

## OUTCOMES MEMORANDUM

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**TO:** CAMT Members  
**FROM:** Bruce DiGennaro  
**DATE:** October 27, 2020  
**RE:** October 20, 2020 CAMT Meeting #96

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**Attendees:** Alison Collins, Ben Geske, Brycen Swart, Carl Wilcox, Cathy Marcinkevage, Dan Ohlson, Dana Lee, Darcy Austin, Deanna Sereno, Dick Pool, Erik Loboschefskey, Erin Cole, Eva Bush, Frances Brewster, Heidi Williams, Henry DeBey, Jana Affonso, Jennifer Pierre, Jereme Gaeta, John Ferguson, Josh Grover, Josh Israel, Karen Kayfetz, Larry Brown, Louise Conrad, Lynda Smith, Mario Manzo, Mike Urkov, Pat Coulston, Rachel Johnson, Rene Henery, Rod Wittler, Sally Rudd, Sam Luoma, Scott Hamilton, Scott Petersen, Sheila Greene, Shelby Rinehart, Stacy Sherman, Stephanie Fong, Steve Culberson, Ted Sommer, Yuan Liu

### Action Items:

- Mike Urkov – share dates for upcoming SIT meetings and send Bruce any background info related to models
- All – provide feedback on Delta Smelt SDM Phase 2 report through respective TWG members
- Louise – share DSG draft solicitation for public comment (due 11/2)
- Bruce – follow up on outreach plan for Entrainment Studies 1 & 2
- Bruce – add release of Entrainment Studies 1 & 2 to December Policy Group meeting agenda

### Discussion Highlights:

#### 1. Agenda and Updates

- DSP just released a \$9 million draft solicitation for public comment. Seeking proposals to advance the science agenda. Public comment due 11/2. Letters of intent due 12/15.
- Josh Grover who is the chief of the water branch will be assuming Carl's place at CAMT and will serve as Chuck's alternate for the Policy Group. Brycen will continue to participate and work on adaptive management.
- CDFW will be releasing a \$7 million solicitation in early 2021 for restoration and science within the Delta.
- SWC Board authorized agreements with Compass (for Phase 3 of the Delta Smelt SDM) and Bill Bennet.
  - CSAMP facilitation costs are covered through USBR and DWR contracts (though most of the funding comes from the PWAs). We are funding technical work (like the Compass SDM work) through the PWAs. Appreciate the water users continuing to support our activities.
- CAMT Delta Smelt Entrainment Reports
  - The Delta Smelt Scoping Team has officially finalized Entrainment Studies 1 and 2 and they will be posted shortly. The DSST is still discussing how best to wrap up Study 3 (related to proportional entrainment loss estimates) and Study 4 (related to population impacts).
    - This was a substantial effort that deserves wide circulation. Consider conducting outreach to notify the broader community
      - Three of the papers have been submitted to SF Estuary and Watershed Sciences. They have been through peer review and are now in revision, so there is a high likelihood they will be published.

## Facilitator Notes, Not Reviewed or Approved by Meeting Participants

- Agree, that we should aim for broad access and availability. CAMT doesn't have a PR branch, perhaps member agencies can help with releases. Follow up offline to generate a recommendation for how best to proceed.
    - Consider presenting at December Policy Group meeting
    - Would CAMT members be supportive of writing an editorial in SF Estuary and Watershed Science that talks about the work that has gone into these studies?
      - Would like to discuss further – could be valuable for people in the sociology of collaborative science to hear this story.
  - Recent Prop 68 Projects
    - CNRA Prop 68-funded planning and implementation projects will be getting underway over the next several years. More specific project details will be forthcoming but includes Delta and upstream projects.
      - Represents a big commitment to enhancing watershed restoration on behalf of the State – many of these activities (e.g., flood plain enhancement and riparian restoration) have been talked about for a long time
        - Not seeing many (implementation) projects in the Delta
          - ◆ There are a few in the Delta (e.g., Little Egbert, Peters Pocket, HCP implementation in Yolo) but it was hard to find implementation-ready projects to fund in the short term.
  - IEP Long-term Monitoring Reviews
    - Administrative draft of long-term monitoring study review is now available upon request (contact Steve Culberson or Kristine Job). Will be presenting to IEP stakeholder group on Nov 10 (all are invited), and then to IEP directors in December. Review was labor-intensive but we believe we've developed some tools that will be useful for analyzing data sets of long-term monitoring programs. It will likely take 5-10 years to get through all IEP programs but offers the potential to make better use of the information we're collecting. Lots of conversations to follow.
- ## 2. Tidal Wetlands Restoration Monitoring
- CAMT has been looking into habitat restoration monitoring activities in the Delta to gauge if/how we might play a role. Based on conversations and presentations to date, it seems that:
    - Stacy Sherman's IEP Wetland Monitoring team is doing site specific monitoring and annual roll up and synthesis.
    - DSP is in the scoping phase of an effort focused on synthesizing available data sets to study passive and active restoration projects. Examples include:
      - Using aerial images to ascertain vegetation development
      - Literature review of food web with a zooplankton ecology lens
    - Further conversation is needed regarding permitting (i.e., issues with take related to monitoring)
  - Questions/Comments
    - Have we developed a list of questions gleaned from experts regarding what we're hoping to learn from all of these restoration projects?
      - The management questions workshop in September for the Science Action Agenda update included habitat and species management. Karen Kayfetz's group facilitates the Interagency Adaptive Management Integration Team which has tried to determine the management

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questions that could be asked of the data being collected

– CVPIA is doing similar exercises

- Concerned that many restoration programs don't have a goal in terms of what the habitat is supposed to do or how much is needed. Could help to look at goals being developed by the Science Program and/or DSSP and consider what types of restoration projects could achieve the desired outcomes (essentially back calculate a landscape scale vision for restoration projects).
  - When restoration projects are developed they should include the hypotheses being proposed in order to lay the groundwork for post-project evaluation
    - Tailored monitoring plans are developed ahead of time for each restoration site – we know that each site does not present the same opportunity to study.
- The IEP wetland monitoring team has developed a framework for restoration project objectives and the associated monitoring to gauge effectiveness/benefits.
- Both SDM approaches are attempting to build functional mathematical models to describe the relationships within habitat restoration (e.g., food availability, water quality, hydrodynamics) and relate them to fecundity, survival and abundance. Interested in using these models to identify what information holds the greatest value and allocate resources accordingly.
- Jennifer – to Rene's question– when the project charters are put together I think they are actually proposing the hypothesis and questions that we can then check based on our
- There is a need to tie all of these things together
  - Making sure that little projects are fitting into the bigger picture will move us closer to the goal for a particular/multiple species
- Efforts at developing management questions will be more valuable if we can put them in a hierarchy, i.e., what are the top 10 things we want to learn? Consider incorporating DSSP objectives in discussion about these high-level questions.
- The SDM report indicates that five of the top ten hypotheses related to Delta Smelt impacts are associated with habitat and food (and two are related to entrainment). Suggests an opportunity to potentially add quantitative information into these decision support tools so that we have better information related to seven of our top ten hypotheses about what is limiting Delta Smelt. Restoration is one of our main actions to impact rearing and food – decision support models could help with holistic approach.
  - Delta smelt SDM doesn't include any prioritization at this stage. As that group goes forward, consider revisiting in relation to restoration
- Concerned about CSAMP stepping on the toes of other efforts (e.g., IAMIT)
  - Further discussion (with/regarding SFEI's Delta Landscaping Tool, Stacy's work, Karen's team, Science Action Agenda) might help identify synthesis needs and make potential roles for CAMT more clear

### 3. CSAMP and Salmon Recovery

- Background
  - 9/2 - Policy Group concurred with NGO proposal and directed subcommittee formation
  - 9/22 – Subcommittee (Barry, Bill, Thad, Dick, Carl, Dave) met and developed guidance
  - 9/24 – Guidance endorsed by Policy Group members on monthly call
- Policy Group Guidance
  - Focus on Recovery

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- Include all four salmon runs and consider steelhead.
- Include the full life cycle (hatcheries, tribs, Delta and ocean).
- Consider all types of actions, including regulatory actions.
- Increase coordination and facilitate implementation of high priority management actions (i.e. those likely to have population level impacts).
- Proposed CSAMP Tasks
  - Task 1: Formulate a framework/structure for coordination (how things fit together, including roles and responsibilities). Work with existing groups, understand and help coordinate.
    - The roles and contributions/responsibilities of CSAMP vis-à-vis CV Salmon and intersection with other restoration and science efforts (e.g. individual CSAMP members).
    - What CSAMP is striving for with respect to CV Salmon and how this will be achieved through collaborative efforts.
    - Connections between CSAMP's Coordinated Salmon Science Plan for the Delta and regulatory processes.
  - Task 2: Examine who's doing what (i.e. what's getting done, what's not and why).
  - Task 3: Evaluate the benefits and costs of actions.
  - Task 4: Identify priorities (high impact projects).
- Initial thoughts on approach:
  - Not hierarchical (instead: hub and spoke)
  - Tie together information from different groups.
  - Act as a central distribution and communication point.
  - Don't try to usurp other's authorities or prioritization processes.
  - Maximize leveraging of existing information and tools (build on what's already happening – don't duplicate).
  - Co-develop process to support implementation and test hypotheses (agree on how we move forward collectively to achieve joint objectives).
- Considerations
  - Big effort – will take time and resources
  - Need to manage expectations
  - Bigger than CSAMP
  - Need to incorporate ongoing projects
  - Be clear about our end goal
  - Don't be in a hurry, but don't lose momentum
- Questions/Comments
  - There are interest groups throughout the Delta/tributaries – don't want to dictate priorities, but instead make recommendations about a portfolio of coordinated actions across geographies that could have a population level effect.
    - Integration of actions across watershed groups is similar to what's being suggested in Voluntary Agreement discussions.
  - Have had some initial conversations regarding how CVPIA might be included in the process
  - Concerned that focusing on population level impacts may become an impediment (i.e., by creating a threshold that makes it hard to greenlight recovery efforts). Even small recovery efforts can have big impacts in the aggregate.

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- Is modeling of aggregated, coordinated small actions already underway?
  - CVPIA is starting to look for overlap between agencies' interests but hasn't modeled coordinated actions. CVPIA's near-term restoration strategies document includes geographic priorities for restoration
    - There's a disparate level of information across watersheds – makes it difficult to make apples to apples comparisons (more like a "bowl of fruit")
    - Walkthrough of SIT models at upcoming meeting, background info should be available. Anticipating that version two of models will be available in roughly twelve months.
  - NMFS Winter-run Life Cycle model is focused on non-linearities that occur when actions combine

### 4. Delta Smelt Structured Decision Making – Phase 2 Report

- Transitioning from Phase 2 to Phase 3 – goal for the next year is to get through Step 5 (evaluating trade-offs)
- Phase 2 draft report currently under review by Technical Working Group (includes work on: effects pathways, defining objectives, identifying and binning candidate management actions, exploring analytical methods)
- Developed basic conceptual model to link candidate management actions to effects pathways. Created accompanying online documentation (using Wikimedia platform) that synthesizes literature/TWG input and notes key uncertainties/areas for future studies.
- Phase 3 work streams:
  - CSAMP organizational framework for Delta Smelt
    - Interviews, meetings and workshops with CAMT, CSAMP Policy Group and others.
    - Draft(s) as required, and final documentation of the Framework, including:
      - Guiding Principles
      - Clarification of roles, contributions and responsibilities (for CSAMP as a collective and for individual members)
      - Clarification of CSAMP's role with respect to the ITP and BiOp.
      - Process for making recommendation
      - Articulation of how the Delta Smelt SDM process and the implementation of the Delta Smelt Science Plan fits into a broader vision of adaptive management for Delta Smelt.
  - SDM evaluation of actions
    - Further development and refinement of performance measures for all objectives.
    - Specification of management actions, portfolios of action, etc. as necessary for modelling.
    - Evaluation of management actions for multiple objectives, including: Delta Smelt, Salmon, Aquatic ecosystem, Water supply reliability, Water quality for in-Delta water supply, Management cost, Learning.
    - Development of approaches to elicit and document expert judgments needed to inform quantitative modelling.
    - Coordination of data inputs / outputs across multiple modelling approaches.
    - Coordination with the Delta Coordination Group with respect to evaluating any actions that are included in the ITP/BiOp to ensure analyses are value-added and avoid duplication.
    - Implementation of trade-off evaluation exercises.

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- Ongoing pre-feasibility exploration and development of other actions (with input from Delta Coordination Group)
  - Research and analysis.
  - Task group deliberations.
  - Documentation and specification for modelling purposes.
- Questions/Comments
  - In addition to checking in with DCG, please also coordinate with ITP adaptive management group
  - December CAMT meeting will include organizational framework discussion led by Compass
  - Most of the actions that are being evaluated initially are coming from the BiOps, do we have sufficient resources (in terms of key staff time) dedicated to ongoing pre-feasibility actions?
    - Relying on the horsepower of the TWG

### 5. CSAMP Priorities for 2021-22 and CAMT Workplan for 2021

- Category 1: CSAMP Driven Initiatives (Top priority)
  - 2021 Workplan Items
    - Delta Smelt SDM (Phase3) and Org Framework
    - Salmon Science Planning and Recovery – to be scoped
    - WRLCM workshops
    - Delta Smelt Entrainment – complete adults, consider larval
    - Fall Outflow Study - complete
- Category 2: External Initiatives (Primarily communications, but could respond to agency request as time and resources allow)
  - 2021 Workplan Items
    - Coordination with DCG/ITP Adaptive Management team regarding DS actions
    - Other items to be determined
- Category 3: Science Updates/Presentations (Ongoing - may relate to either CSAMP driven or external initiatives, or reflect other relevant topics)
- Note: external initiatives and science updates/presentations are not necessarily endorsed or supported by CSAMP
- Next steps: bring priorities document to December Policy Group for endorsement
- Questions/Comments
  - Is there agreement on the path forward for Delta Smelt Entrainment Studies 3 and 4?
    - Not yet, DSST will bring a recommendation back to CAMT to make a decision regarding how best to use resources.
    - In regards to Study 3 (where work is done but report was never concluded), don't want to strand the investment but it seems like the train has moved on. Looking at how to tie it up without infringing on the author's rights or spending too much more time. Given the uncertainty associated with proportional entrainment, there's an open question about the value of pursuing Study 4 to look at population level impacts.