

TALKING POINTS

for November 9, 2016

2017 Water Operations, Delta Smelt Outflows, and Shasta Temperature Management

1:00 pm NGO Call: 866-556-2937; Leader Code: 4769524; Participant Code: 9053084

2:30 pm Water User Call: 866-556-2937; Leader Code: 4769524; Participant Code: 9053084

PURPOSE (target time - 5 minutes)

- We are hosting this call in response to water user and stakeholder interests in a dialog for operation of the CVP and SWP for the next year and specifically actions related to Delta Smelt and Shasta Reservoir Cold Water Pool.
- Many of the details will depend upon what the hydrology looks like next year.
- At this time, we are planning for the potential range of conditions in WY 2017 and plan to talk through the types of information and concerns that will be considered during real-time decision making.
- Our goal is to prepare a comprehensive plan with different strategies for how Reclamation and the State would operate under these different conditions.
- During this meeting we hope to scope the potential elements you would like to see and establish reasonable feedback methods.

RESERVOIR AND WATER SUPPLY STATUS (target time - 10 minutes)

[Ron to talk about where we ended and any challenges to highlight]

DELTA SMELT (target time - 20 minutes)

[Paul to speak for the Service, Maybe Population Status, New Monitoring, Operational Issues, Importance of the Resiliency Strategy]

- Reclamation committed to support two of the actions under California Natural Resources Agency's Delta Smelt Resiliency Strategy.
- The first action is to repeat and improve upon the 2016 the North Delta Food Web Adaptive Management. This action routes water through the Colusa Basin Drain, Yolo Bypass, and Cache Slough Complex to increase residence time and promote food production and export into areas where Delta Smelt are known to occur.
- The second action is to provide additional outflow (up to 250 TAF) above D-1641 requirements in the spring and summer.
- Reclamation is committed to seeking up to 125 TAF (half of the target provided in the Strategy) and will focus on the summer months to test conceptual models developed by the Delta Smelt Scoping Team under the Collaborative Science and Adaptive Management Program.
- Development of the project will occur through a Project Work Team under the Interagency Ecological Program that is open to participation by all stakeholders.
- The summer outflow project will consist of the following components:
 - **First, establishment of biological objectives and the physical conditions hypothesized to achieve those objectives.**
 - In general, the belief is that maintaining X2 in specific locations could improve survival.
 - CSAMP will assist the IEP Project Work Team to prepare specific physical and conditions and biological objectives.

- **Second, water acquisition through voluntary measures will allow for additional outflows to meet the hypothesized physical conditions under various scenarios.**
 - We are seeking up to 125 TAF.
 - Water acquisition will need to follow the transfer white-paper. The transfer white paper require a seller to take an action to make water available. Those actions are generally releases from storage, groundwater substitution, fallowing, or crop shifting.
 - We are very early in the year and will not know the next water year's hydrology or allocations until the spring.
 - We have some thoughts on how a coordinated effort can potentially grow the potential supply for transfer or outflow or mitigate risks.
 - We currently anticipate a Sacramento River effort and an American River effort.
 - Release of the water will depend upon a real-time assessment of the ability to create the hypothesized physical conditions.
 - We will need to prepare off-ramp plans in the event the water cannot achieve the desired conditions.
- **Third, a DWR led effort to identify opportunities to adjust criteria under some conditions that could make water available during the summer months to augment outflow in a water-neutral manner (operational outflows).**
- **Fourth, routing scenarios to coordinate with the North Delta Food Web action and maximize benefits to Delta Smelt and assessments of biological performance.**
- **Fifth, monitoring of the physical and biological conditions to measure the mechanisms behind the correlation between outflow of Delta Smelt survival.**
- Although for 2017 we are focused on the summer, the Resiliency Strategy also calls for flows in the spring. We believe the challenges with hydrologic uncertainty and Shasta cold water management are too great at this time and do not have a mechanism for the spring.

SHASTA TEMPERATURE MANAGEMENT (target - 10 minutes)

- Reclamation and NMFS are working together on ways to plan for the management of cold water next year.
- We are in the development phase of the plan.
- We believe that we can establish biological objectives that allow for flexibility in releases and storage levels within certain ranges that provide sufficient protections for Winter-Run Chinook Salmon, consistent with the Biological Opinion or with minimal revisions as provided for in the BiOp amendment process identified in the 2009 BiOp.
- We are also working through different ways to evaluate risks and potential scenarios to better estimate the uncertainties and potential effects on other species.
- In the longer-term, we hope to work on new tools that will improve the ability to predict the availability of cold water and the effects of different release strategies.

[Barry or Maria to Speak for NMFS]

- We agree with the statements that Reclamation made
- I would like to clarify, however, that temperature management at the location of the winter-run redds would include managing water temperatures to protect most, if not all, of the redds. In doing so, we need to closely examine the appropriate metric (7DADM as opposed to 56 DAT) that would provide for adequate egg and alevin incubation.

Current status of winter-run Chinook salmon:

- **As you know, we've had extreme concern this past water year about the health of critically endangered Sacramento River winter-run Chinook salmon.**
 - With 5% or less survival of the past two year classes of wild winter run juveniles in the Upper Sacramento River, we needed to be extremely cautious to protect this year's third cohort from the effects of lethally-high Sacramento River temperatures this spawning and egg incubation season.
- **Once again, the process to plan a summer and fall release schedule for Shasta Reservoir to meet the needs of all users, including fish and wildlife, was challenging given the limits the drought has placed on available supplies.**
 - That said, with significant partnership and commitment from both our Federal and State agency and our water and irrigation district partners, we were able to draft a plan for 2016 Shasta operations and Sacramento River temperature management that was consistent with the 2009 NMFS biological opinion.
- **We are happy to report successful execution of this temperature plan this past summer.**
 - Reclamation was able to meet the temperature compliance point of less than 56 degrees daily average temperature at or below Balls Ferry (approximately 26 miles below Keswick Dam) this summer for the first time since 2012.
 - With continued commitment by the five agencies to adaptive management, identifying operational flexibilities when possible while maintaining protections for critically endangered species, we were even able to execute some flexibility in the original Shasta temperature management plan in August to keep the monthly average releases 500 cfs higher than proposed in the June temperature management plan.
 - In addition, since overall conditions were better than forecasted, Reclamation was successful for part of the temperature management season in meeting a temperature metric of less than 55 degrees 7 day average of daily maximum to the downstream most redd, which was approximately 13 miles downstream of Keswick Dam. This provided further certainty that we were minimizing the effects of warm in-river temperatures on winter run egg and fry.
- **As a result, early indications of the impacts of this success are promising.**
 - Temperature dependent mortality was estimated to be 2% of the winter-run population this year, significantly below the approximately 77% and 85% temperature dependent mortality exerted on the populations in 2014 and 2015, respectively.
 - Fish are still in the process of outmigrating, but to date the number of fry captured at Red Bluff Diversion Dam rotary screw traps exceeds the number of fry at this time in 2014 and 2015.

- Given that winter run escapement and overall female fecundity was lower in 2016 than in both 2014 and 2015, this preliminary information indicates a higher egg-to-fry survival than has been seen in the last two years.
- **Again, we share this early indication of success with our partner federal and state agencies, as well as the water and irrigation districts, whose support and cooperation made execution of this plan possible.**
 - Credit goes to these agencies, including the Anderson-Cottonwood Irrigation District (ACID), whose agreement to leave their flashboard dam in place until November 1, later than normal, has helped prevent winter-run redd dewatering.
 - We would also like to thank the Northern California Water Association (NCWA) for their funding of the restoration of Painter's Riffle and Market Street gravel injection, to create additional spawning habitat in future years, as well as the construction of the Knights Landing Outfall Gates fish exclusion weir and the new permanent Wallace Weir, to prevent adult salmonids from straying into the Colusa Basin Drain.
 - NCWA, along with other partners, are also helping implement juvenile rearing habitat restoration projects on the Sacramento River including Cypress Avenue Bridge, South Bonneyview Road, and East Sand Slough, as well as various projects in Tehama County, and reduction of lighting at in-river structures.
 - Implementing these actions, along with others included NOAA Fisheries 5-Year 'Species in the Spotlight' Action Plan, will not only assist with stabilizing and preventing extinction of Sacramento River winter-run Chinook salmon, but they will also serve to support the species' long-term recovery.
 - Without the help and partnership of all parties, including their willingness to meet and discuss water operations and restoration projects alike, this outcome would not have been possible.
 - These collaborations are also helping shape an integrated work plan to address scientific needs that will better inform our water management decisions for years to come, including development of a new Sacramento River water temperature model.
- **Looking forward, Shasta Reservoir end of September storage this year was 2.8 million acre feet, substantially higher than in 2014 (1.2 maf) and 2015 (1.6 maf), setting us in a better starting point for operations in WY 2017. But we are not out of the woods yet.**
 - Current weather and climate forecasts from NOAA's National Weather Service and partners indicate ENSO-neutral conditions are slightly favored over La Niña conditions for the upcoming fall/winter season.
 - They also indicate that there is a 33-50% chance of observing well above normal temperatures across the West for October to December and that observing above average precipitation and observing below average precipitation are equally likely for the remainder of 2016.
- **We are committed to continuing the cooperation and partnership forged this year as we all hope for a winter season that includes significant precipitation and snowpack.**

QUESTIONS (target - 10 minutes)

- We realize that next year's hydrology is still unknown; We are working the best we can with the information we know at this time and will continue to work on updating our approaches as the water year develops and conditions change.
- At this time we would like to hear your questions, concerns, or items you would like us to think about and then we can talk about the next steps.

[Open Forum]

NEXT STEPS (target - 5 minutes)

- We are working with the federal fish agencies and the State to plan ahead for how we will operate, seek feedback on, and communicate decisions for next year.
- We anticipate that we would continue these types of meetings as we progress into the new year for individuals more interested in summary information.
- Individuals interested in participating the formulation and development of the summer outflow project should contact David Mooney at dmmooney@usbr.gov or (916) 414-2403.

STOP

Preparatory Q&A

1. How will the summer outflow decisions be made? ANSWER: As we approach the time for releases, Reclamation will coordinate with the State and fisheries agencies to assess the conditions and the potential to change conditions with the water on hand. If we believe we can effect a beneficial change, Reclamation would release the water. If not, we would off-ramp in the manner that best positions for the next year.