

RECOVERY PROGRAM DIRECTOR'S UPDATE

September 2004

Status of the Endangered Fishes

As stated in the recovery goals for the four endangered fishes, the U.S. Fish and Wildlife Service (Service) considers a reliable population estimate as one that is based on a multiple mark-recapture model. Monitoring must be designed to determine if the demographic criteria of the recovery goals are being met. Accordingly, in the Upper Colorado River Basin, closed-population, multiple mark-recapture estimators are being used to derive population point estimates for Colorado pikeminnow and humpback chub. The accuracy and precision of each point estimate will be assessed by the Service in cooperation with the Recovery Program and in consultation with investigators developing the point estimates and with qualified statisticians and population ecologists. In addition to the demographic criteria, the recovery goals identify site-specific management actions/tasks ("recovery factor criteria") to minimize or remove threats. Details of these and other management actions/tasks that contribute to recovery in the upper basin are identified in the Recovery Program's Recovery Implementation Program Recovery Action Plan (RIPRAP).

A population estimates workshop was held in December 2001 to assess sampling protocols and data analyses; targets for probability of capture and coefficient of variation were recommended to help judge confidence in the point estimates. A second workshop was held this past August to further assess, discuss and understand the point estimates and trends. Results indicated the recommended targets for probability of capture and coefficient of variation are not being met for humpback chub point estimates, hence confidence around those estimates is broader. An Ad Hoc group of species experts are reviewing the information along with life history and environmental variables affecting estimates and population dynamics. A summary of this effort is expected this fall.

The most current estimates of the mean number of wild adult Colorado pikeminnow and humpback chub are shown in Table 1. Many of these estimates are preliminary (analyses ongoing), and some are contained in draft reports undergoing peer and Biology Committee review. This table also provides a general overview of efforts to augment or reestablish razorback sucker and bonytail populations in the Upper Colorado River Basin.

Wild populations of Colorado pikeminnow and humpback chub have been studied since the 1960s, and population dynamics and responses to management actions have been evaluated since the early 1980s. It is anticipated that self-sustaining populations of razorback sucker and bonytail will be reestablished over the next 15 years, during which time population dynamics and responses to management actions will be evaluated. Regions 6 and 2 of the Service are collaborating to ensure a coordinated effort to achieve the recovery goals in both the upper (including the San Juan River) and lower basins.

Table 1.—Summary of species status (includes preliminary data and data in draft reports undergoing peer and Biology Committee review; information drawn from presentations at the August 2004 population estimates workshop).

SPECIES	RIVER SYSTEM		
	MIDDLE GREEN	LOWER GREEN	UPPER COLORADO
Colorado pikeminnow	Estimates ranged from about 3,300 adults in 2001 to about 2,300 adults in 2003 (draft report undergoing peer and Biology Committee review).		Estimates ranged from about 500 adults in 1992 to 600–700 in recent years.
	SAN JUAN: Estimate of about 20 wild adults based on data collected in the early to mid-1990's; stocking young-of-year fish is currently underway.		
Humpback chub	<u>Yampa Canyon</u> : Population small; about 400 adults, with wide confidence intervals around the point estimates.	<u>Desolation/Gray Canyon</u> : Estimates of adults varied from about 2,000 in 2001, 2,200 in 2002, and 1,000 in 2003. Sampling in 2001 and 2002 conducted in summer (wide confidence intervals), whereas sampling in 2003 conducted in fall (draft report undergoing peer and Biology Committee review).	<u>Black Rocks Canyon</u> : Estimates of adults varied from about 800 in 1998, 900 in 1999, and 500 in 2000 and 2003 (wide confidence intervals). <u>Westwater Canyon</u> : Estimates of adults ranged from about 4,700 in 1998 (wide confidence interval) to 2,500 in 1999, 2000, and 2003 (confidence intervals narrowed over time). <u>Cataract Canyon</u> : Population small; about 150 adults in 2003, with estimates continuing in 2004.
	LOWER COLORADO, GRAND CANYON: 2,000–4,000 adults (not including the mainstem); methods being reviewed to improve estimate.		

Table 1. Continued.

SPECIES	RIVER SYSTEM		
	MIDDLE GREEN	LOWER GREEN	UPPER COLORADO
Razorback Sucker	<100 wild adults; population being augmented through stocking, which is being expanded with excess fish stocked into selected floodplain depressions; stocked fish are returning to spawning bar; monitoring and evaluation of stocked fish in 2003–2004 being accomplished through sampling conducted for other population estimates and nonnative fish control. An evaluation of stocked fish utilizing information from other Program projects is expected this fall.	Few wild adults; population being augmented through stocking; monitoring and evaluation of stocked fish in 2003–2004 being accomplished through sampling conducted for other population estimates and nonnative fish control. An evaluation of stocked fish utilizing information from other Program projects is expected this fall.	Few wild adults; population being augmented through stocking; larvae collected in Gunnison River in 2002 indicating reproduction by stocked fish; monitoring and evaluation of stocked fish in 2003–2004 being accomplished through sampling conducted for other population estimates and nonnative fish control. An evaluation of stocked fish utilizing information from other Program projects is expected this fall.
	SAN JUAN: No estimate of adults is available; stocking 1-year-old-plus fish (greater than 300 mm total length) is currently underway.		
Bonytail	Populations are currently being reintroduced in Colorado, lower Green, middle Green and Yampa rivers; augmentation is being expanded with excess fish stocked into selected floodplain depressions; survival of stocked fish observed; monitoring and evaluation of stocked fish in 2003–2004 being accomplished through sampling conducted for other population estimates and nonnative fish control. Sixteen bonytail were captured in Cataract Canyon during humpback chub population estimate resulting in a population estimate of about 70 adults. An evaluation of stocked fish utilizing information from other Program projects is expected this fall.		

Status of Recovery Actions by Program Element

I. Instream Flow Identification and Protection

Goal: To protect sufficient instream flows to support self-sustaining populations of the endangered fishes.

Status:

- The final *Management Plan for Endangered Fishes in the Yampa River Basin and Environmental Assessment* were completed and sent out for printing and binding this month. The Service is preparing a Finding of No Significant Impact (FONSI) to accompany these documents when they are distributed to Committee members and interested parties at the end of September. Copies will be distributed at the Yampa River Basin Partnership annual meeting on September 29. These documents also will be available on our website at <http://www.r6.fws.gov/crrip/yampa.htm>.
- The project to expand Elkhead Reservoir should be out to bid this fall and early winter, with construction beginning in early CY 2005 and finishing in CY 2006. The reservoir should fill with water during spring 2007 and be available for instream flow augmentation that summer. The Colorado River Water Conservation District has worked diligently with URS, its engineering consultants, to refine the engineering design and reduce costs — on the order of \$1M. Therefore, despite dramatic increases to fuel costs and steel prices, the project is still under budget. The River District submitted a 404 permit application to the Corps of Engineers in May 2004. Action on the application is still pending. With the imminent completion of a FONSI on the Yampa Plan, we expect that the Corps of Engineers will be in a position to make a permit decision after meeting its own NEPA and ESA obligations.
- A draft programmatic biological opinion (PBO) for the management plan was completed earlier this month and posted to the Recovery Program website at <http://www.r6.fws.gov/crrip/yampaPBO.htm>. Program participants were offered an initial comment period that closed on September 15. However, we received several requests to extend the comment period, and the Service agreed to extend it until September 30. We expect that a final PBO will be completed in late October or early November.
- The Phase II report on development of a model to explore structural and operational measures to increase water temperature in the Gunnison River downstream from Delta was submitted for peer and Biology Committee review in September 2004 following revisions by the Instream Flow Coordinator and Principal Investigator.
- On September 10, 2004, the Bureau of Reclamation published a Notice of Availability for the draft EIS for Flaming Gorge Dam (69 FR 54799). The

public is invited to provide written comments to Reclamation by November 15, 2004. Public hearings also have been scheduled in Utah and Wyoming during October 2004. The draft EIS describes the effects of modifying Flaming Gorge Dam operations to protect and assist in recovery of the populations and designated critical habitat of four endangered fishes, while maintaining all authorized purposes of the Flaming Gorge Unit of the Colorado River Storage Project, particularly those related to the development of water resources in accordance with the Colorado River Compact. The draft EIS describes and analyzes the potential effects of two alternatives. Under the No Action Alternative, the dam would continue to be operated under the conditions imposed by the 1992 Biological Opinion. Under the Action Alternative, the dam would be operated in accordance with the flow and temperature regimes specified in the *Flow and Temperature Recommendations for Endangered Fish in the Green River Downstream of Flaming Gorge Dam* (Muth et al. 2000).

- The Grand Valley Project canal system in western Colorado was retrofitted with canal checks and automation in 2002, and was operated very aggressively this summer to reduce river diversions. The reduction in river diversions helps to build a surplus in Green Mountain Reservoir, which may be available for endangered fish augmentation in the 15-Mile Reach. These improvements are tied to water releases from the Historical Users Pool (HUP) in Green Mountain Reservoir, which the Managing Entities Group oversees. This coordinated process plays a major role in managing water resources to meet human and endangered fish needs. The Contract and Grant of Easement for the construction of the Highline Lake pump station was signed on June 24, 2004, after a long period of negotiations. Construction is expected to be completed by fall-winter of 2004. This will complete the last component of Grand Valley Water Management, allowing optimum use of Grand Valley Project water.
- Recognizing the low carryover storage in the Upper Colorado River Basin reservoirs and generally drier than average conditions in 2004, the Service initially set the target flows for the 15-Mile Reach at 400 cfs. Unlike 2002 and 2003, rains have not materialized so far in September and the 400 cfs target has not been increased even though summer flows have generally remained above this target. If hydrologic conditions improve in the basin in October, some surplus HUP water may become available from Green Mountain Reservoir and the target will be increased.
- A new 5-year lease of water from Steamboat Lake was completed in late summer 2004. So far this summer, 1,367 acre-feet of water has been released from Steamboat Lake to support late-summer target flows in the lower Yampa River.
- From the Recovery Program's inception in 1988 through June 30, 2004, the Service has consulted on 773 projects with a potential to deplete a total of 1,728,897 acre-feet in the Upper Colorado River Basin.

II. Habitat Restoration

Goal: To provide or enhance habitat for the rare fishes through habitat development or management measures such as:

- fish passageways
- screens to prevent fish entrainment into diversion canals
- restoration of floodplain and instream habitats

Status:

- The fish ladder at the Redlands Diversion Dam on the Gunnison River has been operational since June 1996. To date, the ladder has been used by 62,384 native fishes (versus 10,479 nonnative fishes), including 67 Colorado pikeminnow, 9 previously stocked razorback suckers, and one previously stocked bonytail. Six of the Colorado pikeminnow have used the ladder twice; one has used it three times. Native fishes that were marked and released above the dam dispersed upstream, some as far as 57 river miles to the base of the Hartland Diversion Dam. To prevent entrainment of endangered fishes into the Redlands Diversion Canal, a fish screen will be installed by spring of 2005.
- Improvements to the Grand Valley Irrigation Company fish screen were completed by March 2004 in time to allow operation throughout the 2004 irrigation season.
- Construction to restore fish passage at the Price-Stubb Diversion Dam is scheduled for 2005–2006.
- Construction to restore fish passage at the Grand Valley Project Diversion Dam was completed in September 2004. A fish screen is tentatively scheduled for construction by spring of 2005.
- Design and installation of a fish screen for the Tusher Wash Diversion Canal on the Green River is proceeding; construction is tentatively scheduled to begin in FY06.

- In fall 2003, the Recovery Program completed the razorback sucker floodplain habitat model to estimate the quantity of habitat needed for recovery. In April 2004, a Green River subbasin and site-specific floodplain management plan was finalized to provide clear objectives and measures of success. A management plan for the Colorado River subbasin is currently being drafted. Based on the model and these management plans, the Recovery Program has shifted from screening additional floodplain sites for potential restoration/acquisition to focusing on sites already acquired or otherwise available for management.
- Floodplain habitat has been restored at five Bureau of Land Management sites on the Green River, three sites at Ouray National Wildlife Refuge, three sites on the Colorado River near Grand Junction, and two sites on the Gunnison River. The Recovery Program has acquired 1,600 acres of floodplain/wetland habitat along the Green, Colorado, and Gunnison rivers.
- Habitat restoration was completed at the Unaweep Charolais Ranch near Whitewater, Colorado, in October 2003. The site was designed as a razorback sucker nursery habitat for the lower Gunnison River. Because of low flows, site evaluation could not be conducted in FY04. Evaluation is tentatively scheduled to occur in FY05 if funds are available and flows are high enough.
- The Recovery Program obtained an easement on 455 acres of floodplain habitat on Thunder Ranch near Jensen, Utah, in December 2003. Restoration of a 330-acre wetland on this property will provide important nursery habitat in a key location for young razorback sucker and is expected to greatly contribute toward recovery of the species. Installation of manifolds and pipelines to divert selenium-laden waters to the river and breaching of levees was completed in July 2004. Site evaluation is slated for FY05 if funds are available and flows are high enough.
- Habitat restoration was completed at the Audubon property near Grand Junction, Colorado, in August 2004. The site was designed as a razorback sucker nursery habitat for the 18-Mile Reach of the Colorado River. Evaluation is tentatively scheduled to occur in FY05 if funds are available and flows are high enough.
- Information gained from studies on survival of larval razorback sucker and bonytail in the presence of nonnative fishes is being used to determine the amount and type of floodplain habitat needed for recovery. These studies were completed in FY04; reports will become available in FY 05. In addition to survival/recruitment studies, research will focus on entrainment of drifting larvae into floodplain habitats by using semi-buoyant beads and stocked, hatchery-produced larvae.

III. Nonnative Fishes and Sportfishing

Goal: Minimize the impacts of nonnative fishes and incidental take associated with sport fishing on the endangered fishes.

Status:

- Effective management of riverine populations of problematic nonnative fishes is a high priority of the Recovery Program and one of the most challenging recovery elements.
- As a result of the February 2002 workshop on nonnative fish management, nonnative fish control activities were expanded in FY03 and followed a treatment/control approach. An associated I&E effort included press releases, public meetings, and meetings with resource advisory groups.
- Results of the FY03 nonnative fish management projects were reviewed at a December 2003 workshop and appropriate revisions were made to the scopes of work for FY04 (including increased effort, placing emphasis on the Yampa River, shifting from treatment/control approach to depletion analysis, and shifting emphasis from channel catfish to smallmouth bass). Tagging of northern pike upstream of the Hayden Bridge will help determine downstream movements into critical habitat and guide decisions to expand control efforts. Evaluation of response of the native fish community to nonnative fish management activities began in FY04. A workshop is scheduled for December 2004 to review and evaluate results of management activities to date, and to prepare for the upcoming FY05 field season. I&E efforts will continue.
- Data since 2001 strongly indicate that efforts to manage northern pike in the middle Green River in Utah are having a depletive effect (i.e., 248 removed in 2001, 42 in 2002, and 22 in 2003).
- On February 4, 2004, the Recovery Program adopted a nonnative fish management policy that addresses the process of identifying and implementing nonnative fish management actions needed to recover the endangered fishes. The policy ensures that a more consistent message is included in strategic communication efforts intended to gain agency and public understanding and support for these necessary actions.
- Where feasible, fish removed from the Yampa River are relocated to area ponds and reservoirs to provide sportfishing opportunities for the angling public. In 2004, approximately 2,600 smallmouth bass were relocated to Elkhead Reservoir, and approximately 1,600 northern pike went to Yampa State Wildlife Area ponds, Loudy-Simpson pond, or Rio Blanco Reservoir.

IV. Propagation Activities

Goal:

- Produce a sufficient supply of hatchery-reared fish to support research and recovery activities.
- Conserve the genetic diversity present in the wild.

Status:

- Following requirements of the integrated stocking plan, stocking in 2004 is ongoing and expected to be completed in October. Results of stocking during 2004 are not yet available and will be provided in the March 2005 Program Director's Update.
- The Recovery Program has moved to a new passive integrated transponder (PIT) tag with a lower frequency for stocked fish beginning in 2004.

V. Research, Monitoring, and Data Management

Goal: To support recovery activity, monitor endangered fish status and trends, and maintain Recovery Program data archives.

Status:

- The primary focus of this Program element since March 2004 was on population point estimates for Colorado pikeminnow and humpback chub, and evaluating razorback sucker and bonytail stocking success. Details of these efforts are found in the section on **Status of the Endangered Fishes** (pages 1-4, including Table 1).

VI. Public Involvement, Information, and Education

Goal: To promote public understanding, appreciation, and support for efforts to recover the endangered fish.

Status:

- News Media: Spring/summer news media stories primarily focused on nonnative fish management actions, suspension of Coordinated Reservoir operations due to the drought, completion of the new fish ladder at the Grand Valley Project Diversion, a proposed whitewater park tied to the fish passage at Price Stubb Diversion, the Aspinall EIS, and the Bureau's selection of a contractor for the Redlands fish screen. The Recovery Program continues to proactively seek news media coverage highlighting research findings and field activities. News clips are distributed routinely to the I&E Committee, interested Management Committee members, and anyone else upon request.

- The Recovery Program heard little public reaction (good or bad) to this year's nonnative fish management actions. Implementation of a comprehensive communication plan is ongoing.
- The Recovery Program participated in the first annual Utah Wildlife and Rivers Festival in Vernal.
- An abbreviated version of the *Program Highlights* document is being developed for the partners' trip to Washington, D.C., next year. The traditional document will also be prepared, but the shorter version is intended to better meet the partners' needs as they visit with Congressionals and their staff. The educational handouts in 2005 will be magnets and Post-it® notepads.
- Interpretive Exhibits: Six interpretive signs for the Colorado Riverfront Trail in Grand Junction will be installed by the City of Grand Junction on September 28. Custom-made park benches that have a Colorado pikeminnow silhouette attached to the back are on order to accompany those signs and for use at another site in Grand Junction and in Vernal, Utah. Interpretive signs will be installed at the Yampa State Park Visitor Center on September 29 to correctly state that channel catfish are nonnative to the Yampa River. The Grand Valley Audubon Society is working with the Recovery Program to develop and install an interpretive sign at the site where a levee was breached this summer to improve habitat for endangered fish.
- The Recovery Program is pursuing the possibility of establishing an aquarium with endangered fish at the Utah Field House Museum in Vernal.
- The *Swimming Upstream* newsletter will be distributed in November 2004.
- The Recovery Program will staff its exhibit at the Wyoming Water Association in October in Casper, the Colorado River Water Users Association's annual meeting in December in Las Vegas, the Colorado Water Congress' annual meeting in January in Denver, and the Utah Water Users' workshop in March in St. George.

VII. Recovery Program Management

Goal: To ensure effective implementation and coordination of the Recovery Program.

Status:

- The Recovery Program's electronic listserver has 185 subscribers and is one of two key components of the Recovery Program's electronic communication. All Program participants are strongly urged to subscribe. The Recovery Program participants' web site (<http://www.r6.fws.gov/crrip/>) has detailed Recovery Program information such as upcoming meeting dates and times; meeting agendas and summaries; a bibliography of the Recovery Program library; the

RIPRAP; and numerous other Recovery Program documents. The site is regularly updated and expanded.

- FY 2004 annual reports are due to the Program Director's office by November 10, 2004.
- As expected, some modifications will be needed for the second year of the Recovery Program's FY 2004/2005 work plan. The Program Director's office is working with principal investigators and the Biology and Management committees to make the necessary revisions so the FY 2005 plan can be finalized and funding transfers begun as quickly as possible.