



DRAFT SUMMARY
BIOLOGY COMMITTEE
Public Lands Center, Durango, CO – 4 December 2018
Conference Call – 6 December 2018

Biology Committee (BC) Members

William Miller
Brian Westfall
Stephen Davenport
Mark McKinstry
Benjamin Schleicher
Matt Zeigler
Harry Crockett
Tom Wesche
Jacob Mazzone
Vince Lamarra
David Mueller (not in attendance)
Vacant

Representing

Southern Ute Indian Tribe
U.S. Bureau of Indian Affairs (BIA)
U.S. Fish and Wildlife Service (Service) Region 2
U.S. Bureau of Reclamation (BOR)
U.S. Fish and Wildlife Service Region 6 (on phone)
State of New Mexico
State of Colorado
Water Development Interests
Jicarilla Apache Nation, BC Chair
Navajo Nation
U.S. Bureau of Land Management (BLM)
The Nature Conservancy

Peer Reviewers

Steve Ross
Mel Warren
Wayne Hubert

University of New Mexico/Eco-Consulting Services
U.S. Forest Service
University of Wyoming

Coordination Committee (CC) Members

Dale Ryden
Patrick McCarthy

U.S. Fish and Wildlife Service Region 6 (on phone)
The Nature Conservancy (on phone)

Program Office (PO)

Melissa Mata, Acting Program Coordinator
Scott Durst, Science Coordinator
Eliza Gilbert, Program Biologist

U.S. Fish and Wildlife Service Region 2
U.S. Fish and Wildlife Service Region 2
U.S. Fish and Wildlife Service Region 2

Other Interested Parties

Jojo La, CC Alternate
Christina Noftsker, CC Alternate
Bobby Duran, BC Alternate
Jill Wick, BC Alternate
Carrie Padgett, BC Alternate
Nathan Franssen
Henry Day
Susan Behery
Matt Owens
Kim Yazzie
Jerrod Bowman

State of Colorado
State of New Mexico
U.S. Fish and Wildlife Service Region 2
New Mexico Department Game and Fish (NMDGF)
Water Development Interests
U.S. Fish & Wildlife Service Region 2
Arizona Public Service
U.S. Bureau of Reclamation
Navajo Transitional Energy Company
Navajo Nation Department Fish and Wildlife (NNDFW)
Navajo Nation Fish and Wildlife

Daniel Kaus	U.S. Fish and Wildlife Service Region 2
Weston Furr	U.S. Fish and Wildlife Service Region 2
Dan Lamarra	Ecosystems Research Institute (ERI)
Mike Ruhl	New Mexico Department Game and Fish
Steve Platania	American Southwest Ichthyological Researchers (ASIR)
Brian Hines	Utah Division of Wildlife Resources (UDWR)
Katie Creighton	Utah Division of Wildlife Resources
Melissa Trammell	National Park Service (on phone)
Colleen Cunningham	New Mexico Interstate Stream Commission (on phone)

Tuesday 4 December 2018

Introductions and changes to agenda

- The meeting was held in person on 4 December and reconvened as a conference call on 6 December to account for a National Day of Mourning (5 December) for President H. W. Bush.

Nomination of BC members (vote required)

- Service Region 2, nominated Franssen but withdrew the nomination in response to input from some CC members prior to a full discussion among the BC or the CC.
- There appears to have been a break down in the process in recent years with the CC intervening into BC responsibilities. Some BC members and Program Office staff voiced concern over the CC weighing before the BC had an opportunity to make a recommendation. This is not the only example of the CC preventing the BC from having a full discussion on a topic, as the CC previously ended discussion on the proposal to stock the Animas River prior to the BC's technical evaluation. The BC needs the latitude to evaluate the scientific and technical merits of projects to make the best recommendations to the CC and Program Office. The Program Document may need to clarify boundaries between committees and this discussion should be an agenda item for each committee.
- Zeigler was nominated for New Mexico, Mueller for BLM, and Davenport for Service Region 2. The votes were unanimously cast for all nominees.

Nomination of BC chair (vote required)

- The new chair will fill the remaining year of the current term and next vote will be Nov/Dec 2019
- Mazzone was the only member nominated and votes were unanimously cast for Mazzone.

Technical recommendations for fiscal year (FY) 2019 Annual Work Plan (AWP)

Update on PNM 2018 operations and modifications – Leave passage open over winter?

- The passage was fully open for the first two months of operation. Boulders were also placed near the capture basin (26 June). About 200 Razorback Sucker were passed above the weir, more than all other years combined and ~ 178 Colorado Pikeminnow. Only 10% of detected fish were passed.
- Opening the passage was delayed by a month due to the difficulty of removing a large berm. NNDFW applied for a grant to purchase a pressure hose to remove the berm in future years. NNDFW and the PO requested the passage be left open through the winter to reduce berm formation. There were no objections and the passage will remain open until summer 2019.

Larval sampling below the waterfall vs. April river wide survey

- Sampling below the waterfall was conducted in May, June, and July of 2018. A total of 21 Razorback Sucker larvae were collected just below the waterfall as well as 20 river miles downstream. Just above waterfall, 165 larvae were captured and 1,100 river-wide in the month of May.
- Sampling below the waterfall was conducted to assess whether larvae were from localized spawning or drift over the waterfall. It would require extensive effort and funds to adequately quantify. Capture of larvae below the waterfall in combination with N_b sibling analysis will assess whether larvae were related to those captured above. If N_b increases with the addition of larvae captured below the waterfall, it could suggest spawning below the waterfall. There were at least 700 PIT tagged fish below the waterfall this year. If they had successfully spawned, many more larvae would have likely been captured. This suggests fish at the waterfall are not spawning.
- This year's low flow may have resulted in fewer larvae drifting over the waterfall.
- April sampling (19 years) helps identify annual spawn initiation and spatial extent. They have not shown a lot of variation in spawn initiation.
- Lamarra motioned to forego April sampling for fiscal year (FY) 2019 and support larval sampling below the waterfall. Wesche seconded and the motion was passed with no objections.

Wild Razorback sucker spring sampling trip Scope of Work (SOW)

- The proposal is to determine if the age-0 Razorback Sucker caught in 2018 survived over-winter. If fish grow quickly, they will be indistinguishable in the fall from stocked fish that lost their tag. Thus, determination of growth from this spring trip will also help assess whether fall monitoring can be used to track this age class in the future.
- Funding will come from the 2018 adult/sub-adult monitoring trip that was canceled due to the expected lack of funding for FY 2019. BC members and Program Office staff discussed the reasons and the need for input from the BC on the potential impact to Program projects with any future sampling cancellations.
- The trip would occur prior to spawning (March/April) with a single electrofishing pass. Of 54 age-0 Razorback Sucker captured during the 2018 field season, 42 were captured using electrofishing, which suggests the proposed capture method is appropriate to detect wild fish.
- The Upper Colorado River Basin Recovery Program (Upper Basin) documented age-1 survival in 2012. Such documentation has been rare. The magnitude of survival seen in the San Juan River in 2018 was equal to or greater than that seen in the 2012 sampling in the Upper Basin.
- Mazzone motioned to recommend. Miller seconded. The motion passed with no objections.

Demographic monitoring SOW

- The purpose is to quantify Colorado Pikeminnow and Razorback Sucker survivorship, capture probability, and obtain population estimates. Scott Clark (University of New Mexico SOW) took a new job, a new person will not be hired for the position, so the SOW will not be completed. Calcein is not effective for marking Colorado Pikeminnow and precludes conclusion of NMDGF's SOW. With reallocation of these savings, the KSU study design only needs to be reduced by one pass to support the demographic monitoring SOW.
- This year's support for KSU's study resulted in the collection of 3,600 Channel Catfish (>300 mm TL) stomach samples in four passes. The CC and Peer Reviewers requested Channel Catfish population estimates. The loss of one pass may result in a less precise estimate. Since there was no fall monitoring, there will be at least a two-year data gap for the common fish species.

- Salting live wells, use of aerators, and more immediate processing to reduce Colorado Pikeminnow mortality occurred this year. Recaptures are necessary to determine whether or not those techniques resulted in increased survival.
- McKinsty motioned to recommend. Wesche seconded. The motion passed with no objections.

FY20 and beyond planning – brainstorming session

Habitat creation and maintenance

Moving forward with Phase III?

- The CC did not approve funding and requested the BC consider whether to re-recommend the project. Water Development Interests and New Mexico CC members provided questions. To re-recommend the project, the CC requested the BC respond to these questions in a presentation at the annual meeting.
- New Mexico's concerns were forwarded to the BC. These were technical and related to hydrology based on habitat management in the Rio Grande. Concerns were not due to a lack of support for the concept but the potential for the project to require more funding than originally intended.
- The PO will forward the Water Development Interests questions to the BC. In general, Water Development Interests (CC) did not support a proof of concept project, since similar projects are successful in the Upper Basin. Using the production of one Razorback Sucker as success was not acceptable. They wanted the need for the project to be quantified and placed within the overall management of San Juan River habitat. For both sets of questions, some may not be answerable or will require a specific project to determine the answers.
- The Nature Conservancy and New Mexico CC representatives are discussing investigative approaches to opening the recruitment bottleneck through mechanical habitat manipulation. It would be useful to have the BC suggest optimal experiments. These CC members are also discussing how to move forward when the BC unanimously recommends a project, like it did for Phase III, and there is an impasse at the CC level.
- The project's engineers did not think that because the concept was implemented in the Upper Basin, the Upper Colorado Basin's concepts could necessarily be replicated in the San Juan River. There are also differences in the proposed filling procedure, inlet structure, and larval entrainment method.
- BC members were unclear whether the CC would support an experimental approach (i.e. The Nature Conservancy and New Mexico) or would only approve proposals that were certain (i.e. Water Development Interests). There was also confusion as to the need for a suite of potential actions. This project was developed through an evolution of habitat manipulation (Phase I and Phase II). In each instance, a suite of alternatives were considered and included all the options for creating zero velocity habitat, evaluated, and the best route forward chosen. Phase III was discussed within the BC for 2+ years before it was recommended to the CC. It was a struggle to come up with Phase III, as ways to manage and manipulate habitat are limited.
- There may be other ways to get funding to construct Phase III, if the SJRIP will not support the project. The SJRIP's capital projects funds are an appropriate way to support this type of work and none of the habitat projects to date have been funded by the SJRIP.
- Phases I and II need maintenance and was included in this year's annual work plan¹. The potential maintenance for Phase III may not be worth constructing that project. Phase III will not cost \$1 million and is projected to cost between \$300,000-400,000.

¹ Maintenance of the secondary channel may be delayed due to contracting issues unless funds from Four Corners Power Plant can be exchanged with SJRIP to do the work sooner.

- Westfall and the PO will work to address questions posed by the CC. This will be provided to the BC prior to their February meeting to consider a re-recommendation.

Phase II report, what does this mean for future restoration?

- PIT tag data indicated the secondary channel was used by adults and sub-adults. An analysis between flow and secondary channel use would be useful.
- Unless secondary channels act like backwaters, how do secondary channels help alleviate the bottleneck for Razorback Sucker? Phase II acts as a backwater when flows are at 200 cfs. The purpose of Phases I and II were not to create backwaters. That was the purpose of Phase III.

Need for a habitat workshop?

- For the BC to get buy in from the CC on projects like Phase III it might be necessary to produce a habitat management plan. The beginning of this could be a workshop.
- Westfall, Lamarra, V. and Lamarra, D. volunteered to begin development of a habitat workshop which could occur as soon as the February meeting.

McElmo larval Razorback Sucker recruitment

- The Dolores Project transformed the system from ephemeral to perennial and it now benefits native fishes. Nathan Cathcart investigated the use of McElmo by Colorado Pikeminnow which were detected as far up as Yellow Jacket and also found 1,000s of Flannelmouth Sucker.
- The proposed project was developed to assess whether McElmo can be used to raise Razorback Sucker larvae through the juvenile stage. If so, natural selection would act on the larvae and could result in more fit individuals. The project would not incur a direct cost to the Program and would consist of stocking marked larvae. Cathcart identified landowners with whom we could work with again.
- The OTC mark might not retain and a genetic mark be used to make sure there is no confusion between stocked and wild spawned larvae. It is unlikely stocking McElmo would swamp annual monitoring. Water users are becoming more efficient and the system could become less perennial in the future.
- McKinstry will provide a written description of the project prior to the BC's next meeting.

Shiprock secondary channel construction and PIT antenna installation

- Biomark, Service, BOR, Mike Isaacson, and Keller-Bliesner Engineering installed three PIT antenna at the mouth of a reopened secondary channel (just below the Shiprock Bridge).
- Channel restoration was funded by the San Juan River Dineh Water Users to mitigate 5% of the lost riparian habitat which will occur as they implement a grant from BOR's Salinity Control Program. BOR requires this level of mitigation for riparian habitat loss.

River-wide PIT antenna

- Post-2023, river-wide PIT antenna may be needed to monitor fish. Installation of an antenna at the Hogback fish passage would result in a cross river detection system. An array of stationary floating antenna could be set up. Installation of such a system just above the waterfall would be a good place. There was concern with recreational boaters and the public at other areas considered. The BC and peer reviewers discussed the need to develop a clear set of objectives for the locations prior to any installation.

Update on fish passage at APS and Waterfall

- BOR and the PO have scheduled a trip with engineering experts from their agencies to visit APS and the waterfall. The product from this trip will be an SOW that might be close to a 20% design.

What management actions do we take with X% annual mortality of Colorado Pikeminnow by Channel Catfish predation?

- The PO presented a preliminary model to estimate Channel Catfish predation on Colorado Pikeminnow using initial data from the Channel Catfish diet study being conducted by Kansas State University and data collected from other SJRIP monitoring and research efforts. The intent of the exercise was to begin the discussion on what management actions would be employed given possible Channel Catfish predation effects.

Thursday 6 December 2018

Approve draft summary from 10 July 2018 BC meeting; review Action Item list

- Wesche, Zeigler, and Crockett's comments were incorporated into the draft summary. Wesche motioned to approve the summary. Miller seconded and the motion passed with no objections.
- Action items: 1) BC chair elections which occurred during this meeting, 2) APS's presentation on Morgan Lake is not due until May, and 3) the Peer Review report is on the meeting agenda.

Update on 2019 AWP

FY19 Funding Update

- Western Area Power Administration returned FY 2019 funds to the U.S. Treasury. As budget negotiations to support the SJRIP for FY 2019 appeared to be heading to an impasse, PIs were recommended to conserve FY 2018 funds. This resulted in the spur of the moment cancellation of fall adult/sub-adult monitoring which was to provide logistical support to small-bodied monitoring. The small-bodied monitoring researchers quickly adapted and conducted their sampling. Although, it occurred in a reduced reach of the river due to the impromptu need to reorganize logistics. BOR was surprised that they were appropriated SJRIP FY 2019 funds and are unaware how that occurred, even though they had participated in weekly and sometimes bi-weekly conversations with SJRIP and Upper Basin partners who were trying to figure out how to fund the programs.
- The BC was not provided an opportunity to make a recommendation on a reduced FY 2018 AWP. The PO and the CC need to figure out how to address this if such issues continue to occur.

Review CC decisions and action items on 2019 AWP

- The CC approved the 2019 AWP to either retain April larval sampling or sample below the waterfall. The CC was informed that the Demographic SOW might be recommended to replace fall monitoring and a spring sampling trip to replace the 2018 fall adult/sub-adult monitoring trip.
- The CC requested a rationale from the BC on why they should be able to review SOW budgets.

Update on 2018 and 2019 budgets, contracting, CPI, and funding

- BOR has not received any funds although they were appropriated. The SJRIP needs to plan for a static budget for the next few years. The process for funding 2020-2023 is currently unknown.

Updated Long Range Plan Appendix 2

- Mata received updates from most PIs but needs a few more. The 2017 and 2018 updates will be uploaded to the website once they are approved.

Peer review Program Overview

- The Peer Review report was helpful and should be used to develop and prioritize AWP, SJRIP post-2023, and could be used for development of the habitat workshop.
- The SJRIP needs to decide whether Peer Review should be for detailed comments or more of “science advisory” perspective which is what the report provided. The BC will review the Peer Reviewer’s 2019 SOW and provide comments. The SJRIP needs more ideas to recover the fishes and this may be what is asked for from a science advisory panel rather than peer review which provides comments on whether the science was done appropriately.

FY20 and beyond planning – brainstorming session

Post 2023 monitoring plans - How to monitor wild recruits?

- Cessation of stocking would allow for detection of wild fish. The proposed downlisting of Razorback Sucker was based on continuation of stocking. SJRIP should not stock fish without a tag. Age-1+ Colorado Pikeminnow had a low return rate. Hatchery enrichment (predator and flow conditioning, prey training, etc.) could occur to increase the survival of larger stocked fish. The SJRIP will have to decide at what life-stages/populations we need to back off from stocking.

NMDGF Colorado Pikeminnow adaptive management plan

- New Mexico will have a draft prior to the next meeting. Given 2019 is likely to be a low flow year, there does not appear to be a reason to forego stocking. This should be an agenda item at the next BC meeting.

Updates

Razorback sucker stocking plan

- A draft will be provided prior to the next meeting. The number of fish currently stocked appear to be just enough to sustain the population.

Size of Razorback sucker for PIT tags (130mm TL)

- The minimum size for tagging fish by inexperienced personnel will be 130 mm TL. If an experienced tagger feels comfortable, they can tag fish that are smaller.

CC requests written justification from BC about seeing budgets

- It is difficult to make a technical recommendation when the budget cannot be viewed, especially when the CC requests the BC consider the cost effectiveness of a project. The BC has struggled with recommendations of secondary channel maintenance and PIT antennas which require consideration of costs. The ability to figure out where money fits into other needs is an important aspect the BC should consider. This will be especially true as the SJRIP evolves past 2023. The first round of reviews can be technical and the second could include budgets.
- Mazzone and Westfall will work to draft a rationale to give to the PO to provide to the CC. The rationale will be distributed to the BC prior to sending to the PO.

Calcein not viable option as proposed

- The experiment included fish that were marked and unmarked and housed with and without shade. Marks were read at 30, 180, and 300 days. At 300 days, the mark was correctly identified 80% of the time with a large variation among readers. Another set of marked fish were raised in

an outside pond. At 300 days, correct classification of their marks was <40%. These data were used to cease marking Colorado Pikeminnow stocked into the San Juan River.

Fruitland Fish Passage and Weir

- There is a delay in this project, as engineering designs for the weir have not been developed and assessment of the fish passage designs indicate the passage would be dry at low river flows.
- BOR is working with BIA to transfer funds to pay for construction of the weir. Construction should occur in 2020.

Hydrology model documentation, review by end of January

- Behery requested the BC provide comments on the documentation by the end of January.

Program report review procedures

- Reviewers can submit a dissent should they think their comments should have been addressed better. It will be added to the report that is published on the SJRIP website.

Nonnative fish stocking procedures

- New Mexico is working through comments received from signatories. The few substantive comments should not change the document greatly. Once made, that document will need to go out to all signatories again.

Future meetings

- The Colorado River Basin Researcher's meeting will be in Moab (15-16 January 2019).
- The next BC meeting will be in Durango from the 19-22 February 2019. The first and last day will be half days. The half-day on the 22nd is a place holder for a possible habitat workshop
- The annual meeting will be held in Farmington from either the 14-16 or 21-23 of May 2019.

BIOLOGY COMMITTEE ACTION ITEM LOG (Updated 20 December 2018)						
Item No.*	Action Item	Meeting/O rigination	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
1	Provide RBS/CPM stocking/capture/recapture data		PIs to PO	Before Jan. 1		
2	Provide Preliminary Draft Report Presentations		PI	At Feb. meeting		
3	Review LRP		BC	At fall meeting		
4	Review Peer Review Comments from the February and May meetings		BC	At fall meeting		
5	Provide Draft Reports		PIs to PO	By end of March		
6	Scopes of Work		PIs to PO	By end of March		
7	Provide Final Reports		PIs to PO	By end of June		
8	Annual Data Delivery		PIs to PO	By June 30		
9	T&E Species Data		BC to PO	By Dec. 31		
10	Compile T&E data and Program progress into summary to address overall Program recovery goals/objectives for presentation		PO/BC	At May meeting		
11	Distribute consolidated data and list of annual data collected and available in the Program's database		PO to BC	By Jan. 31		
12	Recapture analysis on PIT tagged fish		Durst	By March		
13	Coordinate CPM stocking closely with BOR to avoid negative impact due to high flows/releases		PIs	Annually		

BIOLOGY COMMITTEE ACTION ITEM LOG (Updated 20 December 2018)						
Item No.*	Action Item	Meeting/O rigination	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
14	Revise RBS Augmentation Goals (based on the outcome of experimental stocking and analysis by Franssen and Durst). What is the appropriate numbers of fish to stock?	5/10/10	NMFWCO/PO	05/2011 – provide update and extend as needed	2/19/2019	
15	Pursue effects study on Hg/Colorado Pikeminnow with other groups/programs	1/14/10	Program Office lead		ongoing	
16	Include benchmarks for recovery in LRP (amended to also included in Pathways document and monitoring protocols)	12/5/14	Mata	01/5/2015	ongoing	
17	Status updates for the LRP	12/2/15	PIs to Mata	02/23/2016	ongoing	
18	Make Program peer-reviewed publications available to Program participants	11/29/16	PO (Mata)	02/21/2017	ongoing	
19	Disposition of Razorback <300 mm TL	02/21/17	NMFWCO	05/16/2017	ongoing	11/28/2017 TBD 2019
20	Draft a plan for Colorado Pikeminnow stockings	02/21/17	PO, NMFWCO, and NMDGF	02/21/2017	2/19/2019	
21	Coordinate aerial flights for base flow imaging	11/28/17	BC (Lamarra)/PO (Franssen)	02/20/2018	Ongoing	
22	APS present on Morgan Lake to Coordination Committee after one year of operation.	02/20/18	APS	05/30/2019		
23	Forward Water Development Interest Phase III questions to BC	12/04/18	PO	12/18/2018		
24	Draft response to Water Development Interests and New Mexico CC questions on Phase III	12/04/18	BIA and PO	02/19/2019		

BIOLOGY COMMITTEE ACTION ITEM LOG (Updated 20 December 2018)						
Item No.*	Action Item	Meeting/O rigination	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
25	Written description of McElmo project to BC	12/04/18	BOR	02/19/2019		
26	Provide BC with presentation and excel files from nonnative fish analysis	12/04/18	PO	12/18/2018		
27	Determine funding mechanism for secondary channel maintenance	12/04/18	Franssen and BOR	02/19/2019		
28	Provide a letter to CC from BC requesting ability to see SOW budgets during review	12/04/18	Jicarilla, BIA, and BC	02/19/2019		
29	Send BC FY 2019 Peer Review SOW and received comments from BC on ways to revise SOW for 2020 as a science advisory group		PO and BC	12/18/2018 and 02/19/2019		
30	Review and comment to Behery on hydrology model documentation	12/04/18	BC	01/31/2019		
22	BC Chair Election at November Meeting	07/10/18	BC	12/2018		
24	Highlight Peer Reviewer topics from spring report for discussion in November	05/22/18	PO/BC	12/2018		

*Items were re-numbered after changes were made

Yellow highlight indicates annual action items

Green highlight indicates new action item

Red highlight indicates completed action items that will be removed from the next iteration of the Action