Pacific Fishery Management Council
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Dorothy M. Lowman, Chair| Donald O. McIsaac, Executive Director

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Ryan Wulff, NMFS
BDCP Comments
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Sacramento, CA 95814
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Dear Mr. Wulff,

Thank you for accepting the comments of the Pacific Fishery Management Council regarding the Bay Delta Conservation Plan (BDCP) and associated Draft Environmental Impact Report/ Environmental Impact Statement (DEIR/DEIS). The Council is concerned that essential fish habitat (EFH) for Council-managed species will be impacted by proposed BDCP activity.

As you know, the Pacific Council is one of eight Regional Fishery Management Councils established by the Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 1976, and recommends management actions for Federal fisheries off Washington, Oregon, and California. The MSA includes provisions to identify, conserve, and enhance EFH for species regulated under a Pacific Council fisheries management plan. Each Council is authorized under MSA to comment on any Federal or state activity that may affect the habitat, including EFH, of a fishery resource under its authority. Furthermore, for activities that the Pacific Council believes are likely to substantially affect the habitat of an anadromous fishery resource under its authority, the Pacific Council is obligated to provide comments and recommendations (MSA §305(b)(3)).

The Council believes the BDCP will negatively impact EFH for Council-managed species. Adverse effects on habitat for Chinook salmon of all runs race—fall, late fall, winter, and spring—particularly concern the Council. The in-river conditions for all life phases of Chinook salmon are currently marginal at best, as described throughout the Operations Criteria and Plan (OCAP) Biological Opinion for management of the State Water Project and Central Valley Project. Lindley et al. (2009) point to the ultimate causes of the collapse of Sacramento River fall-run Chinook in 2008-2009 as primarily anthropogenic, with the end result being severe truncation in the diversity of the fall- and late-fall run salmon populations. The tenuous state of California's salmon populations listed under the Federal Endangered Species Act (ESA), is beyond dispute; further degradation to the habitat they depend on will simply worsen their condition. Further, impacts to the Central Valley fall and late-fall runs reduce the number of fish that can be taken in public fisheries without mitigation. The Council views such impacts to these four runs as unacceptable.

The Council's examination of the effects of the alternatives, Section 11.3.4 of the BDCP EIR/EIS, reveals many examples of what are characterized in the analytical documents as "slight" reductions in the quality of habitat for Central Valley fall Chinook salmon. They are particularly frequent in the spawning and rearing habitat of fall Chinook salmon. In light of existing marginal conditions for fall Chinook salmon in the Central Valley, these "slight" impacts are not viewed as harmless by the Council. While individually each degradation might be small, when taken in total, the impacts are unacceptable. The Council is highly concerned that further reduction in the habitat-related diversity of fall Chinook will lead to the loss of the fall run as a sustainably harvested resource, and to the very survivability of the two ESA-listed runs (winter and spring).

The Council is also highly concerned that ultimately, the flow of fresh water through the Delta will continue to be unreasonably constrained by the project's overall water withdrawals. The mitigations described in the EIR/EIS (mostly unfunded, and therefore unlikely to be implemented) cannot compensate for ecological degradation resulting from the diversion of water from the system. The Council requests that the BDCP incorporate and fund the ecological mitigations throughout the project area; and that their impacts to all salmon be analyzed in the EIR/EIS to demonstrate how the mitigations can be reliably expected to result in no further degradation to the habitat which, under the MSA, has been designated as essential fish habitat for salmon.

Salmon Essential Fish Habitat

The EFH description of the Pacific Coast Salmon Fishery Management Plan (FMP) lists known threats to salmon habitat such as dam construction, reducing in-river flow, levee construction, logging riparian habitat, and pollution from both agricultural and urban runoff. These threats lead to loss of water quality as listed in the EFH description, including elevated water temperatures, increased turbidity and suspended solids, flooding and dewatering of spawning areas, and alteration of the natural flow regime. The EFH description identifies beneficial habitat factors listed as EFH including side channel habitat, channel margin shading, high riffle/pool ratio and structure, and presence of large woody debris.

The Council is greatly concerned that almost none of these beneficial EFH elements presently exist in the Central Valley. While the BDCP contemplates some EFH conservation effort, there is no assurance of funding. Even though BDCP purports to address entrainment in the pumps and Delta habitat, Lindley et al. (2009) state, "…from this perspective the biggest problem with the state and Federal water projects is not that they kill fish at the pumping facilities, but that by engineering the whole system to deliver water from the north of the state to the south while preventing flooding, salmon habitat has been greatly simplified."

In addition, the BDCP should take notice of any changes to salmon EFH including the descriptions of non-fishing activities that may adversely effect EFH.

Groundfish and Coastal Pelagic Species Essential Fish Habitat

In addition to EFH for salmon, the BDCP would affect EFH for other Council-managed species. Section 11.2.1.3 of the DEIR/DEIS notes that EFH for salmon, but not for groundfishes or coastal pelagic species, occur in the plan area. However, Section 11.1.1 identifies Suisun Bay as

being in the plan area, and San Pablo Bay and San Francisco Bay as areas that may be affected by the plan. These three areas contain estuarine and marine habitats that have been identified as EFH and habitat areas of particular concern for various species and life stages of groundfishes (e.g., starry flounder, English sole, rockfishes) and coastal pelagic species (e.g., northern anchovy, Pacific sardine). Appendix B to the West Coast Groundfish FMP and Appendix D to the coastal pelagic species FMP identify the species and life stages that occur in these areas and types of habitats. Therefore, the Council recommends that the DEIR/DEIS be revised to address these additional species.

The bullets under Section 11.2.1.3 do not accurately reflect the status or FMPs of the species identified. For example, the first bullet states that starry flounder and northern anchovy are "monitored species" under the groundfish FMP; however, the groundfish FMP (2011) does not distinguish between "managed" and "monitored" species, and northern anchovy are managed under the coastal pelagic species FMP, not the groundfish FMP. As noted above, the species listed do not represent a comprehensive list of species with EFH in these areas.

Central Valley Project Improvement Act

The Council notes that the 1992 Central Valley Project Improvement Act (CVPIA) and the recommendations of the independent audit of compliance and performance (Department of Interior, "Listen to the River"[1]) have not been incorporated into the BDCP except as references. The Council believes that fish and wildlife resources have not been receiving equal prioritization with irrigation and domestic uses of Central Valley Project water. The Council believes that robust EFH in all categories should result from implementing the recommendations of the CVPIA. The Council recommends the BDCP incorporate and fully fund the recommendations of the CVPIA and the independent audit "Listen to the River" into the BDCP and analyze those actions in the DEIR/DEIS.

Central Valley Hatchery and Wild Salmon

Due to the lack of habitat to support abundant natural spawning of Chinook salmon since dam construction, Council fisheries are dependent on salmon hatcheries in the Central Valley. Hatchery mitigation programs are designed to mitigate for the loss of habitat above the dams, but they cannot replace the natural production of an entire river. In order to reduce straying of hatchery-produced salmon, the juveniles from some hatcheries are typically released and allowed to migrate naturally to the Delta and out to the ocean. As is especially apparent in this drought year, the lack of adequate flows in the Sacramento River can prevent salmon from having even a vestige of their natural river life cycle, with the possible loss of even the hatchery stocks as well as nearly all naturally-spawned fish. The Council believes in-river flows must be adequate and continuous through the Delta and into San Francisco Bay to provide for proper exercise of the mitigation function of the hatcheries. The Council believes that CVPIA (b)(2) flows are a minimum requirement, and recommends using flows above (b)(2) where necessary to adequately mitigate the damage to fisheries resources caused by development of Central Valley water resources.

[1] https://www.usbr.gov/mp/cvpia/docs_reports/indep_review/FisheriesReport12_12_08.pdf

The Council notes the extreme importance of Sacramento River fall-run Chinook salmon to the economic well-being of California and Oregon coastal communities. Due to ESA conservation constraints, Sacramento winter run are of equal importance. Conservation actions to protect the Sacramento River winter-run Chinook at times highly constrain the ocean harvest of fall-run Chinook by commercial and recreational stakeholders. With this in mind, the Council strongly recommends that the goal of BDCP be not simply to minimize impacts to salmon resources, but to fully support and fund measures to increase salmon and other Central Valley anadromous fish populations through habitat restoration, including increased freshwater flow through the Delta and into San Francisco Bay.

Harvest Management

The Council recommends permit applicants contact Council staff regarding the description of all fisheries impacts described in the BDCP document to assure that they clearly and accurately describe Council salmon management policy. For example, the subsection "Overfishing" in Chapter 11.1.5.4 (Harvest and Hatchery Management) is generally true; however, because the BDCP concerns only Central Valley-origin salmon, the mark-selective fisheries statements do not apply to Council-managed fisheries South of Cape Falcon, Oregon, and only one to three percent of the overall harvest of Central Valley-origin Chinook occurs North of Cape Falcon, Oregon. Furthermore, the Council sets conservative spawning escapement goals for Central Valley Chinook to allow for sustainable production of natural spawning Chinook, and naturally spawning Chinook in the Central Valley are not overfished under the terms of the MSA.

As a start, the following paragraph briefly describes salmon fisheries South of Cape Falcon, Oregon.

> The Pacific Coast Salmon FMP describes the harvest policy objectives used to craft seasons within all conservation and ESA Reasonable and Prudent Alternative constraints. The salmon FMP allows mark-selective fisheries for both coho salmon and Chinook; however to date, mark-selective fisheries for Chinook have only been used in the area north of Cape Falcon, Oregon. The Council also carefully addressed the impacts of release mortality in the mark-selective fisheries. The Council estimates the release mortality in recreational fisheries north of Point Arena, California as 14%. South of Point Arena, the release mortality is calculated as an average of two release mortalities, 42.2% for mooching-style fishing and 14% for trolling-style fishing. The average release mortality is based on the proportion of the recreational fishery using the two styles of fishing. In 2013, the average was 17%. The release mortality of 26% for legal and sub-legal Chinook is used in commercial fisheries. The Council also uses models of encounter rates of marked and unmarked fish, as well as the fraction of sublegal fish in all of our fisheries, in order to calculate the appropriate impacts to all runs in Council-area fisheries.

NMFS Incidental Take Permit; Reasonable and Prudent Alternatives

Regarding the National Marine Fisheries Service (NMFS) Incidental Take Permit (Section 1-25), the Council is largely in agreement with the comments of the California Advisory Council on Salmon and Steelhead Trout (Attachment 1). The Council is also aware that the NMFS California Central Valley Area Office has been in consultation with the Bureau of Reclamation

concerning implementation of Operational Criteria and Plan ESA Reasonable and Prudent Alternatives (RPAs) and EFH conservation recommendations. It is clear from communications between NMFS and the Bureau of Reclamation (Attachment 2) that the EFH conservation recommendations for Sacramento fall and late fall Chinook salmon have not been fully implemented.

The Council recommends the BDCP explicitly allocate resources for the implementation of EFH recommendations as well as ESA Reasonable and Prudent Alternatives in the OCAP Biological Opinion.

Research, Monitoring, and Evaluation

The Council appreciates the extensive monitoring and research program proposed in the BDCP, and has the following recommendations.

First, the Council has identified escapement and harvest monitoring as its primary data need in terms of salmon management. Specifically, the Council notes in its Research and Data Needs document that "escapement and fishery monitoring should be maintained and expanded where appropriate, and data collection should include information on age and sex composition, mark rates, coded wire tag recovery, and include spawning ground carcass enumeration and sampling. Sampling programs in some systems have been expanded and new escapement estimation methods developed such as genetic mark-recapture techniques." California Central Valley stocks are identified as the top priority under this topic. This data could be used to develop an age-specific cohort reconstruction for the stock, which, among other things, would allow for estimating contribution of hatchery origin Chinook to ocean harvest, river harvest, and spawning escapement.

Centralized documentation and monitoring of habitat restoration programs, particularly with GIS technology, is also essential to evaluation of program progress and success. The Council recommends that the database described in Appendix 3.D include projects not specifically funded by BDCP in order to monitor the affected ecosystem as a whole. This could enable BDCP conservation activities to work within a larger effort such as a NOAA Habitat Blueprint for the Central Valley. The Council stresses the need to know what other agencies and efforts are doing so that duplication and working at cross purposes do not occur.

Some monitoring activities in the BDCP are described as not expected to be needed for more than a few years. One example of this is the CM14 Tidal Natural Communities Restoration, (Appendix 3.D, page 13, "Conduct a site-level asessment of use by native and non-native fishes"). BDCP will monitor this restoration project for one year and then rely on existing programs for monitoring. The Council recommends that the BDCP continue to fund existing programs in this case, and to look throughout the BDCP monitoring program and ensure that the BDCP collaborates with other agencies to ensure that monitoring of the effectiveness of BDCP conservation programs continues to provide high-quality data that will enable program-level decision making and adaptive management of Bureau of Reclamation and California Department of Water Resources (DWR) operations.

Research planned for the BDCP will investigate the effectiveness of many elements of the conservation program. The Council notes that in the Columbia River Basin, research into fish passage has been ongoing since the first dams were built in the 1930s. The Bureau of

Reclamation and DWR should plan to continue to invest in research and applied science programs to understand the changing relationship of the Delta ecosystem and its fish populations, especially as climate change adds increased stressors. Change will occur, and continued research will enable the Bureau of Reclamation and DWR to mitigate the impacts to fish and wildlife affected by the BDCP and other programs.

The Council encourages state and Federal water managers and resource managers to consider implementing Passive Induced Transponder (PIT) tag technology in the BDCP and Central Valley Project in the context of additional monitoring and evaluation strategies. PIT tag technology has been highly useful in the Columbia River Basin, where it has revolutionized how hydro-system management is evaluated and managed in order to help protect and recover ESA-listed and other important salmon and steelhead stocks in the Basin. The data available from PIT tag technology provide real-time information on juvenile abundance, emigration timing, reach passage survival, adult return timing, tributary and hatchery return timing, adult abundance, and early indications of straying. These data are valuable for monitoring and assessing all phases of salmon recovery programs. PIT technology has application to a broad suite of fishes in the freshwater environment, but has generally been targeted towards salmon and steelhead. Recognizing that significant funding and additional monitoring capabilities will be needed in the Sacramento River system to fully utilize PIT tag technology, the benefits gained from this applied science and its use in real-time adaptive management have far exceeded the costs.

Regional Oversight

The Council recommends giving the public a voice and visibility into BDCP fish and wildlife conservation programs, as these directly impact public resources. In the Pacific Northwest the Northwest Power and Conservation Council (NPCC) Fish and Wildlife Program provides a public forum to give policy guidance to the Bonneville Power Administration in terms of coordinating, reviewing, and guiding fish and wildlife program development and project spending. The NPCC forum enables all interested management entities, sovereigns, the interested public, and others to work together to develop and periodically amend a fish and wildlife program for natural resource protection and recovery, including monitoring and evaluation programs that track the progress of the program towards achieving its goals and objectives.

Funding for Fish and Wildlife Conservation

Chapter 8 of the DEIR/DEIS describes potential funding sources for the BDCP, including Federal, state, and local sources; matching grants, and income from water contracts. These sources are simply potential sources, as the document clearly states. However, the Council has the following concerns. First, state and Federal funding is finite, and allocation to BDCP may re-allocate funding from existing programs the Council relies on. Second, reliable sources and levels of funding to carry out the BDCP must be identified by the permit applicants before NMFS will be able to issue an ESA Section 10 Incidental Take Permit. The Council recommends BDCP demonstrate funding certainty, particularly for fish and wildlife conservation programs, and also ensure that other programs will not lose funding as BDCP gains funding.

The Council appreciates your attention to these comments. We recognize that our comments are subject to our Council process, and thus may not be finalized within the BDCP comment period. Therefore, we ask that these comments be accepted out of consideration of our public processes.

Sincerely

Signature block

Attachments:

- Letter from the California Advisory Council on Salmon and Steelhead Trout (Attachment 1) dated February 26, 2014.
- Letter from NMFS to the Bureau of Reclamation (Attachment 2), dated July 28, 2010.