United States Department of the Interior

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ES/Colo.River/FY 2004
End. Species Act--Section 7
Mail Stop 65115

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Memorandum

To: Implementation/Management Committee, Consultants, and Interested Parties

From: Regional Director, Mountain-Prairie Region (6), U.S. Fish and Wildlife Service

Subject: Assessment of "Sufficient Progress" under the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin

In accordance with the Section 7, Sufficient Progress, and Historic Projects Agreement, the U.S. Fish and Wildlife Service (Service) has reviewed the 2003 (including consideration of some 2004 results) and cumulative accomplishments and shortcomings of the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program). Per that Agreement, the Service used the following criteria to evaluate whether the Recovery Program is making "sufficient progress" toward recovery of the four listed fish species:

- Actions which result in a measurable population response, a measurable improvement in habitat for the fishes, legal protection of flows needed for recovery, or a reduction in the threat of immediate extinction
- Status of the fish populations
- Adequacy of flows
- Magnitude of the impact of projects

A complete assessment of recent (current as of March 2004) accomplishments and shortcomings of the Recovery Program under the Recovery Implementation Program Recovery Action Plan (RIPRAP) is attached. Previous years' accomplishments and shortcomings are described in previous "sufficient progress" memoranda and outlined in the RIPRAP itself.

A. Status of the Species

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 Colorado River Basins.

Significant changes in the status of the four species generally are not detected on a year-to-year basis. Closed-population, multiple mark-recapture estimators are being used (where possible) in the Upper Colorado River Basin to derive population point estimates for Colorado pikeminnow and humpback chub for tracking of population trends. The accuracy and precision of each point estimate is assessed by the Service in cooperation with the Recovery Program and in consultation with investigators developing the point estimates and qualified statisticians and population ecologists. Additionally, an evaluation of stocked razorback sucker and bonytail is ongoing, and a draft report is expected early in 2005.

To date, the Service has convened two workshops on population estimates. The first workshop was held in December 2001 to assess sampling protocols and data analyses and to recommend changes in methods to increase the reliability of population point estimates. Another outcome of that workshop was that numeric targets for capture probability and coefficients of variation were recommended to help evaluate confidence in the point estimates.

The second workshop was held in August 2004 to further assess, discuss, and understand the population point estimates and trends in population abundance and structure. An objective of that workshop was to begin discussions on environmental variables and life-history traits influencing population estimates and population dynamics. An *ad hoc* group of species experts is reviewing information presented at the workshop and is preparing a summary report (with recommendations) that will be used to guide future research and management. A draft of the summary report is expected by the end of December 2004.

The most current estimates of the mean number of wild adult Colorado pikeminnow and humpback chub are shown in Table 1. This information was gathered from presentations at the August 2004 population estimates workshop. Many of these estimates are preliminary (analyses ongoing), and some are contained in draft reports undergoing peer and Biology Committee review. These data indicate recent downward trends in the abundance of Colorado pikeminnow in the Green River subbasin and in the abundance of humpback chub in Black Rocks, Westwater Canyon, and Desolation/Gray Canyons. Table 1 also provides a general overview of efforts to augment or reestablish razorback sucker and bonytail populations in the Upper Colorado River Basin.

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

SPECIES	RIVER SYSTEM		
	MIDDLE GREEN	LOWER GREEN	UPPER COLORADO
Colorado pikeminnow	Estimates range from about 3,300 adults in 2001 to about 2,300 adults in 2003 (draft report undergoing peer and Biology Committee review).		Estimates range from about 500 adults in 1992 to about 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 ongoing.		
Humpback chub	Yampa Canyon: Population small; about 400 adults, with wide confidence intervals around the point estimates.	Desolation/Gray Canyons: Estimates of adults vary from about 2,000 in 2001, 2,200 in 2002, and 1,000 in 2003. Sampling in 2001 and 2002 conducted in summer, whereas sampling in 2003 conducted in fall (draft report undergoing peer and Biology Committee review).	Black Rocks Canyon: Estimates of adults vary from about 800 in 1998, 900 in 1999, and 500 in 2000 and 2003. Westwater Canyon: Estimates of adults range from about 4,700 in 1998 to 2,500 in 1999, 2000, and 2003. Cataract Canyon: Population small; about 150 adults in 2003.
	LOWER COLORADO, GRAND CANYON: 2,000–4,000 adults (not including the mainstem); methods being reviewed to improve estimate.		
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.	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.	Few wild adults; population being augmented through stocking; larvae collected in Gunnison River in 2002 and 2003 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.
	SAN JUAN: No estimate of adults is available; stocking 1-year-old-plus fish (greater than 300 mm total length) ongoing; reproduction by stocked fish documented.		
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.		

B. Accomplishments

Recovery Program participants accomplished several important objectives in 2003–2004.

- Nonnative fish management actions were expanded in 2003 based on results and recommendations of the February 2002 workshop on nonnative fish management. At the request of Colorado, the methodology for this work was revised in early 2003 to take a rigorous control/treatment approach (i.e., fish in the control sections were tagged and released, and fish in the treatment sections were removed; data from the different experiment sections were used to evaluate fish movements and abundance and to assess the effectiveness of management efforts). A focused I&E effort included press releases, public meetings, and meetings with resource advisory committees.

  Results of 2003 nonnative fish management projects were reviewed at the December 2003 workshop, and appropriate revisions were made to the scopes of work for 2004. Revisions included placing emphasis on nonnative fish control in the Yampa River, shifting from a treatment/control approach to depletion analysis (i.e., fish are tagged and released on the first sampling pass in a river reach, then removed during subsequent passes to estimate initial abundance and to demonstrate a depletive effect and level over time), and shifting emphasis from channel catfish to smallmouth bass. Data since 2001 strongly indicate that efforts to manage northern pike in the middle Green River in Utah are having a depletive effect (248 pike removed in 2001, 42 in 2002, and 22 in 2003). A depletive effect also has been shown for channel catfish in Yampa Canyon, with a steady decline in the average length of fish captured since 2001.

  Additionally, 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 enhance agency and public understanding and gain support for these necessary actions.

  The next nonnative fish management workshop will be held in December 2004. The purpose of this workshop is to present and evaluate results of work completed in 2004 and to develop recommendations for revising 2005 nonnative fish management projects.

- 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. Site evaluation will be conducted in FY05 (or as soon as adequate flows are available).

- 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 suckers 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 were completed in July 2004. Completion of site evaluation is slated for FY05 (or as soon as adequate flows are available).

- A levee was lowered at the Walter Walker State Wildlife Area on the Colorado River near Grand Junction in March 2004. Within the upper Colorado River subbasin (upstream of the Green River confluence), Walter Walker was identified as the "highest-use area" for Colorado pikeminnow and, formerly, razorback sucker. Lowering the levee is expected to enhance and help maintain the habitat for use by endangered fishes. The levee excavation was done by United Sand and Gravel in cooperation with the Colorado Division of Wildlife, Recovery Program, U.S. Bureau of Reclamation, and Service. The site will be evaluated in FY 05 if flows are adequate.

- Habitat restoration was completed at the Grand Valley Audubon Society's Ela Wildlife Sanctuary in August 2004. The site is located on the Colorado River downstream from Grand Junction, Colorado. A 50-foot levee notch was excavated to allow drifting razorback sucker larvae access to floodplain nursery habitat. The site will be evaluated in FY 05 if flows are adequate.

- Improvements to the fish screen on the canal at the Grand Valley Irrigation Company Diversion Dam were completed in time for the 2004 irrigation season.

- The Biology Committee approved the report entitled *Endangered Fish Use and Flow Recommendations for the Duchesne River, Utah* on September 29, 2003. A biological opinion for the Duchesne River based on these flow recommendations is slated for completion by the end of December 2004. A coordinated reservoir operations model was completed in 2003, and test flows were released in 2004.

- The Recovery Program's stocking efforts continue to produce positive results. Reproduction by razorback sucker stocked in the Gunnison River has been documented for the second year in a row (as confirmed by larval captures). Stocked razorback sucker and bonytail continue to be captured in both the Green and Colorado River subbasins (see population status table). Although the Program fell somewhat short of stocking quotas in 2003, those quotas are expected to be met in 2004 (results of 2004 stocking are still being compiled and reviewed).

- Construction on the fish passage at the Grand Valley Project was completed in July 2004. The passage will begin full operation after construction of fish passage at the Price-Stubb Diversion Dam (scheduled to begin in winter 2005 with completion in spring 2006). A fish screen on the Grand Valley Project diversion dam is scheduled for completion in FY 2005.

- A total of 72,103 acre-feet (af) of water was released in 2003 to support late-summer target flows in the Colorado River. This total included 47,526 af from Green Mountain Reservoir, 20,534 af from Ruedi Reservoir, and 3,757 af from Williams Fork Reservoir. Wolford Mountain Reservoir was drawn down to record low levels in 2002 and, to build storage, only 286 af was released from Wolford Mountain Reservoir in 2003 to support late-summer target flows because water was available from other sources. The large amount of water released from Green Mountain Reservoir was partially the result of the Recovery Program retrofitting the Grand Valley Project canal system in Western Colorado with automated canal check structures, which reduced irrigation diversions by 16%, or 45,000 af, in 2002 and 12%,or 33,000 af, in 2003. (Note: None of the 45,000 af reduction in 2002 was accrued to storage in Green Mountain Reservoir and, therefore, was not available for endangered fish in the 15-Mile Reach; whereas, all of the 33,000 af reduction in 2003 accrued to storage in Green Mountain Reservoir and was delivered to the 15-Mile Reach for the endangered fish.) These reductions surpassed expectations of 28,000 af in average years. Accounting of reservoir releases and operational savings attributable to the Grand Valley Water Management Project (GVWM) for 2004 has not yet been completed. Construction on the Highline Lake pump station (expected to be completed this winter) will complete the last component of the GVWM, allowing optimum use of GVWM water.

  The Service believes that flow augmentation from Ruedi, Green Mountain, Wolford, and Williams Fork reservoirs has been an important step in providing useable habitat during drought conditions in the 15-Mile-Reach and downstream. Water shortages are being shared among users in these dry years and GVWM has provided water that would not have been available otherwise. It is important to note, however, that flow recommendations still are not being fully met.

- The final *Management Plan for Endangered Fishes in the Yampa River Basin and Environmental Assessment* (with associated Finding of No Significant Impact) was released in fall 2004. A draft programmatic biological opinion (PBO) for the Yampa River management plan was released in September 2004, and a final PBO is expected in December 2004. The project to enlarge Elkhead Reservoir is slated to begin in 2005 (part of the additional stored water will be used to augment late-summer flows in the Yampa River).

C. Concerns

The Service's memorandum in 2003 assessing sufficient progress expressed concern regarding progress of: 1) nonnative fish management; 2) capital project construction; 3) timely and efficient operation and management of the GVIC fish screen and passage; and 4) the Flaming Gorge Dam EIS process. The Service is pleased with the progress the Recovery Program has made on item 2, and is cautiously optimistic that the increased nonnative fish management efforts (item 1) will

have the desired effect of reducing the abundance of problematic nonnative fishes while bringing about positive responses in populations of endangered and other native fishes. Items 3 and 4 remain concerns. Current areas of concern are:

- Recent preliminary or draft data on population estimates indicate downward trends in the abundance of Colorado pikeminnow in the Green River subbasin and in the abundance of humpback chub in Black Rocks, Westwater Canyon, and Desolation/Gray Canyons. These populations are viewed as the foundations for recovery of the species.

- Results of recent sampling indicate precipitous declines in native fishes in the Yampa River, which has long been considered one of the strongholds for native fishes in the Upper Colorado River Basin.

- Results of recent sampling indicate dramatic expansions in the distribution and abundance of smallmouth bass. Recovery Program biologists believe that smallmouth bass pose a great threat to native fishes, because they are opportunistic predators and have the potential to prey on and/or compete with different life stages of the four endangered fishes.

- GVIC fish passage and fish screen operations have occurred less frequently than anticipated. The structure to provide fish passage at GVIC has been in place since the late 1990's, and improvements to the fish screen on the GVIC canal were completed in time for the 2004 irrigation season.

- Continued delays in the Flaming Gorge Dam EIS process, have resulted in continued delays in dam re-operations to meet the Green River flow and temperature recommendations and State protection of fish flows in the Green River downstream from the Duchesne River confluence.

Other items of concern include: 1) progress on the Aspinall EIS process; and 2) long-term protection of instream flows (which needs to stay on the States' radar screens, as it is a requirement for achieving recovery).

D. Conclusion ("Sufficient Progress")

Recovery Program participants need to actively pursue resolution of the following seven issues that are, in part, related to concerns listed above. The Service requests that regular progress reports on these items and their effect on meeting RIPRAP schedules be provided to the Management Committee.

1. Continue analyses of preliminary data and finalize current draft reports on population estimates, and complete the summary report of the August 2004 population estimates workshop. Use results and recommendations of those projects (particularly information

developed by the workshop's *ad hoc* group) as guidance to determine the feasibility, efficacy, and implementation of additional data analyses to further understand environmental variables and life-history traits influencing the dynamics of Colorado pikeminnow and humpback chub populations. Results of that initial research can be used to refine hypotheses and direct management actions.

Development of the overall research framework should be a Recovery Program workplan priority beginning in 2005. The research approach should consider integration of relevant data sets (e.g., flow and temperature data; geomorphic and other habitat data; and distribution, abundance, and life-history data for native and nonnative fishes) and comparative analyses between the upper Colorado River and Green River subbasins. Identify available data and important data gaps.

2. Develop criteria to determine the effectiveness of nonnative fish management actions. Data should be reported annually, and necessary changes to nonnative fish management actions should be made in a timely fashion. The Service is encouraged by progress in implementing nonnative fish management actions, but remains very concerned about the impacts of problematic nonnative fishes on the endangered and other native fishes. Consequently, the Service will closely follow the effectiveness of these management actions, and the responses of the endangered and other native fishes.

3. Provide more details in annual reports on operation and maintenance of the GVIC fish passage and fish screen, including dates of operation (or non-operation), problems encountered (reasons why the facilities were not operated as planned), remedial actions taken, and any recommendations to improve operational efficiency. The Service recognizes that, in some cases, less than full performance of these facilities can be attributed to the recent drought conditions, but believes that diligence on their operation and maintenance can be improved. Additionally, automation of the GVIC fish passage should be pursued.

4. Document flow thresholds and other considerations for operation of the Grand Valley Project fish passage. Water-supply issues for operation of the Grand Valley Project fish passage during low-flow conditions should be addressed prior to completion of the Price-Stubb fish passage.

5. Wrap up the Flaming Gorge Dam EIS process and the associated section 7 consultation early in 2005 so that the flow and temperature recommendations can be implemented to take advantage of spring flow conditions. The Bureau of Reclamation is obligated, both under the Recovery Program and under Section 7(a)(1) of the ESA, to re-operate its reservoirs (e.g., Flaming Gorge Dam and the Aspinall Unit) to promote recovery of the endangered fishes.

6. Expedite the Aspinall Unit EIS process to ensure completion of the EIS and section 7 consultation process as soon as possible.

7. The Recovery Program has undertaken several measures to provide additional water for the endangered fish, but flow recommendations for the 15-Mile Reach still have not been fully met. The Service encourages the Recovery Program to explore additional water management measures to provide more water, particularly in drought years. If the drought continues, the impact of decreased flows on important fish habitat would compromise the ability of that habitat to function appropriately. Sustained drought can have serious impacts on water for people and wildlife, and it increases uncertainty in the ability to provide water and habitat needed to recover the endangered fishes. The Recovery Program needs to continue to seek innovative solutions (e.g, the Grand Valley Water Management Project) to meet water needs of fish and people.

The Service is confident that with continued cooperation by all Recovery Program participants, the Recovery Program will continue to make significant strides toward recovery of the four endangered fishes. Based on evaluation of the status of the fish, provision of flows during drought periods, magnitude of depletion impacts, and cumulative Recovery Program accomplishments and shortcomings, the Service concludes that progress in the Recovery Program is sufficient to continue to provide the reasonable and prudent alternatives which avoid the likelihood of jeopardy resulting from depletion impacts of new projects that have an annual depletion of up to 4,500 acre feet.[1] Despite significant Recovery Program accomplishments, the Service is very concerned about recent downward trends in endangered fish populations. Accordingly, the Service strongly encourages all Recovery Program participants to remain attentive to the impacts of drought conditions and nonnative fishes on recovery of the endangered fishes, and to take appropriate management actions.

Sharon R Rose

Acting Regional Director

Attachment

1The 15-Mile Reach programmatic biological opinion covers an average depletion of up to 1 million acre-feet per year of existing depletions (through September 30, 1995) and up to 120,000 acre-feet of new depletions (since September 30, 1995) in the Colorado River above the confluence with the Gunnison River.

March 3, 2004

FY 2003 RIPRAP ASSESSMENT
Significant Accomplishments (!) and Shortcomings (*X*)

PAGE/ITEM #		STATUS ASSESSMENT
GENERAL RECOVERY ACTION PLAN		
22	IA4	! Argonne's geomorphology report completed in 2003. This report provides guidance on future geomorphic research and monitoring priorities.
22	ID1	! Assessment of need for tributary management plans complete – all tributaries except the White and San Rafael rivers (scheduled to be done in outyears) covered by existing or known pending biological opinions.
22	IIA2	! In 2003, the Program completed the razorback floodplain habitat model and drafted floodplain management plans for the Green and Colorado rivers. Based on the model and these management plans, the Program has shifted from screening additional floodplain sites for potential restoration/acquisition to focusing on sites already acquired or otherwise available for management.
>*23	IIIA2c	As a result of a February 2002 workshop on nonnative fish management, nonnative fish control activities were expanded in 2003. At the request of Colorado, the methodology for this work was revised in early 2003 to take a rigorous treatment/control approach. A focused I&E effort included press releases, public meetings, and meetings with resource advisory committees. Results of the 2003 nonnative fish management work were reviewed in a December 2003 workshop and appropriate revisions have been made to the scopes of work for 2004 (including placing emphasis on nonnative fish control in the Yampa River, generally shifting from treatment/control approach to depletion analysis, and shifting emphasis from channel catfish to smallmouth bass).
23	IIIB6	*X* The Nonnative Fish Stocking Procedures were not reviewed and revised as planned during FY 03. Colorado is wrapping up their evaluation of state stocking regulations (draft report due to BC 2/15/04).
GREEN RIVER ACTION PLAN		
26	IA2b2 IB2b	*X* Legal and physical availability of water not assessed in FY 03 (moved to FY 04 pending completion of the EIS and revised biological opinion).

*26	IA3a,d	! *X* Flaming Gorge being re-operated under the 1992 Biological Opinion, but EIS on reoperation to implement the revised flow recommendations has experienced continued delays.
26	IA4b1&2	*X* Public meetings and appropriation policy not done in FY 03 (won't held/implemented until 04/05, pending completion of the EIS and new biological opinion). Recommend completion of new policy after the Record of Decision for the Flaming Gorge EIS (estimate December 2004)
26	IC2	*X* Price River winter flows report delayed one year (now due to coordinator May 2004)
27	IIA2-4	! Floodplain acquisition and levee removal strategy are complete and operation, maintenance and evaluation of sites is now incorporated into Green River subbasin floodplain management plan.
>*27	IIA3b	! Flows were high enough in 2003 for entrainment study; beads used since larvae not available, beads were entrained at both the Bonanza Bridge and Above Brennan sites.
>*27	IIA3c	! Larval razorback sucker and bonytail again survived in the presence of nonnative fishes in several wetlands. Adult bonytail spawned in at least two wetland sites.
27 >27	IIA3c IVA1c	! Once again, some razorback sucker captured in the Green River in 2003 were from those originally stocked into floodplain wetlands suggesting voluntary movement from the floodplain to the river and subsequent survival and recruitment.
>*28	IIB2b,c	Design and construction of the fish screen at the Tusher Wash Diversion was previously delayed due to a water rights dispute. This dispute has been settled by the Utah Supreme Court and construction is scheduled for FY 07-08.
>*28	IIIA4a	! A total of 22 northern pike were removed from the middle Green River (suggests a depletive effect from previous years, since 42 pike were removed in 2002 and 248 pike were removed in 2001).
>*28	IIIA4b1	*X* Revised report on cyprinid removal in lower Colorado and lower Green rivers still overdue; now expected in May 2004.
>*28	IIIA4c	Some channel catfish were removed from the middle Green River, however, the original study design was only partially implemented due to low flows.

>28	IVA1c	*X* 3,501 6" juvenile bonytail were stocked into the middle Green River by UDWR (target = 2,665 8" fish). The lower Green River received 3,043 6" juvenile bonytail from UDWR (target = 5,330 8" fish); 57% of the requirements in the integrated stocking plan. CDOW stocked over 13,400 6" bonytail in the middle Green River (target = 2,665 8" fish) in October 2002. Mortalities at CDOW ponds resulted in the loss of fish identified for the 2003 fall stocking. Smaller fish were the result of over crowding from holding fish for the previous State stocking plan. Logistics also played a role with more going into the middle and fewer in the lower Green River. Under the integrated plan, there is no need for additional grow out ponds at Wahweap. *X* 8,619 10" sub-adult razorback sucker were stocked in the middle Green River (target = 9,930 12" fish) and 2,364 were stocked in the lower Green River (target = 9,930 12" fish). Difficulty in retrieving fish from grow out ponds (Bortherson ponds near Vernal), some ponds not performing as well (i.e., producing fish of poor condition) and logistics of holding/transporting fish reduced the numbers that were able to be stocked.
28	VB1	! Sampling for humpback chub in Desolation/Gray was moved from summer to fall in FY 03 to reduce fish stress.
28	VC	Data collected for estimate of Colorado pikeminnow in the Green River. Catch per unit effort has declined from the initial year of sampling (2000), but has shown only a modest decrease over the past 3 years.

YAMPA/LITTLE SNAKE RIVERS

29	IA1f	! The gage located above the Little Snake River was moved upstream to below the confluence with Elkhead Creek to improve river administration. Also, USGS will pick up the full cost of the Deerlodge gage in FY 04. Sediment work on the Yampa River has been completed in 2003 and a draft final report will be available in February, 2004.
29	IA2a-b	! *X* Yampa public meetings were held and comments solicited and received on draft Yampa management plan. NEPA compliance will be completed in FY 04. Progress to complete Yampa Management Plan and PBO continues to be slower than expected, however, completion is expected by the March 31, 2004.
29,30	IC2b&ID1b	! *X* Service drafted Little Snake flows and update to Yampa flow recommendations in FY 03, anticipates completion by 6/04.
30	IIA1c&IIA2c	!Guidelines to facilitate fish passage incorporated in Yampa Management Plan.

30	IIA3	! PD's office reviewed report and agreed elevated pH is a sampling artifact.
>*30	IIIA1b1	! *X* Northern pike removal and translocation efforts continued in FY 2003 and results used to revise FY 04 methods. Not many fish were removed however, and work was delayed due to delays in issuing permits.
30	IIIA1b2a-c	Report not yet completed. First draft of thesis on northern pike spawning habitat is expected February 1, 2004.
>*30	IIIA1c1	! Catfish removal continued in Yampa Canyon, with indications that catfish average length was reduced as a result.
>*30	IIIA1c2	Catfish were removed above Yampa Canyon in FY 03, Results used to revise FY 04 methods (shift focus to smallmouth bass removal).
*>30	IIIA1d	! *X* Smallmouth bass removal and translocation efforts began in the Yampa River in FY 03 and results used to revise FY 04 methods. Not many fish were removed however, and work was delayed due to delays in issuing permits.

DUCHESNE RIVER

32	IA2	! The report entitled "Endangered Fish Use and Flow Recommendations for the Duchesne River, Utah" was approved by the Biology Committee on 9/29/03.
32	IB2	! This task is ongoing but an initial assessment has been made and potential sources identified. Legal and physical availability of water to meet the 2003 flow recommendations is currently being assessed by the State of Utah and members of the Duchesne River Working Group (DRWG). Strawberry Valley Project, Daniels Diversion and Coordinated River Operations have been identified as having high potential for providing water to help meet flow recommendations. Recommended completion date for this task is December 2004.
32	IC1a&2a	Modeling completed for determination of water availability from Strawberry and Daniels.
>32	IC2b	*X* Due to delays in finalizing the flow recommendations, a completion date of 12/2005 is now recommended for the DRWG to develop agreements for use of any available water from the Daniels Diversion for instream flows in the lower Duchesne River.
>32	ID1	*X* Coordinated reservoir operations study was scheduled for completion in June 2003 and should be brought to completion as soon as practical so that

		the DRWG has the information necessary to effectively coordinate implementation and protection of instream flows.
>32	IID2	Due to delays in finalizing the flow recommendations, a completion date of 12/2005 is now recommended for the DRWG to develop agreements for coordinating reservoir operations.
32	IIIA3b	Due to lack of reservoir spills in FY 03, the study of nonnative fish escapement from Starvation Reservoir has been delayed one year.

WHITE RIVER

33	IB2	The overdue report entitled "White River Flow Recommendations" was completed, but additional work may be required to develop a flow recommendation.
33	IB2a&b	Flow recommendations report complete, but additional work may be needed to provide flow recommendation; therefore dates for public meeting and policy TBD at this time.

COLORADO RIVER ACTION PLAN

>*34	IA5	! Recognizing the low carryover storage in the Upper Colorado River Basin reservoirs and generally drier than average conditions in 2003, the Service initially set the target flows for the 15-Mile Reach at 250 cfs. However, this target was increased to 450 cfs on August 7, 810 cfs on August 28, and finally to 1,240 cfs on September 18, as hydrologic conditions improved in the basin and it became evident that additional surplus HUP water was available from Green Mountain Reservoir. A total of 72,103 af of water was released to support late-summer target flows. This total included 47,526 af from Green Mountain, 20,534 af from Ruedi, and 3,757 af from Williams Fork. Wolford Mountain was drawn down to record low levels in 2002 and, in order to build storage, only 286 af was called for from Wolford Mountain in 2003 because water was available from other sources.
>*34	IA5b	! Lease of 10,825af of water from Ruedi Reservoir through 2012 was completed on June 24, 2003.
34	IA5e1	*X* ! Options were to have been identified in 2003. East Slope water users have filed for a water right on the Colorado River and contracted for water quality studies and has begun site evaluations on a proposed Sulfur Gulch Reservoir which potentially could fulfill the East Slope's future commitment for 5412.5 af.; however, this is still uncertain. Options were to have been identified in 2003. The Colorado River Water Conservation District has acquired water from

		a number of sources that can be used to provide the west slope's commitment of 5,412.5 AF. West slope water users have not identified a permanent source. In the event a permanent source is not provided by 2008, the River District will request an extension of its agreement under the Colorado River programmatic biological opinion, and will provide water from other sources until a permanent source is identified, developed, and dedicated to this purpose. The Colorado Water Conservation Board has been requested to include a new reservoir for providing all Ruedi replacement water in the Statewide Water Supply Initiative, a major water supply planning study scheduled for completion in 2004.
35	IA5l3	! Checks are in place for Grand Valley Water Management project; they are fully automated, and the Highline pumping plant will be completed in 2004.
35	IA5m1	! Coordinated Facilities Study was completed in September 2003. Executive Committee's recommendations adopted by Implementation Committee and will be pursued dependent on water availability.
35	IA6	! Review of RIPRAP and comparison with PBO schedules completed in FY 2003 (in concert with RIPRAP assessment).
35	IB1	! Flow recommendations (Gunnison & Colorado) report approved by Biology Committee on May 15, 2003.
6	ID1	Service needs to determine if combination of Colorado and Green River flows above the confluence are adequate for recovery.
36	IIA3e	! Hamilton's Walter Walker selenium remediation report complete in 2003.
36,37	IIA1-6	! Floodplain acquisition and levee removal strategy are complete and operation, maintenance, and evaluation of sites is being incorporated into Colorado River sub-basin floodplain management plan.
>*37	IIB1b3	! *X* Due to operational problems, the GVIC screen was not operated in the 2003 irrigation season. Native and endangered fish were retrieved from canal by USFWS in November 2003. The hydraulic model was completed, 3-phase power service installed, and a larger capacity air compressor and generator procured. Modifications to the screen and installation of deflector wall should be completed by March 2004 in time to allow operation throughout the 2004 irrigation season.
>*37	IIB3a2	! *X* Construction of off-ramp for Government Highline fish passage began in 2003. (Completion date moved out from 4/05 to 8/05, however).

>*37	IIB3b2	*X* Completion of Government Highline screen moved out from 3/04 to 4/05.
37	IIIA3b	! Osmundson report on nonnative centrarchid removal from backwaters approved April 2003 (project #89)
>*37	IIIA5-6	Channel catfish removal conducted in 2003, but now put on hold because smallmouth bass removal considered a higher priority.
>*37	IIIB1a&b	! The fish barrier net installed in Highline Reservoir in August 1999 continues to operate successfully and is scheduled for replacement in FY 2005.
38	IIIB4	*X* Colorado River Aquatic Management Plan in draft; completion moved from 2003 to 2004.
>38	IVA3b	*X* 5,358 12"+ razorback were stocked (target = 6,620 12" fish) which represents 81% of the target for this river reach. Difficulty in retrieving fish from grow out ponds, some ponds not performing as well (i.e., producing fish of poor condition) and logistics of holding/transporting fish reduced the numbers that were able to be stocked.
>38	IVA4b	*X* 1,000 Colorado pikeminnow were stocked by the Service Grand Junction facilities into the Colorado River (target = 1,125 6" fish). Further production and stockings will be carried out by CDOW from the Mumma facility.
>38	IVA6c	*X* 885 bonytail were stocked in the Palisade-Loma reach by CDOW (target = 2,665 8" fish). UDWR added to the 3,303 6" fish at Dewey Bridge in Utah (target = 2,665 8" fish). Mortalities at CDOW ponds resulted in the loss of fish identified for the 2003 fall stocking.
38	VC2	! Report on population estimate of humpback chub in Westwater finalized.
38	VB4a	! "Plan" to monitor incidental take of endangered fish entrainment in diversion structures is complete in that fish are being retrieved from canals until the canals are screened and screens are fully functional (anticipated in FY 05). Screens will prevent entrainment of adult, subadult, and juvenile fish (preventing entrainment of adult and subadult fish required is by recovery goals) because the screens are 3/32 mesh. Bob Muth to draft one-page "plan" to monitor incidental take of endangered fish.

GUNNISON RIVER ACTION PLAN

39,40	IIA2–4	! Floodplain acquisition and levee removal strategy are complete and work is being incorporated into a Colorado River sub-basin floodplain habitat management plan.

>*40	IIB1c&d	! Redlands fish ladder is working for Colorado pikeminnow and native fishes. In 8 years of operation, 60 pikeminnow, 6 stocked razorback sucker, 1 stocked bonytail, and 53,000 other native fishes have used the passageway.
40	IIB1g1	! Design of Redlands screen complete.
>40	IVA2b	*X* 1051 Colorado pikeminnow were stocked by the Service Grand Junction facilities into the Gunnison River (target = 1,125 6" fish).