



San Juan River Basin Recovery
Implementation Program
Biology Committee Meeting
17 May 2022

Final Meeting Summary

Biology Committee (BC) Members:

Harry Crockett (Chair)
Matthew Zeigler
Jacob Mazzone
William Miller
Vince Lamarra
Brian Westfall
Stephen Davenport
Mark McKinstry
Benjamin Schleicher
Ryan Besser
AJ Keith
Tom Chart

Representing

State of Colorado
State of New Mexico
Jicarilla Apache Nation
Southern Ute Indian Tribe
Navajo Nation
U.S. Bureau of Indian Affairs (BIA)
U.S. Fish and Wildlife Service
U.S. Bureau of Reclamation (Reclamation)
U.S. Fish and Wildlife Service
U.S. Bureau of Land Management
The Nature Conservancy (TNC)
Water Development Interests

COORDINATION COMMITTEE (CC) MEMBERS:

Colleen Cunningham
Michelle Garrison
Kara Scheel
Rudy Keedah
Chris Kitcheyan
Ryan Christianson
Jason Davis
Dale Ryden

Representing

State of New Mexico
State of Colorado
State of Colorado
U.S. Bureau of Indian Affairs
U.S. Bureau of Indian Affairs
U.S. Bureau of Reclamation
U.S. Fish and Wildlife Service
U.S. Fish and Wildlife Service

Program Office (PO):

Melissa Mata, Program Coordinator
Eliza Gilbert, Assistant Program Coordinator
Scott Durst, Science Coordinator
Raphaella Ware, Program Biologist
Kayla Kelley, Program Fellow
James Sykes, Program Assistant

Representing

U.S. Fish and Wildlife Service
U.S. Fish and Wildlife Service

Other Interested Parties:

Adam Barkalow, BC Alternate
Jill Wick, BC alternate
Dan Lamarra, BC alternate

Representing:

State of New Mexico
State of New Mexico
Navajo Nation

Other Interested Parties:

Carrie Padgett, BC alternate
Tracy Diver, BC alternate
Mel Warren
Wade Wilson
Nathan Franssen
Tildon Jones
Paul Badame
Steve Mussmann
Diego Araujo
Melody Saltzgiver
Nate Caswell
Susan Behery
Kerri Pedersen
Brian Hines
Casey Pennock
Matthew Bogaard
Steve Platania
Melissa Trammel
Jerrod Bowman
Jamie Shockey
Pamela Norris

Representing:

Water Development Interests
U.S. Fish and Wildlife Service
Peer Reviewer
U.S. Fish and Wildlife Service
U.S. Bureau of Reclamation
U.S. Bureau of Reclamation
Utah Department of Wildlife Resources
Utah State University
Kansas State University
American Southwest Ichthyological Researchers
U.S. National Park Service
Navajo Nation
City of Farmington
Arizona Public Service

Introductions and changes/additions to agenda – Crockett

Miller asked for an update on outstanding annual reports

Approve draft summary 30 November BC meeting – Franssen

Franssen reported the nonnative fish symposium recording was split into many smaller recordings due to size of the file and the links for each segment are posted on the San Juan River Basin Recovery Implementation Program's (Program) website. Chart was concerned the meeting summary did not fully communicate the rationale behind the decisions made at the symposium. Franssen agreed but thought the summary communicated the decision points. Chart said he would like it to be recorded that most comments were incorporated into the summary. Mazzone motioned to approve the summary, Chart seconded, and it was unanimously approved.

Approve draft summary 2 December 2021 BC meeting; review Action Item list – Ware

Ware incorporated comments received from Zeigler, Barkalow, Miller, and Chart

Action items:

1. The Program will send a Doodle poll to schedule a BC meeting in May.
Completed
2. Last meetings' BC notes need to be reviewed, approved, and video links fixed – or nonnative fish symposium more completely summarized
Completed – see agenda item above

3. Creating a vice chair for BC or alternating the rotation schedule to be revisited by BC later
Ongoing
4. Tracy Diver will receive and incorporate comments on proposal for stocking Colorado Pikeminnow eggs and larvae for 2022 by the end of April and will pass on to CC
Completed – on Coordination Committee agenda
5. PO will forward Scope of Work for capital improvements at SNARRC to CC with suggestions
Completed – on Coordination Committee agenda
6. Mata will continue to work with Navajo Nation on the Nonnative Fish Stocking Cooperative Agreement and report back to the BC and CC
Ongoing
7. After Jicarilla Apache Nation water leasing permits go through, Cunningham will report to PO about water usage options.
New Mexico Interstate Stream Commission is working through an internal process to move this forward
8. Scopes of Work are due at end of March.
Completed

Miller motioned to approve the summary, Zeigler seconded, and it was unanimously approved.

Discuss draft fiscal year (FY) 2023 annual work plan – BC

Mata began the discussion by saying the total of all submitted scopes of work (SOW) was over budget by almost \$750,000. However, she said contributions derived from the Four Corner's Power Plant biological opinion had not been incorporated and might be able to support ~\$300,000. Mata said the PO was asking the BC to identify SOWs they thought should begin or continue in FY 2023.

The first SOW discussed (“Literature review and data synthesis to inform nonnative fish management in the San Juan River – New 1”), was submitted because of a request by the BC’s nonnative fish management subgroup. This request was to conduct a literature review of Channel Catfish biology both within and external to the San Juan River Basin. The request also included a synthesis and analysis of data collected from the San Juan River to better understand Channel Catfish movement (spatial and temporal) as well as changes in population recruitment, abundance, and growth/age structure. Most committee members supported this SOW. However, the BCs opinion was mixed pertaining to the importance of the literature review versus data synthesis and analysis. Warren thought data analysis and synthesis was needed to understand whether there were San Juan River specific Channel Catfish spawning and movement patterns. He agreed that although the literature was available for everyone to read, the Program had little understanding of basic Channel Catfish biology and needed a succinct reference document. McKinstry agreed, saying he thought the subgroup had asked for the literature review and data synthesis to better “know thy enemy”. Pennock, one of the SOW’s principal investigators, said he would revise the SOW based on Zeigler’s technical comment, which suggested he produce the literature review and work with the subgroup to develop the data synthesis portion of the project.

Additional conversation about Channel Catfish management occurred. Chart suggested the Program look into ways to define and possibly achieve “functional extirpation” as the goal for an adaptive strategy for nonnative fish control. He also suggested that this literature review incorporate a thorough

summary of native fishes' response to past Channel Catfish management actions, which should build off of the analysis the Program Office prepared for the nonnative fish symposium. Durst and McKinstry said the Program had yet to decide what nonnative fish management should accomplish and this was a fundamental question to resolve. Durst thought the general plan for the subgroup would be to resolve this question and possibly develop an adaptive management plan. Crockett and Mazzone thought the Program had decided to take a 3-5-year hiatus from the nonnative fish management status quo so that SOWs like this one could be funded and if room was not made in the budget for such SOWs, then the hiatus could be wasted.

The second SOW discussed (“Evaluating temporal and spatial spawning patterns of Channel Catfish *Ictalurus punctatus* to provide alternatives for nonnative fish control in the San Juan River- New 2”), was also submitted because of a request from the BC’s nonnative fish subgroup. The purpose of the SOW was to improve nonnative fish removal by targeting spawning activity and the SOW was split into three tasks. The first task was calculation of Channel Catfish temporal and spatial spawning from larvae accessioned to the University of New Mexico, Museum of Southwestern Biology. The SOW’s second task was to assess seasonal distribution and movement patterns, especially spawning, using both radio and activity tags. The third task was proposed to confirm spawning activity through collection of larvae and age-0 Channel Catfish. Almost all BC members supported this SOW. BC members asked for some tasks to be clarified, there was doubt that the activity tags would be recovered and concern that spawning behavior could be accurately determined. Miller asked why collections of larvae from the drift study conducted in the 1990s would not provide the temporal spawning period. Platania said assessment from museum specimens would provide a finer resolution but there might be issues with the samples having been stored in formalin.

The third SOW discussed, was “Captive rearing of wild-spawned larval catostomids: steps towards understanding recruitment bottlenecks for Razorback Sucker in the San Juan River – New 3”. The SOW’s purpose was to determine whether there were differences in survival among wild produced Razorback Sucker, common suckers, and hybrids. Proponents of the SOW said the intent was to determine whether factors other than habitat may be contributing to poor larval Razorback Sucker recruitment, such as genetics or contaminants. Committee members were concerned with the SOW’s conceptual underpinnings, unsure whether it could be carried out, and uncertain how it would clarify the larval Razorback Sucker recruitment bottleneck. Pertaining to investigation of hybrid versus Razorback Sucker survival, McKinstry and Saltzgiver said Reclamation and Southwestern Native Aquatic Resource and Recovery Center (SNARRC) were in the process of developing a laboratory experiment to identify differences in survival and might investigate effects of temperature on survival and growth. They said the project will likely begin next year as Flannelmouth Sucker were recently brought into the SNARRC facility. Diver asked that a copy of the proposal be sent to the BC once it was finalized and Saltzgiver agreed. Westfall said BIA was almost finished working with the U.S. Geological Survey on a study assessing the effects of Selenium on Razorback Sucker reproduction. Chart referenced some experiments investigating the effect of contaminants (e.g., selenium) on larval Razorback Sucker survival conducted by the Upper Basin program in the 1990s.

The fourth SOW discussed (“Augmenting an augmentation program: proposed egg and larval stocking of Colorado Pikeminnow in the San Juan River – New 4”), was proposed to follow up on this summer’s pilot study to stock Colorado Pikeminnow eggs and larvae. The intent of the SOW is to test

whether this additional stocking method could increase the number of Colorado Pikeminnow in the river, which is the second prong the nonnative fish management subgroup is working to develop. The SOW was supported by most of the BC with Mazzone saying he could not see a downside. Crockett said he thought there was concern from the BC that this was a change to the augmentation of Colorado Pikeminnow and the Program had yet to assess its most recent approach of stocking age-1 fish. Chart said he would have liked to have seen the stocking be paired with an assessment of nursery habitat. Barkalow asked how success would be defined and Diver said given the numbers and life-stages stocked, success would be capture of one individual. This project is being conducted as a pilot study in FY 2023 and Chart suggested Diver and Behery explore how flow management might best be implemented to benefit these stockings.

The fifth new SOW submitted and discussed, was “Evaluating genetic and phenotypic patterns in hybridization between Razorback Sucker and Flannelmouth Sucker in the San Juan River – New 5”. This SOW is similar to work conducted in prior years, but its purpose was to shift focus of Razorback Sucker juvenile recruitment to understanding of whether the number of hybrids were being underestimated by targeting fish that looked like Razorback Sucker. Barkalow asked what the results from the previous efforts had been. Schleicher said they had not compiled the photographic data because the field methods had not worked, but they are trying to develop better methods to take photographs in a field situation, and the genetic results were still being processed. McKinstry said he was hoping this work could be coupled with the fall “Sub-adult and adult large-bodied fish community monitoring – 19” but Schleicher thought the project was too much work to add to that SOW. In general, the BC did not support including the SOW in the FY 2023 annual work plan.

General discussion of the rest of the SOWs submitted for FY 2023 included the idea that the Program could take a break from some of the annual SOWs or reduce their temporal or geographic coverage. This included larval (#21) and small-bodied monitoring (#20). However, Miller did not support a reduced effort for the sub-adult and adult large-bodied monitoring (#19) SOW because it has not been conducted in four years. Some BC members suggested the Program could take a break from habitat monitoring (# 25) since flow and habitat relationships are better understood and the SOW could be instituted when the Program conducted a management action like large scale nonnative vegetation removal. There was also the suggestion that tissue samples could be retained for multiple years before estimating number of breeders (# 2). McKinstry and Zeigler did not see the utility in “Colorado Pikeminnow and Razorback Sucker Augmentation in the San Juan River Basin – 8”. Davenport thought the PO should reduce its budget (# 37) and Zeigler was unsure what the Program was getting from Remote Biologist position (#38). Mazzone thought many of the SOWs were inflated in regard to report writing.

There was conversation about short-term projects and whether the Program should commit to completing those. Some BC members thought they should be completed whereas other wanted to know results from the first year of work before supporting additional years, especially for Razorback Sucker age-at maturity (#48) and use of nonnative vegetation to enhance in-stream habitat (#47). Diver said field work for #48 was still occurring and there were two more trips to complete, but she did have preliminary data. A total of 777 Razorback Sucker had been collected and 754 were unique individuals. Overall, 5% of age-5 fish were expressing gametes whereas 40% of 12-year-old and 67%

of 15-year-old fish were expressing gametes. Diver said it would take a second year to understand how reproductive ability varies with Razorback Sucker age and size.

Conversation turned to the observation that Lake Powell's pool elevation was dropping and the likelihood it would fill to the Piute Farm's waterfall in the next 30-50 years was low. Some BC members thought this meant construction of fish passage at or near the waterfall was becoming more feasible and increasing in priority. McKinstry said Razorback Sucker below the waterfall were older than those at PNM and thus had additional potential to add to annual reproduction. The conversation included two distinctly different opinions as to whether continued electrofishing below the waterfall and transport upstream (# 41) should continue in FY 2023. Additional conversation related to fish passage at the Public Service of New Mexico (PNM) weir (# 15) and if the trap should be run as a passive system because more fish were passing under this management than through active capture and transport of fish above the weir. Schleicher did not think the passage should be run open all season because of the risk of Channel Catfish moving upstream.

The discussion related to how often the hydrology model should be funded. Westfall thought this was the only analytical tool the Program had to assess hydrology, this made it important, and the Program should always be ready to ask for Endangered Species Act section 7 model runs or recent requests like the one done for the Navajo Gallup Project biological opinion depletion guarantee. There was discussion on how often the model needs maintenance and Behery said any funds that are not used for maintenance are used to update the model and this had included incorporation of operations at the Animas La Plata project, development Navajo Reservoir optimization scenarios. She said that in the future incorporating the Utah Water Settlement would be done when maintenance was not needed.

Overview of new Program website – Ware

Ware demonstrated the Program's new website, which contains information from both the San Juan and Upper Colorado recovery programs.

Navajo Reservoir operations and DROA release – Behery

Behery provided an update on Navajo Reservoir operations. She said there would be no Drought Response Operation Agreement release to Lake Powell and the forecast did not predict a shortage to Navajo Reservoir contracts. Behery said, Navajo Reservoir is lower than this time last year and snowpack has melted. There is no spring peak release planned and it is unlikely any flow recommendations will be met. Behery said, snowmelt was ~ 1 month early and this matters because it is usually used by irrigators and will not be available in the early summer. This means Navajo Reservoir will need to release more water than historically to support irrigators and provide for baseflow flow recommendations. Behery said forecasts at this time of year would normally be plateauing but appear to still be declining. In the last three years there have been no days in which flows in the river were 5000, 8000 or 10000 cfs and there have been seven days at 2500 cfs. This year will exceed the flow target frequency metric for 8000 cfs, surpassing it by 8 years, and the 2500 cfs target, surpassing it by 1 year. Behery also said there would need to be enough precipitation to overcome the current reservoir deficit and additional inflow (279,000 acre-feet above an end of water year Navajo Reservoir elevation of 6050) to allow for a spring peak release.

Status of FY2022 funding – McKinstry

McKinstry said funds were available for contracting.

Guidance on getting documents in template and 508 compliance – Mata

Mata made changes to the templates and asked principal investigators to use that template so the Program's documents would comply with the Americans with Disabilities Act.

Final SJRIP FY2021 reports due end of June – PO

Durst reminded principal investigators that final reports were due at the end of June. He said reports that were outstanding from prior years were:

- 1) FY 2020 and 2021 – New Mexico Fish and Wildlife Conservation Office for augmentation support
- 2) FY 2021 – Navajo Nation for Navajo Agriculture Products Industry (NAPI) grow out ponds and PNM fish passage
- 3) FY 2021 – American Southwest Ichthyological Researchers for larval monitoring

Miller also asked for brief written reports from Schleicher on the stocking of Razorback Sucker into Lake Powell and on passive integrated transponder antenna installation from McKinstry. Miller thought these would be good for the Program to have reports to document this work.

Fin-clipping protocol for genetics analysis, clip all untagged T&E fish – PO

Durst reminded field crews to take fin clips of all untagged juveniles and if any field crews needed equipment to let the PO know.

Discrepancy between San Juan River field map river miles and National Hydrology Dataset (NHD) river miles – Durst

Durst asked the BC to provide an opinion on how to deal with the discrepancy between the San Juan River field map river miles that many field crews use and the National Hydrology Dataset used in the STReAMs database. There was discussion on how the San Juan River miles were first developed and changed overtime. In general, the BC suggested data be submitted with GPS coordinates, this should resolve the conflict, and river miles could continue to be used like place names.

Discuss and clarify guidance on including reviews and response to comments in final versions of SOWs and reports that are posted to SJRIP website – BC

Durst said the last time this was discussed, the BC decided reviews and response to comments would be removed from any final reports and SOWs. There was no disagreement from BC members on this clarification. Mata asked that principal investigators submit their response to BC technical comments in a document separate from their final SOW.

Solar bank project near NAPI ponds – Bowman

Bowman explained the Navajo Nation and NAPI were considering a proposal to install a block of solar panels to provide electricity to the Navajo Nation's power system. He said there has not been agreement on the project but if it occurs it will be constructed at the Avocet ponds and could increase the pond's water temperature by a few degrees. This might increase Razorback Sucker growth rates and would not infringe on the Program's ability to construct other facilities at the ponds.

Phase III rehabilitation – Bowman and Mata

Bowman said rehabilitation had been completed and Mata showed a drone video of the clean-up. Keith asked for a written report of overall implementation and then rehabilitation of the project. Mata and McKinstry said they would work together to provide that report.

Fish passage at APS – Christianson

Christianson said funding for this project has been requested through the Bipartisan Infrastructure Law (BIL) and Program capital funding. The project is still in the design phase and BIL funds would not be counted towards the Program's capital funds cost ceiling.

Smallmouth Bass illegal introduction in Long Hollow Reservoir – Crockett

Crockett reported that Jim White is currently sampling the reservoir and its downstream stream reach. Crockett will share results with the BC once work is completed. The reservoir is relatively new as it was built and filled in the last 10 years and usually had Brown Trout and native fishes. Last summer White found Smallmouth Bass and the reservoir had been drained for repair which included removal of the outlet screen. At that time, White found dead Smallmouth Bass at the outlet but could not detect fish downstream of the reservoir. Miller asked if samples were being collected for eDNA and Crockett said he would find out and let the BC know. Barkalow reiterated that New Mexico Department of Game and Fish had sampled downstream in the New Mexico portion of the La Plata last year and did not detect Smallmouth Bass. He said habitat did not appear sufficient to support the species as there were many dewatered reaches and poor habitat. Crockett said rotenone may be considered if Smallmouth Bass is detected.

Development of YY Channel Catfish broodstock – Zeigler

Zeigler has been continuing conversations with Daniel Schill who developed super male YY Brook Trout. Schill is currently working as consultant with Western Association of Fish and Wildlife Agencies to develop super male broodstock for other species. The regulatory hoops are significant and there is an effort to obtain a blanket permit through the Food and Drug Administration for use on multiple species. Zeigler said once the permitting is figured out, the next biggest question would be determining where a broodstock could be developed. Warren asked whether the permitting and broodstock development would be figured out during the Program's 3-5-year hiatus. Zeigler thought that would be a difficult timeline to make. Zeigler said he was planning to continue updating the nonnative fish management subgroup as he continues to gather information.

New managed wetland in Bluff – Mata, Keith, McKinstry

Mata, Keith, and McKinstry meet with TNCs Colorado River Group to determine if TNC was interested in participating in a project at Bluff, UT to construct larval Razorback Sucker grow out ponds. Bogaard said he spoke with an adjacent landowner who is interested in participating in the project. Both parties have water rights.

Nonnative fish stocking cooperative agreement – Mata

Mata has been working with the Navajo Nation on a path forward which might be an independent agreement.

Next meetings

BC Meeting 14 July 2022; CC Meeting 3 August 2022

Action Items

1. Principal investigators who have outstanding annual reports, as identified in the summary above, will send their reports to Durst.
2. Principal investigators will revise SOWs as needed and submit them to the PO by 3 June 2022.
3. Saltzgeber will send the proposal on Razorback and Flannelmouth sucker hybridization to the BC once it is finalized.
4. The PO will send a revised annual work plan by 17 June 2022.
5. BC members asked for additional reports be submitted to the Program, and these are:
 - a. Phase III - Mata and McKinstry
 - b. Razorback Sucker stocking – Schleicher will coordinate with NMFWCO Augmentation Report
 - c. Passive integrated transponder antenna installation – McKinstry
6. Durst will send a Doodle poll to organize the BC's November/December 2022 meeting.
7. Crockett will find out whether eDNA samples for Smallmouth Bass will be collected as it pertains to Long Hollow Reservoir.
8. Keith will update the BC on TNC's decision to support a grow out pond for larval Razorback Sucker in Bluff, UT.
9. The PO will include updates on the BC's agenda from the BC's nonnative fish management subgroup.