



FINAL SUMMARY
BIOLOGY COMMITTEE MEETING
13 July 2017
Conference Call

Attendees

Biology Committee (BC) Members

Bill Miller – Southern Ute Indian Tribe
Jacob Mazzone – Jicarilla Apache Nation
Brian Westfall – U.S. Bureau of Indian Affairs (BIA)
Jason Davis – U.S. Fish and Wildlife Service (USFWS) Region 2
Mark McKinstry – U.S. Bureau of Reclamation (BOR)
Benjamin Schleicher – USFWS Region 6
Vince Lamarra – Navajo Nation (NN)
Mike Ruhl – State of New Mexico
Harry Crockett – State of Colorado
Tom Wesche – Water Development Interests
Dave Gori – Conservation Interests
Craig Townsend – U.S. Bureau of Land Management (BLM)

Coordination Committee (CC) Members

Tom Sinclair – USFWS Region 2
Dale Ryden – USFWS Region 6

Other Interested Parties

Matt Zeigler – New Mexico Department of Game and Fish (NMDGF)
Steve Platania – American Southwest Ichthyological Researchers LLC (ASIR)
Bobby Duran – NM Fish and Wildlife Conservation Office (NMFWCO)
Scott Clark – University of New Mexico (UNM)
Carrie Lile – Southwestern Water Conservation District, Colorado
Susan Behery – BOR Upper Colorado Region
Ryan Christianson - BOR Upper Colorado Region
Kathleen Callister – BOR Upper Colorado Region
Ron Bliesner – Keller Bliesner Engineering LLC

PROGRAM MANAGEMENT:

Sharon Whitmore, Program Coordinator – USFWS Region 2
Melissa Mata, Asst. Program Coordinator – USFWS Region 2
Scott Durst, Science Coordinator – USFWS Region 2
Nathan Franssen, FCPP Biologist – USFWS Region 2
Eliza Gilbert, Program Biologist – USFWS Region 2

Tuesday 13 July 2017

Introductions and changes to agenda –

Added items: NMDGF database corrections, bathymetry for San Juan River, BOR funding

Review of Action Items from 16 May meeting

- BOR will present U.S. Geological Survey (USGS) gage data at next Hydrology Committee meeting. That meeting will be scheduled in the near future. There are no other San Juan River Basin Recovery Implementation Program (SJRIP) projects to be reported upon.
- The Program Office (PO) and BOR reviewed the decision making process for Navajo Dam operations.
- Funds were available for peer reviewers to provide comments on the “Pathways” document and those reviews were conducted.
- Navajo Agricultural Products Industry (NAPI) pond engineering designs were acquired and posted on website.
- Website was updated with meeting summaries (CC and BC), 2015 annual reports, and 2016 annual reporting meeting presentations.
- As a second round of review on Scope of Works (SOWs) reviewers provided comment as to whether SOW revisions or response to comments had addressed concerns.
- Comments were provided on SOW-5 New, incorporated into a new version, and that version was sent out to BC.
- BOR provided PO with an excel file of “current depletions” and that was sent out to BC.
- ASIR estimated how many larvae could be entrained in Phase III wetland and provided that information to BC.
- No reporting on revision of Razorback Sucker (Razorback) Augmentation Goals, non-native fish stocking procedures, mercury effects study, or availability of peer-reviewed publications.
- BIA is determining whether selenium study can be shared.
- Update on LRP revision, 2012 Monitoring Plan and Protocols, discussion of SOW-5 New, criteria of “success” for Phase III habitat work, and disposition of Razorback < 300 millimeter (mm) Total Length (TL) are part of current meeting’s agenda.

Approve draft summary from 16 May 2017 BC meeting

- Comments received and incorporated from Wesche, McKinstry, and Zeigler. There were no additional comments. *Ruhl motioned to approve the summary; Davis seconded; summary was unanimously approved.*

Update on draft 2018 Annual Work Plan – PO

- Annual work plan (AWP) is in second draft version and will be provided to CC in August call for discussion and approval. The BC will be sent the updated 2018 technical scopes once CC finishes deliberations.
- A request was made to provide BC with a list of projects that would be in AWP prior to CC call so members could discuss them with their respective CC representatives.
- The AWP will become an annual standardized document and the structure of the document is in development. It could provide a standardized methods section for long-term monitoring

SOWs. It will provide a rationale for the projects included in the AWP. It was suggested technical comments not be a part of the final AWP document.

- BOR was contacted about providing funding for Phase III wetland project and indicated SJRIP capital funds could be used.
- The SOW-5 New, Kansas State University (KSU) catfish study and ASIR Razorback growth rate study is in the current AWP draft.
- Habitat monitoring is included as well as collection of aerial photography. Habitat monitoring SOW has not been revised because peer reviewers requested substantial changes. Ecosystems Research Institute, Inc. (ERI) is working with PO to revise SOW. The 2018 proposal is to monitor river structure. For 2019, there should be a discussion as to whether a functional approach should be taken which is what was suggested by peer reviewers. The SJRIP should have a thoughtful discussion before going forward with writing new SOW. The complex reach study should be reviewed by BC members prior to fall meeting so a discussion can start at that point.
 - **Discuss revised SOW-5 New: assessment of calcein mark and interaction between age-0 Colorado Pikeminnow (Pikeminnow)**
 - The most recent version of SOW-5 New was revised based on comments received by BC. The scope was revised to focus on the main objective which is to assess the calcein mark with a secondary objective of collecting data on interactions between wild and stocked Pikeminnow. Half of the usual 400,000 Pikeminnow will be stocked in 2017 and those will all be marked with calcein; SOW-5 New is the only effort the SJRIP will have to monitor that mark in the wild. There was overall support for the SOW given the critical nature of identifying the calcein mark and projects ability to collect secondary information on effects of density on Pikeminnow body condition. The PO supports inclusion of this scope into the 2018 AWP.
 - The scope was written as a three year project and may not need to be that long. Since scopes are reviewed annually the decision as to whether the project needs to continue can be made after the first year's implementation.
 - Laboratory resampling of calcein marked fish will occur the first week of August. Those fish will have been marked for 6 months. If the mark does not hold up for 90% should stocked fish be marked? The SJRIP may need to decide what mark retention percentage is acceptable. An email to the BC will be sent out after the August (3rd) laboratory sampling to obtain input.
 - **Adequacy of PI response to comments**
 - The PO received a couple of emails that PIs' responses to comments were adequate. A number of BC members indicated their email silence was their response that comments were adequate.
 - Overall, the SOW review and comment procedure was good. Next year reviews of scopes should be limited to those that have been substantially changed. There was support for the proposal that BC members review be limited to scopes that are new or have been substantially changed.
 - **STReaMS database**
 - A SOW was added to AWP Fiscal Year (FY) 2018 for STReaMS. This will be an annual SJRIP contribution. It will be \$15,000 for first year and \$10,000 in subsequent years. This is similar to SJRIP's contribution for Information and Education (I & E) to the Upper Colorado River Basin Recovery Program.

- A full SOW was added to AWP for this budget item and will also be done for I & E.
- STReAMS personnel can be contacted directly if there are queries. Queries do not have to go through PO. This direct contact is part of what is offered for the \$15,000.

Summary of 2017 spring peak release statistics – BOR

- The release began on 3 May with a reservoir of 1.39 million acre-feet (af), with a release volume of 434,423 af over 500 cubic feet per second (cfs) baseflow and 453,464 over 350 cfs baseflow. The maximum release from the dam was 4,900 cfs, with 31 days of release >4,500 cfs. The ramp up took 16 days. In total there were 64 days of high releases (including ramp-up and ramp-down) for the 2017 spring peak release.
- The flows at Four Corners are reported as 97% of gage numbers to account for error in those readings. The gage data is preliminary as USGS is formalizing their data. The 2,500 flow target was met with 79 days realized. The 5,000 target was also met with 51 days. The 8,000 target was two days short of 10, as 8 days were realized. This is the 9th consecutive year the flow target has not been met. But in the last two years the target was missed by two days and in those days flows were within a couple hundred cfs of 8,000. No days at the 10,000 flow target were realized. This is the 9th consecutive year of zero days at 10,000 cfs. The peak daily average flow at Four Corners was 8,120 cfs. The 2017 flow statistics are similar to what was forecasted prior to the release.
- The Animas peak did not coincide with the Four Corners peak. The San Juan at Four Corners peaked on 12 June with a maximum daily average of 8,350 cfs and an instantaneous maximum of 8,480 cfs. The peak on the Animas (measured at Durango) occurred earlier, on 5 June, with a maximum daily average of 4,280 cfs and an instantaneous maximum of 4,625 cfs. The runoff from the Animas was about 6 separate peaks between March and June. If the Animas had had a single big peak, 10,000 cfs might have been realized in the San Juan at Four Corners. Due to unseasonable temperatures, an unusually large volume of runoff occurred in March and April.
- The gage at Archuleta, which is an indication of dam releases, was within 5% of 5,000 cfs. At this gage the flow was sustained at ~4,800 according to the preliminary USGS data.
- There were some issues with the releases as the National Weather Service flood stage warning system required BOR to hold the release below 4,800. Otherwise a flood warning would have been issued.
- Available Water was under predicted and currently there is 75,000 af is predicted to be available over the end of year storage target of 6050 ft. Leaving this available water untouched would leave the reservoir at 6057 ft at the end of the water year.
- There should be a discussion, maybe starting this February as to what could occur with excess water, rather than always banking it. BOR can run any scenarios requested by BC. BC could then develop a table with options.
- Holding baseflows higher after peak release may allow backwaters at the bottom of secondary channels to be maintained longer. For example, if baseflows were held to 750 cfs this year, with the 75,000 af of water in excess, an additional 140 days at 750 cfs could be realized (depending on weather conditions and summer water use). In future years there may be consideration of using water above 6050 ft for higher baseflows post peak release, rather than banking it for next year. Habitat monitoring data indicates that at 1,000 cfs secondary channels tend to run and this may increase fish retention and rearing. RERI sites were just

monitored. The river was flowing at ~1,000 cfs, and secondaries were fairly full. At a lower baseflow secondaries may not be flowing.

- It is possible some of the secondaries are berming off. Lamarra indicated that a recent survey showed that most of the secondary channels were barely flowing at 1,000 cfs. A lot of cobble was loosened and moved in the last two years. One of the Phase II sites is close to berming off as huge downed Russian Olive is present at the mouth. A sand bar has yet to form behind the tree but monsoons have not occurred. Monitoring of these sites will indicate whether channelization has occurred in the secondaries. The Phase I and II sites may need more maintenance than previously thought. There is some desire to see what evolves naturally with the tree that is in the mouth of the secondary channel but \$500,000 was spent to open up the secondary so maybe the tree should be removed. The San Juan River is an actively managed system so why would there be anything wrong with actively managing the restored secondary channels? If USFWS had the remote biologist it is requesting then that person could be tasked with removing the tree. This could be a discussion item at the next meeting.
- A drone was flown over the San Juan during the 5,000 cfs release to acquire videography. BOR can send links to anyone who requests it. Another flight will be conducted next week and will be done at baseflow. The flights include RERI sites, Hogback and PNM. If you want to see video Susan will send links.

Update on Long Range Plan, Appendix A – Mata

- Comments were received by PO from a couple of BC members and incorporated into appendix. This standalone document will be uploaded to the website next week by July 17, 2017.
- PO will be developing ways to revise larger document.
- The 2016 annual reports will be uploaded to website once they are all received.

Hogback evaluation and potential modification – McKinstry

- The evaluation of fish entrainment by Hogback irrigation diversion structure indicates adult fish are mostly kept out, with the exception of tests with recently stocked Pikeminnow. The facility does entrain larvae in the same proportion as water that moves over weir, especially swim up phase larvae. Acoustic Doppler profiling did not indicate an upwelling. So this is not an issue that can be modified.
- One of the recommendations that came from the evaluation was to place a log boom and curtain. This may reduce the number of larvae entrained as well as the few adults.
- If there are no plans to evaluate this added structure then why would it be constructed? The Biological Opinion does not require preclusion of larvae entrainment. The log boom may further reduce adult entrainment but we would not know if the structure is not evaluated.
- Does the BC recommend installation of the log boom with curtain? If so should it be tested? It should be tested if installed.
- The Hogback diversion canal is the proposed location for the Navajo Gallup diversion. A second weir has been suggested for this project. The SJIRP should hold off on the decision to install a log boom and curtain until construction decisions are made in regards to Navajo Gallup.

Comments on “Pathways” document due 15 July 2017 – Durst

- Comments received from a few BC members. The document will be finalized after the 15 July comment due date.
- The initial rationale for putting this document together has changed. From the analysis conducted during the development of this document we know establishment of self-sustaining populations will require many more fish in the river than we currently have. There are other efforts occurring in the river, like nonnative removal, which are providing data on overall population numbers. The document does provide a record of the SJRIP's process as well as a current synthesis of data related to the San Juan River's populations of Razorback and Pikeminnow. This document could stay in a draft form and be reviewed periodically.
- The PO considers the Pathways document and presentation of PIT tag analyses at the BC researcher's meeting and SJRIP annual meeting as fulfilling the PO's annual summary reporting requirement. NMDGF's concerns pertaining to this will be responded to separately from the current agenda item.

Update on disposition of Razorback too small to stock (< 300 mm TL) – Davis

- Guidance and clarification on permitting is being sought.
- There is a unique opportunity to place fish too small to stock into Hidden Ponds as it has been fallowed this year. Navajo Nation indicated the pond could be filled prior to harvest and small fish stocked there (100-300 fish). That discussion is ongoing with NN's upper management.
- In 2018 fish from SW Native ARRC (3,500) would be stocked on top of fish in Hidden Ponds and all stocked into the San Juan in fall 2018. This would create two cohorts. Hidden Pond could be drained in the spring prior to Dexter's stocking but that would be a waste of water and effort. In coming years it may be possible to harvest one pond early to provide space for fish that are too small.
- SW Native ARRC may be able to provide fish that are a minimum of ~225 mm TL, rather than in prior years when some fish were delivered to NAPI as small as 75 mm. Further discussion with SW Native ARRC is still required.
- It is not preferable to stock the small fish into NAPI canals. This was tried with trout but was unsuccessful as the harvesting of the fish was challenging.

Update on revised flow document – Franssen

- BOR sent PO results this past week. Latest results from Gen4 modelling provide general support that the new operation tree would provide increased frequency of higher flows when lower level flows are not released. The PO office will incorporate these results in a revised document by the end of August. In general the new operating tree predicts increased frequencies of higher flows at Four Corners when lower duration spring peak releases are not conducted in favor longer duration releases. These data need to be incorporated into the flow document. The first draft should be available for BC comment by the end of August.
- The document will chronical the development of the new decision operations tree. This will be the document's main focus. There may be an appendix with meeting notes.

Discussion Phase 3 Habitat Restoration – BC

- **How to measure success?**
- **How many larvae are expected to be entrained?**

- The decision to move forward with this project has not been made. After the May 2017 BC meeting when opinions voiced were all in support of additional habitat work, the PO investigated whether capital funds could be used for this project. The BOR indicated they could allocate such funds and there was enough to fund the project in its entirety. The allocation would need to be approved by the CC, which has yet to consider this project.
- In terms of area, the recovery efforts may be benefited more by opening secondaries rather than building a 2.1 acre wetland. An alternatives analysis may help determine whether the wetland is a wise project. The inquiry to BOR was only for a constructed and managed pond, not for opening secondary channels. Both options may be viable rather than one over the other. Given SJRIP authorization will be expiring in 2023 progress needs to be made in a short amount of time. Opening mouths of secondaries through to 4th order island splits may be an efficient use of funds and personnel. The lidar and habitat monitoring data would be helpful in determining which secondary mouths could be prioritized for opening.
- The SJRIP does not want to create a system like Stewart Lake that has to be extensively managed.
- Monitoring from Phase I and II sites shows an increase in low velocity habitat but not many captures of larval Razorback or Pikeminnow. The purpose of the Phase III project is to consider other ways to think about habitat, that which is more focused on nursery habitat, and replicating what has been successful on the Green River. Opening secondary channels may provide some nursery habitat but it is short term as the habitat disappears as river flows change. It may be possible to manage reservoir releases so that backwaters at the bottom of secondary channels persist for the longest amount of time (i.e. have baseflows closer to 1,000 cfs rather than the lower baseflow range of 500 cfs). The Phase III project is different from the other two phases as it is creating a habitat that may no longer be naturally present in the San Juan. The chosen site is one that looks like it might have been a natural wetland area. The project is a proof of concept, i.e. whether adding a retention facility provides a refuge for larvae. A conceptual design report will be completed and distributed to the BC for review.
- Habitat manipulation has consisted of managed releases from the reservoir and opening secondary channels. This will be a third concept of habitat manipulation for the benefit of fish. A report on what was presented at the May BC meeting can be developed so the BC can review a written document.
- Success may simply be defined as the ability to entrain fish. It also may be defined as the survival of stocked age-0 fish.
- From their monthly sampling data, ASIR provided an estimate of the number of larvae that could be entrained. Data summarized included the last five years of age-0 captures and incorporated sampling from 10 miles upstream of preferred location but not McElmo Creek. A mean monthly CPUE for all backwaters and then all non-backwaters was extrapolated for the 2.1 acre wetland. Those data from the backwaters may be the maximum number of fish entrained and the numbers from the non-backwaters may be indicative of the minimum. It is clear from these data that May would be the time frame for entrainment.
- A report on the Phase 3 habitat restoration project will be provided to the BC for review and comment prior to any decision to recommend the project move forward to the CC for approval and funding.

Request for workshop to address recruitment bottlenecks – Program Office

- **What form should this workshop take?**

- **When?**
- In the interim between the May meeting and this conference call a couple of BC members suggested the PO lead or facilitate brainstorming on ways the SJRIP could move more quickly toward recovery. During the May CC meeting a representative made a similar comment and suggested a workshop or half day meeting be arranged to identify projects which may address issues related to bottlenecks.
- BC members suggested that at a future meeting (possibly February 2018) two hours to a half day be added to the agenda for development of a list of projects.

Monitoring Plan and Protocols 2012– need for revision? – BC

- The Monitoring Plan and Protocols is out of date (i.e. current SOWs are different from the 2012 protocols) and duplicative of other documents. For example, the study area for larval sampling has increased. The 2018 small body monitoring SOW changes the study area from sampling the lower river once every five years to sampling it based on within-year monitoring. Some of the Monitoring Plan and Protocols 2012 hypotheses have been answered and to address other hypothesis, additional changes to monitoring protocols would need to occur. Portions of these data integration analysis are being done by UNM and do not need to be listed as responsibilities of the associated monitoring protocols. The purpose of the Monitoring Plan and Protocols, such as maintaining consistency year to year could be incorporated into the process and documentation for AWP and the revised Long Range Plan.
- The Monitoring Plan and Protocols 2012 provide Principal Investigators a citation to reference when writing scopes and reports. There was a desire to maintain this ability.
- Developing the Monitoring Plan and Protocols 2012 was a long process which included a multi-day workshop. The Monitoring Plan and Protocols 2012 is useful as it provides institutional knowledge. If the document is to be updated someone would have to decide what gets updated, i.e. what methods and hypothesis get changed. Revision of it might take another significant effort.
- If the Monitoring Plan and Protocols 2012 were to remain it would need to be updated to reflect changes in protocols and questions being addressed. This puts the SJRIP in the same position as with the Long Range Plan in having another document that needs to be revised annually.
- The PO can put a structure together for the BC to consider that may alleviate concerns.

Bathymetry data for San Juan River – McKinstry added agenda item

- BOR is looking for bathymetry data for the San Juan River to compute volume of water sampled when using floating PIT tag antenna. Would the SJRIP be interested in obtaining these data if not already available? The Grand Canyon Monitoring Research Center (GCMRC) has collected these types of data for the Colorado River Grand Canyon. The GCMRC could provide cost estimates and suggestions on methodology, which might be a boat based survey. There is also a group in Montana that has developed bathymetry methodologies.
- There may be data available for Powell Reservoir and the San Juan River inflow. A dissertation from Brigham Young University appears to have developed data from the dam to Bluff (https://ceen.et.byu.edu/sites/default/files/snrprojects/468-william_michael_pope-2002-ejn.pdf).

- Although the SJRIP has lidar data, that does not provide topography below the water's surface. Other useful information may be queried from habitat reports. All habitat and lidar data are available at the PO.

BOR funding update – McKinstry added agenda item

- There is only one agreement that is outstanding (UNM). Once it is expired there will be no way to add funds. Although there are funds in it now they cannot be carried over under an expired agreement.
- Lake Powell work will be funded next year.
- BOR is supportive of the Phase III wetland design if the SJRIP wants to move forward but there may be an issue in that BOR would have to be the contracting entity. This needs to be investigated further. Prior to The Nature Conservancy writing up a Phase III conceptual report, this should be figured out.
- The PO and BOR are set to discuss funding before the end of the month.
- All contracts that were sent to DOI headquarters were returned and approved.

NMDGF database corrections – Zeigler added agenda item

- The small bodied fishes database has been queried for errors and a draft report will be sent to the BC for review. The database was checked from 2003 to present and the report includes a summary of the data that has been changed. The corrections did not go back further than 2003 because prior to that fish data were not broken out into different seine hauls. Those data will be reviewed in the future.

Upcoming meetings

- 28-30 November in either Durango, CO or Farmington, NM

Recap decision points, schedule next meeting/call, and review assigned action items

- BC will review complex reach study prior to fall meeting so that a discussion on habitat monitoring can be held.
- PO will provide BC members with list of technical projects that will be included in AWP.
- PO will email BC results from August sampling of lab calcein marking to obtain input.
- PO will send draft flow document to BC when it is completed near the end of August.
- PO will develop a structure for the LRP and AWP that includes necessary elements from the Monitoring Plan and Protocols 2012 for the BC to consider.

BIOLOGY COMMITTEE ACTION ITEM LOG						
(Updated 13 July 2017)						
Item No.*	Action Item	Meeting/O rigination Date	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
1	Provide RBS/CPM stocking/capture/recapture data		PIs to PO	Annually before Jan. 1		
2	Provide Preliminary Draft Report Presentations		PI	Annually at Feb. meeting		
3	Review LRP		BC	Annually at fall meeting		
4	Review Peer Review Comments from the February and May meetings		BC	Annually at fall meeting		
5	Provide Draft Reports		PIs to PO	Annually by end of March		
6	Scopes of Work		PIs to PO	Annually by end of March		
7	Provide Final Reports		PIs to PO	Annually by end of June		
8	Annual Data Delivery		PIs to PO	Annually by June 30		
9	T&E Species Data		BC to PO	Annually by Dec. 31		

BIOLOGY COMMITTEE ACTION ITEM LOG						
(Updated 13 July 2017)						
Item No.*	Action Item	Meeting/O rigination Date	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
10	Annually compile T&E data and Program progress into summary to address overall Program recovery goals/objectives for presentation at annual meeting		PO/BC	By Annual Meeting in May		
11	Distribute Consolidated Data and list of annual data collected and available in the Program’s database		PO to BC	Annually by Jan. 31		
12	Recapture analysis on PIT tagged fish		Durst	Annually by March		
13	Coordinate CPM stocking closely with Reclamation 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	5/2011 – provide update and extend as needed		
15	Pursue Non-native fish stocking procedures	11/5/09	Crockett and Ruhl	2/23/16		
16	Pursue effects study on Hg/pikeminnow with other groups/programs	1/14/10	Program Office lead	ongoing		
17	Include benchmarks for recovery in LRP (amended to also included in Pathways document and monitoring protocols)	12/5/14	Whitmore	1/5/15	11/28/17	

BIOLOGY COMMITTEE ACTION ITEM LOG						
(Updated 13 July 2017)						
Item No.*	Action Item	Meeting/O rigination Date	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
18	Status updates for the LRP	12/2/15	PIs to Whitmore	2/23/16	11/28/17	
19	Make Program peer-reviewed publications available to Program participants	11/29/16	PO (Mata)	02/21/17	11/28/17	
20	Determine disposition of Razorback <300 mm TL	02/21/17	NMFWCO	5/16/17	11/28/17	
21	Draft a plan for Pikeminnow stockings	02/21/17	PO, NMFWCO, and NMDGF	2/21/17	On hold	
22	Determine if BIA selenium study can be shared with BC and share if permission granted	5/16/17	BIA and PO	7/13/17	11/28/17	
23	Review and comment on Pathways document	11/29/16	BC	7/15/17	11/28/17	
24	Consider what criteria would make Phase III wetland project a "success"	5/16/17	BC	7/13/17	11/28/17	
25	Review complex reach study for discussion on revision of habitat monitoring SOW	7/13/17	BC	11/28/17		
26	Provide BC a list of technical projects PO is suggesting be included in AWP	7/13/17	PO	11/28/17		
27	PO to provide August calcein sampling results and obtain BC input 2017 marking of fish to be stocked.	7/13/17	PO and BC	Week of 8/7/17		

BIOLOGY COMMITTEE ACTION ITEM LOG						
(Updated 13 July 2017)						
Item No.*	Action Item	Meeting/O rigination Date	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
28	Send BC draft flow document	7/13/17	PO	End of August		
29	Develop structure for Monitoring Plan and Protocols 2012 to be incorporated into other SJRIP documents	7/13/17	PO	11/28/17		
30	Obtain report from BOR on USGS gages and determine what reports are outstanding	5/16/17	PO	7/13/17		7/13/17
31	Review decision making process for Navajo Dam operations	5/16/17	PO and BOR	7/13/17		7/13/17
32	If funds available request review of revised Pathways	5/16/17	PO	7/15/17		7/13/17
33	Review Monitoring Plan and Protocols and decide if it needs modification	5/16/17	BC	7/13/17		7/13/17
34	Obtain and post NAPI pond engineering on website	5/16/17	Navajo Nation and PO	7/13/17		7/13/17
35	Update website with meeting summaries	5/16/17	PO	7/13/17		7/13/17
36	Conduct second round of SOW review	5/16/17	BC	6/30/17		7/13/17

BIOLOGY COMMITTEE ACTION ITEM LOG						
(Updated 13 July 2017)						
Item No.*	Action Item	Meeting/O rigination Date	Responsible Party(s)	Due Date	Revised Due Date	Date Completed
37	Comment on SOW-5 New	5/16/17	BC and Peer Reviewers	5/31/17		7/13/17
38	Revise SOW-5 New based on comments	5/16/17	NMDGF and NMFWCO	6/15/17		7/13/17
39	Determine what constitutes "current depletions"	5/16/17	PO and BOR	7/13/17		Week of 7/13/17
40	Estimate how many larvae could be entrained in a Phase III wetland	5/16/17	ASIR	7/13/17		7/13/17

*Items were re-numbered after changes were made

Yellow highlight indicates annual action items

Green highlight indicates new action items

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