

Lead Scientist's Report

Summary: This report covers 3 items:

Collaborative Science Activities: (1) State of the Estuary Conference

Science Communication: (2) Two posters from the 2014 Bay-Delta Science Conference, (3) "By the Numbers" summary.

Collaborative Science Activities

State of the Estuary Conference

The biennial State of the Estuary conference on Sept. 17-18 in Oakland, CA will present the latest knowledge about the estuary's changing watersheds, impacts from major stressors, recovery programs for species and habitats, and emerging challenges.

This year, staff and members of the Delta Stewardship Council, some members of the Delta Independent Science Board, and authors of the State of Bay-Delta Science update will be participating in the plenary, concurrent and poster sessions. Council Chair Randy Fiorini will moderate a discussion panel on water and the drought. Lead Scientist Peter Goodwin will present on policy, regulatory, and management challenges to building the "One Delta, One Science" approach. Deputy Executive Officer Cindy Messer will present on levee and habitat restoration. Program manager Darcy Austin is convening a session titled, "Updating *the State of Bay-Delta Science* to reflect new findings learned about the system since 2008". Program manager Jessica Davenport is convening a session titled, "Critters and Communities: New Approaches to Flood Management".

Science Communication

Posters from 2014 Bay-Delta Science Conference

The biennial Bay-Delta Science Conference is a forum for presenting technical analyses and results relevant to the Delta Science Program's mission to provide the best possible, unbiased, science-based information for water and environmental decision-making in the Bay-Delta system. The following posters from the last conference are a sampling of the 175 posters presented at the conference and were selected because they are relevant to the topics on the Council's agenda.

"An outmigration model to understand rearing strategy of juvenile spring-run Chinook salmon in the Central Valley"

A better understanding of the environmental factors affecting the outmigration of spring-run Chinook salmon, a federally threatened species, is needed to better manage Central Valley fisheries and water. This project used a computer model

to determine the relative importance of environmental factors (stream flow, water temperature, length of daylight) that affected the outmigration timing of juvenile spring-run Chinook salmon in Butte Creek. They found that stream flow is the most important variable effecting the timing of migration. Results from this work: 1) may help predict the effects of future water management decisions and 2) suggest that variations in precipitation patterns and water diversions directly influence when juvenile salmon leave their natal streams.

“A New Method for Quantifying Floodplain Habitat and Function”

Floodplain restoration must consider flows including timing, duration, and frequency of flood flows to benefit target species. This poster describes a model that integrates these variables into two ecologically relevant measures of habitat quality and expected annual habitat for a given target species. The model may be utilized in any drainage wherein daily flow data and digital elevation data are available.

By the Numbers

Staff will give a summary of current numbers related to Delta water and environmental management. The summary (Attachment 1) will inform the Council of recent counts, measurements, and monitoring figures driving water and environmental management issues.

List of Attachments

Attachment 1: By the Numbers Summary *(to be provided at the Council meeting)*

Contact

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