

Wetlands Regional Monitoring Program Technical Advisory Committee Meeting Tuesday June 3, 2025 9:00 - 11:00 AM

Attending: Alex Braud, Alex Thompson, Aviva Rossi, Chris Janousek, Cristina Grosso, Donna Ball, Evan Melendez, Jaime Lopez, Jemma Williams, Jeremy Lowe, Jim Hobbs, Josh Collins, Julie Gonzalez, Julian Wood, Karen Thorne, Laura Feinstein, Lisa Beers, Mike Vasey, Pete Kauhanen (at 10am),

NOTES:

Meeting Slides, Baylands Habitat Map Metric Slides, Agenda

1) Welcome & Once-Around, Donna Ball, All TAC members

- Review of meeting logistics and add photos of pets
- Review of agenda
- Donna hopes that WRMP provides multiple benefits to projects Donna and Christina Toms will be presenting a lunch a learn for SBSP project next week - June 10
 - Meeting link: <u>https://www.southbayrestoration.org/event/lunch-and-learn-science-benefits-proje</u> <u>ct-monitoring-and-decision-making-wetlands-regional</u>
 - Past Presentations: <u>https://www.southbayrestoration.org/events/past_events</u>
- Mike Vasey has gone out with Anna Deck to do the Upland Ecotone work at Rush Ranch; it's a pretty distinct area; putting out a lot of transects to get robust survey; aiming for 18 but could get 16; feels confident about the work and what will be learned over time; should complete Rush Ranch this week and completing China Camp next week
- Karen Thorne still employed; it's complicated; hoping to transfer work to UC Davis if she is let go; call your representatives and tell them that science matters; there's a DOI summary for budget - there are some widespread impacts to public lands; the intellectual knowledge that's lost by programs disappearing is staggering - no replacement, programs are just shutting down
 - From chat:

https://www.nytimes.com/2025/05/31/climate/ecosystems-mission-area-usgs-tru mp-budget.html

- Donna dismayed lamenting the loss of the next generation that are taking early retirement
- Mike V excellent young people are getting fired so loosing next generation too
- Karen just under 20 years of service so doesn't quality for early retirement; if the gov is doing its job, it's pretty invisible; people from the 60/70s remember what the environment was like before we started protecting and reversing course
- Josh vote! It takes everyone to protest and make a change; power is in our hands and we have to use it; went to a protest with ~2k people in central Oregon
 all walks of life

- Josh Collins Phyllis Faber ran a veg transect in the same place at CC for over 10 years but doesn't know where it is; veg varies yearly - soft birdsbeak was moving around; WRMP should try to track this down
- Chris Janousek Dylan Chappel might have that data, published paper from 2017;
 - Mike V CC and Muzzi Marsh data see the influence of rain on plant diversity

2) WRMP Implementation Updates, Donna Ball

- Funding Updates
 - Nothing new; still tracking the year 3 EPA funding as it works it way through EPA and DOGE
- WRMP RIF Contingency Planning
 - We're keeping in mind that this is likely to happen
 - Internally talking about losses in TAC and SC how do we deal with changes in subcontractors
 - Will keep everyone posted as we learn more
- Field Work updates
 - Tasks Complete 2024 CRAM data and summary
 - A lot of memos coming out in the next quarter
 - Planning for Summer/Fall
 - Chris and his team doing veg surveys at 18 sites across the estuary, most transects already set up
 - Mike Transition Zone monitoring underway
 - NERR pending CDFW permit to establish water quality monitoring station at Eden Landing
 - Karen and her team in the field SET-MH, and installing at 2 new sites
 - Karen we are in the process of installing SETs at Dutch Slough in conjunction with DWR by Oakley but close enough; tidal fresh
 - USGS are in the field work travel for field work can still happen
 - CRAM planning, working with Sarah Lowe, Sarah Pearce, and David Peterson to create a statistical sample draw so we can do sampling in a statistically bounded way
 - UC Davis field work ongoing collected FFH data
 - Chris hope to start up photopoint monitoring of younger restoration
 - Chris is in the field, and would like others to join him check with Lisa/Aviva for
- Products
 - 2024 CRAM Report is completed and soon to be online
 - Fieldwork User Guide
 - We need your feedback by June 13!!
 - This is a living document and will grow as the program grows;
 - Health and safety, permitting suggestions
 - Many coming up
 - BHM
 - EcoAtlas Profile

- PTTWRM write up
- LiDAR Update (Alex B.)
 - Final contracting is going on with NV5 in the Delta; very close to be collecting data this month
 - Aiming to capture the spring tides this month and next
 - Karen T RTK points one thing that she'll share is the RTK data on the SETs they're essentially benchmarks so please use them
 - Alex confirmed that he has them
 - Alex hoping to collect historical data from past RTK surveys in the Bay within the last 10 years - we're working on an email to send out to gather these data and help to correct the LiDAR
 - Karen T are you going to be doing correction for shallow water in restoring sites?
 - Alex Likely not
 - Karen T does have bathymetry data and is happy to share it and she knows that SBSP folks do too
 - Josh try to collect any type of data that you can; super excited that this work is happening and advertise this service as much as possible and the value of WRMP
 - Donna huge shout out to Alex for doing this work
 - Hopefully this is the first iteration and sets the stage for doing this going forward

3) Baylands Habitat Map Metrics, Alex Braud, SFEI

- BHM 2020 version 1.2
 - Got posted yesterday
 - Added Winters and Browns Islands at the eastern edge of the estuary
 - Added Project tracker integration existing, restored, and evolving sites also has PT identification
- BHM 2025
 - Vegetation correct DEM, change detection, Geospatial Working Group meeting on June 18 - testing using 2022 NAIP imagery
 - Shoreline changes
 - Similar to this effort, the RMP is funding shoreline change compilation -2010 to 2020 - and will be integrated into WRMP
 - Toggles between 2020 and 2022 maps seeing marsh progradation in the South Bay
 - Test to see what the change detection looks like
- LiDAR data data compiled going back as far as 2010 for the BHM 2020 map;
 - Quality level one data being collected with our LiDAR acquisition
 - Point density:
 - 2010 2 pulses/m2
 - 2021 10 pulses/m2
 - 2025 will be 12 pulses/m2
 - Josh what accounts for this increase?

- Alex Better technology, processing power
- Karen heights of plane, speed, and how much you're willing to pay for all of that; low and slow is the way to go; instruments have gotten better; this will be a profound dataset for so many uses
- Josh With this kind of density, might be able to figure out what density is needed for the purposes of measuring change; we could be measuring differences that don't matter so good to know what we need to know to detect change; more is not always better
 - Alex cites calibration and correction paper insights and statistics to use; a lot of things to think about moving forward; higher pulse density increases likelihood of hitting the ground
- Products: DEM at 0.5 m resolution, DSM and normalized DSM, intensity
- Scales of analysis
 - Based on the US Census hierarchy enables a lot of research and statistics
 - Built an indicator structure nested hierarchy Bay, subembayment, OLU, WMU, analysis units
 - Josh Analysis units who makes this decision?
 - Alex we have some documentation on this; we use a distance threshold similar to habitat patches and use different subdividers; use levees, where things get narrow; it was a spatial algorithm
 - Josh wouldn't different researchers define their AUs differently with a WMU?
 - Alex can make adjustments where needed; this is a living document but hoping that the first iteration can be attached to the first round of WRMP monitoring; we recognized that the AU was too small and OLU was too large
 - Josh looking at Karen and Mike to what area can I apply this data? How to scale from the smallest scale up to say something about the subembayment; make sure to get everyone involved to work up; easier to scale down, harder to scale up but it's super important to be able to effectively and accurately scale these data up
 - Karen feeling very empathetic is a field ecologist that got a degree in geography; agrees with Josh; show arrows in both directions in the hierarchy figure; in SFB, depends on who is wanting the data - splitting hairs, not critiquing
 - WMU used Felt to generate these collaboratively; define areas and name them; will share another version of the layer and always continue to refine; hope to have names for the AUs as well
 - Building the data to have WRMP sites built in, project boundaries (PT), and aid in analysis (like habitat patches and patch key)
 - Potential visualizations based on OLU or at subembayment scale
- BHM metrics

- Understanding of distribution and characteristics of our wetlands; understand our stressors better; look at change over time; data will be freely available; goal is to build into EcoAtlas
- Tidal Marsh Extent look at habitat classes within each Subembayment; restoration status (restored, evolving, existing)
- Elevation Capital area above/below MHW
 - Note that Tidal datum layers are old!!
 - Janousek The new NTDE will probably come out about 2027 (if NOAA survives)
 - Note that DEM for BHM 2020 was not veg corrected
 - Visual of percentage above/below MHW by years since breach can generate quick statistics
 - Josh Collins tidal datum gets updated after 1 ft of change in sea level, happens roughly every 20 years,
 - Alex There will be an update but it will be from 2001-2019; will just get the data from tide gauges so need to interpolate as well;
 - Jeremy Lowe carry on from Alex can we create our own epics for the Bay for the purposes of monitoring the wetlands - do it on a more regular basis - we have access to the same data as NOAA has so why can't we do this? We have the elevation data and the tide data - let's not be dependent on NOAA surviving to keep this going.
 - Karen T has been doing this so Jeremy thinks that we should do this as well
 - Chris we've put in WL stations and calculated datums; there is an online calculator to use in order to do this; potentially one can compute datums on a five year interval and model for the Bay
 - Josh given the tectonic activity in the Bay area, it complicates things; might help identify pressure points for restoration
 - Jeremy this is a common question at public meetings about how much SLR is happening and it's hard given the data that we have; it's not official, not used for navigation but something needs to be updated
 - Josh Collins Establishing our own "epoch" and doing our own calculation of SLR makes sense to me.
 - Chat Julie Gonzalez, SF Bay NERR We're currently developing an R script to calculate tidal datums at our own timescales of interest, if anyone is interested I can share when we're done
 - Alex agrees that we should meet to discuss how best to do this
 - Karen Thorne Chris and I have routinely published our own tidal datum calculations referencing NOAA protocols
 - Chat Chris Along the lines of the water level conversion, I think a very valuable future addition to the WRMP would be to track

water levels within benchmark site channels (beyond the new station planned for Eden Landing)

- Chat Josh I think we're onto something very important local datum calculation contributing to regional assessment based on national protocols.
- UVVR similar to percent cover; Ganju (2017, 2022, 2024) and Wasson (2019)
 - See a pattern at the subembayment scale and can drill down to the OLU scale to understand what's driving a pattern
- Patch characteristics patch size, patch compactness
- Channel length and density derived channel lines and stream order
 - Created a memo on this; differences in the DEM across the Bay don't allow for comfortably making comparisons; but we can look at certain areas within the 2020 map to show how this would work
- Typology
 - Marsh typology millennial, centennial, new tidal wetland
 - Working on classifying all wetlands and will put this out for review
 - Donna appreciates Alex and all of the thought that has gone into this
 - We are coordinating with the Bay RMP to be additive and not duplicative

4) WRMP Dashboards, Cristina Grosso, SFEI

- Now that we've seen great results and metrics, we're working on communicating these results using public tools
- SFBRA Dashboard
 - Right now it's just showing visualizations for Measure AA performance only
 - We're suggesting adding a few new tabs
 - Marsh extent, marsh patch and marsh conditions (once we have another year of CRAM data), and also P&W (once we have more data)
 - Marsh extent
 - start with introduction, scroll down and see restored and evolving tidal marsh as of 2020 - Bay wide versus SFBRA funded;
 - click on the info icon to get more information on the graphical;
 - another graphic looking at marsh restoration change over time, starting at 1980 (summarized based on PT)
 - Clear graphic with a few bullet points and the ability to get more information if wanted
 - Marsh patch
 - Similar format as above
 - Graphic of tidal marsh patch size; RA sites are a different color
 - Tidal marsh connectivity why is it important, background info,
 - This gives us the opportunity to summarize the WRMP findings to a general audience; align what's on the dashboard with what's in the annual report
 - Aviva so far SFBRA likes the graphics
 - Will be live next month
- EcoAtlas Dashboard

- EcoAtlas Profile Tool will look at a selection of metrics
- WRMP will have its own landscape profiles and will have its own web address
- There will be predefined areas like OLUs, subembayments
- OLU select one unit and you'll see 4 dropdown menus relating to the metrics that Alex discussed - tidal marsh extent, restoration status, UVVR, elevation capital - and summarizing the data for that unit
- This is a work in progress this is what we had finalized so far and will be room for expansion, adjust, add others - such as typology, PT status, patch size, and by analysis unit.
- In addition to viewing summary report online, there is a formatted report that you can export, timestamped
- Josh decision to provide the spatial template versus drawing your own polygon prefers the latter - but he appreciates the decision to give people this; worry that this gets out to enough people to celebrate this work; impressed by this work and wants it to be shared - it's easy to use and see and wants people to use it
 - Cristina could add in the area of interest option for the first phase, we wanted to guide people but can do AOI; will have a rollout plan and comms plan for these tools
- Josh Very effective comms to hold physical gatherings with wine and cheese for heads of land management departments/people who wouldn't normally mingle to highlight the work that's being done and encourage engagement; not many opportunities to engage outside of court; easier to do in Bend, OR than in SF because of so many organizations competing for attention

Chat:

Josh: Is there a plan or has it already happened: a summit of public program directors to see this great WRMP content and its graphic presentation? Does or can the RA provide that audience?

Chris: For elevation capital, I think it would also be great to show area above and below MHHW. While cutoffs are in some ways arbitrary, in much of our West Coast tidal wetlands work we've used MHHHW as a boundary between low and high elevation marshes (<u>Janousek and Folger</u> <u>2014</u>, <u>Thorne et al. 2018</u>, etc); verbally: I wonder if it's a historical rollover from the East coast and that MHHW is better for the West coast

- Alex: Easy change/addition to make; maybe just a decision of whether we want both options or select just one.
- Julian we use MHHW for birds
- Lisa B From IRWM work, we found that highest plant diversity was at MHHW
- Josh: As I recall from past SLR analyses, MHHW changes faster than MHW or MTL, affecting tidal range up-estuary in ways MHW or MTL doesn't show. should use a suite of datums;

Josh: I think something organized specifically on their behalf to make them feel special, as they are, and get them to rub elbows with each other at an "event" that celebrates the WRMP in support of their work could be politically/financially beneficial.

Laura: Josh, these type of events are part of what we call a "flagship" rollout. We haven't had one yet as part of WRMP - but it's time now

Jaime: These are great! But my comment is to the RA dashboard. I may have missed it but I'd recommend adding a bit more context in the text for marsh extent. brief explanations on what the marsh categories (evolving, existing, etc.) are, would help instead of having the public go into another link.

CR - agrees that we don't want people to go to another link

Back to live:

- Chris J: With work with Karen T in 2019: Divided marsh into water level inundation: Low mid high and transition zone z star values
- Karen depends on the audience; the rest of the country doesn't have mixed semidiurnal tides so others outside of the region need this; but it doesn't make sense within our geography; Chris developed the niche paper of where plants sit within the tidal datum - created a good framework to use and justifies using one tidal datum over another
- Josh MHHW changes faster than other datums, you get an increase in tidal ranges as you go up estuary; if you don't measure this, you don't pick up this change as fast, MLLW doesn't change as fast as MHHW;
 - Karen T agrees
 - Cristina sounds like we should add both?
- Josh is amplifying MHHW but notes that we do need the others to be more general
- Chris modify pie chart below MHW, MHW-MHHW and above MHHW; Change in diversity with elevation, if we're loosing that area above MHHW, we're declining in biodiversity in these system
- Donna hears that there's a next step about tidal datums and should get a group of people together to discuss this further; bring in others across the Bay to see how best to proceed

5) Next Steps and Wrap Up, Donna Ball

- 2025 TAC meeting schedule (9-11 AM)
 - Tuesday July 15
 - Friday September 5
 - Friday October 17
 - Friday December 5
- Steering Committee meetings: June 12 and September 18; all TAC members are invited

Donna - we're always thinking about our colleagues who are affected by the Gov changes

Meeting ends