

## Delta Independent Science Board Meeting August 13 – 14, 2015

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**Thursday August 13, 2015**

**2<sup>nd</sup> Floor Conference Room, Park Tower**

1. Welcome and Declarations (Lund)

Board members present include Brian Atwater, Richard Norgaard, Vince Resh, Steve Brandt, Jay Lund, Tracy Collier, Liz Canuel, John Wiens and Joy Zedler. Joe Fernando was not present. Staff members present include Lauren Hastings, Kelly Souza, Marina Brand (for item 9) and Michelle Shouse (USGS, for closed session item 2). Liz Canuel reported a change in status; in her capacity as faculty from Virginia Institute of Marine Science, she has been invited to participate in a workshop about primary production in the Sacramento-San Joaquin Delta sponsored by SFEI in October 2015.

2. Closed Session - Lead Scientist Recruitment

Michelle Shouse reported that USGS is expecting a start date for Dr. Cliff Dahm on September 8, 2015. His title will be Lead Scientist, not “interim” Lead Scientist. Cliff has agreed to serve one year. By the terms of his temporary employment, USGS is able to extend his employment by one additional year, but Cliff has only agreed to one year at this time.

All Board members unanimously voted in favor of recommending that the Council appoint Dr. Clifford Dahm as the Delta Lead Scientist.

**Action: Staff will format the letter of recommendation onto Delta ISB letterhead and have it signed by Chair Lund.**

Executive Officer Jessica Pearson and Council Chair Randy Fiorini want to review the current duty statement and previous recruitment flyer so these will not be released until after their review. For the purposes of recruiting, assume that September 2016 would be the start date. Shouse noted that the modification to the Lead Scientist Recruitment Process flow chart (revision dated August 2015) is that Council executive staff engages in the interview panel. In the last recruitment, Council executive staff opted out of the collective interview process but has since decided that there will be Council representation during the next round.

**Action: Shouse and Hastings will facilitate Council-review of the recruitment flyer and duty statement but this should not delay the Delta ISB’s recruitment effort. Staff will distribute the previous recruitment flyer to the Delta ISB.**

3. Reconvene Open Session (Lund)

4. Recommendation to Delta Stewardship Council regarding Lead Scientist (Lund)

**Outcome: Jay Lund reported that the ISB action during closed session was a unanimous vote in favor of recommending that the Council appoint Dr. Cliff Dahm to Delta Lead Scientist.**

5. Delta Stewardship Council Chair and Executive Officers’ reports (Fiorini, Pearson)

Executive Officer Pearson reported that:

- In order for the Delta ISB's review of the RDEIR/SDEIS for BDCP/California WaterFix to be most helpful, final comments are needed by the end of September so that they can be integrated into the comment letter from the Council before the October 30, 2015 deadline.
- The peer-review report for the Delta Levees Investment Strategy has been received. Staff, along with partner agencies, is determining how to respond to the report and putting together a plan to move forward.
- The Council is looking forward to the presentation (by Lund in Brandt's absentia) of the Fish and Flows report at the September 24<sup>th</sup> Council meeting. Council executive staff would like the presentation to include a panel component, similar to what was done at the July 2013 Council meeting for the habitat restoration oversight session. (i.e comprise a panel of those who would be interested and affected by the Delta ISB's recommendation). At this time, panel members have not been selected but once determined, they should also be offered a briefing of the report in advance of the Council presentation.

Chairman Fiorini reported that:

- A provision in the Delta Plan states that if the Bay Delta Conservation Plan (BDCP) was not permitted by January 2016, the Council would "take another look at the process" and they are currently doing just that. At the June 2015 Council meeting, they acknowledged the change in direction of BDCP that the HCP/NCCP was no longer in play. Staff prepared a summary of the comments related to conveyance in the Delta Plan narrative and are using those along with water code section 85304 ("The Delta Plan shall promote options for new and improved infrastructure relating to the water conveyance in the Delta, storage systems, and for the operation of both to achieve the coequal goals") as their guiding directive to prepare high-level principles related to water conveyance. The first cut of these principles were presented at the July 2015 Council meeting, along with three panels of various experts that offered insight into what types of elements could be included in such principles. The Council will review further revisions and public comment before the adoption of these principles, targeted for the September 2015 Council meeting. Next steps may include recommendations or regulations that are amended into the Delta Plan, but there is no timeline associated with that, yet. Resh asked if the Delta ISB should be provided with these draft principles to make the Delta ISB's review of the BDCP/California WaterFix RDEIR more relevant to the Council. Fiorini offered that the principles are so high-level there is probably nothing that the Delta ISB hasn't already considered, and agreed to share them after approval by the Council.
- The Delta Plan Interagency Implementation Committee (DPIIC) work that was approved at the May 2015 meeting, focusing on nine high-impact near-term science actions is underway and an update of these activities is anticipated in November 2015.
- A big part of the California WaterFix process will be the SWRCB's consideration of the change in diversion point and through this process they will be reviewing water quality standards in the Water Quality Control Plan. Fiorini suggests that the Board keep an eye on this and engage where appropriate.

## 6. Delta ISB Chair's Report and Business Matters (Lund)

- Zedler will be delivering a Brown Bag seminar today about adaptive approaches to wetland restoration in southern California.
- Lund will be reporting at the August 2015 Council meeting about the Board's recommendation to appoint Cliff Dahm as Lead Scientist.
- Today is Peter Goodwin's last Delta ISB meeting as Lead Scientist. Lund thanked Peter for his years of service and remarked how tremendously everyone has truly benefitted from his leadership.

## 7. Lead Scientist Report (Goodwin)

- The Invasive Species Weed Symposium program has been set and the Board will be notified when the date and location are finalized.
- The State of the Estuary Conference is next month and the program represents a pulling together of the Bay and the Delta communities. Several staff members will be moderating sessions including Darcy Austin (*The State of Bay Delta Science*), Jessica Davenport (innovations in flood management), Cindy Messer (levee and habitat restoration initiatives) and Chair Fiorini (water and the drought).
- DSP staff (Sam Harader) is working on an update to the Science Plan, specifically addressing the Directed Actions and Science Advisory Committee descriptions.
- The white paper from the Data Summit will be ready to launch next month and staff (George Isaac and Rainer Hoenicke) are thinking about how to deliver that message. Some of the principles in the white paper are already being thought about at some of the state agencies (e.g. concepts of federated data systems, importance of heterogeneity). They are looking for high-impact ideas where there are multiple contributors and funding sources and the ability to build on existing investments. The roll-out and implementation of the white paper are still being discussed. Goodwin hopes that the ISB will follow this effort closely.
- *The State of Bay Delta Science* is a very significant effort being organized by Darcy Austin. They have been working on finding consistency in the way that guidelines and recommendations are presented. Many of the significant findings will be presented at the State of the Estuary Conference next month.
- Staff who worked on the Integrated Modeling for Adaptive Management of Estuarine Systems workshop (Chris Enright and Jiro Ariyama) are pulling together the draft document for public and Delta ISB review near the end of September 2015. This should help guide and inform the National Science Foundation's (NSF) Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS) series. The report will address a big, national picture but also use the Delta as an example of how models can be used in a transparent way.
- The Delta Challenges report is close to completion. It will appear in the SFEWS online journal and be presented to the Council by the October 2015 Council meeting.
- The SeaGrant State Fellows solicitation will be coming out in the fall.
- In his closing remarks, Goodwin noted that he has never seen such times of extraordinary change and such opportunity. There is a commitment by agency directors to the best available science and a broader systems-analysis, which has raised the bar on the science and the

decision-making process. This is the backdrop for the Science Plan, and although not perfect, its success lies in the enthusiasm across agency scientists and managers about what will work. Goodwin notes that he appreciates the Delta ISB's guidance on how to set up the Science Plan but wanted to emphasize that he hopes the Science Plan remains a well-used living document and for that to happen it has to be viewed as everyone's Science Plan (i.e. this is not the Delta Science Program's Science Plan). One Delta One Science is the concept of a single body of science that accelerates knowledge discovery, developing success and ensuring that factions don't remain separated each with their own datasets. Whatever can be done to foster and facilitate interactions and funding (federal initiatives, foundations, NGO's) that focus on synthesis at the systems level will be very important moving forward. Another lesson learned is that there is not going to be a single science-policy forum. The DPIIC is a good example but on a day-to-day basis, information for decision-making is needed more frequently than DPIIC meets. This science-policy forum is needed and Goodwin hopes the Delta ISB and others will continue to think about how to improve the Science-Policy interface (what other venues could be used?) as we all move forward together. Lastly, the opportunity to use the concept of rotators as part of the Delta Science Program structure should be considered. Core staff would carry forward the institutional knowledge while rotating experts could focus on larger issues that come and go. As learned from the NSF model, this builds trust, a deeper understanding of the value of science and the process. The more people know about the process, the more confidence they will have about the impacts of science.

#### 8. Conversation about EcoRestore with David Okita, CNRA

The EcoRestore Program was kicked off in April 2015 but the restoration projects have been ongoing for several years and even decades in some instances. The goal is to create 30,000 acres of habitat in the next three - four years with the following priority restoration projects:

- Dutch Slough
- Knight's Landing Outfall Gates
- Southport
- McCormack-Williamson Tract
- Hill Slough
- Goat Island at Rush Ranch
- Tule Red Restoration
- Lower Yolo Ranch
- Prospect Island
- Wallace Weir and Tule Canal Ag Crossings
- Lower Putah Creek Realignment
- Grizzly Slough
- Sherman Island
- Twitchell Island
- Staten Island (and other Sandhill crane habitat enhancement, as necessary)

Many of the restoration projects have been languishing and unable to get to implementation. Mr. Okita's role will be to help cut through some of the bureaucratic permitting, funding and management issues. The scope is the Delta and Suisun Marsh and a little bit in the surrounding

northern areas like Yolo Bypass and Knight's Landing. Funding comes from a variety of sources including Proposition 84, 1 and 1E, the State and Federal Contractors (75% is mitigation for the salmon and delta smelt biological opinions), and the Green House Gas Program (for carbon sequestration projects). The first project is scheduled to be constructed this fall; Knight's Landing Outflow Gates, which will redirect winter-run salmon from the Colusa drain into the main stem of the Sacramento River. Besides implementation, another aspect of his job is planning. There are a lot of planning efforts in the Delta but he will be focusing on sub-regional plans with the Delta Conservancy. One of these sub-regional plans is in the northeast Delta (i.e. McCormack Williamson Tract and Staten Island). The other sub-regional plan will focus on the Cache Slough area. There is a balance between short-term implementation of restoration projects and medium-term planning efforts. The third aspect of his job is the science aspect and he has been routinely meeting with staff and project managers from EcoRestore projects that address questions like how to establish landscape-scale monitoring and adaptive management programs for EcoRestore projects. His role is to figure out the institutional ways and funding to achieve implementation. He is confident that the science is there to do landscape-scale adaptive management in this Delta. EcoRestore is just one piece in the overall science of the Delta. A future challenge will be figuring out how EcoRestore fits in with the overall science in the Delta.

Brandt asked what the overarching goals of EcoRestore are....are they biological or physical? Okita answered that because the EcoRestore program isn't part of a regulatory scheme such as an HCP or NCCP, the goals don't need to be as specific. Although the sites are physically and institutionally connected, the goals are site-specific because in some cases fish passage for salmon is the goal while in other cases it is tidal restoration for Delta smelt.

Atwater recommended that levee engineers be included in the conversation. He also asked what, if anything, was happening on the San Joaquin side of the Delta? Okita answered that they will eventually get there, but the priority projects are in the northern Delta.

Zedler asked what the largest acreage with a particular type of restoration (i.e. what type of restoration is covering the most ground -- manipulating levees, grading and re-contouring the land, dredging). Okita's response was that the largest project footprint is the Yolo Bypass area which involves grading, removal of barriers, adding flow at certain times of year, and tidal wetland projects also. There is no one particular focus, although projects that are not outlandishly costly or disruptive are getting prioritized.

Canuel asked what will be monitored and at what time scale, in response to these projects since not all responses will be seen immediately. Okita answered that monitoring should be done in perpetuity in some cases. The funding source is permanent in that the water projects are not going away and they are responsible for 75% of the funding. Okita recognizes that there are two levels of monitoring, that which you do at the individual site level and another that is done at the landscape level. The desire is that everyone contributes to the larger landscape level monitoring, which should eventually be more efficient than every project doing individual monitoring.

Wiens asked how the EcoRestore Program will move adaptive management beyond the talking phase since this strikes him as a real opportunity to "put some meat on the adaptive management bone"; setting aside that the funding impediment is removed, how can other barriers (e.g. risk aversion, ESA, institutional collaboration) be factored into the process? Okita answered that part of

his charge from the Governor was to cut through the bureaucracy and he is hoping to use the DPIIC process as a venue to help with such issues.

Wiens also commented that the environmental aspect of the coequal goals seem to have received the short end of the deal. Is there any way to anticipate the likelihood that EcoRestore will head towards the broader goals that were originally envisioned by the BDCP? Okita commented that the 100,000 acres of restoration originally proposed by BDCP was over the life of the 50-year permit whereas EcoRestore is 30,000 acres over 3 – 4 years; the 30,000 acres is the floor, not the ceiling. The money to sustain more restoration could be in the form of biological opinions or bond money but he's not sure how or when that will happen. Wiens noted that the apprehension comes from the finite aspect of construction associated with the WaterFix. Once it's completed, the project could be perceived as "done" and the ecosystem enhancement could fall to the wayside. Lastly, Wiens asked how the Delta ISB's adaptive management report could set the stage for more effective implementation of adaptive management. Okita believes what is most needed is the framework and funding because he thinks the science is already all there.

Zedler commented that this is an exciting opportunity to use adaptive restoration by taking one of your projects and determining which vegetation will occupy new habitats made wetter than before. You would then follow those plots over time and find out which species or plant-species combinations are more effective under new conditions. This would then lead to a fine example of adaptive management because you would take the information from one project and apply it to the next project (and become more efficient with your plantings). Wiens added that there is an opportunity to adopt experimental adaptive management which is really the gold standard of adaptive management, but it requires some planning at the outset because the experiment needs to be integrated in the plan.

Okita commented that hyacinth is not under the mandate of EcoRestore, and neither are flows. These need to be considered and "woven in" but his concern is that expanding things too much can prevent things from getting accomplished. Atwater added that there are lots of tidal wetlands isolated behind dredging cuts. They are truly natural features of the landscape and he suggested keeping these in mind, along with water hyacinth.

Lund commented about the limited amount of tidal energy and as you begin restoring tidal wetland sites, this energy is absorbed and not available to future restoration sites (this is an example of how all of these individual sites are linked). After the initial 30,000 acres have been restored, what is the long-term intergovernmental effort that ensures this goes on as an integrated habitat restoration program? Okita believes that by having the institutions in place and running, particularly a long-term and perpetual adaptive management program, then presumably you would have the scientific justification to do more restoration because you'll have a landscape view of things and know what is and isn't effective. Lund also asked how EcoRestore is engaging with the Delta Conservancy. Okita responded that the Conservancy is part of the sub-regional plan development for the Cache Slough region, the standing triweekly meeting group, and may eventually assume the function of land managers in the future.

## 9. Outcomes of Delta ISB's Self-assessment meeting in June (Brandt and Collier)

Collier reported about the seven major outcomes of the June 2015 self-assessment discussion that the Board would like to focus on:

- Creating proposals and seeking public input on the proposals as part of the review process.

Status: The Board has a structure and a process that it has already implemented with the water quality review.

- Identified seven – eight future review topics (overall organization of science in the Delta and overall monitoring in the Delta being high on the list).

Status: The prioritization of the suggested review topics will be the subject of a future meeting.

- Have the Board regularly briefed on emerging issues similar to today’s conversation with David Okita, Cassandra Enos (DWR) and Steve Centerwall (ICF).

Status: Already implemented.

- Be more proactive in the recruitment and selection of Science Fellows.
- Status: Staff member Marina Brand extended an invitation to the Board to participate in the matching interviews that are scheduled for November 16 – 17, 2015 and/or provide an addendum to the host application that provides additional detail about the fellow position that would support the Board.

- Increase visibility of the Board to Delta residents.

Status: Already beginning implementation by planning an in-Delta meeting during October 2015.

- Use the Delta ISB as an “incubator” for the position of Delta Lead Scientist.

Status: The Board plans to actively cultivate existing members of the Board as potential candidates for the position of Delta Lead Scientist.

- Implement staggered terms to reduce the likelihood of an untimely and large loss of institutional knowledge.

Status: The Board considered the mathematics of implementing the Council-suggested staggered terms (two members leaving each year) and determined that it would lead to full-Board turnover in 5 years, which is not desirable. The Board will keep tabs on this issue by reviewing their attrition rate every summer to assess vulnerability.

- Be more proactive about the outreach and communication of Delta ISB products.

Status: Already beginning to implement this with the Flows and Fish report and the proposed roll-out of that review report will be the subject of the next agenda item.

**Action: Collier and Brandt plan to formally document the outcomes of the self-assessment discussion to present that at a future Board meeting.**

## 10. Program Review Updates

- Flows and Fish report (Brandt)

The final version of the report was submitted to the Communications Unit at the Delta Stewardship Council on July 24, 2015. Communications is adding some final stylistic changes to the report. Brandt, Canuel, Lund and staff member Sam Harader met this morning to discuss a roll-out strategy. They are considering what types of handouts should accompany the report, are there any standardized procedures and how has the Council handled previous roll-outs before? Some of the ideas that they discussed included:

- Thank you note to the people that made an early contribution or provided input to the effort.
- IEP Newsletter article.
- Maven’s Notebook.
- Presentation at the September 24, 2015 Council meeting (by Lund since Brandt is unavailable). *Subsequent to this meeting, it was decided to postpone this presentation for a variety of reasons.*

- Invite staff from agencies with flow or fish responsibility to the November 12/13, 2015 ISB meeting to find out what their needs are, what would be valuable to them, and what their plans and priorities are for the next 5 years with regard to fish and flows, what are their barriers or constraints?
- Presentation at the November 16, 2015 DPIIC meeting.

- Adaptive Management (Wiens, Resh, Collier, Lund)

Wiens reported that the August 6, 2015 version of the Adaptive Management review report was distributed last week and has been posted on the web. Wiens noted that the report is not dealing with the underlying science of adaptive management but rather the process of it and what factors constrain the use of adaptive management. The report tried to highlight the reasons why adaptive management does not occur as common practice, regardless of the fact that many people think they are already doing adaptive management.

One of the recommendations is to form a cohesive, dedicated, self-standing, Adaptive Management Team (AMT) that would serve as the point of coordination, guidance and expertise to push the regular use of adaptive management forward. This team should be solely focused on adaptive management (and nothing else) and help restoration proponents address barriers that regularly stand in the way of accomplishing adaptive management. The individuals of this team should share the common philosophy of adaptive management rather than the mission of their respective agency. In the next revision, Wiens will be strengthening the wording around the formation of the AMT so that it comes across as a core recommendation.

The other issue that Wiens discussed about the adaptive management report was the concept of “making it stick.” Wiens sees this as a function (in part) of the Delta ISB and has added some “next steps” to the text addressing this issue. This is an extension of the Delta ISB’s role to help ensure that the recommendations in their reports move forward.

Brandt was pleased to see a shift away from the recommendation about percent funding (specifically for implementation of adaptive management) and towards making adaptive management an agency priority instead. Increasing a budget by a certain percentage is just a paper/accounting exercise whereas really what is needed is a culture shift recognizing that if the agencies implement adaptive management, not only will their work be better for it, but it will be cost-effective in the long-run and reduce the probability of making costly mistakes in the future.

Public comment from Erik Ringelberg, Local Agencies of the North Delta (LAND):

- Page 2 – application of adaptive management. It would be helpful to articulate that adaptive management should be a means for helping to accomplish original project goals and not a substitution for a thorough and effective understanding.
- Page 16 – the adaptive wheel. Nimble vs. flexible. Everyone would prefer a nimble process and the nine step wheel could be streamlined by depicting a three-step wheel with the other steps subsumed. It’s a lot easier to accomplish three steps instead of nine steps. Explore how to improve box #9 so that we can begin to operationalizing the ideas.
- In terms of funding adaptive management, Ringelberg actually likes the idea of identifying the costs to implement adaptive management but doesn’t believe that 20% is realistic. He suggested considering the Resources Agency as a place to house the AMT since they are a

consistent, institutional source with long-term funding capacity. The Delta Conservancy might be another option, however they don't have the same "fiscal hammer" as Resources.

- Consider a 5% hold-back in grant funding to be able to consider what we've learned while implementing box #9 of the adaptive management wheel (i.e. the "tweaking" of the project)?
- The monitoring cycle should include an independent review of existing projects (with the understanding they were built 15– 20 years ago) to determine how they performed under the original goals and objectives and how they perform now, under the current understanding of science.
- Disaggregate or have an independent trust fund (perhaps the Conservancy has the legal ability) so that general fund and grant funding issues don't prevent us from continuing to look at these projects well into the future, presumably after the grant expired.

Action: Wiens asked Ringelberg to provide his comments in written format.

Action: Board members will send final comments to Wiens by Wednesday August 19, 2015. Wiens will incorporate those comments and that next version will be publically distributed by staff for a 3 week public comment period.

- Water Quality (Collier, Canuel)

Collier and Canuel used a two-page proposal to solicit public comment on the water quality review. As of yesterday's deadline, they received comments from 7 entities. In general, people expected more detail than what could legitimately fit on a two-page proposal. Most of the comments focused on markedly expanding the scope of the review and considering many more interacting factors involved in water quality. At this point in time, Canuel and Collier are not ready to discuss anything in more detail without having the time to fully digest the comments received, but this first draft of the proposal did not hit the mark that would be most valuable to the entire region. There needs to be a Board discussion about significantly expanding the scope and if that happens, both Canuel and Collier feel that additional expertise would be required.

Action: Canuel and Collier will take some time to draft a revised proposal, after some consideration of the comments received.

- Delta as an Evolving Place (Norgaard)

Norgaard reports that the community of scholars involved in trying to understand the cultural value of the Delta as an evolving place is too thin and dispersed to have a meaningful review so Norgaard suggests that the Delta ISB's effort not be considered a typical science review. It's a different animal, and Norgaard is thinking of the work as a facilitation, prodding, spurring (e.g. how can we help the scholarly community dealing with what "Delta as a place" that could potentially instigate more funding in this area?). Norgaard attended the Delta Narratives Project on June 17, 2015 sponsored by CSU Sacramento. This project was attended by librarians, museum directors, National Park Service liaison for national heritage areas as well as a few concerned citizens. Norgaard asked if this Board can bring together the disparate people who work on the Delta as a place, into a workshop environment, and see if they can't coordinate their own review and assessment of where they're at and where they need to be. That process could then be something the Delta ISB could interact with and help by providing comments such that the Board plays a more participatory role, rather than interrogative.

Wiens thinks it's a legitimate role for the Delta ISB to help consolidate the knowledge that relates to 'Delta as a Place', however it becomes problematic if the Delta ISB's role is to facilitate a number of people talking about the subject without any thread of science. Can substance be provided to the existing science framework of the Delta, instead of thinking about 'Delta as a Place' outside the science

framework? Brandt agrees and asks, if we were to think of 'Everglades as a Place' or 'Chesapeake as a Place', what are the common qualities shared by these places and what unique values do they have that can be connected back to science? What unique opportunities or constraints exist for science to get accomplished in the Delta?

Public comment by Tom Zuckerman:

The University of California, Berkeley Landscape Architecture Department has sponsored an effort called the [Delta Charrette](#). It brought together lots of people to determine what values are worth preserving and where it can be done most effectively. The types of science behind this process were things such as landscape architecture, recreational and land-use planning.

Lund likes the idea of encouraging the DSP to hold a workshop that would bring the different social and historical scientists of the Delta together, but is reticent to have the Delta ISB hold a workshop on it. Another idea Lund offered was to commission baseline studies on the social geography of the Delta. It might be that a review of this nature results in a short memo about what we are aware of and what the gaps are. Resh suggested using the interview process as a basis of retrieving information and Norgaard agreed that would be a useful next step. Norgaard and Lund agreed that the nature of this subject is very disparate, dispersed, thin and not well organized, however Norgaard believes that the Delta ISB could be the entity that encourages the Delta Protection Commission (DPC), who funded the Delta Narratives work and was represented by staff member Blake Roberts, to take the next steps (post Delta Narratives workshop). Lund offered to help with the Delta as Place effort since his past experience involved community studies. Wiens points out that there is very specific aspect of the intersection of values with science, and that has to do with listed species that are driving so much of what's happening in the Delta, exacerbated by the effects of the drought. The Endangered Species Act is a solidification of a particular set of societal values, and the Delta represents the intersection of the values of conservation agendas and the ecological health of the Delta.

- Delta Levees (Atwater)

Atwater reports that there have been lots of activity on Delta levees, despite the Board's review proceeding very slowly. The peer-review report on the Delta Levees Investment Strategy (DLIS), that ranks the State's priorities on levee work, has been received. Council staff has also been working on high-level principles of levee work. The DSP and Planning staff have been asked to help support the DLIS work by looking at the mitigation to the damage of habitat and net habitat requirements. This effort should help inform how investments are made in future habitat improvements coincident with levee maintenance. Norgaard and Atwater received guidance from the DSP and Council staff concerning the scope and opportunities of a levee review and in particular they were pointed to levees in Suisun Marsh and urban levees that are important parts of the levee picture they needed to become familiar with. They have continued to tour Delta levees as there is a need to learn about the particulars in order to have an understanding of the general issue since each levee island is unique in its features. Yesterday Atwater, Norgaard and DSP staff Jahnava Duryea visited Holland Tract and McDonald Island, which is considered the Cadillac of levees and are characterized by enormous toe-berms and minimal vegetation. Lund suggested including interested Board members in future levee field trips, consistent with Bagley-Keene procedures.

Tom Zuckerman provided public comment commending Dr. Goodwin for the great job that he's done and being an example of how science can interact in the context of difficult Delta issues. Zuckerman

noted Goodwin's work on the difficulty of assembling the work being done in the scientific community so that it's credible and useful to the decision-makers.

#### 11. Feedback on the initial Board assignments for the RDEIR/SDEIS

Lund would like the Board to determine a) how high a level they want their comments to be, b) who their target audience is, and c) what time frame can be achieved. Lund reported that Executive Officer Pearson and Chair Fiorini would like comments at the end of September. To meet this deadline, the comments need to be very high level, perhaps with 7– 10 major messages from the Board. This draft should be produced fairly early so that it can be circulated among the Board and perhaps even discussed publically at the September 16, 2015 Delta ISB meeting.

Resh agrees that a high-level review is appropriate for the following reasons:

- He was pleased with the revision in Appendix A of the new draft;
- The scope is so much narrower, he feels the Board can stay very high-level;
- There is nothing to review about adaptive management because it isn't provided, despite the Delta ISB providing multiple pages of text about it in their previous review;
- The nature of Chapter 4 will make it difficult to do a detailed reviewed.

Wiens finds it necessary to provide commentary addressing the degree to which the Delta ISB's previous concerns were addressed (this can be short). He also thinks that the Delta ISB can address the consequences of the shift in approach. He believes that getting into the weeds won't be useful at this point. With regard to adaptive management, it seems to be handled as a back-up plan and not something integral or planned for from the beginning. This should be included in the comments.

Brandt notes that from the fish and aquatic resources perspective, many of the previous Delta ISB comments don't apply anymore since the nature of the project has changed so much. It really boils down to the construction phase and the operational phase so he suggests including verbiage addressing the fact that in many cases the previous comments no longer apply.

Zedler points out that for every species of fish, the document says impacts are "mitigated to insignificance" however, no specific mitigation is proposed so everything has to be taken at face value and there will be no way to tell if mitigation has been achieved or not. Zedler challenges the generality that everything will always be mitigated and since the document doesn't identify what is to be achieved, you can't say it wasn't.

Atwater pointed out that only two impacts in alternatives (page 23 of the Executive Summary) changed from "less than significant" to "significant but unavoidable." Brandt reminded the group that the Delta ISB previously questioned the value of this categorization approach, which seemed to be subjective in nature and not necessarily objective and science-based. Therefore, changing the category that an impact falls into, based on an already subjective process, and doesn't necessarily solve anything.

**Action: Atwater and Wiens begin to consolidate their comments. All other Board members review each of the eight major concerns from the previous review ([here](#)) and decide which of those, based on your readings, you would carry forward. Provide two or three sentences of rationale and send those to Atwater and Wiens as soon as possible (preferably by Monday August 17, 2015) and no later than two weeks from now, August 27, 2015. Board members should also identify any other emerging concerns**

that are a result of the new plan and a couple of sentences describing why it is of concern. The consolidated and edited set of comments will be routed through Souza to the Board, in advance of the September 16, 2015 ISB meeting where full Board discussion, potential approval, and public comment can occur.

12. Public Comment

There was no public comment for matters not on the agenda but within the subject area jurisdiction of the Delta ISB.

13. Adjourn for the day

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***Friday August 14, 2015***

*2<sup>nd</sup> Floor Conference Room, Park Tower*

14. Welcome and Call to Order (Lund)

15. Q & A re: RDEIR/SDEIS for BDCP/California WaterFix with Cassandra Enos (DWR) and Steve Canterwall (ICF)

Cassandra Enos and Steve Centerwall were here to review changes to the Bay Delta Conservation Plan/California Water Fix. In December 2013 a public draft of the BDCP EIR/EIS was released and a public comment period lasted until July 2014. The major concern revealed through the public comment period related to the amount of uncertainty that existed with a 50-year project period. In April 2015, a pivot in the project direction was announced along with a scaled down version of the BDCP, focused on a shorter time period and removal of some of the habitat restoration. Also in April 2015, California EcoRestore was announced. EcoRestore moves forward on other planned restoration projects at a theoretically faster pace. This restoration is different than the environmental mitigation that is part of California WaterFix. Lund asked if the two efforts were being coordinated together. Enos explained that there is a new office at DWR that facilitates the coordination of these restoration projects, looking at them from a landscape perspective. Wiens reminded Enos that in the ISB's previous comments on BDCP, they made the point that considering projects independently is "missing the boat" on things....if you restore things in one area, it will affect another area since these places are functional linked. He asked to what degree there will be a real effort to coordinate the actions or is it too late to design an integrated restoration program?

Three new sub-alternatives were added to the EIR/EIS, focusing on alternative 4A, the new preferred alternative. The sub-alternatives have a different implementation strategy, which is Endangered Species Act (ESA) compliance through Section 7 and California ESA 2081(b) (CESA). Environmental commitments are portions of BDCP conservation measures necessary to offset project impacts. The current restoration (~2,300 acres of habitat restoration and ~13,300 acres of habitat protection) now only offsets the impacts of the project itself. This was based on standard mitigation ratios typically used in projects. Collier points out that most of the habitat protection (11,870 acres) are for agricultural land (i.e.

mitigation for species that use cultivated lands, mainly Swainson's hawk). Zedler asked for a definition of "habitat protection" and Enos explained that it was a variety of things including conservation easement and habitat management plans. The conservation easements are established in perpetuity and managed by an endowment ensuring there is "in-perpetuity funding" for the management of that land in accordance with the criteria from an approved habitat management plan.

Atwater asked about the plans for the reusable tunnel material and how many levee miles of toe berm could be created with the material. Enos recalled that reusable material is estimated to be 23M cubic yards and Canterwall added that 1M cubic yards of material is needed for 1 mile of levee. Eventually there will be a reusable tunnel material management plan but currently there are no agreements in place so for the purposes of this document, it is assumed that the material will be stockpiled at the locations identified. Initial geotechnical evaluations conclude that the material will be clean (i.e. usable) since it is located so deep (150 ft.) and will be bored with biodegradable detergents. Lund mentions that one of the bigger challenges is subsequently transporting the material and that there might be value in modifying the tunnel boring activities so that material is stockpiled where ultimately needed. Enos pointed out that the map identifying Bouldin Island as the only repository of tunnel material is misleading. Bouldin Island was identified as a change (additional location) since the previous BDCP EIR/EIS, not the only location. There are five tunnel reaches and therefore 5 stockpile locations.

In regards to intake engineering, the previously proposed concrete sedimentation basins were changed to earthen basins. This reduces truck trips, noise, the number of features per site and the total volume of concrete and number of concrete pilings by 75%.

Enos recommends referring to Section 2 in the EIR/EIS, which is a 27 page summary of the changes and updates to the document.

Brandt wanted to ensure (and Canterwall confirmed) his understanding that the same models and tools were used for both documents so the scientific foundation for the methodology does not need to be revisited since they remain unchanged. The same models (e.g. CALSIM, DSM-2) were applied with new or different parameters based on the alternatives. New information was incorporated as it became available.

Zedler asked how the timing of the mitigation matches the impacts that occur. There would be an opportunity to demonstrate that you've achieved an offset during Year 1, before implementing improved mitigation in Year 2 or 3. Enos explained that they have committed to the agencies that all mitigation will be in place before the impact occurs. There will be an annual accounting of the mitigation before the activities occur in that year. Zedler comments that the assumption is if you do something, an offset is achieved, but that's not been her experience....the restoration of 2000 acres will have only been started, not completed.

Wiens stated that there will be many opportunities to test adaptive management in this project but the way that it's handled in the document is getting "kicked down the road." The organizational infrastructure to do adaptive management has not been identified. What are the assurances that these opportunities will be thought of (ahead of time) and taken advantage of as the project unfolds? Enos believes that this is part of the permitting process and partnering with the EcoRestore process. Collier points out that the difference now, is that adaptive management is falling to the resource agencies to require the really stringent monitoring, evaluation and feedback. Therefore, it would be nice to have a

working understanding (now) of what the project proponents would be willing to commit to (as a first step) and then have that negotiated with the agencies. Enos anticipates this kind of information and detail will be folded into the final document but Zedler asks if there will be an opportunity to provide guidance on that information. Lund explains that the Delta ISB has a legal mandate to provide a review of the draft. This does not preclude the Delta ISB from being asked to review another version, or taking it upon themselves.

Regarding plan/project area, Canterwall explained that the plan area is used as the basis for the geographic scope but that doesn't mean that impacts of the proposed action outside of the plan area, are not evaluated. They concluded that the relatively minor reduction in outflow as a result of the new alternatives, is not likely to be a large effect on constituents that could affect beneficial uses in the Bay. The analysis resulted in a "less than significant and not adverse effect" on the San Francisco Bay environment. Collier pointed out that other effects outside of the plan area such as cropping patterns as a result of increased water reliability were not investigated. Canterwall reported there was a cursory look at this (in the Growth and Indirect Effects chapter) but it was too speculative so the analysis was stopped. He added that the analysis was based on whether there would be increased exports however Alternative 4A's average annual exports are less than current levels. Norgaard adds that the reliability is greater and Canterwall confirms that a more reliable cropping pattern from year to year is a goal of the project.

Enos explained there is "Bypass Flow Criteria" that dictates diversion amounts. The amount diverted is dependent on the amount of water in the rivers. Enos believes that no pumping is allowed at river levels less than 5,000 cfs. The intent of the project is to increase flexibility by using the north Delta intakes during periods of high flow and the south Delta intakes in the summer during periods of low flow. That's the flexibility of dual conveyance.

Lund asked about the absence of delivery reliability curves and Canterwall confirmed the curves are not in the document because economic effects have not been considered, only physical effects. Enos added that delivery reliability curves are not part of the requirements of an EIR/EIS however they are being looked at by DWR, as a separate process, and should be available in a month or so.

One question from the Delta ISB was what new thought has occurred in relation to climate change and sea level rise? Canterwall explained that all of the assumptions were checked to ensure they were up to date and then the analysis was rerun for a shorter time period (5 years of operation). Atwater pointed out that no update to this chapter gives the perception that the science is static. He suggested that a red-line version depicting that references were at least consulted or updated would provide some assurances that the adequacy of the science was revisited. Canterwall explained that the change in features and operations of the project did not directly affect the climate change analysis, so it was decided not to include it again in the recirculated document. The changes would have been minor enough that it wouldn't have been a benefit to the public to review again. In regards to how the project has been revised to address the drought, Enos explains that there would be benefits in drought situations. "Back of the envelop" calculations estimate an additional 1.4 MAF of water could be captured because of the flexibility of the dual conveyance operations (i.e. taking water from the north Delta during times of rain and higher flows as well as reducing carriage water loss in the summer).

The point that Canterwall would like to make about uncertainty is that effects are evaluated based on thresholds and not precise numbers. What they are really trying to do is provide enough information in

the analyses to show whether they are exceeding a threshold or not. In instances where the threshold is exceeded (i.e. an adverse effect), they are required to offer mitigation to lower the effect. Another point he wants to make is that they don't blindly accept model results. There is a lot of QA/QC that goes into the model result process and evaluating whether the model results make sense, before coming to a conclusion.

Goodwin asked about how the previous Delta ISB comments concerning the cumulative effects of uncertainty were addressed in the new draft. Canterwall answered that all the model information is disclosed in a large appendix in the document. Additionally, the models are always evaluated from the perspective of comparing values across alternatives (and not from a predictive perspective).

In terms of risk analysis, Canterwall's opinion is that risk analysis was more valid in the previous alternatives where there was a lot of discussion about the program and project level interactions, restoration areas and conservation measures. Now, he believes there is limited value in risk analyses for the new alternatives because it is project-specific and the only requirement is to look at specific effects related to the operation and maintenance of the facility.

Zedler asked what mitigation ratios were used and how they were determined. It was explained that the project proponents and the agencies work together to establish mitigation ratios and they can be different for the same species depending on the quality of habitat being mitigated.

Atwater points out that there is a long list of preparers cited but it's not clear what role each played. Canterwall explained that the purpose of the list of preparers is to establish the administrative record and document the experts that contributed. More specifically, the role of DWR and USBR was to direct ICF about the scope of work and together with ICF, work through the decision-making about how the analyses and alternatives would be presented. The role of CDFW, USFWS, NMFS, and USACE was to provide input on the methodology, approaches and modifications to the analyses. Enos added that prior to the pivot point in BDCP, the fish and wildlife agencies (NMFS and USFWS) were co-lead agencies. After the change in direction, the fish agencies didn't need to use the document for internal section 7 permitting and co-lead agencies became USBR and CDWR in the recirculated document. In the draft document, all the agencies were preparers of the document and had direct roles in reviewing and providing authorship. In the recirculated document, the regulatory agencies became cooperating agencies in the process; their role was to provide review and feedback.

DWR has a strong interest in maintaining the south Delta levees since the dual-conveyance facility plans to use the south Delta facility 50% of the time. Under the California Water Action Plan, CDWR is required to work with the Council, DPC and a variety of other local entities to help prioritize funding for levees. CDWR will continue to maintain a strong interest in that process and help coordinate the effort. Atwater asked about seismic risk and what would be the impacts from multiple island levee failure that form the basis of this assessment. This issue is not in the report and he is wondering if it really is beyond the scope? Enos explained that flood issues will be included as an appendix in the final document, even though the EIR/EIS is supposed to evaluate the effects of the project on the environment and not the effect of the environment on the project.

Lund asked where he could find an explicit comparison of all the new subalternatives and a discussion about why the preferred alternative is preferred. Canterwall explained that they intend to include a "Master Comparison Table" will be added to the Executive Summary of the final document. Lund and

Atwater recalled that the summary information has been asked for several times before and it doesn't make the job of reviewing the document any easier when information that can be used to evaluate the adequacy of the science is absent or punted to the final document. Wiens remarks that it seems there is a lot to be done between the draft and final EIR/EIS, leaving him to think that the Delta ISB comments would be more useful if they identified what needed to be done between the two documents. Canterwall added that the NEPA process requires that the final document be circulated for a minimum of 30 days. These comments are typically not responded to again, but they are considered.

Collier asked who the responsible agency is for community and public health impacts of the project. Canterwall explained that as part of CEQA, when a significant effect is identified, the project is required to identify mitigation measures to reduce those effects. CEQA also requires that a Mitigation Monitoring and Reporting Plan is also developed. This detailed accounting of all the mitigation measures, environmental commitments, avoidance and minimization measures will be detailed in the final document, along with who, what, when, where and how all the mitigation measures will be implemented. It is the lead agencies responsibility to oversee this, which is CDWR and USBR.

Zedler added that the toxic algal bloom information is outdated. The most recent work is by Hans Paerl and identifies excess nitrogen additions as a trigger for *Microcystis* blooms (the mechanism is that *Microcystis* cannot fix its own nitrogen).

#### Public Comment:

- John Mills (representative of multiple water agencies in the Delta watershed).  
John wanted to point out two challenges that he sees. The first is how the ISB will approach the challenge of time frames in this document. There is a five-year time period for analyses of a project that will last much longer than 5 years (consider the context of climate change, where things are constantly changing over time and never in the way intended). The second challenge is that the Delta ISB has an advisory role to the Council, which has a role as a responsible agency. Most other agencies submitting comments are considered participating agencies, not responsible agencies. The Delta ISB is disconnected from advocacy on this issue. John sees these two different time frames and objectives as challenges and he is interested in how the Delta ISB will approach these challenges.
- Osha Meserve (Local Agencies of the North Delta and Stone Lake Refuge)  
Osha is here to share her concern as a representative of people directly impacted by this project. Their concern is that future uncertainties are not addressed and/or addressed with unreasonable assumptions. A lot of "significant and unavoidable impacts" in the BDCP EIR/EIS are now being shown as "less than significant" in the recirculated draft. This change is based on additional development of mitigation measures but from a scientific perspective, it's important to assess if those mitigation measures will be feasible and effective. Another area of concern is about survival of the species. Osha observed that re-consultation has been identified as the process to engage in if the goals of the biological opinions are not met during the project. However, she believes that the re-consultation process is very rare, and doesn't think it has ever been done in this context. Osha adds that during this drought, we have seen re-consultation initiated and instead, the pumps continue to operate, water quality standards are waived and the take limit of smelt is increased. Therefore, it is not a fair assumption to rely on future regulatory "checks" to prevent further deterioration of species. This is one of the key areas that Osha would like the Delta ISB to explore.

- Sam Safi (Sacramento Regional County Sanitation District)

Sam asked to clarify if the pumps located at the north Delta intake facilities are gravity fed. Canterwall: The pumping plants at the three north Delta intakes would be removed under Alternative 4, 4A, 2D and 5A. Those pumps would be consolidated into two larger pumps in the northeastern boundary of Clifton Court Forebay (CCF) that then pump out of a well. The gravity-fed system will have a 28 acre intermediate forebay that regulates water flow before entering the large pumps 30 miles south to CCF. At that point, water is pumped out of the system. There is a Conceptual Engineering Report (CER) available on the website that details all of this information. The recirculated document is a summary of the CER.

Sam asked if EcoRestore played a role in the no-action alternative comparisons.

Canterwall: EcoRestore is not part of the no-action alternative because it is not considered to be a continuing plan, program or project. It is explicitly excluded from the no-action alternative in the NEPA baseline but it is evaluated in the cumulative impact analysis (Section 5 of the recirculated document).

Sam commented that he found some flaws in the ambient temperature impacts and reverse flow calculations used in the 2013 model. He submitted these comments but hasn't heard back and was wondering if he will.

Canterwall: All of the comments received on the draft BDCP EIR/EIS were reviewed. He would need to consult with the water quality experts before getting back to Sam.

## 16. Organization of the review of the BDCP/California WaterFix RDEIR/SDEIS

Lund wants to revisit the plan identified yesterday (Atwater and Wiens compiling a draft of the comments to circulate to the Board; in the meantime all Board members should be sending their positive and negative comments, in writing, to Atwater) and ensure it still is a path to timely completion of the review. There was no disagreement so the Board spent a couple minutes sharing their first impressions of the document:

Norgaard: Now believes that the Delta ISB will be looking at the final document.

Resh: The Public Health chapter covered all of the concerns that the Delta ISB made previously, and the Recreation chapter did also, to a certain extent. The Aquatic Ecology chapter is all over the place. Appendix A is helpful, especially the added information about Microcystis, which was previously absent.

Lund: Some of the details are better than before. His concern is about the disorganization of the document and the failure to do the comparative evaluation that an EIR is supposed to contain. Without the comparative evaluation, you cannot answer why the preferred alternative is preferred. The document doesn't contain information that decision makers would need.

Collier: With the change in permitting strategy, there is much more detail that needs to be worked out with the consultation agencies. He feels that the Delta ISB should be as specific as possible so that the agencies (specifically USFWS and NMFS) are armed with useful guidance during the consultation. He is frustrated with the lack of summaries, lack of hyperlinks, bad links and the figures in section 4 that are all separate files. He is pleased to learn that there will be a small window of opportunity for another review of the final document.

Canuel: Pleased with the updates in the areas of water quality such as new contaminants being considered (selenium, methylmercury) and new information added (sediment loading, nutrients, harmful algal blooms).

Zedler: The document may be overly optimistic in the prediction of the ability of restoration to mitigate all of the impacts that will occur over a 10-year construction period. In Zedler's previous experience with EIR's, they were for much shorter time frames (e.g. 1 year). Since this project is for ten years, perhaps there should be ten times the amount of mitigation. The concept of mitigation banks are not being used adequately. Mitigation banking is a good incentive.

## 17. Meeting Summary

- Next meeting(s)
  - The September 16, 2015 meeting will be relocated to Sacramento since many people are not able to attend in Oakland. It will largely be attended by teleconference. The major focus of this meeting is finalizing the comments on the RDEIR/SDEIS and the details of the October in-Delta meeting.
  - In addition, Board members should reserve September 21, 2015 for a teleconference at 9 am PDT, in case it's needed to finalize the draft comments on the RDEIR/SDEIS.
  - Atwater and Norgaard have continued to scout out destinations for the October field trip to coincide with the in-Delta meeting. Atwater's top picks are the salinity barrier, Jersey Island, Dutra Museum and Dutch Slough. Lund suggested that Dutra Museum could be a supplemental trip for a smaller group of people and Atwater included Browns Island in the same category.
  - **Action: A draft of the October meeting details should be discussed at the September 16, 2015 meeting.**
- Decisions/Outcomes
  - The Delta ISB unanimously voted in favor of recommending that the Council appoint Dr. Cliff Dahm to Delta Lead Scientist.
  - Atwater and Wiens will lead the effort to consolidate and edit the Board's comments on the RDEIR/SDEIS.
  - The September 16, 2015 meeting will be relocated to Sacramento since many people are not able to attend in Oakland.
  - Board members should reserve September 21, 2015 for a teleconference at 9 am PDT, in case it's needed to finalize the draft comments on the RDEIR/SDEIS.
- Actions
  - Staff will format the letter of recommendation to the Council, onto Delta ISB letterhead and have it signed by Chair Lund.
  - Shouse and Hastings will facilitate the Council-review of the recruitment flyer and duty statement but this should not delay the Delta ISB's recruitment effort. Staff will distribute the previous recruitment flyer to the Delta ISB.
  - Individual Board comments on the RDEIR/SDEIS should be sent to Atwater in the next two weeks but preferably by Monday August 17, 2015.
  - Canuel and Collier will draft a revised water quality proposal.
  - Collier and Brandt plan to formally document the outcomes of the self-assessment discussion and present that at a future Board meeting.
  - Wiens asked Eric Ringelberg (LAND) to provide his comments in written format.
  - Board members will send final comments on the adaptive management report to Wiens by Wednesday August 19, 2015. Wiens will incorporate those and the next version will be publically distributed by staff for a 3 week public comment period.

## 18. Public Comment

- Tom Zuckerman (Delta Landowner)

Tom's concern is that the agencies have submitted comments to the original BDCP EIR/EIS, which was supposed to be a giant undertaking to address the problem of a gross deficit of water supply commitments. This problem is getting ignored as there is still less water available in dry periods to meet all the needs.

- Osha Meserve (Soluri Meserve Law Corporation)

Osha asked if the Board would be applying the Best Available Science (BAS) standard to the review of the recirculated draft document to which Lund answered that BAS is implicit in everything the Delta ISB does. Osh reiterated her recommendation that the Board's review of the BDCP/California WaterFix RDEIR/SDEIS include advising the Council on the adherence of the RDEIR/SDEIS with the BAS standard adopted by the Council in the Appendix 1A of the Delta Plan.

- John Mills

John suggested that the Delta ISB recommend using the 5-year project timeline associated with EcoRestore as a transition into a long-term adaptive management program.

## 19. Meeting adjourn