

## Lead Scientist's Report

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**Summary:** This report presents four items:

- 1) Update of the Delta Science Plan
- 2) Update on the State Water Resources Control Board's (SWRCB's) workshops for the Comprehensive Review and Update of the Bay-Delta Plan
- 3) Independent Review of the Fall Low Salinity Habitat (FLaSH) Program
- 4) Summary of "Sacramento-San Joaquin Delta Historical Ecology Investigation: Exploring Pattern and Process" by Whipple et al. (2012).

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### **Update on the Delta Science Plan**

The following preparatory steps are being conducted by Science Program staff; a current status of implementing science in the Delta, synthesis of priority science issues described in the literature, and analysis of science plans for similar programs. The Bay-Delta Science Conference (Oct. 16-18, 2012) provides a forum for the presentation of the latest scientific findings and allows for formal and informal discussions among the science community. The Delta Science Program will host a Town Hall Meeting on the Delta Science Plan on the first day of the conference. The meeting will be an informal opportunity to discuss how the scientific community can best support the big decisions that must be made in the management of the Delta and explore the best ways of engaging scientists in agencies, academia, and stakeholder groups. More information about the Bay-Delta Science Conference is available at:

<http://scienceconf.deltacouncil.ca.gov/>.

To view the Conference Program, including details on the Town Hall Meeting visit:

[http://scienceconf.deltacouncil.ca.gov/sites/default/files/documents/BD12Program\\_Final.pdf](http://scienceconf.deltacouncil.ca.gov/sites/default/files/documents/BD12Program_Final.pdf)

### **Update on the State Water Resources Control Board's (SWRCB's) workshops**

The SWRCB is conducting a series of workshops to discuss the scientific and technical basis for considering potential changes to the 2006 Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan). The Delta Science Program was asked to convene an Invited Panel to start each workshop to describe the current understanding of key issues and what new knowledge has been developed since the last hearings in 2010. The Invited Panel was followed by a series of panels with experts representing state agencies, federal agencies, NGOs and stakeholders. The Sept. 5-6, 2012 workshop focused on Ecosystem Changes and the Low Salinity Zone. The Invited Expert Panel presented a summary of recent scientific thinking on 1) hydrologic changes to the Delta, 2) ecosystem and low salinity zone changes, 3) managing the estuary for an uncertain future, and 4) changing science for a changing estuary. It was also suggested that the SWRCB convene a group of scientists to work with the Board and/or its staff to develop a list of questions related to anticipated future states of the Bay-Delta system and how an adaptive policy framework would respond to those changes. The Delta Science Program is also convening invited expert panels for the two remaining SWRCB workshops; Workshop 2: Bay-Delta Fishery Resources and Workshop 3: Analytical Tools for Evaluating Water Supply, Hydrodynamics and Hydropower. These panels support the SWRCB in making progress toward adopting and implementing updated Bay-Delta Plan objectives by June 2, 2014, consistent with ER P1 of the Delta Plan. For more information about the SWRCB's public workshop and to view the Invited Expert Panel's presentation visit:

[http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/comp\\_review.shtml](http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/comp_review.shtml)

### **FLaSH Review – Independent Science Review Panel Summary Report**

The Fall Low Salinity Habitat (FLaSH) adaptive management program—an integrated set of studies initiated to provide better information associated with changes in the position of Fall Low Salinity Habitat and subsequent effects on delta smelt health and abundance—has generated considerable discussion in the past few years. Last year’s wet conditions provided an opportunity to test some of the mechanistic concepts proposed to link the location of the Low Salinity Zone (LSZ) and the health and abundance of delta smelt. In 2011, an independent science panel reviewed the Draft Plan for Adaptive Management of Fall Outflow for Delta Smelt Protection and Water Supply. In 2012 the same panel returned to review the revised adaptive management plan of fall outflow and the 2012 FLaSH study report. This year’s panel report was released earlier this month with 10 key recommendations. Among the Panel’s recommendations were comments on developing a conceptual model to organize hypothesis testing, the importance of defining “success” for the Fall Outflow action, identifying opportunities to coordinate and integrate field measurements, and the need for planning for future modeling needs. To access the report visit:

<http://deltacouncil.ca.gov/science-program/fall-low-salinity-habitat-flash-studies-and-adaptive-management-plan-review-0>

### **Sacramento-San Joaquin Delta Historical Ecology Investigation: Exploring Pattern and Process by Whipple et al. 2012**

Whipple et al. (2012) recently released a study report titled, “Sacramento-San Joaquin Delta Historical Ecology Investigation: Exploring Pattern and Process”. The report presents several findings; including a diverse array of habitat types in the historical Delta and that a small percentage of the “natural” habitats within the Delta today are remnant of the former landscape. Whipple et al. illustrate and describe three historical Delta landscapes: 1) north Delta flood basins, 2) central Delta tidal islands, and 3) south Delta distributary rivers. Several management-relevant findings are provided in the report including recommendations to consider that native species were adapted to the patterns and processes of the past, recognize what large and interconnected habitats might mean, and acknowledge that every habitat or function cannot be supported everywhere. These investigation findings provides necessary context to inform landscape-scale Delta ecosystem restoration and water management decisions. For information about the investigation and to access the Whipple et al. 2012 report visit:

<http://www.sfei.org/DeltaHEStudy>.

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