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Subject: Comments on First Draft Delta Science Plan, 18 June 2013

I am writing to offer some thoughts about the Delta Science Plan. As several in the Science Program have known and worked with me for many years, they will understand that my comments arise from my direct experience of the past 25 years: designing, permitting and monitoring restoration projects in the Bay and Delta, serving key roles in many of the region's long-term ecosystem restoration planning activities (DRERIP, Delta Vision, Suisun Marsh Plan, a little early Delta Plan, Habitat Goals Project, Subtidal Goals Project, more), and leading and participating in large-scale, applied science field research and analytical projects (e.g., Integrated Regional Wetland Monitoring Pilot Project, Suisun low dissolved oxygen/methylmercury, wetlands carbon sequestration).

If one takes the premise that a functioning ecosystem is necessary to have a reliable water supply, then restoration, stressor reduction, and operations and management are the *actions* intended to yield ecosystem functionality. Science is a *support function* within the adaptive management program necessary to achieve the co-equal goals. Science is not the end game.

The "Grand Challenges for Science and Management" in Box 1-3 on page 10 are these actions and offer the orienting focus and overarching problem statement of the Science Plan. The operational characteristics of the Science Plan – organizing and integrating ongoing science and shared learning – and what it addresses – governance, uncertainty and conflicting information, research prioritization, near-term needs, and finances[1] – are all fine. Missing is the plan for how all this science is integrated into the *actions* of the organizations that undertake them. How does the rubber meet the road? It is not entirely clear that the "audience" list even includes the implementing entities. Perhaps the "Delta Manager" is that category but the Science Plan is mute. Orienting the Science Plan around *actions* would drive clarifying these entities and thus help ensure the Plan effectively supports the co-equal goals.

[1] Page 1 of the First Draft Delta Science Plan

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The timeline of readiness for providing science support is now yet the current Science Plan suggests a long road to becoming a functioning effort. Our current state of knowledge is tremendous and more than sufficient to start implementing some of the actions now, especially those for ecosystem restoration where leaps in knowledge will come only through doing[2]. Many actions are in fact starting to move forward now or will be in the near future. Ensuring the Science Plan supports these near-term actions while keeping a solid eye on the long term will be at the heart of its success.

The Science Plan in Box 3-3, Prospect and Lower Yolo evaluations, presents case studies of integrating science into restoration actions. I lead organization of the Prospect DRERIP evaluation and participated in and helped facilitate the Lower Yolo evaluation (it was not a DRERIP evaluation). These case studies are a valuable example for the Science Plan. They are, however, not quite accurate and should be improved to make their contribution as case studies more effective. I would be happy to help with that effort.

I appreciate the opportunity to provide these brief comments. I had intended to submit them by July 18th but my day-to-day demands on restoration planning kept me too busy. I hope you will still consider them. I would be very happy to talk through these and many other comments and my thoughts on how to build them into the Science Plan. I can be reached at (415) 457-0250 and stuart@swampthing.org.

Sincerely,

Stuart W. Siegel, PhD, PWS
President, Principal Environmental Scientist

Cc: Phil Isenberg, Chair, Delta Stewardship Council
Chris Knopp, Executive Officer, Delta Stewardship Council
Dr. Jay Lund, Chair-Elect, Delta Independent Science Board

[2] See report of the 2009 CALFED Science Program Ecosystem Restoration Workshop Panel Report, available at: http://www.science.calwater.ca.gov/pdf/workshops/workshop_eco_report_final_121609.pdf