

OUTCOMES MEMORANDUM

TO: CAMT Members
FROM: Bruce DiGennaro
DATE: September 22, 2020
RE: September 15, 2020 CAMT Meeting #95

Attendees: Brycen Swart, Carl Wilcox, Cathy Marcinkevage, Chuck, Clint, Dana Lee, Darcy Austin, Denise Reed, Diane Riddle, Erik Lobo, Erin Cole, Eva Bush, Frances Brewster, Heidi Williams, Henry DeBey, Jean Castillo, John Ferguson, Josh Israel, Karen Kayfetz, Kate Spear, Kaylee Allen, Louise Conrad, Lynda Smith, Mario Manzo, Matthew Holland, Natascia Tamburello, Pat Coulston, Rachel Johnson, Rod, Sam Luoma, Scott Hamilton, Sheila Greene, Stacy Sherman, Stephanie Fong, Steve Culberson, Ted Sommer

Action Items:

- All – send contact suggestions to Josh/Louise for the February Steelhead Workshop
- All – let Kaylee know if you'd like to review the draft Delta Smelt Supplementation Strategy
- All – send Bruce 2021 Workplan edits

Discussion Highlights:

1. Agenda and Updates
 - Steelhead Workshop – Feb 2021
 - Planning just getting underway for workshop as proscribed by BiOp language. Kickoff meeting scheduled for end of September. Potential topics include: juvenile production estimation and life history in the San Joaquin basin. Goals: More coordinated/integrated monitoring to inform water operations and recovery.
 - Have you reached out to folks on the Tuolumne and the Merced?
 - Hoping to have a discussion with the Steering Committee and have some active partners (please send contact suggestions to Josh/Louise)
 - VA reps and EBMUD reps
 - Appears that there are quite a few groups that are doing monitoring that we'll want to know about/engage with
 - Science Needs Assessment Workshop – Oct 5-6, 2020
 - Pre-workshop virtual discussions to prime conversation regarding future environmental change - will include breakout sessions
 - Science Action Agenda Update – Sept 29
 - Focused on near-term management actions
 - Science Tracker
 - Delta Science Plan/DPIC initiative to inventory current science activities and share out via a dashboard. Advisory team will be having some workshops in October to refine scope and discuss design of interface.
 - Delta Smelt Supplementation Strategy

- Draft should be available for comment on Oct 1 (to be finalized Oct 21) – let Kaylee know if you'd like to review

2. September 2nd Policy Group Outcomes

- There was support for a focused CSAMP effort on salmon recovery. A Policy Group Subcommittee was formed.
- There was support for the development of a CSAMP Organizational Framework for Delta Smelt – working with Darcy on the contract

3. Overview of Draft Coordinated Salmonid Science Plan (ESSA)

- CSSP goal: use the best available information to integrate and logically prioritize salmonid science, monitoring, and management activities in the Delta region to support robust decision-making for the allocation of limited resources dedicated to salmonid conservation and management.
- Target audience is primarily management oriented (focus is on science serving management)
- Process
 - Collated potential actions (15 interviews with 34 experts + literature review of 37 foundational documents)
 - Subcommittee working group refined list of activities for prioritization
 - Developed 4 key criteria
 - Magnitude of Recovery Benefit
 - Learning Benefit
 - Multi-species Benefit
 - Implementability
 - Deployed Q Method survey (asks people to rank activities by criteria and make tradeoffs), received 50 responses
 - Reviewed results with refiner working group, Subcommittee and survey participants
- Interpreting CSSP results by theme:
 - Theme 1 - Beneficial Activities with the Most Agreement on Benefits:
 - High scores, High agreement (usually harder to implement). These activities could represent good opportunities for larger, multiyear collaborations.
 - Examples: Migratory & rearing habitat connectivity, floodplain habitat, monitoring prey availability & growth rates for juveniles, invasive species & aquatic weeds
 - Theme 2 – Activities with High Agreement, Low Barriers to Implementation:
 - Moderate scores, High agreement, Mod-High Implementability. These activities could represent quick wins for incremental gains.
 - Examples: migration tracking through telemetry, monitoring and understanding effects of contaminants, impingement/entrainment impacts
 - Theme 3 - Key Activities With Low Agreement:
 - Any scores, Lowest agreement. These are the activities that might benefit from additional information to reduce uncertainties and more conversations to help align views. Conducted outlier analysis to interpret disagreement.
 - Examples: monitoring/reducing predation, monitoring juvenile habitat use, flow impacts of water operations
- CSSP includes case studies intended to represent diversity of shortlisted activities and provide some real-world context. Content includes:

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- Description, supporting information, and references (e.g., plans suggesting activity)
- Key Organizations working on related initiatives
- Key / Focal Locations
- Target Species / Stressors
- Interpretation of Prioritization Results
- Notes on crossover with parallel processes
- CSSSP includes discussion regarding alignment with parallel effort, including a high-level crosswalk table with the following efforts:
 - SRSP Science Plan
 - CVPIA Near-term Restoration Plan
 - COMPASS for Delta Smelt SDM Process
- Suggested next steps for salmonid planning:
 - Advance holistic science and management by aligning parallel planning processes to ensure preferred actions balance trade-offs
 - Understanding trade-offs across activities & species
 - Understanding areas of overlap, opportunities for synergies / complementarity with other initiatives.
 - While ensuring thorough assessment of trade-offs, leverage report to identify subset of activities to carry forward into detailed implementation planning
 - Includes: identifying dependencies, grouping, sequencing; overcoming barriers; researching costing and permitting; and having alignment conversations with organizations working on similar activities.
 - Approaches may differ depending on Theme(s) of shortlisted activity
 - Define a long-term framework for adaptive management
 - Once priority actions are identified for implementation (e.g., via SDM or other methods), managers will still need to know if they work on the ground (e.g., beyond working with models or expert opinion) and if they don't, learn why.
- Peer review period = Sept 8-25. Delivery of final report anticipated the week of Oct 12
- Questions/Comments
 - Report landed in a good place. Refiners helped hone, feels like a good first step – important milestone, critical that we not lose momentum.
 - Appreciate the collaborative aspects of this process – invested heavily up front in working together.
 - Appreciate recommendations regarding alignment.
 - Impressed with work completed and approach. Possible to have more time to review?
 - Subcommittee will be doing a deeper dive on 9/17, will consider extending deadline then.
 - Like the way this project worked with CAMT/Subcommittee/refiner group – good communication through process. Is the plan to include potential next steps to be taken after the conclusion of this phase of work in CSSP? Interested in moving to quantitative analysis.
 - Some discussion will be included, CSSP prioritization may help move to quantitative analysis by focusing list of activities to analyze
 - Raises question about the title of this document – rebranded as CSSP Assessment. Not ready to go into implementation yet. 109 activities likely too many for quantitative analysis but should help with discussions regarding what to move forward. Will leave it to peer

reviewers as to what the right amount of info is include in this part of CSSP.

- It would be helpful for the Subcommittee to discuss recommended next steps. Seems like in the near-term a more narrow focus (around strategic alignment) could be helpful.
 - Organizational framework for Delta Smelt could serve as a pilot for salmon
 - Will consider reframing recommended next steps as near/mid/long-term for conversation with Subcommittee

4. Tidal Wetlands Restoration Monitoring (Stacy Sherman)

- Will we be able to detect [biological] changes associated with multiple restoration projects?
- IEP Tidal Wetland Monitoring Project Work Team developed Tidal Wetlands Overview Model based on Delta Smelt MAST conceptual models. Developed monitoring guidance:
 - Effectiveness Hypotheses (refined to 41 hypotheses)
 - Capacity
 - Opportunity
 - Realized function
 - Metrics
 - Primary (e.g., water temp, water quality, etc)
 - Triggered (don't have ability to monitor all the time, eg., contaminant monitoring after a die-off is witnessed)
 - Higher function/special study (identify as a resource for others to pursue, e.g., through grant solicitations)
 - Project objectives: food, juvenile salmonid rearing, try to avoid invasives
 - Monitor restored sites (e.g., Winter Island, Tule Redd, Decker Island, Yolo Flyway) as well as reference wetlands (that serve as a control)
 - Other restoration projects may not have similar monitoring requirements/resources (e.g., Dutch Slough, Montezuma wetland, Hill Slough) and may be in need of partners/funding
 - Share SOPs to try to help normalize monitoring
 - Metrics assessed in spring (and subset in fall) include
 - Fish
 - Breach
 - Nutrients
 - Water quality
 - Tidal regime
 - Zooplankton
 - Phytoplankton
 - Interior channel
 - Benthic and epiphytic invertebrates
 - Zooplankton
 - Phytoplankton
 - Marsh Plain
 - Vegetation
 - Invasive plants
 - Fringing marsh
 - Benthic and epiphytic invertebrates

- Exterior channel
 - Benthic invertebrates
 - Zooplankton
 - Phytoplankton
- BiOp requires reporting by project (not mandated to do a comprehensive assessment but still report across regions/years to help identify trends)
- Use other data where possible and are currently comparing how external data compares to self-sampling (e.g., 2017-2019 Zooplankton channel-shallow comparison)
- Team participates in other relevant work, including:
 - Invasive vegetation studies/PWT
 - USGS ASC Wildlands/Little Holland Tract
 - USGS WERC Prop 1
 - Tidal Parr study
 - Upcoming
 - Delta Smelt cage studies
 - Wetland predation study
- Improving assessment of biological effectiveness
 - Programmatic monitoring permitting and reporting would be more efficient than site-by-site (many separate reports is inefficient and resource intensive)
 - Fish sampling is important
 - Need special studies on processes that can span before/after, and reference sites (would require longer-term funding)
 - More direct collaboration/consultation for grant-funded studies
 - Real experimental design in project design (when possible)
 - Resource capacity issues (e.g., limited staffing)
- Questions/Comments
 - Is there a mandate/organized way to approach interpretation? How is that handled?
 - Annual reports that cover all sites should include analysis/synthesis/interpretation (note: the 2018 annual report is currently available, 2019 should be available soon)
 - Important that folks know about this work. Regarding programmatic vs case-by-case monitoring: would like to see how we can focus on system effects instead of site effects so that we can get a better picture of what we're getting from these restoration projects at a large scale.
 - Completely agree, there have been periodic conversations along those lines (last one in January) but haven't seen much movement
 - Each project-site monitoring plan gets approved separately, but would like to see actual monitoring be more programmatic/regional.
 - ◆ Determining appropriate scale (in terms of site/regional perspective) is difficult, appreciate this conversation – could be valuable for CAMT to continue checking in on this.
 - Where would we need to plant seeds to make recommended changes?
 - Permitting is tied to Section 7 consultation for construction, which is where IEP workplan comes in. Consider shifting to 10A-1A permitting.

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- What would be takeaways re: restoration project benefits?
 - Still a little early to say. Might have a clearer picture once extensive 2019 data is processed (2019 = first year post-restoration). Will likely take a while for benefits to emerge, funded for 10 years of monitoring.

5. CSAMP Priorities for 2021-22

- CSAMP driven initiatives
 - Delta Smelt Initiatives
 - Structured Decision Making (SDM) – Phase 3 – Oct 2020 – Sept 2021
 - Organizational Framework – Oct 2020 – Jan 2021
 - Delta Smelt Science Plan (DSSP) Implementation – ongoing
 - Fall Outflow Study – Fleishman – Complete by March 2021
 - Salmonid Initiatives
 - Coordinated Science Planning – Implementation and coordination of the CSAMP
 - Coordinated Salmonid Science Plan (CSSP) for the Delta, Sacramento River Science Partnership (SRSP) Science Plan, and Central Valley Project Improvement Act (CVPIA) Adaptive Restoration Strategy – Nov 2020 – Oct 2021 – unfunded
 - Winter Run Life Cycle Model (WRLCM) workshops and evaluation of restoration data – ongoing
 - Priority Recovery Activities – TBD - unfunded
- External initiatives
 - Adaptive management projects including
 - Summer-Fall Habitat (LTO and ITP).
 - Float MAST reporting, including annual conditions report and interpretation.
 - Suisun Marsh Salinity Control Gates (SMSCG)
 - North Delta Food Web Action
 - Roaring River
 - Sacramento Deep Water Ship Channel Food Web Action
 - Salmonid Projects
 - Entrainment Modeling (ITP) – ICF and other modeling tools for real time operations.
 - Steelhead Monitoring (BiOp) – review and comment on USBR initiative.
 - Spring run LCM (ITP) – as requested by agencies
 - Spring run JPE (ITP) - as requested by agencies
- Ongoing Science Updates/Presentations
 - Floodplains (synthesis) – Present recent synthesis findings
 - Habitat Restoration – Performance Monitoring
 - Migration Barriers
 - South Delta Conditions
 - Longfin Smelt
 - Predator Management
 - Delta Smelt Supplementation
 - Submerged Aquatic Vegetation (SAV)
 - Contaminants
 - Water Quality

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- Haven't yet assigned resources, could be included as part of moving to workplan
- Questions/Comments
 - Seems like we have way more on our plate than we can handle
 - Appreciate the framework that's being used – it may help us think through commitments (i.e., moving topics from one category to another pending level of interest/availability of resources).
 - Not sure if category 2 (at least as it relates to ITP) is ready for prime time. There is still a lot that needs to be worked out but not sure what the plan is for doing so and how CAMT will be pulled in.
 - Figuring out the plan for interactions may need to be the effort called out in the workplan
 - Would be good to provide details re: expectations for external review (related to BiOp/ITP actions)
 - Consider adding language to Category 2 to make it clear these are the types of projects that agencies might bring to CAMT. Part of the work is to figure out which of these projects are appropriate to bring to CAMT.
 - Sounds like Category 2 focus may be on scoping, and upon request.
 - Communication about Category 2 topics is critical regardless
 - Some Category 2 items are closely tied to Category 1 items (e.g, Smelt SDM and DSSP). For example, DSSP implementation would be part of adaptive management outlined in ITP
 - Category 2 seems like it contains a lot of specific projects that feed into Category 1. Recognize the need to not over-commit but it will be critical, at a minimum, to keep a finger on the pulse of Category 2 items.
- Is there an update on Entrainment Studies?
 - The final document package (including summary materials, DSST memo, table of contents, etc) for Studies 1 & 2 have been distributed to DSST for final review – should be ready to be posted/shared once DSST has given final approval
 - Several manuscripts have been submitted for publication
 - Study 3: a draft is available but there are a lot of concerns – looking for an investigator to pick up the work
- Future meeting planning
 - October 20 – CAMT
 - SDM Phase 2 report
 - CSAMP Organizational Framework for Delta Smelt
 - Salmon Recovery
 - 2021 CAMT Workplan
 - November 17 – CAMT
 - Entrainment Models (ICF, DFG)
 - Managed Ag Lands Synthesis (Ted)
 - WRLCM – How is it evolving to inform policy?
 - Salmon Recovery Proposal – CAMT tasks
 - December 10 – Policy Group
 - Adopt 2021-22 Priorities and CAMT Workplan
 - Adopt 2021 Meeting Schedule
 - Entrainment Models (ICF, DFG)
 - Managed Ag Lands Synthesis (Ted)?
 - Salmon Recovery Proposal

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- December 15 – CAMT
 - CSAMP Organizational Framework for Delta Smelt