

DRAFT MEETING SUMMARY

Tulare Basin Watershed Connections – Working Group

January 6, 2016

Participants

Michelle Selmon – California Department of Water Resources (DWR) (working group lead)
Dezaraye Bagalayos – Tulare Basin Wildlife Partners (TBWP)
Jessica Bahm – US Department of Agriculture (USDA)
Roger Bales – UC Merced (UCM)
Nancy Bruce – Circle J Ranch (CJR)
Sarah Campe – Sierra Nevada Conservancy (SNC)
Carole Combs – Tulare Basin Wildlife Partners (TBWP)
Christine Dobbin – Community Water Center (CWC)
Bonnie Eyestone – Point Blue
Ron Goode – North Fork Mono Tribe (NFM Tribe)
Rob Hansen – Tulare Basin Wildlife Partners (TBWP)
Dave Hoffman – Deer-Creek Tule River Association (DC TRA)
Matt Hurley – Angiola Irrigation District (AID)
Denise Kadara – Community of Allensworth (ALER) (on the phone)
Bobby Kamansky – Kamansky Biological Consulting (KBC)
Adam Livingston – Sequoia Riverlands Trust (SRT) (on the phone)
Jennifer Morales – California Department of Water Resources (DWR)
Koren Nydick – US Park Service (USPS)
Ruth Ostroff – Central Valley Joint Venture (CVJV)
John Shelton – California Department of Fish and Wildlife (DFW)
Bethany Soto – State Water Resources Control Board (SWRCB)
Candace Toogood – US Forest Service (USFS)

MEETING HIGHLIGHTS

- Roger Bales (UC Merced) provided an overview of the Sierra Nevada tree die-off
 - The die-off may be approaching the same impacts as a fire as far as erosion and water quality issues.
 - We need tremendous knowledge gains to manage this in the future; our work is a starting point for what needs to be done.
CA needs to manage ET across working lands and we now have the tools to manage this.
- Michelle discussed results of the 'needs and capacity survey'
 - So far, eight workgroup members have provided input.
 - While we have many ideas and needs, we also have a lot of capacity.
- Rob Hansen (TBWP) discussed the Tulare Basin Conceptual Conservation Projects list
 - Fresno county: Arroyo Pasajero Riparian Corridor Habitat Enhancement
 - Kings county: Liberty Ranch Flood Storage and Habitat Enhancement
 - Tulare county: Deer Creek Riparian Corridor Restoration
- Bobby Kamansky (KBC) discussed forest management actions and plans in the Kings River Watershed
 - Mill Flat Creek project is a site where we can make the best use of funds with multiple partners and layers of restoration
- Next steps

DETAILED MEETING NOTES (Note – speaker is identified when it makes sense for context, otherwise comments not attributed to encourage free dialogue)

Opening remarks - Michelle

- Agenda and ground rules were reviewed

Roger Bales – Sierra Nevada Tree Die-off, Lessons Learned and Future Challenges

- ✚ Hydrologic cycle changes in the Sierra Nevada are being measured with 3 Critical Zone Observatory flux tower sites that measure precipitation, evaporation, and CO₂ exchange.
- ✚ Oct 1-Sept 1, 2011 (wet year) vs. 2014 (drought) showed a 20% drop at higher elevations and a 47% drop in precipitation at lower elevations.
- ✚ CO₂ uptake follows precipitation patterns .
- ✚ Matrix potential (suction in soil) showed that past 2m depth no recharge was occurring during the drought.
- ✚ Not enough precipitation to recharge at Soaproot, tree density was higher than the area could support.
- ✚ At Providence there was about 3 year's precipitation soil moisture available.
- ✚ Most Sierra areas have more forest density than the area can support.
- ✚ Across the Sierra (Kings Basin) an equation is used (NDVI) to reflect greenness/biomass.
- ✚ P-ET= runoff, which means during droughts there is no run-off.
- ✚ As snowline moves up, ET moves up.
 - 1200-1500m shows the greatest effect in ET decline, which is where the tree die-off occurs, which indicates a hydrologically-induced tree die off. Tree die off was greatest where recharge to deeper roots was limited.
 - What is a sustainable forest density for the Sierra Nevada is the question we need to ask
- ✚ (John) I'm curious about the difference in species die-off; we have a lot of incense cedar that are dying off, the pine trees take longer to die-off. It might be interesting to see what happens north to south. I also wonder how the species population will change in the future.
- ✚ (Koren) Nate Stevens's Forest Topography Study showed an Incense Cedar beetle in more abundance than usual and a relationship to die-off. Nate's demographics study will be a long term plot network in Yosemite and the National Forest set-up at different elevations focused on birth and death rates and causes of tree death. This plot network found a signal of increased death rate that was non-drought related with similar impacts also shown in the Rockies. Tree mortality was up before the drought.
- ✚ (Sarah) The density is unsustainable so what is the big deal about the die off? (besides it just being shocking and appalling!)
- ✚ (Roger) The die-off may be approaching the same impacts as a fire as far as erosion and water quality issues, plus concern over what is going to grow back. We need tremendous knowledge gains to manage this in the future. Our work is a starting point for what needs to be done. CA needs to manage ET across working lands and we now have the tools to manage this.
- ✚ (John) Hysteresis is a relevant term here: we can push a system in one direction to reach a tipping point, similar to how a small pond receiving added nutrients then turns green, then the point to clean it up is different from the point of nutrient saturation.
 - The forest is the same, so after a die off there may be no going back. Temps are creeping up so after this die-off the forest will never be the same because those trees originally grew at different temps.
- ✚ (Carol) So what do we need to do? Where the hope?

- ✚ (Sara) There an outreach and education component to the project, right? Because it seems like fuels management and managing a forest for water management are compatible, but there is a misunderstanding on how those goals coincide with managing a forest for species.
 - (Roger) Yes, Safeeq and I created handouts on what we believe needs to be done
- ✚ (Ron) Regarding soil storage at Providence; what you think is the reason water is stored better at higher levels?
 - (Roger) Trees pull water up and gravity wants water to go into the stream and there is just more water at the higher elevation to supply both demands.
 - (Ron) We have restoration meadows that show after restoration all the meadows have the same holding capacity, so the vegetation matrix matters as well as the soil and the hydrology.
 - (Roger) Using the CZO we can estimate the storage capacity across the State.
 - (John) We need a lot of variety to keep a healthy forest. We have areas that are over grown, over grazed, etc. We need to manage the understory and the upper story.
 - (Ron) The overstory hadn't changed after 5 years of management so LIDAR says the density is still the same; which is a problem resulting from the big trees not being removed.
 - (Ron) We got rain in June and July after clearing a meadow and it held the water through August which brought us the new native species we wanted. Sadly a large percentage of our dead trees are inaccessible, no road access available so taking down those dead trees will be an issue this year.

Member Organization Capacity and Needs Survey- Michelle

- ✚ We received eight responses in total giving us a nice range of answers. We will continue to build on this.
 - If anyone would like to view the full results those are available, but today we will look at a spreadsheet summary. While there are a lot of needs, we also have a lot of capacity, so our goal will be to link needs with resources. We have a lot of data within our groups and we can have future discussions about data management in a way that's useful to all of us.
- ✚ (Sara) SNC can offer support letters.
- ✚ (John) We (DFW) can fill in both sides of the survey depending on what part of the department were talking about. When I can I'll offer advice, but I can't offer it after the proposal hit the streets to avoid bias. It may be that we have a component that can help fill in a proposal, or we may be able to help get some funding for, so I will try to fill in this doodle.
 - We had 200 applicants for Prop 1 funds asking for way more money than we have available.
 - ***John can offer advice up until June when the 2nd solicitation hit the streets.***

Tulare Basin Conceptual Conservation Projects List- Rob Hansen

🚧 Rob working Bobby Kamansky and others to identify lands most worthy/suited for restoration

- Worked with Dick Moss to develop a list of available water resources in those areas.
- Worked within Regional CAPPs (CDFW Conceptual Area Protection Plans) boundaries.
- Whittled down 50 original projects to 15.
- All have climate change benefits (especially adaptation).
- 3 projects highlighted: Fresno, Kings and Tulare

🚧 **Fresno- Arroyo Pasajero (AP) Riparian Corridor habitat enhancement**

- No major streams on the Westside are dammed, so they all congeal together in AP (Coalinga).
 - These areas bring asbestos and mercury too close to SWP water.
- Large scale ag operations in these areas where very little habitat exists and water is brought in from the coastal areas.
- Habitat, public safety, DAC, national security (I%, naval station) and a huge impact on the local economy .

🚧 **Kings county- Liberty Ranch Flood Storage and Habitat Enhancement**

- This is a place within Tulare Lake bed that can receive storm flows and has potential to store a tremendous amount of water.
- These are marginal farmlands, and the site is already a historic lake bed. We need water storage on the valley floor. Acreage+ a series of small reservoirs can avoid a lot of regulation.
- The site can offer up to 50,000 acre ft. of permanent water, also bringing back tules and willows.
 - This will reduce economic impacts significantly compared to Temperance/Pine Flat. This is also an alternative solution sending flood waters north out of the basin.
 - This is a clay soil lake bed so recharge is not available on this site.
 - The water comes down many streams, Tulare, Tule, kings, etc. which are all sand streams offering recharge at that point, plus this can be seen as a staging area for moving water.

🚧 **Tulare County- Deer Creek Riparian Corridor**

- Alpaugh has a reservoir and a trail that could bring the AAA communities together.

- (Sarah) These are visions not projects, and within these visions are smaller pieces, so we need a project planning grant. So we should pick one, create phases, and begin implementation.
- (Carol) This project could be the anchor to the Deer Creek projects.
- (Roger) Is the Liberty Ranch project on its way to Prop 1 funding?
 - (Matt) yes, it's under review now; Semitropic is looking at 44,000 acres of new land with potential storage of 500,000 acre ft. with a connection on the west to the SWP so water can be moved in and out with existing infrastructure.

Connecting Efforts in Kings River Watershed - Bobby Kamansky

Mill Flat Creek Project

- ✚ Kings River is creating a watershed action plan for all watersheds within their boundary, with more info than in the IRWMP and will dictate how to get projects done and funding sources.
- ✚ List included a number of things we need to do in the watershed. The entities in charge do not communicate and lack resources to do projects that would benefit those downstream.
- ✚ We need a watershed coordinator in each watershed to stay on top of the potential suite of projects and programs for watershed management.
- ✚ Mill Flat Creek Project: BK has been corresponding with the Forest Service
 - Mill Flat Creek was a critical aquatic habitat, and was part of the Rough Fire burn zone. Surrounding roads contribute sediments and need monitoring and decommission. SWAMP interested in developing post fire water quality on Mill Flat Creek, hope to have lab money to collect samples this year.
 - Coordination with National Forest Service hopes to understand impacts of a large fire on a watershed.
 - Stakeholders in the Kings River IRWM and are interested in restoration. **This is where the best use of money can be made with multiple layers of restoration.**
- ✚ (Sarah) Is this long term monitoring?
- ✚ (Bethany) That's still up for discussion, I'm hoping for long term to gain a lot of data that can be used in other watersheds for restoration
- ✚ (Roger) Post fire water impacts end after a couple years so we'd like to see the impacts sooner rather than later. This impacts both upperstream and lower stream users offering a watershed connection. Whereas usually people feel disconnected by a dam. Kings River Conservation even wants to know watershed impacts after prescribed fire. Marianne sent update on Forest Service who wants a landscape analysis, they have a larger road management project and want to

complete NEPA and then want SNC grant money. Treatments would be the same, decommission roads, then create a larger project. March and September deadlines with SNC.

- ✚ (Ron) Bobby should sit down with them during NEPA process to make sure his vision is understood rather than Forest Service employees who capacity. Also money should be coming up after the Rough Fire.
 - (Bobby) Forest Service has done a bunch of field trips with the public showing the roads they want to decommission and then reevaluated their area to account for hunters, and recreation.
- ✚ (John) There is another fisheries and restoration grant we offer that comes from the feds with could be useful for this project
- ✚ (Sarah) is NEPA only on road decommission?
 - (Bobby) I believe so but may have a restoration component and culvert removal project
 - (Sarah) KRCD and other downstream interests should have some input to offer
 - (Bobby) Part of what I did was to bring info to downstream interests to get input and connect the watersheds
- ✚ (Bobby) Safeeq showed some disturbances going on can present useful information that can help us model areas and create budgets that can help us build projects. How much water do we actually have? How much veg can it support? What is the best use of that water? Huge suite of things going on. National Forest Management Plans are also going on right now so I'd like to layer these multiple projects and connect them. Ron- in terms of monitoring what is the specific agenda? Parameters?
- ✚ (Bobby) there's more in the PowerPoint, but in the past when we've written proposals we've had a hard time quantifying the benefits because we have a lack of research and data. Everyone wants to know how much water a project will yield, how much change will be seen, or what the exact impact we'll feel from extreme catastrophic events.
- ✚ (John) it's an important component to get academics involved to take info and synthesis it over a landscape scale to find what's going on and how it fits into the rest of the landscape and how we can use it to do things better.
- ✚ (Bobby) in terms of support we need UC Merced, but it isn't always efficient when we have multiple partners so is there a programmatic way to address this when there are multiple watershed entities. We want feedback about the projects and who can provide resources.

Partner Updates and Next Steps for 2016

- ✚ Upper-Lower Watershed Subgroup needs to meet and create landscape scale vision, and then come back to this larger group. Along with anyone else who has a project they would like to bring.

- (Carol) Please add me back onto the list.
- Sarah will lead the meeting.
- (Carol) For our data management/GIS we need to get into Databasin.
- (Ron) has a suggestion for a coordinator, Ray Gutierrez. He has experience doing LIDAR on oaks and is a Mill Creek tribal member.
- (Nancy) We've heard a lot about education so at the meeting think about where you can integrate citizen science, etc., and do it at the beginning.
- (Jesse) NRCS has given funding before for watersheds, though it could be tough for Mill Flat because a lot of it is on federal lands, but other non-fed lands would be eligible
- (Roger) Ag Research Service LTAR program held a meeting and there was decided there would be a proposal connecting upper-lower watershed with CZO and we need interested watershed managers.
 - (Bobby) I would like to be on the list and can connect Roger to other watershed managers.
- ✚ (Jesse) EQIP Tricolor blackbird silage buy outs are on-going. Funding management of existing easement to draw TBB to those easements. Looking to purchase more perpetuity easements with Ag value and wet lands.