Facilitator Notes, Not Reviewed or Approved by Meeting Participants

Delta Smelt Scoping Team Meeting (2/18/2020)

Attendees: Brycen Swart, Chuck Hanson, Erica Fleishman, Erin Cole, Pat Coulston, Sam Luoma, Scott Hamilton, Shawn Acuna

Action Items

- Bruce – Share Scott's suggestion on the Entrainment Study executive summary with Lenny
- Bruce - Draft Preface statements and Agreement/Disagreement summary
- Scott/Rafi - Send Denise's recommendations to Rafi to convert into a tracking sheet
- Bruce - Discuss Denise's next steps/recommendations tracking sheet w/ DSST and CAMT

Discussion

1. Fall Outflow Study
    - Testing management options
        - It's worthwhile to conduct tests even if results are considered known
    - Performing additional spatial & temporal (by year) evaluations
        - Form hypotheses around spatial and temporal differences before testing – e.g., ranking of importance varies year by year, why?
        - Test across time and compare to testing across space
        - To determine impact of food, truncate model by areas of prey
            - Possible but outside scope of this contract
            - Finish current effort, then look for funding to model food
    - "Mixing & matching" co-variants for Models 3,9 and 12
        - Mechanistic iterations of top models
        - Form hypotheses from top models before testing as opposed to mixing and matching
            - Top model (#9)
                - Occupancy = salinity, temperature
                - Detection = Fork length, Sample volume, Turbidity, Tide
            - Second top model (#3)
                - Occupancy = Competitors, Predation intensity, Turbidity
                - Detection = fork length, sample volume, turbidity, time of day
            - Third top model (#12)
                - Occupancy = predation intensity, turbidity
                - Detection = Sample volume, turbidity, tide, time of day
    - Hypothesis Brainstorming
        - What goes on in the fall that benefits smelt?
        - Keep in mind that we're looking at occupancy, not abundance
        - Consider adding biological component to mostly physical components of Model 9
        - Is turbidity tied to occupancy or detection? Consider adding turbidity to occupancy for Model 9
    - Hypotheses to Test
        - Model 9: Higher temps correlated to predators and competitors suggests smelt will move towards cooler temps (Suisun Bay)
            - Relationship between temperature and salinity (moving to cooler water up to a salinity max)
            - Evaluate for both space and time
        - Model 3: Smelt are more likely to occupy areas of high turbidity

        - Relationship to predation intensity
    - Model 12: Test without competitors

2. Preface Statements for Entrainment Studies 1 and 2
    - Use questions in CSAMP presentation to frame areas of agreement/disagreement (pending what's included in Lenny's executive summary)
        - What are the main take home messages for management?
            - Behavioral Modeling has Improved Understanding
            - Calculating Proportional Entrainment is Hard
            - Proportional Entrainment Varies
            - Entrainment has Declined
        - Were the questions adequately addressed?
        - Do we have any reservations regarding the analyses conducted?
        - Are there knowledge gaps that suggest topics for further research?
    - If doing a separate report on agreement/disagreement, consider waiting to release until Study 3 is complete
    - How to ensure that report on agreement/disagreement are included w/ studies?
        - Wait until receiving Lenny's re-written executive summaries to make decision about how to include report on agreement/disagreement
        - Bruce – share Scott's suggestions on the executive summary with Lenny

3. Delta Smelt Science Plan
    - How to incorporate recommendations (beyond Denise's recommendations) and ensure their implementation?
        - Solicit input from managers (reflection on observations)?
        - Recirculate Denise's next steps/recommendations to DSST and solicit input on highest priorities
        - Has a decision been made to implement Denise's plan? Who would make that decision? How can we force that decision?
            - Seems like decision has been made, need to push to develop an action plan
                - When do we initiate the development of the three year plan
                    - It's already underway
                        - Biological modeling isn't underway
    - How to keep everyone (DSSP, SDM, Brycen, Pat, DSST, Yumi, etc) on the same page?
        - Consider having DSST provide guidance to Brycen & Brittany once Pat's report is done
    - Is focus on RPAs or species recovery?
        - Management actions will need to be huge as compared to what is currently being done
        - Suggests hatcheries are the solution
        - If habitat is broken then hatcheries aren't a real solution

4. CAMT Retrospective
    - In addition to progress made on various projects, consider sharing thoughts regarding different ways of producing/evaluating science and integrating it into management (e.g., subcommittees, panels, structured decision making, etc)