

**San Juan River Basin Recovery
Implementation Program,
Biology Committee Meeting, Farmington, New Mexico,
June 13-14, 2000
Final Meeting Summary**

Welcome and Introductions: A meeting of the San Juan River Basin Recovery Implementation Program (SJ RIP) Biology Committee was held on June 13-14, 2000, in Farmington, New Mexico, at the Farmington Civic Center. The following members were present:

Jim Brooks, Chairman

US Fish and Wildlife Service, Reg. 2

Ron Bliesner	US Bureau of Indian Affairs
Larry Crist	US Bureau of Reclamation
Paul Holden	Jicarilla Apache Indian Tribe
Vince LaMarra	Navajo Nation
Bill Miller	Southern Ute Indian Tribe
Tom Nesler	State of Colorado
Frank Pfeifer	US Fish and Wildlife Service, Reg. 6
David Propst	State of New Mexico
Tom Wesche	Water Development
Paul Sawyer	US Bureau of Land Management
Shirley Mondy	Program Coordinator

A list of attendees and the agenda are attached.

Review/Revision of Agenda: No revisions were made to the agenda.

The minutes of the April 11-12, 2000, meeting were accepted with the provision that minor changes would be made.

Flow Recommendation Report-Understanding the Need for Low Flow Releases: There seems to be some confusion surrounding the release of 250 cfs from Navajo Dam. A minimum of 250 cfs was used in the model in order to try and meet the flow recommendations by always keeping between 500 and 1000 cfs in the habitat range. Releases of 250 cfs could be expected in both summer and winter to meet the flow recommendations. Releases of 250 cfs will not be required as often until full levels of development have been met.

There is also a gauge error issue with the model. One model was computed using flows between 1929-1970 at the Bluff and Archeleta gauges. The flows for 1970-1993 were computed using other gauges resulting in an error of 110,000-115,000-acre feet of lost water in the system from the 1950s. The Bureau of Reclamation is considering taking Colorado River Decision Support System natural flows and reconfiguring the SJRIP model. The error removed any extra water.

There was a second error in the calculations of natural flows that resulted in a 40,000-acre feet change in the amount of water available. Work on the riverware model will continue in an effort to determine how much water is available for development after meeting the flow recommendations and to allow work on NIIP and ALP to proceed.

The Bureau of Reclamation is proposing 250 cfs test releases from Navajo Dam from July 10 to July 14. At a public meeting held on June 12, 2000, in Farmington, New Mexico, many people felt the timing of the test was wrong and

that they did not have enough advance notice. It was noted that flows may drop to 200-250 cfs in the habitat range. Some biologists felt that low cfs numbers in the habitat range for 4-5 days were not drastic. In 1996 there were several days below 250 cfs (Shiprock 20 days below 250 cfs/Animas 0 cfs). Nobody knows for sure what the Animas will do, but it has been at about 45 percent of normal this year.

The tests will not answer biological questions and may actually help non-natives, such as red shiner through elevated temperatures and low, stable flows. Since Colorado pikeminnow spawn during the first 2 weeks in July, spawning areas could be impacted by the test if Animas flows are also low.

The tests are being done primarily to check for impacts on irrigation withdrawal, recreational uses as rafting, fishing, etc. During the test period there will be tail-water sampling for the trout fishery checking for fish kills. There is nothing in the SJRIP 2000 Work Plan for monitoring habitat and fish during low flow tests. However, conditions similar to the tests were seen in 1996. It was felt that no new information could be gained from monitoring during the tests.

2001 Work Plan Development Process: The following schedule was set up for this year.

- Final scopes of work will be out of the Biology Committee by September 1. Scopes of work should go out for review by July 21, 2000, on the listserver to all Biology Committee members. The Biology Committee will meet in Durango, Colorado, on August 16-17, 2000, to draft the overall Work Plan, and submit it to the Coordination Committee by September 1 for their review and final approval.
- The final Work Plan will be developed by October 1.
- The Biology Committee will meet mid-winter to discuss the past year and the direction for the next year.
- Scopes of work will be in draft form for review by April 30, 2001, for Fiscal Year 2002.

The Program Evaluation Report will be used for guidance this year. A mid-winter meeting will be held to discuss long-range work plans. In the future, to assist the Bureau of Reclamation with their budget process, the SJRIP will try to develop a Work Plan schedule similar to that of the Upper Colorado Program whereby proposals are submitted by January/February.

Finalization of Selenium Report: Committee members were asked for comments on the report. Some committee members had concerns on statistical issues. Frank Pfeifer had comments on page 70, Environmental Considerations, on selenium in eggs/ovaries of pikeminnow, which he sent to Kevin Buhl. The report was approved and accepted with additions from Frank Pfeifer.

Program Evaluation Report: Comments received or made on Chapter 5 and the Executive Summary and will be incorporated in the final revision. Some statements made included the following:

-Figures/tables need to be in a consistent format. These are still be worked on.

-Essentially, the report is finished except for a final review.

-The Coordination Committee needs to make a final review.

Chapter 5:

-Page 3: Change phrase "throughout the basin" to "some areas."

-The Biology Committee needs to be more proactive in recovering species. This report could be used in the overall Long-Range Plan. In goals one and two, the objective should be to develop a process for meeting recovery goals. "Criteria to measure a population response" is part of the monitoring plan. Under Objective one, there should be bullet statements for achieving recovery goals. It was noted that the Biology Committee will always be reviewing and refining recovery goals utilizing the latest scientific information.

-Add a section on the screening of diversions to keep adult pikeminnow out.

Members also discussed the need for further study on genetics management and population augmentation. The Upper Basin has a report on pikeminnow genetics and pit tags. The Program needs to identify weaknesses and where vulnerable in field genetics.

Executive Summary: Page 3 will be reworded based on Frank Pfeifer's comments regarding "primary limiting factors" on the low numbers of adult fish. Wording will be changed to "one" factor or one critical factor instead of the primary factor-"a" not "the." Some members felt the committee should be careful with word choice and using sweeping statements in the discussion of nonnatives. There should be data to support statements made. It was pointed out that there is a wealth of literature/material available on native/nonnative interaction.

There will be another 30-day period for comments from both the Biology and Coordination Committee members. Dr. Holden will then incorporate those comments in the final version of the report, which will be published and distributed.

Long Range Plan: Work on the Long-Range Plan is pending finalization of the Program Evaluation Report. Another draft of the Plan will be finalized by August 1. Only two comments have been received to date; there is still time to submit comments before the next draft.

1998-1999 Research Reports:

-**Dale Ryden:** Adult Monitoring. The decline in flannelmouth sucker catch per unit effort numbers observed between

1994 and 1997 has stopped. CPUE numbers for flannelmouth sucker increased significantly between 1997 and 1999. Bluehead sucker CPUE numbers also increased significantly between 1997 and 1999. CPUE numbers for channel catfish <350 mm TL have increased over the last 3 years, but CPUE for larger channel catfish (>350 mm TL) has dropped dramatically due to mechanical removal efforts. Common carp have showed no changes in CPUE or size structure associated with the mechanical removal efforts. CPUE numbers for common carp have remained relatively stable since 1996, and they continue to be the fourth most abundant species collected.

Roundtail chub continue to be very rare in electrofishing collections. Two roundtail chub were collected in 1999 during main channel fish community monitoring. An additional four roundtail chub were collected during razorback sucker monitoring trips (2 each in spring 1998 and 1999). One of the roundtail chub collected in spring 1998 was a recapture. This fish is only the second documented recapture of a roundtail chub during our collections (1991-present). Stocked juvenile Colorado pikeminnow continue to be collected fairly regularly on electrofishing trips. However, the number of individuals collected varies widely on any given trip (i.e., from 4-95 fish depending on the trip). Sizes range from 90-420 mm TL.

Since the beginning of the augmentation program in 1997, a total of 4,164 razorback sucker have been stocked (2,885 in 1997, 1,279 in 1998, and 0 in 1999). On August 3, 1999, a summer rainstorm washed out the dam at Ojo Pond causing the loss of all fish that were to be used in 1999 stocking efforts. Approximately 200 larger razorback sucker that were washed out of Ojo Pond were recovered in Ojo Wash by BIA-NIIP, Farmington crews. These fish were placed into the east cell of Avocet Ponds and will be harvested and stocked in fall 2000. To date, we are 51,168 fish short of meeting our stocking goals as set forth in the razorback sucker augmentation plan. The razorback sucker being radio-tracked have not moved upstream to the suspected spawning area and continue to remain spatially separated from one another.

Razorback sucker stocked at larger sizes (>350 mm TL) have a greater recapture rate (> 80 percent of all known-origin recaptures) thus implying a greater survival rate than do razorback sucker stocked at < 351 mm TL (<20 percent of all known-origin recaptures). There is a suspected spawning area just downstream of McElmo Creek. Three ripe male razorback sucker were collected; three other razorback sucker were observed but not collected at this site in spring 1997. Two ripe male and one gravid female razorback sucker were collected at the exact same location in spring 1999. No razorback sucker were collected at this site in either 1998 or 2000. However, the presence of aggregations of ripe adult razorback sucker in two separate years at this site argues for it being a confirmed spawning location in those 2 years.

Dave Propst: Primary Channels/Small Bodied Fish: The 1998-1999 densities are low. Cannot make comparisons with only 2 years worth of data. On secondary channels, data were incorporated from 1993. Higher spring flows benefitted native fish such as speckled dace. From 1993-1996, there was an overall increased abundance of smaller bodied fish. In 1997-1998, there was a decline in numbers. In 1999, had the lowest number of fish such as red shiner ever recorded in secondary channels. When secondary channels flow well, it is good habitat for the natives; lower flows provide better habitat for nonnatives. He felt it would be better to put data into habitat type format instead of

primary channels/secondary channels. Habitats are being homed in on.

Steve Platania: Wild produced larval razorback sucker were collected during both the 1998-1999 (larval) razorback sucker surveys. No Colorado pikeminnow were found in the samples generated from the 1999 Colorado pikeminnow larval drift study. Regarding the study on rates of drift, we found that the drift rate of released larval Colorado pikeminnow were slower than the rate of travel of the river.

Approximately 100,000 larval Colorado pikeminnow were released just downstream of the Cudei Diversion structure on June 11, 2000. The Program had requested 1 million larval Colorado pikeminnow from Dexter National Fish Hatchery and Technology Center (NFH&TC) for the 2000 UDWR study. For the 2000 study, Dexter NFH&TC spawned 1981-year class Colorado pikeminnow and had about 30 females and 30 males available for the spawn. Only about 10 of the 30 females produced eggs, and the hatch rate of those eggs was low (ca. 30%) compared to previous years (ca. 50%). The 1981-year class of Colorado pikeminnow was also the parental stock for the 1998 UDWR larval Colorado pikeminnow study. Given the poor spawning success and hatching rate observed in 1999, Dexter NFH&TC personnel suggested that the 1981 Colorado pikeminnow be give time to recover and not be spawned in 2001. Dexter personnel suggested a different stock (non-1981) be used if larval Colorado pikeminnow were required in 2001 by the Program.

It was noted that some unauthorized researchers were sampling on the San Juan -- any such work is supposed to be coordinated through the research program. There was discussion regarding the potential impact of the unauthorized activities on the Program's sanctioned studies. It was reaffirmed that all research must be conducted through the Program.

Jim Brooks: Removal of nonnatives continues. There seems to be no effect on carp, but removal of large catfish is going well. There was 31 percent increase in the number of catfish removed, but a 40 percent reduction in the biomass of those removed from 1998 to 1999. Thus, while more small catfish are being collected, they do not represent an increase in overall biomass of channel catfish in collections. Given the age (at least 4 years) and size (>380 mm TL) at sexual maturity for channel catfish reported in a recent study for North American waters and the reduced abundance of channel catfish > 400 mm TL, the effects of mechanical removal on the reproductive effort of channel catfish may be realized during 2000-2001. Continued monitoring, including both small-bodied and larval drift, will assist greatly in determining the abundance of age 0 channel catfish and whether or not subsequent recruitment may be reduced. At any rate, implementation of mechanical removal as an ongoing management action will require a constant, long-term management commitment to ensure adequate suppression of the channel catfish population.

About 1,700 catfish were removed and transported to waters in New Mexico (two lakes near Farmington under State jurisdiction and five lakes on the Navajo Nation). Both the State of New Mexico and the Navajo Nation are supportive of this translocation effort, as are lake anglers.

Common carp observations during collection efforts generally include only larger fish (>400 mm TL). It is believed that this is because younger carp grow rapidly, quickly filling in any void left by the removal of larger individuals. Similar results were observed for removal efforts in a Missouri river and it is likely that the only effective way to reduce common carp numbers is by dewatering of eggs or directed removal efforts at preferred spawning areas, the feasibility of which is currently unknown.

Ron Bliesner: The 1999 hydrograph went up due to summer storms. There are issues surrounding how far to draw down the dam/reservoir due to flood considerations/operational issues. On one day, saw 8,000 cfs with back washing flows. However, there were no cobble moving flows. The Clay Hills area is increasing in elevation by 2 feet due primarily to Lake Powell.

Even with the 8,000 cfs, there was no cobble moving activity. The channel is not degrading. Its been coming back with sand. In fact, cobble has been going down since 1995. Storm flows from 1997-1999 laid more debris/sand. There have not been enough cleaning runs to move the sand.

Vince LaMarra: The 1998 habitat data are in, but 1999 data are still being processed. There is less inundated vegetation and shoals. Backwaters were low in 1998, and even lower in 1997. There have been losses in secondary areas but overall island counts increased. Gaining smaller islands but losing bigger islands. More debris is being put in the river. 1995 was the last 10,000 cfs flow. Backwater habitat has decreased from a surface area of 110,000 square feet in 1995 to 30,000 in 1998. There was a good cleaning of the system in 1999. Low flow rates have allowed more sediments to be deposited.

PNM Fish Passage Report: Peggy Bailey from Tetra Tech went over current options on the PNM weir for fish passage. Three options have been developed with the Biology Committee selecting Alternative 1 as the preferred alternative. The entire structure would be on PNM property. Questions arose as to who would operate the fish sorting facility, maintenance costs, how often it would be accessed (daily basis), and who would own the title.

Alternative 3 (river left through existing side channel) is the cheapest, but least effective. With Alternative 2 (river left with conventional fish ladder), there would be sediment buildup and security issues. It was noted that PNM has someone at the structure at all times. Members felt Alternative 1 (passage on river right underneath weir through tunnel) is still the best choice. The only concern was over the channel, 24' long x 7 ½' wide, which was 3 feet deep. A depth of 4 feet was preferred.

Further issues included the following:

-At 6000 cfs, there are two large eddies, approximately 50 feet long, downstream from the dam. Fish might encounter difficulty in moving upstream. The preferred alternative would be modified to include double entrances to allow fish passage-one below the dam and the other below the eddies formed at higher flows (about 20-30 feet below the main

entrance).

-Concern was expressed over possible overflow on the side channel/left bank and controlled fish passage during high flows.

--7,000 cfs: 10-15 cfs on the bank

--10,000 cfs: 30-50 cfs on the bank (less than a foot) At this level for 5 days, there could be fish passage and a channel cut.

--25-100 year storm: 100-150 cfs on the bank

The left side needs to be closed or blocked to prevent nonnatives from getting around the dam in high flows. Area would need to be have rip/rap put in or cement. The earthen works could be re-contoured also. Would PNM or the Program have responsibility for paying for structure protection?

Frank Pfeifer was selected as the Biology Committee's representative on the final development/design of the PNM weir/fish passage.

Colorado Pikeminnow Recovery Goal for the San Juan River: Bill Miller/Vince LaMarra:

In their research, they took a mechanistic approach with the carnivore (pikeminnow) on top. Such things as the flow of energy through the system, flow turbidity, and population dynamics (life stages, population characteristics, growth, production limits) were considered in their research. The pikeminnow and razorback sucker are the targets for the models being developed. Physical factors that change the system in general will continue to be evaluated.

The flannelmouth sucker population is well developed so their life stages can be tracked. Channel catfish are not a prey item for pikeminnow, but the Committee may want to add them. The Committee may want to have fish models (total bio mass) for all species in the system for all age distribution.

Given current conditions (no change in fish community structure between native and nonnative species) the system will currently support less than 500 adult Colorado pikeminnow. Based on the model, if total non-native numbers could be reduced, the system could support additional pikeminnow. Overall, data indicates that the system can support considerably less than 2200 pikeminnow. The carrying capacity for the razorback sucker has still not been determined. Detritus is a major food source. However, more work is needed on what the fish are actually eating.

Recovery Goals for Colorado River Fishes-Relevance to SJRIP: Rich Valdez and Ron Ryel are contractors working with Region 6, U.S. Fish and Wildlife Service, on recovery criteria for the big river fishes as supplements to existing recovery plans.. They are developing site specific management actions/criteria to supplement existing recovery plans (pikeminnow-1991/razorback sucker-1998). The timeframe has largely been determined by the Colorado Recovery Act, which is currently in the U.S. House of Representatives for markup. The Colorado Recovery

Act drives the recovery criteria (what recovery will consist of and how long it will take).

Their research is focusing on site specific management actions (actions needed to minimize and remove threats to species, and development of a list for each area in the basin and each species), as well as objective, measurable, recovery criteria. This information must be in concert with the Endangered Species Act (ESA). (The intent of the ESA is to take species in the worst shape and bring populations back to where they can be sustained.)

Recovery plans address such items as the estimated timeframe for recovery and estimated costs of recovery actions.

Timeframe: The State of Colorado and Region 6 are pushing the July time schedule.

-July 2000: Notice of Intent to be published in the Federal Register to reclassify (downlist from endangered to threatened) for each species (pikeminnow, razorback sucker, humpback chub, and roundtail chub). Each species will be monitored for a minimum 5-year period utilizing new criteria. During the 5-year period, researchers will look at trends/patterns for populations to ensure that they are sustaining and not declining. Four main areas will be monitored.

- Genetics: genetic diversity

- Demographics

- Redundancy: multiple populations within the habitat range to ensure survival

- Threats

-2005: Will look at reclassification with intent to delist in 7 years. This would require additional monitoring. Criteria for the San Juan River could be established and evaluated at that time. In order to delist, that criteria would have to be met. Delisting also requires that habitat goals be met including fish passage and flows.

-Important issues include what role would the San Juan River play and could there be a viable, self sustaining population in the San Juan River. (Twelve years is the time period for one generation/cycle for pikeminnow.)

Background: The general strategy is to recognize the difference among the recovery programs within the Basin. There are three different management areas: the Upper Colorado Basin (Yampa, Green, Colorado rivers), the San Juan River, and the Lower Colorado Basin. The Biology Committee was asked to come up with a carrying capacity number for the San Juan River for the pikeminnow and the razorback sucker. The two recovery units include the Upper Basin, which includes the San Juan River, and the Lower Basin. No resolution could be attained during this afternoon discussion on the numbers for each species. Vince and Bill volunteered to take another look at their preliminary results and make recommendations to the Biology Committee the following morning prior to the Coordination Committee meeting on a potential range in numbers for Colorado pikeminnow and razorback sucker

adults in the San Juan River.

The model under development by Bill Miller and Vince LaMarra was reviewed to see if it could be used in determining a number. In considering a number for the pikeminnow, the utilization efficiency was used (biomass produced over amount consumed). For a stable predator range (predator-prey ratio), a predator takes 25-40 percent of prey. Using 1998 figures for biomass, if the entire river resembled Reach 6, the river could support 800 adult pikeminnow (80 percent of fish natives/20 percent nonnative). If whole river was similar to Reach 3, the river would support 250 adult pikeminnow. At 250-800 fish, with no range expansion, that was 1-5 fish per mile. The majority of the members present voted to support a figure of 800 pikeminnow as the carrying capacity for the San Juan River. For the razorback sucker, members settled on an interim figure of 5,800. Once more data are collected and analyzed, the figures for the razorback sucker can be reevaluated.

Scheduling/Other Business:

A fall monitoring trip on the pikeminnow is planned for October 1-10, 2000. If any members are interested in going on the trip, they should contact Frank Pfeifer.

The next Biology Committee meeting was scheduled for August 16-17, 2000, in Durango, Colorado.

Attachments:

Attendee List

Agenda