

Draft Biology Committee Webinar Summary
May 2, 2013

PARTICIPANTS

Biology Committee: Jerry Wilhite, Harry Crockett, Tom Pitts, Melissa Trammell, Dave Speas, Dale Ryden, Krissy Wilson, Brandon Albrecht, and Pete Cavalli.

Others: Kevin McAbee, Dan Axness, Aaron Murphy, Jason Kent, Jackson Gross, Norm Evenstad, Tom Chart, Jana Mohrman, Tom Czapla, and Angela Kantola

CONVENE: 9:00 a.m.

1. Review/modify agenda – Discussion of bonytail stocking was added to the agenda (item #5).
2. Tusher Wash Diversion Rehabilitation and Fish Screening
 - a. Antenna update – Kevin McAbee said the two antennas previously in the Maybell Ditch are now installed in the Green River canal (under an MOU with the Green River Canal. Co.). Water was turned on in the canal on April 13 at 40cfs (half of normal capacity) and so far, no debris is hanging up (however, the water is cleaner than normal at this point). In 2 weeks, 24 individual fish were detected. Based on data files Kevin has accessed to date, he's identified two of these detections to species: one razorback and one flannelmouth sucker. Kevin is working with UDWR and others to identify the other detections. 2013 will likely be a moderately-dry to dry year, so we can expect fairly high levels of entrainment. The dual antennas will primarily serve as back-up for each other (rather than detecting directional movement) as there's a good deal of noise (interference) being received. Kevin will provide another update on species detected toward the end of the irrigation season. Tom Chart thanked everyone involved and offered that his office can help identifying the detections. Later in the webinar, Tom Czapla checked the antenna hits in the first two weeks of canal operation against the GIS database (updated through 2010) and found four additional individual razorbacks (stocked at 270-343mm TL in 2006, 2007, and 2008), for a total of five individual razorbacks detected in the first two weeks.
 - b. Proposed e-barrier location (Smith-Root) – Kevin said that after reviewing the site and considering operational benefits, Dan Axness proposed putting the e-barrier in the raceway in a January meeting. To assess this decision, a working group (BOR, Smith-Root, McMillen, NRCS, FWS & PDO) made a late-February site visit. Aaron Murphy said they looked at several locations agreed that the raceway would be a more feasible option than the originally proposed site because of consistency of lows, lower flow volume, and suitable velocities. A site 200-300 feet downstream from the top of the raceway looks good, but they're also considering the area by the a large cottonwood further downstream (in the photo in Attachment 2, see the big tree on the left side of canal, a little below the middle of the raceway). Fish and sediment would be returned to the river downstream (the upper site would have a combined return, the lower site by the cottonwood likely would have an additional sediment sluice return). Factors being considered are a location in a fairly straight section of the raceway, appropriate habitat at the return pipe exit, appropriate sites for communications transmission, security, etc. Aaron is working with Bob Norman at Reclamation and finalizing the proposal and contracts for design, etc. which will be finalized shortly, then a schedule developed.
 - c. Updated NEPA process (McMillen) – (See also diagram in Attachment 2) Kevin said McMillen met

with cultural resource folks from Utah Historic Preservation office, the BLM, and the NRCS in February. Dan Axness said that since anything we're planning would have a significant impact to the cultural resources, NRCS wants to go through an EIS, rather than an EA process. The rafting community has concerns about providing at least downstream boat passage (see <http://www.sltrib.com/sltrib/news/56209469-78/dam-river-green-project.html.csp>), so they're opening a new scoping period for that. Greg said the EIS process is anticipated to take at least a year, but construction might still begin in 2014. Tom Pitts expressed concern that the EIS process will require detailed consideration of all the alternatives and could take much longer than a year. Tom Chart understands Reclamation would like to discuss the NEPA and Section 106 process and their past experience on similar projects suggests and EIS might not be necessary. Greg said NRCS is pretty firm about the need for an EIS process in light of the significant cultural resource impact. Tom Pitts asked, since the outcome of the 106 process will be the same whether an EA or EIS is done, why an EIS would be necessary? Greg agreed and said the difference is that the EIS process will document that the impact to the structure is significant. Tom Pitts suggested an EIS likely would move construction out to 2015 or 2016. Dan said NRCS may have additional funds for the EIS work (outside of the construction budget). Dave Speas asked if the return pipe is a large enough target for the fish. Aaron said they're considering different options (pipe vs. open channel, wide-throat entrance, etc.). We also will need to be able to control the flow of water into the bypass structure and take fish from the full water column. With regard to comments from boaters, they're looking into whether fish/boat passage can be combined or not; Kevin affirmed that the Service doesn't want to see any reduced capacity of fish passage, so will probably want to see fish and boat passage separate. Melissa noted that downstream boat passage would be helpful to Recovery Program monitoring. Kevin McAbee thanked everyone for their reviews and said he'll continue to keep the Biology Committee informed as this moves forward.

- d. Updates on antennas (BioMark) to share with the group. Kevin McAbee said Peter McKinnon met with Dan and McMillen about antenna technology as it relates to the construction. The plan will be to have two antenna in the fish passage to detect direction of movement and other antennas at locations that are likely to detect fish. A final proposal with cost estimates will likely come once McMillen finalizes the conceptual design.
- e. Biological studies – Kevin said since the e-barrier is such new technology for this Program, a number of questions have come up about potential effects on the fish. Tom Czapla said they've asked Smith-Root to begin to design studies on the impacts of the electrical field on the fish. Tom forwarded Jackson Gross's draft scope of work to the Committee. Jackson said his goal is to evaluate potential effects of the electrical field that will be used to minimize entrainment. Objectives are based in determining how the electrical field (which will be considerably lower strength than typical electrofishing fields) affects fish: no effect and need to increase field; effect detected and need to decrease field strength; or no effect. Objectives are to: 1) determine minimum strength needed to deflect downstream passage of adult fish; 2) determining effects on larval fish (growth and development); 3) determining any latent reproductive effects to larval fish; and 4) determining impacts on-site and optimizing the onsite performance of the barrier. Jackson has thought we might use red shiner as a surrogate (which reach reproductive age more quickly) to determine impacts to larval fish more quickly (if effects are detected, then longer-term studies on the endangered fish would be continued). The proposal would use the Lake Mead fish hatchery for the work, which is very affordable. Smith-Root would make a significant in-kind contribution to this work. Jackson said he welcomes input into the study plan. Jackson said the total cost of the research would be \$668K for 2.5 years (with additional in-kind contribution equivalent from Smith-Root of \$750K). Tom Czapla said this work would be funded under the capital construction budget. Tom Chart recommended the Biology Committee focus on the objectives in the scope and

consider whether this is the work we need to do. Dave Speas said that if we're going to spend this much money, he'd really like to use razorback or bonytail, even though it takes longer to grow them out. Tom Chart said Pat Martinez had commented on the need to address a large range of conductivity; Jackson said that may have not been addressed in this version of the draft. >The Committee will review the draft scope of work and provide comments back to Jackson by June 1 and then discuss this again.

3. Update on inflow forecasts and hydrology – Jana Mohrman gave an update on current conditions. Despite the April snows, some of the May 1 runoff predictions are lower than those for April 1. The 15-Mile Reach has been experiencing an “April hole” as the reservoirs are filling, temperatures are cold so runoff is reduced, and irrigation is underway. The river experienced ~36hr of flows below 54 cfs at Palisade; forecasts suggest this could happen again in the near future. Back in March, Brent Uilenberg cautioned this might happen and so the weekly HUP calls were begun early this year and folks are doing what they can to keep some water in the river under these unusual conditions. Predictions are for a ‘moderately dry’ year classification for Flaming Gorge and the Yampa River; Reclamation is planning to operate to meet ‘dry’ year flow targets in Reach 2 (allowed under the R.O.D.).

4. Nonnative fish management activities

a. Nonnative Fish Strategy – Tom Chart said some members of the Management Committee will meet with States’ Fish chiefs in Grand Junction May 21-22 to discuss the comments the Fish chiefs provided on the draft strategy last May. As the Program Director’s office has been compiling information for the Service’s 2013 sufficient progress review, Tom recognizes the Management Committee and Fish chiefs also will need to discuss specific actions that could go into the RIPRAP to show the Program is responding appropriately to the Recovery Team’s recommendation to postpone Colorado pikeminnow downlisting. Tom said he just received Colorado’s review of their Yampa River Aquatic Management Plan, which was called out in last year’s sufficient progress letter. That review will prove useful in the May 21-22 discussions. Krissy Wilson said the latest version of the strategy has enough new material that it seems like the Biology Committee (or at minimum the nonnative fish subcommittee) needs to review it again, not just the State Fish chiefs. Tom said the revised strategy was sent to the Management Committee and Biology Committee in January. The tables in the executive summary lift action items from the strategy into a RIPRAP-friendly format. Krissy said some additional items in the revised plan (that would obligate the States) surprised her and she recommends folks review the document. Tom agreed and recommended Biology Committee members who haven’t reviewed the revised draft yet do so (focusing especially on the executive summary) and communicate with their Management Committee representative and, in the case of the States, also with their Fish chiefs. Dave agreed and noted he reviewed the revised strategy and provided minor comments to Pat. Dave agreed we need to move this forward to completion. Tom Chart added that the I&E section will be updated after we’ve agreed on actions the plan will include. Tom Pitts said water users have concerns about the implications of nonnative fish on ESA compliance and he has encouraged that the Program Director’s office to outline a path that will lead us to downlisting in 2018, including what has to be done in terms of nonnative fish control.

b. Update on 2013 activities –

Northern pike at Escalante Ranch (formerly Thunder Ranch) were greatly diminished over winter. Here’s a chronology from Vernal CRFP:

-In fall 2011, we netted over 100 NP from the wetland at Escalante Ranch. This was alarming, because of 14 other wetlands in the middle Green River, we only netted 4 NP total in all the rest of them with similar effort.

-In spring 2012 we netted 300-400 more NP from this wetland, and did not see a depletion from our efforts. We were

alarmed and began discussion of extreme actions such as using rotenone to eliminate the fish.

-In fall 2012, the wetland had dropped such that adult carp could be seen by the hundreds with half their bodies out of the water and hundreds of pelicans were present at the wetland. No northern pike were seen in these conditions and we hoped to have a winter kill.

-In winter 2013, we visited the wetland and determined there was almost 3 ft. of water under the ice, indicating the wetland had filled somehow and sufficient water existed to overwinter fish.

-In spring 2013, we set 3 trammel nets in the wetland and captured 5 adult carp, 6 bullheads and 3 green sunfish. The previous year using the same nets in the same location we typically captured 10-20 northern pike per net. We think the majority of the northern pike died, and the Escalante Ranch is no longer harboring numerous northern pike.

- c. SOP for electrofishing –Pat Martinez strongly encourages everyone to carefully review the electrofishing SOP he distributed. The SOP contains all the information needed about settings for the ETS units (the table of initial recommended settings show exactly how to set the units).
5. Is stocking bonytail in Stewart Lake likely to compromise survival of wild razorback larvae? – Melissa Trammell reviewed the current plans to stock bonytail into Stewart Lake this spring. A subgroup met to discuss alternative bonytail stocking sites because bonytail stocked in the river seem to have poor survival. Stewart Lake was chosen as a good site, and would likely be very beneficial for the bonytail. However, Melissa is concerned that stocking bonytail prior to floodplain inundation may be detrimental to razorback sucker larvae. This spring we may once again entrain wild razorback sucker larvae into Stewart Lake – one of the few sites likely to connect to the river this year. If we've stocked it full of bonytail first, they may consume a large number of the razorback larvae. Right now the razorbacks are on the verge of making a comeback, and the only thing limiting them is making it through their first year. Melissa recommends that we not compromise razorback survival in Stewart Lake by stocking bonytail. Krissy Wilson said a subgroup discussed this at the researchers meeting and concluded that because it's a 570-acre body of water and the fish may be larger than those that would seek out larval-sized prey, the risk would not be too great. About 6,000 bonytail were transferred from Wahweap to Ouray and are ready for stocking this spring. Trina previously detected 42 bonytail leaving Stewart Lake via a PIT antenna. Melissa said she thinks that although bonytail might not seek out razorback larvae, if they encounter those larvae, they will very likely eat them. Melissa asked if there's any place else that would work to stock bonytail, perhaps Johnson Bottom or Stirrup. Krissy said they discussed those and did not think the Stirrup will connect. Tom Czaplá said one advantage of Stewart is that UDWR will have weir in place there. Dave Speas agreed and this further suggested to him that stocking bonytail could confound the LTSP objectives at Stewart Lake. A great deal is riding on the Larval Trigger Study Plan, so it's important to maintain the integrity of that study. Tom Chart said in a dry year the best floodplains for both LTSP objectives and stocking bonytail are those with water control structures that allow flushing fish back to the river when water quality becomes compromised, i.e. Stewart Lake and Old Charley Wash. Access to Old Charley is still being worked out with the Ute Tribe. Tom appreciates the potential effect stocked bonytail could have on LTSP objectives, so if the Biology Committee doesn't feel we can put them into Stewart, then we need to get them into a low-velocity main channel habitat at the appropriate time. Tom Chart asked *if* we had access to both Stewart and Old Charley, would the Committee be okay with stocking bonytail in Old Charley to create a control/treatment? Dave and Melissa and Kevin McAbee all agreed. Dale agreed, but acknowledged that the timing may not work. Pete asked if we were to stock in a low-velocity main channel habitat, would we be doing anything novel to improve success. Tom Chart said we'd be using larger fish and stocking at times that line up better with spawning temperatures. Melissa noted that Tildon has some data that shows stocking success is better under these conditions. Tom Chart suggested that bonytail be stocked in Old Charley or the river if Old Charley is off limits; the Committee agreed.
 6. Review reports due list – Angela Kantola reviewed the updated list. >Dale Ryden will provide a due date for project #131 report. >Angela Kantola will add the Maybell report to the list (*done*); >Dave Speas will

find out the revised due date.

7. Review previous meeting assignments – See Attachment 1.
8. Schedule next meeting and outline agenda – The Committee’s next webinar is scheduled for July 10 from 8 a.m. to 4 p.m. Review of the draft FY14-15 work plan forms the major part of that agenda. General comments related to improving consistency in the RIPRAP are due to the Program Director’s office by June 1, 2013. The PD will then develop recommendations for how to improve the RIPRAP. Agenda items for the July 10 meeting will include: review of draft FY14-15 work plan, RIPRAP improvements; discussion of the Smith-Root proposed scope of work; review of the revised Integrated Stocking Plan and an action plan for establishing refugia for humpback chub.
9. Consent Item: Review and approve revised Biology Committee meeting summary – Angela Kantola provided a revised summary in the e-mail with this agenda; which the Committee approved.

ADJOURN: 12:45 p.m.

Attachment 1: Assignments

(Asterisked items were on the meeting agenda; items preceded by a “-“ can be deleted after this summary)

Note: the order of some assignments has been changed to group similar items together.

For earlier history of items preceded by an ampersand “&”, please see [previous meeting summaries](#).

1. * & Tusher Wash Screening: 1/26/12: **Tom Czapl**, **Dave Speas** and **Kevin McAbee** will draft a Tusher Wash mortality study and literature review RFP (or similar) for review by folks who would not be submitting a proposal. 7/12/12: *no proposals were submitted in response to the RFP, >the ad hoc committee will work on completing the literature search portion of the mortality study (which will aid the discussion in the biological opinion). Need to assign lead.*
 - *When the final engineering designs are provided (**Kevin McAbee** will send the Biology Committee any plans he receives), **key Committee members** should make another site visit.*
 - *- In response to concerns expressed about the loss of fishing opportunities in the canal if an e-barrier is installed, **Krissy Wilson** will check into other nearby community fishing opportunities. 5/2/13: Done; discussed at the open house; recommending folks fish in the community pond at the golf course.*
 - *The **Biology Committee** will review Jackson Gross’s draft scope of work (to evaluate potential e-barrier impacts) and provide comments back to Jackson by 6/1/13 and then discuss this again at their next meeting..*
2. & Revise the Integrated Stocking Plan (ISP) and related issues. **Tom Czapl** is convening a group to revise the ISP.
 - *5/13/11: Cost-benefit analyses should be included in the revised ISP; Tom Chart said he thinks the Program Director’s office can initiate this analysis. Results of the health condition profile meeting held at Dexter in March should be incorporated into the revised stocking plan.*
 - *9/27/12: Revised draft ISP sent to ad hoc group by 9/27/12; comments will be due by the end of October. 3/7/13: the **Program Director’s Office (Czapl)** will provide a revised draft by March 31, 2013. 5/2/13: Comments received from Zelasko, Wilson and Cavalli; plan will be presented to Biology Committee by May 31, 2013.*
 - *- 3/8/13: **Tom Czapl** will calculate whether we can achieve bonytail recovery by 2023 based on planned stocking rates in the draft revised ISP and using razorback sucker survival estimates as surrogate estimates for bonytail. 5/2/13: Done; see Attachment 3.*

Humpback Chub (population estimates)

- *3/7/13: **Program Director’s office** will check with Kevin Bestgen on a revised due date for the humpback chub combined population estimate from Gary White. 3/14/13: LFL will turn this around as quickly as possible after they receive the most recent data from the Service (scheduled for 3/19/13). 3/19/13: The **Program Director’s office** will discuss with Kevin Bestgen what it would take to use the 131 analysis of Westwater/Black Rocks to identify clues as to early life history dynamics and recruitment failure. >**Dale Ryden** will provide revised due date.*

&Humpback Chub (broodstock development / genetics)

- *3/6/12: **Tom Czapl** will remind the humpback chub genetics ad hoc group to submit comments (7/13/12 comments still pending). 1/17/13: Some comments received and incorporated; comments still pending from **Trammell**.*
- *As identified in the sufficient progress assessment and requested by the Management Committee, the **Program** will develop an action plan for establishing refugia for humpback chub (avoiding getting bogged down in genetic analysis). Mike Roberts has recommended building in limiting factor/life history studies to*

better understand what's going on in the system that's affecting humpback chub populations. 5/2/13: **Program Director's Office** will provide outline to Biology Committee in advance of the July 10, 2013, meeting.

- 10/16/12: Age-0 Gila from Westwater were going to be brought to the Horsethief Canyon ponds this fall, but river conditions won't allow safe transport until spring (timing will depend on hydrology). Tissue samples from those humpback and fin clips collected from humpback in the field in 2012 will be analyzed by Wade Wilson to provide information needed to determine if we can use local humpback chub for broodstock development, if needed, or if we will need to incorporate fish from the backup broodstock at Dexter NFH (from the Grand Canyon).
- 3. Hybrid suckers: The **Program Director's office** will follow up on establishing a process to track percentages of hybrid suckers using standardized protocol for identification of hybridization at fish ladders and in monitoring reaches. *Pending*. 1/11/12: Discussed on 1/5/12 NNFSC call; process pending from **Pat Martinez** (lower priority). 10/16/12: Pat will check with LFL about offering a course on sucker identification. 11/14/12: LFL has developed a preliminary, hypothetical matrix to aid in identifying hybrid catostomids. 12/7/12: discussed at the December 5-6, 2013, Nonnative Fish Workshop; key folks will review materials at the researchers meeting in hopes of providing a guide to "standardize" identification of hybrid suckers by agreeing to use a common set of identification aids (pictures, meristics, etc.), so we can be more efficient and confident in identifying sucker hybrids basinwide as a means of tracking the incidence or increase in this genetic threat by nonnative suckers to native and endangered catostomids. 3/13/13: **Pat Martinez** compiling identification guide (done); 5/2/13: Kevin Bestgen reviewing.
- 4. & Flaming Gorge/Green R burbot: **Melissa Trammell and Pat Martinez and Krissy Wilson and Jerry Wilhite** will work on a Flaming Gorge burbot risk assessment. 10/16/12: They held a conference call August 30 and October 15; will have another call November 20, and Melissa will present something to the nonnative fish workshop (done). UDWR is funding two studies (food web and early life history). Late this season, Tildon tried baited hoop nets and other methods in the Green River and did not capture burbot. 12/7/12: **Melissa** will provide a draft to the ad hoc committee members in early February. 1/29/13: Melissa asked if UDWR could include larval burbot sampling near the spillway in their current work in Flaming Gorge; Krissy thought they could. Tildon asked and Krissy said they're not doing any sampling in the tailrace for burbot. **Melissa** will provide a draft assessment to the Committee by the end of July 2013.
- 5. & Nonnative fish management follow-up:

From January 14 and 29 meeting/webinar:

- **Melissa Trammell** offered to work with **Travis** in summer 2013 and report other nonnative fish data (e.g. gizzard shad, nonnative fish captured during Colorado pikeminnow estimates to the Committee each year. The **Program Director's Office (Pat)** will provide specific protocol for handling nonnative fish during other work like Colorado pikeminnow estimates (i.e., which species to target, measure, take otoliths from, etc.) and reporting the data (5/2/13: done; main question was when to take otoliths and Pat has informed PIs to take otoliths from new species or new occurrences of established species in new areas). Walleye, pike, gizzard shad, and other anomalous fish all should be removed. The **Committee** will review the report Melissa provides in working with Travis and then discuss what further analysis may be needed.
- In 2013, population estimates for smallmouth bass will only occur in Project 125. The **Committee** will reconsider resuming the smallmouth bass population estimates throughout the current Yampa River population estimate reaches in 2014, based on an analysis from André.

- The **Committee** agreed to suspend all mark / release of northern pike Program-wide in 2013. They made a **firm agreement** to revisit this issue (northern pike population estimates) when results of the northern pike synthesis are available.
- **Harry Crockett** will check to see if Colorado's Parks folks might be interested in administering a harvest incentive program. 5/2/13: *response pending*.
- **98c & Upper Yampa: Potential PIs** and the Biology Committee will discuss possibilities for 2014 and make a recommendation for consideration during the 2013 nonnative fish workshop. **Colorado Parks and Wildlife** will review landowner permission for access. Meanwhile, **Harry** also will see if by any chance Billy could add an electrofishing pass from Steamboat to Hayden to the 98c work they've been funding (in 2013). 5/2/13: *The 2-3 passes in the upper third of 98c that were done last year will be repeated this year, but Harry doesn't know yet if they'll have landowner permission to work in the remainder of the reach. Three to four times as many pike were collected in 2004-2005 in the upper third of the reach where CPW knows they can sample, however.*
- - **Pat Martinez** will confirm whether Brett's work will address analyzing previously-collected otoliths to determine if Duchesne River & Starvation Reservoir sources of smallmouth bass or walleye. *Yes, will be covered in the C18-19 draft final report.*
- - **Matt Breen** will provide proposal for FY14-15 that they believe would monitor native fish response (e.g., sampling fish through time throughout the summer). *PD's office has recommended first reviewing results of the #158 report.*
- The **Program Director's office and Vernal-CRFP** will work to develop a proposal for a smallmouth bass harvest incentive program on the White River. *Pending.*

Red Fleet: **Krissy Wilson** thinks water drawn down from Red Fleet can go into Stewart Lake and will get more information to the Committee. **UDWR, the Service, and Reclamation** also will discuss Stewart selenium issues.

6. Database Management: The **Program Director's office** will work to define the overall problem/need to improve data management in light of the increased PIT antenna data, draft an overall schedule, and bring that back to the Committee in advance of the December meeting for discussion. 3/8/13: *PD's office provided draft prior to the March Biology Committee meeting. Tom Czapla will work with Scott Durst, Travis Francis, and Kevin Bestgen, to develop a problem statement. 5/2/13: Conference call scheduled for May 24. Dave Speas will talk to Mark McKinstry about collaborating with this group to develop a scope of work.*
7. Protocol for documenting fish captures: **Tom Czapla** will provide protocol for the scope of work format (or other appropriate venue) for how Program PIs will consistently document significant fish captures with photos, etc. (E.g., new nonnative species, information from fish kills after fires, etc.) Krissy suggested the protocol also should include checking for ripeness and noting if fish are tuberculated. 12/7/12: *The PDs office will provide a due date. The Committee discussed how to document in the database things like fish kills, oil spills, etc. Access software allows linking to all kinds of information (including photographs). Information on mortalities may include things like PIT tags. Our existing database can clearly handle information on mortalities; we need to emphasize that these data need to be collected and submitted. 5/2/13: the PD's office expects much of this type of data to be captured in annual reports. 5/2/13: Dale suggested adding an item to the annual report format to capture "Any additional observations." >Angela Kantola will add this to the annual report format beginning with FY13 reports (including direction on what data should be reported). Tom Chart suggested that population estimate annual reports also incorporate more of these kinds of observations from the individual researchers. >**The PD's office** will post a heads up about this to the listserver.*

8. RIPRAP

- - **Harry Crockett** will send the Biology Committee a copy of the CPW's Gunnison fish community report. *5/2/13: Revisiting the annual progress report, Harry found that the data analysis the Program was interested in wasn't included.*
- **Harry Crockett** will provide the Committee an update on how the screen at Juniata Reservoir is functioning. *5/2/13: The screen was initially tested and water was seeping around the wings. The water was shut off, additional concrete work done, and it's working fine, but hasn't been run since. The water gets run through a treatment supply (with only a maximum of 6 cfs run down the canal for irrigation for a limited period of time). The ditch hasn't had water to test the screen yet this year.*
- **Pat Martinez** will work with States to compile a list of Lake Management Plans. *Pending.*

9. FY 14-15 Program Guidance

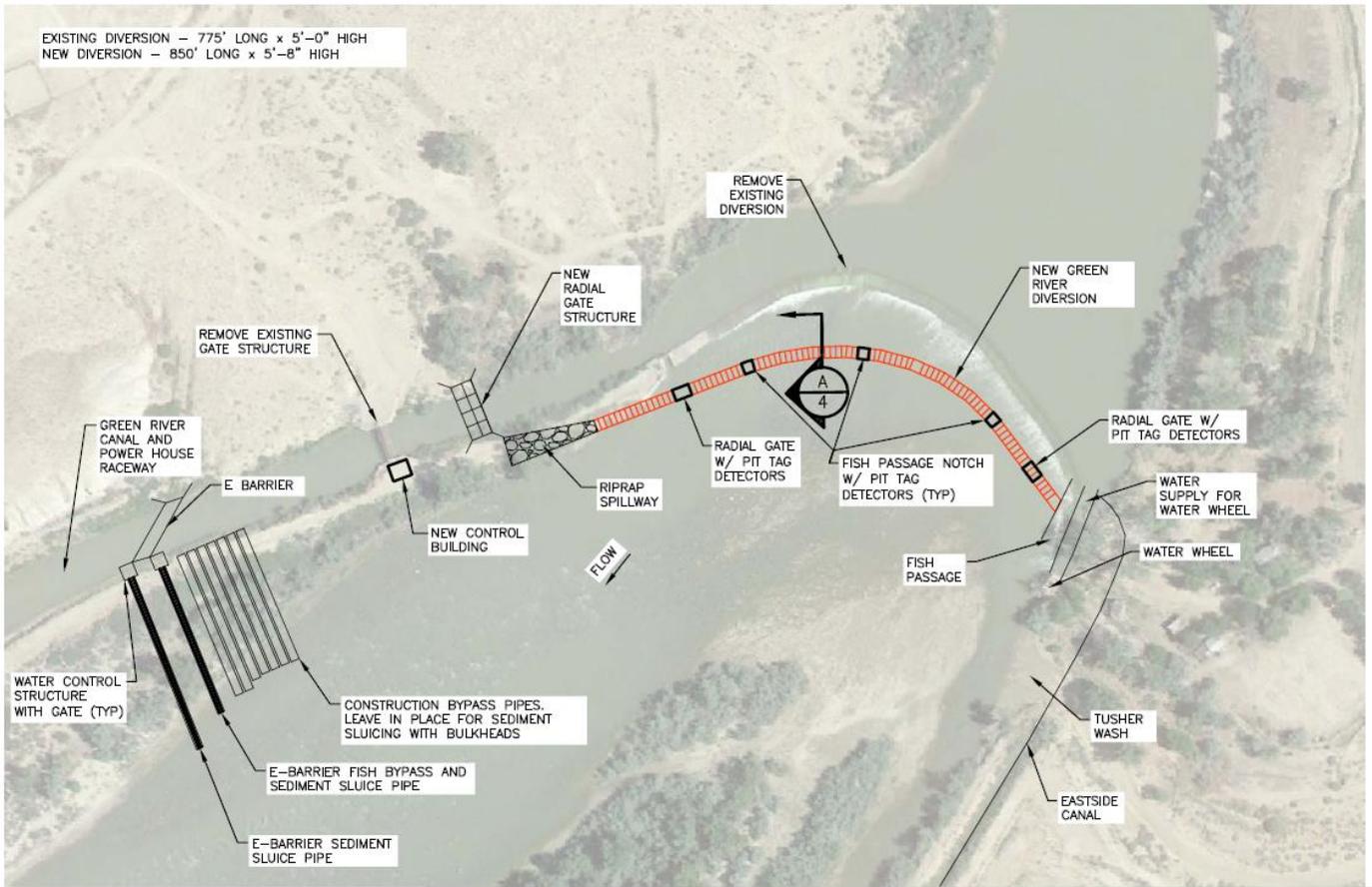
- **Dave Speas** will discuss with **Mark McKinstry** and the **Program Director's office** will contact **Dave Campbell** about studies to determine impacts of mercury on Colorado pikeminnow reproduction and larval development. *5/2/13: Two EISs are pending for coal-fired powerplants: Four Corners (Office of Surface Mining lead) and Navajo Generating Station (USBR lead?). Mark McKinstry thinks any research/monitoring/mitigation for endangered fish would most likely have to come out of those processes as conservation measures, which would trigger funding. Both are pretty new and potentially contentious NEPA processes, so it may be years before anything surfaces. Also, BIA is looking for funding to conduct and experiment on effects of mercury on razorback suckers but could be running into problems due to sequestration.*
- **Pat Martinez, Harry Crockett, Krissy Wilson, Dale Ryden, and Pete Cavalli** will review the otolith analysis situation and make recommendations for FY14-15. *Pending.*

10. **Dave Speas** will get a revised due date for the Maybell report.

Attachment 2: Tusher Wash



EXISTING DIVERSION - 775' LONG x 5'-0" HIGH
 NEW DIVERSION - 850' LONG x 5'-8" HIGH



McMILLEN, LLC
 1401 SHORELINE DRIVE
 SUITE 100
 BOISE, ID 83702
 OFFICE: 208.342.4214
 FAX: 208.342.4216

NRCS UTAH
 GREEN RIVER DIVERSION REHABILITATION
 REPLACE DIVERSION DOWNSTREAM
 SITE PLAN

CONCEPT DESIGN

FIG 1

02-22-2013

Attachment 3

Can we achieve bonytail recovery by 2023 based on planned stocking rates in the draft revised Integrated Stocking Plan and using razorback sucker survival estimates as surrogate estimates for bonytail?

Tom Czapla said he believes we're on track. The table below uses survival rates for 300mm razorbacks. Tom Czapla said he thinks we can get a better first interval survival rate than 6%. The bottom row of numbers show results if the first-interval rate is increased to 10%.

Bonytail: Using Zelasko et al. 2011 1st-interval and subsequent-interval survival rates and 2002 Recovery Goals demographics call for a population in each of the Green River and Colorado River subbasins of 4,400 adults									
0.06 1st-interval survival rate									
0.85 subsequent-interval survival rate									
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
35000	35000	35000	35000	35000	35000	35000	35000	35000	35000
	2100	2100	2100	2100	2100	2100	2100	2100	2100
		1785	1785	1785	1785	1785	1785	1785	1785
			1517	1517	1517	1517	1517	1517	1517
				1290	1290	1290	1290	1290	1290
					1096	1096	1096	1096	1096
						932	932	932	932
							792	792	792
								673	673
Total adults									572
in system:		1785	3302	4592	5688	6620	7412	8085	8657
Total adults at 10%									
in system:		2975	5504	7653	9480	11033	12353	13475	14429