

TAHOE SCIENCE ADVISORY COUNCIL

AGENDA | May 2024 COUNCIL MEETING

Date: Thursday May 16, 2024

Time: 10:00 AM – 12:00 PM

Location: [Zoom](#)

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

Attendees: Sudeep Chandra (UNR), Adrian Harpold (UNR), Alex Forrest (UCD), Steve Sadro (UCD), Monica Arienzo (DRI), Max Moritz (UCSB/DANR), John Melack (UCSB), Pat Manley (PSW), Ramon Naranjo (USGS), Joe Domagalski (USGS), Jason Kuchnicki (NDEP), Ashley Conrad-Saydah (CNRA), Mary Fiore-Wagner (Lahontan), Melissa Thaw (Lahontan), Dan Segan (TRPA), Laura Patten (KTB), Caitlin Meyer (Tahoe Fund), Anna Higgins, Charles Donohue, Joesph Stewart (UCD), Jim, Alan Heyvaert (DRI), Phoebe Song (EPA), Randy Striplin, Jason Kuchnicki, Jonathan Long (USFS)

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

Next Meeting: Proposed – July 18, 2024

- 1) Welcome and Agenda Review (Manley)
- 2) Updates
 - a) Budget/operations (Larsen)
 - i) Nothing new to report. SNPLMA and Lahontan contract are two main sources of funding. Operational funding from CNRA just ended yesterday, working on getting new contract in place. Leverage those resources to get Council members and other involved in working groups.
 - ii) News on California's shortfall, any affect on TSAC? (Melack)
 - iii) Fortunately dedicated revenue source which can't be used for any other purpose, would need to be revised for changes.
 - iv) Conrad-Saydah is expecting an updated from CNRA and will pass that along.
 - v) Dual funding from Nevada? (Manley)
 - vi) Update from Donohue, encouraging directors office for how to use the fund, nothing about whether or not the Council will receive those funds. Encourages Kuchnicki to continue to advocate.
 - vii) Bill introduced by PK O'Neill based on what the legislature approve for next fiscal year. No one has said we can't ask for enhancements.
 - b) New Council member from PSW status update
 - i) Manley is talking with an urban forester and an economist that are both possibilities, expecting a response in the next week or two. Will introduce them ahead of the next meeting.
 - c) Plastics work group (Larsen)
 - i) Finalizing draft white paper
 - ii) Sent out a survey to find out more priorities to be integrated into white paper.
 - iii) Monica will present to TRPA governing board discuss research and answer questions.
 - iv) Like typical working group: summary of knowledge and then where we need to go. Human health/Drinking water. (Chandra)
 - v) It's been a good process. (Thaw)
 - d) Water quality work group (Melack)
 - i) Two contracts from Lahontan to review monitoring program and clarity analysis
 - ii) Monitoring review
 - (1) 5 external reviewers to analyze the programs provided from working group
 - (2) Heard back from Vincent Warwick, still waiting from University of Georgia, Joe Domalgalski (USFS)
 - (3) These reports are helpful and will be synthesized in a report by the working group members,

expecting to get that to the Council in a month. Getting to Lahontan by the beginning of July.
(ACTION)

- iii) Clarity
 - (1) Do some more in depth statistical analysis, now work orders with Adrienne Smits and Ramon Naranjo for well defined statistical analyses.
 - (2) Initial nearshore program review, draft due in September. More on their plate to move forward. Double check due date offline (ACTION)
 - iv) Desire for other working groups: Biodiversity, Social/Cultural/Economical, Litter,
 - (1) Identify where it makes sense for the Council to plug in
 - v) Looking for continued participation and engagement in AIS, perhaps it's an adaptation of the New Zealand Mudsail group (Segan)
Echo Dan's comment that more engagement on AIS by the Council would be valuable and welcome (Patten)
 - (1) Looking at the group doing the Tahoe Keys analysis, looking for peer-review
 - (2) What did the test find? Where do we go from here?
 - (3) Herbicide use was not aligned with Lahontan's protocol...
 - vi) Threshold analysis/assessment every 4 years, interest in review of that work.
- 3) NALMS Conference
- a) 3 special sessions: 2 sponsored related to upland ecosystem conditions and lake conditions. John Melack and Alex Forrest have sponsored the lake session. Reached out to folks to solicit contribution. Upland session is complimentary. TEON session as well. Deadline for abstracts was May 3.
 - i) Alex has several students submit who were unable to see the special sessions. Feedback for NALMS and following up with the organizing committee to see things get put where they are intended.
 - ii) Just trying to correspond with organizers specifically, they seem very amenable to adding people even now. If people didn't get abstracts in they probably still can (Sadro)
 - iii) Alex will reach out to organizers and cc Manley, Melack, and Sadro to see about process for getting abstract accepted.
- 4) SNPLMA Project Updates: Council was awarded a large BML grant through USGS, went through a process of selecting projects, status updates from PI. Many projects will be completed this year.
- a) TEON (Chandra/Manley) – Tahoe Environmental Observatory Network
 - i) Both through the TIE committee working group
 - ii) Funded in two parts: One is to evaluate and scope an observatory network for the entire basin both terrestrial and aquatic about a year in that process. Extensive data collect (basin-wide) v. Intensive (sentinel watershed).
 - (1) External: address areas of higher level of uncertainties, recommendations for metrics to be incorporated over time.
 - (2) Monitor conditions over time, looking at drivers and linkages in the basin overtime
 - (3) Dive a little more in the data collection efforts, targeting historical sites to see magnitude of changes over the last few decades, what is and isn't changing, insight for what we expect to see over the next few decades. Sample size required to detect those. Refine design criteria, based on empirical data.
 - iii) Extensive data collection, using a nested design to maximize detection looking at a range of species from chipmunks to mountain lions.
 - iv) There's a whole range of things that are not field-based
 - v) Sentinel Watersheds
 - (1) Try to get high frequency measurements on environmental change related to climate/weather, land-based soils.
 - (2) Activities within streams
 - (3) A plan of what it would be like to have a network of instruments that gets data back to the

managers, some sensors are already in streams in East shore and West shore. Make sure it is open data. Permitting is almost complete. A test of atmospheric sensors that will be launched in Incline today. Many things will be installed by early summer. Thinking about how to visualize data.

- vi) Process for appropriations, put some of the network through NOAA in order to putting in more stream sites, additional sensors of weather, climate, and snow, and sensors in the nearshore of the lake, leveraging efforts between UNR and DRI. Thank you to the managers who helped push through to get half a million dollars for this effort.
 - vii) Provide a list of sites and the measurements being proposed, this would be helpful for the Council, just a short memo from Sudeep so we can understand what's really going on (Melack)
 - viii) Monitoring plants, moisture, transpiration, etc. Is that being monitored in some specific way? Drought being monitored? (Moritz) Scott Allen will be reaching out to Max.
 - ix) Thaw and Arienzo are interested in getting put on the mailing list for the newsletter.
 - b) Aquatic Particles affecting clarity
 - i) One of the two lake projects moving forward.
 - ii) Heyvaert: Tahoe Aquatic Particles Project with DRI, USGS, UNR, and TRCD
 - (1) Use SEM-EDS methods, automated scanning electron microscopy with energy dispersive spectroscopy to characterize particles in the lake and the dominant sources contributing to the lake. Started Summer 2023 taking samples from lake, streams, and urban runoff.
 - (2) Limitation is that the concentration needs to be really low. Higher concentrations you have to dilute samples. All urban runoff samples much be diluted.
 - (3) Using this technique to count particles.
 - (4) Collecting samples from all 7 of LTIMP streams. Volume weighted samples.
 - (5) 600 particles/sample. Morphology.
 - (6) Compositional data for elements.
 - (7) Relative concentration of elements? Yes. Diatoms are mostly Cyclotella? Yes, but some other larger ones but not as many that affect clarity.
 - (8) It would be great to continue in the WQ subgroup (Segan)
 - c) Zooplankton
 - i) Composition, Migration, and Influence on Plankton Particle Size
 - ii) Collected samples in 10 sites, different integrals, capture different seasons, etc.
 - iii) Spatial variation in Secchi measurements
 - iv) Zooplankton breakdown by sites
 - v) 16 species of rotifers identified (3 months of work)
 - d) State of the Basin
- 5) Tracking Priority Hardwood Stands in the Tahoe Basin (Long/Stewart)
- a) USFS MARS = Mapping and Remote Sensing
 - b) EVEG/FVEG is the main Forest Service vegetation mapping project.
 - c) how does the differences in the time period of those survey play into the performance differences? (Naranjo)
 - d) The MOG data could be very useful when the new old growth rule is adopted
 - e) Lots of aspen in Nevada, we have been in touch with Kellen Nelson who led this report on white satin moth for NV state lands: lands.nv.gov/uploads/documents/Nelson_et_al._2021_Aspen_defoliation_by_white_satin_moth_across_the_Carson_Range_NV_-_Final_Report_.pdf
- 6) Council Member Round Robin
- a) Few papers submitted (Sadro) 1) an outcome from GLEON working group, wildfire smoke impacts on lake ecosystems, has a 3-year spatial analysis looking at characterizing the number of lake-day of exposure to smoke, 2) Data paper in Nature, characterizes smoke impacts on lake metabolism, looking at different sites in California including Clear Lake and other small mountain lakes, empirical paper that quantifies a range variations of smoke impacts of respiration in lakes.
 - b) Manley: Administrative piece of news from Tahoe Science Conference speaker Valerie Hipkin, now the

director the PSW-USFS and Northern area, so there may be a Pacific Station. Starting July 1.

- c) Conrad-Saydah: Palisades meeting... UCD working with Newsom's office to take him and other interested parties out on the boat and then back to Palisades.
- d) 2024 Mountain Climate Conference will be out west, at Granlibakken Tahoe on September 16-19
- e) TERC Circ happening in June, looking to have someone from the Council or TRPA
- f) Still waiting for more information regarding the Federal Summit. Would be great to have some sort of information 2-pager. Summarizing what we have been up to and what's up ahead.