

Estuary Monitoring Workgroup

Annual Progress Report: 2016

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Summary

2016 was a year with significant activities and significant challenges for the California Estuary Monitoring Workgroup (CEMW). The DWR Environmental Monitoring Program (EMP) worked towards an ongoing process to update the Estuary Portal with results obtained to comply with the D-1641 reporting requirement to summarize the EMP results for water quality and biota. Incorporation of a major monitoring program with diverse components into a portal that effectively presents data in a way that is understandable to the public is a time consuming challenge!

This Year's Accomplishments

Over the past year, the CEMW has made significant progress in the following areas:

- Produced a working version of the revised Estuary Portal's Living Resources pages. These pages use the new CA.gov web page design. These new pages are currently being reviewed by the workgroup.
- Completed a web service for the US Fish and Wildlife Service's Delta Juvenile Fish Monitoring Program. This program is one of several major fish collection efforts for the Delta.
- Secured stable funding provided annually by DWR to provide the Estuary Portal with the data obtained through the EMP.
- Worked collaboratively with multiple entities that use the Open NRM platform through 34North. Currently, the Estuary Portal, Bay Delta Live, the Sacramento River Watershed Program, and several efforts in the San Joaquin River Watershed are able to share maps, data sets, visualization tools, data dashboard elements, and managed content. Collectively, the sites capture 40% of the state.

The Year Ahead

The Estuary Workgroup is divided into teams of "worker bees" that focus on specific topics. This year, three groups will be developing new content for the portal.

Living Resources Pages: The Interagency Ecological Program's Environmental Monitoring Program (EMP) monitors water quality, benthic macroinvertebrates, zooplankton, and phytoplankton at discrete stations in the Sacramento-San Joaquin Delta, Suisun Bay, and San Pablo Bay. The monitoring conducted by the EMP is mandated by State Water Resources Control Board (SWRCB) - Water Rights Decision 1641 for operation of the State Water Project. While the EMP has previously developed annual reports to fulfill this regulatory mandate, in 2013 they met this objective through the release of the online interactive Water Quality Conditions Report (WQC). In 2015 the EMP began working to further develop

the online WQC report—particularly the interactive elements for data visualizations—and is working towards blending this content more seamlessly into the Estuary Portal as part of the new “Look and Feel” project. Significant progress was made in 2016 towards developing new templates for presenting information and data on the Estuaries Portal.

Specifically, in 2017 this project seeks to:

1. Further develop and refine language for portal content, including the background and details regarding the relevant species and sampling methods (e.g., *What are they* and *How are they monitored* tabs).
2. Develop and refine language relating to any relevant regulatory mandates, and how to reference and access archived reporting data (e.g., *Reporting* tab).
3. Work with contractors at 34North to develop and refine data visualizations for benthic invertebrate datasets; develop an interactive graphical interface which allows for the visualization of inter- and Intra-annual trends (e.g., using bar and/or line charts).
4. Refine and finalize data visualizations for remaining living resources pages, building upon feedback regarding data visualizations for benthic invertebrates (number 3; above).
5. Target other living resources programs that may be interested in adding their information to the Estuary Portal. Present the newly developed Estuary Portal pages to these groups to show how their information can be made available to the public.

Habitat Pages: The Habitat Subcommittee identified two areas for potential collaboration and coordination during the upcoming year:

1. ***Aquatic Vegetation Data Access and Visualization***—invasive aquatic plants (aquatic weeds) are widespread in the Delta and have increased their coverage dramatically during the current drought. This increasing trend has profound implications for habitat, as aquatic weeds are known to alter the physical environment by slowing water velocities, increasing water clarity, providing habitat for invasive fishes, and reducing open water habitat. The Habitat Subcommittee will conduct outreach with the IEP Aquatic Vegetation Project Work Team, to learn more about management questions that could be addressed using the data access and visualization tools available through the Estuaries Portal; identify datasets, which could be made available via the Estuary Portal. Subcommittee members and their collaborators will also seek to identify funding opportunities to develop the proposed data access and visualization tools.
2. ***CARI Enhancements***—at their March 7, 2013 meeting ([Item 3](#)), the Council recommended that the Wetland Monitoring Workgroup (CWMW) should work to differentiate currently farmed lands from functional wetlands in the Delta, and make those data available via the California Aquatic Resources Inventory (CARI). The distinction between these habitat types is currently unavailable via CARI. During the upcoming year, the Habitat Subcommittee will conduct outreach with the CWMW to propose a collaborative approach to accomplishing these goals.

Water Quality/Water Quantity: In addition to having the EMP datasets and information accessible via the Estuaries Portal, this projects aims to develop interactive elements for visualization of these data (e.g., interactive maps and graphs). Specifically, in 2017 this project seeks to:

1. Further develop and refine language for portal content, including the background and details regarding water quality and quantity (e.g., *What are WQ and Quantity* and *How are they monitored* tabs).
2. Integrate new contaminant information with the existing Estuary Portal pages. (TMDL pages that were developed in 2014)
3. Identify a lead for developing water quantity content.
4. Develop and refine language relating to any relevant regulatory mandates, and how to reference and access archived reporting data (e.g., *Reporting* tab).
5. Work with contractors at 34North to develop and refine data visualizations for water quality and quantity data (e.g., using bar and/or line charts).
6. Target other water quality/quantity programs that may be interested in adding their information to the Estuary Portal. Present the newly developed Estuary Portal pages to these groups to show how their information can be made available to the public.

Challenges

The Estuary Work Group members continue to struggle in several areas. First, the current portal only focuses on the Sacramento San Joaquin Delta. The workgroup will continue to focus on the Delta, but will reach out to other estuaries via the SWAMP roundtable. Second, the workgroup struggles to find time and members to fully address the needs of translating data to the public. Staff are authorized to work on data for management decisions; this task requires different explanations and data visualization tools. Collaboration with other Open NRM portals has been the most effective solution to this issue, but doesn't solve the problem.

How the Council Could Assist

- Work with CEMW and other portals to obtain funding to maintain and enhance existing efforts.
- Organize a workshop for portal workgroups to share successes and challenges.
- Develop a "roadmap" to help portal users navigate the existing portals and other large relevant portals. For example, fish data is available on multiple portals and pages to answer a wide array of questions.