Wetlands Regional Monitoring Program

Steering Committee Meeting Notes

December 18, 2025, 10:00 am - noon

Meeting Attachments

- September 18, 2025 Steering Committee meeting notes
- December 5, 2025 TAC meeting notes
- Amended 2025-2027 Implementation Plan

Attendees:

Steering Committee members: Jessie Olson (Save The Bay), Marco Berger (MCM), Xavier Fernandez (Water Board), Luisa Valiela (EPA), Tom Kimball (USGS), Renee Spenst (DU), Brenda Goeden (BCDC), Matt Ferner (NERR), Erica Johnson (SCC), Stacy Sherman (CDFW), Kelli McCune (SFBJV), Erika Castillo (ACMAD), Erin Chappell (CDFW), Jana Affonso (USFWS)

WRMP Staff: Sasha Harris-Lovett (SFEP), Alex Thomsen (SFEP), Aviva Rossi (SFEI), Tony Hale (SFEI), Melissa Foley (SFEI), Donna Ball (SFEI), Lisa Beers (SFEI), Cristina Grosso (SFEI)

Others: Steve Culberson (DSC), Dan Hossfeld (EPA), Lyndsey Tu (EPA), Christina Toms (Water Board), Chris Janousek (Oregon State), Laura Feinstein (SFEI), John Callaway

Approval of 9/18/25 Steering Committee Meeting Minutes

-Approved.

Program Updates

Sasha Harris-Lovett and Alex Thomsen, SF Estuary Partnership and Donna Ball, SFEI

- So many achievements over the past year!

    - New website and data portal
    - Updated indicator alignment
    - Project Tracker improvements and tidal wetland extent report
    - SFBRA dashboard
    - EcoAtlas Landscape Profile Tool
    - Launched the bird workgroup
    - Baylands Habitat Map metrics
    - Wetland decision-makers survey
    - Fieldwork guide
    - Estuary-wide low tide LiDAR
    - CRAM and SET-MH reports
    - Storymaps on wetland water quality and flood risk reduction
    - Piloted wetland education and workforce development
    - SO MUCH FIELDWORK!
- State of the Estuary Conference recap
    - Successful session with a lot of engagement
    - Baylands Habitat Map awarded "Outstanding Project Award" by Friends of the Estuary
- WRMP in the news
    - Feature in KQED in October
- Flood risk reduction StoryMap is live!
    - https://arcg.is/1vnLm50
- TAC Chair updates
    - Donna is retiring in March, and John Callaway will step into the role of TAC Co-Chair

Notes from the Field – WRMP Science in Action

Lisa Beers and Aviva Rossi, SFEI; Chris Janousek, Oregon State University

- A lot of fieldwork has happened
    - 518 vegetation plots
    - 127 feldspar accretion plots
    - 22 piezometers
    - 24 belt transects
    - 34 CRAM assessment areas
    - 1,782 marsh units
    - 120 photo points
    - 1 new water level - water quality station
    - 60 SET-MHs
    - 115 fish sampling locations
    - Over 500 Trawls
    - 2 boats
    - 6 access permits

Vegetation monitoring updates:

- Monitoring designed to address management questions 1A, 2A, 4A and a range of different monitoring questions
- Plants and algae are central to tidal wetland functioning
- Wetland plants provide a lot of ecosystem functions that lead to the ecosystem services that we value in wetlands (flood risk reduction, habitat provision, water quality improvement)
- Monitoring started in winter 2024/25
- Established permanent transects at 17 sites across the 6 monitoring site networks – aimed for a benchmark, reference, and project site within each of the networks, though they're still looking for a good project site in Suisun Bay
    - 3-4 transects per site
- Aimed to co-locate vegetation monitoring with elevation, soil salinity, groundwater levels, SETs, accretion plots
- Preliminary results:
    - >50 plant species in vegetation plots (mainly native species)
    - Total plant cover is relatively high at most sites
        - Suisun Slough had the most complex vertical canopy cover
        - Three project sites have relatively low cover (South Bay Pond R4, Dotson Family Marsh, and Mt. Eden Creek)
    - Species richness is highest in Suisun Slough, relatively low in Santa Clara Valley
    - Tallest plant canopies in the Napa Sonoma area, with a lot of cattails and tules.
    - Dry season salinities in most of SF Bay were hypersaline, Suisun Bay and Napa River tend to be mesohaline (5-30 ppt). Wildcat / Pt Pinole were hypersaline.
    - Subsurface groundwater conditions were different between the winter and summer. Will be looking at site-to-site differences. Will be interesting to track the patterns over time and relate them to vegetation communities.
- Plans for 2026:
    - Elevation patterns, including comparison with new LiDAR data
    - Multivariate species analyses
    - Relationships between vegetation communities and ecosystem drivers
- Future plans (2027+):
    - How is veg composition and diversity changing?
    - Are nonnative species becoming more or less frequent? New non-native species?
    - How is vegetation changing at project sites? What are likely causes?
    - What is the impact of extreme weather events on marsh vegetation, soil salinity, and accretion?
- Questions
    - Luisa: Are there questions we can ask about vegetation and how it correlates to fish recruitment?

        - Vegetation is at the base of the food web, and that's certainly important for fish communities and fish use.
        - Would be good to put our heads together with UC Davis team to see if there are analyses we can do to make the connection.
        - Fish move and are using the tidal channels as well as out in the Bay and Ocean, so there's a lot going on. It makes it complicated to draw clear connections between vegetation and fish.
        - Chris is really interested in carbon storage and carbon dynamics as well.
    - Luisa: Why are we having trouble having a site in Suisun?
        - It's very hard to access – very full of water, soft sediment. It's tricky to sample. It's still under consideration, but we're considering other sites in Suisun Marsh.
    - Christina: One of the primary goals of the WRMP science team in 2026 is to begin to build out the cross-indicator analyses – to look at how habitat structure (incl. channel density, marsh patch size, marsh configuration, adjacency to upland transition zones) contribute to the abundance of fish communities. We can see if we can tease out patterns of fish community distribution and abundance over time – tracking out that fish change as the wetland restoration sites themselves are changing.
        - Planning to do this work in collaboration with the IEP – working with the DSC and IEP staff doing this in Suisun.
        - We will be convening the data synthesis teams early in 2026
    - Aviva: When working with the teams doing the surveys, have been having all the data collection in the same sites or adjacent to each other so we can make those comparisons. Will be comparing site-scale data to the OLU-scale data that we're getting from the fish data.
    - John Callaway: could also do some stable isotope analysis to look at food web connections between marsh primary producers and fish
    - Jana: Christopher, can you share the data on where your team found soft birds beak? We're going to be doing a status review and that info will be very useful.
    - Christina: also want to note that the data Chris has collected at Dotson Marsh is already informing discussions of future adaptive management of that site, and may be relevant to the design and management of other restoration projects that plan to "start high" (fill to higher intertidal elevations, as opposed to most restoration projects, which start with relatively low elevations). Stay tuned!
    - Stacy: Are there any plans to assess submersed vegetation? May not be relevant in the Bay as much as Suisun.
        - it's not currently a part of our science framework, but we expect that the high-res imagery and LiDAR efforts can provide a snapshot of distribution/abundance.

- Brenda: When monitoring fish, are they released? Our fish species are not doing well right now.
    - Stacy: Using survey methods that are easier on the fish. If you want to know if the fish are in a particular site, that's tough. eRNA surveys might be better suited for that question. Need to make sure there's cross-talk between the fish folks and the eDNA folks. We have to have that kind of cross-checking.
    - Melissa: It is also difficult to get abundance information from eDNA.
    - Aviva: We can have the UC Davis crew come in to talk about the measures they take to reduce mortality. Some fish species are more sensitive than others, that is part of the permits. If there is mortality, they retain the fish for additional analyses to help with conservation.
    - Christina: I believe the impacts of sampling are covered in the FFH sampling permits. In my personal experience on the boat with Jim and his team, the fish are handled with extreme care, and are released back to the water as soon as they're counted, measured, and identified.
    - Stacy: It also won't tell you health information - we check for parasites, structural deformities, etc.

Updated Implementation Plan

Lisa Beers, SFEI

- $3.6M incremental award funds to SFEI, SFEP incremental award fund request submitted
    - Split between SFEI labor and subcontracts for monitoring
    - Will fund additional monitoring of vegetation, SETs, water quality monitoring, ecotone monitoring, fish and fish habitat, photo points, horizontal-vertical control, water surface elevation
- Questions
    - Matt: The success of this program is phenomenal so far and I'm happy to be a part of it. NERR has been measuring water surface elevation at about 18 locations around the Estuary. What is the plan for finding the contractor? He is surprised to learn about it so late in the discussion. Christina T has contacted me a couple of times, I don't want to have a dis-coordinated process.
        - Lisa: bringing it to the SC is the first step of a several month process. Next the conversation will go to the TAC, and we're happy to have the NERR as part of these conversations as well.
    - Tom Kimball: Great to see all the success. Were there things you couldn't fund or couldn't fund to the level that you wanted to? Could you speak more generally about the important work that needs to be funded?
        - Lisa: With 25 years of planning and preparation for the WRMP, there's a lot of ideas of what we'd like to monitor and how. We've identified key

priorities. This is just the beginning stages, there's definitely a lot to build on. We are covering our core monitoring goals with the current funding that we have. We have a lot more interests, especially when it comes to sediment dynamics.

- Xavier: These were the priorities that we decided on previously, and what we're doing is extending the time period for the monitoring. It would be good to remind us all of what was decided, and what our priorities are / were and how we got here. I know there are things we didn't fund, I just can't remember what it was. We haven't completed our initial priorities – I'm not saying we should revisit and go in a different direction. This funding is a continuation of the priorities we already started on.
- Donna: We do have a monitoring plan that we set up, that ties in heavily with the program plan. There's a lot in there that we're not doing yet. We identified mapping, SETs, vegetation, and CRAM as the key priorities. When we developed the plans, we had no funding, so we're really grateful that we have that opportunity.
- Christina: The WRMP science priorities are described in the 2020 Program Plan and 2023 Monitoring Plan, we're happy to refresh folks on what those are

Vote: Implementation plan is approved

Website Analytics

Tony Hale, SFEI

- WRMP website was redesigned this year
- Website analytics = measurements that are associated with website visits. Can tell who comes to the site, what they are looking at and looking for. This is one way of measuring where people are actually visiting on the website, what are we hoping they visit that they don't, and what we can adjust to make WRMP products easier to find.
- Year in review: 40,557 views, 36,830 unique users!
    - Top pages visited: Home page, Program Plan, Resources,
    - Lower level number of page visits: Science Framework, About, Staff and Leadership, Committees and Workgroups, Meetings
    - We expect that going forward, we would expect more visitors to the results, indicators, metrics, etc.
- Google is sending people to the Homepage, then next search is LiDAR, then next is Baylands Geography → starting to see more traffic being introduced to the WRMP through our indicators, topics, and metrics
- WRMP gets a lot of returning users (70%)
- People directed to our website from direct search, Google, EcoAtlas, WRMP newsletter

- See pulses of viewer traffic – driven by newsletter, social media posts, conventional media. We're starting to get more regular traffic between pulses.
- Tracking downloads off the site as well – Tidal Extent Report, Monitoring Plan, Hydrogeomorphic monitoring SOP, People and Wetland Monitoring Plan
    - Audience is fairly technical and specialized
- Data catalog analytics
    - Huge uptick in total users and views from last year (currently 1,715 total users)
- Key takeaways
    - Analytics reflect a period of high growth
    - Could consider paid promotion to drive more traffic or sustain our growth, along with consistent content curation
    - Regular analytics monitoring can help focus communication and outreach efforts

Interactive Data Discussion

Alex Thomsen, SFEP

- Focus on data display
- Definitions:
    - Static = fixed figure or table
    - Dynamic = automatically updated numbers / visuals from a database
    - Interactive = when you click on something you get additional information, or you can filter to results of interest
- Current types of information displayed
    - Single-metric static summaries
    - Monitoring survey summaries that covers a set time period
    - Tailored summaries for a specific audience; showing a subset of the regional data
    - Interactive map: access site-specific information and view it in a regional context
    - Interactive geographic-based summaries
    - Guided, topical deep-dives (Story Maps)
- Additional options for information display
    - Interactive, customizable data exploration – could include hover-able charts, filters, data downloads
        - R Shiny Apps, Tableau Dashboards
- Discussion
    - Luisa: Multiple ways of messaging would be good; wonder about doing a cross-reference with the way the RMP reports its data, both on the website and through the Pulse of the Estuary
    - Erica: Interactive maps and the R Shiny/Tableau customizable data exploration stood out to me
    - Dan Hossfeld: StoryMaps – takes a lot of time to build, but you often end up with something relatively static. Otherwise, maybe we'd want to know that there's

some information that hasn't been presented elsewhere, and ends up obsolete relatively soon compared to other options.
        - Erica: StoryMaps seem great for community engagement pieces
    - Kelli: For reporting to the MBJV Program in USFWS Headquarters, a dashboard of completed projects (Fed fiscal year) with acreage, total cost, Fed funding, non-Fed funding are what we need.
- Case Study for survey location visualization options – fish and fish habitat
    - Fish surveys are happening at multiple sites throughout the Bay, over different seasons, and over multiple years
    - Luisa: A case study is helpful. Static information is okay. Would be helpful to know if other data beyond the WRMP exist about that topic – can add layers about other fish sampling efforts by other entities, or exit website to go to other fish sampling efforts.
    - Lots of agreement that people would like clickable information about when sampling is done.
    - Luisa: How feasible is it within budget to update dynamically and interactive?
        - Cristina: It takes more staff time to set up the visualization initially, but then it doesn't take a lot of time going forward. There's different ways we can get the information into a database to update the map.
    - Lots of agreement that we should link back to website with rolled up reports and summaries, not to raw data.
    - Not sure whether regional summaries or site-specific scale are more useful
    - Christina Toms: I think we need both - for project sites folks will be especially interested in site-level data; we need the geographically aggregated info to inform how restoration is supporting landscape functions

Discussion of Approach for Engaging Wetland Project Implementers

Sasha Harris-Lovett, SFEP

- Out of time – save for a future meeting

Announcements

- Erica: ISP 2023-24 monitoring and treatment report is out
    - Have had success in reducing invasive Spartina down to 90% at Pond A4
    - Good coordination with projects that are opening up to the Bay