

Meeting Summary  
**Inter-Disciplinary Team (IDT)**  
Tuesday June 11, 2019  
TRRP Office, Weaverville, CA

**Participants**

In person: Mike Dixon\* (TRRP), Nick Som\* (USFWS), Eric Wiseman (YT), Justin Alvarez (HVT), Ken Lindke (CDFW), James Lee (HVT), Conor Shea (USFWS), Todd Buxton (TRRP), Kyle DeJulio (YT), Eric Peterson (TRRP), Seth Lawrence (CDWR), Logan Negherbon (TRRP; partial attendance)

By webex: Seth Naman (NMFS), Bill Brock (USFS)

Note taker: Eric Peterson (TRRP/USBR)

**Consensus Items:**

Ranking of priorities for future funding.

Flow WG Memo (or some discussion derived from it) should be delayed to Sept. TMC meeting and should focus on a range of actions to consider for flow variability.

IDT members to prep their TMC members on flow variability

**Action Items Derived during the Meeting**

**Recommendations for Future Agenda**

**Summary of Meeting by Agenda Items (order as covered)**

**1 Introductions / Agenda Review and Finalization**

Mike Dixon and Nick Som coordinated the meeting. Group decided to rearrange the order of the agenda a bit and cover the Science/Implementation prioritization early. Group also recognized that several topics are interrelated, so will be difficult to keep distinct.

**2 General Program updates**

Dixon went over staff changes and vacancies in the Weaverville office

- SC – could be any day, was ranked 3<sup>rd</sup> for NCAO a few weeks ago, but yesterday a new requirement came out that 13s need Deputy Commissioner review – may add a couple months
- ED – selection may involve TMC for first interviews but probably not final selection
- Surveyor to be reclassified back to civil engineering tech

Dixon then covered construction updates

- Chapman equipment is now on site!
- Moving along with Dutch Creek for next year.

Som noted that AFWO was transitioning from temporary to permanent positions for their biological science technician job series, with the first wave of permanent hirings currently underway.

### **3 Science & Implementation Prioritization Exercise**

See meeting handout. Group first discussed the list of potential new investigation items (bulleted), did the prioritization exercise for them, then prioritized them versus the numbered existing activities in need of funds.

Discussion of new investigations to prioritize:

- But first before specific topics:
  - CalTrans mitigation may provide up to \$1M, but must be used as mitigation
  - Watershed – is it realistic to get funding through in FY20? Dixon: yes, should be ready for quick start in October.
  - Wiseman: watershed funds are used to leverage further projects too
- Hydrophones – cost savings for future, would still need calibration data for a while. Not sure how long. Reclamation already has equipment.
- Habitat use timing – addresses knowledge gap in habitat mosaic. Survival and population in disconnected habitats would involve mark-recapture. Ideally a few years of study, not ongoing.
- Stratification & flows – focus is spring chinook. Stratification is a method to provide cold water habitat for adults, but too much flow causes mixing and eliminates it. May involve pool depth & stratification potential, perhaps south fork as analog, probably not needing a full 3D hydrodynamic model. Potential for further AM of flows.
- Flow & gravel temperatures (for egg development). May not require new data collection, but rather time to analyze existing data. May be useful for winter flow variability (if we can get there)
- S3 for food consumption – This is more extensive than current S3 gaming efforts. Actually a sensitivity analysis on how food affects S3.
- Turbidity & flows – add turbidity to stream gages and monitor how tributaries contribute, also restoration flows raise turbidity in spring when naturally happens most in fall – how does this affect fish?
- Meander / bank collapse – may be able to use literature to cover this question. Is interest to show that banks won't collapse during winter flows? Or to figure out how to cause bank collapse?
- Cottonwoods vs willows due to flows – useful for Targets model and flow AM. Prior recession limb data may not be appropriate for future recession design.

- Food drift vs flow? Disturbance events, inundation, juvenile timing – how does it all fit together? Current study is for short-time how does flow directly affect drift. This is for longer term to see how a flow event sets up ecology for drift weeks/months later (dam release -> scour -> macroinvertebrate community shift). But do we need this ourselves or can we use literature studies?
- How do our flows affect the timing of outmigration to Klamath and how do Klamath conditions at that time affect survival? Analysis: not new data? Some debate over direct data on survival of Klamath vs cohort reconstruction. Or disease risk models?
- Reservoir and recreation – this was to support additional aspects of a new EIS to get closer to winter flows and is not a short term priority.
- Flows for wood transport & deposition – could open opportunity to better manage wood. Complicated question from Wes, Todd says he would have to think about a strategy to do this.
- Min flow for Dissolved Oxygen in tribs – relevant to Watershed funding of raising minimum flows to tribs. Speaks to limiting factors between watersheds. Minimum instream flow for key tribs.

Each agency gets 5 stickers to rank these.

Flow management science priorities outcome (*italics indicate no vote and thus unranked between themselves*):

1. Can variation in the timing of juvenile outmigration from the Trinity explain variation in survival and be influenced by water management? ***Tied with***
2. Can flow management tailored to meet temperature targets be an effective tool to reduce pre-spawn mortality and induce pool temperature stratification for adult salmon holding habitat?
3. How do flow and flood event timing and duration effect drift food availability and growth of juvenile salmonids?
4. Development of hydrophone method for monitoring sediment transport on the Trinity River at Douglas City, Limekiln Gulch and Lewiston.
5. Evaluate how the connectivity timing, controlled by flow management, of intermittently connected off-channel habitats impacts fish use and survival.
6. Apply the S3 model in conjunction with observed fish size data to evaluate assumptions regarding percent maximum consumption and food as a limiting factor for Chinook Salmon juveniles.
7. Evaluate the effects of flow event magnitude, duration, and recession on scour (bed, bar, redds), bank collapse, and channel meander. [channel meander? We're not capturing that in a new study]
8. Does flow management influence cottonwood cohort success at on targeted floodplain surfaces and prevent willow establishment on channel margins? ***Tied with***
9. What are the impacts of a variable flow regime on reservoir levels and river recreational access?
10. *Evaluate the impacts of higher discharge winter flows on intergravel water temperatures.*
11. *Evaluate the impacts of peak flow frequency and seasonal timing on turbidity.*
12. *How can flow releases be optimized for wood transport and deposition.(e.g. wood flux)*

*13. What is the minimum flow that is required to maintain suitable dissolved oxygen and temperature for juvenile salmonids in fish producing tributaries?*

Top 5 science priorities were added as a single item to list of other TMC funding potentials (total 4 items) and each agency got another set of 5 vote stickers. IDT recommendation regarding surplus funding in FY20, if available, are:

1. Additional funds for Habitat Team (channel rehab effectiveness monitoring) **Tied with**
2. Ranked science needs for flow management (above)
3. Up to additional \$500k for watershed funding to offset lack of FY19 funding
4. New SAB contracts

#### **4 Objectives**

Fish WG (Lindke) - progress continues. They have four subgroups developing targets for four objectives to bring to next WG mtg for approval. As each subgroup completes a target, members will be reassigned to new subgroups to work on additional targets until the task is complete. Should have 4+ completed by September. Harvest targets are under development, but the data to inform them will not be available until the cohort reconstruction project is complete.

Physical WG (Shea) – have not met since November. Had good progress then. Expect to meet in July and get 3 finished off.

Riparian & Aquatic Ecology (Lee) – 4 new objectives and targets that cover most of the IAP objectives. Next step is to check for duplication of other IAP objectives. A couple targets are trends. These do have available data to assess. May be able to give a demo of what to do but unlikely to have completed analysis by then (unless someone volunteers unexpectedly).

Flow WG, (Buxton) – in good shape.

Watershed and Design: N/A

#### **5 Adaptive Management Plan**

Dixon: We have no assignment yet, but this is a preparatory conversation. TMC has indicated this will likely be put together at staff level.

Som: did some review of AM plans and found that the 00's were heyday for development of AM plans... seems to have tapered off.

Group discussion ranged broadly. Points made included: lots of finger pointing that AM has failed in various projects; AM academics have been rather unwilling to adapt the AM concept to something that could work; Trinity is about as close to an AM success as he has seen – mainly lack on the documentation of it; Platte River claims that they succeed, though group sense is that they bright-side their success; our current NEPA coverage is an impediment to further AM in the Trinity, particularly with regard to changes in flow management .

Discussion expressed a lot of frustration of hands being tied but on the other hand there may be some flexibilities with tiering EAs to the existing EIS. Political and economic sideboards are going to be difficult to shift.

Segway to:

## **6 Flow WG Memo.**

Buxton: Flow WG feels they have tried what they can within the current sideboards – but to some degree those sideboards are assumed - so are asking for more official clarification... maybe even a solicitor opinion.

Dixon: cautions that Flow WG memo is getting into policy – needs to go up to TMC for further action, we should not spend much time on this. Also a solicitor’s opinion is attorney-client privilege with BOR/DOI so not something that goes outside of DOI. (De Julio: some are released – Dixon: points out that is only if leadership decides to waive attorney-client privilege).

Buxton: the memo is to get things moving. Process goes WG->IDT->TMC so this is the first elevation. Flow WG made 3 specific asks and would like IDT to weigh in on if these are the appropriate asks.

Group discussion included: whitepaper should have gone to TMC to instigate movement, but got derailed; whitepaper focused on benefits while the memo focuses on limitations; maybe something similar could be reenergized.

An attempt for variability on Klamath was described where prescribed minimums were taken as daily averages, so that the actual minimum flows were below the NEPA mandated minimums. Later, the daily minimums became the new flat minimum baseflows – less total flow than previous. It was offered as a cautionary tale.

Discussion moved toward what could be taken to TMC to initiate progress. Have a 1 hour slot for this on the TMC agenda. TMC has already approved soliciting ideas to support flow variability, so some level of support is already there. What is the motion we want?

Buxton: TMC support to start on new NEPA for flow variability.

Dixon: Yes we will need NEPA – but maybe EA rather than full EIS.

Group: ask TMC to authorize us to develop range of potential actions to analyze? TMC meeting will be lacking many regular members and in some cases even alternates, so group consensus to put off to September.

Group consensus: IDT members to talk to TMC reps before Sept meeting about ideas on flow variabilities with an ask to start toward NEPA.

A subgroup of IDT members was formed, to be coordinated by Todd, to further develop what will be delivered/requested of TMC.

## **7 Back to Adaptive Management Plan**

Som: discussion thus far brackets from ‘we are doing good if we can just document it better’ to ‘we cant do anything until we free up the flows’.

De Julio: All our actions are tied to flows so any AM plan must address all. Can't make a plan that doesn't include all (that doesn't include flow AM).

Lee: waterfowl AM is claiming some good successes. Will send out a link (AHM). One point is they use multiple competing models and reorganize them annually based on prior successes. One idea that caught on with group is to analyze hydrographs with natural or winter flow alternatives mixed in?

After meeting Lee sent:

- <https://wildlife.onlinelibrary.wiley.com/doi/full/10.1002/wsb.518>
- [http://webhome.auburn.edu/~tds0009/Articles/Nichols\\_et\\_al\\_2007.pdf](http://webhome.auburn.edu/~tds0009/Articles/Nichols_et_al_2007.pdf)

Buxton: how about an action item for IDT members to prep their TMC members on flow variability.

General affirmative from group.

## **8 Workgroup Participation**

Buxton: a lot of the heavy lifting is done by just a few of WG members. Is there a way we can revise so that participation can be more even? One part is that some people are funded to participate more than others, but can we find out who so that expectations can be maintained?

Lindke: part of problem is participant preparation... some don't come prepared and it slows the group down. Some members don't pay attention during the meeting and we end up rehashing the same topics. Only a few members provide feedback on meeting notes and other post-meeting follow-up requests from the work group coordinator. All of these should represent minimum participation by members regardless of funding status. It's reasonable to expect that only agencies that receive funding for work group participation should be expected to take on additional work, but there has to be some minimum level of participation regardless of funding.

General discussion: if IDT is supposed to set workload for workgroups, maybe that needs to be more spelled out; some of this is a personality driven issue - let's avoid IDT from assigning work to individuals; maybe some sort of reporting on individual productivity(?); some agencies have limited funding to the point that even sitting at the table is not fully funded.

General discussion led to the idea that WG leaders could talk to IDT leads who could ask agencies if members could do more.