SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM (SJRIP) BIOLOGY COMMITTEE 12 May 2020 MEETING SUMMARY

BIOLOGY COMMITTEE (BC) MEMBERS:	REPRESENTING:
Matthew Zeigler	State of New Mexico, Chair
Harry Crockett	State of Colorado
Jacob Mazzone	Jicarilla Apache Nation
William Miller	Southern Ute Indian Tribe
Vincent Lamarra	Navajo Nation
Colin Larrick	Ute Mountain Ute Tribe
Brian Westfall	U.S. Bureau of Indian Affairs
Stephen Davenport	U.S. Fish and Wildlife Service
Mark McKinstry	U.S. Bureau of Reclamation
Benjamin Schleicher	U.S. Fish and Wildlife Service
Ryan Besser	U.S. Bureau of Land Management
Tom Wesche	Water Development Interests
Absent	Conservation Interests

COORDINATION COMMITTEE (CC) MEMBERS:	
Jason Davis	U.S. Fish and Wildlife Service, Chair
Jojo La	State of Colorado
Cathy Condon	Southern Ute Tribe
Stanley Pollack	Navajo Nation
Ryan Christianson	U.S. Bureau of Reclamation
Dale Ryden	U.S. Fish and Wildlife Service
Roland Becenti	U.S. Bureau of Indian Affairs

PROGRAM OFFICE (PO):	
Melissa Mata, Program Coordinator	U.S. Fish & Wildlife Service
Scott Durst, Science Coordinator	U.S. Fish & Wildlife Service
Eliza Gilbert, Biologist	U.S. Fish & Wildlife Service

OTHER INTERESTED PARTIES:	
Adam Barkalow, BC Alternate	New Mexico Department of Game and Fish
Daniel Lamarra, BC Alternate	Navajo Nation
Bobby Duran, BC Alternate	U.S. Fish and Wildlife Service
Carrie Padgett, BC Alternate	Water Development Interests
Christina Noftsker, CC Alternate	State of New Mexico
Colleen Cunningham, CC Alternate	State of New Mexico
Crystal Tulley-Cordova, CC Alternate	Navajo Nation
Rudy Keedah, CC Alternate	U.S. Bureau of Indian Affairs
Kathleen Callister, CC Alternate	U.S. Bureau of Reclamation

Ben Zimmerman	Southern Ute Indian Tribe
Rachel Vaughn	Southern Ute Indian Tribe
Jerrod Bowman	Navajo Nation Department of Fish and Wildlife
T. Kim Yazzie	Navajo Nation Department of Fish and Wildlife
Nathan Franssen	U.S. Fish and Wildlife Service
Seth Willey	U.S. Fish and Wildlife Service
Nathan Caswell	U.S. Fish and Wildlife Service
Daniel Kaus	U.S. Fish and Wildlife Service
Steve Mussmann	U.S. Fish and Wildlife Service
Melody Saltzgiver	U.S. Fish and Wildlife Service
Susan Behery	U.S. Bureau of Reclamation
Marc Miller	U.S. Bureau of Reclamation
David Speas	U.S. Bureau of Reclamation
Melissa Trammel	U.S. National Park Service
Brian Hines	Utah Department of Wildlife Resources
Katie Creighton	Utah Department of Wildlife Resources
Steven Platania	American Southwest Ichthyological Researchers
Michael Farrington	American Southwest Ichthyological Researchers
Stephani Clark Barkalow	American Southwest Ichthyological Researchers
Aaron Chavez	San Juan Water Commission
Henry Day	Arizona Public Service
Pamela Norris	Arizona Public Service
Cameron Corley	Arizona Public Service

Introductions and changes to agenda
A Colorado Pikeminnow broodstock collection update will be included in the Annual Work Plan (AWP) discussion. An agenda item about the potential to rear Colorado Pikeminnow at the Navajo Agricultural Products Industry (NAPI) ponds was added.

Miller requested clarification on the agenda item "Finalize habitat workshop summary" and asked what it would entail since no summary was distributed prior to the meeting. The PO clarified that it will be listed as an Action Item and a draft summary will be sent for review and comment. The BC should make an assessment if more needs to be done on this summary before it is provided to the CC.

Approve draft summary from 19-20 February 2020 BC meeting; review action item list
Responses from Barkalow, Zeigler, Wesche, Westfall, Miller, and Schleicher were incorporated into the summary. The action item list was reviewed. Crockett moved to approve the summary, Wesche seconded, and the summary was approved with no objections.

Discuss draft fiscal year (FY) 2021 AWP Scopes of Work (SOW)
Stocking Razorback Sucker in Lake Powell (SOW New 1)
The Principle Investigators (PIs) said the intent was to understand if Lake Powell and/or the inflow area provides a better rearing habitat than the San Juan River. The test would be to stock small (~200 millimeter [mm]) Razorback Sucker to see whether they survive based on passive integrated transponder (PIT) tag antenna detections or recaptures. Recaptures would occur in subsequent years during a separate U.S. Bureau of Reclamation (Reclamation) project targeting adult fish. Although the fish for this project would be produced at Ouray National Fish Hatchery, there would be no

impact on that facility's San Juan River production commitment (2,000-4,000 Razorback Sucker ≥ 300 mm TL). The number of fish to stock into Lake Powell (~4,000 fish ≤ 200 mm TL) was determined based on the number of excess fish the hatchery could produce and number of fish that could be transported to the stocking location. If tag loss occurs for these smaller stocked fish it would complicate our understanding if recruitment is occurring in the inflow/lake area. Double tagging stocked fish was suggested as a possible solution to distinguish between hatchery and wild fish. The BC asked the PIs to clarify the question and hypothesis they were interested in addressing in the SOW and to include a method for distinguishing stocked fish from wild should the PIT tag be lost. The PIs said they would revise and resubmit the SOW.

SJRIP spawning bar creation at Piute Farms Waterfall (SOW New 2)

This project would place cobble in areas just below the waterfall to provide spawning substrate to the approximately 2,000 Razorback Sucker that appear to be making a spawning migration and are prevented from reaching upstream spawning habitat by the waterfall. The intent of this project is to provide spawning habitat for those individuals below the waterfall so they can potentially contribute to annual reproduction, possibly resulting in recruitment in the inflow area and/or Lake Powell. Comments included a concern that the evaluation plan measuring larval fish upstream and downstream of the spawning bar would need a SOW to sample larvae below the waterfall (either included in this SOW or as a separate SOW). There was also concern that the constructed spawning habitat would not persist. Some BC members suggested a proof of concept or a feasibility study might need to be conducted first to determine the longevity of constructed spawning habitat in this location. Ideas included marking and tracking cobble or obtaining assistance from the Grand Canyon Monitoring and Research Center bathymetry group or Reclamation's Technical Center. The PIs suggested the project itself could be the proof of concept since experimentation and geomorphological studies could be more expensive than the suggested project and a low-cost analysis such as assessing aerial imagery was unlikely to determine how long the habitat would remain. The U.S. National Park Service has interest in the project and a BC member thought it might be worth a try. The PIs will withdraw the SOW from consideration for the FY2021 AWP because Mata indicated it could be revised and submitted outside of the normal AWP schedule since it would likely be funded as a capital project.

Physical and biological monitoring and evaluation of Phase III habitat restoration (SOW New 3)

This project will monitor the physical parameters of the Phase III wetland and assess the biologic response of the site. Lamarra suggested that additional water quality monitoring site be added to the wetland and the PIs consider measuring river and wetland elevation to assess subsurface infusion. Zeigler asked for the contingency plans that were in prior drafts of the construction SOW to be listed in the monitoring SOW. An additional contingency plan was discussed (because Razorback Sucker larvae are present in the drift for most of May), that if no larvae are detected after the first larval sample, then the wetland could be drained and refilled as a second attempt to entrain larvae. Miller asked that a graphic be included to show monitoring locations. The PIs said they would make these changes and resubmit the SOW.

Mitigating stress related mortality in Colorado Pikeminnow during field collection and transport (SOW New 4)

The intent of this SOW is to test an anesthetic to mitigate Colorado Pikeminnow stress during broodstock collection and transportation. Personnel from Southwestern Native Aquatic Resources and Recovery Center (Southwestern ARRC) would conduct a laboratory experiment to identify a suitable

anesthetic and dosage rates and funding from this SOW would be used to experimentally assess the response from wild young-of-year (YOY) Colorado Pikeminnow captured in the middle Green River under suboptimal field conditions (i.e., high water temperatures in August when YOY are typically more abundant). Christian Smith (U.S. Fish and Wildlife Service, Green River Basin Fish and Wildlife Conservation Office) will provide field logistics. This project would be a separate effort from any broodstock collection (and would not diminish broodstock collection efforts in FY 2021). The PIs have contacted the Upper Colorado River Endangered Fish Recovery Program (UCREFRP) for field study approval. Some BC members thought the benefits of a study to mitigate stress during broodstock collection may be limited because broodstock collection may cease by 2022 or 2023. The PIs suggested stress mitigation anesthetic could be used during other fish handling efforts. The PIs clarified that each seine haul would be a replicate and transport trucks would be sectioned so samples sizes for experimentally treated and control fish would be 30 each.

Colorado Pikeminnow broodstock collection from the Green and Colorado Rivers, Utah (SOW New 5)

Broodstock collection would follow the UCREFRP annual monitoring which would provide fish location and abundance data in the Green and Colorado rivers. Broodstock collection would be in the fall when temperatures are cooler, and fish are easier to identify because of their larger size. A spring pilot study was conducted but few fish were captured (n=11). Additional funding for this effort would come from Utah Division of Wildlife Resources' UCREFRP SOW 138. The overall goal would be to collect 2,000 fish (1,000 from the Green River and 1,000 from the Colorado River). Due to hatchery limitations this goal would need to be reached within a three-year time period. Previous broodstock collections have delivered about 120 fish from each the Green and Colorado rivers to Southwestern ARRC. There were questions about "ownership" of these fish that will be discussed between the recovery program offices.

Augmentation and Production of Colorado Pikeminnow and Razorback Sucker (SOWs 9 and 10)

Although the BC had already recommended the change in production from 400,000 age-0 fish to 12,000 age-1 fish, this SOW was included for review because of the substantial change from previous years. BC members did not voice any concern with the change and recommended updating the long-range plan to reflect this change in stocking strategy.

Channel Catfish Management on the San Juan River (SOW 17)

This SOW provided two scenarios to choose from, either continuing with the prior year's effort (3 removal passes) or adding a removal trip. The PIs said an additional trip could result in removal of another 1,200-1,500 Channel Catfish. Some BC members thought exploitation estimates were not necessary every year and the marking pass should be replaced with a removal pass. Others suggested the effect of removal could be measured by evaluating Channel Catfish size structure. The importance of measuring the effect of this management action and all management actions in general was discussed. Others voiced concern that adding an additional trip may interfere with Razorback Sucker pre-spawning behavior. The PIs said they would make sure to schedule trips prior to Razorback Sucker staging. The BC decided to support the SOW's second scenario which added a 4th removal trip to the effort while maintaining the marking pass.

Spring Age-1 Razorback Sucker Study (SOW 19b)
This SOW would focus on capturing age-1 Razorback Sucker and implanting PIT tags into age-2 Colorado Pikeminnow. Capture of age-1 Razorback Sucker would also include fin clip samples to assess the field crew's ability to detect hybrids. Since this same SOW was funded in FY 2020 but cancelled due to the Covid-19 pandemic, the U.S. Fish and Wildlife Service, Grand Junction Fish and Wildlife Conservation Office (GJFWCO) can carry over those funds to conduct the work in FY 2021.

Young-of-year/Small-Bodied Fish Monitoring (SOW 20)
This SOW was reviewed because it proposed adding San Juan River Reaches 1 and 2 to the monitoring protocol. The BC supported the expansion of the study area.

PIT Tag Antenna Installation (SOW 32b)
This SOW was proposed to increase the number of PIT tag antennas to intensify the number of remote detections. The proposed locations would not include river-wide coverage and there were no specific research questions being addressed by these installations. Antenna detections can be used to supplement estimation of demographic parameters like annual survival and abundance. Capital funds could be used for this SOW.

Status of FY 2020 field activities related to COVID-19
As previously noted, GJFWCO was unable to conduct the spring age-1 Razorback Sucker sampling. American Southwest Ichthyological Researchers (ASIR) was able to maintain an administrative permit with the U.S. Bureau of Land Management but the Navajo Nation has extended its closure until June 7th so they have been unable to conduct fieldwork to date. ASIR will begin sampling as areas are opened. New Mexico Department of Game and Fish (NMDGF) did not conduct the first trip for the secondary channel maintenance work and will seek permission to conduct the second trip. NMDGF was able to conduct the telemetry flight for the Razorback Sucker facilitated passage study. The PO is going to recommend that Pittsburg State delay the start of the backwater productivity project for another year.

FY 2020 and 2021 budget issues
Awards for most of the FY 2020 SOWs have been finished. The award is almost complete for the Phase III wetland and construction is likely to occur this fall/winter. Fruitland weir construction has been delayed and is expected to begin this fall/winter. The PIT tag antenna for the Ranchman-Terrell project in the Animas River has been purchased and will likely be installed this fall. Reclamation expects program funding to be the same as last year and with no cost of living increase. The current FY 2021 AWP is about $100,000 over budget.

Status of variable frequency drive (VFD) replacement at Hogback
The CC approved the funds to replace the VFD but they were not received before Covid-19 stay-at-home orders were instituted so replacement will be delayed until this fall/winter. It was also recently noticed that the computer software requires updating. The PO is going to ask the CC to increase (~$26,000) the contract to include software updates.

2020 Hydrology
Most reservoirs within the San Juan River Basin are 75-90% full and snow pack is about average. However, the available water forecast is low (50% of average) due to low soil moisture because of the dry 2019 monsoon season. The available water calculation indicates no spring release and shows there's little expectation of meeting any of the flow targets this year. Snow melt runoff is expected to be quicker and sooner than normal.

BC recommendation of City of Bloomfield release request
Reclamation received a request from the City of Bloomfield to increase baseflows to 1,000 cfs for a paddleboard competition to support an outdoor tourism and recreation event (October 1-4). The release at that time of the year is typically 600 cfs. However, if it is dry with no monsoon the release from the dam could already be high. Reclamation recommended releasing 800 cfs. The release could bring the reservoir below a 6050 foot elevation but the event and release would occur after the end of the water year. There was some concern that the request would set a precedent for future releases. The BC agreed with Reclamation's recommendation and requested the PO conduct outreach during the event. The PO will contact the UCREFRP to begin coordination for the outreach event

Colorado Pikeminnow adaptive management stocking plan
The recommend alternative was changed to stocking PIT tagged age-1 fish as the BC had agreed upon at the last meeting. The document was sent to the CC for review and comment. The next version of the augmentation plan will heavily rely upon the adaptive management plan.

Razorback Sucker augmentation plan
Davenport said that many constructive comments were received and incorporated into the document. Wesche requested further clarification of stocking into "all suitable habitat". Mata said the plan was a U.S. Fish and Wildlife Service document and it would be implemented through the AWP process. The BC requested that prior to sending the document to the CC for review and comment that a paragraph be inserted to address concerns about stocking density. Wesche requested, clarification on what constituted "all suitable habitats" especially in regards to the Animas River, inclusion of the logic behind stocking fish in locations where habitat may only be available temporarily over the course of the year, and an explanation as to why water temperature was the only parameter that was considered for "suitable" habitat. Davenport will revise the plan and send to the BC for a final review prior to sending it to the CC.

Preliminary result of winter nonnative removal
All trips were completed when water turbidity was low and some trips were rescheduled when conditions were not ideal. A total of 920 adults were tagged and 4,193 adult fish removed. Exploitation rates were 17% for fish 300-399 mm total length (TL), 28.5% for 400-499 mm TL, and 31% for fish >500 mm TL. Overall, the exploitation rate was 22.8%. The PIs said these rates were generally higher than summer removal efforts and those comparisons will be provided in the annual report.

Post-2023 and environmental funding white paper
There have been three post-2023 funding group meetings. The first task was for Western Area Power Administration (WAPA) to determine how much they could provide to the three fish programs they fund (SJRIP, UCREFRP and the Glen Canyon Dam Adaptive Management Group [GCDAMP]). WAPA indicated that on average $12.5 million/year was sustainable over the next 10 years, which is

lower than the $21 million they currently provide. They recommended that other partners provide a 50% match but thought there was some leeway for the SJRIP because of tribal involvement. The funding group asked the PO to revise the capital funds estimate to cover 5, 10, and 15-year timeframes by May 20th.

Mata will begin sending updates to the BC and CC after each of the post-2023 funding group meetings and will also forward WAPA's funding white paper.

Potential rearing of Colorado Pikeminnow at NAPI
If the SJRIP wanted to increase production of age-1 Colorado Pikeminnow, NAPI ponds could be used for rearing. Discussion centered on other possible locations for rearing, the need to provide the facilities to conduct enrichment, and questions as to whether more fish are needed. Some BC members thought that since the SJRIP just began a new augmentation protocol it was difficult to determine if additional fish were needed.

Davenport and the PO agreed to draft a document that considers the pros/cons and justification for rearing fish at NAPI for future BC discussion.

Finalize habitat workshop summary
The PO will send the habitat workshop summary to the BC for review and comment but would also like the BC to provide feedback on whether the document satisfies what they and their CC members wanted from a habitat workshop.

Schedule upcoming meetings/calls/webinars
Revised SOWs are due June 26th. The next BC meeting will be a conference call in mid-July. The main purpose of that call will be to make a final AWP recommendation to the CC.

The PO will send a doodle poll to schedule the conference call.

Recap decision points and assigned action items
- Recommendation from the BC that the PO and NMFWCO draft a document to consider NAPI ponds as a rearing facility for Colorado Pikeminnow.
- Update the long-range plan to reflect a change in Colorado Pikeminnow stocking strategy (age-0 to age-1 production)
- PIs submit revised SOWs that include response to comments to PO by June 26th
- The PO will work with UCREFRP to conduct public outreach at the City of Bloomfield October festival.
- NMFWCO will draft an additional paragraph for the Razorback Sucker augmentation plan for BC review.
- The PO will send a doodle poll for mid-July call/webinar (completed on 5/18/2020)
- Mata will send out WAPA's funding white paper (completed on 5/14/2020)
- The PO will continue to coordinate with upper program on ownership of broodstock.
- The PO to send out workshop habitat summary for review/comment.

BIOLOGY COMMITTEE ACTION ITEM LOG (Updated May 18, 2020)						
Item No.*	Action Item	Meeting/Origination	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		

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Item No.*	Action Item	Meeting/Origination	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
13	Coordinate CPM stocking closely with BOR to avoid negative impact due to high flows/releases		PIs	Annually		
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	Ongoing	
15	Pursue effects study on Hg/Colorado Pikeminnow with other groups/programs	1/14/10	PO 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	Ongoing	
21	Coordinate aerial flights for base flow imaging	11/28/17	BC (Lamarra)/PO (Franssen)	Fall	Ongoing	
22	Rank entrainment risks for diversions included in the Diversion Study	02/019/2020	PO	Ongoing		
23	Coordinate with Upper Colorado Program on enhancing CPM broodstock	02/019/2020	PO	Ongoing		

BIOLOGY COMMITTEE ACTION ITEM LOG (Updated May 18, 2020)						
Item No.*	Action Item	Meeting/Origination	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
24	Planning document for Colorado Pikeminnow rearing at NAPI	5/12/2020	NMFWCO and PO	None given		
25	Send Habitat Workshop Summary for BC review/comment	5/12/2020	PO	July 2020		
26	Submit revised SOWs	5/12/2020	PIs	6/25/2020		
27	Update long-range plan to reflect change in Colorado Pikeminnow stocking	5/12/2020	PO	6/30/2020		
28	Coordinate with UCREFRP for City of Bloomfield outdoor festival outreach	5/12/2020	PO	10/1/2020		
29	Provide BC additional Razorback Sucker augmentation plan paragraph	5/12/2020	NMFWCO	July 2020		
30	Send WAPA white paper to BC	5/12/2020	PO			5/14/2020
31	Doodle poll for July meeting	5/12/2020	PO			5/18/2020
32	Coordinate with UCREFRP on Colorado Pikeminnow broodstock collection	5/12/2020	PO			
22	Post BC December meeting notes	02/19/2020	PO	05/14/2020		Feb 2020
23	Update and post roster with new BC member	02/19/2020	PO	05/14/2020		Mar 2020
24	Reclamation will distribute climate change scenario study plan	02/19/2020	PIs and PO	ASAP		3/18/2020
25	Weston will provide BC the final RBS augmentation plan	02/019/2020	PO	05/14/2020		4/13/2020
27	Develop a monitoring SOW for Phase III	02/019/2020	PO	3/31/2019		3/27/2020
29	Develop a SOW for collection of Colorado Pikeminnow broodstock	02/019/2020	Utah Department of Natural Resources	05/14/2020		3/27/2020

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Item No.*	Action Item	Meeting/Origination	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
30	Email catfish model with excel file to BC	02/019/2020	Gido (KSU)	05/14/2020		2/20/2020
31	Recommendation of change in production of CPM from age-0 to age-1.	02/019/2020	PO	05/14/2020		3/27/2020
32	Request approval for Replacement of VFDs at Hogback from CC	02/019/2020	PO	05/14/2020		2/25/2020
33	Amend small-bodied monitoring SOW	02/019/2020	NMDGF	05/14/2020		3/27/2020