

Meeting Notes
Tahoe Science Advisory Council

Thursday January 18, 2018
9:00 AM – 11:30 AM

Zoom video meeting
<https://zoom.us/j/115821784>
+1 877 853 5257 (Toll Free)
Meeting ID: 115 821 784

Attendees: Scott Tyler (UNR), Alan Heyvaert (UNR), Geoff Schladow (UCD), Steve Sadro (UCD), Ed Parvin (USGS), Todd Ferrara (CNRA), Zach Hymanson (CNRA), My-linh Nguyen (NDEP), Alison Toy (UCD), Julie Regan (TRPA), Dan Segan (TRPA), Zach Bradford (League)

Draft Agenda

1. Welcome, agenda review, introductions

Geoff welcomed meeting participants, reviewed the agenda, and asked for introductions. This meeting was by video conference only. All attendees were able to participate on-line using the Zoom video application.

2. Council operations update & process for finalizing work orders
 - a. Council meeting dates: John Melack previously communicated that he had a conflict with this Council meeting date/time. He asked if the Council could consider an alternate meeting date going forward. It was recognized that schedules for faculty members can change each quarter or semester due to teaching obligations. Alan suggested the Council stick with the existing bimonthly meeting frequency (i.e., every other month), and all agree it is good to have a forum for check-in and ongoing communications. A meeting forum also is needed to engage with agency and public representatives. Geoff asked if the Zoom video meeting format could replace the face-to-face meetings. Scott and Steve indicated that the video conference works well, but face-to-face meetings are helpful. Zach asked if the 10 – 2 timeframe is still appropriate. It would be difficult to start a meeting in Tahoe before 10 AM, given the travel distances for several attendees. It was acknowledged that reserving the 10 – 2 timeframe would allow for project team work-meetings, if the Council meeting ends early. Alan noted that several Council members are not in attendance, so it's not possible to pick the best meeting date at this time. Alison to initiate a doodle poll among Council members to figure out best time for the next meeting in March. **(ACTION)**
 - b. Council membership: Currently there are two vacancies on the Council (USFS-PSW and DRI). Zach notes that the MOU provides that entities represented on the Council nominate the individuals who will represent that entity. He recommends consultation with the co-chairs in selecting a representative. Alan adds that we should acknowledge that we are attempting to make sure there is some diversity in knowledge. There is no

limit to the length of time any individual serves. Zach encourages representatives from a single entity to stagger their time on Council, so that both members from the same entity don't leave at the same time. Geoff asks, does DRI have someone in mind? Alan says Jim has drafted Adam Watts, a fire ecologist, as the replacement for Marc Pitchford. He's enthusiastic, and an accomplished researcher. Zach will write a short 'new member' guide to use in preparing new Council members. (ACTION).

- c. Council co-chair positions: Geoff and Alan are mid-way through their second year as Council co-chairs. At the July 2017 Council meeting it was agreed that one of them would step down at the end of June, and one would stay on. This will establish staggered terms for the co-chair positions. Subsequent terms will be one year, although reappointment is possible. Geoff and Alan have not determined who will step down. All Council members were asked to think about possible replacements (ACTION). The Council will have a more substantial conversation at the May meeting (ACTION).
- d. Contracts: Zach says we are in good shape contract-wise. TRPA has established contracts with most Council entities. PSW and USGS (CA Water Science Center) will establish agreements once they have a specific project to work on. Ed spoke with USGS budget analyst. They will write up a proposal for the VMT work order and use that as the basis of a new contract. (ACTION). We are finding that extra time is required with each department in a University the first time a work order is processed. We also have learned that several academic representatives can only utilize funding from outside agreements during the academic year breaks (e.g., summer salary). One solution is to have work order timelines run through the summer break. However, for accounting purposes TRPA does not want to have hours worked in one fiscal year and then receive a bill for those hours in the next fiscal year. Dan says for work order that have deliverables that occur over two fiscal years, it is ok for the billing to occur over two fiscal years. The hours worked in a fiscal year must be billed in that same fiscal year. Everyone understands the limitations, and we will need to work within them. Zach noted that Natural Resources Agency and TRPA are still working to process and amend to the master agreement. The ball is in Resources Agency court. Todd says he plans to double his effort on it. (ACTION).
- e. Council internal vetting of new work orders: Zach has received some comments from Council members on the ad-hoc process used to determine who participates on a project identified in a new work order. Generally Zach and one of the co-chairs work with TRPA or an agency representative to draft the work order. Then a PI is identified to lead the project, and it's left to that PI to assemble the project team. We would like to find a way for the PI to have more outreach within the Council when assembling team. In some situations, PI often looks within their own entity, but we would like to increase the potential for collaboration among Council entities. Alan noted that we have mixed results from the past: the SEZ review project has USGS, UCD, and UNR representatives so that's good. The Atmospheric VMT has largely been DRI, with some USGS involvement. All recognized this is an evolving process, but appreciated the need to do more internal outreach when assembling project teams.

- f. Website update: Alison noted that all notes from previous meetings including executive meeting are posted on the web site. Matt Busse and Marc Pitchford have been removed from current members list. Still need bio from Todd Ferrara (ACTION).
- g. Production of Council reports. Geoff asks pertaining to our first task order, looking at management efforts around the country comparable to the thresholds: A report was produced in the name of the council. What is the process in the future for those types of reports? What happens to that report? Does the rest of the council get to review before the report is handed over? Zach's said the Council doesn't have a well-defined process. It's the council's prerogative. Alan expects that the process could vary depending on the type/complexity of the product. If the product is produced in the name of the council, then there has to be some level of review of the product. The report Geoff used as an example was made available to all Council members for review, and went out under the name of the Council. The report was delivered to TRPA, and a copy is available on the Council web site. Geoff noted that this is something that will add to the timeline, not everyone will be available to review something right away. That is, if the Council thinks it's an important function. Scott's opinion is that it's a question of timing if the whole council signs off on this. After all we are being paid for this so everyone needs to at least respond with a yes or no. Zach says if the council wants things coming out in the name of the council then Council review should be included in the timeline. There may be cases depending on the product where it might be just the author. More gravitas to come from the entire Council and shows greater involvement of the science community.

3. Prep for 2018 Exec. Comm. Meeting

We expect to host the Bi-State Executive Committee meeting sometime in August. The exact date will depend on the date chosen for the annual Tahoe Summit. The main purpose is to obtain approval of the Science Council's propose work plan. The approved work plan guides funding allocations for the following 12 months. The Council could also report on its work to date.

Zach thinks a lot of the questions and concern expressed by committee members at the last meeting were due to the generality of the Council's proposals. More specificity is needed. Ideally we would go into the meeting with final draft work orders for the coming year. Work on the TRPA Threshold update will remain a priority, but we need to define the specifics. It's also reasonable to expect that results from phase I efforts on the decision support framework will be presented to support the request for phase II efforts. The Council will need to work on this during the May – July period.

4. Decision support framework: outcomes from Dec workshop, and next steps

Alan thought the weekend workshop went really well. This is the kind of work the council would like to engage in more. Thanks to Geoff for organizing it. Geoff thanked everyone who was able to participate, and provided a brief recap of what occurred: The idea was to create initially a semi-quantitative conceptual model of the upper Truckee

river watershed that describes how it works. Identified the main human and environmental parts of the system and think about how they interact with each other using boxes and arrows. The resulting conceptual model will also indicate the strength of relationships and the uncertainties. The ultimate use of this conceptual model: 1) A tool in a decision support system. A decision maker has to decide where to allocate funding. He/she can use this model to see where the proposed project fits in, and the parts of the system the project is likely to affect. By working through this you will get an idea of value of the project, the inherent risk if something goes wrong, and its reversibility. Integrating a conceptual model into a decision support system, can help decision-makers make decisions based on earlier input and advice from the Science community. 2) Identify areas where there are critical knowledge gaps. Testing assumptions to provide decision-makers with a prioritized list: these are the biggest gaps we have, if you want greater certainty, then funding should be applied in this way. 3) Help to guide how to monitor the system in a programmatic way. We can't model every project, but at the watershed scale, it is possible we believe, to think of new and better ways to model at that scale.

The Upper Truckee river watershed was chosen because in a way, it has everything and can be extended to any other watershed in the Tahoe basin. The belief is if we can get it right here it should be a straightforward extension to apply to other watersheds in the basin. Good progress was made in developing a first draft conceptual model, but Geoff has become bogged down with other responsibilities. The next step is to develop a brief proposal for completion of the conceptual model. He is hoping to get something out next week. Whoever wants to participate is free to do so, even if you did not participate in this weekend workshop.

Zach mentioned that coordination/communication with the Upper Truckee River Watershed Advisory Group (UTRWAG) is an important component of this project. We tentatively planned to bring an initial conceptual model to the group in March. Stuart Roll (UTRWAG chair) will provide a list of EIP projects for the Upper Truckee Watershed for initial testing of the conceptual model.

5. Threshold update initiative projects¹: Status and next steps

Alan summarized that TRPA has six different work requests for the Council, all related to the Threshold update initiative. A brief status report for each project follows:

- a. Criteria for evaluation of redundant threshold standards (lead: Ramon):
This project aims to develop criteria to identify and evaluate redundancies in the existing threshold standards. The project builds on the threshold assessment completed by TRPA, and the Council's review of existing environmental evaluation programs to identify "best practices." Dan

¹ Projects are: 1); 2) data specifications for use in adaptive management (lead: Alan); 3) evaluation of options for organizing the threshold evaluation system (lead: Pat); 4) technical evaluation of VMT standard (lead: Marc); 5) technical evaluation of SEZ standards (lead: Steve); examination of ecological impacts from sustainable recreation (Alan)

mentioned TRPA's assessment of the existing 178 standards generated nearly 600 responses. The governing board (GB) has been briefed on the results. Results of the redundancy review will be taken to the GB this spring.

- b. Data specifications for use in adaptive management (lead: Alan): Alan noted that different data are used in management of organizations around the world. If you're monitoring progress to manage a system effectively, then you need to be clear on the meaning and roles of outcome versus output indicators. Outcomes are the desired state, the end point, what you're driving towards. Outputs are things that are done trying to achieve your ultimate outcome. Output, (e.g., acres of SEZs restored) are often metrics obtained through project planning and implementation. There is a fundamental difference in how these things are tracked and used. In this project they are defining and summarizing the different types of data and structure that are used in environmental management. Types of data and outcomes desired are overlapping and not well-defined, so this will put more definition to different data structures. TRPA can use the resulting structure as a road map and have a common vocabulary when discussing with stakeholders and the public. So people understand how different data are used in an effective management context. A question about the data specification project: what model are you using for adaptive management? Is it the continual improvement cycle that Tahoe agencies are using for some programs (e.g., the Lake Tahoe TMDL), or a more traditional adaptive management cycle. Alan states they are defining both approaches. More traditional adaptive management approach, and the continual improvement approach. Part of the project is defining the difference between those. Bringing pros and cons of both and how different data are used.
- c. Third project is pending. Most likely this project will be led by Pat Manley. Lots of overlap with decision support framework project that Geoff is leading. Geoff and Pat will discuss the roles and overlap between these two projects, and then go forward with a coordinated approach.
- d. Examination of VMT threshold standard (lead: Marc Pitchford): Dan describes VMT project. There are two major elements: 1) development of a series of topic briefs, 4-8 page discussion papers that are intended to form a basis for management discussion of key issues related to water or air quality impacts within the region. 2) Updating the atmospheric deposition models for further interrogation of the system. Working thru scenarios of the lake impacts from changes in deposition. Ed states the project is looking at deposition of Nitrous oxide, fine sediments, over time relative to improving vehicle emissions, and a decline in VMT. Emailing with Eric and John and attempting to arrange to sit in on a meeting.

- e. Examination of SEZ threshold standards (lead: Steve): Work orders are being finalized for the remaining project: environmental impacts of recreation. Steve says this project will look at SEZ management plan, and it has a series of deliverables designed to develop new models and evaluate standards. There also is a GIS mapping component of how SEZs have historically been defined and how they are currently defined and how that might relate to the models being developed. Ramon and I are co-leading. Jerry Qualls a wetlands scientist with lots of experience in Tahoe has specifically agreed to do a large amount of work on this as well. They expect work to start in January. Getting the agreements setup so we can move forward is a priority. Steve will reach out to Jerry and Ramon this week to make sure they are on track. Alan suggests that when you touch base with Jerry, encourage him to contact Scott Tyler. Scott can help him get through the work order approval process at UNR. (ACTION)

Zach mentions that several of the projects described above have products due in the March – April period. Alan confirms this. Make sure council see these drafts products before March meeting. (ACTION)

- f. Sustainable Recreation: Alan notes the work order for sustainable recreation has been bouncing around for a while. Alan has been in discussion between the TIE steering committee, and recreation working group representatives. This is a new topic in the basin. Agency leads, Devin Middlebrook from TRPA co-lead with Joe Flower at USFS. Alan also discussed with Devin and Joe about what they're doing, what their plans are, and what the council can contribute in a meaningful way. They are planning a meeting with stakeholders to put together summary issues related to sustainable recreation and its environmental impacts. The Council will organize a second workshop that brings in some relevant science experts. The Council needs to reach out regionally and nationally to bring in experts in this field for a weekend workshop. This second workshop will focus on the priority topics that have been identified from the stakeholder workshop. The results are meant to support agency information needs as they evaluate the Threshold standards for sustainable recreation in the Tahoe basin.

Zach points out that the recreation work order requests the development of a series of topic briefs. The Council needs to identify people to prepare these topic briefs. Zach remembers that Council members have identified some people who could potentially prepare the topic briefs, but the details escape him now. The Council is remiss for not getting that going. The draft topic briefs, TRPA wants in early April. Alan says this is an example of overload. We can only sustain so much. We don't want this to fall between the cracks, but we need help from Council members. Zach says if the council is overloaded, we need to say so. This was a concern the executive committee members and the TRPA both raised. These TRPA

tasks are a priority. This is a big risk. If we can't perform then they start to question the value and the need.

Zach mentions that current Council members have not expressed interest in working on this project. He will go through past notes, to identify these outside individuals and reach out directly. Need to go to the next step quickly. (ACTION)

Dan says that sustainable working group is hoping to use the topic briefs to drive discussion, and help narrow focus especially for stakeholder meeting. They have a tendency to spin out of control, and not focus on specific issues. The council's topic briefs will outline potential impact in different resource categories associated with different activities, this would drive group to narrow focus and streamline discussion. That group is extremely excited to work with the Council; the work order is half of what they are hoping for. Next year they have a whole host of topics to work with the council on so this important to get working on this.

Julie has started working and engaging with this working group; trying to hone its charter and work plan, focusing on the resource and ecological impacts of recreation, plus a whole side of visitor management and traffic corridors looking at the Emerald Bay corridor with the Bi-state transportation group. This is a hot policy area that is getting a lot of attention. The other work orders for the threshold areas, we are vectoring towards decisions by the governing board by end of calendar year (2018). Sustainable recreation still has so much research and data gathering, it will likely spill into 2019. Next sustainable rec meeting is not set yet, it's been ad hoc. Julie will keep council posted. (ACTION)

6. Council discussion of peer review proposal to support Threshold initiative projects

- a. Zach kicked off this agenda item by noting that a proposal for peer review effort was distributed to the council. This proposal was developed by Dan Segan and Zach for Council consideration. Although the proposal describes review services to support the TRPA Threshold update initiative, the activities described could be applied to other Council or agency products. For example, a SEZ monitoring plan that the technical advisory group is developing could be submitted to the council for peer review. Zach requested discussion of any comments or questions Council members may have, and If appropriate discuss setting up a peer review committee.

Alan clarifies that reviews could be requested for external products, or for products the Council produces. Council members do not necessarily have to complete the reviews: the reviewers could be outside experts. In these cases a council member may have a coordination role.

Geoff and Alan think that this is an important function for the Council. How to set this up? There is potential for conflict of interest if the council is reviewing its own products. A buffer is needed between people working on the project and the individuals that do the reviews.

Zach mentioned that there is funding in the work plan (under technical assistance) to support the efforts of the peer review committee members, and reviewers. The actual reviewers can be within or outside of the Council, and would need to meet certain tasks to qualify as a reviewer, e.g., not materially involved in the document undergoing review, and no apparent conflict in the relationship with the authors.

The Peer Review Committee (PRC) would be a standing Council committee. So that means they would be excluded from most work being undertaken, at least during this time. The SNPLMA science proposal technical review was approached the same way: members of the technical review committee did not submit proposals.

Steve asks, will the PRC would make a final assessment about how the reviewers respond to review? Zach says, yes. The PRC makes sure there is a clear review charge, and make sure reviewers have everything they need to complete the review. The PRC also examines the reviews to make sure they address the review charge. For many types of reviews, the proposal positions the PRC as the go-between of reviewers and TRPA.

Geoff thinks it is unlikely that a fixed group will meet all review needs, because we have too much going on and too small of a group. Perhaps the peer review committee could be new members each time? Whoever does not have a conflict could be part of that review group, and run it that way, rather than a permanent committee. Zach notes that this approach would be logistically more challenging. Everyone is busy, so going through each separate review to find members to perform this function in a timely manner will be challenging. Also funding this kind of effort will require many numerous task orders. One option would be to give everyone a task order, so that everyone can serve in this capacity. There is value in a standing committee. It exhibits a level of commitment. Council members could think of it in terms 2-3 members for this year, and then rotate off with position filled by a replacement. Perhaps a defined term to serve in this capacity is a middle ground. Todd noted that earlier we heard about constraints for time, the takeaway is that summer was a lot better for the team. Could this peer review take place in the summer? Zach clarifies that reviews could happen this summer, but this is an ongoing activity. There is no specific timeline, and reviews may be requested whenever.

- b. Geoff asks, if a peer-review committee comprised of members entirely outside the Council could work? He suggests Zach with support from

Alison could provide support to the committee. Then it would be truly independent. Zach agrees that Alison and he can do quite a bit of the work. However, we still need some individuals within the Council to help with the review charge, to make sure the results come back, and to make sure the reviewers have done their work. The reviews are Council results as well. The council is putting its seal of approval on a review in this respect.

- c. Scott likes the idea of fixed-term members. TRPA is requesting that TSAC provides peer-review group services. We should respond to this. Here is what we can do. Not everyone is going to be involved with the final product. We should identify a few people who should be on this committee. Always have a couple of outsiders in additions to Council members. Alan likes Scott's suggestion. There are a couple of people who won't be deeply engaged in these projects. Review the charges as they come in, and look at what is the appropriate response. Can we identify council members who don't have a conflict to do the reviews? Is it high enough priority that it requires outside review? A big part of the PRC is to orchestrate this to avoid any conflicts of interest. We could create a list of external reviewers, and then it won't be too much work to identify other reviewers. Scott and John Melack could look at sitting on this committee; it would serve the Council's purpose well. Zach thinks a subset of council members established would be a great start. Perhaps Scott would be willing to participate and maybe take the lead to form a committee. Zach offered to help. Scott is happy to do that, but would like to hear from the Council. How many people? Three is a good number to potentially review internally and request reviews externally. All agree three people on the PRC, led by Scott. Scott to contact council members about participation. He will draft a charge for the committee from the document already sent out. The charge will be brought back to council for approval. The goal is to have the PRC ready to operate by next council meeting. (ACTION)
- d. Zach offered to assist Scott in any way. We ca use that charge or a portion of it to set up a task order to provide for appropriate compensation for PRC member's time. Scott and Zach can discuss tomorrow potential members. Alan mentions we will need to figure out how to provide compensation to external peer reviewers. Zach will investigate with TRPA the best approach to accomplish this. (ACTION)

7. Council member updates on relevant science topics

- a. Zach mentions and operational item that the Council should know: State lands commission staff has a proposal to change lease lands fee structure for Lake Tahoe. The proposed fees would be lower than currently charged, so overall revenues would decline over time. These changes would affect the amount of money going into the special account that

funds the Science Council, but it would not affect how the funds are allocated from that account. Todd mentions the potential scale back of money generated, is contrary to what State Lands has projected historically for the lease revenues. Todd and Zach to update council at March meeting. (ACTION)

- b. Steve has not been thinking much about research recently. Lots of bright grad students coming into the pipeline who might be useful.
- c. Alan notes that funds for Council member work can be used to support grad students and fellow faculty members, who can assist in completing work order tasks. It is an option available to everyone.
- d. Ed has nothing Tahoe related, he has been focused on Southern CA. Rivers jumped up 10-30 feet in a matter of minutes after most recent storm even. Lots of debris flows made it difficult to compute. Not surveying, but working on computations. Finished Ventura Creek computation stream flow went from 0 to 15000 CFS in 45 minutes. Some sites with 6-7 feet of sediment, some portions are fine but other portions you could fall right thru because it's unconsolidated.
- e. My-Linh from an NDEP perspective they are working to coordinate and improve efficiency between bureaus and committees. By March meeting she will have a better report of what they are involved with.
- f. Alan reported that SNPLMA secondary funding went to Tahoe regional Executive committee for approval of project list. BLM holds that money and there are some issues to work out between BLM and USFS. TSAC had two projects on the list: landscape scale changes on the nearshore, sustainable recreation. Everyone expects this money to come through, but this is all still pending. Tahoe West is expecting funds as well for monitoring. Alan will keep everyone posted. (ACTION)
- g. Geoff will leading March TSAC meeting. Alan will be out of the country, but hopes to participate via Zoom.