Reclamation ROC Tiger Team Meeting
NMFS Internal Notes
November 28, 2018

Attendees [Some attendees did come and go for particular topics]

- Armin Halston, Josh Israel, Ben Nelson, Katrina Harrison, Janice Pinero, Mario Manza, Peggy Manza, ; Reclamation
- Kaylee Allen, Jana Affonso, Katherine Sun; USFWS
- Lori Caramanian, Kevin Tanaka, Cheryl Dobson; DOI
- Catherine McCalvin, Tripp Mizell, Mike Ford, Aaron Miller, Louise Conrad, Harry Spanglet; DWR
- Brooke Jacobs, Carl Wilcox; DFW
- Justin Ly, Seth Naman, Garwin Yip, Howard Brown, Evan Sawyer, Maria Rea, Jeff Stuart, Cathy Marcinkevage, Barb Byrne
- Gregg Ellis, Carrie (?); ICF

[Notes are not complete in capturing full meeting since I was absent/on the phone for part of it.]

NMFS Comments – High Level

Hard copies of high level comments distributed, agencies could hand back at their desire. Maria reviewed NMFS high level comments – Consultation Approach only.

Howard reviewed general comments. Noted that PA is vague and makes it hard to do exposure/risk analysis. Also seems less protective than past, and therefore would need more species protections.

Some feedback:

- Species list is what USBR expected.
- Mike Ford expressed concern that we not get "in the way" of COA. Discussion postponed until later, but may simply belong in the bin of "analysis should be based on modeling that reflects updates to PA and any revision to COA."
- Harrison: Have been working to find a way to increase water supply while protecting species, rather than resort to RPAs look at new science and evaluate new/different ways to get it.
- Maria: Pointed out need to cover Nimbus in this consultation, as learned from experience in NW.

Real Time Ops

Began as Adaptive Management (AM) discussion, but really was a discussion of RTO.

USBR expressed frustration at number of RTO teams and utility of the meetings. Room acknowledged that some work better than others. USBR proposes that they be given a range and have freedom to operate within that range in order to reduce the need for interaction with Services. Do consider that a trade-off could be that the range is narrower than it would be if had more frequent conversation with Services.

NMFS questioned a bit on this – the suggestion that the groups are a burden on operations. USBR said yes, noted that staff could instead be working on restoration efforts, feel like they put biological and physical triggers in that can initiate the conversations/groups if needed.

Did seem to be agreement to re-evaluate the groups and their charters, and to compare them with broader groups (e.g., ARG) for broader engagement, and ability to use data that is more readily available now than it was before (maybe negates need for groups/meeting). We noted that USBR seems to want final decisionmaking, but we don't see the triggers for staying within those ranges in the PA.

Programmatic Adaptive Management

Follow-Up: Subset of staff tasked with looking at 5-Agency AMP and working out a way to try to attach this idea to that. Potential for elevation given intent of including the programmatic AM framework in the first place. Meeting Friday 11/30.

Reclamation described their approach to this, with DOI support and clarification that this "AM framework" is not intended to be included in the evaluation that leads to the jeopardy decision. This is USBR's approach to get a collective investment strategy, and develop incentive for anyone (as an open process) to do restoration actions in exchange for water flexibility.

NMFS informed of our approach that issues a determination on the project as a whole, not just part.

It was noted that if, after seeing the effects analysis (which would NOT include any actions this programmatic AM framework section), more protection measures are needed, they should be moved into the PA from the AM framework.

Notable discussion about how this could related to the 5-Agency AMP that was part of the CWF BA. NMFS stressed the need to use that as a start, and not to create a second governance process. Also noted that this was a consulted upon plan that is in terms and conditions; DFW also reiterated that it is a major component of their CWF ITP. USBR notes that that seems Delta centric, need to bring in broader CVP community.

Follow-up meeting will look specifically at revising to include the "watershed monitoring" groups to play a role and represent the broader CVP. Also may be wise (and advisable from DWR and DFW) to take out specifics of projects but put in process/performance metrics/objectives so that there is flexibility in the means by which to achieve the biological objective.

Shasta Temperature

Follow-Up: Agreed to separate conversation on this topic. Very ripe for elevation as there was a lot of intense discussion. Meeting 12/4.

USBR believes that they are best optimizing operations for preservation of cold water for winter-run. Operators are reluctant to insert targets (though are maybe good with thresholds) for storage because they feel that they can't control for it.

NMFS mentioned that provide forecasted operations for water deliveries, should be able to define an objective for species and operations.

USBR is open to better defining how to use Anderson after NMFS notes that this is not a vetted approach, but USBR does believe that operating to that will get to no jeopardy.

Baseline

Baseline document is not yet available; hopefully next week.

Trinity

Follow-Up: NMFS-Reclamation meeting set for 11/30 to discuss in more detail at technical level. This is likely to be elevated due to reliance on the ROD.

NMFS appreciated it being based on the ROD, but knowledge on fish/habitat needs have evolved so that ROD has shortcomings. Shortcomings identified by NMFS: Lack of flow variability, lack of winter flows, minimum flow storage, temperature management. Need to introduce flow variability back into system.

NMFS recommended that PA include sub-daily flow variability that is synchronized with flow events; more flow released into Trinity in winter months; minimum storage targets; need to know frequency of end of year storage at various levels. Suggest that storage <1MAF is outlet threshold. Flow releases should have temperature management for habitat.

NMFS recommends TCD in Trinity. And modeling for Trinity and Whiskeytown for CWP management and better explanation on how Clear Creek is integrated.

NMFS notes spring attraction and geomorphic flows are combined for Clear Creek – but objective flow, timing, and magnitude should be considered.

NMFS recommends indication of how Lower Klamath and Humboldt plan integrated into PA.

USBR says that pulse flows are planning to be included, but the rest would need to be elevated if NMFS feels strongly.

Clear Creek issue. USBR doesn't think too far off from RPA – have temps, gravel, flow pulses, etc. Discussion of 1960(?) agreement/MOU. Not sure what that translates into in terms of flow specifically.

Feather River

Ford: Wants to add clarification on the three FR contractors. Also will revise language to make it clear what BiOp governs them given that FERC hasn't issued their permit yet.

American

Plan to operate according to 2006 FMS – Reclamation has some issues with some of the new ones but not others; need to resolve those before including new FMS into PA.

Did not specify particular temperature project b/c want to identify one that provides more temperature flexibility during drought.

We provided comment that operations are vague. Additionally that should see effects of climate change at that location. Need clarity on FMS inclusion, why it is not there. And NMFS commented on the "objective" of conservation measures, which as written is to increase water diversions.

USBR responded that modeled flows and temperatures will be coming; running the model with Q5 climate change so that is included. Will look at clarity of operations related to FMS – they are in ongoing discussions. For conservation measures language, have edited and explained that they are part of PA and intended to be completed.

Delta – OMR Lots of discussion specific to USFWS. Then on to salmonids.

Red Flag: OMR during storm flex is up to maximum permitted pumping capacity.

Follow-Up: Jeff and Josh tasked with looking into a way to do OMR management on species without a JPE/JPI and to ensure that criteria are actually measurable. Barb to share with Josh, Jeff, and Katrina the "Jan 1 OMR onset" section of Volume 2 of the 2017 SST Report.

Onset of OMR management: NMFS noted that proposed OMR triggers need be measurable and work. In-season estimation of migration timing for spring-run and steelhead are tricky – spring-run estimates are complicated by "swamping" of unmarked hatchery fall-run fish that fall into the spring-run size class and steelhead estimates (especially from the San Joaquin) are uncertain due to very low numbers and low sampling efficiency.

USBR noted that criterion could be basedon surrogate groups for spring-run, and possibly to a more general steelhead criterions. They expressed that they are trying to increase water supply, so while they do want to move to a more species presence rather than date-based, they don't intend for the onset of OMR management to start before January 1 for salmonids.

Barb reviewed some options at Katrina's request of what could be done in terms of looking at historical monitoring patterns to generate some options for estimating migration timing, though the use of historical data is most relevant for picking a calendar-date-based onset, which Reclamation wasn't very interested in. Noted the SST work on the question of January onset and the review of historical migration timing in Volume 2 of the SST report. Josh I chimed in again noting "not having to go to NMFS all the time".

San Joaquin Origin Steelhead protections: Reclamation looking into a trigger based on steelhead overall, since no clear method to identify San Joaquin origin steelhead. Barb suggested using a loss density, rather than a loss, as a simpler threshold metric (no functional difference, just a different and simpler calculation).

Cumulative Salvage thresholds: Reclamation explained that the "salvage threshold" approach was not circular since they weren't intending those thresholds to represent an incidental take limit, but rather to use them to set a "stopping rule" (or "slowing down rule") for exports. For example, the current draft says OMR will be managed at -3,500 cfs when cumulative salvage reaches 50% of the threshold, and to -2,500 cfs at 75% of the threshold. In the projected version, they listed the following cumulative salvage thresholds:

- Winter-run: 0.9% WR JPE [BiOp ITL is 2% of JPE; 1% of genetic winter-run]
- Spring-run: 0.45% of SR surrogate group (s?) [BiOp ITL is loss of 1% of all groups combined; salvage trigger=0.5% per group]
- Steelhead: 1800 for steelhead [Biop ITL is salvage of 3000]
- Green Sturgeon: None [Biop ITL is Salvage of 74]

Reclamation confirmed that the intent was to remain at those more positive OMRs. The group discussed that some offramps might be appropriate. For example, if the 50% cumulative salvage threshold for winter-run was exceeded in February, it would be appropriate to continue at -3,500 cfs OMR through early April, but not through June (since winter-run have likely left the system by mid-April). Jeff & Josh will also discuss offramp criteria.

Storm-related OMR flexibility: Projected document revised to list OMR during storm flex as whatever OMR results from exports at up to maximum permitted pumping capacity. No definition of storm yet in the document, but current thinking seems to be to use "Delta excess conditions" (loosely, when more water hits the Delta than is needed for meeting Delta standards and planned exports) – this is a pretty low bar for "storminess". NMFS asked for details on these storm flexes.

End of Seasonal OMR Management: Jeff and Josh to also clarify these criteria, as needed.

Delta – HORB

Do not have HORB in the PA, since recent data does not show higher survival in the San Joaquin River[1].

Have some actions in the programmatic section related to HOR but the proposed action is to fill the scour hole (a predator hotspot), not to install any barrier.

SMSCG. [Incomplete due to inability to hear over phone/not present.]

Delta - DCC.

NMFS asked for clarification of the risk assessment (triggered by a catch index) that would be used to determine DCC operations in October-November and May 21-June 15. Reclamation added some monitoring information that would be used, but no specifics yet provided. NMFS asked that an alternate form of clarification might be for Reclamation to explain how often they expected to close the DCC gates during those risk assessment periods. NMFS asked how the proposed operations in late

[1] The Jan 2017 SST report notes (page ES-10) "…However, data from recent (2010-2012) AT studies have shown that survival has been equally low through lal routes for Chinook salmon…the mechanisms affecting changes in juvenile survival among south Delta migration routes and factors that mya have changed that earlier reltationship in recnet years remain uncertain and warrant further investigation."

spring would be rectified with the SWRCB, since the risk assessment approach may not be consistent with D-1641.

DWR asked for some changes to the "concern levels" used as one type of exception for DCC closure. The updated concern levels (in micromhos/cm) projected during the meeting were:

- Jersey Point -- 1800
- Bethel – 1000
- Holland Cut – 800
- Bacon – 700

Stanislaus River

We were running a bit short on time; Barb shared the following high-level PA comments:

1. We need confirmation on whether or not the draft New Melones RPO provides appropriate water temperatures for different life stages of salmonids in the Stanislaus River depends on the implementation of the flexible blocks of water and also on flood releases. Will any temperature modeling be provided? Ideally, based on implementation of the flexible blocks of water in different patterns.
2. We note that a 1,500 cfs monthly flow cap and 3,000 cfs daily flow cap constrain outmigration flows and geomorphic flows. Low spring flows in "low storage" years are a concern.
3. If the New Melones RPO intended to replace the 1987 Agreement between Reclamation and CDFW, then CDFW will need to buy-in on fall-run Chinook salmon needs.

Barb suggested a provision that additional spring flows in the "low storage" years could be provided by transfers of District water, if available for sale. CVO didn't support that idea; apparently David Murillo signed a letter or memo last year noting that Reclamation did not support these "District releases" on the Stanislasu River.

Some discussion of shaping flood/reservoir management releases to provide geomorphic and other fish-friendly objectives; DOI solicitors said quite strongly that they do not believe they have any discretion in flood releases and would not want to imply otherwise in the PA.