

TAHOE SCIENCE ADVISORY COUNCIL

NOTES | July 2024 COUNCIL MEETING

Date: Thursday July 18, 2024

Time: 10:00 AM – 12:00 PM

Location: [Zoom](#)

Documents: <https://www.tahoesciencecouncil.org/live-documents>

Attendance: Adrian Harpold (UNR), Monica Arienzo (DRI), Tamara Wall (DRI), Alex Forrest (UCD), Steve Sadro (UCD), Max Moritz (UCSB/DANR), John Melack (UCSB), Pat Manley (PSW), Ramon Naranjo (USGS), Joe Domagalski (USGS), Jason Kuchnicki (NDEP)

Phoebe Song (EPA), Melissa Thaw (Lahontan), Dan Segan (TRPA), Chris La Casse (NDSL), Chris Fritsen (NDEP), Whitney Brennan (CTC)

Robert Larsen (CNRA), Alison Toy (UCD), Caelan McGee (Facilitator)

- 1) Welcome and Agenda review
- 2) Updates
 - a) Budget/operations (Bob)
 - i) Sign new operational agreement (3yrs of fund) from CNRA
 - (1) Covers travel, peer review, other small projects
 - (2) Contact Bob if you need funding for this
 - ii) USGS SNPLMA award: TEON, Zooplankton, looking forward to wrapping projects at the end of the year
 - iii) TRPA management funds sent aside, may be able to devote funds elsewhere, will know more in September
 - iv) Other SNPLMA funding spend to sustainable recreation report, available on website
 - b) Plastics work group (Monica)
 - i) Summarized state of knowledge
 - ii) Polled stakeholders as most important research needs
 - iii) Find alignment between survey results and actual needs
 - iv) Draft white paper, will be finalized with stakeholders
 - v) Will share draft with Council for feedback
 - (1) Article on clarity discusses large particles on Tahoe, is there information on small range that is relevant to lakes like Tahoe.
 - (a) Size – studies to date have focused on larger microplastics, difficulties in measuring smaller microplastics. Data we have show they are much more abundant and greater in concentration the smaller in size. Does it affect clarity? We do not know. Relative to other particles lower in concentration in theory, would caution drawing conclusions from large particles as smaller particles seem to increase logarithmically in abundance as particles get smaller.
 - (i) 335 micron and greater particles was doubled compared to other lakes based on UC Davis study.
 - (b) <https://aslopubs.onlinelibrary.wiley.com/doi/full/10.1002/lol2.10387>
 - (c) https://tahoe.ucdavis.edu/sites/g/files/dgvnsk4286/files/inline-files/LakeTahoe%20Microplastics%20Report_Final_20230302.pdf

- (i) Table 11 (page 35) was notable for the large size classes.
 - (d) Optical – discussed more in the context of snow albedo
 - (2) Great format of working group, looking forward to leveraging format to other topics
 - (a) Having administrative support (Jen Mair) to develop meeting, emailing, documents, having someone taking notes, etc. is all extremely important.
 - (b) Looking into a biodiversity working group in the future
- c) Water quality work group (John Melack)
 - i) 4 activities funded by Lahontan – Nearshore review, monitoring review (complete and on website), and Clarity Review.
 - (1) Monitoring done by working group and an external group with responses from Melissa and Dan. High/medium priorities of areas for research. Maintain monitoring with some modification, data management, increase sampling stations (increasing zooplankton).
 - (a) Urge people interested to look at the report, it is an iterative process
 - (2) Clarity review: Data, synthesis, and analysis. Based on contract between Lahontan and state board and TRPA, suggested different way of looking at clarity data. Steve, Ramon, Alex, John, and Sudeep. Had two people subset work order (Ramon and Adrienne Smits) detailed analysis of Secchi data through multiple years, attempt as urged by TRPA and Lahontan, a more statistically rigorous look of the data that exists. Will have by August reports from Ramon and Adrienne to be distributed. No external reviewers, people doing actual real work.
 - (3) Nearshore: Smaller more focused activity led by Steve. Subgroup met with TRPA, Lahontan to discuss terms of contract and specify language around the review. Have a document that captures the consensus, scope of work. Adrienne Smits will be the person to carry out the review of 5 documents, a synthesis of the findings in the context of the recent literature. Evaluate the work funded in the basin for Tahoe regarding the nearshore. Will have contracting side of things finalized soon.
 - (a) Started off with a broad contract to understand from the scientists what is realistic. Appreciate the process. (Melissa)
 - (4) Data management: notetaking important to meeting. Asking people to send their comments over, only two people have responded. Super helpful to have a note taker.
 - (a) Suggest bringing in Jen Mair similarly to what she does for the microplastics working group
 - (b) Chris F. suggests look into AI notetaking
- d) Data coordination work group – discussed during the water clarity working group
- e) Co-chair update (Bob)
 - i) Coming up on 2 years at Pat Manley as co-chair. Looking for an interest in co-chair starting discussion in September. Reach out to Bob.
 - ii) Pat encourages folks to fill this particular role, opportunity to actualize the goals of this group.
- f) New membership
 - i) PSW – USFS – Natalie Van Doren, research social scientist/urban forester works with interface of community. Will bring a new expertise to the Council. Will meet her in September, but is available for contribution between now and then. Based in the bay area.
 - (1) Tamara says DRI is hiring a landscape architect with an emphasis on tree canopy/shade equity in Las Vegas, would be good to connect.
- g) NALMS update – we have several different sessions planned: Upland, Lake/Aquatic, TEON,
 - i) Lake Sessions: working through the different abstracts, slotting different people in with organizers
 - ii) Do not have a populated Upland session yet, if you have an abstract to submit for that, we could fill.

- iii) November 4 meeting in South Lake Tahoe.
- h) MtnCLIM meeting: Abstract deadline extended to July 29
 - i) We have a TEON abstract submitted
- i) Conflict of Interest (Pat) – found 4 good resources (Brown, Stanford, Ecological Society of America, and University of Texas) need a few people to help draft something for the group to review. Other resources may want to consider. Provide a lot of opportunities for structure, complexities, or policy/implementation. Will not take a lot of time.
- j) State of the Basin report: Jim Lawrence and a subset with other people. Still in the dark about it. Steve and Pat met with Jim and Sudeep, targeted documents have been sent out and reviewed. It is mostly a review document at this point. An early draft with no deadline associated with it.
 - i) Sudeep suggested it would be released by the Summit. But cannot happen until it has been reviewed. There will be nothing released for the Summit as far as Bob knows. (John)
 - ii) Because it is draft, it is an opportunity to check-in as a Council before a report is released. Make sure that the breadth of expertise is represented in it.
 - iii) Plan to add to agenda for September
- 3) 2024 Tahoe Summit
 - a) August 14 at Round Hill Pines, program begins at 10am, doors at 9am
 - b) Good opportunity to network with colleagues
 - c) Registration: <https://takecaretahoe.org/events/2024-lake-tahoe-summit/>
 - d) Booths are available, we have discussed materials for distribution, although motivation is limited. QR code or pamphlet, etc. something that promotes or gives visibility to the Council.
 - i) Important to improve visibility of Council, we had a storymap last year. If there's something we can highlight.
 - ii) Good draft of the S2A ready to highlight in September
 - iii) How do we better communicate the work of the Council? How do we package it up to share with managers?
 - iv) Sticker for the Council that can go to UC Davis, UNR, and DRI booths. PSW doesn't get it's own booth, USFS has their own. PSW gets a portion of the table and turn it into a space where the Council can be highlighted.
 - v) Consider a tabletop display for the Council in the future.
 - vi) Willing and able to promote TSAC at NDEP
 - vii) DRI could help with a sticker graphic with a number of rounds of edits is not unlimited (Tamara)
 - viii) Planning to release State of the Lake of August 8
- 4) Peer Review
 - a) Memo sent around by Adrian and Bob for formal peer review. Adrian needs to announce something today. Just saying that looking for help (solicitation of name) and people want to take a more active role from a Council perspective for peer-review. There is a broad review needed for TRPA thresholds in the near-term. Reach out to Adrian (cc Bob and John).
 - i) There is a near term need for thresholds, Adrian is doing that but would like to have a request for a second person. Due by mid-September.
 - ii) Adrian is limited by the people he knows. Create a systematic way of tracking people for reviewers. Get people (a suite of potential reviewers) on the google sheet: [this spreadsheet](#)
 - iii) People were previously paid for their time, an honorarium. We value their time, another perspective of how we do this. Bob can route compensation through TRPA.
 - iv) Can be a self-nomination process as well. Put something on the website and people can reach out if they are interested.
- 5) Council Operational Approach (see text below/end of notes)
 - a) Leveraging both internal and external expertise

- b) There is some structure that's an example of the things the Council is doing. Had some examples shared during this meeting. We should look at those item and different classes of activities.
- c) Reviewed: different characteristics of the Council activities. Are there any activities missing that are happening now or activities that you would like to be on the list?
- d) Consultation is a broader term that can be on demand, short-term engagement, a bit more forward. Something to consider rather than "straight-forward questions".
- e) Missing emerging issues, rapid response, need for synthesis of knowledge, information gaps, what is needed to address gaps.
- f) Data management interaction with agency, a generic area that is separate from what is listed.
- g) Efficient way for managers to engage with scientists what forums can this happen
 - i) Support for ongoing subject working groups
 - (1) Harder time getting engagement in upland quality side
 - (2) How do we build greater support outside of the aquatic
 - (a) Build council support on the recreation side and a lot of emerging discussion
 - (3) What is the limiting factor for working groups?
 - (a) A lot of politics, limitation of time
 - (i) LTBMU doesn't need TSAC
 - (ii) Uplands is very broad
 - (b) Lake clarity and TMDL are a nexus for aquatic
 - (c) A specific topic, might unite the two
 - (i) Fire – TFFT
 - 1. Might be too broad, consider splitting to WUI, prescribed fire, wildland fire
 - (ii) Biodiversity
 - (iii) Look for other specific topics
 - (d) Linking the working group topics, which need to be focused fairly tightly, to management needs is a really important component of their engagement -- even if clarifying the management relevance is an important part of the objective.
 - (e) Nothing about putting Council members on specific groups, make sure we are not overlapping with groups. "Embed" Council members into the EIP work group.
 - (f) How do we advance this conversation?
 - (i) Time component to organize these groups, thoughtful of who is leading group and why? Monetary aspect, part of groups for free?
 - (ii) How much presence do TSAC members want to be at these EIP working groups?
 - (iii) Understand issues and populating working group accordingly should be higher priority.
 - (iv) Joining the meetings have provided a lot of insight, make research contribution and where it will make the biggest difference, bring the information to form working group to address issues of the day.
 - (v) Has been more effective with the Council led groups rather than the manager led group. Consider leveraging the manager groups and parse out a science group.
 - (vi) Identify a council member who the working group could "report to" and that Council member can make sure to bring in information to TSAC.
 - (vii) Ramon has met with a couple of different groups (urban storm water group and NAWG) and agency representatives are also attend TSAC meetings. I think there are some agency representatives that are in multiple groups. I think is important for these groups to reach out on a more frequent basis so we are aware of issues and potentially provide science support.

- (g) What are the next steps?
 - (i) Identify a list of the missing pieces
 - (ii) Working groups would be a mechanism for accomplishing many of these. Identify high priority monitoring needs. Not outside of these core functions, it is a mechanism to accomplish with these functions.
 - (iii) Check in with all these groups, these are the two priority working groups to discuss with other working groups.
 - (iv) Continued interest on this. Microplastics and water quality are good examples. What are the next strategic groups to form (discussion with managers needed).
- 6) Council Member Round Robin
 - a) Encourage everyone to populate peer-review spreadsheet with names. This is an opportunity to provide support to TRPA thresholds. What the TRPA has done with the existing structure.
 - b) Low level detection (barely above reporting limit) on backwater areas (where Griff Creek comes into Tahoe) of Nevada Beach. No detection of samples collected. Follow-up samples at El Dorado and Nevada Beach. Environmental Health and Hazard Assessment, discussing with dog owner. Pretty rigorous process to use that information of what contributed to the dog death.
 - i) A HAB Advisory watch has been issued and signage has been posted at the backwater. The fence has been rebuilt.
 - c) Get together one meeting a year, one in-person push. Maybe in September or more likely November? Follow-up on that to come.

Next Meeting: September 19, 2024

Council Operational Approach

Resource management agencies and other stakeholders regularly engaged the Tahoe Science Advisory Council to review existing research and monitoring, summarize the state of the knowledge of various topics, and recommend future work. Depending on the request and available resources, the Council has responded in several different ways.

- Straight-forward questions – When agency staff reach out with a general question, the Program Officer will connect staff with a Council member with relevant expertise. Email exchange may lead to a meeting with Council members and staff to discuss the issue. Engaged Council members may solicit input from others within their network.

Example: California Tahoe Conservancy staff received a proposal about using bees as bioindicators of restoration success. Dr. Pat Manley and two other scientists reviewed the proposal, met with agency staff, and provided feedback on both the proposal and the overall concept of pollinators as indicators of system change.

- Formal Peer Review – Agency staff occasionally ask the Council to review reports or other material. These requests are supported by a “peer review charge” document that outlines the documents for review and specific questions. Such requests are generally managed by the Council’s peer review committee chair (Dr. Adrian Harpold). In coordination with the Program Officer, Dr. Harpold identifies reviewers and coordinates the review. The cost of these reviews is supported by either Council operational funds or provided by the requesting agency.

Example: The Tahoe Regional Planning Agency and Lahontan Water Board requested peer review of the periphyton monitoring program and associated results. Council members were offered the opportunity to suggest reviewers, and three external experts were selected. The group reviewed the material and provided written responses to the questions posed in the review charge. Individual reviews were summarized in a memorandum that was circulated to the Council and shared with the requesting agencies.

- State of the Knowledge – Agencies can provide resources directly to the Council to summarize existing information and/or available data. Commonly, this work involves literature review, critical evaluation of recent studies, and program synthesis. These projects may also entail data analyses to inform current system understanding. Council work groups generally lead these efforts, coordinating expectations and findings with agency staff. These projects are also commonly supported by external experts that review available information and provide fresh perspectives.

Example: The Lahontan Water Board via TRPA contracted with the Council to conduct a series of tasks related to Lake Tahoe's pelagic monitoring program, clarity, and nearshore conditions. The Water Quality work group has led the conversation with Lahontan and other partners, developing summaries and coordinating relevant scientists to review the work group's findings and provide recommendations.

- New research and monitoring – When funds are available, the Council coordinates with agency staff and management to identify priorities and draft requests for proposals (RFPs) to invest available resources on shared priorities.

Example: The Council was awarded funding through the Southern Nevada Public Lands Management Act to support priority "science to action" projects. Council members, agency staff, and stakeholders worked together to define general areas of interest and develop a collaborative proposal review process.