

Final Minutes
TRINITY ADAPTIVE MANAGEMENT WORKING GROUP
 Thursday-Friday, January 10-11, 2013
 Shasta Community College, Weaverville, CA

Thursday January 9, 2013 9:00 AM

Attending Members

Member	Representative Seat:
Elizabeth Hadley	Chair, City of Redding Electric Utility Department
Gil Saliba	Vice-chair, Redwood Regional Audubon Society
Ed Duggan ¹	Willow Cr. Comm. Serv. Dist., E. Humboldt Co. and small businesses
Kelli Gant	Trinity Lake Revitalization Alliance
Richard Lorenz	Trinity County Resident
Emelia Berol	Northcoast Environmental Center
Joe McCarthy	Commercial Fishing Guide
Tom Stokely	California Water Impact Network
Carrie Nichols ²	Natural Resource Conservation Service
David Steinhauser ³	Six Rivers Outfitters and Guides Association
Travis Michel ⁴	Trinity River Fishing Guides

- 1) Left during item phase 1 review
- 2) Alternate for Tiffany Hayes
- 3) Arrived after lunch
- 4) Alternate for Liam Gogan.

Members that did not attend

Member:	Representative Seat:
Sandy Denn	Glenn-Colusa Irrigation District
Jeffrey Sutton	Tehama-Colusa Canal Authority
Paul Hauser	Trinity Public Utilities District

Designated Federal Officer: Nancy Finley, Fish and Wildlife Service, Arcata, CA.

Notes: Kim Mattson (ENW).

List of Motions Made during the Meeting

Ed Duggan made a motion to approve the agenda.

Emelia Berol seconded the motion.

The motion passed unanimously.

Kelly Gant made a motion to accept the August 2012 TAMWG minutes.

Joe McCarthy seconded the motion.

The motion passed unanimously.

Gil Saliba made a motion to accept the September 2012 TAMWG minutes.

Kelly Gant seconded the motion.

The motion passed unanimously.

Rich Lorenz made a motion that the TAMWG recommend to the TMC that all high flow injections for 2013 occur at the Lewiston Weir.

Tom Stokely seconded the motion.

The motion passed unanimously.

Tom Stokely made a motion that the TAMWG recommends that the TMC consider accepting Mr. Wellock's claim for impact to his irrigation water system only to help assure good public relations with river landowners and residents, and that the TMC develop a policy to ensure a precedent is not set by looking at these issues on a case-by-case basis.

Emelia Berol seconded the motion.

The motion passed unanimously.

Meeting Minutes by Agenda Item

1. Welcome, Introductions, Approve Agenda and Minutes

Elizabeth Hadley, Chair of the Trinity Adaptive Management Working Group (TAMWG), opened the meeting and asked the members and attendees to introduce themselves. Hadley asked for any updates or changes to the agenda.

Ed Duggan made a motion to approve the agenda.

Emelia Berol seconded the motion.

The motion passed unanimously.

Approve Minutes

Elizabeth Hadley opened the discussion for the review of the minutes for the August and the September meeting minutes.

Kelly Gant made a motion to accept the August 2012 TAMWG minutes.

Joe McCarthy seconded the motion.

The motion passed unanimously.

The September meeting minutes were next taken up.

Gil Saliba made a motion to accept the September 2012 TAMWG minutes.

Kelly Gant seconded the motion.

The motion passed unanimously.

2. Public Comment

Tom Stokely commented on the threats to the Trinity River from the Bay Delta Bay tunnel project. Stokely said that the Trinity is not protected from exports to the delta and that the without proper protections the Trinity Reservoir could be drained. Stokely reported that during the comment process to the EIS/EIR for the Bay Delta tunnel project, no effort has been made to address comments regarding Trinity River protections or to correct the identified deficiencies.

Dave Wellock landowner at Grass Valley Creek reported on problems to his irrigation system that has been created by actions of the TRRP. He filed a tort claim in 2011 and it was denied. He said that Brian Person has been working with him on this problem. He said by going over some of his files, he discovered that since the Trinity River Restoration Program (TRRP or Program) has addressed business claims, he reasoned that his agricultural activities are also a business. He has raised hogs since 1976 and provides meats to 15 to 20 families in Trinity County. He encouraged the TRRP to “not disclude” agricultural systems from the wells program that is currently operating.

Brian Person said this would be further addressed in the Trinity Management Council (TMC) update. Tom Stokely suggested that if they cannot address this issue today, the TAMWG put this issue on their next agenda and that they consider taking action on issues of ranching and agriculture.

Travis Michelle noted that three steelhead were reported caught that displayed characteristics of hemaphrodites and had half testis and half roe. He thought this should be reported to the Department of Fish and Wildlife.

Ed Duggan asked that they take up consideration of the gravel additions and regarding a letter from Graham Matthews.

3. Designated Federal Officer Items

Nancy Finley, designated Federal Officer, reported she looked into the issue of reimbursement for travel. TAMWG would need to designate a special subgroup to go to certain meetings before reimbursements could be allowed. If the members went to meetings on their own, they would be going as a member of the public and could not be reimbursed.

She noted the request to expedite minutes for the public from TMC and TAMWG. She confirmed that they are supposed to finalize by vote the minutes as they did today. But she reported it was also legitimate to post draft notes before finalization for viewing by the public. The TAMWG should probably make a change to their bylaws regarding this policy, but it would not be necessary until their next scheduled date for bylaw changes.

Finley reported the TAMWG charter was approved and it will be signed before the scheduled expiration of the group.

Finally, Finley announced she accepted a new position as refuge manager in South Florida and will be leaving in February. She noted that this new offer fits her work interests and will allow

her husband greater work as a boat captain. She expressed her appreciation for the work with the TRRP. She noted that Joe Polos will be serving in her post during the search for a new Director of FWS Arcata office. Rich Lorenz expressed his thanks and Tom Stokely said she had been the best person in her position. The TAMWG gave her a round of applause.

4. Phase I Review

Mike Merigliano, a Science Advisory Board (SAB) member, made a presentation on the results of the Phase I Review. He commented that he was humbled by the task of reviewing the Program and working with the program. He noted the vast institutional knowledge among the partners and that the program was “great,” though it did need some improvements.

Merigliano reviewed the purpose of the Phase I review to provide independent review and recommendations for the Program with a focus on whether the recent rehabilitation projects are achieving their goals. He noted the Program strategy was to achieve fish returns using managed flows with mechanical rehabilitation and gravel additions. He reviewed the original problems of the Trinity as the result of mining, reduced flows and the resultant encroached vegetation and a simpler channel and loss of edge habitat. He noted the SAB review used four scales from design element up to the system wide view. He emphasized they did more than just a review and they had raw data to analyze. Their review has these parts: channel rehabilitation, space and time analysis, GRTS analysis, high level indicators, riparian, decision support, data frame, and a summary of findings.

Merigliano went over some preliminary findings. Channel dynamics from 2001 to 2011 show trends of decreased fluvial erosion and the channel is widening over time. The berm had been eroded by 18 % since 2003 and non-berm areas are also eroding. Since 2009 fry and pre-smolt habitat area has varied by years and possibly dropped slightly; but he noted this was a short time frame. There is 2.5 times greater habitat in constructed reaches versus unconstructed reaches. There is a slow increase in habitat area at 450 cfs over time since 2001 of about 1.2 % per year; pre-smolt habitat is greater than fry. Smolt outmigration at Willow Creek showed an increase from 2 million in 2007 to 3.5 million in 2010. Merigliano said this increase may reflect improved temperature; but it could be also influenced by habitat improvements upriver. Increases in habitat over time is greater in constructed reaches versus unconstructed reaches. Gravel treatment areas showed greater increases in Chinook redd/carcass distribution than non-gravel-treatment areas. The center of the redd distribution is moving downstream from Lewiston Dam over time. Fall run Chinook returns showed yearly variation with increases in recent years but returns are still below the 62,000 target.

He addressed common questions that had been posed to the SAB. He thought the Program is on the right track, but the changes in the river are slower than expected and linkages between rehabilitation and fish populations are not clear. The most recent designs have the largest increase in habitat. He addressed how they may make informed decisions faster such as which restoration action is best. He recommended the Program to make more forecasting and not wait for monitoring since this is a slow feedback.

Merigliano listed some recommendations. One was to develop a decision support system (DSS) that would be a series of linked physical and biological models to predict response and guide monitoring and help to integrate activities. Another was that the Program needs to articulate program objectives and relations among objectives. Scientific disagreement should be explicitly incorporated using alternative models. He noted a healthy sign is that he did not see “group think”

affecting the program. John Buffington added that fish populations are being measured but they are not being explicitly predicted using models.

Ed Duggan questioned the value of models and cited the failure of this year's prediction of returning adults, suggesting that monitoring was better (the proof of the pudding). Merigliano did not disagree that monitoring is needed, but he likened modeling to a recipe that also predicts adding sugar to a pudding will make it taste sweeter and this can be tested by eating. Buffington restated that modeling is essential as it provides guidance today that can be checked by monitoring later.

Merigliano presented remaining recommendation on procedures such as integrate workgroup activities and streamlining the internal review. He presented a recommendation for Phase 2 that would adopt a "singular focus, singular objective, and singular decision making." He emphasized that this sort of cohesive decision making will not occur on itself and should be intentional by the Program.

The TAMWG had questions. Gil Saliba asked how best to coordinate the physical and biological monitoring programs to provide the most meaningful results as to the effectiveness of the restoration efforts. Merigliano noted the location of cross section and fish sampling was done per historic protocols and each group would monitor at their own locations. He thought the GRTS system is working well to coordinate locations.

Tom Stokely noted the Program goals to increase fish and the requirements of Central Valley Project Improvement Act (CVPIA) to fund the TRRP until certain restoration metrics are reached at which time payments can be cut in half. Stokely and others want to achieve fish goals whereas the CVPIA may want to meet other non-fish metrics and "get off the hook" for payments. He thought the fish goals may never be achieved without more work in the watersheds. Gil Saliba asked the SAB about the relevance of the watersheds and if it were more worthwhile to do more assessments. John Buffington said that is a good question but he had not put as much research on this. Merigliano noted their limited time, but he recalled Grass Valley Creek and that dredging has slowed. He thought US Forest Service sampling of tributaries may provide some insights. He noted the concept of fine sediment role in moving large sediment and that the creeks have a natural inputs and all sediment is not bad. Darren Mierau asked that if the SAB would agree that the value of more work in the watershed so as to adopt a more ecosystem approach. Merigliano agreed and suggested they need to find out if there may be more coho habitat in tributaries. Rich Lorenz noted this was a Phase I review to see if the projects were effective and that the TAMWG needs to know which projects are working so they can advise on Phase II. He asked that the final review guide the TAMWG in their advice to the TMC on this. John Buffington said it is difficult to say how one project may be having an effect since there has been limited time for flows and there are interacting factors. They have identified a missing element of linking individual projects to fish response. Emelia Berol reviewed how the dams blocked access to the upper tributaries and how the mainstem must now provide the lost habitat and noted the failure of the Program to manage tributaries below the dam. She asked if other studies of larger rivers have shown the value of working only in mainstem. Buffington agreed that the upstream tributaries were lost and that tributaries can be important but noted that Chinook are mainstem spawners and that dams did not affect downstream tributaries. But he also acknowledged that he did not know enough about the tributaries and could not give an answer whether tributaries may be more important than the mainstem for fish.

Elizabeth Hadley asked when the final report will be ready. Merigliano said they are “closing the gate” on the analysis part and in a month or two they will have a good first draft. Buffington thought more like two months as they had just received some new appendices.

John Ferguson, of Anchor QEA, gave his presentation and views of the Program. He started by stating his pleasure to work on this project. He explained that the review will have a series of appendices that each takes a different level of view. He said he would discuss the system-wide view of Appendix A. Fall run Chinook show a 4,000 fish per year increase since 2003 but this increase is not evident across the entire time frame from 1992. Coho also showed no long-term change but a small short-term decrease of 650 fish per year. Fall run steelhead show a long-term positive trend but no short term trend. He noted that this species is below 10,000 fish and is far below the goal of 40,000 fish.

Ferguson next the Willow Creek Chinook outmigrant data show a significant increase over time, but this was not seen at the more upstream, Pear Tree trap. He said the pNI (proportion of natural fish) increased in the recent years since 2003. The distribution of adults, as collected by Charlie Chamberlain, suggests that the center of spawning is moving downstream.

An important measure the SAB reviewed was rearing habitat. Ferguson reviewed that the Program goal was to achieve a 400 % increase in juvenile rearing habitat. He showed that all nine construction sites showed increased habitat area for both fry and pre-smolts. The most recently constructed sites show the most increase in area, up to 300 %. The average increase in habitat area across all sites was 70 %. He also showed that the newest sites showed the greatest increase in optimal habitat area.

The amounts of fine sediment in the river bed were decreasing and that the coarse sediment deficit was being reduced. He showed that the water releases were very close the intended or planned volumes. During 2001-2011 releases were 94.3 % of planned releases and more recently the ratio was 102.5 %. The temperature targets were met over 90 % of the time and most exceedances were less than 1 F. The pre-spawn mortality ranged from highs of 70 % in 1988 for spring Chinook to most species falling below 10 % recently, though coho was between 10 and 20 %. They looked at outmigrant timing, and he noted the time of outmigration is also a measure of growth of fish and therefore how things are going in the habitat. Most Chinook, coho, and 1+ steelhead were moving out on time and that was a good sign.

Ferguson summarized his presentation saying that most indicators were neutral to positive. He noted some negatives such as coho escapement trend being negative, low fall Chinook and steelhead escapement and the 0+ steelhead outmigration timing. He thought some IAP objectives need review as they were such as “increase” or whether 62,000 fall Chinook should return each year.

Rich Lorenz noted that recent restoration sites were successful in creating optimal juvenile habitat area but he noted the Reading Creek and Trinity House Gulch did not seem to be so successful. Buffington noted that habitat increases may not directly translate to fish numbers and that is where modeling would help. Gil Saliba asked how habitat that was less than optimal could be improved. Ferguson noted that optimal habitat was defined as those areas that were close to cover.

Elizabeth Hadley asked if the TAMWG should make any recommendation to the TMC. Kelly Gant suggested they wait for the final report. There was discussion about who would be reviewing the next written draft. Rich Lorenz asked that the TAMWG be able to see the executive summary for the next draft and that they would not need to see the appendices.

Lunch

5. Update from the Trinity Management Council Chair

Brian Person gave an update on the TMC activities. He first gave his thanks to Nancy Finley for her work. He noted that Don Glaser has moved to the Denver office and that they now have a new Regional Director, David Murillo. About the Phase I, he thought the TMC needs to continue to give this process their attention and energy. He thought it would take perhaps a cultural shift to institute the proposed Decision Support System. He noted they are anxious to see the final report and to continue the momentum.

He drew attention to the TMC response letter to the TAMWG. One request was that Person attend TAMWG meetings to talk about TMC responses in their letter, which he proceeded to do. He noted that did not hear a negative comment at the past joint meeting and he thanked the TAMWG. He explained the continuing resolution will cover the first half of the fiscal year. He said this allows the Program to spend their normal budget for the first half of this year. There is still uncertainty over the second half of the year. If additional funding becomes available \$500 K may be devoted to watersheds but this depends on the budget. Regarding the restricted sport fishery on Hoopa lands and whether monitoring is justified, he said they are awaiting Hoopa Tribal Council action. There were compliments for Robin Schrock's efforts.

Person next addressed Mr. Wellock's claim and reviewed that a developing gravel bar causes Mr. Wellock to extend his irrigation pipe to reach the river and incurs a cost and also a liability of boats striking the pipes. The existing program was designed for domestic potable waters and does not include Wellock's agriculture system. Wellock submitted a tort claim but it was determined by the Solicitor's office to not be a tortious act. Person described a claim for damages made against restoration on the San Joaquin River that may provide some guidance on how Wellock's problem may be handled. The TMC passed a motion that Reclamation limit the well program to domestic wells and that if the claim is paid, it be paid with dollars other than restoration. Tom Stokely asked why the TMC felt restoration dollars should not be used. Person noted that the Program is designed to enhance bank erosion so they want irrigators to realize the river is mobile. They also did not want to set a precedent.

Rich Lorenz noted that the SAB public presentation last Monday night meeting was disappointing in the lack of information and this is the reason they would like to see the draft report before it is finalized. Tom Stokely agreed with Lorenz that the TAMWG not being able to see the draft would appear to be sending the wrong message of being a partner of the Program. Robin Schrock said that the first small review was a request of the SAB focused mostly to correct data or analyses and the SAB would not be changing their conclusions based on the review. She noted that the presentations at the Science Symposium were a compromise to provide information quickly versus delivering only a written document. Emelia Berol also agreed that the public meeting was not well presented. Tom Stokely asked if they needed a motion to allow their review of the first draft. Rich Lorenz said a TAMWG review would not seek major revisions but would be able to comment on omission of information or glaring errors. Elizabeth Hadley said she could bring this up with the TMC and that a compromise may be worked out.

Emelia Berol commented on the value of explaining to the public the benefits of the Program so they can go home feeling better about it and this did not happen on Monday. Gil Saliba noted that the SAB were not asked to serve the information to the public but to the Program. Dave Wellock commented on his negative feelings over the Program. He noted that his property was used for

sediment deposition and the contractors used their property, phone, electricity with no compensation. He said it is difficult to feel “warm and fuzzy.”

6. Update from the Executive Director

Robin Schrock, Executive Director of the TRRP, gave her update and went over her written report (Attachment 1). She noted the bulleted items under Implementation Update. She said there would be presentations on rehabilitation and on watershed projects later in this meeting. She noted Agriculture Secretary Vilsack visited Trinity County and a list of unfunded projects was given to him. The Bucktail Bridge is accepted. On the Science Update, she commented that a gravel recommendation was developed and Dave Gaeuman will be presenting tomorrow. She noted the Design Team has made a request for policy guidance on pools and adult holding habitat. She noted the transition to a new system created a loss of email addresses and that everyone should send to her, D.J. Bandrowski or Ernie Clarke an email so they can capture their address. She noted several of the bulleted items under Public Outreach which included meetings, a new video, and an article on the Program in the Conservation Almanac. She regretted not the public was not satisfied with the level of information at the January 7th meeting.

7. Update from TRRP Workgroups

Robin Schrock gave the update on the TRRP workgroup activities and led the TAMWG through the written summaries (Attachment 2). She noted that the Flow Workgroup is working on a number of issues such as variable flows, outmigrant timing, and the preparation of a flow binder document. The Temperature Workgroup and Design Team have been active and these would be covered in greater detail by Rod Wittler and D.J. Bandrowski. She noted a few items from the Physical Workgroup such as the pool analysis and a report on their website and that Dave Gaeuman will be presenting on pool scour tomorrow. Schrock thanked Nancy Finley for getting a riparian ecologist on staff and that has helped the Riparian Workgroup. The Riparian Workgroup is working on a draft document on desired future conditions of the riparian zone. Schrock asked Kautsky to provide updates from Fish Workgroup. Kautsky talked about possible models such as SALMOD to calculate fish production. Schrock also noted that their website has a report on performance measures that can be queried.

Gil Saliba noted that the Klamath Bird Observatory had a nice report on bird monitoring activity on the upper Trinity River in their fall newsletter reported on their website, Klamathbird.org. D.J. Bandrowski noted that the Design Team looked at the Bucktail Bridge design following the 2011 high flows. A cost-benefit analysis was completed and a final contract is being awarded from the Program for a design for a full-span, 120-foot bridge that will retain the box culvert and will fully pass the 100-year predicted flow. Pending funding from Department of Transportation, Trinity County will build the bridge by 2014. If there is no funding, the design sits on shelf. Regarding the Indian Creek bank naturalization project, the Design Team could not reach consensus and has performed additional hydraulic modeling.

Elizabeth Hadley thanked TRRP for the Working Group summaries. Schrock asked if they should email all reports and it was suggested she send just the links so they could be downloaded.

8. 2013 Design Update

D.J. Bandrowski presented a set of slides on the Steam Project, a decision analysis and guidance tool for stream restoration. He reviewed that Lorenz Gulch and Douglas City had been fully designed in 2011, but they decided to redesign these sites using a new process to better incorporate stakeholder input. At about this same time, they asked Peter Wilcock to introduce the Stream

Project to the Design Team which they adopted for the second round of designs. Bandrowski explained the Stream Design concept where goals, measurable metrics are developed and designs are scored for how well they may meet the various goals. The stakeholders were allowed to provide input as weighting values for the various goals. Bandrowski then suggested he have the TAMWG fill out their own weighting values on the 10 goals. He showed the results of three alternatives and the weighted scores from the various stakeholders and Program partners. The 50 % designs are coming out tomorrow and they will be moving toward a 100 % design by late February.

Bandrowski next handed out descriptions for the Douglas City (Attachment 3) and Lorenz Gulch (Attachment 4) and walked the TAMWG through the various design features. At Douglas City he noted some changes to the side channel such as adding wood. He noted some fill (IC-1) to be added to divert low flows in to the side channel and another fill (IC-3) to help maintain depth in a steelhead fishing hole. Elizabeth Hadley asked why they are working in a side channel that was already constructed. Bandrowski said the TMC gave them permission to re-work existing sites, if deemed appropriate. He noted the need to protect the water intake for the City of Weaverville.

There was discussion over the Douglas City design. Jim Smith expressed his concern over the diversion into the side channel whether the river would go back into the river at R-3 or may stay in the side channel. He wanted to know what they may do if that happened. He was concerned that a valuable fishing run could be dewatered. Bandrowski noted that that maintenance is not a policy and they could not promise a future condition. Rich Lorenz noted a failure and mess up of the fishing hole at IC-3 would be very bad in the eyes of the public and the fishing community. Travis Michelle asked what the benefit was for IC-3. Bandrowski mentioned increased complexity and increased spawning habitat. Emelia Berol noted that the ranking sheets should be site specific. David Steinhauser had questions about the directing of flow.

Bandrowski next presented the design concepts for the Lorenz Gulch site and walked the TAMWG through the design features. At the upstream end, he noted a beach that is used for river access by the public that would no longer be used. To mitigate, he showed where a road improvement would provide alternative access. He noted U-3 a natural forest health zone where thinning would harvest trees to be used as woody debris. He noted the creation of a split flow structure (IC-3) and restoration of a former failed side channel (IC-5). There was a classic berm removal (IC-6) to help flow to the left side and a hyporheic side channel. Rich Lorenz expressed his concern that this may divert flow away from the Goat Hole on the right. Bandrowski noted that the entrance to the side channel would not be “day lighted” but would receive flow via subsurface at the entrance until 3,500 cfs when it would overtop. He noted a pond (W-1) and plantings at the left side floodplain. He noted the need to maintain the Goat Hole.

Rich Lorenz noted that he could see some high flow restorative changes occurring at the Lorenz Gulch site at the lower left (a bar that disappeared is coming back). But he asked if the Lorenz Gulch (and Douglas City) is too expensive at \$2 million if you compare it to Upper Steiner Flat site at \$1 million. Elizabeth Hadley asked if the stakeholders would have another chance to have input. Bandrowski said no

9. Watershed Update

Kent Steffens of the TRRP gave an update on watershed and passed out a handout (Attachment 5). He noted that the funding for projects in a specific year come from the previous year’s budget. He also noted that most projects, once funded are able to attract matching funds from other cooperators. He reviewed the projects listed on his handout by year. For year 2012 he noted road

decommissioning, sediment reduction, and fish passage projects. For year 2013, he listed the projects planned for this summer. These included two feasibility studies, fish passage enhancement, sediment reduction, and LiDAR acquisition. Proposed projects for 2014 included four sediment reduction via road work (rolling dips, controlling erosion, prevention of landslide, installation of a culvert) and assessment of agricultural practices. Potential projects for 2014 if additional funding arrives included more sediment reduction, fish passage, and road inventories.

Tom Stokely thanked the Program for the presentation, noting it was the first he had seen from the Program showing watershed work. Rich Lorenz asked about work on sediment from East Weaver Creek. Steffens agreed that this may need more work. Bandrowski noted that aerial photos have been acquired to begin assessing the site. Robin Schrock noted the website “fishhabitat.org” that did a nice write-up on Connor Creek as one of ten sites to watch.

Elizabeth Hadley summarized the day and reminded the TAMWG to fill out Bandrowski’s form. She asked that the TAMWG be prepared to talk about a mission statement tomorrow. Emelia Berol suggested they look at the articles Nancy Finley sent out from Conservation Science to get ideas for mission statements. She suggested wording for motions. She suggested they consider motions regarding the memo from the Design Team to address how stakeholder input should be handled. The second was on recommendation on gravel augmentation from the Physical Workgroup and whether the TAMWG might agree or disagree.

Adjourn Day 1

Friday January 10, 2013 8:35 AM

Elizabeth Hadley called the meeting to order and the TAMWG took up the next item on the agenda.

10. 2012 Temperature Workgroup Products

Rod Wittler presented on four different studies on temperature management: the Trinity Cold Water Pool Analysis, the Lewiston Special Study, Inflow and Temp Tracking, and Historical Temperature Analysis.

Trinity Cold Water Pool Analysis is to determine volumes needed in Trinity Reservoir in order to meet next year’s downstream temperature requirements in the Trinity River. They use a model CalSim that is a water balance model that tracks water into the reservoir and water leaving the reservoir. It has certain rules such as how much can be shipped to Shasta Reservoir. They are able use CalSim to backcast the volumes of the Trinity Reservoir. He showed a graph of how the Trinity Reservoir would have filled and emptied back to year 1962 if they had had to meet the ROD requirements during the entire time. The backcast simulation showed that managing the Trinity under ROD flows would have drained faster under droughts but it would have refilled back during recovery years. He said this made sense since there are more requirements to meet under the ROD.

They can also examine the effects of climate change. They have found that they are OK for cold water storage down to 750,000 acre-feet (AF) at which point they need to use the auxiliary outlet. They also found that in critically dry years where storage capacity is taxed, the auxiliary outlets would need to be used extensively. They will continue to refine their understanding of the relationship between Trinity Reservoir elevations and cold water pool.

Lewiston Special Study is an analysis of several alternative ways to move cold water transport downstream to help salmonids. Alternative 1a is to remove Lewiston Dam and use a canal.

Alternative 1b is to remove the dam up use a pump to raise water to the Carr Diversion. Alternative 2 is to dredge the bottom of Lewiston Reservoir to allow cool water to flow along the bottom and reduce mixing with top warm water. Alternative 3a was to construct a tunnel from Trinity Dam to Lewiston Dam. Alternative 3b is to use a pipe instead of a tunnel. Alternative 4 is to raise Lewiston Dam. There are also two other options they are considering Option A is to replace the Trinity power plant with one that could allow more cold water to pass and avoid use of spillway. Option B is to build a selective withdrawal structure from Trinity Dam to allow variable depth of withdrawals. The construction costs ranged from a higher costs of \$490 million to build the tunnel, \$390 million for the pipeline, \$280 million for the canal or pump down to the lower costs of Option A replacing the power plant for \$1.8 million. The next steps include looking at benefits, and operational impacts.

Inflow and Temperature Tracking is something they do year round to manage temperatures down river. Wittler explained that they estimate the inflows to Trinity Reservoir based on predictions in DWR bulletin 120 and base their plans on the prediction at April 1. He also noted the B2 forecast that predicts Trinity Reservoir inflow 12 months into the future and is available on the Reclamation website. As of September 2012, there was 1.8 million AF in Trinity Reservoir and this is good for temperature this summer.

As for other managed releases, Wittler showed how releases from Lewiston Reservoir were also able to meet needs of establishing root systems of desired trees. He also noted that releases this year that included an extra 40,000 AF in fall to meet the needs of fish.

He next explained the various temperature targets downstream in the Trinity River they try not to exceed. They generally able to meet outmigrant temperatures needs at Weitchpec in the spring, summer temperatures at Douglas City for adult spring Chinook holding, and fall needs at North Fork for spawning.

As part of their real time temperature management, they did an exercise to look at water years 2003 (wet) and 2005 (normal) from July 1 to September 30 to see if they can gain any water to use at times where temp targets are being exceeded. They found that higher releases up to 750 cfs from Lewiston Dam would generally drop river temperatures below most exceedances. They asked if they could cut back on releases in the earlier part of the year and use it later in the summer to avoid exceedances. Their models showed that this indeed would work, but they discovered that they would need reliable 5-10 day weather forecasts and these are not yet available.

Historical Temp Target Performance looked at period between 1993 and 2011 Douglas City and the North Fork. They divided the time period into three sub periods 1993 to 2000 (pre-ROD), 2001 to 2004 (partial ROD) and 2005 to 2011 (full ROD). They found that, for 90 % of the days, exceedances were not more than 1.8 F at either Douglas City or North Fork. He thought this was a good record.

Tom Stokely complimented Wittler over the presentation. He noted that the real key was to meet the temperature during the long-term droughts. He further noted that the NFMS study calls for a minimum of 600,000 AF storage and Reclamation shows this is inadequate. He thought something needs to be done at Lewiston to avoid the problems of a multi-year drought. He has some studies from his days at the County that suggest 1.8 M AF carryover storage are needed to prevent volume and temperature problems in a 7-year drought. Wittler responded that the temperature targets in the river seem to be "firm" and the Program's ability to meet them are "good" as exceedances seem small. Wittler further pointed out that Reclamation is concerned with meeting the target and have demonstrated this by their willingness to forgo power production

for fish. He pointed out that a 7-year drought will be bad regardless and so far, they have demonstrated they can handle a 3-year drought.

Rich Lorenz thought they will never get more than \$25 M for any of his alternatives for Lewiston Dam and suggested they only do further analysis on the less expensive projects. Gil Saliba asked if the less expensive such as dredging will be further analyzed. Ron Goodyear asked about the gain in acre feet from dredging. Wittler said there would be nearly none but flattening Lewiston Reservoir will prevent cold water from mixing with warm water.

11. Gravel Presentation

Dave Gaeuman presented on the preliminary results of the 2009-2012 pool change analysis and passed out a paper (Attachment 6). Limited sonar data was collected in 2009 as part of a way to add to their terrain data. By 2010, there was more focus in pools. In 2011 there was a much greater effort and more data. The past three years do not have exactly the same data but Gaeuman was able to sort through the data and assemble 250 comparisons among the years. As part of his comparison, he showed a graph of the cumulative pool area by depths and he compared various years using different lines. As an example the graphs showed whether the 50 % of the cumulative pool areas had gotten deeper or shallower in successive years. This was a better way to look at pools than simply any changes in the maximum depths.

Gaeuman showed that Wellock's pool showed some of the most change and this pool showed substantial filling. He noted that there were two rehabilitation sites upstream that may have contributed gravel but that Wellock's pool was a dredged pool before the Hamilton Ponds were built. He noted that the 1980's photos (pre-dredge) of Wellock's Pool look similar to today. Alcatraz Pool at the downstream end of Douglas City campground showed small changes between 2009 and 2010 but filling in 2011. Gaeuman thought this was due to construction in the fall of 2010 combined with the 2011 high release. Gaeuman acknowledged that some areas of the river had narrowed and filled due to rehabilitation and he also said they don't want to do this anymore.

He showed Lowden FP Convergence which he described as a plane bed that showed deepening scour by 2011. There was discussion over there would be a small gravel addition there this year. Travis Michelle expressed his "druthers" that no gravel be added there.

Gaeuman showed a synthesis graph of cumulative change in depth by river mile. Positive change in depths meant increases in depth. The 90 percentile showed deepening from Lewiston at river mile 112 down to river mile 82 then some filling to river mile 72. The 50 percentile showed some less scour and even some filling at river mile 102 and 92. But in general it showed deepening over the river from 2009 to 2011.

Emelia Berol asked how far gravel can be transported. Gaeuman thought gravel does not travel as far as some think and he said the data suggests it goes typically less than one mile under these flows and over these past years. At Lowden in 2011, the gravel went downstream to Wellock Pool and Trinity House Gulch and some went further downstream over a mile. Berol asked what their expectations are when they put gravel in. Gaeuman said they do expect gravel to transport downstream but the exact distribution will depend on the future high flows and whether the downstream reach

Andreas Krause next made a presentation where he summarized the Physical Workgroup recommendations of gravel additions. He summarized that the ROD mandated coarse sediment additions to mitigate for losses from upstream of the dam. The ROD recommended 0 to 67,000 cubic yards (CY) per year with an average of 10,000 CY. Gaeuman in 2008 estimated that 6,700

CY per year would be more appropriate. Krause explained that there are two ways to add gravel. One is during the high flow directly into the river and the other is during low flow by adding to bars. The 2013 recommendation is to add gravel during high flow of up to 3,000 CY depending on water year type and try to make up the difference in low flow placements. He showed two proposed high flow placements at Weir and Lowden and two proposed low flow placements at Sawmill and Lewiston Cableway. They recommend up to 2,000 CY at Lewiston Weir and up to 1,000 CY at Lowden. At Lewiston Cableway they would supplement a bar. At Sawmill they would also supplement a bar. However, at Sawmill, he showed how past additions had moved downstream to a turn in the river. Travis Michelle noted that the movement of the lower bar at Sawmill was heading into the area of adult holding that has concerned the residents in the area. There was more discussion on the lower part of Sawmill. Krause explained that in 2009 they lowered the floodplain and added gravel there but they found that this gravel did not mobilize and they got a lot of “flack” over that. He thought they may need to raise the floodplain to focus high flows to scour the adult holding area and help to mobilize gravel transport. Another point to add gravel at Sawmill is along a bank so as to maintain flow in a side channel that appears to be cutting back to the river.

Krause summarized that they will be re-visiting their guidance documents and doing new analyses to see if they can revise their current gravel addition programs.

Elizabeth Hadley asked if the TAMWG was ready to make any recommendations. She first clarified they have one high-flow recommendation ready that will be presented to the TMC. As far as summer additions, the Physical Workgroup was not ready to make a recommendation and will be discussion at the February 26 Physical Workgroup meeting. Rich Lorenz thought the ROD recommended gravel additions in the upstream reaches right below the dam and he did not see the value of adding gravel downstream such as at Lowden. Tom Stokely agreed that the high flow additions may be OK. Travis Mitchell thought 200 trees had fallen into the river and natural gravel additions are occurring below Rush Creek and these are not being recognized. Lorenz thought that Rush Creek may be the dividing line for adding gravel. Michelle was worried about additions during time when spring Chinook are in the river. Krause said any summer time additions would be made to bars above the river levels. Michelle thought gravel is needed but he thought the locations are more critical and they should reserve additions to the Lewiston Site and let the river move it. Dave Steinhauser asked about the SAB recommended. Ernie Clarke said Jim Peterson did some work on spawning and it has not been reviewed yet. Lorenz thought they may wish to wait for the SAB. Robin Schrock said the SAB will not specifically address gravel injections.

Elizabeth Hadley summarized the discussion as 1) the concerns downstream, 2) there is a need for some additions this year, and 3) the Physical is undergoing more review of the issue. She asked why do we need to do anything this year before the reviews? Krause responded they need to keep up with the minimum needs. Last year there were concerns with filling pools and therefore they avoided additions since they had added extra amounts during construction that met their long-term averages. They are now at a point where they need to meet these requirements. Hadley asked why not put all 6,000 CY for this year into high flow injection. Krause said there are concerns with overwhelming a single spot. There were concerns with adding 3,000 CY at Lewiston as it takes longer to put in and it may not move out during the short, high-flow duration. They do not have very many sites where they can add gravel at high flow given permitting and logistics and that the gravel they previously added at Sawmill is still there.

Rich Lorenz made a motion that the TAMWG recommend to the TMC that all high flow injections for 2013 occur at the Lewiston Weir.

Tom Stokely seconded the motion.

The motion passed unanimously.

12. TAMWG Mission Statement

Elizabeth Hadley next asked if the TAMWG wanted to discuss the need for a mission statement. She read the purpose statement from the bylaws which address the advisory nature to the program. The TAMWG thought this was adequate and no mission statement was needed.

She next asked if they have any guidance for the Design Team to incorporate stakeholder input. Rich Lorenz expressed his confidence in D.J. Bandrowski and that tracking stakeholder input should continue. Robin Schrock noted that the TAMWG can go to Workgroup meetings as a member of the public but the meetings are not meant to hold policy discussions. Nancy Finley asked if the Workgroup needs to have specific information. D.J. Bandrowski provided some background that the Design Team members had some concerns as to the level of engagement of stakeholders and whether they needed to increase their level of engagement. Gil Saliba said that TAMWG should commend the Design Workgroup for their efforts in accepting input from local residents, guides and other stakeholders in the design process. Tom Stokely noted his appreciation of Program staff improvement, especially since last year's contentious meeting over this issue. Gil Saliba noted that when scientists speak to the public that Morris can help to maintain the good progress being made. Emelia Berol felt bad that they did not respond very well to D.J. Bandrowski's request to complete his weighting sheet. She thought the TAMWG should be more engaged and even though they cannot meet between meetings. Nancy Finley said they could do conference calls between meetings and discuss administrative needs but not decisions.

Set Next Meeting date

Elizabeth Hadley noted the next meeting is scheduled for April 1. She suggested a conference call for Thursday, February 21 at 2 PM to address the agenda. As for agenda items, Gil Saliba suggested a riparian presentation to see if more work could increase the quality of the habitat that had fallen short. Travis Michelle asked if the State Fish and Game might make a presentation on the hermaphrodite fish he has heard reports about. Rich Lorenz would like to hear about the projections of fish numbers versus the actual numbers as the projections seem to run high. He also wanted to hear about the bidding and awards process. Gil Saliba noted that hatchery review has been completed and they have not heard anything on that. Rich Lorenz noted that the SAB report should be done by then and a presentation would be nice. Ernie Clarke noted that a flow schedule and report back on the gravel review and placement on bars may also be ready by April. Rich Lorenz asked if they may want a final design review from D.J. Bandrowski. Bandrowski said they will be doing 2014 designs early and they want to have an early joint stakeholder meeting and it was clarified that TAMWG members could come, but not as a group without posting a notification.

Tom Stokely brought up the Wellock's problem and said he would like to help pay the approximately \$8,500 plumbing estimates for the damage to his irrigation system.

Tom Stokely made a motion the TAMWG recommends that the TMC consider accepting Mr. Wellock's claim for impact to his irrigation water system only to help assure good public relations with river landowners and residents, and that the TMC develop a policy to ensure a precedent is not set by looking at these issues on a case-by-case basis.

Emelia Berol seconded the motion.

The motion passed unanimously.

Rich Lorenz led the TAMWG in thanking Nancy Finley and Vina Frye in getting the charter passed in a timely manner.

Adjourn 4:50 PM

LIST OF ATTACHMENTS AND OTHER DOCUMENTS

Attachment 1: Executive Director's Report Jan. 10, 2013. Passed out by Robin Schrock.

Attachment 2: Technical Workgroup Summaries December 2012. Passed out by Robin Schrock.

Attachment 3: Douglas City design. Passed out by D.J. Bandrowski.

Attachment 4: Lorenz Gulch design. Passed out by D.J. Bandrowski.

Attachment 5: Watershed TAMWG Update 2012. Passed out by Kent Steffens.

Attachment 6: 2009 to 2012 Pool Depth Analysis. Passed out by Dave Gaeuman.

Other Documents:

2013 Coarse Sediment Augmentation Recommendation.

2012 Temperature Work Group Products.

TRRP 2013 Design Process Update.

Trinity River Restoration Program 2013 Science Symposium

Trinity River Restoration Program 2013 Science Program. High Level Indicators of Program Performance.