Meeting Summary

INTERDISCIPLINARY WORKGROUP
FLOW WORKGROUP

Wednesday January 29, 2025

TRRP Office, Weaverville / USFWS Office, Arcata / MS Teams

Wednesday, January 29, 2025: 09:00 – 11:00

Purpose

Initiate conversation on formalizing a study plan for the Environmental Flow action.

Participants

Weaverville: Justin LaNeir DWR, Todd Buxton USBR/TRRP, Patrick Flynn TC, James Lee USBR/TRRP, Oliver Rogers USBR/TRRP, Chris Laskodi YT/TRRP, Eric Peterson USBR/TRRP

Arcata: Ty Wallin USFWS, Justin Alvarez HVT, Scott McBain ARS/HVT, Simone Groves HVT/TRRP, Seth Naman NMFS Brad Nissen USFWS

Online: Bill Pinnix USFWS, Smokey Pittman ARS/HVT, John Buffington SAB, Trevor Morgan DWR, John Bair ARS/HVT, Kiana Abel USBR/TRRP, Daniele Tonina SAB, Kyle DeJuilio YT, Shane Quinn YT, John Hayes SAB, Mike Dixon USBR/TRRP, Kurt Fausch SAB.

Action Items Derived During the Meeting

- A couple items are highlighted below for assignment to other Workgroups

Meeting Summary

Introductions of those attending at start.

Agenda outlines 3 discussion items:

- Review current status for Environmental Flows
- Review ongoing efforts
- Open Discussion on structuring monitoring efforts

Review current status for Environmental Flows

(Lee) Process of getting the document signed. In 2020 TRRP developed a protocol for implementing winter variable flows, significance was to not over-expend our water volume since we don't know how the water year will go. Too much volume released before the water year is determined may mean volumes available later in the year are reduced. The Protocol in 2020 was reviewed by the science advisory board which was then developed into an environmental assessment. Directed a FONSI for the EA was not needed. In 2023 team voted to implement winter variable flows. Motion for preliminary injunction filed by Hoopa Valley Tribe. Injunction resolved in January of 2023. So some implementation was able to be executed in Feb 15 – April 15 of 2023. Water Year 2024 TMC was not able to recommend implementation of winter flows. Tried again to implement these flows in WY2025 (TMC

approved with one 'no' vote). This fall Karl Stock discussed with Hoopa Valley Tribe to garner support for the winter variable flows. Yurok tribe filed a lawsuit in WY25: reasoning was tributary creeks release enough fine sediment that this material cannot be transported. Flows will not move the sediment sufficiently to not effect killing eggs, smothering eggs with silt. Temperature impact: growth suppression later in the water year. David Mooney, Elizabeth Hadley spent some time discussing with the Yurok tribe this year to try to meet needs to get the flows implemented. Reclamation then began taking ownership over flow actions. Reclamation (incl. Lee) went back to Hoopa Tribe to discuss how to reach an agreement. 14 points were brought to the meeting to meet the needs of the Hoopa Valley Tribes. Signed conditionally, with Reclamation agreeing to work with the tribes on the 13 points. The 14th point on Concurrence authority was outside of TRRP's ability to address, other points were more targeted at Science and adaptive management strategies. Most of these points were management objectives that had previously been discussed in management meetings. Reclamation made a commitment to the 13 points – but we need to work through what actually needs to be done to work through these points. We'll put the science first and then work on the funding and resources required. Winter flows were able to move forward in WY25 as of December 15th a hydrograph was developed and a synchronization flow was released, peaking on December 25th. The base flow dovetailed straight into a safety-dam release, which was 1500 cfs, and therefore not as the original hydrograph plan directed. There have been some negative reactions from the public about the reduction of fishable days but also a lot of fishing activity.

(Peterson) These 13 points are between Hoopa and Reclamation, not between TRRP and Hoopa overall. This meeting was scheduled after a TMC a conference call in case they needed to provide direction to this team. TMC meeting happened and no additional guidance directions were given. Idea is to formalize the process to address adaptive managment of the new flow action and implementation of the Hoopa Tribe's 13 points.

(Lee) Winter Flow process authors are on this call, we always thought we would evaluate this doing our already created monitoring plan + the already established BMI monitoring. Do we think that Deadwood sediment is captured by this? We may need to tighten up our scientific monitoring to capture some of these changes. How do we capture this adaptive management experiment?

(Buxton) these appear to be technical points, not experimental?

(Peterson) Whether we have those 13 points or not, should be within the IDT that we organize around the Winter Flows for our questions. These points do not have an absolute recommendation to the program because it was made between the Tribes and Reclamation, not TRRP, but they are things we ought to be doing anyway, as a program.

Lee continued to detail the points.

14points:1=> Winter flow management is a AEAM experiment with a timeline that has a hard stop without subsequent administrative process in the 2000 implementation plan. (not permanent at this time).

14points:2=> An AEAM Experimental Design Document should be prepared that summarizes the underlying hypotheses in more explicit detail.

14points:3=> Expands #1, similar to the already created EA. Talks about expected outcomes and lists expected monitoring that would come out of that, but does not outline in detail.

(Naman) To Geomorph folks: what do we think the current flows will do with regard to our goals about sediment movement? It felt like we knew what to expect. Are there new things that we don't know about how we are changing the flows? Might seasonality have some affect on sediment movement? **[Questions for discussion assigned to Physical WG]**

(Lee) We identify which ones of these points are outside of the IDT workgroup's wheelhouse to work with at least, by the end of the meeting

(Peterson) Let's put the Geomorph questions aside for the moment, but capture in notes as a parking lot. We have limited time to get through the points and begin discussing the study structure.

(McBain) Could there be some elaboration on points 1&2

There was concern that this was a permanent action. Frame as a flow experiment, not a permanent action, and it's fully in synch with the 2000 ROD. Clarify that we are doing it under the umbrella of the 2000 ROD auspices.

#2 "consistent with what was outlined in the 2000 implementation plan"

Also in the underlying Hypotheses observe the "(+/-)" so we need to outline the benefits and negative outcomes. So whatever research we're doing, I hope we're doing that in a balanced way.

(Peterson) Expected outcomes were not outlined in the EA, they were outlined in the 2022 final report "Able et. al" sent out to the group by Kyle on Monday. These are not hypotheses, but can be used to develop hypotheses. Also, point suggestion of Peer Review is a given – required by govt policy to be a full external peer review..

14points:3=> (Peterson) This action is not a permanent action.

(McBain) I think this focused more on the long-term monitoring plan.

(Alvarez) Alternative #2 under Re-consultation is similar, how do we evaluate it before we decide that it's something that we're going to do long-term?

(Naman) If we're going to stay within the time frame that is proposed in the NEPA process, we're going to be constrained by that time window.

(Alvarez) Separate from the TRRP discussion, but there are things that will not be made available until later. Outlining a "if this – then this" model

(Dixon) Peterson and I met with Reclamation staff this week about how to adapt these points to our management. We can analyze an action to have on-ramps and off-ramps and we can outline to make further actions based on further monitoring results. But yes, the consultation is not necessarily a TRRP discussion. We don't want to miss the opportunity just because we don't have all of the results of the monitoring yet.

(Buffington) A 3-yr time frame may be relatively short to monitor these effects. You may only gather preliminary strategies in this time. If one of your goals is to show a positive benefit, it may be hard to capture given variability of flows and the water year.

(Lee) 2-4 year time frame is intended to just be a time frame to capture a life-cycle, juts as a starting point.

(Naman) Time Scale to do this, the unknowns about this, monitoring dependent on actions, all create some unknowns. I agree that the program, monitoring, need to be robust. Concerned that we are making it onerous on ourselves to change the flow regime. Some of the flows are greater than it used to be in the spring. These things are fundamental to river ecology. Lets not make things that are obvious difficult to obtain.

(Dixon) Although the limited window for this FONSI may be insufficient to detect these effects, we can analyze if it should be continued.

14points:4=> (Alvarez) Flow Synthesis report – Need to get a contract lined out so that we can push this forward and get this completed.

(Buxton) do you have a new time frame?

(Alvarez) no, but updates will come with an adjusted timeline

(Mcbain) Small permutations in the ROD Hydrograph. There have been concerns that we have not been thinking outside of the snowmelt hydrograph. We should be looking at all parts of the hydrograph. This is an opportunity to consider more parts of the hydrograph. This is a kick in the pants to make this a priority for us as well.

14points:5=> (Peterson) Funding Allocated for implementing rigorous assessment of the winter portion; both positive and negatives. Again, this is an agreement between HVT and USBR.

(Naman) Can we go over the potential negative impacts

(Alvarez) There is a shift in cottonwood establishment from 4-6000cfs to lower which could be perceived as negative.

Another is a change in potential lamprey spawner habitat drying out. More narrow leaf willow habitat? Or are we going to be establishing tree willow species?

(Lee) Algae have been brought up. We don't have a lot of answers right now. I heard that loud and clear that HVT is worried about the flows effecting their access to the fisheries.

(Avarez) Does this have a beneficial or negative effect on algae? Yes there is an opportunity to do a study on that.

(McBain) Potential effects for groundwater development in the spring; but lets not get bogged down in this before we get through the points.

(Alvarez) In the winter releases are going to be warmer than they would have been otherwise. May increase the rate of salmonid egg hatch, by increasing the water it will increase the thermal impacts on the river than otherwise it would be.

(Peterson) Part of the goal to develop hypotheses.

14points:6=> Feasibility study for a temperature control device on Trinity Dam and or Lewiston Dam to provide for more precise water temperature management for releases to the river.

(Peterson/Lee) Initiated. Should be starting at Reclamation's Technical Services Center this spring.

14points:7=> Complete a trinity lake temperature model. (Peterson) there's an effort being made on this already. Lewiston is definitely working on a model but not sure about Trinity.

(Buxton) Temperatures models are expected to be released this spring and fall. I have not heard of a temperature model for Trinity lake, as of yet. We would have to develop significant funding. We currently only have certain bathymetry temperatures for calibration at the moment. I will work on pursing that. **[*After meeting note from Peterson: Buxton confirmed a Trinity Lake temperature model will be included*]**

14points:8=> Limiting Factors Analysis, finalize a report by August 2026. (Peterson) This is an underscoring of what is already happening

14points:9=> Have Prepare a Report summarizing Winter Flow AEAM Experiment results and recommendations. Conduct Peer Review. (Peterson) this is what we're here to discuss.

14points:10=> Compiled flow-related documents including "Eureka Style" meeting. These meetings are meant to discuss science basis for management refinement, resolve conflicts, address policy issues, and come together on management decisions. (Peterson) Based on negotiations between scientists and water managers included spring hydrograph agreements from the 1990s. How things transpired this time around? Thus far there has been lots of management support. We will have to see how to support moves along with the science.

(McBain) 10 is the compilation of info that leads into 11

14points:11=> (Alvarez) Eureka meeting was to meet at the Red Lion and combine info from solicitors, and symposium information to follow up with more gatherings to figure out what to do with all of the science to figure out if there are more adjustments that need to be made in response to the studies.

(Mcbain) Terry Reese from USGS was good at "herding cats" to address technical and policy needs. Was brutal but it critically brought everyone together between science and policy issues and to move it forward in a collaborative way.

(Buxton) Government has facilitators available. Facilitators are KEY to progress on these issues.

14points:12=> Prepare and EA or EIS and Federal Register Notice. May need something additional eventually.

14points:13=> (Alvarez) 13&14 are not Relevant to TRRP, so lets not discuss.

(Lee) Do we want to discuss which ones TRRP wants to take on? 3, 6, 7, 13, 14 are not in TTRPs wheelhouse. TRRP => 1, 2, 4, 5, 8, 9, 10 & 11 (looks like a symposium?), 12

Seems like maybe 10 should be on the hook for TRRP; but 11 may be pending until further.

- Review ongoing Monitoring efforts

De Juilio Sent out a document to the group: Abel et al. 2022

(Peterson) That was adapted from our final EA when we were told that finalizing the EA was not required.

These are expected outcomes. These should be adapted into hypothesis. We should also review Objectives and Targets and review other aspects that may be needed to be adapted into hypotheses.

(Peterson) Abel et al. 3.4.1.1. Channel Bed Mobilization: This doesn't really address the fine sediments that come out of Deadwood, or this year Rush Creek. But we have a project forming for FY26 on this.

Currently We have 2 Hydrophones monitoring bed mobilization. The Hydrophones ought to be having some physical measurements to calibrate to. This needs to be re-done periodically.

(Pittman) Is the question: When does the bed mobilize? Or are you trying to quantify the bedload data. You can use a hydrophone with no calibration data.

(Peterson) There is some question how much mobilization is really mobilization? You can hear an individual rock moving, is that mobilization? We're working on getting the data processing moved in-house from USGS. This should be discussed in the Physical workgroup.

(Buxton) Topographic change and faces mapping are relevant and should be included in evaluation.

(Buffington) this one may need some refinement, depending on the particular hypothesis. This is fine if it's talking about bedload fines, but it may require more detailed discussion.

(Peterson) For Benthic Macro Invertebrates, timing of mobilization may be more ecologically important than exactly how much has been moving. In terms of the ecology of the river, the timing of the bedload movement may be most appropriate.

(Alvarez) In the interest of efficiency – maybe a path forward would be for us to identify the subject categories that we want to test, and send those off to the workgroups for further question development. After these workgroups come up with a strategy we can discuss the details when we reconvene.

(McBain) We can list off the categories we wrote down.

(Peterson) May not have the time to actually farm out the tasks to the workgroups today. I think we need to just go through the list that De Juilio sent out to initiate discussion of what the status is.

3.4.1.2 Reduce Spring Cold Water Releases- reducing the cold water in the spring time could increase the temperature in the spring time which could have an effect on young salmon. Macro Invertebrates may also be affected.

(Naman) The BMI monitoring has started.

(Eric) We're looking at an overall how does the BMI change with the winter flows.

(?) Implementation may not be adequate to capture variability.

(Peterson) As we discussed this will be a short study. Address what we can and acknowledge what we cant.

(?) Benthic Macro invertebrates may be captured.

(De Juilio) interpretation and how you compare things is definitely relevant. We have tried to compare years that are similar to the current water year and that limits the data set and the power we have, but that's what we'll have to see once we see the hydrologic variability that we get.

(Peterson) I want to emphasize the need to have some really well written hypotheses. Maybe fish size is the question? Or biomass per spawner spawner? So we just need a very specific list.

(Naman) Limiting Factors Analysis and the results that come out of that should help from this.

(Peterson) 3.4.1.3 Promote seasonally appropriate Outmigration

(?) In drier years we will probably see earlier outmigration. I think we have pretty good monitoring in effect.

(Buxton) We have a 2D temperature model, a 3D model that is harder to apply and yet we're approaching temperature as a 1D model. How do we want to address temperature variability spatially?

(Peterson) 3.4.1.5 Inundation of Rearing Habitat – increase more food for the fish. Report discusses evaluating this from the SRH2D models for how much inundation we get for certain flow levels. Includes the work on Benthic Macro invertebrates work that was done this year. The SRH2D – the way it is approached here is just to approach what the inundation levels are. And how to address inundation over Time? The inundation and scour model that Jeanne, Todd and I are working on – but there is more to be done on what the outputs should be. There should be further thought on the timing and duration. An additional thought that is not addressed here – the scouring of the bed. Which may remove more of the less edible BMIs and increase the more desirable BMIs.

(&&&) Maybe in the work groups we can discuss that – hey this is something we should bring up to the IDT to see which one we want to include. So all of these are probably going to be included in the report in the end.

(Peterson) Maybe we could go toward the Hypotheses from the expected outcomes, these are things that we want to try to capture as early as we can so that we can capture them.

3.4.1.5 Inundation of rearing habitat- kinda the flip side of the last one. Provides more foraging habitat. Monitoring would also be the SRH2D temperature modeling.

(De Juilio) Report on SRH2D temp modeling is in draft and should have it out in the next few months.

(Peterson) Do we want to have a depth cut-off to make it correspond to a depth for fish that we anticipate? We have a project forming that is looking at doing more thermal diversity monitoring. Probably more needs to go into the floodplain habitat and how we measure the result of that.

We have water temperature modeling, Flow gauges, and riparian recruitment vs scour. I think we need to look at what we're doing there and how that is shifting with flows in the winter.

We have the topographic change on a 5yr basis. Bed substrate composition. One of our proposals this year will be looking at deposition of fine sediments this year. That's something that our expected outcomes should capture, is our fine sediments covering the bed.

(Naman? De Juilio?) Net energy intake rate monitoring studies.

(De Juilio) Bio HSC model is available – it can be used to describe foraging conditions in the entire reach. This could be assessed as an area under the curve. If people thought it was worthwhile. We are also trying to assess habitat condition vs BIO HSC and see if it can be assessed the way that capacity had been used.

(Peterson) my understanding is that this is going to be more on the modeling side of things, rather than on the monitoring side of things.

(De Juilio) We could compare with stomach content data captured at screw traps. But lacking pre-project data may decrease the value of the data here.

(Peterson) Lets ask, the fish workgroup to consider this.

Fish Feeding Rate: probably going to need quite a few winter flows would take too capture this.

(Buxton) Adult populations are too far removed from our winter flow monitoring.

(Peterson) Propose future hypotheses.

(De Juilio) I heard earlier some of the possible negative outcomes that were added. I didn't hear all the details but I just want to make sure we are asking the right questions. I know narrowleaf willows have been documented as having negative outcomes under certain hydrologic conditions, but is not clear that would be the case under different hydrologic conditions. They are a native species afterall.

Similarly, filamentous algae have been documented to create beneficial conditions for juvenile fish. However, tribal fisheries have concerns about the impacts to CPUE or effectiveness of net fishing techniques.

I just want to make sure we're assessing the right things, not necessarily casting things as negative outcomes, when they're not necessarily negative.

(Eric) In the future we will work on how we will split out these hypotheses among the workgroups.