

OUTCOMES MEMORANDUM

TO: CAMT Salmon Subcommittee Members
FROM: Rafael Silberblatt
DATE: January 6, 2020
RE: December 12, 2019 CAMT Salmon Subcommittee Meeting

Attendees: Alison Collins, Carl Wilcox, Cathy Marcinkevage, Mike Beakes, Pascale Goertler, Rene Henery, Tracy Collins, Tracy Grimes, Vincent Resh, Yumiko Henneberry

Action Items:

- Tracy Collins, Bruce, Rene, and Carl – Finalize Salmon Actions Matrix and reach out to project proponents as needed. Subcommittee members are encouraged to provide feedback on the matrix as well prior to January 9 Subcommittee meeting.
- Bruce – Distribute most recent version of salmon actions matrix to Subcommittee members (Complete).
- Bruce – Reach out to Rebecca Buchanan regarding presentation at future CAMT meeting.
- Bruce – consider a larger venue for January CAMT meeting.
- All – provide feedback on annotated outline of Coordinated Salmonid Science Plan (CCSP) by December 19. Feedback will be received after December 19 will continue to be incorporated into the ongoing development of the CCSP.
- ESSA – prior to January 9 Subcommittee meeting:
 - Finalize CCSP literature list
 - Incorporate updates to annotated outline and distribute to Subcommittee
- K&W – complete CCSP interviews (Complete)
- K&W – develop synthesis of interviews and distribute to Subcommittee prior to January 9 meeting.
- All - Subcommittee members are encouraged to send questions or comments on the [inventory tool](#) or any of the [draft reports](#) that were mentioned during the Delta ISB's presentation on the monitoring enterprise review, please e-mail them to the Delta ISB's staff at Edmund.Yu@deltacouncil.ca.gov. Note that the inventory tool opens in all Internet browsers except Internet Explorer and is still in development. The metadata is still undergoing QA/QC by the monitoring program contacts, and not all monitoring activities have been entered into the inventory tool.
- Alison – confirm Dr. Sturrock is available to present at January CAMT meeting.
- Alison, Bruce, Brad – Develop framing introduction to Dr. Sturrock's presentation regarding her report's relevance to CAMT.
- Mike –assist in coordinating a CCSP presentation to CVPIA in late spring.
- All – Subcommittee members are encouraged to attend January 21 CAMT meeting to receive presentation on CVPIA's Near Term Strategies.
- K&W - Include agenda item during January 9 Subcommittee meeting to discuss specific components of Rebecca Buchanan's fall-run survival research to be presented at future CAMT meeting.

Decisions Made:

- Wait to define geographic boundary of CSSP until interview synthesis is discussed at January meeting.
- Rene, Carl, and Bruce to complete Column C of Salmon Actions Matrix prior to the Subcommittee discussing and prioritizing projects.
- Members support a presentation from Dr. Sturrock to CAMT.

Discussion Highlights:

1. Agenda Review and Updates

- Coordinated Salmonid Science Plan (CSSP) Update
 - Completed 14 out of 15 interviews to date (final interview completed on 12/13).
 - K&W is currently working on global synthesis, which will be shared in advance of the January 9th Subcommittee meeting.
 - Prior to setting geographic boundaries of CSSP, members recommended waiting until synthesis is completed and discussing findings at the January 9 Subcommittee meeting.
- Coordination with CVPIA
 - Rod Wittler will be presenting at the January 21 CAMT meeting; Subcommittee members are encouraged to attend.
 - Subcommittee members recognized the need to coordinate efforts and priority actions between CSSP and CVPIA.
 - Mike to assist in coordinating a CSSP presentation to CVPIA in late spring.
 - Presentation would focus on complimentary efforts.
 - Consider inviting Sacramento River Partnership to this meeting as well.

2. Delta Independent Science Board (ISB) Monitoring Enterprise Review Presentation

- By legislative mandate, the Delta ISB is required to review the adequacy of science in support of adaptive management in the Delta.
- Goals:
 - Develop recommendations that could improve how current and future monitoring programs meet decision-making needs of management agencies.
 - Ascertain how monitoring programs can be better coordinated.
 - Understand how monitoring data can support implementation of adaptive management and assessments of performance measures.
 - Understand how the Delta Science Plan, specifically Action 3.3, can be implemented.
- Factors considered in ISB's review include:
 - Data gaps and redundancies;
 - Coordination efforts across agencies undertaken in data collection;
 - Data quality and opportunities for efficiencies;
 - Degree of data's accessibility; and
 - Current state of monitoring resources.
- Components of the Monitoring Enterprise Review
 - Component 1 (conducted by: ESSA, CBEC, PAX Environmental) includes:

Facilitator Notes, Not Reviewed or Approved by Meeting Participants

- Report #1, which synthesizes five complex long-term monitoring programs to develop a methodology for the inventory.
- A workshop to gain insights from monitoring practitioners, program managers, and scientists to gather information about the monitoring enterprise, priority drivers, and needs for monitoring.
- The development of a Monitoring Inventory, which serves as a database and inventory tool to store and query meta-data about the monitoring enterprise.
- Report #2, which serves an inventory report that summarizes the physical, chemical, biological, and socio-economic monitoring activities across the Delta
- Report #3, which is a comprehensive synthesis report to assess the relevance of monitoring activities in serving the needs of decision makers and identifying opportunities to improve coordination
- All reports are expected to be released by early 2020.
- Component 2, conducted by DISP, will involve interviews with monitoring specialists in the Delta and specific recommendations about the Monitoring Enterprise in the Delta
- Boundaries of the Monitoring Enterprise Review:
 - The spatial monitoring pertains to the geographic boundaries of the Legal Delta and Suisun Marsh. Geographic scope was expanded for thematic areas having upstream/downstream linkages outside the Delta
 - Temporal boundaries focused on ongoing/active monitoring and data collected within the previous 5 years and again within next 5 years (2014-2024). Inactive, historic monitoring, future projections, and forecasts or data associated with model outputs are not included.
- Inventory Tool:
 - Demo version currently live here: <http://essa-dev.com/>
 - Expected to be finalized by the end of January 2020; Subcommittee members are encouraged to review and provide feedback to Edmund Yu per the instructions noted above.
 - Tracks 132 monitoring activities occurring in the Delta.
 - Capabilities include putting in a parameter to determine the various agencies working on a particular species as well as combining results of various monitoring activities (habitats, hydrology, sediment, water quality, organisms, etc.).
 - Coordination amongst agencies is vital to the tool's success, particularly to address data gaps and redundancies.
- Next steps include answering the following:
 - Are there potential gaps that decision makers need filled?
 - What is the data quality of monitoring to address purposes and needs for data?
 - Are there potential redundancies in monitoring?
 - Are there other opportunities to increase efficiencies in monitoring?
 - What resources are being dedicated to monitoring?
 - What is the level of coordination of data collection across different organizations?
 - Are data accessible to the public, decision makers, and other scientists?
- Member questions/comments and responses

- What is your timeline for completion?
 - ESSA reports are expected by end of March and ISB hopes to complete its final document by summer 2020.
- Often, monitoring is conducted that is not linked to management objective. Rather, it is linked to interest or a particular mode of thinking. On the other hand, decision makers request monitoring be conducted as that they believe will answer a management question. However, monitoring is not always the best fit for all hypotheses. How is ISB and this review going to use the expertise in the region to assess monitoring in the region?
 - Once we have the tool completed and have run analytics on it, we will be reaching out to interview a range of experts to determine how monitoring can be improved. We will also provide a recommendation on how monitoring should be implemented moving forward.
- More refined management objectives and testable hypotheses allows for query of body of monitoring to assess what is most useful and assess the effectiveness of current management actions.
- One of the reasons this committee was formed was to determine issues around coordination. Early on, we developed a list on who is working on salmon issues. The list was developed with the intent of assessing coordination – we have not taken it much further than developing the list but ISB’s work serves as means for us to assess the level of coordination in the Delta.

3. Delta Science Plan (DSP) Presentation

- Arose via recommendations from the Delta Plan, which recognized the lack of a unifying document representing needs of Delta science and community at large as well as how to best communicate and organize across agencies and stakeholders.
- DSP sets forth the Delta Science Strategy, the intent of which is to pull from a diverse set of knowledge to establish “one Delta, one science”.
- Relationship to CAMT:
 - CSSP directly reflects Action 5.2 of the DSP.
 - Chapter 5 is all about the need for a collective effort in order to implement the DSP.
 - Action item 2.1 and 2.3 tracks to CSAMP priorities.
- Member questions/comments and responses
 - Can you provide examples of how does this serves as a “how to document”?
 - Among other things, it lays out best management practices around conducting syntheses. It also provides means for using current venues to improve how science is communicated to managers as well as how management needs are communicated to scientists.
 - What is the timeline for updates?
 - The DSP came out in June 2019 and is updated every five years. The Science Action Agenda was released in 2017 and will be updated in 2022. A concerted outreach and engagement effort, including ongoing presentations to CAMT, will be undertaken as part of the Agenda update.

Science Action Agenda

- Agenda identifies science actions to address priority management needs.
- Reflects priorities of a cross section of agencies and stakeholder groups.
- Identifies gaps and is not meant to be an inventory of every science question in the Delta.
- Serves as a guide for Delta-related science and work plan; to date, this has included funding a joint science solicitation notice between the Delta Science Program, CDFW, and USBR.
- There are five thematic areas (not prioritized) of the agenda:
 - Invest assessing the human dimensions of natural resource management decisions;
 - Capitalize on existing data through increasing science synthesis;
 - Develop tools and methods to support and evaluate habitat restoration;
 - Improve understanding of interactions between stressors and managed species and their communities; and
 - Modernize monitoring, data management, and modeling.
- Sections relevant to Subcommittee:
 - Actions 4C and 5B
 - Appendix A: 2B, 4A, 5A, and 5B
- 2022 Update will include:
 - Horizon scanning, which is a formalized process that requires early input from science makers and managers to identify emerging issues that are on the margins of current management focus.
 - Top actions related to science needed to inform management decisions.

4. Salmon Actions Matrix

- Matrix includes projects identified by the Sacramento Resilience Strategy and Central Valley Salmon Partnership as well as Dick Poole's suggestions.
- Two page summary on current status of matrix is forthcoming.
- Column C has been added and includes notes from Carl, Renee, and Bruce around current status and needs associated with a particular action.
- CDFW has been looking at prioritizing actions and can add additional information for particular actions, especially those associated with Battle Creek.
- CDFW and DWR can include updates regarding Voluntary Agreements.
- Bruce, Carl, Renee to complete Column C of matrix and reach out to project proponents as needed in order to discuss during January 9 Subcommittee meeting.
- Rationale for positioning matrix to be modeled as a group of projects was to: 1) give Subcommittee interface with CVPIA and 2) provide quantitative basis for what projects are important.
- Member feedback:
 - Recognition that some projects not fully fleshed out and require engaging with proponents to learn more about them and their benefits.
 - Members expressed interest in thinking through recommending what CAMP projects should engage, why, and how (e.g. extent/capacity).
 - Two steps to do this: 1) identify "no-brainer" projects and 2) how do we get this into SIT and once results are received, determining what projects need to be pursued.

- Outreach to project proponents for additional information could also include questions where CSAMP's help is needed.
- SIT is being used in optimization mode and is not currently configured to plug in projects.
- A member expressed concern over ownership of usage and results of SIT and the need to be discreet with the purpose of using the model.
- The suite of projects run through the model could be designated as a restoration strategy which SIT could analyze.
- A formal proposal and discussion around what SIT would be used for would be needed before any new projects are integrated.
- The model does not have capacity to quantify effects of restoration efforts the matrix captures.

5. Dr. Sturrock's CAMT presentation regarding her report ("Factors influencing straying and resilience of hatchery salmon")

- Report covers improving viability of Central Valley salmon, including where and when fish are released and suggested management actions (e.g. allowing salmon to begin natural out migration).
- Members expressed support for bringing in outside scientists in general to CSAMP and CAMT, including Dr. Sturrock.
- Some members expressed concern that issues associated with hatchery management and straying go beyond CAMT's scope and suggested that we focus on aspects of the report specifically relevant to CAMT discussions regarding salmon release strategies and resiliency strategy actions.
- It was noted that CAMT has struggled with trying to define CAMT's scope regarding salmon, but Policy Group members have presented information on the value of alternative release strategies for fall run survival, so it's relevant, and important, to present the potential adverse impacts of trucking hatchery fish.