



Approved Summary
BIOLOGY COMMITTEE MEETING
1-2 December 2015
Public Lands Center
Durango, CO

Attendees:

Biology Committee Members

Bill Miller, Chair – Southern Ute Indian Tribe
Kyle Tator (Alternate) – Jicarilla Apache Nation
Brian Westfall – Bureau of Indian Affairs
Jason Davis – U.S. Fish and Wildlife Service, Region 2
Mark McKinstry – U.S. Bureau of Reclamation
Benjamin Schleicher – U.S. Fish and Wildlife Service, Region 6
Vincent Lamarra – Navajo Nation
Harry Crockett – State of Colorado
Mike Ruhl – State of New Mexico
U.S. Bureau of Land Management – absent
Tom Wesche – Water Development Interests
Dave Gori – Conservation Interests

Program Office – U.S. Fish and Wildlife Service, Region 2:

Sharon Whitmore
Scott Durst
Nate Franssen

Interested Parties:

Henry Day – APS/Four Corners Power Plant
Carrie Lile – SWCD
Terilyn Kim Yazzie – NNFWD
Michael Farrington – ASIR
Steve Platania – ASIR
Katie Creighton – UDWR
Matt Zeigler – NM Game and Fish
Ben Zimmerman – Southern Ute Indian Tribe

Tuesday 1 December 2015

Introductions and changes to agenda

- Bill Miller indicated if Mike Ruhl is going to be the BC representative for New Mexico, he will need to supply his resume (as well as the resume of a suggested alternate) through his CC member to the Program Office (PO). The PO will then distribute that information to the BC for approval.

Approve draft summary from 26 August 2015 BC conference call and review Action Item list:

- Durst received comments and made appropriate changes. Crockett motioned to approve the revised summary, Wesche seconded. Summary was approved unanimously.
- Update on non-native removal work for 2016 and workshop in 2016 or 2017. The draft final SOW was distributed to the BC by Jason Davis and will proceed as planned. The workshop will be held as soon as the large- and small-bodied data from fall 2016 are compiled. The PO will also analyze and distribute data from non-native fish removal as those data become available through the summer.
- Wesche inquired about the status of the Razorback Sucker stocking plan. Davis said Weston Furr is currently working on it and should have draft to BC by February 1.
- Nonnative fish stocking procedures. Ruhl says they are making progress and will give presentation tomorrow. Matt Zeigler was also introduced as the new San Juan River biologist for New Mexico Game and Fish.
- Effects of Mercury on Pikeminnow. Studying the effects of mercury on Colorado Pikeminnow is a line item in the Four Corners power plant consultation. Whitmore stated there will be plans to move forward once funds come in.
- McKinstry suggested someone from Four Corners power plant be on the BC, or at least attend BC and CC meetings. Whitmore said BC members represent program partners, but Four Corners power plant is not a partner. Henry Day stated Four Corners power plant could have someone come to BC meetings. Day was willing to convey BC activities to the operators. Richard Grimes from Four Corners power plant may also attend meetings and will be included in the BC email list.
- Whitmore is working on recovery benchmarks for the long-range plan. These are still in progress but should have something by May 2016.
- Finalization of Environmental Flows workshop #1 notes. Comments from Westfall, Gori, Wesche, and Behery still need to be addressed. Notes are not going to be altered but an executive summary will be completed before the Feb. BC meeting.
- Cost of transferring electrofishers to ETS. Davis is working on it and should have something out by next week.

Update on 2016 Annual Work Plan – Whitmore

- Whitmore reviewed the timeline of AWP updates. There was a question on how soon the analysis of the 2016 non-native fish removal data could be conducted. Franssen stated the analysis could occur as fast as it comes in. Davis suggested keeping nonnative fish in the budget as a placeholder and the BC should discuss other projects that could take its place if it is discontinued. The nonnative workshop will likely be held for two days following the December BC meeting in 2016. Peer reviewers are not scheduled to come to the Dec. meeting and will have to be added to the budget for their participation.
- Davis said he did not receive comments on the combined nonnative fish removal SOW (i.e., NMFWCO and UDWR). Davis stated the changes were budget neutral and he also sent final draft SOW to the PO.
- Westfall stated we may not be able to come to a conclusion from analysis of one year of data. Results from these analyses will be distributed as soon as possible.

Update on 2016 budget, contracting and CPI – McKinstry

- McKinstry stated the CPI for 2016 was essentially zero; therefore all projects were funded at the 2015 rates, except for the contractual projects (e.g., ERI, ASIR).
- McKinstry stated the “entrainment study” is a misnomer and suggested it be called the “diversion study” because the project is not specifically assessing entrainment. He asked everyone to do the same.
- McKinstry stated the diversion study was approved in 2014 and funded for 2015. However, it was funded at \$50,000 but the actual cost came in at ~\$98,000. Therefore, the budget shortfall was funded with FY2015 and FY2016 monies. It was stated that the CC was concerned with the change in budgets from what they approved. Miller said the program document states the CC needs to approve any increased budgets. McKinstry stated this is difficult when it is a negotiated contract-how can you get CC approval during the contracting negotiations?
- Platania noted that placing estimates in the meeting notes is problematic if projects are going out for RFP because contractors can then use this estimate as the ‘magic number’. Miller suggested the PO should first ask around for quotes. McKinstry said he did ask for quotes but after the \$50,000 estimate was already in place. Miller suggested next time that we just put a range of possible costs.

Update on changes for Peer Review SOW – McKinstry

- McKinstry and the PO are working with the peer reviewers to change the SOW to improve peer review in the Program. Whitmore said she wants to see bigger picture ideas about data analysis and integration rather than comments on presentations. Any new changes to the SOW will be shared with the BC as they become available. Brian Bledsoe is leaving in January 2016 for Georgia but will still be able to be on contract for 2016 and the move shouldn’t change the cost too much.

Update on new PIT tag contract – McKinstry

- McKinstry said the new PIT tag contract will DOI-wide. The contract should be awarded in March or April and will consist of multiple vendors, including Biomark. There are still lots of PIT tags but there appears to be a need for readers. McKinstry will work with Program participants to discuss PIT tag reader needs. Miller asked if these new readers allow for electronic data collection. McKinstry said that might help with data errors, for example, of the 530 tags detected below the waterfall, 15 had no previous data, potentially data errors. Creighton mentioned Utah has been going to electronic data collection; they had some problems at first but getting better. Miller suggested we conduct a pilot program to assess efficiency of electronic data recording for PIT tags. McKinstry agreed but said the PIs are going to have to get on board first.

Update on STReAMS database – Durst

- Durst reported that the database is now live now and includes all endangered fish in the SJR as well as endangered and non-endangered fish in the Upper Basin. The database includes all San Juan PIT tag data and Upper Basin data from at least the mid-90s. Durst will send out the link to the BC. People with the basic access level are able to view data but only PIs are able to alter data. The website has the ability to do batch uploads, and should have a query feature in the near future. Durst said he will continue to enter data for the SJR for now but asked if the PIs should be responsible for that action in the future. David Speas from BOR is putting on a workshop for the

database on March 13-14, 2016 in Fort Collins, CO. There are some ongoing concerns about making data from private lands publically available and location data can be masked to alleviate these concerns.

- Durst also stated that there are a lot of tags that have not made it into the SJR dataset because he has not received them (e.g., some of Nate Cathcart's tags). Crockett also voiced concern that PIs may not be eager to provide PIT tag data immediately for fear of being scooped on publications.
- McKinstry asked if the Upper Basin has contacted the PO for funding support for the database. Whitmore suggested that the SJR Program see a SOW on the database before we decide to support the efforts. Whitmore will talk with Speas about this issue.

Discussion of 2016 LRP, 2017 priorities, data integration past results and future needs, and identify new studies and RFPs for the 2017 AWP

- Platania said there were some 'mystery' larval fish found in Lake Powell. The first guess is Grass Carp but nothing definite, so it is important not to jump to conclusions on this identification. He will alert the BC of their taxa status when it becomes available. He noted that triploid Grass Carp are stocked in the upper basin and they are also found infrequently in the San Juan.

Discuss how to proceed with habitat monitoring since current contract expires after 2016.

- Miller said the whole river used to be mapped but that ended in 2007. Lamarra said that we need current imagery to conduct on-the-ground mapping. McKinstry said it is very hard for DOI to do flights in house now, but noted that NMGF offered to conduct flights. Ruhl clarified that there is a standing offer from NMGF to do flights to get habitat imagery. Westfall mentioned that someone out of Albuquerque conducted the flights for the RERI sites.
- Lamarra noted the LiDAR data photos were better quality than previous BOR photos. Whitmore suggested the Flow Workshop could help prioritize habitat monitoring needs. It will be important to identify important metrics that need to be collected in any given year. Wesche stated that we should not give up on monitoring the RERI sites.
- Lamarra stated that there have been a lot of changes to the system, more sand now compared to previously and a reduction in habitat over time and total wetted area.
- Westfall asked if we can't get high flows, is there a combination of flows and habitat restoration that we can use to restore habitat. Lamarra said that we could look at old data. Miller said that the new habitat contract may need to have different line items for different types of monitoring. Franssen stated that both habitat and larval fish monitoring may have to be flexible if we are going to access the effects of flows in the future. McKinstry noted that it will be easier to get changes to the larval fish monitoring contract compared to the habitat monitoring. Miller suggested any changes should be 'task-oriented' rather than 'protocol-oriented' as well as being flexible on an annual basis in response to flows. Miller also wants to see a clearer evaluation of the first RERI sites. Lamarra added that it is interesting that the control sites are flowing and the first RERI sites are not, why? Miller asked if we could just collect LiDAR data on those sites and Lamarra responded in the affirmative.
- Miller said we don't know how much larval habitat we need for recovery and more data are needed to assess this in the population model. He also suggested that we may want to look at productivity in low velocity habitats as a limiting factor.
- Lamarra said the best thing we have done to monitor habitat has been the LiDAR data. He used those data to find off-channel ponds that could be used for passive rearing in the system.

Schleicher stated that some off-channel ponds in the upper basin are now completely overrun with nonnative fish and suggested caution on this type of management.

- Westfall noted that if you get the habitat photos from a commercial outfit the photos will be orthorectified but photos from NMGF would not be. Therefore, there may be more cost associated with getting that done.
- Miller said that it was easier to match up the larval and temperature data when the larval data were collected using drift nets compared to the sampling conducted now because both data sets were on the same time steps.
- Whitmore suggested we worry about how to monitor habitat and larval fish after we finish the environmental flows workshop. Identifying monitoring needs should come out of the flow workshop. Miller noted that we should compile a list of monitoring tasks to complete.
- McKinstry asked if the new Four Corner money might be easier to spend on new habitat monitoring. Day indicated that there is a time frame for certain activities and APS is going to follow up on commitments and make sure efforts are not duplicated.

2017 Priorities

- Whitmore presented priorities from 2016. In future prioritization, ESA compliance needs to remain highest.
 - 1) ESA compliance activities (O&M of existing facilities, SJRB Hydrology Model, peer review)
 - 2) Augmentation, including production, stocking, and evaluation.
 - 3) Initiate process for reviewing and revising, if needed, Program flow recommendations including:
 - a) Planning and conducting workshops
 - b) Data integration in association with upcoming revision to flow recommendation
 - c) Integration of general biological data
 - d) Monitoring and evaluation
 - 4) Connectivity and range expansion
 - 5) Efforts to document recruitment
 - 6) Non-native monitoring and control
 - 7) Fish monitoring (in order of priority: larval, small-bodied, and adult)
 - 8) Habitat monitoring
- Wesche asked if we need to evaluate the stocking protocol. Franssen said Weston Furr is looking at the stocking numbers in conjunction with the new mortality estimates. Davis said one pond at NAPI is fallow this year and there will be another one fallow next year, however, these limitations should not impact the numbers of Razorbacks that we planned to stock.
- 2016 priority number 3), Westfall asked if there are going to be new flow recommendations and Whitmore responded that we have move away from the old decision tree. Westfall opined that we didn't meet all of the flow recommendations because we are in a dry period and Ruhl concurred. Westfall suggested we assess the effects of previous flows on the data that has been collected and Lamarra stated that a specific test of the hydrograph has not been completed. Franssen asked if habitat data has been collected over the last 15 years, why haven't at least some of these analyses been completed. Miller said we should be able to look back and assess flow relationships and figure out who is going to conduct analyses on the historic data. Lamarra mentioned there is a nonlinear relationship between days at 5,000 cfs and the area of backwaters. Franssen indicated that changing the decision trees will not automatically provide more 8,000 or 10,000 cfs flows. Whitmore inquired if we are going to start a new research period.

- Priority 4) is on the agenda for this meeting.
- Priority 5) was determined to still be important.
- The group agreed that priority 8) Habitat monitoring should be moved up to 3b)
- Ruhl stated that if we are going to have an adaptive management program, all of our actions should feed back into helping us decide what management actions we implement.
- Westfall asked what we are doing to document recruitment. Farrington responded the natal origins study is assessing recruitment. McKinstry stated that data collected at the waterfall on untagged fish will hopefully contribute to this effort.
- Whitmore stated that all management activities identified in long-range plan do not necessarily have to be completed for recovery. The long- range plan is more of a “laundry list.”
- Wesche suggested there is too much repetition between the table and text of the LRP. He suggested removing all the text that duplicates the information in the table. Whitmore concurred and she will try and remove the duplication.
- Miller asked if Whitmore wanted help coming up with the recovery benchmarks. Whitmore is going to speak with the upper basin for ideas.
- Whitmore discussed changes that will be made to the long range plan based on revised on-the-ground activities. The SJRIP no longer moves Channel Catfish from the San Juan River (collected from nonnative removal efforts) to tribal lands on account of the high mercury levels in the fish. Whitmore is going to merge remote and in-hand PIT tag data and their potential use for population estimates as a single task. Whitmore also stated that it would be very beneficial for the BC to provide comments on the LRP by 31 January 2016. Wesche asked why some diversions on the Animas were rated as ‘high’ while others were ‘critical’. Whitmore is going to change all the ‘critical’ rankings to ‘high’. Miller suggested that we revisit this list of diversions and potentially remove some after the diversions study is completed. Whitmore asked that everyone should alert the Program Office of any construction that is occurring on diversion structures.
- Based on suggestions by TNC, Whitmore added a task to collaborate with water users on issues of water savings, entrainment, and passage barriers.
- Miller said the BC should identify potential studies and send out proposals, and there should not be unsolicited proposals. Whitmore stated that the potential projects Nate Cathcart provided were solicited by the Program Office. Miller suggested the projects should be discussed during the February meeting. Also PIs should provide status updates for the LRP after the February meeting.
- Lamarra asked what the PO was thinking about with the prudent alternatives for Navajo Temperature and suggested the BC should consider a temperature control device (TCD). The new money from Four Corners Consultation is going to be directed towards assessing the effects of temperature on larval Colorado Pikeminnow rather than the feasibility and benefits of a TCD.
- Miller asked if you increase temperature of water coming out of Navajo dam, will nonnative fish become established (e.g., smallmouth bass) below Navajo Dam. Davis asked if nonnatives did become a problem, would that trigger a re-consultation. Probably not because nonnative fish control is already in the LRP.
- Miller suggested the Animas River’s temperature regime is likely too cold for Colorado Pikeminnow spawning; however, it would be suitable for spawning by Razorback Sucker. Schleicher noted that most Colorado Pikeminnow captured in the Animas River occurred in the first few samples near the confluence with the San Juan River. Lamarra noted that Doug Osmundson correlated the distribution of Colorado Pikeminnow and the number of ‘degree days’, it would be interesting to calculate that metric for the Animas River.
- McKinstry quickly discussed the Razorback Sucker movement study associated with the waterfall. The study plans to move some fish implanted with sonic and radio tags over the

waterfall into the San Juan River proper as well as tag some control fish from the upper San Juan River. How fish move after they are translocated is the primary question of the study.

- Wesche asked if there were any projects looking at getting population estimates or how we are going to address the fish in the 35 miles of river below the waterfall. Additionally, he asked if there could be a project to take a geoengineering assessment of the waterfall (i.e., how the waterfall may be altered to increase passage). McKinstry has already looked at the frequency of inundation of the waterfall and found it to be decreasing over time. Miller recounted comments by Bledsoe who suggested the old channel could be reconnected to increase passage
- Three new potential projects were identified: 1) assessing the geomorphology of the waterfall and how might it be bypassed by fish (Wesche and McKinstry), 2) the effects of temperature depression on larval fishes (Miller), and 3) using remote and ‘fish in hand’ data to calculate population estimates (including below the waterfall and in Lake Powell) (Program Office). Additional proposals should be submitted to the Program Office prior to the February meeting.
- Henry Day suggested there should be a plan to assess habitat changes after new flows out of Navajo Dam are implemented. Miller mentioned that we talked about this earlier in the morning and mentioned that we might want to have different line items identified in the habitat SOW. Lamarra stated that something similar would likely be necessary for other monitoring efforts as well. Whitmore agreed that this is the direction we should go.

Review process for setting End of Water Year Storage Target for Navajo Reservoir – Behery

- Susan Behery reviewed the process for setting end of water year storage target (EOYST) from the first environmental flows workshop in February as well as described the 2015 interim operations.
- Ruhl asked that if the reservoir elevation doesn’t change much from fall to spring, why is Reclamation releasing water to get down to the EOYST rather than saving that water for spring releases? Behery replied that operational spill chances increase above 6063, therefore if there were winter inflows BOR would have to release water over winter to avoid spill, which is against flow recommendations. Miller said this was built into the Flow Recommendations to avoid flushing out small fish in the winter.
- Behery suggested that we adopt the interim 2015 operations for 2016. The BC agreed. Behery also asked that she receive a written document by March 1 from the Program Office stating how the SJRIP wanted the dam operated in 2016.

Wednesday 2 December 2015

Behery gave an update on the baseline Hydrology Model

- Milestones of the current model were presented. The current Gen 4 model is less complex than the Gen 3 model and the validation and calibration of the Gen 4 model is in its final stages. Westfall stated the new depletions added to the model are going to make it more difficult to meet the flow recommendations. The model’s report, including depletion and inflow tables and calibration/validation data, will be sent out to the SJRRIP in the next couple of weeks. The model will also be available to anyone upon request, however, users will need Riverware to run the model. If more discussion is warranted, another webinar could be arranged to answer questions. Additionally, Behery plans to demonstrate the model to the PO after validation. Gori voiced interest in the model addressing climate change scenarios and Behery is going to investigate those for the next webinar.

Discuss memo to stock further upstream in the Animas River

- Ben Zimmerman provided a memo from the Southern Ute Indian Tribe in response to the memo Durst distributed about the potential of stocking endangered fishes in the Animas. The memo voiced concerns and asked questions about the potential stocking in the Animas River. Crockett stated that the State of Colorado was skeptical of the feasibility of stockings but thought if SUIIT was okay with the stocking, Colorado would be as well. Durst stated that it makes biological sense to stock further upstream and we have been doing it for years in the lower Animas. Ruhl asked how river drying near the confluence with the San Juan River may impact stocked fishes. Davis stated in spite of any drying, there is a pretty strong native fish community in the lower Animas. Miller said the Animas River's temperature regime would be adequate for Razorback Sucker reproduction but probably not Colorado Pikeminnow, however, we should also be concerned with entrainment and passage. Wesche stated he would submit comments on behalf of the water users by early January.
- Wesche apologized that he didn't get written comments about the memo, however, the water users are generally against it. Wesche also wanted to know how many fish would be stocked, would these numbers be subtracted from the numbers that are supposed to be stocked into the San Juan? Additionally, is there any evidence that fish want to move up into the Animas. Schleicher stated that Razorbacks stocked into the Animas have persisted up to the most downstream diversion barrier. Wesche wants to see a more detailed proposal. McKinstry stated that the main purpose of the new stocking proposal is to increase the probability of downlisting and delisting of the species. Franssen said this memo lacked details because we are only in the planning stages. McKinstry and Durst also stated that resolving all of the issues related to stocking upstream in the Animas and identified by SUIIT or the Water Users may not be possible.
- Miller stated that although the Animas River temperature regime may be suitable for Razorback Sucker spawning, it might be better to stock higher in the San Juan River. But temperatures in the San Juan River are depressed by releases from Navajo Dam. McKinstry stated that we need to be careful about applying literature-derived temperature limitations of Razorbacks because Razorback spawn in the Grand Canyon at much lower temperatures than are predicted, although survival of larvae may be an issue at lower temperatures. Whitmore noted that the current management actions have not resulted in recovery. Franssen added that there are very few things we are doing or can do to increase recruitment; this would be one of them.
- Crockett asked if this could be treated as an experimental population if there is potential for mixing. There could be Service mechanisms like Safe Harbor agreements or deeming Animas fish as part of a 10j population that the PO would have to look into.
- Authors of the memo will incorporate new comments and redistribute to the BC.

Update on diversion study – Farrington and Gori

- Farrington recapped the progress of the diversion study. They have completed the site visits. After water users voiced concern over the project, they initiated a conference call where they decided that the project would not provide a list that ranks diversions by risk of entrainment. Now the project will only provide their data to the PO, which can proceed with investigating the diversion and entrainment risk. Tom Pitts had asked during the conference call that the BC and an additional group review the final report. Farrington is still waiting for fish data from SUIIT and CO and plans to reconvene the subgroup to proceed with the project. Farrington stated that the factors associated with potential entrainment are generally: the proportion of water diverted relative to the river discharge, the location of diversions relative to stocking locations, and the densities of T & E species.

- Gori summarized diversion visitations. There were 37 diversions downstream of Durango on the Animas and downstream of Navajo Dam on the San Juan. 22% of owners of Animas River diversions declined to participate in the study and 1 out of 13 on the San Juan declined as well. Six diversions didn't have records; three of these are municipal so those data should be available. The next step is going to be to calculate the proportion of water diverted by each one both daily and monthly. Wesche asked if the river's discharge is going to be estimated and Gori replied yes because they don't have gauges at each diversion. Wesche asked that the precision of discharge estimates be included in the report. Gori replied that the details of how they estimate discharge will be discussed during the next working group.
- Miller asked if the diversions whose owners declined to participate could still be included in the study with the use of aerial photographs. Gori said yes, but those would have limited data.
- Farrington is going to send out Doodle poll for next workgroup meeting. McKinstry said the final report will likely be completed in June but it may be later given how late the contract was awarded. Platania said at least the presentations of the project will be on time. Tom Pitts is providing a list of additional reviewers to provide comments on the draft report when it is completed. A public presentation on the project will not occur at the May meeting other than a presentation on the work at the CC meeting.

Update on Hogback Fish Weir project – McKinstry

- McKinstry reported on experiments at the weir. Of large Razorback Suckers and Colorado Pikeminnow, 3.2% were entrained in the canal, 71.7% went upstream, and 25.1% went down back to river. Using wild Flannelmouth and Bluehead Suckers, 65% made it out downstream to the river, 35% went upstream, and 0% was entrained.
- Using floating, neutrally buoyant beads as well as larval Razorbacks, floating beads had high levels of entrainment, followed by larval Razorbacks, and finally the neutrally buoyant beads. The structure seems to work well at reducing entrainment of larger fish, however it does not seem to be effective at reducing entrainment of larvae.
- Experiments with larger fish were cancelled this year due to the closing of the diversion due to the Gold King Mine release. Plans are to conduct more experiments with larger fish. Manuel Ulibarri at SNARRC is supposed to be holding more Colorado Pikeminnow to use in these experiments.

Discuss waterfall project and what to do with Razorback Suckers downstream of waterfall

- McKinstry gave an update. Based on remote PIT tag detections, most Razorback Suckers (n=499) show up at the waterfall in March and fewer in June. Most fish tend to stay in the area for a couple months. Many of these fish have not been detected in the San Juan River proper. During sampling below the waterfall last June, 18 Razorbacks were captured and only 5 had PIT tags. Fin clips of these untagged fish were collected for the natal origins study. All of these fish were translocated to the San Juan River near PNM.
- There are two trips planned from 7-14 and 20-27 of March to capture fish in 2016. Up to 50 radio and or sonic tags will be implanted in Razorbacks that already have PIT tags. 20% of these fish will be moved just above the waterfall while 60% will be hauled up to Hogback diversion and released. The other 20% of tags will be implanted in control fish that will be collected near Hogback diversion and released.

Per CC request of BC: discuss purpose and future use of Hydrology Model. Identified uses from 2010 Hydrology Workgroup:

1. One of the tools that will be used to evaluate the impact of depletions of a water project on the listed species
 2. Evaluate the impact of depletions on the ability to meet the flow recommendations
 3. Assist in the development of the flow recommendations
 4. Assist in the development of Navajo Dam operating criteria
 5. Evaluate the effects of future hydrologic variability in consultations and for recovery purposes
- Westfall asked if we should add section 7 consultations to this list. Miller replied that should be covered with number 1. Whitmore asked Behery if we can use this model for year-to-year operations, Behery replied in the negative, it is better used for long-term outlooks. Westfall interjected that it could be used for more short term questions but it would need to be reconfigured. Miller stated that the model was used in the original flow recommendations through iterative runs. Franssen asked if different decision trees could be run through the model and Behery replied yes. Westfall said we could also use look backs with the new model. Miller stated that all of these reasons for having the model listed above are still valid.
 - Whitmore asked for example questions the BC could ask the model. Westfall suggested running the model with existing depletions and see if we can meet flow recommendations. Miller asked to remove type I and II releases and see if we get higher flows. Gori asked about running some different climate scenarios.
 - Franssen asked the difference between the operations model and hydrology model. Behery stated that the hydrology model should be used when assessing changes to the decision tree rather than the operations model. Behery will run the different decision trees through the hydrology model. Behery also stated we could use the hydrology model to assess the current EOYST.

Update on planning for Environmental Flows Workshop #2 – Program Office

- Durst gave update on the plan for the environmental flows workshop, subgroup meeting. Miller stated his CC member would have wanted to attend the workshop if they would have known how the workshop was going to proceed. Lamarra added that there should be substantial analyses on previously collected data.

Update on non-native fish stocking procedures – Crockett and Ruhl

- Ruhl gave update on non-native fish stocking procedures. They are using the same criteria as the Upper Colorado River. He noted that stockings will be limited to nonnative fish already present in the basin. Privately owned ponds have strict criteria and proposal will be handled by Signatories as jurisdictionally appropriate (e.g., in NM, the Fish Importation Permit). Stockings previously authorized by or requiring Section 7 ESA/NEPA consultation are not subject to these procedures. Decisions of proposed stockings will be determined through decision trees.
- Remaining questions include: How proposal will be accepted or rejected (i.e., majority or unanimous), how to prove sterility of hybrids or triploids, who signs off on criteria for downlisting/delisting, and if so, are they signatory to these procedures. Are there additional signatories to consider?
- Miller asked if the flow charts presented to the BC have been distributed to the tribes. Ruhl said not yet, they have just finished them. Miller suggested the tribes see the charts before they write up the final draft.
- Crockett noticed that on the “Service, State, Tribal Waters Only” flow chart, in the box “Is stocking into or above existing reservoir where species already exists” there could be places

where nonnative fish are present but are not wanted. Ruhl agreed that is a problem and will try and address it.

- Ruhl and Zeigler are going to update the flow charts and send them out to signatories for review.

Recap decision points and review assigned action items

- McKinstry and Wesche will prepare a scoping document on a geotechnical review of management options at the waterfall (due at the February BC meeting).
- Miller will prepare a Navajo Dam temperature depression proposal (due at the February BC meeting).
- The Program Office will prepare a concept paper on estimating Colorado Pikeminnow and Razorback Sucker population sizes in the San Juan River and in the San Juan River arm of Lake Powell (due at the February BC meeting).
- BC comments on the LRP to Whitmore (due at the February BC meeting).
- PIs submit status updates for the LRP to Whitmore (due following the February BC meeting).
- Whitmore will look into Upper Basin requests for STReAMS database funding.
- Whitmore will prepare an executive summary from environmental workshop #1 (due at the February BC meeting).
- The Program Office will prepare a memo to Reclamation on 2016 Navajo Dam releases and procedures.
- Whitmore will distribute the final 2016 non-native fish SOW.
- The Program Office will look into options for making endangered fish stocked into the upper Animas River exempt from some ESA regulations.
- BC comments on Animas River stocking memo to Durst (by end of December).

Upcoming meetings

- Researchers' Meeting, Fort Lewis College and Best Western – Rio Grande, Durango, CO, 12-13 January 2016.
- Biology Committee meeting, Public Lands Center, Durango, CO, 23-24 February 2016.
- SJRIP Annual Meeting, Fort Lewis College, Durango, CO, 10-12 May 2016 (BC meeting 10 May, Annual Meeting 11 May, and CC meeting 12 May) – Program Office should arrange for a larger meeting space for the CC meeting.

BIOLOGY COMMITTEE ACTION ITEM LOG
(Updated 15 December 2015)

Item No. *	Action Item	Meeting/Or ignation Date	Responsible Party(s)	Due Date	Revised Date	Date Completed
1	Provide RBS/CPM stocking/capture/recapture data		P.I.'s to the Program Office	Annually before Jan. 1		
2	Provide Preliminary Draft Report Presentations		Project Leads (authors)	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		Project Leads (authors) to Program Office	Annually by end of March		
6	Scopes of Work		Project Leads to Program Office	Annually by end of March		
7	Provide Final Reports		Project Leads (authors) to Program Office	Annually by end of June		
8	Annual Data Delivery		PIs to Program Office	Annually by June 30		
9	T&E Species Data		BC to Program Office	Annually by Dec. 31		
10	Annually compile T&E data and Program progress into summary to address overall Program recovery goals/objectives for presentation at annual meeting		Program Office/BC	By Annual Meeting in May		
11	Distribute Consolidated Data and list of annual data collected and available in the Program's database		Program Office to BC	Annually by Jan. 31		
12	Recapture analysis on PIT tagged fish		Durst	Annually by March		

BIOLOGY COMMITTEE ACTION ITEM LOG
(Updated 15 December 2015)

Item No. *	Action Item	Meeting/Or ignation Date	Responsible Party(s)	Due Date	Revised Date	Date Completed
13	Coordinate CPM stocking closely with Reclamation to avoid negative impact due to high flows/releases		Project Leads	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	FWS Fisheries/Program Office	5/2011 – provide update and extend as needed	2/1/16	
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	12/5/14	Whitmore	1/5/15	12/1/15	
18	SOW to conduct population estimates for Colorado pikeminnow and razorback sucker	2/20/15	PO	5/12/15	2/23/16	
19	Position paper summarizing the effects of the non-native fish removal program	2/20/15	PO	5/12/15	12/1/15	12/1/15
20	Finalize environmental flow workshop notes and summary	3/25/15	Whitmore	5/12/15	2/23/16	
21	Plan workshop to evaluate and revise flow recommendations	5/12/15	PO	9/30/15		12/3/15
22	Investigate costs of converting San Juan electrofishing fleet to ETS units	5/12/15	Davis	9/30/15	12/31/15	

BIOLOGY COMMITTEE ACTION ITEM LOG
(Updated 15 December 2015)

Item No. *	Action Item	Meeting/Or ignation Date	Responsible Party(s)	Due Date	Revised Date	Date Completed
23	Comments of non-native fish proposal	8/26/15	BC to PO	8/28/15		8/28/15
24	Comments on memo to stock endangered fish further upstream in the Animas River	8/26/15	BC to Durst	12/1/15		12/1/15
25	Comments on purposes and uses of Hydrology Model	8/26/15	BC to Whitmore	12/1/15		12/1/15
26	Prepare a proposal on a geotechnical review of management options at the waterfall	12/2/15	McKinstry and Wesche	2/23/16		
27	Prepare a Navajo Dam temperature depression proposal	12/2/15	Miller	2/23/16		
28	Comments on the LRP	12/2/15	BC to Whitmore	2/23/16		
29	Status updates for the LRP	12/2/15	Pls to Whitmore	2/23/16		
30	Investigate Upper Basin requests for STReAMS database funding	12/2/15	Whitmore	3/31/16		
31	Memo to Reclamation on 2016 Navajo Dam releases and procedures	12/2/15	PO to BR	2/23/16		
32	Distribute the final 2016 non-native fish SOW	12/2/15	Whitmore	12/31/15		
33	Investigate options for making endangered fish stocked into the upper Animas River exempt from some ESA regulations	12/2/15	PO	2/23/16		

BIOLOGY COMMITTEE ACTION ITEM LOG (Updated 15 December 2015)						
Item No. *	Action Item	Meeting/Or ignation Date	Responsible Party(s)	Due Date	Revised Date	Date Completed
34	Comments on Animas River stocking memo	12/2/15	BC to Durst	12/31/15		

* 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

Date	Annual Tasks	PO	CC	BC	P.I.
Oct.	Reclamation administers contracts	X			
Nov.	BC Meeting (peer reviews typically do not attend this meeting) <ul style="list-style-type: none"> Review data integration results from previous year Identify questions for annual data integration Discuss Program priorities LRP review and provide recommendations (with pros and cons) to PO Appoint new BC Chair (every two years) 	X		X	
Dec. 31	RBS/CPM stocking/capture/recapture data to Program Office				X
January	Notification/update of Program rosters/mailling lists	X			
January	Executive meeting (Program Office; Reclamation Fund Manager; CC and BC Chairs) to do preliminary planning for upcoming year	X	X	X	
January	Updated LRP to BC and CC for review	X	X		
January	Reclamation provides a determination of perturbation for BC Review.	X			
Jan. 31	Distribute consolidated PIT tag data and post other data	X			
February	BC Meeting (peer reviewers are expected to attend this meeting) <ul style="list-style-type: none"> Prepare for Annual Meeting Provide preliminary results; draft report presentations Final review of updated LRP Review annual data integration priorities 	X		X	X
Feb/Mar	Final updated LRP to CC (with explanation of input included/not included)	X			
March	CC approval of LRP				
March	Annual guidance/solicitation for SOWs based on LRP/list of prioritized projects	X			
March 31	Draft final reports and SOWs due to Program Office			X	X
April	Preliminary draft Annual Workplan and Budget	X			
May	Annual Meeting <ul style="list-style-type: none"> Program overview P.I. presentations Review preliminary draft AWP Committee reports 	X	X	X	X
May	Annual hydrology meeting to review and solicit information regarding the San Juan River Basin Hydrology Model	X			
June/July	Draft Annual Workplan and Budget	X			
June 30	Provide final reports and data sets to Program Office				X
July	Final reports posted on website	X			
August	Tech review of draft AWP; recommendations with pros and cons to Program Office			X	
August	Revise AWP based on input and transmit final draft to CC with documentation of all input	X			
Sept.	Review and approve final AWP		X		
Sept.	Post final AWP to website	X			

