

Meeting Agenda
Tahoe Science Advisory Council
Wednesday March 7, 2018
10:00 AM – 2:00 PM

Tahoe Center for Environmental Sciences, first floor Rm 119
291 Country Club Drive
Incline Village, NV 89451

Participants: Scott Tyler (UNR), Alan Heyvaert (UNR), Adam Watts (DRI), Geoff Schladow (UCD), Steve Sadro (UCD), John Melack (UCSB), Ramon Naranjo (USGS), Max Moritz (UCANR), Ed Parvin (USGS), Todd Ferrara (CNRA), Zach Hymanson (CNRA), My-linh Nguyen (NDEP), Alison Toy (UCD), Zach Bradford (League to Save Lake Tahoe)

Meeting Summary

The subjects of this meeting included: 1) update TSAC members on the Council finances, 2) begin planning for the Bi-State Executive Committee meeting, 3) review and approval of the Council's Peer Review Committee, and 4) obtain updates on Council projects that are underway. Highlights follow:

- Funding allocated to the Council totals \$620,000. Approximately 20% (\$125,000) has been reserved to support Council operations and administration (i.e., contracting and financial services). 80% (\$495,000) has been reserved for technical assistance and substantive projects. Meeting details begin on Page 2, and also are provided in Attachment A.
- The Bi-State Executive Committee meeting has been scheduled for Monday August 20, 2018, 1-4 PM. The meeting will be held at the Tahoe Center for Environmental Sciences building on the Sierra Nevada College campus. As in years past, the main purpose of this meeting is to review and approve the Council's annual work plan. The meeting also will include an update of Council operations and finances. Review of the work plan will focus on the Council's proposed substantive projects, which garner the majority of the Council funding. See page 4, for more details from the meeting discussion.
- A proposal to establish a Peer Review Committee (PRC) was discussed and approved by meeting participants (see details beginning on page 9). The PRC will be a standing Council Committee, chaired by Scott Tyler. Other members include John Melack and Johnnie Moore (retired, University of Montana). Approximately \$19,900 of Council funding will be reserved to support the PRC efforts. Zach and Scott will work to complete a work order to allow the transfer of funds between TRPA and UNR, when PRC activities occur.
- Currently the Council has seven projects underway: 1) criteria for evaluation of redundant threshold standards (lead: Ramon); 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); 6) examination of ecological impacts from sustainable recreation (lead: Zach); 7) Decision support framework (lead: Geoff). Projects 1 and 2 are completed. Projects 4, 5, and 6 are underway. Projects 3 and 7 have not yet started. More information about each project is included in the notes below (beginning on page 11). Products for each projects are under the 'Projects' tab at www.tahoesciencecouncil.org.

Meeting Notes

1. Welcome, agenda review, introductions (Geoff)
 - a. New people: Adam Watts Fire Scientist
2. Council operations update & budget update (Zach)
 - a. Alison to send new Doodle poll to send out to Council Members (May and July) (ACTION) Important things to discuss, plan for the upcoming year.
 - b. Nothing new on the contracting side
 - c. 2 new work orders including peer-review committee
 - d. Refer to Zach's fiscal summary pie chart page (Attachment A)
 - i. Technical services: 2 elements in work plan. Technical assistance and substantial projects. Roughly \$28k has been encumbered including Alan's work order on data specification for applying adaptive management. Travel reimbursements for Geoff's workshop in December. Allocation for a summer intern to help TRPA for past projects entered in the EIP tracker of what has been done in the Tahoe Basin. \$27k remains, peer review committee will take some of that.
 - ii. Substantial projects: \$440k. Two new work orders will be discussed later would be new requests under this. \$205K has been allocated to substantial projects. This is work that has already been done on last year Review existing environmental programs, criteria to evaluate the threshold overlap underway now led by Ramon Naranjo. Examination of the VMT threshold standard led by Marc Pitchford. Examination of the SEZ threshold standard led by Steve Sadro. Evaluation of Sustainable Rec impacts just approved and being worked on by Chris Knot who is preparing topic briefs and helping to set up a July workshop for the Sustainable rec working group. \$235k remains for the two new projects.
 - iii. Operations budget: Pie chard 5, \$55k, \$34k has gone to UC Davis supporting Alison's time and room rental and video conference equipment. TSAC website and maintenance. \$20k remains.
 - iv. Pie Chart 6 allocates for Zach's time. \$116300 remains to cover Zach's time of the current time remaining June 2019.
 - v. Pie Chart 7: TRPA services. Council has approved or recommended work being done. Adding \$150k into the budget that was added. Estimated another \$20k needed for continuing work through June 2019.

- e. John Melack would like the work orders to be sent out to the group to see what is going on. It's all very generic, they don't tell you very much. Would be helpful to stay coordinated and updated.
- f. Zach says it is on the agenda and up to the PI to explain what's happening with the work orders under new updates. As people want more info about what's underway, they would contact the PI
- g. John Melack says we need to make operational efforts much more transparent. Many of us are used to writing up some summary. Just trying to get the committee to be more of an operation. More communication, more often about these kind of tasks.
- h. Alan says these work orders were just developed this year after the executive committee meeting. Made in August mostly of November of 2017. January is when we decided who was managing what work order, all just started January 2018. Not too much to report on. For next year, we will be developing these work orders collectively well in advance of executive committee meeting in August and showing the participating scientists and budget amounts. More people will be informed as a result of this. Acknowledge what John says and will
- i. Alison can only populate documents with what she's given. Geoff suggests whoever is coordinating projects, some intelligible statement about what it is, plus a report, a work order in English, and then the public can see what we are doing. We have thought about this at the onset, but have not done anything.
- j. Zach says once we have final copies of projects they will be put on the website. Do we also want to put information about projects in progress.
- k. Geoff "Absolutely" represents the level of activity going on.
- l. Contact information needs to be available for each project. How do council members want to proceed with this?
- m. Adam thinks it's useful for the public and new members like himself. Does not think PI information is necessary. Filtered through the council or Alison?
- n. John says we need to know who the PIs are. It's a public project, why can't your name be listed?
- o. Zach points out that they are in the work order.
- p. Geoff suggests for more information contact Alison or Zach and then it can be filtered to the appropriate person. Let's get the people's names and affiliation listed. What the project is doing, anticipated completion date, and any product considered in the public domain out there.

- q. Ramon asks for clarification is this just for work orders that are already signed or projects that are proposed?
- r. Geoff suggests science things that will become official projects, listed in progress. Even December workshop should be listed as happened to show people that things are happened. Also allows us to see the status of different projects. That institutional memory needs to stay somewhere and the website is just as good as a storage spot as any.
- s. Steve advocates in addition to having work orders downloadable documents. A splash page with abstract or something that briefly lays out the project objectives. Slightly more straightforward terminology than what is in the work order. It will be a good reference for everyone.
- t. Zach would appreciate the Pls assistance with this so that everything can be pulled together.
- u. Alan wants to know if it's possible to use an internal page that provides access to TSAC members.
- v. Geoff suggests individual workgroups set-up a website sharing process like using google documents. A website seems excessive.
- w. Todd is asking is the point here a repository for institutional background?
- x. Alan says yes that's part of it, for new members like Adam to get updated and also to update and inform public.
- y. Geoff also says to have the documents there for posterity.
- z. Zach says he has received request from someone about a report. Agrees with Geoff to not have a side website. Tricky keeping two web areas separate. Will start with posting documents and having Alison or Zach as contacts. (ACTION) Asks John if he wants updates from Pls or me about updates in between meetings? Short reports?
- aa. John was just thinking that the minutes of the meeting will reflect the update. Sometimes communication isn't as clear. Does not add to work to people. But just wants to increase communication as effortlessly as possible. Think the website ideas are great.
- bb. Geoff points out all meeting agenda and notes are available online. Additionally, he has been hearing rumors that the funding that underpins this council is currently in a state of flux. California state lands are reviewing.
- cc. Todd says state lands commission undertaking a benchmark survey and proposed late last month (this is part of their 5 year process) but decided not to take the staff recommendation which applies to what Geoff is asking, at least the

rollback of rates that people who rent in state waters would be paying. So the status quo remains the same at least for the next 5 years a more in depth study will be conducted during this time. Rate structure remains as it is today.

dd. Zach elaborates that this the revenues side of the funding that goes into a special account that is split three ways between this council, Tahoe Conservancy, and Lahontan water board. That split or allocation is not part of state lands discussion or issue. It's a discussion with the resource agencies or whoever is receiving those funds.

ee. Todd says those revenues bring in 1.2 mil annually. Because the state lands commission took no action to change that formula, he anticipates fund will remain healthy for next period of time.

3. Prep for 2018 Exec. Comm. Meeting

(Geoff/Zach)

- a. Geoff explains that this meeting is held the day before the federal summit to make it more convenient for the people to travel up. Tentative date for Tuesday, August 21st. Working date for Monday Aug. 20th will be Exec. Comm. Meeting.
- b. Zach says logistically 1-4pm presumably we would like to reserve TERC meeting space again. We expect full attendance. This may be the last year for Secretary Laird and Director Crowell due to CA and NV gubernatorial elections in November. Business as usual: operations update. Expecting this meeting will be dedicated to reporting out about work orders and a discussion as where to go with future work orders. Expecting draft work orders for the council's work next year. Has worked with Dan Segen from TRPA as most funds stem from Standards thresholds initiative. TRPA has not done too much thinking past their governing board meeting this year. Dan expects to work with Council in July to figure where TRPA wants to go with threshold update initiative project, this will be one big segment of work for the council. Two other big segments: 1) Peer review committee work, won't know by the exec. Mtg but should be able to talk about what we want to provide going forward 2) decision support framework for the upper Truckee river that Geoff is leading. If that work moves ahead as expected then coming in with a phase 2 proposal should be expected. Other thing has been discussed in the past is picking out some science topic going on in the Tahoe Basin that the council would like to speak to in a more in depth way, more informational item for members if the committee. Start thinking about what subject you would like to pursue and who would be involved.
- c. Geoff says at last year (can't recall his name) the NV equivalent of Laird, he seemed quite new at his position and unaware of the council and what we intended to do. Is there a need for a briefing of this year? Is this something we need to do?
- d. My-linh internally had meeting with department. Direction from director in how we report our different efforts about Lake Tahoe especially regards to the bistate meeting. More coordinated in our reporting to him he wanted to see more

interaction with partner organizations and agencies. A more coordinated effort is led by Jennifer Carr. We (Jennifer and My-linh) will be briefing him before the executive committee meeting. Last time he had foot surgery before the meeting. So he will be briefed before the meeting.

- e. Geoff says to ask the council to help My-Linh if needed, she just needs to ask.
- f. My-linh says she will follow up with everyone. He will be part of the conversation, what else does he need from us. Will contact chairs if needed.
- g. Some of us were present at this meeting last year. Based on last year's meeting Geoff wants to know if there is anything we should try to do this year or improve upon?
- h. Todd though because it was the first meeting, housekeeping needed to be done, everyone was finding our way, it was good in that regard. We've checked the box on all those things. Thinks that we are well-grounded, the work order is in place, etc. Brief about everything that has been done in the interim to get the work order going. After Gov. Sandoval leaves this year, if we should demonstrate that we have institutionalize this and will continue to move forward.
- i. John is wondering if there were any tough questions last year that we feel like we could answer better this time around?
- j. Geoff says the biggest thing that he took away was the NV director was coming into this cold, so there were tough questions about why we were doing certain things. Some consternation about what we want to do in comparison to the TRPA agenda. Wants to know the role of the science council to act as a science oversight group for the entire basin or just as assistance to TRPA. The NV director will be further along now and getting briefings from staff. We just need to be better at explaining what we do and why we are doing it.
- k. Zach says being more specific will be helpful.
- l. Pat says last time we were looking for support which was risky. But this time it would be good to come in with not only what we are doing but what's impactful about the work being done. Then what are we building into the future, what are we looking toward. Because of the turnover of Exec. Group, we need to establish the value of what we are doing. I think the question of visibility will play into this as well. Good opportunity to get our story together and make it as public as possible so that people who follow-up after the meeting or summit find something substantial and hopefully inspiring. This is no small task. This is great that we are discussing this and being able to provide input.
- m. My-linh, the feedback from director. His concern what the role of the council was for helping managers. Wondering if this council is going to do science for the sake of science and not relating to managers is it going to address things on the Science side.

- n. Adam says it sounds like this group needs to enunciate its value.
- o. Alan says what comes out of this, we need to be more proactive about communicating what our role is in the Tahoe Basin. We need to clarify that with ourselves and with our funding agencies. Something we need to do in parallel in developing next year's work orders. We need a group of people who actually begin thinking about this and working on putting something together about what we see as our role and what we're contributing in support of management and science in the basin. We should try to document this and make sure we all collectively agree with that vision before the next exec. Comm. Mtg.
- p. Geoff says that the charge was not clearly understood. We need to communicate what we are doing, science being undertaken, what we review and how this is different from science for the sake of science. Make clear that we are addressing the NV/CA/Basin concerns no stateline difference. With potential changes on the Exec. Comm. with concerns of answering the same questions to a new committee, is there possible to get approval of a two year work plan? Is that possible under our charter?
- q. Todd says that it is a great idea. First work plan was 18 months. Doesn't see a reason why we couldn't develop a 2 year work plan to give that added commitment. Whether it's the work we are doing at the bi-state level at Lake Tahoe, we are very committed to make sure whoever follows the Secretary is well-briefed and up-to-date. We intend to make sure that everyone is knowledgeable about the ground we've tread and the direction we are headed.
- r. Zach says we can definitely do 2 year work plan, approaching a strategy where you are spending 2 years' worth in a one year work plan. So if you go to a 2-year work plan, it would have to be a strategy where we realize we only have funding for the first year and then still coming back to secure funding for the second year because it's based on the governing budget.
- s. Geoff thought the funding was guaranteed, it went straight to the basin.
- t. Zach says it does go to a special account but the legislation and governor still has to describe these funds in the budget as well.
- u. Todd says money goes into account that always goes into the basin, but every year the funding out of that pot has to be appropriated by the legislature. We feel like we have a good story to tell to ensure that the science council work is adequately funded.
- v. Other challenge with 2 year work plan, related to the TRPA threshold update, we didn't get their information soon enough. In that situation, we are relying on TRPA to program that far out enough.
- w. Geoff says we need to be proactive and tell them what we need. If we wait for them, it will be too late. It will be what they are hearing from their governing board

rather than us speaking to them and providing them with a science background to give to their governing board.

- x. Zach says their governing board will have changes in the administration too.
- y. Geoff says more the reason to have a set task that the new board will adopt. Willing to put in the time to attend TRPA meeting.
- z. Ramon, addressing My-Linh's NV concerns and science to do science. Most projects are issued out by TRPA as an advisory role rather than a science project deliverable type. Does TRPA coordinate their efforts with NDEP. Is there a list of council projects that they can look at? Do they have a word as what is being delivered to the science board? Sounds like we have image issue with the state of Nevada, they don't see how projects are issued to council and maybe the emphasis they see is that we are more of a science committee and not an advisor to agencies.
- aa. Zach says there's not a direct connection between generating work orders and communicating with NDEP, but there is a strong indirect connection through the governing board which give the TRPA staff direction on project overall. Jim Lawrence is the deputy director and our primary conduit between what's happening with TRPA and nexus with TSAC. Can't expect them to review every work order or detail. Made an assumption that Bradly Corral was getting all the info about what had already happened with council. Met with him in June but had not followed up. We can do better with the strategy that My-linh has outlined.
- bb. Ramon leaves it to Zach, to make sure it's transparent how we obtain these work orders, that we are given these tasks by the TRPA directive and are not making it seem like this is something the council is specifically choosing to do.
- cc. Zach says last time we were unable to present on how we intend to advise or assist the TRPA in the future, we were only able to speak to it very generally. In addition, we came in with a 2nd substantial project not motivated to the TRPA threshold initiative. Because of the lack of clarity on the TRPA side and proposing something outside of the TRPA immediate need, there was some confusing even though it was something that would indirectly help them.
- dd. Alan does not think we will have that problem this year. Do our groundwork in advanced and taking advantage of being further along and plan for a polished presentation of who we are, what we are doing, and what we've accomplished and where we are going.
- ee. Pat reiterates emphasizing the impact and value of what we do. That takes more effort and imagination than the accounting. We get excited about the science we do but if we can explain the value, how it is useful to TRPA, to the objectives of environmental quality. Telling a story better than we have before will be helpful.

- ff. Steve says this loops back to the project leads writing up something that summarizes the project in this context that will be helpful to council.
 - gg. Adam says he's hearing a concern we need to explain better about how we incorporate concerns of stakeholders in determining what we do. Perhaps this is something that can be trumpeted more in the write ups that we share with people.
 - hh. Geoff says good idea and it does go back to Pat's suggestion of discussing explicitly the impact.
 - ii. Zach says that he will reserve more time in the agenda for the future.
 - jj. Geoff says hopefully by next meeting we will have project descriptions up on the website which will be good starting point. Would be worthwhile on the agenda to review documents on website. (ACTION)
4. Council discussion/approval of peer review committee formation. (Scott)
- a. Scott brings forward two items. The peer review group is in communication with Johnny Moore retired from University Montana brought in as an outside peer review member. Proposing two internal members and two external, everyone concurs that it is a good idea, seeing lots of thumbs up. It will be Scott and John Melack for internal and Johnny Moore. Any objection. John Melack is TSAC member and Zach knows Johnny Moore from Cal project and is familiar with government policy procedure kinds of projects.
 - b. Zach says it would be difficult to identify available council members not already committed with all these on-going projects and have the time outside of their day job to do peer review committee. The strategic approach is to get someone completely outside of the council with no conflict of interest and to take pressure off council so consulted with outside sources familiar with.
 - c. Ramon wants background information about this committee. Are they reviewing work orders or projects that are requested from TRPA?
 - d. Zach says proposal was sent out couple meetings ago, consult that, but they will not be reviewing work orders. Perform independent peer reviews of technical documents that the council is creating. Example: VMT project from Marc Pitchford, they will want an independent review done as part of the package they bring to their governing board, recommending changes to the threshold standards. Also reviewing work done by others that require an independent review to endure the veracity and efficacy of that work for example like the monitoring plan of the SEZ technical agency technical advisory committee prepared documents. Requests for peer review can come from council products or from outside sources. Expectation is that the TRPA would like to give 2015 document threshold review to this committee for review.

- e. Ramon asks if this is funding per document?
- f. Zach says funding is just under \$20k allotted to members of the peer-review committee (John, Johnny, and Scott) for their time, they could lead or administer a review and then money to fund external peer-review members, truly independent people that are experts in a specific field. They receive the review charge and contract in mail, prepare a review summary in writing and send it back to the lead reviewed. Money for admin assistance, UNR would do sub agreement with Johnny, John Melack, and the individual external reviewers. Short form contracts this was how it was down for the Tahoe Science Consortium and SNPLMA project and it worked really well.
- g. Scott says it is more convenient for TRPA who didn't want to do the subcontract work. This is an estimate of what resources are needed for a little longer than a year from now. If we are tasked with more reviews than we expect. This is for more than one document. There is a preliminary list of documents that TRPA is thinking they want to submit for review, currently scoped to support that amount of work.
- h. John says it's like an editing board for journals. There could be lots of people contributing input. The role of this committee could also be to find people.
- i. Zach agrees help to find people, vet people, review charges from entity requesting and make sure it is clear and reasonable. In some cases there may be a need to prep a summary in writing or an oral presentation.
- j. Adam remembers seeing a document like this that outlines how peer review should be completed and also a conflict of interest form to be signed. Some council members may have to be excused due to conflict of interest.
- k. Ramon says it reads like guidelines for proposal.
- l. Zach says it is guidelines, as well as review of programs, and project results. Needs to be recast to be more relevant for the peer review committee.
- m. Scott says to object is to make everything very transparent.
- n. Adam says documents are provided and then sign a conflict of interest form. Reviewers were paid ~\$200 honorarium per document. A good compensation for time proposal reviewer spent. This document lays out some clear instructions that if people follow will result in consistent reviews.
- o. Geoff says this is a great idea with 3 ideal committee members. Looking at the TSAC website, we need another heading on the website. List names of people on committee. If we edit this document, then it should be on the website. The content is doable and makes sense.

- p. Alison says yes we can add a tab having to deal with the Peer-review committee.
(ACTION)
5. Substantive project updates¹: Status and next steps (Leads) 30 minutes
- a. Geoff says two proposals, one led by Geoff and one led by Pat, were sent out yesterday.
 - b. Pat says there hasn't been a meeting about this, but the goal is to provide a context for the TRPA in terms of what sort of decision support tools are available to them. A follow on to the literature review done of the various evaluation systems (led by Alan). Regardless of identified threshold standards throughout the process that Geoff is working on, what kind of system is in place for analyzing multi various problem in terms of systems evaluation. Currently in the literary review: what kind of systems are available. what they do, etc. Development of a support tool, step one might be applying to Upper Truckee Project. Looking for people to work with Pat in terms of the review of existing systems and the capabilities they have and how it can contribute to the Tahoe Basin. The timeline is through July and a final by August. Ideally having something finished by the summit is optimistic. Could be very simple, should not take a lot of time, it does depend on who is interested in working on this and the focus as a team. Lot of lit already out there. Questions or comments?
 - c. Geoff says if people want to volunteer to do so now that's fine. Perhaps it might be useful to send to the entire council with a response of who is interested and who is not.
 - d. Alan says make sure to indicate interest to Pat. This is something we would like to pin down in the next couple of days certainly by next week because Zach needs to get these submitted in a timely way. There is a sensitive timeline to let Pat know.
 - e. Zach will be gone March 20-April14. Next step with any work order get in touch with the folks at the resource agency. Much higher chance of it happening as long as you get it to Zach before he leaves. For each of these work orders details needed: total budget, timeline, and the individual budgets of its participants. The impact of Pat's work, there are two things happening simultaneously. 1) Look at existing thresholds are they contemporary and streamline it and get it inline with science and get rid of duplications. Get to a package of thresholds that are meaningful and impactful. 2) How you organize this system and operate it, this is where the decision support tool comes in. TRPA has been heavily criticize in the past reviews of thresholds, does not allow for new knowledge of ecosystem

¹ Projects are: 1) criteria for evaluation of redundant threshold standards (lead: Ramon); 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); 6) examination of ecological impacts from sustainable recreation (lead: Zach); 7) Decision support framework (lead: Geoff).

function, doesn't allow for a representation of what's happening in the Tahoe Basin. Think about how to organize systems before we decide which thresholds are part of that system. Or let's figure out what parts and then organization. That latter approach had been prevailing, but winds appear to be shifting in that regard. Renewed interest in thinking about system organization and operation. With regards to the timeline highly encourages Pat to stick with that timeline for greatest impact.

- f. Pat was suggested the final to be before the summit for that very reason. Doesn't think it's a very big task, bigger task to start working the system into activities happening in the basin as a trial run, that is the biggest gains will be made. This light document will not require a great amount of time. Talk to TRPA to see what they think will be most useful.
- g. Geoff is nervous about talk about releasing before summit. With each of these documents we need to submit to agencies who may need to run them by their board. The last thing that we want is the science to come out saying this is the only way to do it and their board is out of touch and haven't heard of it. This could be where we could be accused of doing science for science.
- h. Adam asks if he's looking for the term peer-review?
- i. Geoff says potentially.
- j. Zach says that this is where Dan Segen can help. If there is a need to check in with governing board or allow agency review, we can incorporate that into the timeline.
- k. Max is interested in this in terms of context of how well frameworks like this integrate with say climate change adaptation approaches. Seems like nice overlap. But timeline seems insane to me. What realistically are the expectations for members' time and contribution?
- l. Pat says that she thinks that just like some other efforts we are working on, maybe what we're doing is getting products by summit and then gearing that product to the timeline and then add on to the product post summit. If one of our objectives is to scope it so that we have something (that everyone is comfortable with) for the summit, before now and August, so it would be a week or two of work as a reasonable target of work. Two weeks probably. Might be undershooting in terms of what Dan and TRPA want.
- m. Alan says they want a high level view of what options are available out there in terms of what is being used currently for thinking about how thresholds are structures. Looking to integrate across different thresholds and standards. How other approaches might work and the pros and cons of each approach. A review of what is out there and what is appropriate to the criteria they have here in Tahoe. Alan's group took a bit of time with the initial review.

- n. Zach thinks 2 weeks will not account for enough time, that you might need. But the strategy of getting the first cut done in time for August and then bringing a proposal to the executive committee for testing and application seems very logical sequence.
- o. Geoff says peer-review would have to come into play between phase one and two.
- p. Zach, is it wise to do a peer review a review of existing programs or would you consider building in peer review as part of the next phase. Taking that review and test it.
- q. Geoff says purpose of the review is to look at a subset of approaches or existing programs and if that's the recommendation a peer review of that decision.
- r. Alan says that the TRPA is not looking a recommendations of the set of available options of what is the optimal way the Science council advises.
- s. Pat thinks the literature review could be reviewed by chairs, wouldn't necessarily need a peer review. The adoption of a system, would put through a workshop, requires engagement of managers and others. The decision support systems are complicated and it takes a bit of orientation. In order to get the engagement of TRPA or others who might be involved with actually using this system, need to present: here are the top performers, here are pros and cons, and have a conversation. This would be most effective. Just another idea of how to move it to a selection. Suggests workshop to figure out what works for manager rather than a peer review.
- t. Adam thinks it sounds like a stakeholder review.
- u. Zach says you can bring out external review and combine the two. Have stakeholders, agency review, and outside reviewers to provide independent assessment and information.
- v. Alan also likes the idea of workshop but does not think this is part of the work order, it would be subsequent to the completion of this work order.
- w. Pat agrees.
- x. Zach says ideally council members interested working with Pat can have discussion with Dan Sagen and needs final work orders with individual budgets for the people that are going to participate. Wants by the 14th of March to get enough time so that Dan and Zach can complete what needs to be done.
- y. Geoff talks about the other task order is decision support framework for the Upper Truckee watershed. Come up with conceptual models to explain how the processes in that watershed connect. What drives them, what the consequences are, what the certainty of the science is between those, the various linkages and

what the critical unknowns are. Upper Truckee chosen because it's important but also because it basically includes pretty much every kind of system that exists within the basin. On a smaller scale we would be dealing with all the interactions. Microcosm of the Tahoe Basin. Initial workshop that was open to all council members. Substantial progress was made, but Geoff dropped the ball. The creation of a set of box models with explanatory text and descriptions of the certainty of science, the reversibility of some actions. For example, one action removal of 80% of trees not really reversible, if that doesn't work we're stuck with it. The list was sent to participant but anyone can participate going forward, just contact Geoff or Zach to indicate willingness.

- z. Zach wants Geoff on the same timeline as Pat for getting this work order submitted to Dan. We have allocated a budget on this item based on workshop discussions. We can talk and work through that based on individual action. Individual rates for people? Alan's approach, the average rate of \$150/hr. Figure out total estimate number of hours, but then people can figure out their budget needs based on their individual rates just as long as the math works. Pretty easy to do once you figure out individual effort.
- aa. Alan says that there are no detailed budgets, keep it simple and fast. Total amount same for institutional amounts. May have to work out a detailed budget to know that you're hitting the right mark for your own use. What does to TRPA is just a line, indicating number of hours and bottom line total.
- bb. Geoff will presume that people who participated in the workshop is still in it unless advised otherwise. But all people would be welcome. Thinks Steve Sadro would be ideal.
- cc. John says it would be useful to let everyone know about the subtopics developed at workshop. People suggested they were interested in particular subtasks. Can we have a summary of subtasks and interests? We put enough into it to give people a sense of what is involved.
- dd. Geoff will get that document out this week (ACTION) Give people time to consider their involvement.
- ee. John thought we put enough into the document to let people know what's involved. Timeline skepticism about the dates in the document, frankly, especially compared to Pat's due to the number of people and complicated nature of the topic. Does not make sense to propose that this be done in July.
- ff. Zach says that one of the ideas is that this project would take a phased approach. Phase 1 would be done in July and the phase 2 would be proposed to begin after July and part of the work plan brought to Executive Committee at August meeting.
- gg. John says yes that's what we said, but it's not December anymore, and we all have a fair amount of work on the books. Does not think it's worthwhile or

realistic to have arbitrary dates. These dates look very short. This particular case UTRWAG is an important group doing lots of these things along these lines. We need to meet with them first before we do things that aren't welcome or aren't helpful. We need to make realistic proposals in terms of timeline and this seems unlikely.

- hh. Alan says we have the power to set our own timeline. This is a project we ourselves proposed, because we saw the value. We do want to get this right and interact with UTRWAG. If we have the opportunity to actually phase this, we can really look into how to do this longer term type project instead of the shorter term projects we have been doing with the TRPA.
- ii. Pat agrees with John. Points out that herself and My-linh were at the workshop as well. And that she still wants to contribute.
- jj. Geoff agrees with everyone. Maybe all that is required is a draft conceptual model presented to UTRWAG in May. The August due date is for the draft conceptual model. Interface with draft review of decision support systems and look at the linkages between the two. Purpose of conceptual model in the end to allow agencies to make better decision, knowing how the system works and what certainty we have. This conceptual model could feed into decision support system. Better to have drafts in place subject to change for August meeting. This would all be part of phase 1.
- kk. John thinks that is reasonable. In terms of what Zach wants like budgets and such. Thought the timeline for project the final conceptual model will actual be a draft. But the final is actual sometime in the fall.
- ll. Geoff thinks it is a good draft that we can stand behind but can be open to peer-review and agency input. Most of work done, but call it a draft to allow for input.
- mm. John says when you write a work order there is a start and end date. But in this case there's no strict end date it is sometime in the fall. Administrative issue, people need to have a date, can't have a contract without a date.
- nn. Zach says make the start and end dates coincide with the deliverables identified. End date includes final delivery of that document. The budgets would follow that timeline and the level of identified deliverables. All three need to match: deliverables, timeline needed to produce those and the budget needed to complete. Extend timeline, extend budget.
- oo. Ramon has question, we spent a day and a half during workshop and made a solid first draft of a conceptual model. How much more is necessary to provide to UTRWAG? Is there still a lot more work needed to be done? Seems like the May meeting goal is doable if there isn't a lot more to be done to that initial draft.
- pp. Geoff sees that draft establishing the boxes and some arrows in between. The actual analysis of what the arrows mean, what is the science behind it, what's the

uncertainty about a particular outcome. Was not discussed. How certain are we about the nutrients going into the keys are from the watershed or from lawn waters? Someone like Ramon would need to look at the literature and think about to make this decision. Thinks that there is a framework to build that. Maybe we are 20-25% of the way there.

qq. Ramon recalls each individual subtask had a 2 week estimated budget, ~80-100 hours.

rr. John says yes that is correct. It was on that order. ~80 hours, two weeks.

ss. Ramon the point is that with the overall budget thinks we have already accomplished quite a bit in the existing conceptual model, some of the additional work describing those connections still need to take place. Based on budget and the expected hours to completing, thinks we are more than 50% of the way.

tt. Zach and Geoff has the document that needs to be redistributed. Let Geoff know of interest and will modify contract. (ACTION)

uu. John says we need to not redo work.

vv. Zach suggest looking at the addition of the Dijenero article that was sent out. Recommends looking addition of that journal. Couple of the conceptual modls of written up, to give ideas of what is still needed to be done. Agrees with Geoff, even though a lot of the work was done still only 25% of the way, especially if some of you end up working on more detailed sub-models.

ww. Geoff says look at that Journal and it's scary but the delta is far more complicated than the basin. Don't be too freaked out.

xx. Zach says it's really about the contents and critical evaluation done.

yy. Ramon wants to add that in the PowerPoint in the notes on the 3rd slide is where we put out the tasks for each individual. This may not be apparent to everyone.

zz. Dispense of last agenda item?

6. Council member updates on relevant science topics (All) 20 minutes

- a. Zach wants to hear brief updates about the projects already in progress.
- b. Alan says as these initial work items begin to finish. How do we provide council review before final wrap-up? Before finalized and signed off. Important for council to provide feedback.
- c. Ramon talks about technical clean up on existing threshold standards. Look at overlap of thresholds identified by TRPA. They need a typology describing the overlap. Completed work on March 5th and provided the document to Dan Segan, will add certainly providing to council to get input about where it is now of if

there's any feedback we can work into what was provided to the TRPA. Evaluated a spreadsheet provided by TRPA that has all nine thresholds identified and within those thresholds there was overlap. Use this typology to determine how to resolve the overlaps that cause uncertainty.

- d. Alan says Dan is extending the work order timeline to allow for council feedback as well as to give Ramon and his group to answer questions that might arise. Bulk of project completed, change can be incorporated, and this is the opportunity to decide how we want to integrate council review for the future.
- e. Ramon says it is approximately 10 pages to be sent to Alison and distribute to people to give 10 days to give comments, 4 days to respond to comment, total of 14 days for review, let Dan know that. Ramon thinks it was a great opportunity work with DRI, advises everyone to get feedback and communicate often with Dan to make sure what you are interpreting and what they need is something you are actually providing. There were a couple of false starts, helpful to hear from Dan. Language can be a barrier when it comes to describing exactly what they need. Forewarn everyone that it takes time to digest what exactly the TRPA is expecting.
- f. Pat really appreciates the idea to take the time to review products. It would be great if we spent time as a full council and discuss the process of what the TRPA is pursuing for moving into a new system are there any pieces that we are missing? Original evaluation of the assessments, this whole silo idea is not being addressed in some of these contributions we are asked to make. Might be worthwhile to weigh back in. Step away from thresholds standards and really get an idea of questions they want us to address. Some of this could be used to address local conditions. Establish criteria for evaluating them, good opportunity to discuss where we are in this larger process for something the TRPA to consider.
- g. Alan says yes we should be thinking more strategically. This particular project was a short term project looking at overlap. This was tangent to the threshold standards assessment review we did last year. Point is well taken. We will have the opportunity to get to discuss this more in council meeting with council products going forward. The one Ramon did was very tightly focused. Want council to review that.
- h. Alan says the 2nd project still working on involved in natural resource evaluation systems. Look at programs around the country and how they report on their indicators. Made some recommendations. Input indicators rather than output indicators. Dan wanted us to elaborate more, what do we mean by output indicators, what is the difference between two, what are the different type of indicators, what are the different types of data used in programs. Putting together a document that explains that more, an informational piece. Have the opportunity to get into silo-ing as well and how you think about this in a more integrated way. We can bring that out. Dan has seen early drafts. What's important is this interaction with Dan and are agency partners is really important because we are

speaking different languages and come from different perspectives and are ideas of what is important is different. No side is correct but it is important to have that discussion and come to a common solution. Like what Ramon experienced, ultimately something that seemed like a science project ended up more tailored to a specific administration need that the TRPA needed. Same thing here, sent him a couple of outlines and he responds with feedback so we are structuring the document in an iterative way so that it addresses the needs for this document. Getting close to the end of this iteration process, draft document 10-15 pages at the most coming out at the end of the month for TSAC review.

- i. VMT project that Marc Pitchford is still engaged with. Adam will check in on that one at some point at time and coordinate.
- j. Geoff suggest appointing Adam as council liaison and will report back to us.
- k. Alan will talk to Adam about that, wants Marc to stay with it because he helped to structure the approach of that project and he agreed to stay. But would be helpful to engage Adam and will talk to him about it. (ACTION)
- l. Steve says we got the SEZs rolling a little late because of the timing involved in getting glal the work orders up and running. This is a June deadline. Project is broadly a review of the SEZ conceptual model for TRPA. Evaluation of the utility of the SEZ construct given the diversity of wetlands trying to represent. Thinking about what historic metrics the TRPA is using to quantifying SEZs. Feedback on quantifying changes based on simple metrics like area. So evaluating metrics and thinking of ways to quantify them. Finally a review looking at the climate change impacts on the SEZs in the basin based on the understanding of a conceptual model. 5 deliverables all targeted documents that have a literature review component and revised model itself. Ramon and Jerry Qualls have been leading majority of work associated with the effort. Have been meeting regularly. Ramon and Jerry have been meeting in person. Have given Dan several draft iterations of model, trying to get him a final draft this week and will move forwards with the specific deliverables associated with it.
- m. John thinks it sounds similar or related to Upper Truckee project. Will some of the results slide into that project?
- n. Steve says it's possible. One thing to look at is the broad SEZ model. May not be useful in guiding management based on the variability across wetlands. Presumably some of the info will be useful to other projects. Speaks to the issue of a shared file structure. One thing to consider, some sort of council Dropbox for sharing information.
- o. Ramon has said that google drive is being used. Sufficient enough to share folder. Work with Alison to make it happen. (ACTION)
- p. Sustainable rec project led by Zach. Enlisted help with Chris Knot to develop preliminary topic briefs that the subgroup is looking at. Literature review of what

is known about the ecological or economic impacts due to various types of recreation. Information used by group to inform stakeholder workshop planned for the middle of May. Narrowing focus there and identify the most critically important or most significant impacts based on stakeholder input. Help them carry out a second work shop bringing in various experts in July to contribute to the important issues that have bubbled to the top. They put off the social side of this, what is the human dimension of crowding and the experience that people have good or bad, given various constraints that the system imposes on humans to access or use recreation areas. Not clear why they put off. New faculty member at UNR who this is the area of expertise, will be bringing her into these workshops to engage if appropriate.

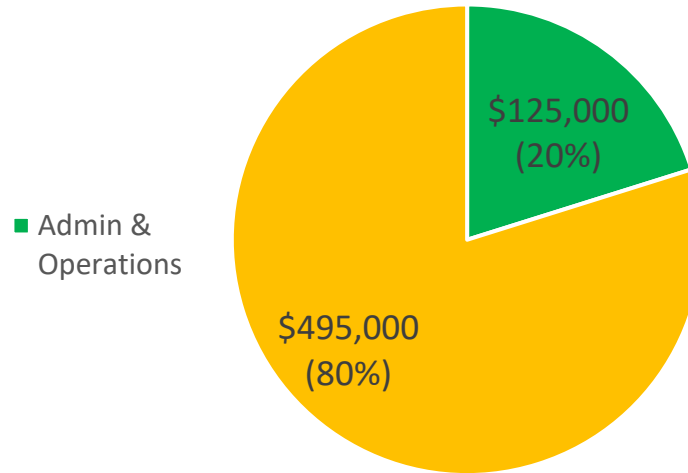
- q. Patrick Wright director of Tahoe Conservancy has brought up with Zach, science in action documents. Tricky to write, take a difficult topic like flood plains in central valley, engage the science community and stakeholders and then create a magazine length article describing the issue and current science and where we are going. Interested in doing something like this for issues the Tahoe Basin i.e. climate change, forest health, etc. He would love to have TSAC take the lead and would be willing to provide some of the funding, a cost share thing. Just want to let everyone know this is a potential future area of work for the council if you are so inclined.
- r. Doodle poll to set the next meeting. (ACTION)

Science Advisory Council meeting adjourns ~12 PM. Project workgroup meetings can occur as needed.

Attachment A

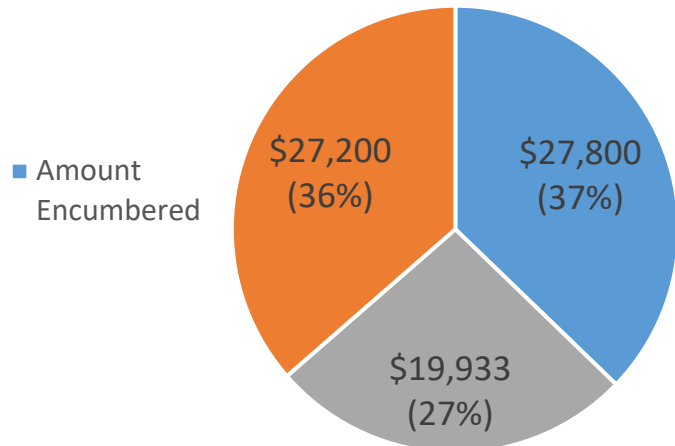
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TSAC Overall
(Total Appropriation = \$620K)



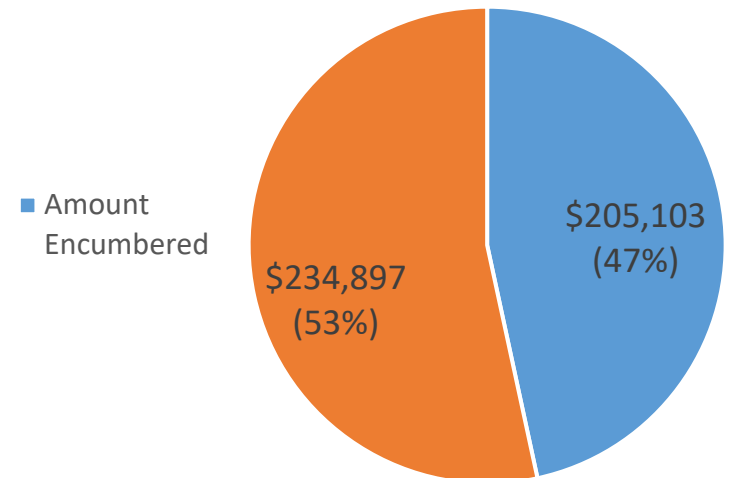
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Technical Assistance
(Allocation = \$55K; 11%)

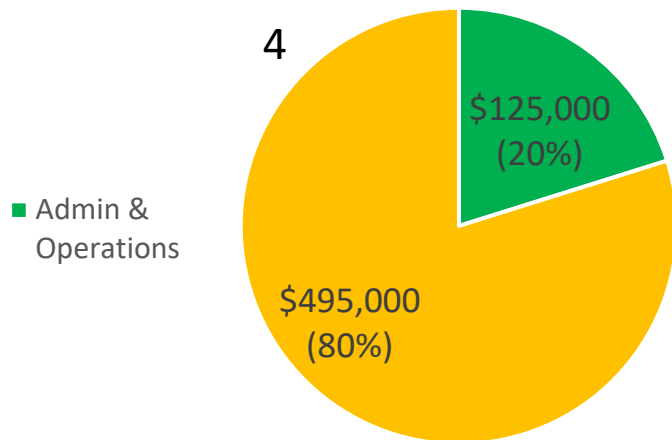


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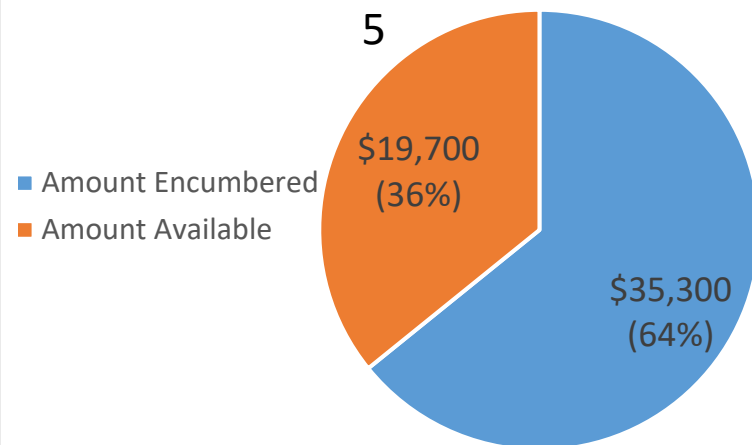
Substantive Projects
(Allocation = \$440K; 89%)



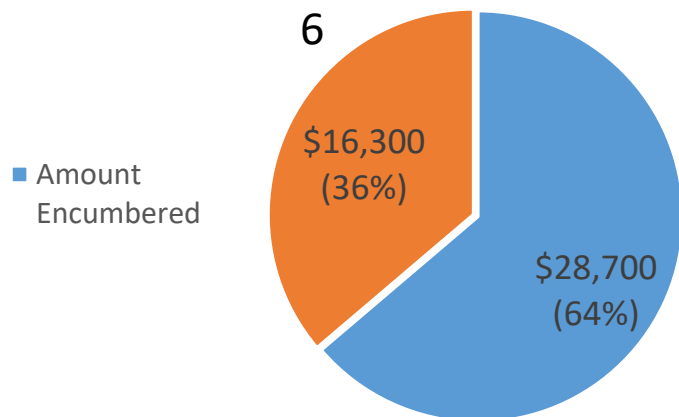
TSAC Overall
(Total Appropriation = \$620K)



Council Operations
(Allocation = \$55K; 44%)



TSAC Program Officer
(Allocation = \$45K; 36%)



TRPA Services
(Allocation = \$25K; 20%)

