

Draft Biology Committee Webinar Summary
July 10, 2013

PARTICIPANTS

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

Others: Paul Badame, Kevin McAbee, Brent Uilenberg, Tom Chart, Jana Mohrman, Tom Czapla, Angela Kantola, Tildon Jones, Matt Breen, Kevin Bestgen, and Joe Skorupski.

CONVENE: 8:00 a.m.

1. Review/modify agenda
2. Tusher Wash
 - a. Antenna update – Kevin McAbee said the antenna is working well and data are being downloaded every couple of weeks. Data have not yet been analyzed in depth, but many endangered fishes have been detected (110 of 134 fish detected in the canal are endangered: 88 razorbacks and 22 pikeminnow). Melissa commented she thinks this is a much higher number than we estimated. Kevin said data would be more fully analyzed after the end of the irrigation season.
 - b. NEPA process update – Kevin McAbee recalled that the NEPA process was changed to an EIS by NRCS; a second scoping period closed on July 2. The Fish and Wildlife Service submitted comments. One issue that has come up is how to manage water during lower-flow periods when there's not enough water to satisfy all potential interests at the diversion (especially if boat passage is included). The Service, PD, and Reclamation developed the following priority list: 1-meet all water rights; 2-provide adequate electric barrier fish return flow; and 3&4-maintain downstream and upstream fish passage (depending on design and amount of water that may be required, we might only be able to operate downstream passage under certain flow conditions). Water for boat passage would be provided after these priorities are met. Tom Pitts recommended that someone ask Utah if we will need a water right for any of these components (e.g., electric barrier fish return flows, even though they go back to the river). Brent said some of the releases from Flaming Gorge could be designated for this purpose, but we would need to ask Utah if they would administer the water for that purpose. >Jana will work with Kevin and Utah on this and Tom Chart recommended that this be part of our "punch list" we discuss with the Green River group.
 - c. Discuss proposal to study impacts of the electric fish barrier – The draft Smith Root proposal contained the following objectives: **Objective 1:** Determine the minimum electric gradients needed to prevent downstream passage during high flows of threatened and endangered fish of the Green River. **Objective 2:** Determine effects of electrical gradients used for adult fish deterrence on larval fish. **Objective 3:** Determine latent reproductive effects of larval fish exposure to electrical gradients; 3a - Expose endangered larval fish, rear them to sexual differentiation, and evaluate reproductive biomarkers such as histological examination of reproductive tissues, including oogenic stages and follicle size of the ovary and spermatogenesis of the testes; 3b - Conduct reproductive toxicity studies using a regularly spawning fish such as Red shiners, a non-native species of the Colorado River drainage that can be easily cultured in the lab and reaches reproductive age in a few months; and 3c - Raise a subset of exposed endangered

fish to reproductive age, spawn them and evaluate reproductive endpoints such as fecundity, embryo viability, growth and development. **Objective 4:** Verify in situ barrier conditions are effective at inhibiting downstream fish movement. Comments on the draft proposal from Dave Speas, Melissa Trammell, and Tom Chart were previously e-mailed to the Committee. Tom Czaplá said this is a comprehensive proposal with a fairly high cost (even with Smith-Root's generous contribution). Kevin McAbee noted Dave Speas asked about Service requirements. Kevin said the Service is looking for something along the lines of Objective #1 as a conservation measure (determine the minimum electric gradients needed to prevent downstream passage during high flows of threatened and endangered fish of the Green River while minimizing the risk of injury). Objectives 2-4 are outside the scope of what the Service would expect for a conservation measure for safe and effective operation. The Service supports the concept of Objective 4, but we will have an antenna on the fish return by the electric barrier that will provide information as to what fish are doing around the electric barrier. If after a few years, we conclude antenna data are inadequate, then the Service would support something like the study proposed in Objective 4. Dave Speas agreed. Melissa said that although she has some concerns about impacts to larval fishes, the gradient in the electrical barrier is substantially lower than that used in the one study that did show larval effects. Melissa cautioned that in some years, a large proportion of the available larvae would be going through the barrier. Tom Pitts and Dave Speas noted that whatever configuration is decided (e.g., angled versus perpendicular to the current) for the e-barrier may influence how the study design for Objective 1. Experience elsewhere has apparently driven design toward an angled configuration. Tom Pitts suggested that the Committee support the Service's recommendation on Objective 1 and use of modeling to predict impacts on larval fish. The next step is to identify options to satisfy Objective 1. We will very likely need to know the configuration of the e-barrier before we can design a study to satisfy Objective 1. Tom Pitts suggested that we might satisfy Objective 1 through our literature review, but many in the group felt a laboratory component would be needed to calibrate the e-barrier. Tildon noted that in electrofishing, they see less margin for error at higher conductivities such as those found at Tusher Wash. Tom Chart and Brent Uilenberg will discuss funding with the Management Committee, but Objective 1 is a design component, and those are typically funded using capital funds. >Tom Czaplá will work with Kevin McAbee and Dave Speas (and keep Tom Pitts in the loop) on developing a recommendation for how to accomplish Objective 1 (determine the minimum electric gradients needed to prevent downstream passage while minimizing the risk of injury). Tom Chart noted that [Ruppert and Muth 1997](#), Effects of Electrofishing Fields on Captive Embryos and Larvae of Razorback Sucker, also is informative and may be something the Service will want to review for their incidental take statement.

3. Nonnative fish management update – Tom Chart said his office met with the States' Fish Chiefs, some of their staff, and a few Management Committee members in May. As background, last fall the Colorado Pikeminnow Recovery Team recommended that the Service defer downlisting pikeminnow due to current population status and the link to nonnative fish. In the May meeting, the group discussed the draft nonnative strategy and Tom Chart recommended critical action items. The Program Director's office working on revising the draft strategy and hopes to have it back out to the States by the end of July and to the Biology and Management Committees in August. On June 25, the Fish and Wildlife Service met to discuss sufficient progress, but has delayed making its 2013 determination until the Program can respond to the proposed critical nonnative fish actions. Tom Chart is working with the States to get agreement on the critical action items (e.g., focusing on the worst species at a basinwide level, specific actions in the upper Yampa, etc.) that would be put into the RIPRAP and implemented over the next 1-3 years and provide the Service assurance of how the Program will address the nonnative fish threat in a more aggressive way. Harry discussed CPW's intention to overhaul problematic fisheries in upper Yampa reservoirs. Tom Pitts emphasized the importance of public messaging about illegal stocking. Harry discussed upcoming press

releases and said CPW intends to keep the illegal stocking issue before the public. As it relates to illegal stocking, Tom Chart and others emphasized the need to broadly raise the level of understanding of nonnative fish impacts (e.g., the courts do not currently understand the impacts). When the Program Director's office and the States reach agreement on the action items, this will be shared with the Biology and Management committees.

4. Electrofishing course plans for 2014 – Interest remains high, so we need to determine when and where to hold this. If the course is in Grand Junction, Dave said he couldn't lead the on-the-ground effort. Dale said his office would help to the extent they can. Dave will work to get a list of participants, boats, venue, etc. Dave will recommend similar logistics to what was planned for 2013, but set it for a week in late March (second to last week or last week). Dave will send a poll (*done*). Alternatively, Lake Powell could be considered, but this could preclude participation from CPW due to travel costs.
5. Review of draft FY 14-15 work plan – See also the e-mail and spreadsheet posted to the listserv by Angela Kantola on June 21, 2013. Draft scopes of work are found at <http://www.coloradoriverrecovery.org/documents-publications/work-plan-documents/project-scopes-of-work.html>

Angela Kantola introduced the draft work plan. The Recovery Program has limited funds and a limited time frame in which to accomplish recovery actions. Due to national economic conditions and sequestration, the Recovery Program's FY 2014 and FY 2015 budgets are projected to be very tight. Therefore, principal investigators were asked to maintain level budgets as identified in Program Guidance. Even still, if all projects were funded at the requested level, the Program would have a deficit of more than ~\$120K in annual funds. Funding at the level recommended by the Program Director's office will result in a little over \$40K "freeboard" for FY14. Past experience suggests it's wise for the Program to carry some freeboard at this point in the budget cycle (though we typically prefer something closer to \$200K). Although this is a two-year work plan, it is very difficult to accurately predict available FY15 funds in the current budget climate. Therefore, even though the FY15 amounts recommended by the Program Director's office result in a significant (\$800K+) deficit, the Program Director's office is reluctant to recommend any modifications to scopes of work until we have better information about available FY15 funds.

Angela said Dave Speas has noted that while many of the scopes of work have provided the budget detail requested by Reclamation, some scopes still lack the requisite detail. The Program Director's office and Reclamation will work with the principal investigators to get scopes of work revised to meet USBR requirements.

Instream Flow

19: Tasks need updating to reflect current activities; also should note involvement in Price River flow discussions.

With regard to the placeholder 'Evaluate Green River flow recommendations', Jerry said Western understands funds are limiting, but is willing to cost-share and considers this a very high priority. Jerry agreed with Tom that we need to see results of the backwater synthesis in order to move forward with this work.

The purpose of Green River floodplain investigations (which likely would be put under 22f) would be to understand what light trap data are telling us, if we're getting the information outlined in the larval trigger

study plan, and, in higher flow years, are we able to detect influx of larvae into wetlands. We want to understand the effect of flows on entrainment and subsequent recruitment. Tildon noted that amount of water entrained doesn't necessarily translate to number larvae (e.g., they're seeing larvae entrained into some wetlands without a lot of water, especially in single-breach wetlands).

Habitat Restoration

Tom Pitts noted that selenium toxicity is a requirement of the Gunnison PBO; Tom Chart said our obligation is to gather fish tissue samples, which the Service is doing.

Dave Speas asked about razorbacks raised in the Baeser floodplain and later released to the river; >Tildon will see if Aaron has any summaries he can provide to the group at this point.

165: Joe said UDWR's proposed cost increase is related to weir operation, cost of sampling equipment, and three additional sampling events for detecting fish. With regard to pit-tagging, Matt has agreed to tag fish when they're stocked into the wetland. Dave questioned whether we really need to determine capture efficiencies; Matt said Kevin Bestgen is very interested in seeing this. Kevin said this could be very valuable information in managing floodplains. Krissy Wilson said she has some Utah funds that she can carry forward for the additional cost in FY14.

Nonnative Fish

Tom Pitts noted we're spending \$821K on Yampa nonnative work in FY14; in light of Service concerns, are we doing the right things? Are the repeated passes effective? Dave said he thinks André's analysis has shown we need to maintain the current effort; Kevin Bestgen concurred, noting we're removing 50-80% of pike and bass in the Yampa and Green each year. Tom Chart said he thinks we're doing what we can in critical habitat, but believes the most important thing we can do is to address nonnative sources (e.g., Elkhead and Stagecoach). CPW also has identified Walton Creek as a major northern pike source in the upper Yampa, so we need to reconsider what can be done to resolve this problem.

98a: Contains mention of translocating pike to the Headquarters ponds (until sampling switches to rafts when flows decrease). Harry said signage at the park has been installed that explain where the fish came from, etc. Harry can't yet speak to CPW's position on translocation for FY15; Tom Chart noted that translocation would not make sense if we move in the direction the State Fish Chiefs and his office have recently discussed.

98b: Dave Speas suggested "Temporarily reducing the pike population through mechanical means appears to be a viable option for the rivers of the upper basin (Lentsch et al. 1996), although complete eradication is unlikely" isn't really accurate in that it may be a means to reduce negative effect, but no longer a "viable option." Dale suggested the Program might want to develop some boilerplate language for this to be used across applicable scopes of work. Dave Speas suggested doing this once we've agreed on the final basinwide strategy (including identifying reduction targets). >The Program Director's office will recommend boilerplate language after the nonnative fish workshop.

126a: In FY13, may shift three passes to two walleye passes downstream (beginning next week).

167: Smallmouth now reported to be established in the lower White River, as well (mostly age-1, but also large spawning adults). Tom asked if walleye have been observed in the lower White River; Matt said no.

Tildon said they think they saw one in the upper reach during the pikeminnow estimate.

Revisions to nonnative fish scopes of work will be deferred until after the nonnative fish workshop.

Monitoring and Research

Dave asked if Gunnison River larval sample processing costs are in #163 or #15, and Kevin said these costs are in #15.

With regard to discussions about additional database management related to PIT-antenna data, Dave Speas said discussions are now focused on the need for a master PIT tag database (as opposed to complete overhaul or merging of Travis' or Scott's databases). The master PIT tag database also would need to include the 3-species data; Tom Chart suggested we consider other funding sources to augment this effort (e.g., SRLCC).

The group discussed how to address additional razorback data being collected (need for additional data analysis on both Green and Colorado rivers). >Kevin Bestgen and Dale Ryden will work up estimated costs. Matt Breen noted they'd submitted a scope of work to monitor razorbacks with floating PIT tag readers. With regard to using PIT antennas to document spawning, Dave Speas thinks it's useful in concentration areas like razorback bar on the Green River, but perhaps not so much so in areas like the White River. Tildon said their goal for antennas in spawning areas is to contact as many fish as possible (as opposed to confirming spawning). Flat-plate antennas are not in SOW #128 or #167 at this time. The separate flat-plate antenna SOW relates to this, also. Tildon pointed out that antennas are picking up different fish than boat electrofishing and antennas also may be helpful in detecting which cohorts of stocked fish are most successful.

138: Melissa asked if Matt has begun work on a proposal; Matt said they'd deferred per Program guidance. Melissa encouraged UDWR to begin working on this for future years. Tom Chart said that, in his mind, #138 is to monitor the young-of-year cohort and more intensive sampling occurs under #158 (tracking fish community in low-velocity backwaters through time). Matt agreed; however, the experimental design in #158 wasn't set to achieve those objectives until FY13 (when hydrologic conditions weren't suitable). Melissa noted that #138 currently couldn't detect age-0 native fish response to nonnative predator control measures. In an effort to recap past conversations (related to Project Nos. 138 and 158) the group recognized that the Program is interested in answering three distinct questions in Green River Reach 2: 1) What is Age-0 pikeminnow cohort strength – addressed in Project 138; 2) Can we improve Age-0 pikeminnow survival by reducing the nonnative fish densities in backwaters - addressed in Project 158; 3) What is the native fish response to Reach 2 nonnative fish control – partially, but inadequately addressed in Projects 138 and 158.

160: Tom Chart asked Kevin Bestgen if some effort from #163 could be redistributed to this project based on distribution of adults and larvae. Kevin said that may make sense, but Dale said FY14 is last year of field work for #163 and so the Program Director's office agreed that no change was necessary.

6. Review reports due list – The group reviewed and annotated the list (updated copy provided with draft meeting summary).
7. Review previous meeting assignments – See Attachment 1.

8. Schedule next meeting and outline agenda – October 10 webinar from 9 a.m. to 4 p.m. Agenda items will include the basinwide nonnative fish strategy; Colorado River Colorado pikeminnow population estimate report; integrated stocking plan, humpback chub refugia action plan.
9. Consent Item: Review and approve May 2, 2013, Biology Committee meeting summary – No comments were received on the draft summary Angela Kantola sent to the fws-coloriver listserv on May 7, 2013. The summary was approved as written.

ADJOURN: 4:00 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.*
 - *The Biology Committee will review Jackson Gross’s proposed scope of work (to evaluate potential e-barrier impacts) (done). Tom Czapl will work with Kevin McAbee and Dave Speas (and keep Tom Pitts in the loop) on developing a recommendation for how to accomplish Objective 1 of the proposal (determine the minimum electric gradients needed to prevent downstream passage while minimizing the risk of injury).*
 - *Jana Mohrman will work with Kevin McAbee and Utah to determine if any of the Tusher Wash components will require a water right. Releases from Flaming Gorge could be designated for this purpose, but we would need to ask Utah if they would administer the water for that purpose. Tom Chart recommended that this be part of our “punch list” we discuss with the Green River group.*
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 due by the end of October. 5/2/13: Comments received from Zelasko, Wilson and Cavalli; 7/10/13: Czapl will incorporate comments and try to have to Biology Committee by end of July 2013.*

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. 6/28/13: Three reports are pending: a 2011-2012 Black Rocks report, a 2011-2012 Westwater report, and a 1998-2012 combined analysis report. Previous discussion indicated the combined analysis would be provided by LFL and tacked onto the Black Rocks report, but it doesn’t fit neatly into either the 2011-2012 Black Rocks or 2011-2012 Westwater reports because it has data from both. Further, Grand Junction CRFP’s SOW only covered writing a Black Rocks report, not a combined report. Biology Committee should discuss.*

&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 2012 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. 7/10/13: **PDO** will forward the document that a smaller group has worked on and the Biology Committee will discuss in October 2013.
 - 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). Fish will be brought in fall 2013.
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. 6/28/13: Pat sent guide to Biology Committee; DONE.
 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. 7/10/13: *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. 7/10/13 – Harry said they worked the upper reach, but won't be able to access the lower reach this year.*
 - 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*.
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 (done).*
8. RIPRAP
- **The Program Director's office** will work with States to compile a list of Lake Management Plans.

Pending.

9. FY 14-15 Program Guidance

- **The PD's office** will work with **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. *7/10/13: Dave still working to get revised due date.*

11. **Tildon Jones** will ask **Aaron Webber** if he has any Baerer summaries he can provide to the Biology Committee at this point.

12. After the nonnative fish workshop, the **Program Director's office** will recommend boilerplate language (including identifying reduction targets) to be used across applicable nonnative fish management scopes of work.

13. **Kevin Bestgen** and **Dale Ryden** will work up estimated costs for addressing additional razorback data being collected (need for additional data analysis on both Green and Colorado rivers).