

May17, 2001

**San Juan River Basin
Recovery Implementation Program
Biology Committee**

**Meeting Summary
February 5 - 6, 2001**

Jim Brooks	U.S. Fish and Wildlife Service, Region 2
Frank Pfeifer	U.S. Fish and Wildlife Service, Region 6
Vince Lamarra	Navajo Nation
Bill Miller	Southern Ute Indian Tribe
Larry Crist	U.S. Bureau of Reclamation
Paul Holden	Jicarilla Apache Tribe
Tom Wesche	Water Development Interests
Ron Bliesner	U.S. Bureau of Indian Affairs
Tom Nesler	State of Colorado
Dave Propst	State of New Mexico

Action items from the meeting are shown in bold italics.

Review the minutes from November: There were a few minor editorial changes. The meeting summary was adopted as amended.

Overview of Coordination Committee and Hydrology Committee Meetings:

Jim Brooks quickly reviewed the Coordination Committee meeting that was held on January 30. It was requested that Paul Holden respond to John Whipple's and Tom Pitts' comments on the Program Evaluation Report. ***Action Item: Paul Holden will draft responses to John and Tom and send to the Biology Committee and then on to the Coordination Committee.***

Jim then briefly discussed the Hydrology Committee meeting. The current draft Hydrology Committee proposal has wording that suggests that geomorphology is done by both committees. The Coordination Committee agreed in principle that the Biology Committee is considered the lead for these issues and language should be incorporated into the proposal. After much discussion, the Hydrology Committee voted 7 - 3 to allow the recommended clarification to the Hydrology Committee proposal.

The Hydrology Committee also voted on how the work on the model (2001 Work Plan) would be completed. Options included:

1. Bureau of Reclamation doing all the work themselves
2. Bureau of Reclamation can contract with anyone they want to, to get the work done (including Committee members)
3. Bureau of Reclamation can contract with anyone outside of the Program.

Option 2 was approved 7-3.

At the Coordination Committee, there was a discussion about the roundtail chub and whether it is considered as part of the Program. There was no consensus at the meeting. Some of the discussion dealt with how the roundtail chub fits in with the other Program priorities. The Biology Committee believes that they should be included as part of the native fish community. Some Coordination Committee members felt that we should get ahead of the game before the chub gets listed too. It was decided that work on the roundtail chub will be reviewed on a case by case basis.

Long Range Plan: At the Coordination Committee meeting, Tom Pitts stated that he would like to see more detail in the Long Range Plan, i.e. what will be done by when, how will you determine limiting factors. The Coordination Committee approved the formation of a subcommittee including members from each committee to work on the format of the Long Range Plan. The subcommittee will only work on format and level of detail necessary, not on the actual content.

Biology committee members will be assigned tasks in the newly formatted Long Range Plan and will be responsible for filling in the necessary details. Jim Brooks, Dave Propst, and Paul Holden will represent the Biology Committee on the Long Range Plan subcommittee.

The Coordination Committee comments on the current version of the Long Range Plan are due to Jim Brooks by February 15, 2001.

Positive Population Response Criteria: Larry Crist gave some background information on why the positive population response criteria is being developed. In the most recent Animas/LaPlata biological opinion, the Bureau of Reclamation was charged with developing some positive population response criteria for the endangered fish in the San Juan River, with input from the Biology Committee. They tried to ensure that the draft presented is consistent with the monitoring plan and keyed to recovery goals as well.

After the last Biology Committee meeting, the Bureau met with the principal authors of the biological opinion and the recovery goals. The Service was satisfied with the draft so far, but wanted input from Biology Committee as well. The biological opinion states the criteria has to be finalized within one year from the date the opinion was signed, including the Service's approval. The Service may use these criteria in their sufficient progress determinations. The Service has the final say on the criteria but most likely wouldn't approve it if the Biology Committee disagrees with it.

The Committee provided Larry several comments on the draft criteria. ***Larry Crist will redraft the criteria and send it back out to the Committee for further review.***

Propagation Needs: At the Coordination Committee meeting, there was a short discussion on propagation planning. We presently have an augmentation plan for the razorback sucker and one for the Colorado pikeminnow is in progress.

Razorback Sucker - The approved Augmentation Plan includes stocking sufficient fish for a population of around 15,000 razorbacks. Presently, the recovery goals require 5,800 adult razorback suckers. If we follow the current augmentation plan, the most razorback suckers that are to be stocked in one year is 31,800. Based on our experience at Avocet pond, we expect to raise approximately 1,000 harvestable fish per acre (larval to 6" length). This means we need 32 acres of pond for the razorback sucker. We currently have two ponds with a total of 10 acres, meaning an additional 22 acres are needed. This assumes a one year growing season. If we want a two-year growout, then we need twice the pond size, because there are probably only 600 harvestable fish per acre.

Further discussion resulted in these assumptions to determine the need for propagation facilities:

- The Committee agreed that the 15,000 number was likely too high, and, after discussion, reduced the target population to 5,800 to be consistent with the Recovery Goals.
- Assume same survival as shown in the augmentation plan
- The highest number of fish needed in a year is 11,000
- The fish need to be 300 mm or greater to stock

Using this information, we will need to stock 5,400 fish a year (300 mm) to reach our target. If we assume a two year grow out at 600 fish/acre, then we need 18 acres total. If we assume a 20% overage in production, we would need 21 ½ acres. 25 acres would give 40% overage, which means an additional 16 acres of pond.

The Biology Committee would like to build at least 10 of 16 acres of pond this year so we can get fish into them next year. The Program only has \$120,000 this year to build ponds. Pond construction on NIIP was approximately \$17,000/ acre for last year. BIA could build them this year and get reimbursed from Program next year.

PNM Fish Passage: Bob Norman and Kevin Moran from the Bureau of Reclamation presented some revised alternatives for fish passage at the PNM weir. At previous Committee meetings, alternatives on river left were dismissed because of sediment issues. At an internal review of the proposals, the Bureau of Reclamation came up with additional alternatives to those presented by Tetrattech.

Those alternatives were discussed with the Biology Committee. After review and discussion, the Biology Committee approved Proposal 3 which was a refinement of Tetrattech's alternative III on the south side of the river.

It was suggested that the Biology Committee determine if there are any other barriers to fish passage that need to be addressed so that they can get programmed into the budget.

Colorado Pikeminnow Propagation: The Service (Region 6) is currently working on the augmentation plan for the Colorado pikeminnow. We need to figure out where we want to go with this and what life stage we want to stock. There are presently 100 - 110 fish from the Dexter 1991 year class fish which will be available around March 1. Ten will be implanted with radio tags, and the rest will have PIT tags.

Our data for stocking of larval size fish indicates that is not a good option. Utah has had some luck with Age 0 fish when they grew them and then stocked them later in the year. There seemed to be pretty good survival. It was suggested that we stock as many as Age 0 fish as we can (100,000 or more per year) and stock them as late as we can in the fall to avoid flood flows. Hope for survival of 100-200 after a 5 year period. It is realistic to expect survival of 100 fish out of 100,000 stocked that will make it to 300 mm and larger.

The recovery goals state that we need 800 adult pikeminnow in the San Juan. If we assume 80% survival once they get to the 300 mm size, then that means 50 out of 100,000 stocked fish will make it to 500 mm. Stocking 200,000 age 0 fish a year for eight years will give you approximately 800 fish. Dexter could probably handle that level of production. ***Jim Brooks will check with Dexter on their availability to produce fish.***

Vince LaMarra presented information about their project of growing trout in canals on NAPI to meet trust responsibilities for fishing. The main criteria of the proposal was that it couldn't interfere with delivering water to the farms. They have had success in raising trout in those canals. One of the problems is that there is no way of holding water over in the canals. This is a resource that has potential to raise native, nonnative and commercially available fish. It is also a possibility to use the canals to raise the fish we need. It was suggested that it is too risky for the endangered fish.

Potential Source of Rearing Ponds: It was suggested that we look at the use of private ponds in the Farmington area and Bluff area. In the Upper Basin Program, they use private ponds so they don't have to pay construction costs. They normally reimburse people with a one-

time payment, up-front, with our option to renew in 5 years. An appraisal is completed to determine the appropriate price. The range is normally one payment of \$1,000 - 4,000/per acre.

Do we want to put all the ponds on NIIP or do we want to diversify? BIA proposes to build as many ponds as we need and is willing to commit people for operation and maintenance if the Program commits to building the ponds. Sixteen acres of ponds is doable. If BIA builds them, they would have to figure out where to place them on NIIP. This would take a couple of months. ***It was determined that BIA should proceed with the study on placing ponds on NIIP land and bring that information to the next meeting.***

Recapture Water Quality Proposals: There was discussion on the two water quality study proposals that have been submitted. There weren't major differences in the proposals, just mainly in the analysis. If the Service proposal was modified to eliminate the soils testing and add in salary costs, it would still be less than the other proposal. The Committee needs to know the turn around time of the laboratories that are used before making a decision. ***Jim Brooks will talk to Joel Lusk about labor and travel costs and lab turn around time. He will also call Bill Miller about the turn around time of the lab he uses. If Joel Lusk is able to meet the time frame suggested by the Biology Committee, then Jim Brooks should pursue the contracting of the work with Joel Lusk.***

Release of Program Data: How does the Biology Committee want to handle release the data. We currently don't have a process for releasing data. If we release the data on a CD, we need to have a disclaimer that states that it is raw data and it is not processed. Ron Bliesner currently puts that disclaimer on the CD.

We may need to work with the Solicitor on release of data. What if the researchers haven't had a chance to publish data and someone else takes the data and publishes the interpretation? We need to protect researcher's rights while disclosing the information in a timely fashion. In the Upper Basin, the data isn't disclosed until the final report is submitted.

For all data after 1997, Ron Bliesner will go to the researcher and ask if it is ok to release the data. Data should be held until final reports are completed. Requesters will only get the data they ask for.

Ron Bliesner will make a CD with all data through 1997 (with the disclaimer) and keep a log of who receives the data. Frank Pfiefer will provide Jim Brooks a copy of the Upper Basin policy.

Maintenance of database - All 1999 data has been received except for Steve Platania's. It is expected soon. All 2000 data is due by the end of March.

Presentations of Research Results:

Adult/Juvenile Fish Community in Main Channel - Dale Ryden

During July 2000 razorback sucker monitoring, we collected lots of striped bass. During October 2000 monitoring, striped bass were still common in the river, but not nearly as numerous as during late July sampling. Striped bass represent a new predatory threat to native fishes in the San Juan River.

Flannelmouth numbers have increased from low catch-per-unit-effort (CPUE) values observed during the 1995-1997 time period. These increases in CPUE were statistically significant. Flannelmouth sucker appear to have had a very good reproductive year in 2000. Over the last five to six years, flannelmouth sucker have essentially disappeared from Reach 1 adjacent to Lake Powell. With the exception of Reach 1, flannelmouth sucker presently appear to be doing well in the San Juan River.

Bluehead sucker - It appears that bluehead sucker are doing well in the San Juan River, especially in Reach 6. Like flannelmouth sucker, bluehead sucker also appear to have had a very good reproductive year in 2000. Management of flow releases from Navajo Dam appear to have had a positive effect on the bluehead sucker in the San Juan River.

Colorado Pikeminnow - Up until 2000, stocked juvenile Colorado pikeminnow were collected fairly regularly during our sampling. However, in 2000 very few Colorado pikeminnow were collected. We are unsure as to the cause of this absence of fish. Possibly they were affected by the presence of large numbers of striped bass in the river in 2000. Another possibility is that the stocked juvenile Colorado pikeminnow have reached a size at which they are very difficult to recapture. Wild adult Colorado pikeminnow continue to be hard to capture, with only one individual being captured in the last several years.

Razorback Sucker - Several razorback sucker were recaptured again in 2000. Two adult razorback sucker were collected in October 2000 very near the suspected spawning site downstream of Aneth, Utah. These two fish were both radio-tagged and have remained in the area, being last located directly over the suspected spawning bar at RM 100.2. In both 1997 and 1999 groups of ripe razorback sucker were collected within feet of each other at this site. Gordon Mueller has recaptured several of our stocked razorback sucker that have moved downstream into Lake Powell. Hopefully these fish will move back upstream into the river.

YOY/Small Bodied Fish Monitoring - Dave Propst

Habitat sites --131 sites were monitored and fish abundance was up this year. There was a huge number of small fish in the system this year. 2000 was an exceptionally good year in primary and secondary channel habitats.

Channel catfish really didn't change much in secondary channels. Bluehead suckers are staying pretty steady. The abundance decreases the farther you go downstream. We don't think secondary channels are really where bluehead suckers will go in the fall.

Flannelmouth sucker - In 1997 - 1999, the abundance was comparatively low for all three reaches, all three years.

Stocking of Larval Pikeminnow - Julie Jackson

Utah began to stock YOY in 1996. Utah has stocked 100,000 larval fish in November 1996, August 1997, and then 10,570 (small 25 mm) in July 1998. In July 99, they stocked 500,000 larval fish. No stocked larval pikeminnow were collected after the stocking event from 1999.

105,000 larval Colorado pikeminnow were stocked in June 2000. Four larvae were caught two days after the stocking event, all in or around Reach 3. This means they had drifted 64 miles in two days. Three were caught around RM 78 in a backwater within a small chute adjacent to the main channel. One of the four larvae was caught at TM 114.9.

An additional larval/YOY Colorado pikeminnow was captured by Utah on July 9 at RM 106.7, measuring 65 mm TL. New Mexico Department of Game and Fish caught two in October at RM 117.4, measuring 75 mm TL, and one at RM 69.8 measuring 93 mm.

Drift of Fish - Steve Platania

Razorback Sucker - In 1998, we only picked up a couple. In 1999, we picked up seven, two on June 14. All 2000 fish samples will be sent to the lab for identification after sampling this month.

If we see another bump in the number of fish collected, we will need more of a monitoring effort instead of sampling effort.

Pikeminnow – The sampling for 1999 - 2000 is being processed. So far, we haven't seen anything that looks like a pikeminnow. We had more hours of drift sampling than before and the flow volume was less. Less fish were caught and observed. It was really a low catch year. There is no indication of pikeminnow at all in 1999 - 2000.

In 2002, may want to add a monitoring protocol along with the sampling. Light traps don't seem to be feasible on the San Juan for razorback suckers.

Controlled Monitoring of Large-Bodied Non-Native Fish - Jim Brooks

Comparing 2000 to 1998 and 1999, there has been an increase in catch per unit effort in each successive year. In 2000, we had one fish per minute; 0.5 in 1998; and 0.7 in 1999. It decreased for larger fish, > 300mm.

It is fair to say that the cpue is lower than what we have seen. The trend for the bigger fish is down, but the overall numbers are going up. It was suggested that we may need a two tier criteria to get rid of smaller fish.

We need to make a call on how far down we will go downstream for intensive removal. Also, timing is critical, do we need to hit in the spring before they spawn or later in the year? By April, we will have several trips completed to help define our 2002 proposal.

Evaluation of Augmentation Efforts - Dale Ryden

Razorback Sucker - In fall 2000, we stocked 5,208 fish. Avocet ponds eastern cell was the most productive of the two. Many harvested razorback sucker were returned to the ponds to allow them to grow for another season. The recapture rates (i.e., survival rate) for stocked fish increases greatly when fish are stocked at >300 mm TL. The largest percentage of razorback sucker recapture events (including second- and third-time recaptures) in any ten-mile segment of the San Juan River occurs between RM 100 and RM 110.

Population Modeling - Bill Miller and Vince Lamarra

We hope to have model runs out in two months. They have completed population estimates in two reaches.

In Reach 3, Flannelmouth sucker averaged 144/mile (ranged 105 -187/mile). In 1998, it was 241/mile, in 1999 it was lower than that. For most species, populations are lower than in 1998, but higher than in 1999. If we still get big variations between electrofishing numbers and the modeling population estimates, then we have to make a decision on where the problems exist..

They also tried to collect anything that the fish might be feeding on. They collected samples at several different sites. These samples were analyzed using stable isotopes methods. Periphyton registered a very high carbon signature. Invertebrates could be a much larger component of the diet of the fish than was anticipated based on the isotope analysis. They expected the fish who feed by grazing to be closer in isotope signature than to the periphyton but they weren't and don't know why. Fish are high on the nitrogen level, bugs in the middle, and plants are at the bottom. Periphyton is the exception.

Suckers all have a similar isotope signature and invertebrates are a high percentage of the diet, even though they eat detritus too. Fatheads and invertebrates basically have the same diet components. Detritus is what's on the bottom and you expect it to be more reduced because it has bacteria and fungus associated with it.

For every fish we catch, it represents 20 % of total estimated population. This is consistent against 5 reaches and across species.

Hydrology/Geomorphology - Ron Bliesner

Hydrology - We didn't meet the flow recommendation in July. 1995 was the big wet year. In 1997, we met the 10,000 cfs flow recommendation. In 2000, we didn't meet the >5,000 cfs condition. We had 48 days where we didn't meet the 500 cfs condition and 17 days that didn't meet the 300 cfs condition.

Average bed elevations haven't seen much variation. Minimum bed elevations increased in 2000. Mean bed elevation of Lake Powell has dropped now. Lake Powell has been connected with the river and is now three feet higher than when we started.

Temperature - At Archuleta, the water is cooler in the winter than at Navajo Dam. There is a lot of warming when the flow is low. There was a lot of differential between Farmington and Shiprock in summer 1999, but no difference in 2000.

Habitat - The number of shoals have essentially doubled since last year. The number of backwaters have gone up since 98, but the total area of backwaters have decreased since 1995. A lot of flow recommendations were related to Reach 3. It is still important player now. The model indicates that we had enough flow to clean those backwaters and we really haven't done that yet. Cleaning isn't responding like we thought, but the cobble bars do seem to be stabilizing just fine.

2002 Work Plan Proposals: For proposed 2002 scopes of work, we will use the combined listserver to solicit new proposals, show ongoing projects and new proposals. Listed below are new items that could be in the 2002 Work Plan.

*Temperature modeling/monitoring - this would be a two year, three part proposal.

*Roundtail chub propagation- Kevin Bestjen is working on a report. *Larry Crist has a draft and will provide copies of interim report to the Biology Committee.*

*Fish passage analysis at Arizona Public Service - We probably will need passage on it. Someone will have to explore options around APS.

*Need an operating scope of work for PNM. We need someone to put that together.

*Do we need to look above for native fish communities? The flow recommendations indicate that we will have low flows below the diversion dams. Reach 6 has highest number of suckers.

Low Flow Test: During the low flow test, will stretches of river go dry? If so, what impacts will that have on native fishes? Is it something we should be worried about? Most of the studies being proposed right now during the low flow are not biological, they are more physical. This is a more significant issue to the Program than the trout issue. Need to make sure we are in the loop and have some review of the data. *Larry Crist and Dave Propst will help keep the Biology Committee in the communication loop on this issue.*

Next Meeting: The next meeting will be held May 15 (1 pm) - May 16 (3 pm) at the Farmington Civic Center.

Other meeting attendees included:

Attendee

Amber Hobbes
Matthew Andersen
Julie Jackson
Michael Hudson
Steve Platania
Tom Chart
Mike Buntjer
Keith Lawrence
Ernie Teller
Jason Davis
Pat Page
Dale Ryden
Jeff Cole
Rege Leach
Kevin Moran
Terry Stroh
Bob Norman
Steve Harris

Representing

State of New Mexico
State of Utah
State of Utah
State of Utah
University of New Mexico
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