). Using heavy construction equipment, the tribe removed 75 acres of impenetrable tamarisk forest and replanted native species of cottonwood, mesquite, and willow. A plant nursery was started on the reservation to produce locally adapted plant materials needed for this extensive revegetation project. Rooted cuttings were planted throughout the cleared area and provided with supplemental irrigation (note water lines in upper left photo). Once established, supplemental watering was discontinued. Survival and growth of new trees has been excellent. Monitoring continues to determine the extent to which tamarisk will reinvade the restored areas.

The endangered Kanab ambersnail formerly occurred at only one perennial spring on the Colorado River within Grand Canyon National Park. This population was at risk from the planned high flow releases from Glen Canyon Dam. Working with an interagency team lead by the Arizona Game and Fish Department, the Program supported the establishment of new wild populations of the species on the river at sites protected from high flows. After extensive study, three new habitats were selected as suitable translocation sites. One of the translocated populations is thriving at its new location and is safe from high flows.

In a separate action, attempts were made to establish a refuge population of the snail at the Phoenix Zoo (photo on upper right). Unfortunately, despite concerted effort, the zoo population has not persisted. We simply do not yet know enough about this obscure snail and its habitat requirements to rear the species in captivity.



Photograph by:
Jeff Sorensen



Photograph by:
R. Averill - Murray



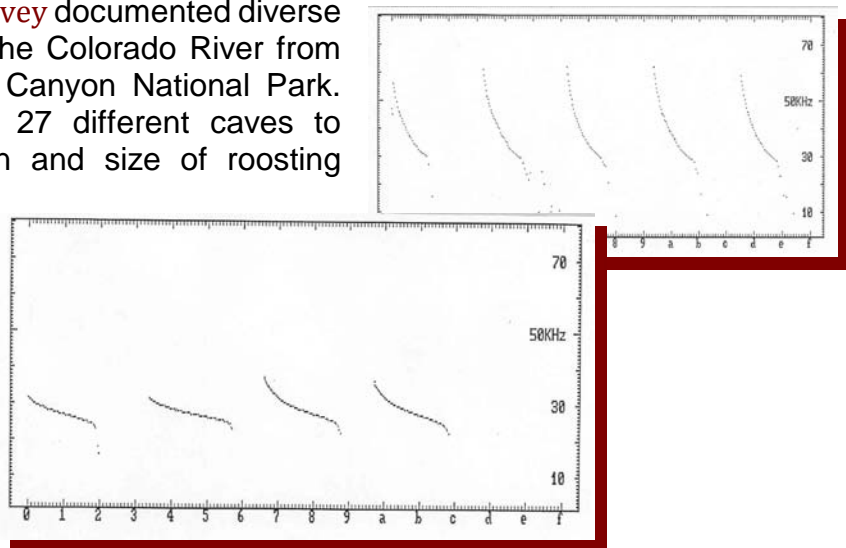
In joint partnership with the U.S. Fish and Wildlife Service and the Colorado River Indian Tribes, the **Achii Hanyo** Ponds were created to rear endangered razorback sucker and bonytail (fish). Six ponds totaling 14 surface acres were constructed on tribal reservation land with funding and services contributed by the Bureau of Reclamation. The Tribes made the land and water available at nominal costs. This high priority Recovery Plan project has the potential to rear 50,000 fish of each species for stocking in the lower Colorado

River. Program funds supported construction and initial operations of the ponds. The warm Arizona climate makes it possible to raise more fish in less time than at other locations.

A Bat Population and Cave Survey documented diverse bat fauna on 275 miles of the Colorado River from Lee's Ferry through Grand Canyon National Park. The project also surveyed 27 different caves to determine bat use, location and size of roosting colonies.

Threats to important roost sites were also assessed. Nine bat species not previously known from this range were identified. The report concluded that it is unlikely that serious adverse effects to bat communities have resulted from the construction and operation

of Glen Canyon Dam. Recommendations for protection and management of selected bat caves were developed for consideration by the National Park Service. The "ANABAT" ultra-electronic detector was used to identify bat species at night from their unique flight calls. At upper right is the call of the Mexican free-tailed bat; at lower left the pallid bat.



Appendix C
Synopsis of Completed Projects
1994 - 1998

1994 Projects Completed

Colorado Cutthroat Trout Habitat Enhancement

WYGFD 4-WS-94-326 \$11,300

Currant Creek, a tributary to Flaming Gorge Reservoir, is a high priority for trout habitat enhancement work in the upper Colorado River drainage. Wyoming Game and Fish Department installed instream fish habitat structures to improve trout habitat conditions, provide channel stability, reduce erosion, trap sediment and widen the functional riparian zone.

Freshly cut trees were fixed in the stream and banks in an "X" configuration at 40 separate locations along Currant Creek. Such structures introduce woody debris to the stream, provide low velocity shelter, and trap sediment to build riparian vegetation and improve bank stability. In addition, revetments were constructed at three locations to retard actively eroding banks. About 555 aspen saplings (3-6 feet tall) were planted along the stream banks adjacent to and downstream of the instream structures to reestablish aspen in the riparian zones.

Colorado Cutthroat Trout Habitat Enhancement

CDOW 4-WS-94-328 \$7400

The Colorado Division of Wildlife initiated and maintains ongoing efforts to sustain existing pure strain Colorado River cutthroat trout (CRCT) populations and improve habitat conditions for this native trout species. Under this project, the DOW reinstalled a fish barrier in Roan Creek that had previously been dislodged by high flows. An effective barrier prevents non-native trout from moving upstream into the upper elevations of streams still inhabited by CRCT where they can introgress (interbreed) and destroy the pure strains of genetic stock. DOW personnel then intensively electrofished the upstream reaches of the creek, finding only two non-CRCT trout, which were relocate below the barrier. Remaining fish were considered CRCT, following genetic analysis of sample fish removed from the stream. DOW will monitor Roan Creek, by means of additional genetic analysis of fish, for several years to determine if introgression is occurring.

Fontenelle Wetlands

WGFDBOR 4-FC-CU-WG010 \$18,150

Wyoming Game and Fish Department and the Bureau of Reclamation worked together to plan a wetland consisting of four large ponds equipped with water

diversions, adjustable outlet works and waterfowl nesting islands within the boundaries of Fontenelle Reservoir near LaBarge, WY. The project objectives were to provide waterfowl nesting and production opportunities in the spring and early summer. A feasibility study and design was completed by Wyoming GFD; the Bureau of Reclamation completed an engineering review, reservoir operations compatibility study and a draft environmental impact evaluation. Unfortunately, the adjacent landowner, on whose lands the diversion dams and water supply canals would be situated, refused to grant an easement to the government to facilitate the water supplies for the ponds.

Urraca WMA Pre-treatment Survey

NMDGF 5-FC-CU-NM010 \$24,500

Bird, small mammal and reptile surveys conducted on this State Wildlife Management Area provided data for the development of an Environmental Assessment for a project to halt the spread of sagebrush and reestablish grassland habitat. Surveys were completed in May 1996. Data will help determine the most environmentally benign method to accomplish the goals for rehabilitation of the vegetation on the area. The final report "Baseline Wildlife Populations in Sagebrush Habitat in the Urraca Wildlife Management Area, Taos county, New Mexico" by Eagle Environmental, Inc., dated May 31, 1996, summarized the wildlife survey results and made recommendations for sagebrush removal to minimize wildlife population impacts.

Rio Chama / W.A. Humphries WMA Water Improvements

NMDGF 4-WS-94-332 \$19,500

Big game watering sources are needed on these State Wildlife Management areas which serve big game populations (deer and elk) as valuable winter range. With a combination of state and CUPCA funds, New Mexico Dept. of Fish and Game has constructed 14 water catchment basins, including the rehabilitation of 4 existing ponds, on the two WMA's. The ponds are very large, about 0.25 acres each, and constructed on natural drainage channels on the property. The basins will hold rainfall or, in some cases, spring discharges making year-round water available to big game. The basins are scattered throughout the areas to increase availability and disperse big game use on the areas. Providing good quality, well distributed water will markedly enhance the value of these range lands to big game populations.

Edward Sargent WMA Fence Removal

NMDGF 4-FC-CU-NM010 \$30,000

The Edward Sargent State Wildlife Management Area (20,000 acres), once a working cattle/sheep ranch, was purchased by New Mexico for preservation of its valuable deer and elk summer range, and migratory route for deer and elk moving down from higher elevations to lower winter ranges. The area is prime

wildlife habitat, supporting a wide range of wildlife in addition to big game, including bear, turkey, grouse, and Rio Grande cutthroat trout. Interior fences remaining from the prior cattle operations are an impediment to big game migrations and a constant hazard of entanglement and injury to individual animals. This project funded the removal of 28 miles of net/wire interior fence and posts and the rehabilitation of dilapidated portions of the perimeter fence.

Herptile Survey

CADOW 5-FC-CU-DW020 \$45,900

The Colorado Division of Wildlife completed a survey and report on herptile (amphibian and reptiles) populations and status at lower elevations (less than 6000 feet msl) in the Northwest (DOW) Region of the state. The boreal toad (Bufo boreas), a Federal candidate species, was a major focus of this survey. All data are entered into the DOW computer database. Information will help wildlife managers answer questions about the status of species, assist with project impact assessments and generally improve management decisions. The final report, "Amphibian and Reptile Survey: North Portion of West Region, 1994-1996" dated July 1997, details the survey results.

1995 Completed Projects

Big Sandy Rock Sills

WGFD/BLM 5-FC-CU-WG050 \$28,000

Nine rock sills were installed in the Big Sandy River near Farson, WY. A tenth structure consisted of riprap along an unstable river bank near one of the sills.

The work is a joint effort by BLM, BuRec, Trout Unlimited, Fish and Wildlife Service, WY Game and Fish to install many similar rock sills in a long reach (40-50 miles) of the Big Sandy River. These sills would be installed on BLM, BuRec and state lands. The CUPCA contribution of \$28,000 funded transportation of rock and contractor expenses for heavy equipment and services to install ten of the rock sills on BLM lands.

Sills are intended to reduce the width of the Big Sandy river channel, create instream habitat diversity, build point bars, stabilize river banks and generally allow for development of riparian vegetation, all features beneficial to fish populations in the river.

Wyoming Game and Fish Department has established fish sampling stations in some areas where sills were installed. Before and after sampling showed a three-fold increase in fish biomass associated with the rock sills.

LaBarge Creek Rehabilitation

WGFD 5-FC-CU-WG020 \$5,800

As part of a larger watershed improvement plan in conjunction with the Bridger-Teton National Forest, WY Game and Fish Dept. has installed aquatic habitat enhancement features on a reach of LaBarge Creek at the Bald Hornet Station. The reach will serve as a test section in which to monitor the effectiveness of habitat improvements over time. Seven locations, over about 0.3 miles of the creek, received bank stabilization by rock and tree revetments, instream rock weirs in both "V" and diagonal configurations, and excavated pools to break up imbeddiness of the substrate. In addition, a wetland was constructed to catch sediment laden runoff from a nearby uplands. Macro-invertebrates were sampled at various locations in LaBarge Creek above and below the Bald Hornet Station. As these and various other sediment reduction practices are attempted in the watershed, invertebrate populations should indicate if sediment is being reduced by the increased proportion of sediment intolerant species. Cutthroat trout spawning success and young-of-year habitat development will also be evaluated.

Muddy Creek Habitat Enhancement

WGFD 5-FC-CU-WG030 \$30,000

Muddy Creek, a deeply incised creek, needs extensive rehabilitation and habitat improvements before it can contribute to Colorado River cutthroat trout restoration as planned in the Little Snake River drainage. Wyoming Game and Fish Dept. installed 11 sheet piling structures using PVC panels. Panels were driven into the sediments to the desired depth, then supported by rock rip-rap. At the deeper incised locations, rock plunges were installed on the downstream face of the sheet piling. The project increased pool habitat and wintering habitat for fish, raised the water table to enhance riparian vegetation growth, stabilized Muddy Creek banks, and reduced stream velocities that are currently too high for trout. Use of PVC sheet piles is a departure from the typical rock and soil materials usually used for these structures. Wyoming GFD concluded that while initial materials costs are higher, labor costs are much lower for installation of these structures as compared to the usual rock weir structures.

Killdeer Wetlands

BLM 5-FC-CU-WG040 \$51,200

With partnership assistance from the City of Green River, WY and a private non-profit local task force, BLM constructed a wetland complex featuring a main pond of 44 acres (maximum depth 5.7 feet) containing seven constructed waterfowl nesting islands. A headgate and water supply ditch provide a direct diversion from the Green River. A water control structure is installed in the main dam to regulate the water level in the pond and to return flows to the Green River. A gravel-lined, meander outflow channel below the dam was funded by Trout

Unlimited to facilitate a "hatchery box" for cutthroat trout production. Trout eggs placed in the box will hatch and passively enter the outflow channel. Habitat in the channel will hopefully sustain the young larvae until they are ready to enter the Green River. All work was completed by June, 1997 and the pond was in full operation. The wetlands are an integral part of the City's Greenest concept that includes trails, and public open space linking to the existing Scott's Bottom Nature Area and historic Expedition Island.

Col. River Cutthroat Trout Recovery

CDOW 5-FC-CU-DW010 \$95,450

Three separate tasks were accomplished under this agreement to assist with the recovery of native Colorado River Cutthroat Trout (CRCT):

1. A Joint Conservation Strategy among Colorado, Utah, Wyoming and the U.S. Fish and Wildlife Service was completed that assigns recovery responsibilities for each state. These tasks include inventory, non-native fish eradication and hatchery rearing and stocking of pure strain CRCT. This joint agreement implements an MOU signed by Colorado Governor Roemer and Interior Secty. Babbitt pledging to take actions to prevent the need for listing the CRCT under the Endangered Species Act. With CUPCA funding, DOW was able to assign staff to complete this complex interagency and interstate agreement to assist the restoration of this native trout throughout its range in the west.

2. Planning, barrier installation, non-native fish eradication and restocking of pure strain CRCT was conducted on Cunningham Creek in Colorado. This was a typical stream restoration project to benefit CRCT. Upper basin reaches of suitable streams are first isolated by means of barriers such as rock/log sills to prevent any upstream fish passage. Next, all fish and invertebrates are destroyed above the barrier by introduction of rotenone, a fish poison (detoxification at the barrier minimizes downstream impacts). Pure strain CRCT are reintroduced above the barrier and the stream is monitored for several years to confirm success. Special fishing regulations are often established for restored reaches to prevent against over harvest.

3. Because it is impossible to identify pure strain CRCT in hand, DOW contracted with Colorado State University to conduct genetic (DNA) analysis of trout taken from several steams believed to contain pure strain CRCT. It is important to know which streams contain Prue strains so that proper management steps can be taken to protect such streams, and so that these streams can serve as source populations for hatchery production or direct translocation of fish to restored streams.

Little Hills State Wildlife Management Area

CADOW 5-FC-CU-DW030 \$50,000

A variety of big game habitat and wetland improvement projects were conducted on the Colorado Division of Wildlife Management Area. Willow and cottonwood plantings were installed to revegetate riparian areas. Springs providing important water sources for big game on high elevation summer ranges were fenced to protect them from livestock trampling and pollution. This action improved the outflow quantities and qualities from the springs.

Wetlands were rehabilitated by dredging and developed with new water outlet and control structures. Small riparian wetlands were enhanced with hay bale dams to control erosion, spread water and elevate groundwater tables.

Hunter camping areas were installed with primitive toilets and game processing stations to improve public use.

1996 Completed Projects

Bonytail Pen Culture Research

USFWS 6-AA-CU-FW130 \$10,500

The USFWS sponsored this Arizona State University research project at its Parker Research Station, outside Parker, Arizona. Funds were for purchase and construction of floating pens and other miscellaneous equipment to run the study and for graduate student stipends during the course of the study. The FWS contributed its Office Cove, an isolated inlet off Lake Mohave, bonytail chubs (an endangered fish), and other technical assistance at no charge to this agreement.

The study showed that pen rearing of bonytail chubs is viable and provide a relatively inexpensive and care-free method of rearing chubs free of predatory impacts. Moreover, the study revealed that stocking the pens with chubs at intermediate densities (approximately 18 fish/cubic meter of cage space) with a wide range of fish sizes provides optimal growth potential. These results could have important implications if pen rearing becomes a selected method of rearing bonytail chubs in Lake Mohave or elsewhere.

An unpublished manuscript was provided at the conclusion of this study. Title: Sowka, P.A., and P/E. Brunkow and J.P. Collins. 1997. Effects of stocking density and size variability on growth and survival of cage-cultured bonytail chub (*Gila elegans*), Dept. of Zool. ASU, Tempe AZ. unpubl. ms. 16pp. + tbls.

Ahakhav Tribal Preserve

CRIT 6-FC-CU-CT110 \$45,800

The goal of this project is to restore native riparian vegetation within a designated Tribal Preserve (ie., park) on the reservation along the lower Colorado River near Parker, AZ. The tribe constructed and operated its own nursery to grow root stock in preparation for this revegetation project. A total of 75 acres of park land along the river was cleared of dense tamarisk and other non-native plants. Native willows, mesquite and cottonwood trees from the nursery were planted and maintained by means of a drip irrigation system to increase survival of planted materials. After the first year, planted stock will establish root systems down to the natural water table and be able to grow without further irrigation. Vegetative growth and survival has been impressive.

Eventually, the Tribe wishes to restore the entire Preserve (several hundred acres) to natural riparian and wetland conditions for the education and enjoyment of tribal members. Native riparian vegetation has been severely impacted by reduced surface and groundwater flows resulting from upstream impoundments. Fish and wildlife diversity has been consequently impacted by loss of riparian habitats.

Grand Junction Wetlands

Western Colorado Botanical Society 6-FC-CU-BS110 \$6,500

The Western Colorado Botanical Society completed a feasibility analysis on the development of a wetland/natural area adjacent to Watson Island and the Colorado River in the City of Grand Junction. The final report ""Colorado River Outdoor Laboratory, Feasibility Analysis and Conceptual Design Report" dated June 1998, establishes the feasibility of creating about 1.53 acres of wetland on the property composed of ponded areas supported by groundwater and by direct diversions of water from the Colorado River. Pond edges would be seeded and planted with a mixture of wetland plant species. In addition, the plan calls for enhancing existing wetlands by removal of fill material and debris and replacing the invading exotic plants with native trees, shrubs and herbaceous plants.

Riparian enhancement on 3.57 acres of the property is proposed by means of exotic plant control, regrading of the terrain to a more favorable contour and replanting of native riparian species, notably cottonwood.

Bat Population and Cave Survey

NAU 6-FC-CU-UA110 \$27,000

Northern Arizona University completed a survey of bat populations and bat cave resources along the Colorado River from Glen Canyon Dam through Grand Canyon National Park. Construction of Glen Canyon Dam inundated miles of canyon and likely destroyed bat roosting and nesting caves. Surveys resulted in

the conclusion that bat populations are in satisfactory condition exhibiting wide species diversity and abundant numbers. One bat species was identified that represents a significant northern extension of the species range. Bat caves are generally not disturbed by the visiting public. Protective actions have been taken by the National Park Service at one sensitive cave. No other management recommendations were identified as necessary to further protect bat populations or important cave resources. No further mitigation actions appear necessary to offset Glen Canyon project impacts to bat populations.

Lake Havasu Native Fish Management Plan

BLM 6-AA-CU-BL120 \$46,608

The Bureau of Land Management works cooperatively with other Federal and state agencies on the lower Colorado River to raise and stock endangered big river fish species as an element of the approved Recovery Plans for these species. Generally, they assist the U.S. Fish and Wildlife Service to manage the ponds adjacent to and near Lk. Havasu which grow razorback suckers and bonytail. Under this agreement, BLM purchased several items of equipment vital to the continued operation and management of the fish ponds including capture nets, PIT tags and an electronic tag reader, automatic fish food feeders, a water quality data logger, water aerators and pumps and miscellaneous other items. In addition, a portion of funds was used to support a worker to assist with operations at the ponds, including the FWS grow-out ponds in Parker, AZ. The equipment has allowed for more efficient operations and more successful production of native fish species. Native fishes are able to grow safely in the ponds, without predation by introduced non-native fish, to a size (about 10") that is sufficient for release to Lake Havasu and the lower Colorado River. The total program is a major contribution to the recovery of endangered Colorado River fish.

Achii Hanyo (CRIT) Endangered Fish Ponds

USFWS 6-AA-CU-FW120 \$96,500

Renovated seven ponds (13 acres) of an abandoned commercial fish hatchery for production of endangered bonytail and razorback sucker fish for the Lower Colorado River Endangered Fish Program. Funds provided over three years allowed for excavation of ponds, installation of water supply and control systems, development of parking, administration and storage buildings, and security fencing. Water and fish were introduced in 1998 and by 1999 reared and stocked 1,136 bonytail and 1,097 razorback suckers into lower Colorado River waters in accordance with the approved Recovery Plans.

Henry's Fork Wetlands

USFS 6-AA-CU-FS110 \$79,000

Constructed 300+ acres of waterfowl habitat along Henry's Fork Creek adjacent to Flaming Gorge Reservoir. Several small impoundments hold water diverted from Henry's Fork during waterfowl nesting season and release to enhanced wetlands around the reservoir. The project was awarded the 2000 Taking Wing Award for partnership projects benefitting waterfowl by Ducks Unlimited and the Forest Service.

Little Hills State Wildlife Management Area

CROW 6-FC-CU-DW120 \$68,000

In continuation of work commenced under 5-FCCU-DW030, riparian corridors along 2 miles of Yellow Creek and 7 miles of Stake Springs (State property) were fenced to prevent livestock trespass and to improve riparian revegetation. Fencing was installed according to Colorado DOW specifications for wildlife, leaving periodic water gaps for cattle access to the streams. Markedly increased riparian vegetation along with an increase in stream flow and improvement in water quality resulted. This has improved big game habitats on state property and will work to diminish big game depredations on neighboring private agricultural lands.

Water control structures in wetlands constructed under the previous agreement were replaced with larger capacity and more efficient units.

Tamarisk control was initiated in an effort to gain an early advantage over this newly invasive species. Heavy equipment removed plants, including root masses.

1997 Completed Projects

Bunker Ranch

The Nature Conservancy 7-FC-CU-NC110 \$100,000

The program provided approximately 20% of the costs of the purchase of the 351-acre Bunker Ranch along the San Miguel River near Nucla, Colorado. The ranch is almost totally composed of a cottonwood-dominated riparian plant community. A very small portion of the property has been disturbed for grazing and for housing and outbuilding structures. TNC is exploring restoration concepts for these areas. The property abuts an existing TNC preserve and the acquisition results in preserving and protecting a total of 610 acres and 6.5 miles of nearly pristine riparian forest, an ecosystem severely impacted by water resource development.

Red Creek Habitat Improvement

WGFD 7-FC-CU-WG010 \$14,700

This project was much like the restoration efforts along Currant Creek in 1994 (4-WS-94-326). Seventy instream habitat structures were constructed in Lower Little Red Creek, and three structures on Lizzie Spring Creek. The design of the structures consisted of 15-20-foot fir and juniper trees cut and cabled together. The project is part of a larger Little Mountain Watershed Enhancement project that addresses other land management prescriptions. The project will improve channel stability, increase instream pool and resting cover for adult and juvenile Colorado River cutthroat trout, and will improve riparian vegetation structure.

Billy Creek State Wildlife Management Area

CDOW 7-FC-CU-DW010 \$50,000

Colorado Division of Wildlife has created wetlands and improved riparian vegetation along Billy Creek on its State Wildlife Management Area near Montrose, Colorado. They constructed contour berms at the bottom of agricultural fields to impound direct diversions from Billy Creek and irrigation return flows. These berms were planted with willow cuttings to begin creation of a willow wetland. They excavated wetland sites in upland areas along Billy Creek including large ponds and small pothole wetlands. Billy Creek itself has been enhanced by installation of several small impoundment structures to create step-pools to raise the water level and increase riparian vegetation. Several small direct diversions of water from the creek serve to spread water over the adjacent riparian area to support and increase cottonwood and other riparian vegetation.

Green River Tree Jams

BLM/WGFD 7-FC-CU-BL010 \$39,600

The goal of the project is to increase fish populations in the Green River by introduction of instream woody cover habitats. Lack of instream cover has been identified as a limiting factor for fish production in this reach of the river. Five tree jams and one rock barb were installed in the river near the Warren Bridge Public Fishing Area (Highway 191). Mature trees were anchored into the bank and extended out into the stream at locations where they will not disrupt the geomorphology of the river. These structures often trap sediment and build riparian vegetation contributing to the stability of the streambank. In follow-up evaluations of effectiveness, WYGF D personnel will electrofish around these structures to estimate increases in fish biomass.

Kanab Ambersnail Recovery

AGFD 7-FCCU-AZ010 \$144,300

This project established one additional wild population of the endangered Kanab ambersnail *Oxyloma haydeni kanabensis* (KAS) at Upper Elves Chasm in Grand Canyon National Park in accordance with the species Recovery Plan and a biological opinion on Bureau of Reclamation beach building flow releases from Glen Canyon dam. Two years of monitoring have revealed a population slowly increasing in abundance with densities approaching those observed in the only known natural population in the Park at Vesey's Paradise. Successful reproduction and recruitment of young has been confirmed.

Two additional new populations were attempted, but are suspected failures after two years of monitoring. Drought conditions at Keyhole Springs are believed responsible for failure to thrive of the introduced population. No clear cause of failure is apparent at the third site (Lower Deer Creek). Both sites are also in Grand Canyon National Park.

A second task of this project was to establish a refuge population of the KAS at the Phoenix Zoo. An important component for the recovery of many endangered species is the establishment of a protected, captive population should catastrophic events extirpate wild populations. These populations also provide opportunities for research, and public education while contributing to species conservation.

The Phoenix Zoo constructed and maintained two artificial habitats that effectively mimic the natural environment for the KAS. Host plants transplanted from the wild were successfully established in the habitats. Enclosures were completely self-sufficient requiring only minimal maintenance such as changing or adding water to the pump system. In 1999, 50 KAS were introduced into the enclosures; in 2000, 50 more snails were added.

Southwestern Willow Flycatcher Survey

Private 7-FC-CU-EC-010 \$109,250

Field surveys conducted over three seasons (1997, 1998, 1999) along the San Juan River from Navajo Dam to the Colorado-Utah border confirmed the first nesting and reproduction of endangered willow flycatchers. Surveys were conducted under Federal permits issued by USFWS and using prescribed USFWS protocols. The purpose of the studies was to confirm the presence/absence of migrating and nesting birds, characterize suitable or preferred habitats along the river and suggest, if possible, mitigation measures associated with the construction and operation of Navajo Dam. Information may also be useful in assisting the Bureau of Reclamation in studies of re-operation of the dam flows to benefit endangered fish species. Data will serve as baseline

information in any future ESA consultations.

1998 Projects Completed

Aerial Photo Survey, SW Willow Flycatcher Habitat

Private 8-FC-CU-PR010 \$4,600

A survey of habitats potentially suitable to support the endangered southwest willow flycatcher was completed using aerial photos along the San Juan River in New Mexico from Navajo Dam to the Utah border.

Muddy Creek Habitat Enhancements

Private 8-FC-CU-PR030 \$50,000

Approximately 126 acres of wetlands in 4 ponds were constructed along Muddy Creek, near Dad, Wyoming. A grade control dike was also constructed across Muddy Creek to stop down-cutting and erosion of Muddy the Creek channel. Further downstream on Muddy Creek, a diversion structure delivers water to Redwash Wetlands, a large expanse of newly created wetlands. Deep water and shallow emergent wetlands, riparian habitats and public hunting opportunities are all created by the project. Waterfowl production should increase substantially in the area with the availability of open water on a year round basis. Shorebird species also utilize the shallow wetland areas created by the project.

Agricultural interests benefit from a more secure water source in Muddy Creek that otherwise was eroding irrigation works and reducing the stream channel to such an extent that irrigation would eventually cease. Grazing interests cooperate by limiting cattle access to November-March when it will not interfere with waterfowl production or harm the dikes.

'Ahakhav Tribal Preserve II

CRIT 8-FC-CU-CT010 \$14,850

In an effort to protect the riparian restoration completed under agreement 6-FC-CU-CT110, the Colorado River Indian Tribes were in need of protective fencing in the Preserve. Beaver were coming from the river to cut and remove the growing cottonwood and willow trees. Auto traffic in the Preserve was likewise uncontrolled and had caused some damage to newly planted areas. With this agreement the Tribe installed approximately 7,000 feet of portable wire mesh fencing separating the restoration area from the Colorado River. About 525 feet of post and cable fencing were also installed along entrance roads into the Preserve to prevent off-road vehicles from entering the revegetation areas. This fencing has proven effective in protecting the investment in revegetation.

Imperial National Wildlife Refuge

USFWS 8-AACU-FW120 \$10,000

Cost share funds allowed the U.S. Fish and Wildlife Service to clear and level 10 acres of land dominated by invading reed grass (*Phragmites*) and salt cedar (*Tamarix*) vegetation as the first step in restoration of native riparian habitats on refuge lands along the lower Colorado River. The Service provided other funding to complete the restoration by replanting native cottonwood and willow to benefit riparian wildlife species that utilize the refuge.

Sage Grouse Study

BLM 8-AA-CU-BL020 \$17,500

BLM-Gunnison completed field studies of habitat characteristics, preferences and recommended land treatments to benefit sage grouse in accordance with the approved Gunnison Sage Grouse Conservation Plan, a multi-agency cooperative effort to improve the status of the species. The goal of the plan is to assist in providing stable and healthy populations of sage grouse in Colorado. Habitat characterizations, experiments with fenced exclosures, and delineation of critical winter habitat use areas were all subjects of the studies completed.

Horsethief Canyon Riparian Restoration

BLM 8-AA-CU-BL020 \$4,900

In a pilot effort to restore riparian forest conditions along the Colorado River near Fruita, Colorado, the Grand Junction Resource Area of the BLM eradicated a dense stand of tamarisk of about one acre and replanted native cottonwood and willow trees. An irrigation system was installed to support the growth of the planted vegetation. A high mortality of planted material occurred over a period of two years. Causes were likely due to poor plant stock, possible improper treatment of rooted stock, lack of water during a very hot summer of 2000 and lack of agency expertise or monitoring of the project.

Upper Fontenelle Wetlands

BOR 8-AA-CU-BR010 \$25,000

This study considered the feasibility of creating up to 300 acres of waterfowl nesting habitats and other riparian migratory bird habitats on BOR withdrawn lands adjacent to the Green River south of LaBarge, WY. The project would involve rehabilitating an irrigation diversion from the Green River to deliver water to flooded bottomlands along the river. After a period of study the BOR determined that it did not wish to pursue the project.

Jarvis Backwater Enhancement

Private 8-FC-CU-PR020 \$45,850

Program funds supported revegetation of an 8-acre backwater of the Colorado River in the city of Grand Junction, CO. The Colorado River Endangered Fish Recovery Program funded dike modifications to restore flooded bottomland habitat for fish spawning. These program funds covered active revegetation of native species of cottonwood, willow, native grasses and native shrubs in and around the backwater basin. A temporary irrigation system was installed and operated to improve germination and revegetation success in the first two years. The Mesa Soil Conservation District installed the project and monitored operations of this project which contributed to the goals of the Upper Colorado River Endangered Fishes Recovery Implementation Program. The backwater area creates a natural offstream pool to encourage staging (resting/protective habitat) for young of the year endangered Colorado River fish (razorback sucker, Colorado pikeminnow).

Acronyms

AGFD	Arizona Game and Fish Department
BOR	Bureau of Reclamation
BLM	Bureau of Land Management
CRIT	Colorado River Indian Tribes
CDOW	Colorado Division of Wildlife
NAU	Northern Arizona University
NMDGF	New Mexico Department of Game and Fish
USFS	Forest Service
USFWS	Fish and Wildlife Service
WGFD	Wyoming Game and Fish Department

Appendix D
Solicitation Letter



IN REPLY REFER TO

CA-1300
ADM-13.00

United States Department of the Interior

OFFICE OF THE SECRETARY

Program Director
CUP Completion Act Office
302 East 1860 South
Provo, Utah 84606-7317

FEB 5 1995

Assistant Regional Director
for Ecological Services
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver CO 80225

Subject: Section 314(c) Program, Central Utah Project Completion Act

Dear Sir:

The Central Utah Project Completion Act (CUPCA), enacted in 1992, authorized a new program ("Section 314(c) Program") to fund fish and wildlife mitigation, conservation, and recreation projects in states outside of Utah adversely affected by Federal water projects constructed under the Colorado River Storage Project (CRSP) Act. Three percent of (certain) CUPCA appropriations are administered by this office to implement the Section 314(c) program. This fiscal year (1995), that amounts to \$334,000 for remedial mitigation of fish, wildlife, and recreation resources damaged by CRSP activities. In future years we expect that amount to increase.

We are encouraging other Federal agencies, the States, private groups, and even individuals, to apply for grants under this program to implement needed mitigation, enhancement, or conservation measures. We have prepared the attached criteria, based on Section 314(c) of CUPCA, as a means of assisting prospective applicants to develop projects. We will also use the criteria to rank proposals for funding. Proposals meeting many of the criteria will receive priority consideration over those that meet fewer of the criteria.

We especially want to emphasize the potential for this program to assist recovery of endangered and threatened species adversely affected by CRSP, particularly Colorado River fishes. This program could support recovery actions for listed species, or activities specified in Conservation Agreements for candidate species, that might otherwise be delayed due to lack of funding. The CUPCA gives special emphasis to reconstituting natural

biological diversity and assisting the recovery of species, populations, and ecosystems that are threatened or in danger of extinction.

To apply, prospective grantees need to submit to this office a brief but complete scope of work describing the problem and objectives, the proposed mitigation/enhancement activities, and estimated costs, including salaries, equipment, supplies, travel, overhead, etc. We will select proposals for funding based on the attached criteria and our judgment as to the merits of the proposal in meeting the objectives of Section 314(c) of the CUPCA. Funding would be provided via a Cooperative Agreement with this office.

Please circulate this letter to programs and individuals within your Region that could benefit from the opportunities offered by this fish and wildlife conservation program.

If you have any questions regarding this program, please call Mr. Ralph G. Swanson at (801) 379-1254.

Sincerely,

RONALD JOHNSTON

Ronald Johnston
Program Director

Enclosures

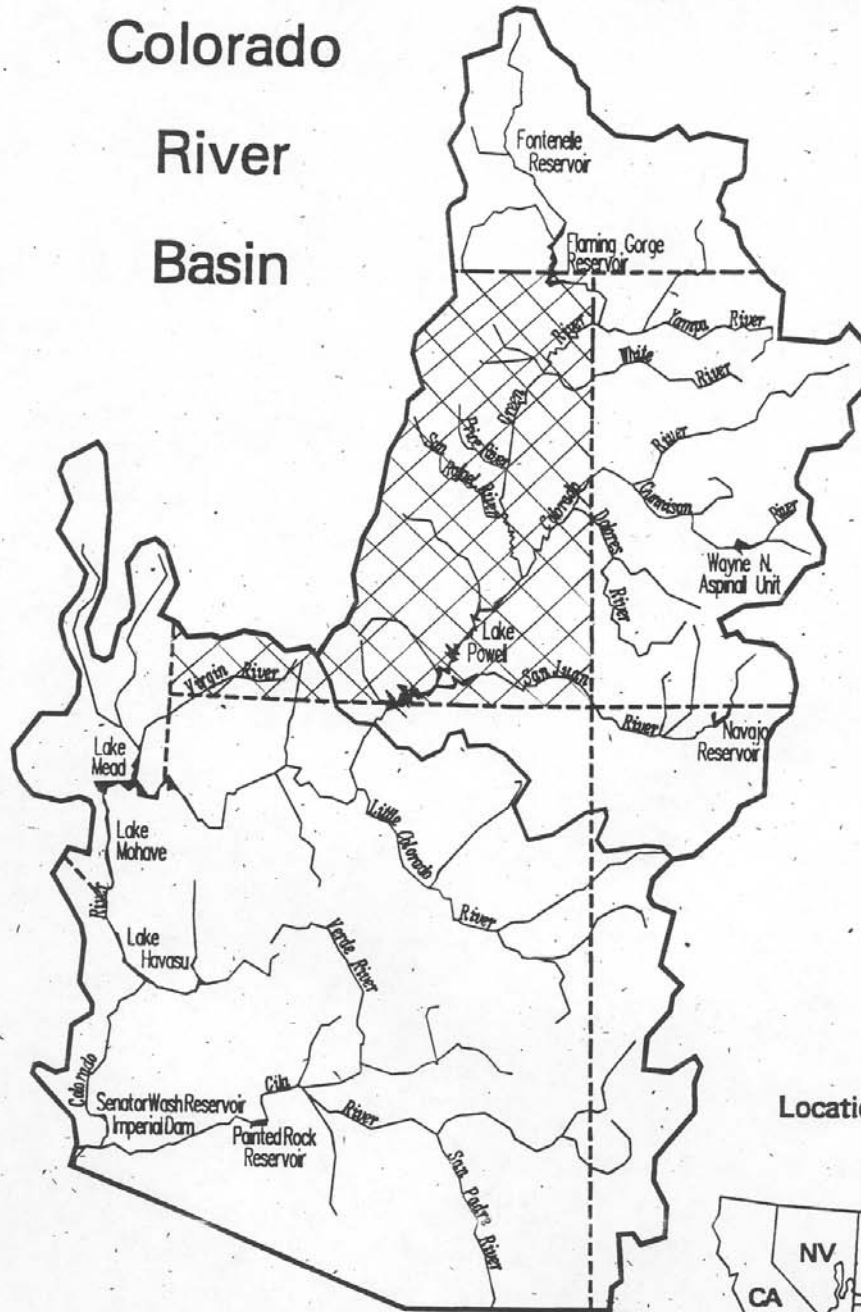
bc: Field Supervisor, Fish and Wildlife Service,
2060 Administration Building, 1745 West 1700 South
Salt Lake City UT, 84104

bcc: CA-1300 and CA-1000 (w/o encl)

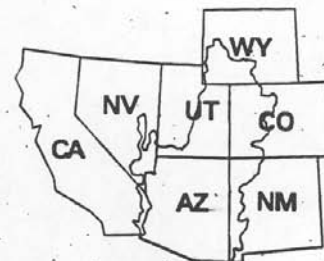
Colorado River Basin



- Utah; excluded from
Sec. 314 program



Location Map



Section 314(c) Project Proposal Ranking Criteria

I. Eligibility Criteria: (proposal must meet all these)

1. Project is outside of Utah;
2. Project is in the CRSP project area; OR
Project is outside the CRSP area but affected by development of, or water from, a CRSP project. (Example: Big Thompson transbasin diversion to the Rio Grande drainage.)
3. Project mitigates adverse impacts on fish, wildlife, plants, or recreation opportunities resulting from CRSP project and provides direct resource benefits.

II. Program Objectives: (From Sec. 314(d) "uses" of funds)

1. Restores damaged natural ecosystems on public lands and waters affected by Federal Reclamation projects.
2. Acquires lands, waters or interests therein (willing sellers only) with restorable damaged ecosystems and restores such ecosystems.
3. Provides jobs and sustainable economic development consistent with other Act purposes.
4. Provides expanded recreational opportunities.
5. Supports and encourages research, training and education in ecosystem restoration.

III. Priority Consideration: From 314(e); "priority" to be given to projects with these attributes.

1. Reconstitutes natural biological diversity that has been diminished by CRSP projects.
2. Assists recovery of species, ecosystems unable to survive without intervention, ie. recovery of endangered species, candidate species or other species of special concern, actions from a Recovery Plan, or formally established conservation plan, etc.
3. Assists reintroduction of native flora/fauna.
4. Controls non-native flora/fauna that is damaging natural ecosystems.
5. Restores natural habitat for recruitment, survival of fish, waterfowl or other wildlife.

6. Additional conservational values to State and local government lands.

7. Add to values to existing ecological preserves or enhances manageability of such reserves.

8. Restores hydrological controls including sediment, erosion control, drainage or other water quality improvement.

IV. Bonus Consideration:

1. Cost sharing:

- Lowest - no cost sharing
- staff time contributed only
- hard dollars contributed only
- Highest - hard dollars plus staff time contributed