DRAFT

NMFS – Reclamation
Shasta RPA Draft Proposed Amendment Workshop No. 3
June 22, 2017

Introductions

In-person

1. Craig Addley (PCWA/Cardno Inc.)
2. Pablo Arroyave (Reclamation)
3. Don Bader (Reclamation)
4. Michelle Banonis (Reclamation)
5. Mike Battles (ACID)
6. Lee Bergfeld (MBK)
7. Tom Boardman (SLDMWA)
8. Walter Burret (MBK)
9. Barb Byrne (NMFS)
10. Ammon Danielson (WAPA)
11. Andy Duffy
12. Christina Durham (NMFS)
13. Ken Emanuel (SWRCB)
14. Bill Emmanuel (RD 108)
15. Allison Febbo (SWC)
16. Randi Field (Reclamation)
17. Robert Franklin (Hoopa Tribe)
18. Anna Garcia
19. James Gilbert (Reclamation)
20. Brett Gray (Natomas Mutual Water Co)
21. Sheila Greene (Westlands Water District)
22. Steven Handy (Redding Electric Utility)
23. Tom Hard (BLM)
24. Michael Harty (Kearns & West)
25. Paul Hauser (Trinity PUD)
26. Michelle Havey (Anchor QEA)
27. Vance Howard
28. Brian Hughes (Reclamation)
29. Allison Jacobsen (Reclamation)
30. Marianne Kirkland (DWR)
31. Liz Kiteck (Reclamation)
32. Maury Kruth (NCPA)
33. Anne Kwedar (MBK)
34. Eric Leitterman (SCVWD)
35. Ansel Lundberg (SMUD)
36. Rod M. (Sutter Mutual)
37. Dave Mooney (Reclamation)
38. Dave O'Connor
39. Paul Olmstead (SMUD)
40. Shelley Ostrowski (WWD)
41. Nancy Parker (Reclamation)
42. Maria Rea (NMFS)
43. Diane Riddle (SWRCB)
44. Jeff Rieker (Reclamation)
45. Mark Ryan
46. Deanna Sereno (CCWD)
47. Russel Stein (DWR)
48. Brycen Swart (NMFS)
49. Garwin Yip (NMFS)
50. Travis Yonts (Reclamation)

Call-in/WebEx

51. Miles Daniels (NMFS-SWFSC)
52. Eric Danner (NMFS-SWFSC)
53. Mike Ford (DWR)
54. Li-Ming He (USFWS)
55. Josh Israel (Reclamation)
56. Todd Manley (NCWA)
57. Vanessa Martinez (Cardno)
58. Jon McClain (City of Redding)
59. Doug Obegi (NRDC)
60. Janice Pinero (Reclamation)
61. Jason Roberts (CDFW)
62. Jon Rubin (SLDMWA)
63. Josh Watkins (City of Redding)
64. Carl Wilcox (CDFW)

1. Opening Remarks (Reclamation, NMFS)
   - Reclamation opened the meeting by stating this was the third of four workshops to discuss a process to consider amendments to the Shasta Reasonable and Prudent Alternative (RPA) action under the NMFS Biological Opinion for the long-term operation of the Central Valley and State Water Projects (NMFS BiOp). This is an opportunity to reflect on the progress to-date, and Reclamation is on track with the expected timeline for this process. Reclamation needed to take this water year to do the initial work. There is still a lot of modeling work to do, including modeling of the following topics: temperature management, system-wide impacts (the subject for today's meeting), flow release limits, and reservoir storage targets. Reclamation needs to complete modeling of the processes to have the necessary information to make decisions, which is expected to occur this fall.
   - NMFS opened the meeting by acknowledging that protecting winter-run Chinook salmon is a challenge. This is a very modified system and NMFS is working with Reclamation to determine how to adjust the system to match both operational and species' needs. NMFS echoed Reclamation's statement that the agencies are on track with their expected timeline. The current modeling work is focused on storage targets, but the analysis does not include the temperature and habitat conditions. Future work will be conducted to translate the storage modeling results into temperature and habitat information.

2. Workshop Objectives, Agenda, and Format (Reclamation, Kearns & West)
   - Reclamation went over the objectives of today's workshop, which are to provide updates to, discuss, and receive input on the following topics:
     - Temperature management for the 2017 Sacramento River temperature management season
     - System-wide analyses of the draft proposed amendment (issued January 19, 2017; http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/nmfs_s_draft_proposed_2017_rpa_amendment_-_january_19__2017.pdf) to the RPA of the 2009 NMFS BiOp as they relate to Shasta Reservoir operations
   - Reclamation noted that the workshop format would be to provide brief presentations on each of the topics followed by open floor questions and dialogue before moving on to the next topic.
   - The meeting facilitator outlined the format of the meeting and went over some of the ground rules.
   - This was followed by introductions around the room and then on the phone – each person introduced themselves as well as their affiliation (see list of participants on page 1).

3. Presentation (Reclamation) – 2017 Sacramento River Temperature Management (PowerPoint slides were sent to meeting participants in advance of the meeting)
   - Reclamation provided an overview on 2017 Sacramento River temperature management planning process, outlined compliance requirements under the State Water Resource Control Board's Water Rights Order 90-5 and the NMFS 2009 RPA with 2011 amendments Action 1.2.4, outlined targets for the 2017 operational study, presented the 2017 in-season temperature data, and confirmed plans to continue the operational study.

Meeting attendees provided the following questions and feedback:

- Question: Why is the temperature at the Shasta Dam temperature control device (TCD) higher than at Keswick Dam?
    - Reclamation: It is likely due to cooler air temperatures, but will need to confirm.
    - *Follow-up response: We believe there may have been cooler inflows from tributaries and releases into Keswick from Whiskeytown/Spring Creek.*
- Question: It would be helpful to see the flow and gate changes Reclamation made and when they were made. Those changes are not shown on the slides – is there any way to get those data and decision points?
    - Reclamation: The Central Valley Operations website (www.usbr.gov/mp/cvo) allows the user to view the Sacramento temperature report (pdf). On the first page of the temperature report, there is a link to the TCD configurations and it shows exactly how the TCD has been modified through time (https://www.usbr.gov/mp/cvo/vungvari/ShastaTCD2017.pdf).
- Question: Where is the Clear Creek (CCR) gage located? What is the influence of Clear Creek on the temperatures at the CCR gage?
    - CDFW: The CCR gage is located a few miles upstream of the Clear Creek confluence, on the Bonnyview Bridge in Redding, so Clear Creek does not influence temperatures at the gage.
- Question: The focus of the presentation was on temperature, but is Reclamation making any operational changes for storage targets this year?
    - Reclamation: No, there is an abundance of water this year, so Reclamation is only making operational changes for temperature.

4. Presentation (Reclamation) – System-wide Evaluations of Draft Proposed Amendment (PowerPoint slides were sent to meeting participants in advance of the meeting)
    - Reclamation presented an overview of the system-wide analyses of the draft proposed amendment to the 2009 BiOp, which contained the following:
        - Storage and Flow Targets/Restrictions Overview
        - Analyses – Storage and Flow Targets/Restrictions under Two Scenarios
            - Current Operations
            - Proposed NMFS Amendment
        - Effects on Other System Operations

Meeting attendees provided the following questions and feedback:

- Question: Why was the Early Long-Term climate change model (Q5) used?
    - Reclamation: That climate model was the basis of the long-term operations study completed in 2015, so it is the underlying data for various studies.
    - Reclamation: The intent was to be consistent across studies.
- Question: Does the model run of the NMFS amendment include shortages to senior water rights holders?
    - Reclamation: For the initial run, the model was open to all possibilities to achieve the proposed operational requirements. This does not represent a policy at this point. The goal was to understand the magnitude of the potential

change needed to reach the targets. The next step is to determine how to realistically achieve the targets.

- Question: Storage targets are part of the new amendment, but are there no storage targets under the current RPA?
    - Reclamation: The current RPA includes fall storage targets for some water years, and the minimum storage (floor) is the same for current operations and the proposed amendment.
    - NMFS: The current RPA has 10-year average storage targets. There are actions if storage is above or below certain volumes (e.g., 1.9 million acre feet).
- Question: Is it possible to identify some of the specific differences between the current and proposed operations, such as storage, flow, etc.? For these workshops, it would be helpful to remind stakeholders of what the current RPA requires, and compare this to what is proposed in the amendment.
    - Reclamation: There are no requirements in the current operations to illustrate a specific difference for these model results, but we will keep that in mind for the next workshop.
- Question: To confirm, the model has eliminated everything that it can and still the storage targets cannot be met in all years, correct?
    - Reclamation: Yes, but there is further clarification on that in the coming slides.
- Question: What are the carryover storage targets for the Trinity in the current and proposed scenarios?
    - Reclamation: Storage targets for the Trinity would not be changed from existing targets.
    - Reclamation: A 600 thousand-acre-foot (TAF) storage target floor was used for the Trinity based on the Record of Decision flows.
    - *Follow up – We plan to provide closure at next meeting.*
- Question: Does the information in the table on slide 25 indicate that Reclamation would not be making any deliveries to contractors in June through September?
    - Reclamation: Reclamation is still making deliveries as normal, but the model results are an indicator of the potential magnitude of change to the total delivery.
    - Reclamation: Allocations are being used as a rough mechanism in these model runs to determine the magnitude of change.
- Comment: It would be helpful to know more details on the extent of shortages for each of the contractors when Reclamation says that these targets cannot be met.
    - Reclamation: Reclamation is getting to a point with the modeling where that level of detail can be resolved, but we will need to do an internal refinement of that distribution.
- Question: In reference to Wilkins Slough, is this the 5,000 cubic feet per second criterion for navigation?
    - Reclamation: Yes. There is a proposed change to the criterion, but this model run uses the existing criterion.

- Question: Were impacts redistributed to other reservoirs (i.e., State Water Project), or is this relying solely on the Central Valley Project (CVP) to meet Fall X2?
    - Reclamation: Reclamation is using current Coordinated Operations Agreement assumptions, but is not assuming Shasta is the only reservoir being used to achieve Fall X2.
- Question: This analysis is focused on storage targets. Is Trinity water considered an asset for meeting temperature targets in the Sacramento River? Maintaining more storage in Trinity later in the year could help with storage and temperature targets.
    - Reclamation: This analysis does not take temperature targets into account. The model focused on Shasta storage targets, and we are not ready to step it forward to include the temperature piece yet.
- Question: For the tables in the presentation, are these all the years where the target was not met? Also, the June-September table (slide 25) does not list the September targets.
    - Reclamation: Yes, these are the years where the September target was not met. We can add that September target value to the table in the future.
- Question: What does "K" refer to on the May table (slide 32)?
    - Reclamation: It refers to the Keswick minimum release.
- Question: The results indicate that D-1641 cannot be met here. Does that only reflect Shasta operations?
    - Reclamation: Yes, there would need to be some shift to meet the requirement through another reservoir. This model assumed that those requirements (e.g., D-1641) would be met, resulting in the release limits not being met.
- Question: For the NMFS scenario, please confirm that Reclamation only changed allocations to attempt to meet the September storage targets, but no changes were made to allocations to meet the spring targets.
    - Reclamation: Correct, no real changes were made to specifically meet spring targets.
- Comment: This 700 TAF reduction in CVP delivery is on top of the 800 TAF for the Central Valley Project Improvement Act (CVPIA).
- Question: How many more fish are expected as a result of this proposed amendment and what are the financial impacts to power users?
    - Reclamation: Generally, that is what we are focused on assessing by the end of the year. Once we know what the impacts are, we will need to work with the agencies to determine if potential changes fit within the current NEPA documentation and ESA. We will need to look at the power impacts as well.
- Question: The figure showing CVP total delivery (slide 40) – is that system-wide or just Shasta? Where is all of the water going?
    - Reclamation: The figure shows the system-wide delivery. Now the question is how to distribute those impacts. Through changes to operations of other reservoirs? Changes to deliveries? Across all user types? To answer the second question, the water may be leaving the system as spill (to the ocean).
- Question: It is helpful to see the differences between the two scenarios. Are data on outflow available? Are the fall X2 data available as well?
    - Reclamation: This was the first step, but now there are some refinements to look at and we will eventually be able to share that information.

- Question: The left-hand figure on slide 40 says "CVP Total Delivery (Feb – Mar)," is that a typo?
    - Reclamation: Yes, the figure should say "CVP Total Delivery (Mar – Feb)."

5. Presentation (Reclamation) – Next Steps: System-wide Evaluations of Draft Proposed Amendment (PowerPoint slides were sent to meeting participants in advance of the meeting)
    - Reclamation presented an overview of the next steps for the system-wide analyses of the draft proposed amendment to the 2009 BiOp, which contained the following:
        - Storage and Flow Targets/Restrictions Refinements
        - Analyses
            - Temperature Compliance (location/value/metric)
            - Biological Impacts
            - Biological Objectives
            - Others

    Meeting attendees provided the following questions and feedback:
    - Question: How does this amendment affect other RPA actions (e.g., Folsom)?
        - Reclamation: The initial assumption was that there were no other impacts, but we need to evaluate broader-scale impacts.
        - Reclamation: Reclamation needs to consider other NMFS and USFWS BiOp RPA actions.
        - NMFS: Ultimately, NMFS will need to evaluate the effect on other BiOps, including Delta smelt.
    - Question: Shasta is an EKG for the entire state and we see cumulative impacts here. I don't see any larger discussion with this in context with the other RPA actions, I would like that to be part of the discussion.
        - NMFS: NMFS is keenly aware of Shasta operations and how it affects the entire state water delivery system.
    - Comment: Most important is the financial impact to water contractors. How will those financial impacts roll through to water and power contractors?
    - Question: What are the next steps and timeframe?
        - Reclamation: The analysis presented today took two months to complete and we have made good progress. The temperature part of this analysis will take the entire three months until the next workshop to complete. If there is a logical check-in before then, we could potentially set up an interim meeting, but scheduling it may be difficult. Hopefully we will be able to incorporate the refinements mentioned today into the upcoming analysis.
    - Question: Can you bring results to the next workshop for how Wilkins Slough flows change?
        - Reclamation: Yes, we should be able to do that. The results will likely be monthly so there may be limitations to the data.
        - *Follow-up: We will provide results in future presentations.*
    - Question: Are you going to consider whether the impacts will be split between the state and federal water contractors?
        - Reclamation: Reclamation is entirely focused on the CVP side right now.

- Question: Before moving straight to temperature and biological impacts, it would be helpful to have a better understanding of impacts from a more realistic operation. We need to see what that looks like more closely, and if there is a potential to relax regulations in 30 to 40% of future years as we have seen in recent years.
    - Reclamation: Noted.

6. Concluding Remarks
    - If anyone has suggested edits to the Notes and Responses to Questions from the previous meeting, let Reclamation know by June 30.
    - Future Workshops
        - September 21 – Status/Results