Data Management, Visualization, and Access Workshop

April 18, 2024 | 9:00 am -3:30 pm

Microsoft Teams (virtual event)

[Register here](#)

Agenda

Opening remarks (9:00-9:10)

- Open data and today's workshop (Catarina Pien, USBR)

Data Management (9:10-9:45)

- Overview of data management (Catarina Pien, USBR)
- Data structure and format guidelines (Rosemary Hartman, DWR)
- Quality assurance and Quality control (Rachel Pisor, DWR)
- Data sharing processes (Denise Goodman, USFWS)

Coded Data Access (9:45-10:20)

- Coded data access (Dave Bosworth, DWR)

Break (10:20-10:35)

Metadata and Data Publication (10:35-11:50)

- Metadata and Data Publication (Trinh Nguyen, CDFW)

Lunch (11:50-12:50)

Visualization Tools (12:50-1:50)

- R Markdown (Rosemary Hartman, DWR)
- R Bookdown and GitHub Reports (Perry, DWR)
- R Shiny (Sam Bashevkin, SWRCB)
- ArcGIS Storymap (Nicole Kwan, DWR)

Break (1:50-2:05)

Visualization Examples (2:05-2:55)

- Overview of SacPAS (Susannah Iltis, UW)
- Overview of Bay-Delta Live (Amye Osti, 34 North)
- Useful plots and associated code (Catarina Pien, USBR)

Panel Q&A (2:55-3:25)

Closing Remarks (3:25-3:30)

- Closing remarks and resources (Dave Bosworth, DWR)

Speaker Biographies

Sam Bashevkin is an Environmental Program Manager in the State Water Board Division of Water Rights, Bay-Delta and Hearings Branch. Sam relies on IEP data for much of his work and has produced integrated datasets, R packages, shiny apps, reports, and analyses of IEP data. Email: Sam.bashevkin@waterboards.ca.gov

Dave Bosworth is a Senior Environmental Scientist (Specialist) at DWR with a background in collecting and analyzing discrete and continuous water quality data. Currently, he works on various data integration and synthesis projects and is the co-chair of the IEP Data Utilization Working Group. Email: David.bosworth@water.ca.gov

Denise Goodman started working with the 40+ year long-term dataset of the USFWS Delta Juvenile Fish Monitoring Program when she transitioned from field work to a biologist position in 2013. Starting in 2016, she helped develop, initiate, and lead the USFWS Enhanced Delta Smelt Monitoring Program (EDSM) and its data management efforts. She established the data workflow and real-time reporting strategy of EDSM, which includes daily and weekly data updates in support of distributing monitoring data in as close to real-time as possible. Email: denise_goodman@fws.gov

Rosemary Hartman is a Program Manager at DWR who is slowly trying to shirk her real responsibilities and just help people make graphs all day. You may recognize her from such popular projects as "The Data Utilization Work Group", "The Drought Synthesis", "The Climate Change MAST", and "The Tidal Wetlands Project Work Team". In her spare time, she enjoys making shiny apps of Delta Smelt catch, compulsively checking the 8-station index, and graphing crowd-sourced data from iNaturalist. Email: rosemary.hartman@water.ca.gov

Susannah Iltis is the Web Computing Specialist at Columbia Basin Research, School of Aquatic & Fishery Sciences at the University of Washington. She is responsible for managing, maintaining, and developing data queries, analyses, and visualizations. She

has worked with researchers, tribes, wildlife departments, federal agencies and others from across the Columbia and California Central Valley basins. She has been doing this work for nearly three decades. Email: siltis@uw.edu

Nicole Kwan is a Senior Environmental Scientist (Supervisor) at DWR. She has had the opportunity to work with data from field collection through its quality assurance, publication, and analysis/reporting phases during graduate school and as the Yolo Bypass Fish Monitoring Program (YBFMP) PI. She strives to communicate YBFMP data and data resources to the broader community, which led to creating an ArcGIS StoryMap to help share the work the program does and data it collects in an approachable format. Email: Nicole.kwan@water.ca.gov

Trinh Nguyen is a Senior Environmental Scientist (Specialist) working for the Interagency Ecological Program (IEP) within the California Department of Fish and Wildlife (CDFW). Trinh's primary focus is to develop guidance, tools, and materials that enhance the accessibility, usability, and transparency of IEP datasets. He leans on an extensive history of data synthesis, integration, and analysis to accomplish this, modernizing current workflows by incorporating efficient codable workflows. Email: trinh.nguyen@wildlife.ca.gov

Amye Osti, CEO and Founder of 34 North, specializes in the intersection of technology, natural resource management and public policy. As leader of a diverse team of technologists, Osti is responsible for bringing OpenNRM collaborative natural resource management data platform to market as well as building a vibrant open data community. The company is now a leading provider of data management solutions for the State of California and managing its watersheds. OpenNRM Enterprise Data Platform is currently used to manage large scale multi-agency efforts between California Counties, USGS, USFWS, USBR, SNC, MWD, DWR, CALFIRE, USFS, EPA, AFF and many others throughout California watersheds. In addition to company initiatives, Osti leads strategic efforts that help shape the technological landscape for managing environmental data. Email: amye@34north.com

Perry is an Environmental Scientist in DWR's Environmental Monitoring Program. Their work primarily consists of conducting statistical analyses on water quality and biological datasets from within the Delta. They also code general programs to assist with data management tasks and created EMP's public website. Email: Sarah.perry@water.ca.gov

Catarina Pien is a Fish Biologist in the Bureau of Reclamation Bay-Delta Office's Science Division. She works on a variety of projects in the Bay-Delta analyzing and visualizing water quality, food web, and fish data, and works collaboratively with others to enhance

data access and transparency. She previously collected and managed data for the Yolo Bypass Fish Monitoring Program. <u>Email:</u> cpien@usbr.gov

Rachel Pisor is a supervisor in DWR's Quality Assurance Program. Her experience with data has been primarily with discrete water quality data with a major focus in providing guidance on implementing quality assurance and quality control in environmental monitoring projects. <u>Email:</u> Rachel.pisor@water.ca.gov

Questions

Please contact Catarina Pien (cpien@usbr.gov) or Dave Bosworth (David.bosworth@water.ca.gov) with any questions.