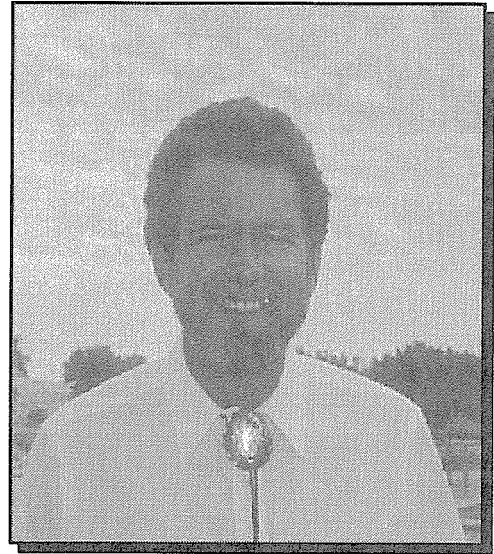


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OVERVIEW OF ENDANGERED SPECIES RECOVERY EFFORTS IN THE UPPER COLORADO RIVER BASIN

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My purpose here today is to provide an overview of the Endangered Fish Recovery Program in the Upper Colorado River system and to discuss some of the issues associated with the implementation of that program.

Before I start, however, I would like to address one of the questions I am asked most often: "Why should we care about recovery of these endangered fish?" The easy answer, of course, is that it is the law. The Endangered Species Act became law in 1973. It has been reauthorized several different times since it became law and it is now up for reauthorization. I think the deeper answer though goes into the rationale and purposes behind the Endangered Species Act. Those purposes basically are to prevent the extinction of native plants and animals and preserve the ecosystems upon which the threatened and endangered species depend. The rationale behind that law is quite

varied. I think one of the more compelling reasons that I find is that native plants and animals are, in fact, very good barometers of the overall health of the environment—health not just for the endangered fish, but ultimately for people.

I think such is the case in the Colorado River Basin. In the Upper Colorado River Basin we have 14 native fish species. Five of those are listed as endangered under the Endangered Species Act, and three are listed as species of concern by the Fish and Wildlife Service. Thus, over two-thirds of the native fish community is in some degree of jeopardy in the Upper Colorado River Basin.

It is reasonable to assume, that if these fish were extinct, many of the values we depend on in this river basin will be compromised. What kind of values am I talking about? I am talking about this river as a source of quality water for growing crops and for

municipal and industrial purposes. I am talking about the water source for recreational purposes, for fishing, for boating and for esthetics. People come from all over the world to visit the magnificent canyons created by rivers in which these fish reside. Finally, about 90 percent of the wildlife in the arid west depends upon the riparian communities associated with these river systems. It is not unreasonable to believe that as native plants and animals go extinct, many of the values that humans derive from the river also will be adversely affected.

The Upper Colorado River Recovery Program grew out of the conflict over how to provide water to support recovery of these endangered fish, while also providing water to meet human needs in the basin. Humans are, after all, part of this ecosystem and they have water demands like the native wildlife that live in this basin. The geographic scope of the program is the Upper Colorado River upstream of Lake Powell. The San Juan River Basin, which technically is part of the Upper Basin, was not included in the Upper Basin Program when it was negotiated in the early 1980s, primarily because at that time there was not a recognized issue related to the endangered fish in the San Juan. Also, the Animas-La Plata Project had a "no jeopardy" biological opinion. The biological opinion recommended that additional studies be done to determine the status of fish populations in the San Juan River. Those studies found a small population of Colorado squawfish in the San Juan and ultimately, led to the creation of a separate Recovery Program for the San Juan River Basin.

The Upper Basin Recovery Program was initiated by a cooperative agreement signed by the governors of Colorado, Utah and Wyoming, the Secretary of the Interior, and the administrator of the Western Area Power Administration. Subsequent to that agreement being signed, several major environmental groups and water user groups provided resolutions supporting the program's goals and objectives. By doing so, they became official members of the program. The program operates by consensus, meaning that we do not do anything unless all parties agree to a course of action.

The Recovery Program consists of five basic elements. First, I will describe briefly what is being done in each element, and then talk about some of the broader policy issues related to water development in the Upper Basin.

The first element deals with instream flows. A fundamental tenet of the Recovery Program is that the flows required to recover the fish will be provided consistent with state law. Another fundamental tenet is that fish do need water in specific quantities, locations, and times of the year. It is the goal of the Recovery Program to provide that water consistent with state water law. There are several actions in which we currently are involved to restore and protect the flows needed for recovery of the fish. We are involved in re-regulating the operations of several Bureau of Reclamation facilities in the Upper Colorado River Basin: Flaming Gorge Dam on the Green River and the Aspinall Units on the Gunnison River. In addition, water has been set aside in the Ruedi Reservoir, which is a component of the Fryingpan-Arkansas Project, and a state-owned reservoir on the Yampa River known as Steamboat Lake. We also are looking at Bureau of Reclamation and private facilities in the upper mainstem of the Colorado River. These reservoirs currently provide a lot of the water supply for the Denver metro area. We are trying to coordinate the operations of those reservoirs to enhance peak spring flows for the endangered fish. Under the program, the states made a commitment to use their instream flow programs to appropriate water for these fish. The State of Colorado last December filed for instream water rights in the Yampa and Colorado rivers. Finally, we are looking at how we can more efficiently use the water in some of the canal systems near Grand Junction, Colorado. Reclamation is looking at how to operate the canal systems more efficiently and how to use the saved water to help enhance flows in the Colorado River.

Our principal goal is to try to mimic the natural or historic hydrograph in these rivers. There is substantial scientific evidence suggesting that the well-being of the endangered fish is directly related to the presence of a relative natural hydrograph. We are trying to mimic the natural hydrographs to the maximum extent possible recognizing that much of the water has already been developed. This also is being done on the San Juan River via Navajo Reservoir.

Flows are not the only component of the program. We are doing many things structurally to improve the fish habitat. Figure 1 is a recent photo of a diversion

dam on the Gunnison River that was built around 1910. Off to the left is a fish-passage structure that recently was built around that diversion dam. It is designed to provide access to about 50 miles of historical habitat on the Gunnison River for the endangered fish. Over 8,000 native fish have used the facility since it went into operation in July and we just recently had one squawfish use it. In addition to this facility, which is the first of its kind, we have plans to build similar fish passageways at a number of other locations in the Gunnison, Colorado and Yampa rivers.

Another important aspect that we believe is needed for recovery of these fish is restoration of floodplain habitats. Figure 2 depicts the Gunnison River back in 1957 prior to construction of the Aspinall Units. This is characteristic of what used to happen in many parts of the basin during spring runoff. The rivers would essentially get out of their banks and flood bottomland areas. The razorback sucker utilized those areas in the early spring to feed. Also, while the razorback spawns in

the river, the larvae that drift down the river end up in these types of flooded bottomland habitats where the nutrient-rich water provide a plentiful supply of food. Today, because of reduced flows and construc-

tion of levees and dikes, many of these areas are no longer accessible to fish.

We also are working with willing landowners to acquire easements to allow levees to be removed. The main focus is on the Middle Green River, the Grand Valley area of the Colorado River, and the Gunnison River.

The third element of the Recovery Program deals with stocking native fish. The first 4-5 years of the program was spent studying the genetic composition of wild populations and raising fish with the same kind of genetic diversity in hatcheries. The genetic surveys are complete and the results are relatively definitive. We have built additional hatchery facilities to allow more capability to produce fish. About two years ago we started stocking razorback suckers into the Colorado and Green rivers systems. Beginning this year, we will stock, on a limited basis, bonytail fish into the mainstem of the Colorado River near Moab, Utah. Stocking is especially important to razorback and bonytail recovery because those

fish are so rare. Hopefully the things we have done to improve habitat and improve instream flows will provide better conditions for the stocked fish to survive.

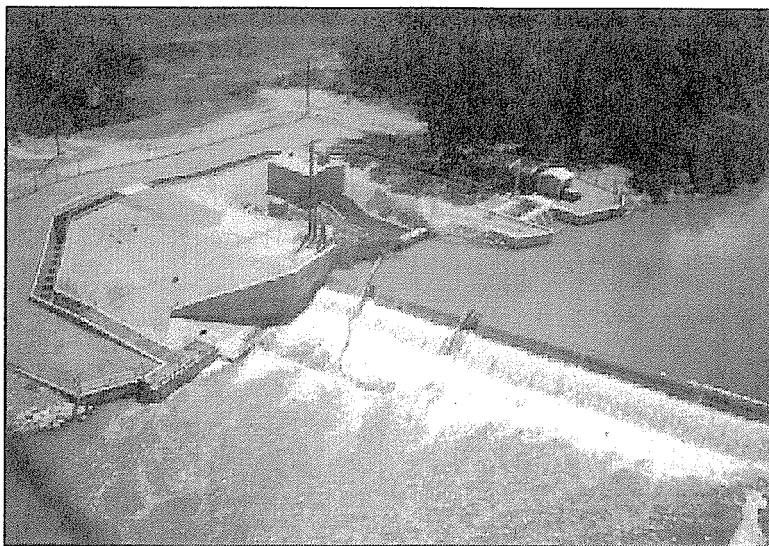


Figure 1. Redlands Ladder aerial view.



Figure 2. Flooded bottomland, Gunnison River, 1957.

Nonnative fishes are a big problem throughout this system. Since the turn of the century, there have been about 45 nonnative fishes introduced into the Upper Colorado River system. Many of these fish are sportfish like the pike, large-mouthed bass and small-mouthed bass. We also have a number of the forage fish like red shiners and fathead minnows that were either intentionally or accidentally introduced into the system. In many locations the total biomass of the river system is probably 90 percent nonnative fishes. There is little doubt that nonnative fishes are creating major problems for the native fish. Our goal is to minimize the impacts these fish are having on the natives. The Recovery Program recently approved a set of nonnative fish stocking procedures, which will provide guidelines related to stocking nonnative fishes in the Upper Colorado River Basin. We also recently completed a strategy for how to control nonnative fishes in mainstem rivers. Some strategies include mechanical removal of the nonnatives and removing harvest limits on nonnative fish. To date, the primary focus has been on northern pike removal in the Gunnison River and small-mouthed bass in the Duchesne River; however, these efforts will be expanded over the next several years.

We continue to have an active research and monitoring component in this program. However, during the last 4-5 years there has been a conscious effort to shift from research into more active on-the-ground recovery activities, such as restoring flooded bottomland and removing nonnatives. However, research activities are continuing to better understand the flow requirements of the fish imprinting and homing mechanisms in Colorado squawfish and razorback suckers. Since 1986, a long-term monitoring program has been in place tracking the status and trends of fish populations. We are expanding this program to include looking at the status and trends of some of the nonnative fish. Finally, this year we will be refining recovery goals for these fish, and address the question, "When will these fish be recovered?" This project will identify some very specific parameters that will define what a healthy self-sustaining population would look like on a river-reach-by-river-reach basis.

As I mentioned earlier, the Recovery Program has two goals: to recover the fish *and* allow water development to proceed in accordance with the

Endangered Species Act. From a water project standpoint, the accomplishments of this program are designed to serve as a reasonable and prudent alternative for water depletion projects subject to Section 7 consultation. Since the program's inception, about 200 water projects with a potential to deplete about 200,000 acre-feet of water have received favorable biological opinions from the Fish and Wildlife Service. I believe the program has provided the kind of regulatory certainty that the water users expected when they entered into this program.

We have a Recovery Action Plan similar to the long-range plan for the San Juan program. The Recovery Action Plan identifies specific actions that will be taken under the program. That Recovery Action Plan also is used by the Fish and Wildlife Service as the standard to determine whether or not this program is achieving "sufficient progress" for water projects undergoing review under Section 7 of the Endangered Species Act.

We have spent somewhere in the neighborhood of \$42 million since the program started in fiscal year 1989. A large part of that has been federal funding through the Bureau of Reclamation either in the form of power revenues derived from the operation of the Colorado River Storage Projects, or more recently, from appropriated funds for capital projects. While the cost of this overall program is shared by all program participants, the largest percentage of cost has been born by the federal government. About one-and-a-half years ago, Reclamation indicated it could not continue to fund this program in the way it had in the past. They indicated that alternative funding mechanisms and cost-sharing arrangements were needed to keep this program viable.

As a result, program participants began discussing how to provide more stable funding sources for both the San Juan and the Upper Colorado River Basin Recovery programs. The State of New Mexico and participants in the San Juan program were invited to participate. Last winter a bill was drafted that authorized both of the programs and would provide an \$82 million cost ceiling for the Upper Basin program through the year 2003. For the San Juan program, the cost ceiling was \$22 million until the year 2007. It specified a cost-sharing arrangement where the federal government would fund 50 percent of the costs incurred, power revenues would be used to fund

another 35 percent of the programs' costs, and the states would fund about 15 percent. However, this legislation was put on hold pending resolution of some issues that the water users had relative to assurances they wanted in return for supporting this legislation. Specifically, they wanted firmer guarantees that water projects would receive favorable biological opinions before they agreed to back the legislation.

I would be remiss in saying that all participants are satisfied with the Recovery Program. Particularly, the water users do not appear very happy with the way the Recovery Program is proceeding. As I understand it, they have two primary concerns. One is how the Fish and Wildlife Service is conducting Section 7 consultations on water projects in the Upper Basin Program. Primarily the water users want greater certainty or guarantees that they will be allowed to develop their compact entitlement in exchange for support of the program. Right now they see that each project is being dealt with on a case-by-case basis. They would rather have a long-term assurance that favorable biological opinions will be forthcoming.

Their other concern relates to priorities in the program. They believe protection and provision in-stream flows are being over-emphasized and they would like to see more emphasis on stocking razor-backs and bonytails. They also believe we must get more aggressive at physical habitat restoration and nonnative fish control.

My general reaction is that I do not believe that additional assurances or guarantees can or should be provided. The Fish and Wildlife Service's motivation for being involved in this program is to see that these fish get recovered. Currently, there is uncertainty that this will be done. A lot of positive things are going on in the program, but there are many uncertainties about what it is going to take to recover these fish, within *existing* levels of development. Large amounts of new development will only add to the uncertainty. In light of those uncertainties, I believe that it would be irresponsible for the Fish and Wildlife Service to give assurance that water development would be allowed to go forward under any circumstances. We can have a more productive discussion of this issue at the time fish populations improve.

In terms of program priorities, for a number of years there has been a process in place for evaluating program priorities on an annual basis. The water users have contributed to and supported current program priorities. As always, water users are invited to submit their priorities for review and determine how their ideas compare with other ideas.

I believe that the Recovery Program has worked for water users and the fish. In terms of water development, over 200 water projects have received favorable biological opinions. None of these projects have been litigated since the inception of this program. That is a track record few groups have enjoyed. In addition, water users have paid less than five percent of the total cost of this program, including the costs for implementing the reasonable and prudent alternatives for water projects undergoing Section 7 consultation.

In terms of the fish, many important recovery actions have been implemented as a result of the Recovery Program. I am convinced that the Fish and Wildlife Service cannot recover these fish solely by using our Section 7 authorities. We need a cooperative effort with broad political support in order to restore this river system.

I think there are clear motivations for both parties to stay involved in the program. Ultimately, it comes down to every party assessing whether there is a better alternative to the program. I personally do not believe that there is. I find it ironic that many people criticize this program but everyone seems to want to become a member. I believe the Recovery Program is the more effective forum for addressing such complicated and controversial issues. Thank you.