



**Approved Summary
San Juan River Basin Recovery Implementation Program
Biology Committee Meeting Summary – Farmington, NM
24-25 February 2011**

Attendees:

Biology Committee Members:

Bill Miller, Chair – Southern Ute Indian Tribe
Paul Holden – Jicarilla Apache Nation
Keith Lawrence – Bureau of Indian Affairs
Jason Davis – U.S. Fish and Wildlife Service, Region 2
Mark McKinstry – U.S. Bureau of Reclamation
Travis Francis – U.S. Fish and Wildlife Service, Region 6 (alternate)
Vincent Lamarra – Navajo Nation
John Alves – State of Colorado
Andrew Monié – State of New Mexico (alternate)
John Kendall – U.S. Bureau of Land Management (alternate)
Tom Wesche – Water Development Interests

Peer Reviewers:

Steve Ross – University of New Mexico
Ron Ryel – Utah State University

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

David Campbell
Sharon Whitmore
Scott Durst

Interested Parties:

Carrie Lile – Southwest Water Conservation District
Steven Platania – American Southwest Ichthyological Researchers
James Morel – Navajo Nation Department of Fish and Wildlife
Darek Elverud – Utah Division of Wildlife Resources
Bobby Duran – U.S. Fish and Wildlife Service, New Mexico Fish and Wildlife Conservation Office
Michael Farrington – American Southwest Ichthyological Researchers
Mary Brandenburg – American Southwest Ichthyological Researchers
Howard Brandenburg – American Southwest Ichthyological Researchers
Steve Austin – Navajo EPA, Water Quality Program

Brian Westfall – Keller-Bliesner
Mike Issacson – Keller-Bliesner
Ernest Teller – U.S. Fish and Wildlife Service
Jim Brooks – U.S. Fish and Wildlife Service
Michael Howe – Bureau of Indian Affairs, NIIP
Ben Zimmerman – Southern Ute Indian Tribe
Harry Crockett – Colorado Division of Wildlife
Weston Furr – U.S. Fish and Wildlife Service

Thursday 24 February 2011

Introductions; changes to agenda:

Approve draft summary of 13-14 December BC meeting, review Action Item list, new BC nominations:

- Wesche suggested changes to the summary to reflect the sampling CDOW will conduct in Yellow Jacket Canyon in 2011. The group unanimously approved the summary after Wesche motioned to approve and Holden seconded that motion.
- See the Action Item list attached to this summary for an update of that list.
- The State of New Mexico nominated Andrew Monié as its BC representative. Monié served as David Propst's alternate. The San Juan will be Monié's primary focus and he will serve as the lead for all New Mexico Game and Fish Department San Juan projects. Lawrence motioned to approve and Holden seconded, group approved unanimously.
- The State of Colorado nominated Harry Crockett as its BC representative. Crockett is Colorado's native aquatics species coordinator and he sits on the BC for the Upper Program. Holden motioned to approve and Wesche seconded, group approved unanimously.

2010 Project updates:

Rare fish stocking summary – Furr:

- 2010 was the start of Phase 2 of Colorado pikeminnow stocking in the San Juan. In 2010 only 353 age-1+ Colorado pikeminnow were stocked because of largemouth bass virus (LMBV) at Dexter National Fish Hatchery. The remaining Colorado pikeminnow that were supposed to be stocked in 2010 from Dexter were held at that facility and will be stocked in the San Juan River in 2011. The next LMBV test results will be known by April or May 2011. The stocking date and stocking location of these held over Colorado pikeminnow has not yet been determined.
- There were 28,485 razorback sucker stocked in 2010. This exceeded the annual stocking goal of 11,400. There was likely high mortality from a December 2010 stocking event. Uvalde should haul the razorbacks they produce in the future because there have been issues with Inks Dam Regional Distribution Unit (RDU).

NAPI ponds and PNM fish passage – Morel:

- There are numerous data gaps in the NAPI and PNM datasets because data was not recorded that Morel is looking to rectify as these projects move forward.
- 3,500 razorback suckers were stocked into each of the three NAPI ponds in April 2010. After 140-210 days of growth about 8,000 razorback suckers were passively and actively harvested from NAPI ponds. The 78.1% return rate on NAPI fish was higher than past years. The higher return rate may be due to improved water quality monitoring and overall pond management.

- There was a problem with ich (Ichthyophthiriasis) at Avocet East during active harvest. Dexter and NMFWCO recommended a salt bath treatment prior to stocking in the San Juan River. There was an unknown mortality associated with the salt bath treatment but there would have likely been 100% mortality with no treatment. In discussion with fish health experts it was determined that 'Ich' is ubiquitous and with the associated salt treatment no risk was associated with stocking these fish into the river.
- Although some data were missing from PNM sampling, it is mostly used by flannelmouth and bluehead suckers, very few non-native fish use the passage. Also there were 89 Colorado pikeminnow (two over 500 mm) and 32 razorback suckers collected in the passage.
- A literature review will be conducted to determine if attractant flow can be used to entice more fish into the passage?

Discussion of 2010 holdover Colorado pikeminnow from Dexter:

- Possibly stock Colorado pikeminnow upstream of PNM or in Animas River. Stocking dates and locations will be determined once Dexter clears the next LMBV test. Plans are set to proceed with stocking 400,000 age-0 pikeminnow each fall starting in 2011.
- NMFWCO pulled the Colorado pikeminnow stocking document in order to incorporate BC guidance on how to structure the document and what hypotheses to investigate. The document needs to detail the rationale for stocking Colorado pikeminnow higher in the system.
- The BC would like the specific stocking locations in the upper river detailed. Although there is spawning habitat in these upper reaches, the temperature in these reaches is thought to be too low for spawning. However, there are abundant food resources in these upper reaches.
- NMFWCO will proceed with producing another draft of this document.

Larval fish monitoring – Farrington:

- No larval fish were collected in April, consistent pattern over the past 3 years.
- Isolated pools were available in May. These habitats hold many larval fish but are ephemeral and may be a "dead-end" for the fish that end up in them. There is high capture efficiency in isolated pools and this data is removed from trend data.
- Habitat mapping of backwaters was not effective. In lower canyon there is limited GPS coverage and these habitats change too rapidly to monitor at the temporal scale of this project. If further information on the temporal persistence of backwater habitats is needed it will require a discrete project.
- Larval monitoring collected 5 age-0 Colorado pikeminnow (that were the result of wild reproduction) and 221 age-1+ pikeminnow (that are thought to have come from augmentation efforts). Because larval Colorado pikeminnow remain so rare this effort is largely documenting presence/absence each year. The back calculated spawning dates suggest a longer spawning period for Colorado pikeminnow in 2010 than in previous years.
- Are there ways to sample Colorado pikeminnow in earlier life stages (all fish are captured as metalarvae)?
- Larval monitoring collected 1,251 age-0 razorback sucker. This project has documented annual reproduction of razorback sucker since 1999. The highest catch rates occur in Reach 1 and over a long spawning period from April to June. These captures are not evenly distributed through Reach 1 and large collections often occur in a single habitat. Also a single razorback-flannelmouth sucker hybrid juvenile was collected.
- There has been an increase in the upstream distribution of larval razorback sucker. The Program should consider moving sampling further upstream of RM 141.5 (Cudei Diversion) to RM 147.9 (Shiprock Bridge) to possibly document larval fish (and spawning) further upstream.

- Because razorback sucker move out of backwater habitats once they reach the juvenile stage, it's difficult to investigate the persistence or survival by life-stage.
- After five years of steady decline, red shiner appear to be rebounding.
- Could the larval fish collected in the San Juan River be the result of spawning in tributaries?
- Westfall can provide temperature data to ASIR from Four-Corners. This data was not available for 2010 in time to include in this presentation.

Razorback sucker otolith and aging study – Mary Brandenburg:

- The Program did not fund this project.
- This study was presented for informational purposes of BC.
- 150 otoliths were analyzed to investigate spawn date, hatch date, and time spent in nest. Otolith analysis allows for the determination of actual spawn date and age of fish.
- In 2010 razorback sucker spawned continuously from mid April to late May.
- Larval razorback sucker were detected as young as 10 days so these fish are being detected close to the spawning sites. Since razorbacks hatch ~7 days after spawning and remain on nest ~ 7 days; about 2 weeks after spawn is the earliest larvae can be collected.
- Larvae remain in a specific backwater for a short period of time and new (younger) individuals move into these same habitats over time.
- Otolith microchemistry can be used to determine where fish have been and for how long to possibly pinpoint spawning location. Also because recent larval specimens have been stored in ethanol, otoliths can be extracted to refine back calculated hatch date from earlier larval monitoring efforts.
- Based on otolith data fish grow slower than expected by the Muth model. The Muth model determines hatch date based on length.

Large-bodied monitoring – Dale Ryden via conference call:

- Several older and larger Colorado pikeminnow were captured in 2010. Adult monitoring collected 4 adult Colorado pikeminnow (>450 mm TL); 7 sub-adults (400-449 mm); and 61 large juveniles (300-399 mm). Most of the Colorado pikeminnow captured were stocked as age-0 fish and many were from stocking in 2008.
- Appears that adult monitoring is collecting the numbers of stocked T&E fish close to the numbers specified in the downlist and delist criteria. Although these criteria demand wild fish, there are encouraging signs that the San Juan River can support these numbers based on the stocked fish that are being detected. Also there is no indication of decline in the native fish that serve as Colorado pikeminnow prey.
- Adult monitoring detected 153 razorback suckers in 2010. The razorback sucker scaled CPUE has remained constant since 2003.
- Endangered fish were detected in about 70% of samples suggesting that they are becoming relatively common. However many of these fish are detected in the same year or the year after they were stocked with few captures 3-4 years post-stocking.
- 2010 appeared to be a good year for native fishes and catfish numbers (especially the large number of juvenile fish) declined from 2009 levels.
- Based on CPUE trends, there is no direct evidence that the frequency of electrofishing in the San Juan River is negatively impacting the native fish community.
- There is possibly more interaction between the mainstem San Juan River and its tributaries than is readily apparent.

Small-bodied monitoring – Monié:

- Native fish have been numerically dominant in small-bodied monitoring since 2004. Uncommon non-native fish have become increasingly rare.
- It appears that years with low summer flows lead to greater population of small-bodied non-native fish. The density of red shiner was low in 2010 possibly in response to the relatively high summer flows in 2010.
- Keith Gido and David Propst have been working on a manuscript looking at the long-term trends in the small-bodied dataset using an information theoretic approach. Highlights include:
 - The top ranked native species models are positively associated with non-native competitors and negatively associated with non-native predators.
 - Mean spring discharge is positively associated with speckled dace and flannelmouth sucker densities.
 - Top ranked non-native species models (except for channel catfish) include positive associations with duration of low summer flows.
- Small-bodied monitoring collected 49 Colorado pikeminnow but razorback sucker are not detected because juvenile razorback suckers appear to move out of the habitats that are being sampled by this project.
- The group discussed the need to synthesize the monitoring data from different life stages to present a “state of the river” type presentation.

Non-native species monitoring and control, lower river – Elverud:

- In 2010 there was one marking pass and 8 removal passes in the lower San Juan River. These 9 total passes in 2010 encountered: 1,228 Colorado pikeminnow, 42 razorback sucker, and 7,853 channel catfish. Also three razorback-flannelmouth sucker hybrids were collected. Colorado pikeminnow and razorback sucker capture numbers were similar to 2009 but channel catfish numbers in 2010 were about half 2009 captures.
- The 2010 channel catfish abundance estimate was significantly higher than 2004 but the same as all other years (including 2009). Channel catfish exploitation rate increased with increasing size. Total exploitation rate for catfish tagged in the lower river was 14.7%. Recaptures of marked catfish documented 29 movements upstream of Mexican Hat and 2 movements over 100 miles (out of 995 total catfish tagged). Because tag loss is occurring, exploitation rates are an underestimate of the true value.
- Common carp numbers remain low and 42% of carp were YOY or juveniles.
- Many Colorado pikeminnow were collected in 2010 like 2009. These were mostly age-2 fish. Population estimate of age-2+ Colorado pikeminnow was 1,100 to 1,273 depending on the model used.
- CPUE of razorback suckers has been declining since 2007 when large numbers collected that were stocked in 2006.

Nonnative species monitoring and control, upper river – Duran:

- In over 730 hours of electrofishing in 2010, this project collected 18,700 catfish, 451 carp, 1,204 razorback suckers, and 2,065 Colorado pikeminnow in the upper and middle San Juan River. Five pikeminnow were adults over 500 mm. 152 of the razorback suckers were captured without PIT tags but were suspected to be stocked fish.
- Channel catfish CPUE of 2.0 fish/hr and 7.0 fish/hr in the PNM to Hogback and Hogback to Shiprock sections, respectively, were the lowest levels observed during the study period. 2010 channel catfish CPUE in the Shiprock to Mexican Hat section declined from the high levels in 2009. Common carp remain uncommon in all study reaches.

- Riverwide Colorado pikeminnow population estimate were based on age-2+ fish, at least one-year post-stocking, from trips that were temporally close together. Estimates ranged from 5,418 to 5,466 depending on the model used.
- Riverwide razorback sucker population estimate were based on trips that were temporally close together. Estimate ranged from 2,928 to 3,021 depending on model used.
- In 2011, two trips will be eliminated from PNM to Hogback and one will be eliminated from Hogback to Shiprock. A single marking pass will be added to generate channel catfish population estimates and exploitation rates.

PIT tag summary – Durst:

- 2,990 PIT tagged Colorado pikeminnow were encountered in 2010. Most of these were fish that were first encountered in 2010. Colorado pikeminnow are generally detected only one and two years post-stocking and few are captured after three years post-stocking.
- The decision of the previous cost-benefit analysis of stocking age-0 versus age-1+ Colorado pikeminnow to discontinue stocking age-1+ pikeminnow in favor of additional age-0 pikeminnow is still valid although the difference in cost based on numbers of recaptured fish was not as large as the previous analysis.
- There were a total of 1,349 razorback suckers encountered in 2010. About half of these were 2007 YC fish that were stocked in 2009. There were many recaptures of individuals that were in the river for over seven years. Some individuals were captured every year post-stocking while others had large gaps in their encounter history.
- Razorback suckers appear to remain close to their stocking locations in Reaches 5 and 6 (near Hogback Diversion).
- The stockings of razorback sucker from Uvalde have resulted in only one recapture. There may be some unknown factor leading to limited recaptures of these individuals.

Friday 25 February 2011

Uvalde stocking issue:

- Uvalde is not currently aware of these issues. They need to be brought into the loop to see what can be done to improve the retention of these fish in the San Juan River. It will take time to make any changes to the stocking program. Uvalde will need to come up with a plan to address these issues. Maybe fish should be held for 24 hours after stocking to determine their fate?
- Looking into the future, other options for rearing razorback sucker could be Horsethief Ponds in Grand Junction or rehabbing the 6-Pack Ponds at NAPI but at a minimum the Program should stock the current supply of razorbacks present at Uvalde. Suspended silt issue would need to be addressed at 6-Pack Ponds by lining bottom and stabilizing banks. Dexter should be involved to provide any input on bringing the 6-pack Ponds up-to-speed.
- Should the Program be concerned about the fish from Uvalde that will be implanted with sonic tags and stocked in Lake Powell for the 2011 survey?
- All of the options will need to be presented to the CC in May. Durst should lay out this problem to the CC at the May meeting and write up some kind of report to present to the broader group.

Follow up from yesterday's general discussion – (1) an overall assessment of what was accomplished; (2) progress toward recovery; and (3) question to be addressed for annual meeting:

- The group discussed the need for more integration. There could be a species by species status of fish across all monitoring efforts and a systematic effort to determine missing gaps. The May meeting could include a synthesis type presentation. We should look into a “state of the river” kind of presentation that investigates the results and response of species to management actions.

- The presentations the PIs make in May should be geared towards the CC audience.
- The Program Office will develop an outline of a synthesis presentation for BC and Peer Reviewers comment along with a draft agenda for the Annual Meeting. PIs will send out draft presentations for BC and Peer Reviewer comment by April 15, 2011.
- What adjustments can be made in the field based on new information? How do we apply adaptive management?
- Draft reports from PIs are due to the Program Office by March 31, 2011.
- PO should send out a presentation guideline for the Annual Meeting.

Navajo Operations, Flow Scenarios, and Perturbation Calculation – Ryan Christianson:

- The next Navajo Operations meeting will be on 4/20/2011 at 1pm at the Farmington Civic Center.
- Most probable scenario is for 90-95% of average inflow to Navajo Reservoir, but prediction is for below average precipitation through June.
- The current forecast calls for a likely spring peak release but that can change depending on upcoming weather through March and April. The anticipated spring release would be 5,000 cfs for 7 days but could last as long as 13 days in order to create additional space in the reservoir if elevation exceeds 6,070 feet. BR will make an effort to match the Animas peak rather than centering the Navajo release on 4 June.
- Christianson calculated the need for a perturbation event based on storm days as detailed in the Flow Recommendations. This may be different from how the calculation was produced in the past. The group decided it would be best to conduct the perturbation calculation based on how it is described in the Flow Recommendations (a five day moving average that is not centered to reflect storm events but counts storm event days as defined in the Flow Recommendations).

RERI update, water temperature, and habitat monitoring – Westfall:

- The project entitled “Restoration of channel complexity and improving habitat conditions for native fish on the San Juan River” funded through RERI is expected to begin in 2011. Proposed activities have been narrowed down to 7 sites. Remaining permitting and paperwork includes U.S. Army Corps of Engineer Section 404, Navajo EPA Section 401, Section 402, archaeological survey for NEPA compliance, and U.S. Fish and Wildlife Section 7 consultation.
- Campbell and Durst will complete the wetlands delineation for the Section 404 permit during 4-8 April 2011.
- Navajo Nation EPA concerns include sediment mobilization, violation of turbidity standards, temporary in-river diversion, road construction, clearance from Navajo Nation Historic Preservation Office, permission from local land users, removal of native vegetation, and uranium contamination (at RM 147.8S).
- The RM 147.8S site will be abandoned because of the uranium contamination issue. Another site will be found to replace this one.
- KB will put together a sediment transport exercise to show that the sedimentation problem is not a serious concern.
- Water temperature update: KB read temperature loggers in October 2010 but has not processed this data. The loggers need to be serviced in April 2011. The temperature data since 1992 has been posted on www.kelbli.net/sanjuan.
- The Program needs to decide what to do with temperature data and how to move ahead with funding temperature monitoring into the future. There is not currently a mechanism to get the funding to KB. This issue will need to be sorted out in the upcoming funding discussion and the analysis of the Program’s priorities.

Update on funding issues – McKinstry:

- There is a Continuing Resolution (CR) through 4 March (42.5% of FY budget can be spent – based on the proportion of the FY that has past)
- If a budget is passed funding could be set at some level from the past. The Program is likely to lose between \$26,534 and \$388,368 in funding. Thus far about \$1,000,000 of the 2011 FY budget has been spent, primarily to non-Federal partners.
- If needed there can be a BC conference call after 4 March 2011.

Public law update – Campbell:

- Funding in 2012 may be restricted to monitoring and O&M (possible loss of \$1,000,000). If and when this happens the Program will need to adjust funding accordingly.

Long range plan – Whitmore:

- The BC should get comments to Whitmore by 31 March 2011 and move revised document to the CC before the May Annual Meeting.

Discussion of work in Yellow Jacket Canyon and other tributaries:

- Any decision on how to fund this through the Program will need to wait for the budget to be sorted out.
- McKinstry is working with Keith Gido to develop a proposal for a graduate student to investigate questions related to the tributaries to the San Juan River.
- CDOW will be working in some of these tributaries so there could be an opportunity to work together in Yellow Jacket Canyon and McElmo Creek to investigate the fish community and fish distribution. CDOW will share their sampling plan with the BC. PIT tags and PIT tag readers could be provided to CDOW.
- Any work in these tributaries should draw on work Miller previously conducted.
- Work will be done in Cherry Creek by Southern Ute Indian Tribe.

Discuss habitat workshop SOW:

- The development of this scope-of-work should be on hold until budget issues are sorted out.

Update on remote PIT tag reader – McKinstry:

- McKinstry is working on a proposal with Morel for a PIT tag reader at PNM weir. This funding would come through the USFWS National Fish Passage Program (outside of the San Juan Program).
- The Hogback fish weir contains a plan for a remote PIT tag reader. Construction of the fish weir was supposed to occur this year but funding issues will push that project back.
- McKinstry is working with BioMark to test some PIT tag antennas in the development stage. There is a possibility of using one of these as a pilot project at the mouth of a San Juan tributary. Also work is still moving ahead for a floating PIT tag antenna below Clay Hills.
- The Program could fund some of these projects but a SOW needs to be developed to move this forward. McKinstry will circulate the BioMark SOW to the BC for comment.

Preparation and planning for Annual Meeting:

- Annual Meeting will be at Fort Lewis College, 164 Student Union Hall, in Durango, CO over 10-12 May 2011. The BC meeting will be on the 10th from 8 am to 5 pm, Annual Meeting on the 11th from 8 am to 5 pm, and CC meeting on the 12th from 8 am to 12 pm.
- By 15 April 2011 PIs will submit their presentations to the BC for comment. The Program Office will also develop a synthesis outline and agenda for the Annual Meeting by the same date.
- There will not be dry runs of presentations at the BC meeting prior to the Annual Meeting

Approved 18 May 2011

- Christianson should include hydrology information that KB would have normally presented in his presentation.

BIOLOGY COMMITTEE ACTION ITEM LOG

(Updated 28 February 2011)

Item No.*	Action Item	Meeting/Origination 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 Final 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		Pls to Program Office	Annually by June 30		
9	T&E Species Data		BC to Program Office	Annually by		

BIOLOGY COMMITTEE ACTION ITEM LOG

(Updated 28 February 2011)

Item No.*	Action Item	Meeting/Origination Date	Responsible Party(s)	Due Date	Revised Date	Date Completed
				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		
13	Coordinate CPM stocking closely with Reclamation to avoid negative impact due to high flows/releases		Project Leads	Annually		
14	Waterfall Inundation Whitepaper – review past meeting summaries, determine what is needed, and provide report at the next meeting.	05/18/07	Program Office	12/07/07	Not a current priority	
15	Revise RBS Augmentation Goals (based on the outcome of experimental stocking)	5/10/10	FWS Fisheries/Program Office	5/2011 – provide update and extend as needed	ongoing	

BIOLOGY COMMITTEE ACTION ITEM LOG

(Updated 28 February 2011)

Item No.*	Action Item	Meeting/Origination Date	Responsible Party(s)	Due Date	Revised Date	Date Completed
16	Provide specifics of selenium sampling procedures and analysis – Sampling completed as of 11/17/10, but still need to analyze samples	1/26/09	BIA/FWS	2/18/2009		2/11/2011
17	Develop a detailed outline for San Juan River Recovery Program case history manuscript	11-5-08	Propst/Miller			On hold
18	Non-native fish stocking procedure to States and Tribes	11/5/09	BC provide recommendations to States	12/1/09	ongoing	
19	Pursue effects study on Hg/pikeminnow with other groups/programs	1/14/10	Program Office lead	ongoing		
20	Blank database structure for data integration	1/13/10	Durst	3/23/10	2/24/11	
21	Compile list of references and literature available at Program Office - post list on website and send an email reminder to BC, consider periodically updating	1/13/10	Program Office	3/23/10	12/13/10	11/24/10
22	Discussion of what is the appropriate number of fish to stock	3/23/10	BC	ongoing		
23	Finalize monitoring protocols and integration analysis document PO will incorporate Wesche's	3/24/10	PO, Davis, Elverud, and Ryden	5/10/10	5/10/11	

BIOLOGY COMMITTEE ACTION ITEM LOG

(Updated 28 February 2011)

Item No.*	Action Item	Meeting/Origination Date	Responsible Party(s)	Due Date	Revised Date	Date Completed
	comments and PIs will complete NNF section, incorporate TOC					
24	Evaluate stocking locations upstream of Animas confluence	3/24/10	Davis, Furr	6/30/10	5/10/11	
25	Sufficient Progress Report	5/10/10	PO	6/2010	ongoing	12/23/10
26	Develop final product from non-native workshop that incorporates notes and Peer Review report – revision based on Nov meeting	5/10/10	Whitmore	11/2010	5/10/11	
27	Southern Ute funding of Population Model	5/10/10	Miller	11/2010	ongoing	
28	Work with I&E Coordinator to determine feasibility of brochures and signs	11/10/10	PO	2/24/11	Ongoing; 5/10/11	
29	Develop species specific catch curves using adult monitoring dataset	11/10/10	Durst and Ryden	2/24/11		2/24/11
30	Draft SOW for population model	11/10/10	Miller and Lamarra	2/24/11		11/11/10
31	Prioritized integration analysis	11/10/10	Integration sub-group	1/31/11	5/11/10	

BIOLOGY COMMITTEE ACTION ITEM LOG

(Updated 28 February 2011)

Item No.*	Action Item	Meeting/Origination Date	Responsible Party(s)	Due Date	Revised Date	Date Completed
32	Comments on current LRP draft	12/13/10	BC to PO	1/17/11		2/10/11
33	Distribute revised LRP draft	12/13/10	PO	1/31/11		2/10/11
34	Draft SOW for 2011 Habitat Workshop	12/13/10	PO	2/24/11		2/24/11
35	Comments to Program Office on LRP	2/25/11	BC to Whitmore	3/31/11		
36	Distribute Annual Meeting presentations for review and comment	2/25/11	Pls to BC and Peer Reviewers	4/15/11		
37	Annual Meeting agenda	2/25/11	PO	4/15/11		
38	Presentation guideline for Annual Meeting	2/25/11	PO	4/15/11		
39	Outline of Annual Meeting synthesis analysis and presentation	2/25/11	PO	4/15/11		
40	Tributary monitoring plan	2/25/11	CDOW	5/10/11		

BIOLOGY COMMITTEE ACTION ITEM LOG

(Updated 28 February 2011)

Item No.*	Action Item	Meeting/Origination Date	Responsible Party(s)	Due Date	Revised Date	Date Completed
41	Evaluate feasibility of bringing 6-Pack Pond back into production	2/25/11	Davis (working with Dexter)	5/10/11		
42	Update from Uvalde concerning razorback sucker stocked from that facility	2/25/11	Uvalde NFH	5/10/11		

* 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