



Wetlands Regional Monitoring Program Technical Advisory Committee Meeting Friday December 06, 2024, 9:00 - 11:00

Attending: Alex Braud, Alex Thomsen, Alison Weber-Stover, April Robinson, Aviva Rossi, Christina Toms, Cristina Grosso, Donna Ball, Erica Johnson, Jemma Williams, Jeremy Lowe, Josh Collins, John Callaway, Julian Wood, Julie Beagle, Julie Gonzalez, Laura Feinstein, Lisa Beers, Mike Vasey, Pete Kauhanen, Sasha Harris-Lovett, Susan De La Cruz, Stuart Siegel, Tony Hale, Valary Bloom, Viktoria Kuehn (BCDC), Zooley Diggory, Sarah Lowe, Sarah Pearce

NOTES:

[Meeting Slides](#), [CRAM slides](#), [Video](#), [Chat](#), [Agenda](#)

Agenda

1) Welcome & Once-Around

All TAC members

Brief (1-2 min) updates on relevant items (related efforts, proposals, etc.)

- CToms: [Pumpkin Bread](#) recipe!
 - CT note: I used half whole wheat flour, half regular flour, and for the sugar only used 1 cup white sugar + half a cup light brown sugar. It's SO GOOD!
- Donna - Levi Lewis is giving a talk on Fish in the Bay next week as part of South Bay Salt Pond Speaker Series. He will tell a bit about how that work ties into WRMP.
 - <https://www.southbayrestoration.org/event/lunch-and-learn-fish-and-fish-habitats-south-bay-wetlands-levi-lewis-uc-davis-og-fish-lab>
- Jeremy Lowe: Living Shorelines Presentation/Discussion
 - The second meeting of the Living Shorelines Collaborative continues the conversation about advancing living shorelines and nature-based solutions in San Francisco Bay.
[REGISTER HERE](#)
Date: Thursday, December 12, 2024,
Time: 10:00 AM – 12:00 PM PST
Location: Virtual
Agenda:
 1. **Welcome**
 2. Presentation and discussion about stages of design
 3. **Community Presentations**
 - a. Adaptive Management at Sears Point Ecotone Levee (Stuart Siegel)
 - b. Proposed Oakland Estuary Park Shoreline Enhancement Project (Christine Reed, City of Oakland)
 4. **Idea and Knowledge Exchange** -Concrete debris removal and reuse

- Jeremy Involved. Stuart S. also.
 - Estuarine park in Alameda. Sears Point
 - Design Stages, translating science into projects, where the science fits in.
- Jemma Williams: offering Project Tracker/EcoAtlas office hours every other Tuesday from 9:30-10:30am. Next one is Dec 10 (and will be covered by SFEI) and here's the zoom link for the series: <https://us06web.zoom.us/j/82182484055?pwd=NpQMzCvJlYjU41RHvm88SBZF2Mh8aD.1>. Open to anyone who has questions or needs help updating projects/navigating the tool. Thanks!
- Julie Beagle: RSAP got approved by the BCDC Commission last night (it was a LONG meeting). Lots of interest/public comment on NBS, restoration, habitat goals.
- Wetlands For Climate Partnership Coastal and Deltaic Wetlands Bay Area Workshop
 - Jeremy/Aviva/Stuart/Lydia/Ellen - Meeting yesterday to discuss strategies for accelerating the pace and scale of wetland restoration, and reduce factors that slow projects.
 - Talked permitting/funding, but interesting govt discussions
 - Conflicting priorities is an issue, so telling a good why story really matters
 - Get the attention of jurisdictions and funders and legislators
 - Importance of incorporating infrastructure (Caltrans, railroads, utilities)
 - Case studies: Safer Bay Project, Oro Loma First Mile
 - From chat: Josh Collins - Sounds like all the reasons for the WRMP are real and more broadly recognized and we're getting closer to meeting them.
 - Aviva - railroads are hard to get to the table; challenges around monitoring can come from logistics of getting a group of people together long enough to do the monitoring; interesting in getting seed funding to do monitoring to potentially avoid this
 - Stuart - Adaptive management feedback loop, how to feed lessons learned back into the permitting and monitoring process. Julian Meiser and Stuart emphasized land management. That is an unsexy part that doesn't get funded well. Even the land trust isn't in the business of long term management.
 - ****Action Item**** - When the organizers share the notes, circulate to the TAC.

2) WRMP Implementation Updates

Donna Ball (SFEI) and Christina Toms (RWQCB)

- 2025 LiDAR Update and Wetland Management Units workshop (Pete K. and Alex B.) -
 - NOAA geospatial services - trying to contract with them - high density pulses (12/m²) option to collect at below sea level; we have the funds to get that - there's another option that's lower with additional accuracy requirements and some other classes - it's a higher cost and likely better overall, but it may not be

what the WRMP needs; trying to see if there's a way to get additional funding to get the higher level LiDAR

- From chat - Stuart - For 2025 LiDAR - Sonoma LT, SFEI and I have been checking in about potential to have the broader effort include Sears Pt at the specs it needs. If aligned, have funds to contribute.
- Wetland Management Units (WMU) - Alex Braud (SFEI)
 - Alex B. Suisun subregion meeting this week.
 - Working to define WMU as an intermediate scale unit. Smaller than OLU, but larger than individual hydrologic units/marshes. Better for reporting out.
 - Once a draft is assembled it will be shared with the larger group.
 - Using a new online geospatial collaborative tool called Felt - it's kinda like Google Docs for maps
 - San Pablo Bay subregion meeting is coming up in two weeks.
 - From chat: Josh Collins - Original goals project subdivided region into marsh planning units or districts that might be informative. Recommendations were made for each unit.
 - CT followed up with Josh: Baylands Goals project subregions were similar to OLUs - what we're developing will nest hierarchically into OLUs]
- Tidal Marsh Extent Memo - April Robinson (SFEI)
 - This memo describes our estimate for the amount of tidal marsh as of 2020, based on the Baylands Habitat Map (BHM) and Project Tracker. Nearly done, just sorting out how muted tidal should be counted.
 - We estimate 54,600 acres (+/- muted sites)
 - Does NOT include in planned restoration or restoration that has occurred since 2020 (~4500 acres); also doesn't include Browns and Winter Islands (but will be amended in future updates)
 - Writing a short report sharing numbers and process
 - Will support comparison with past numbers.
 - This is setting up how future updates will come, so April wants input this month
 - January - plan to release
 - Also January - releasing Project Tracker Report of existing restoration projects
 - CToms - Acreage of tidal marsh that is recovering due to accidental levees was pretty high (maybe over 3k acres!). Not insubstantial amount of evolving wetland footprint
 - Getting to Jeremy's point of storytelling - this is one of the key stories the WRMP needs to tell.
 - How much has been restored, its distribution, how it's doing, how it compares to goals
 - From chat: Julian Wood - April, what was your cutoff for whether a marsh is muted or not?

- Alex - Muted marsh was a late addition to the classification that was made based on some expert review and data interpretation. We hope to improve this class with more review and data in the future
 - April - We're mostly using the BHM classification for muted vs tidal, but want to double check the sites where the project tracker classification (muted v tidal) is different from BHM. Just a few sites.
- Invasive Spartina/WRMP Mutual Communication and Data Sharing - Erica Johnson (SCC)
 - Intro to invasive Spartina (*S. alterniflora*) issue and history of the program
 - When an invasive plant is ID'd, they treat
 - Monitoring rails (with Point Blue) to assess impact of program on rails
 - Revegetation programs to help recovery after Invasive Removal
 - Invasive Spartina - hybridizes with native *S. foliosa*, and the invasive hybrids spread FAST.
 - Native Spartina lives in low marsh
 - Invasive Spartina colonizes from roughly MLLW into high marsh
 - Spreads via tides/currents, not only adjacent areas but also outside bay
 - Made a LOT of progress to date
 - 2005->2024, most cover of invasive Spartina is now zero detection, and under one acre. Very little land with 1+ acre areas. 97% reduction in cover. Eradication is goal
 - Today - want to ask all of us to let them know of upcoming projects that might be reconnecting to Bay. Even let them know if it's in the planning phase. Opening connections by tidal gates counts. Still years of work ahead, and any new connections to Bay adds to the acreage of what needs to be monitored for Invasive Spartina.
 - Erica will follow up with a memo and contact info (program is co-managed with Marilyn Latta)
 - New website - Spartina.org, contains additional project info, how to contact us, annual treatment reports, etc.
 - From chat: Valary Bloom - Will follow up with you, Erica. The BRRIT is meeting with quite a few projects that are planning breaches as part of tidal marsh restoration projects over next 5 yrs.
 - Erica - Thank you, Valary! That info would be of great help to us for planning the next few years.
 - Jemma - are you consulting with EcoAtlas/Project Tracker for habitat etc
 - Erica - we need staff in the field for genetic testing/sampling, so haven't really been able to use those data sets. But we have had conversations and information sharing. Particularly around LiDAR.
 - Jemma - but for knowing about which projects are coming online
 - Erica - yes
- Field Work Update
 - Site access with landowners - working on that right now
 - Working on North Bay

- Meeting with Subcontractors (NERR, OSU, USGS) laying out transects, field calendar, tides, access
- Bird Workgroup Update (Aviva Rossi)
 - Subcommittee of this TAC - enthusiastic participation - held the kickoff meeting, reviewed charter and timelines, workshopped ideas on monitoring questions and indicators/metrics; currently rewording based on feedback and will share out; It's happening!!!
 - Donna - once we have the lists of monitoring questions, indicators, and metrics, we will share them with the TAC for review
- TAC Meeting 2025 - Dates Scheduled
 - Shared slide of dates

3) CRAM 2024 Results

Sarah Pearce (SFEI)

Review

- Existing Data Review
 - All existing CRAM Data from ECram database - 183 Assessment areas (2007-2022).
 - Collected for a variety of reasons and site types
 - 39 Assessments in WRMP sites - in 21 unique WRMP sites
 - When interpreting - none of it was collected with intent of characterizing full marsh site within with the AA exists
- Questions:
 - What is the overall marsh condition across the entire Bay
 - Majority of sites are Fair or Good across Bay
 - WRMP sites - similar stories, but less data
 - Benchmark/Reference/Project
 - No real differences (with existing data) between non-WRMP and WRMP sites
 - Spatially (5 subembayments)
 - Fair to Good signature, but variability in subembayments
 - Central Bay is more Fair
 - Using only existing data gives an incomplete/skewed picture due to spatial data gaps - this picture is even less complete when considering only WRMP sites
 - So, thinking about data gaps
 - Spatial: Only 21 out of a potential 85 Priority WRMP Network sites had ANY CRAM data
 - WRMP sites usually had only 1-2 assessment areas (AAs), so the sites are not fully characterized
 - Temporal: Some years have a lot of data - some have none.
- This year's CRAM sampling:
 - Things CRAM is good at addressing, to drive data collection:
 - Conducting a regional baseline survey of condition
 - Repeated surveys to detect change

- 15 Field Days
 - Goal: Obtain additional spatial coverage in WRMP sites
 - Asked to go to 21 Project and Reference sites where no CRAM data existed
 - This resulted in a 50% increase in WRMP sites reflected in the CRAM database
- Results
 - 18 sites visited with 33 AAs
 - 3 sites required boat access and will be sampled at a later date
 - Got good spatial coverage across the Bay
 - Great opportunity to get WRMP and other staff into the field to learn method and just get into the field
 - Celebrated getting more points in the marsh
 - Discussed the cumulative distribution function (CDF) - the CDF for this round of data collection was statistically similar to the CDF for all CRAM sites so far
 - Project sites - 25% percentile and lower
 - Reference sites - most above the 50% percentile
 - What's up with San Pablo Creek Marsh (Benchmark Site) and McInnis Marsh (Reference Site) - why are their CRAM scores so low?
 - The results are limited by what we can access by foot - important to remember that a marsh as a whole could have good condition but it varies by where you are in the marsh
 - We now have 72 CRAM AAs at 39 unique sites; saw 10 different restoration sites; lots of appreciation of the sites through photos
- Thinking about the future - how can we use CRAM?
 - All funding dependent
 - Look at baseline assessment of condition of all WRMP sites
 - Habitat development curves (HDC) - track change in project sites over time and compare to reference sites
 - Can use CRAM as a screening for future more detailed studies
 - Would be ideal to develop an updated CDF for the WRMP
 - Use CRAM as a long term tracking tool
- Q&A
- CToms - a bow on the 2024 season!!
- From chat:
 - a lot of appreciation
 - Valary Bloom - Seems like focusing on data gaps would be wise. More CRAM assessments would be so great!
 - Julie Gonzalez - Have you looked into the poor and fair projects in SF Bay, and have you noticed any general trends in what factors are contributing to that lower score (or which CRAM category)? Probably need more data to tease this out but just curious

- SarahP - they all were in the fair condition and it's part of the reporting that we'll do; we'll be diving down into the details in the report - 4 attributes - but off the cuff: most sites are relatively simple, haven't had the years of tides to be shaped and are still developing complexity in the vegetation
 - Julie Beagle - I loved what Sarah was saying about emergent vegetation and tracking newer restoration projects. I guess similar to what you all are saying.
 - Tony - My theory is that the 2024 tsunami utterly destroyed California, and we are all now in heaven. I base this judgment on seeing the Sarahs' wonderful presentation.
- EPA has more funding for additional CRAM
- CToms
 - Temperature check on 2025 priorities
 - Zooey: Plug for some sort of project specific CRAM surveys, pre-project CRAM data in place, so as projects are undertaken, project proponents can fund repeat surveys. Big value for WRMP process is knowing how a single site evolves compared to a lot of other sites.
 - Jeremy : extend the spatial coverage. One of the easiest ways to get regional views of the marshes. Good to hear from Sarah's on how often these places should be revisited. His vote is more sites.
 - Sarah - return to project sites more frequently as they mature, but 5-10 years for stable existing sites. Or more frequently if there is a trigger for change, like a huge storm.
 - Julian - do more work in site selection - work previously has been done for different reasons; make sure that there's no bias happening in site selection and within the site - are our subsamples representative? Also make more connections with the Vegetation SOP
 - Sarah P - gets into Sarah L's expertise - two components to this characterization
 - Another consideration is getting better representation within each site and also across each region
 - CToms - to be opportunistic with CRAM - take advantage of when boats are in use and add CRAM onto other WRMP field work;
 - Donna - CRAM are in Veg SOP - part of the reason why we focused on WRMP benchmark and project sites so that we can align with other WRMP goals and data
 - Stuart - We get the restoring sites. How are these going to be looked at?
 - The NERR is doing a massive amount of monitoring at Sears Point, but maybe this isn't a great place for the WRMP to monitor because we can share our data.
 - Lots of restoring sites are still accreting mudflat - if you're looking where things are happening, does that create a sampling bias?

- Master's thesis finalized next week on the levee repair at Sears Point
- Sarah L - rationale for repeating assessment
- Donna - State Coastal Conservancy/SF Bay Restoration Authority requiring CRAM for their funded projects
- Julian - is there a CRAM for mudflats? Don't want to discriminate against this :)
 - SarahP - there are different CRAM modules and we used the vegetated estuarine wetlands
 - CToms - raises an interesting question - should there be a CRAM for mudflats? Can we better articulate the benefits and ecosystem services before they turn into tidal marshes?
 - Lots of chat love for mudflats

4) Representation in Wetland Decision-Making Survey

Alex Thomsen and Sasha Harris-Lovett (SFEP)

- Review of the Representation in Decision making survey questions, purpose and who was involved
- The survey has been approved by the state, meets all requirements
- Aggregated results will be shared
- Many people will receive the survey; some may receive it multiple times - please only fill it out once
- Survey link: <https://www.surveymonkey.com/r/THPG7GP> for all TAC members, alternates, and leadership. Survey was taken by TAC member during meeting; WRMP staff not taking this right now (we'll get looped in later).
- CToms - a lot of effort has gone into the careful development of this survey; appreciate SFEP
- Suggestions from participants
 - Julie Gonzalez - is there a way for the survey to consider the specific subregion in which you're working?
 - AlexT - no, it's at a broader scale
 - Stuart has a suggestion about 'none of the above'
 - For each entity there needs to be an additional "Other" option for people that attend and contribute to these meetings in other way
 - CToms - for example, she advises the person who sits on the BRITT (Agnes) but she doesn't attend BRRIT meetings. A LOT of us engage informally in decision making, but what Alex is looking for are the formal decision makers of these institutions.
 - This question needs to be clarified "Are you a decision maker of the following", and the question prior is "Do you participate in" - so it makes Q10 not clear who needs to go on there.
 - Change to "Only if you are a formal decision maker" can also be confusing in some circumstances"

- Whether or not you are officially a part of it (staff, committee, etc.) not just informally advise. AlexT will reword the question for clarity.
 - Stuart - that will limit your responses to just agency personnel
 - Sasha - these questions are hinting that we need a more qualitative survey about how decision making actually happens in these groups! But this study won't get at that. This is getting just at the people who are formally part of these groups.
 - Julian - seems like you want to get at what is your access to decision making and how does being a member of these groups affect that - yes? Seems like it would be interesting to get at that - are you a staff? Formally engaged in regular ongoing capacity? Versus can you influence decisions by proxy to people who do make decisions? Maybe that makes things too crazy - just trying to parse out how you could do that in a survey setting - are you just getting air time with these groups or no interface at all
 - CToms - this illustrates the gap between who's perceived as decision-makers, and who the decision-makers actually are
- From chat:
 - Laura F - thanks, all, for an informative meeting. Alex - I appreciate how thorough and carefully-thought-through these questions are. I especially appreciate the question about whether people have experienced mobility challenges - that's a big challenge in life and especially accessing outdoor spaces, and it isn't always included on these types of surveys.
 - JulianW - For Q22 I suggest including the word entities or agencies in addition to organizations. If you're also interested in "projects" like the South Bay Salt Pond Restoration Project, you might include some language to capture that.
 - Jemma - Can you help me understand #14. Do you have any specific accommodations you would like to share to improve your ability to participate in meetings or other aspects of decision-making?
 - CToms - Also to be frank it's going to take way too long for many of us to respond to a survey in which we have to describe our experience with every single group/organization in which we participate
 - Aviva - Maybe that future study can look at Influential Advisors vs. formal decision makers
 - AlexT likes this idea

5) Next Steps and Wrap Up

Christina Toms (RWQCB) and Donna Ball (SFEI)

- 2025 will be even better than 2024! Super exciting year, especially for those in WRMP
- CToms - The YEAR of DOING the Science. And it is going to be RAD
- SC Meeting: Dec 12
- Proposed 2025 TAC meeting schedule
- Time from 9-11 AM
 - Friday January 24
 - Friday March 7

- Tuesday April 29
- Tuesday June 3
- Tuesday July 15
- Friday September 5
- Friday October 17 (May shift and become joint TAC/SC meeting)
- Friday December 5