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Sent: Thursday, June 12, 2014 4:39 PM
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Subject: operations flexibility discussion
Attachments: Operational Flexibility 06-12-14 (3).docx

Scott, hi. I've attached some ideas we have been working through for a drought bill. We would like to discuss tomorrow morning or early afternoon if you have time. Take a look and let's find a time tomorrow. Thanks

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Legislative Recommendations for Operational Flexibility

6/6/14

Support for Feinstein Bill S. 2198, including specifically

1. I:E ratio (§4(c)(4))
2. 30 day review for barrier and operable gates implementation (§4(c)(5))
3. 30 day review for transfers (§4(c)(6))
4. Manage turbidity and OMR (§4(c)(3))
5. 7 day timeline for final agency decisions (§4(e))
6. Cross-Channel Gate operation (§4(c)(1-2))

For Smelt

1. Revise Incidental Take Limit calculation
2. Implement S.2198 by interchanging calendar date triggers in the biological opinion that are based on life-cycle averages with real-time operations provisions with enhanced real-time monitoring to determine when reductions in OMR are necessary
3. Support Reclamation Drought Operations Plan flexibility for Delta E/I ratio

For Salmon

1. Based on scientific studies since 2008, implement an indefinite hold on NMFS RPA Actions IV.2.1 (SJR inflow to export ratio) and IV.2.3 (OMR flow restrictions). Instead, rely on D1641 standards for managing Delta flows and exports
2. Predation pilot actions and studies
3. Mark/Select fishery
4. Protect Water Quality - Night and Day operation of cross-channel gates

Overall

1. Proposal for agencies to provide clear direction

Detailed Recommendations

For Smelt

Incidental Take Limit. The current ITL for delta smelt in the winter is based on data from only 3 years: 2006, 2007, and 2008, which severely constrains analysis of the expected variability in the system. Under the current configuration, the ITL for adult delta smelt in the past winter was about 150 fish. In contrast, the take limit for scientific studies was exponentially higher. To estimate a more reasonable ITL figure, FWS should use a more robust analysis and replace the current incidental take limit for adult Delta smelt in the 2008 smelt Biological Opinion with an incidental take limit that is based upon simulated salvage ratios from 1993 – 2012 and that represents a salvage ratio that would be exceeded in 20% of years under operations that comply with the adult smelt RPAs. To create the simulated salvage ratios, USFWS will generate a correlation between measured salvage ratios in these years, Old and Middle River flows during the salvage period and a measure of delta turbidity during the salvage period. The correlation will then be applied to historical patterns assuming that the Projects had been in compliance with OMR limits as prescribed in the RPAs. This revised ITL and accompanying expected take method under the RPA for the SWP and CVP would remain protective of the species while providing improved flexibility for managing water operations. The United States has used similar procedures in other areas.

This method has precedent. NMFS endorses and routinely uses a one-sided 80% Prediction Interval when assessing population stock levels. For example, in the 2005 Revisions to Guidelines for Assessing Marine Mammal Stocks, a panel of NMFS scientists commended use of “the 20th percentile of a log-normal distribution” as a properly protective method for estimating marine mammal minimum abundance. *Id.* at 6. This approach uses the bottom 20th percentile of the available population estimates to set a minimum estimate of population, which is then used as a multiplier to calculate the “Potential Biological Removal” level—a number roughly analogous to the ITL. See, e.g., False Killer Whale: Hawaiian Islands Stock Complex (Draft, 2012) at 65 (using the “log-normal 20th percentile” to estimate abundance); Long-Beaked Common Dolphin: California Stock (2011) at 117 (using the “log-normal 20th percentile” to estimate abundance). An assessment by Roman et al 2013, says that the use of the log-normal 20th percentile criteria, was protective with 8 out of 12 stocks having showed improvement in abundance. Here, where the concern is identifying when losses are anomalously large, the 80% Upper Prediction Interval is similarly appropriate.

Turbidity management and real-time ops. Implement S.2198 §4(c)(3)(A) by interchanging the hard turbidity triggers in the FWS biological opinion that are based averages with real-time

operations based on enhanced real-time monitoring to determine when smelt are near the CVP and SWP pumps and reductions in OMR are necessary. During December through March, if high suspended sediment loads enter the Delta from the Sacramento River and appear likely to raise turbidity levels in Old River north of the export pumps from values below 12 NTU to values above 12 NTU, then USFWS will conduct daily Kodiak Trawls in Old River in the vicinity of Station 902 in order to detect adult Delta smelt that might be moving within the turbidity cloud toward the export pumps. Results from these trawls will be used to help determine what levels of exports can be pumped without risk of a large smelt salvage event.

For Smelt (findings)

Voluntary Actions. Congress should find that Reclamation and DWR should allow voluntary actions that could prevent significant turbidity from reaching the Delta

Flexibility for E/I Ratio. Congress should find that, consistent with the Drought Operations plan (page 20) for this year, Reclamation and CDWR should continue to vary the averaging period of the Delta E/I ratio pursuant to Footnotes 18, 19, and 20 of D-1641 as was approved in the March TUC Order. Operate to a 35 percent E/I ratio with a 3-day averaging period on the rising limb of a Delta inflow hydrograph, and operate to a 14-day averaging period on the falling limb of the Delta inflow hydrograph.

For Salmon

Implement an indefinite hold on implementing NMFS RPA Actions IV.2.1 (SJR inflow to export ratio) and IV.2.3 (OMR flow restrictions), and instead continue to rely on D1641 standards for managing Delta flows. Science completed since the 2009 BiOp clearly shows that these actions are extremely ineffective in improving conditions for juvenile salmonids.

Delta water diversions of the Central Valley Project (CVP) and the State Water Project (SWP) have been substantially limited by the State of California (SWRCB) since 1995 and were further constrained to protect delta smelt beginning in 2008 (USFWS Biological Opinion). The 2009 NMFS Biological Opinion further constrained diversions in an effort to provide enhanced protections to juvenile salmonids. One NMFS action restricted the volume of water diverted to a fraction of the water entering the Delta from the San Joaquin River (the Inflow to Export ratio, RPA Action IV.2.1). A second action required that average Old and Middle River (OMR) flows remain above specified levels (RPA Action IV.2.3.). OMR flows are a function of San Joaquin River flows and Delta diversions. Since the CVP controls only a small proportion of San Joaquin basin water storage (the SWP controls no San Joaquin basin waters), both these RPA actions effectively restrict Delta water diversion.

While these RPA actions were well intentioned, best available science indicates they will yield minimal benefits to Sacramento basin salmonids and may actually harm San Joaquin basin salmonids. Studies conducted over the last fifteen years have shown through-Delta juvenile salmonid survival has been poor and has continued to decline despite experimental increases in San Joaquin River flows and decreased water diversions. Contrary to the impact of diversions emphasized in the 2009 NMFS BiOp, best available science suggests the primary reason for low survival in the Delta is the lack of suitable juvenile salmon habitat and resulting high predation rates. In other words, inflow increases and diversion decreases cannot enhance access or quality of salmonid habitat, and therefore cannot appreciably effect survival. Freezing diversion restrictions specified in the NMFS BiOp will not harm juvenile salmonids, and will free up resources that can be dedicated to actions which can more effectively improve survival of juvenile salmonids in the Delta.

Predation pilot projects. Maintain program in HR 3964 (§114) and implement at least one other pilot program in 2015 to protect anadromous fish in either

1. the lower San Joaquin River;
2. the Mokelumne River, immediately downstream of Woodbridge Dam;
3. the Sacramento River, Butte City Bridge to Verona; or
4. the Feather River, Live Oak to Yuba City

Mark/Select Fishery: Preventing new salmonid listings. Fall run Chinook salmon produced by Central Valley mitigation hatcheries are, by far, the largest contributor to the abundance of Chinook salmon off the coast of California. Ocean harvest directed at these super-abundant hatchery fall Chinook causes significant by-catch (mortality) and diminishes age class diversity among natural origin and ESA listed Chinook stocks (including Sacramento winter and spring Chinook). To minimize these impacts, contribute to recovery of ESA stocks, and to minimize risk of a natural origin fall Chinook ESA listing, NMFS, with support from agencies responsible for funding mitigation hatcheries, will implement a mass marking program for Central Valley hatchery fall Chinook. NMFS and mitigating agencies will then assess and implement new harvest management strategies that will provide better protection for sensitive Chinook stocks while still allowing for harvest of hatchery fall Chinook. Alternative harvest strategies assessed shall include stock-specific quotas, daily landing limits, terminal fisheries and mark-selective fisheries- all methods which are standard practice for Chinook harvest management in Oregon and Washington. Mass marking will begin with the 2015 brood year, and new harvest strategies will be implemented by 2018.

Use Best-Available Science to Protect Water Quality Consistent with protecting listed salmon during migration – Cross-Channel Gates Operation. Maintain §4(c)(1) and (2) of S.2198. Request a report from Reclamation by March 15, 2015 to detail the extent to which the gates were able to remain open.

New actions to benefit Central Valley salmonids

- Before spring 2015, implement a pilot program to trap juvenile salmonids emigrating from the San Joaquin River basin and provide for their safe passage to the Western Delta. In addition, conduct studies to evaluate the effectiveness of this program.
- Before spring 2015, mimicking successful USFWS programs on Clear Creek and Battle Creek, begin to deploy temporary in-river structures to:
 - protect and grow natural origin spring Chinook populations by blocking access to hatchery origin fall Chinook
 - prevent hatchery origin Chinook salmon and steelhead from reaching spawning grounds where they will compete for spawning with ESA-listed natural origin fish

Overall

The actions described in [above] shall be implemented by the Secretary of the Interior and the Secretary of Commerce unless the Secretary finds, based upon the best available scientific data and information, and taking into account the temporary nature of the actions in Subsection (a), that the action is likely to result in jeopardy to a listed species covered by the Delta smelt or salmonid Biological Opinions. Any such finding of jeopardy shall be supported by substantial evidence, and shall be judicially reviewable in federal district court