



Pacific Fishery Management Council

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Dorothy M. Lowman, Chair | Donald O. McIsaac, Executive Director

April 23, 2014

Ms. Heidi Taylor
National Marine Fisheries Service
501 W. Ocean Boulevard, Suite 4200
Long Beach, CA 90802

Re: [NOAA–NMFS–2013–0154] Pacific Fishery Management Council Comments on Alternative Harvest Control Rules Analyzed in a Management Strategy Evaluation for Sacramento River winter Chinook

Dear Ms. Taylor,

Thank you for the opportunity to comment on alternative harvest control rules for Sacramento River winter Chinook (SRWC) as analyzed in a Management Strategy Evaluation (MSE) by the National Marine Fisheries Service (NMFS). The conservation of SRWC is an important matter to the Pacific Fishery Management Council (Pacific Council), a matter that has been discussed at many Pacific Council meetings in a management context through the annual shaping of salmon regulations as well as in a scientific context through the Pacific Council's rigorous review of fishery modeling and stock forecasting methodologies. The NMFS request for comments on the MSE and alternative harvest control rules for SRWC as published in the *Federal Register* on January 23, 2014 was formally discussed by the Pacific Council at its March 2014 meeting in Sacramento, California. Additionally, the MSE was the subject of an April 8, 2013 workshop on the scientific basis of control rule options that was attended by members of the Pacific Council's Salmon Technical Team, Salmon Advisory Subpanel, and Scientific and Statistical Committee, in addition to Pacific Council members and the general public. Prior to that, this matter was a topic of discussion at no less than four Pacific Council meetings dating back to March 2012. We believe the Pacific Council's publically-noticed transparent process has been an ideal forum for thorough consideration of the policy and scientific issues surrounding alternative SRWC harvest strategies. **This process culminated in March 2014 with a Pacific Council recommendation for MSE control rule alternative 4, which contains an incidental *de minimis* impact rate that declines with abundance.**

The Pacific Council recommends control rule alternative 4 for several important reasons. As a matter of fish conservation in a singular stock focus, we note this alternative is essentially equivalent to the current control rule in terms of population viability risk from fishing effects. As a matter of consistent policy implementation, we are concerned that the current control rule calling for a zero-take tolerance when the mean escapement is below 500 spawners is unlike any fishery allowable take allowance for other salmonid stocks listed under the Endangered Species Act (ESA). Further, we are concerned about the inconsistency and lack of equity with other Biological Opinions (BiOps) for other sectors of human impact that do not entail a zero-take provision at the same SRWC abundance level, even though they may have a larger impact on

population status than fishing. As an additional matter of good public policy, we are concerned that the severe collateral damage to healthy fisheries caused by the lack of any incidental take was apparently never taken into consideration in selecting the current control rule.

Conservation Equivalency

At the core of the Pacific Council's recommendation for control rule alternative 4 is the MSE result indicating that control rule alternative 4 is essentially equivalent to the current control rule (a.k.a. the SWR control rule) in terms of modeled population viability risk (see MSE Figure A.9 (b), attached). This scientific conclusion is not in question: building on the April 8, 2013 workshop on the aforementioned MSE, the MSE's previous peer review resulting in scientific journal publication, and deliberations at the March 2014 Pacific Council meeting, the Pacific Council's Scientific and Statistical Committee endorsed the MSE as the best scientific information available for evaluating the harvest control rules for SRWC¹, thereby satisfying Federal standards for peer reviewed science². Since there is negligible difference in population viability risk between control rule alternative 4 and the current control rule, it seems reasonable to assume that the NMFS conclusion of no jeopardy under the ESA for the current control rule would also apply to control rule 4.

The April 30, 2010 BiOp notes several areas of conservation concern specific to SRWC, which we agree with, including the fact that there is a single population in this evolutionarily significant unit and that abundances under 500 represent a reasonable level to trigger additional protection. However, we do not believe the conclusion that a zero-take policy for abundance levels below the 500 spawner level is the most reasonable and prudent alternative necessary to achieve the intended conservation goal. The BiOp states at its onset that there was a need to address "...the foundation of (a) jeopardy conclusion, which is the lack of explicit controls in the ocean salmon fishery management process to constrain and reduce impacts when the status of winter-run is declining or unfavorable, and the extinction risks are increased."³ We note that control rule alternative 4 provides explicit control of ocean salmon fishery process to constrain impacts, that it dictates reduced impacts as the status of SRWC declines, and that it has no appreciable increase in extinction risk. Thus, control rule alternative 4 addresses each of the foundational elements that can lead to a jeopardy conclusion, without the necessity of a zero-take provision.

Lastly, we note the BiOp statement that "NMFS deems it appropriate to prohibit fishery impacts on winter-run."⁴ appears arbitrary in that conservation equivalency could have been achieved by choosing to reduce rather than prohibit impacts based on mean abundances below 500 spawners. While it may seem superficially reasonable to react in this manner to the idea that there is a population size small enough that no impacts should be allowed, comprehensive population viability modeling does not support such a conclusion. Thus, deeming such a concept as valid, and deeming a particular number below which zero tolerance is necessary for one segment of human impacts (the fishery sector) appears to be an arbitrary choice rather than one dictated by scientific analysis. The following concerns of the Pacific Council that deal with matters other than singular conservation effects on SRWC provide additional rational for our selection of

¹ http://www.pcouncil.org/wp-content/uploads/F8b_SUP_SSC_MARCH2014BB.pdf

² Magnuson-Stevens Fishery Conservation and Management Act, Section 302(g).

³ NMFS, ESA Section 7 Consultation Biological Opinion, April 30, 2010, page 1, paragraph 2.

⁴ NMFS, ESA Section 7 Consultation Biological Opinion, April 30, 2010, page 12, paragraph 2.

control rule 4, and may be beyond the narrow scope of the ESA, but provide balance towards a final policy decision, given that conservation equivalency can be achieved by selecting control rule 4.

Consistency with Other Fishery Impact Biological Opinions

The Pacific Council is concerned that the treatment of fishing impacts under the current SRWC harvest control rule is inconsistent with NMFS policy on other ESA-listed salmon stocks (Table 1). It is a concern to the Pacific Council that there are acceptable incidental allowances to these other stocks listed under the ESA, but not for SRWC under the current control rule. As noted above, SRWC have been restricted by inland practices to very limited areas available for spawning, a situation that has been cited as rationale for additional protective measures for SRWC. However, there are several ESA-listed populations that also struggle with limited spawning habitat. Upper Columbia River spring Chinook, California Coastal Chinook, and Snake River sockeye are all listed as endangered under the ESA and are limited by habitat and/or reduced natural spawning escapements. This is particularly true of Snake River sockeye, which, like SRWC, are limited to a specific spawning area and are constrained to a single breeding population, but have experienced spawning population numbers far less than the lowest SRWC return; however, unlike SRWC, there are *de minimis* incidental fishery allowances for Snake River sockeye at very low abundance levels. We understand the allowance for *de minimis* impacts at low abundance for these other ESA-listed stocks was done as a result of population viability analyses that demonstrated low additional risk from low fishery impact levels, just as the MSE does for the SRWC.

Consistency with the Allowance of Other Societal Impacts

It is evident that the listing of SRWC as endangered under the ESA was the result of multiple impacts to the stock, not simply fishery removals. However, it appears that current NMFS policy regarding allowable SRWC takes in non-fishing sectors of human impact may operate under an inconsistent standard in comparison to the fishery sector. It is the Pacific Council's understanding that none of the following activities and their associated impacts to SRWC are eliminated / reduced to zero when mean escapements fall below 500 fish: the threshold at which allowable fishing impacts go to zero.

- Native spawning areas of SRWC above Shasta Dam were eliminated when Shasta Dam was constructed with no fish ladders, and the population is now subject to the effects of Shasta Dam operations in their remaining spawning location below Shasta Dam. Shasta Dam operations are primarily managed to generate hydro-power and provide stored water for agriculture, with known deleterious impacts on SRWC that are not prohibited at low population levels.
- Water management practices (including water withdrawals and diversions for agriculture or municipal uses and low manipulations) between the spawning area and the estuary include many canals / diversions that are unscreened, often stranding SRWC juveniles in agricultural areas on the outmigration and stranding adults that are misdirected up irrigation canals during their returning spawning migration.⁵ The Pacific Council

⁵ California Department of Fish and Wildlife verbal report to the Pacific Council, September 2013 Council meeting.

appreciates efforts to screen out the juveniles and to relocate misdirected adults so they may contribute to future generations, but the Pacific Council also recognizes that these impacts are not eliminated or significantly restricted when mean escapements fall below 500 fish.

- Pumping and diverting of water out of the main stem river and estuary impairs the normal salmon estuarine habitat in many ways. While impinging juvenile salmon on the pump screens or diversion screens may be the most publically-cited effect, the other degradations to healthy estuary characteristics from water diversions probably do more damage to downstream smolt survival and do not appear to be prohibited at spawner levels under 500 fish.
- The effects to SRWC associated with the application of herbicides and pesticides are incidental and largely unmeasured, but are not presumed to be of no impact. Nonetheless, the Pacific Council is unaware of any increase in restrictions, let alone an outright ban, on their application at low escapement levels.

It is difficult to reconcile the difference in NMFS policy in regards to these substantial non-fishery impacts to SRWC with the unique fishery-related zero impact rates associated with the current control rule. One way to better understand the impacts of non-fishery impacts and the rationale for less conservative management of these activities at low abundance relative to fishery restriction would be to complete an analysis similar to the MSE that assesses the risk these activities pose to the species under alternative regulatory controls. The Pacific Council believes that such an analysis would be valuable in achieving a public policy obligation of equitable treatment of activities that can jeopardize SRWC population viability.

Consideration of Collateral Effects on Ocean Salmon Fisheries

Although control rule 4 results in a negligible difference in population viability risk relative to the existing SWR control rule, control rule 4 can provide a substantial positive difference to ocean fisheries. The *de minimis* impacts allowed under control rule 4 at mean escapements below 500 fish could provide important access to other healthy target salmon stocks, while, under the current control rule, zero SRWC impacts would be allowed and complete fishery closures would be required.

The Pacific Council is not aware of an analysis of the social or economic effects of the various control rules that may help to inform a decision on this important policy question. The Pacific Council understands that socioeconomic considerations are secondary to biological concerns for species protected under the ESA. However, the biological risk to the SRWC population from the SWR control rule and harvest control rule 4 are essentially equivalent, but the SWR control rule has the potential to be disastrous for the fishing communities that rely on healthy stocks of salmon, while control rule 4 would allow the socioeconomic benefits to continue, albeit at a reduced levels. The Pacific Council notes that historic fishery closures in 2008 and 2009 resulted in \$170M of Congressional disaster relief provided to participants and businesses reliant on an average salmon season. In 2013, California coastal community income impact estimates in areas most affected by SRWC conservation efforts (San Francisco and Monterey port areas) were

over \$20M in the commercial fishery and \$8M in the recreational fishery.⁶ When comparing two policies of equal risk, it is reasonable to broaden the consideration to other factors, such as socioeconomic impacts, to achieve the most equitable policy decision.

The Pacific Council appreciates the open and transparent consideration of the science that served as a basis for the current NMFS policy on SRWC under the ESA. The Pacific Council also appreciates the opportunity to comment on the alternate control rules and, after a thorough review of the science and an open consideration of public opinion, voted unanimously (with one abstention) to recommend that control rule alternative 4 replace the current control rule to implement protection under the ESA. The Pacific Council remains supportive of the recovery of SRWC and will continue to carefully manage incidental impacts to SRWC through fishery controls such as seasonal closures, area restrictions, and size limits, but firmly believes that control rule 4 and its *de minimis* impact allowance represents the most equitable policy decision that also meets the ESA no jeopardy conservation objective.

Thank you for your consideration of Pacific Council recommendations on this important issue. Should your staff have any questions on this matter, please contact Mr. Mike Burner at the Pacific Council office.

Sincerely,



D.O. McIsaac, Ph.D.
Executive Director

MDB: kma

Enclosure

c: Pacific Council Members
SSC Members
STT Members
SAS Members
Mr. Will Stelle
Dr. Cisco Werner
Dr. Steve Lindley
Mr. Mike Burner
Mr. Chuck Tracy

⁶ Pacific Fishery Management Council. 2014. *Review of 2013 Ocean Salmon Fisheries: Stock Assessment and Fishery Evaluation Document for the Pacific Coast Salmon Fishery Management Plan.*

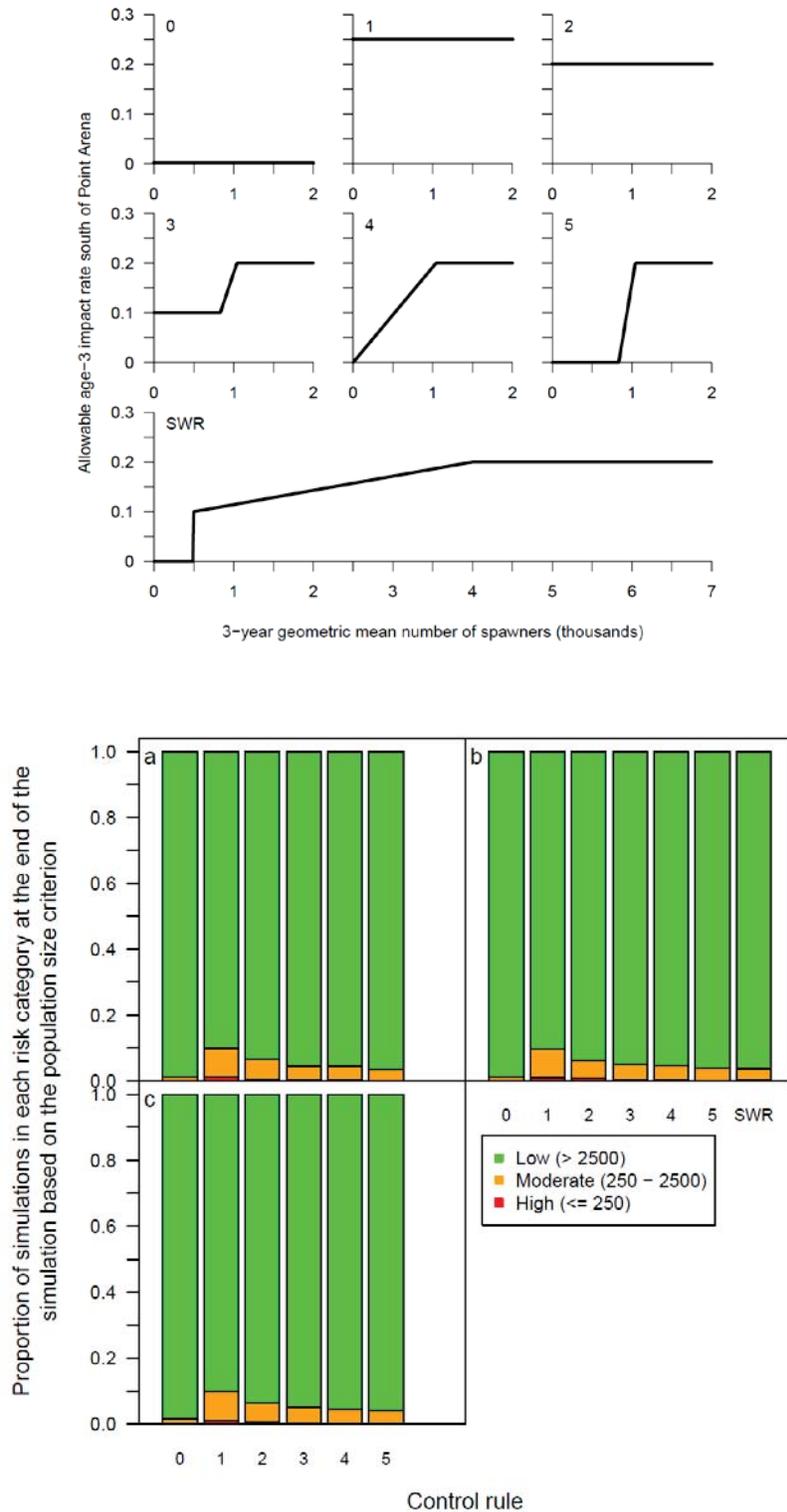


Figure A.9. Proportions of 20000 100-year simulations whose final population sizes met each of three extinction risk categories based on ‘population size’ defined by Lindley *et al.* (2007). We assumed a temporal autocorrelation of 0.5 in juvenile survival rates. Final population size was calculated as the sum of escapements during the last three years of a simulation. Results are shown for each of three T scenarios (a-c) and 7 control rules (0-5 and ‘SWR’), which are described in the text.

Table 1. Allowable or *de minimis* Fishery Impact Rates on Salmonid Stocks Listed under the Endangered Species List ^{a/}

Evolutionarily Significant Unit	Status	Exploitation Rate (ER)	Other Provisions
Chinook			
Sacramento River Winter	Endangered	0%	Includes additional time and area restrictions south of Point Arena CA. Discountable impacts north of Point Arena, CA.
Snake River Spring/Summer	Threatened	<5.5%	No specific guidance, protective measures for Upper Columbia River Spring-run as a surrogate.
Puget Sound	Threatened		Resource Management Plan under 4(d) rule. Stock specific Recovery ERs that do not go to zero.
Lower Columbia River Tule Fall	Threatened	≤ 30.0%	
Upper Willamette River	Threatened	≤ 15.0%	Harvest rate in freshwater fisheries. Additional 10-15% in Alaskan and Canadian ocean fisheries.
Upper Columbia River Spring	Endangered	<5.5%	
Central Valley Spring	Threatened		No specific guidance.
California Coastal	Threatened	≤ 16.0%	Klamath fall Chinook ocean age-4 f harvest rate.
Snake River Fall	Threatened	≤~40%	≤ 70.0% of 1988-1993 base period exploitation rate for all ocean fisheries.
Coho			
Central California Coastal	Endangered	No limit specified.	No directed fisheries or retention of coho in all commercial and recreational fisheries off California.
S. Oregon/ N. California Coastal	Threatened	≤ 13.0%	No retention in California.
Oregon Coastal	Threatened	≤ 8.0%	
Lower Columbia River	Threatened	≤ 8.0%	
Sockeye			
Snake River	Endangered	≤ 5.0%	Allowable ER when the aggregate return of sockeye to the Columbia River is low.
Chum			
Hood Canal Summer	Threatened	2.5-4.6%	Southern U.S. Waters. Population specific.

a/ ERs represent *de minimis* or lowest allowable. ERs for several stocks increase with abundance.