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May 24, 2002

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Dear Mr. Sabo:

**Comments on the National Marine Fisheries Service (NMFS)
Draft Biological Opinion (BO) Regarding the Effects of Operation of the
U.S. Bureau of Reclamation's (USBR) Klamath Project (Project)
June 1, 2002, - March 31, 2012
Threatened Coho Salmon, Coho Salmon Designated Critical Habitat
and Coho and Chinook Salmon Essential Fish Habitat (EFH)**

Thank you for providing the Department of Fish and Game (DFG) the opportunity to comment on the NMFS May 16, 2002, draft BO which describes and evaluates the impacts of the USBR proposed operation of the Project for the ten-year period, June 1, 2002, through March 31, 2012, on federally-threatened southern Oregon/northern California coasts (SONCC) coho salmon (*Oncorhynchus kisutch*) and its designated critical habitat. Also, appended to the draft BO are the NMFS recommendations to the USBR for conserving EFH for the SONCC coho salmon evolutionarily significant unit (ESU), Upper Klamath-Trinity rivers chinook salmon ESU and the California Coastal chinook salmon ESU (misidentified in the BO as the SONCC chinook salmon ESU) as required under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). The proposed action, as described in USBR's February 25, 2002, final biological assessment (BA), is to operate the Project to divert, store and deliver from storage water that would guarantee full irrigation deliveries for all months during all water year types for the ten-year period. Lake elevations and Klamath River flows are not part of the proposed action and are intended only as targets and not minimum operating rules; they are identified for planning purposes only (BO, pages 9 and 39). The USBR does not plan to release stored Project water for SONCC coho salmon ESA needs.

The DFG is providing these comments as the trustee agency for California's fish and wildlife resources. Our goal is to provide information and analyses that will assist the NMFS and the USBR in making sound management decisions that will avoid significant adverse impacts to California's fish and wildlife resources, lead to the timely recovery of SONCC coho salmon, protect SONCC coho salmon critical habitat and coho and chinook salmon EFH and comply with Federal and State laws. Of particular concern to us is the fact that coho salmon

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north of San Francisco is presently a candidate species being considered for listing by the California Fish and Game Commission under the California Endangered Species Act (CESA). We previously provided written comments on the USBR January 24, 2002, draft BA (February 11, 2002, letter from D. Koch to M. Ryan) and comments on the U.S. Fish and Wildlife Service April 25, 2002, draft BO (May 9, 2002, letter from D. Koch to D. Sabo).

Based on a review of the current depressed status of SONCC coho salmon, information contained in the BO and our analysis of that information, it is the opinion of the DFG that the RPA contained in the BO, if implemented, will likely cause significant adverse direct and indirect impacts to SONCC coho salmon and their critical habitat and to coho and chinook salmon EFH. The DFG believes that Project operations sanctioned by the proposed RPA will likely "take" coho salmon, especially in dry and below average water years, by stranding and killing fry that have been displaced from favored stream margin edge-type habitat that is made unavailable by the proposed RPA flows. Since the flows in the RPA are so similar to those in the proposed action, at least for the first five years or so, we anticipate similar adverse impacts as we described in our February 11, 2002, comment letter on the BA. The net result will likely be a significant delay in recovery of coho salmon in the Klamath Basin.

The draft BO concludes that the proposed action is likely to jeopardize the continued existence of SONCC coho salmon; however, it is unclear whether the NMFS believes the proposed action is likely to adversely modify coho salmon critical habitat. For example, in Section 8.6. SONC (sic) Coho Salmon Critical Habitat, it is stated that "The level of potential adverse effects of Project operation on mainstem Klamath River habitat is greater under the proposed Project operation than during the 1961 through 1997 historical period of record and the 1990 to 2000 reference period. During the historical period of record, the status of Klamath River coho salmon declined and ultimately contributed to their listing under the ESA, in part, probably due to mainstem Klamath River habitat conditions. Therefore NMFS has determined that critical habitat within the mainstem of the Klamath River is likely to be adversely modified" (emphasis added) (BO, page 51). Yet, in Section 10. Conclusion, of the BO, it is stated "Based on the NRC report (2002a), NMFS did not make a finding that the action, as proposed, is likely to adversely modify critical habitat for the SONC (sic) coho salmon" (emphasis added) (BO, page 53). However, later in the BO in Section 11.5.0. Notification, NMFS states "Because this biological opinion has found jeopardy and adverse modification of critical habitat, Reclamation is...." (Emphasis added) (BO, page 74). The NMFS should clarify its position in the final BO regarding the effects of the proposed action on SONCC coho salmon critical habitat.

Reasonable and Prudent Alternative

To avoid jeopardy to SONCC coho salmon, NMFS proposes a reasonable and prudent alternative (RPA) consisting of five elements (BO, pages 53-54) that would be phased in over the ten-year period of Project operation (BO, pages 57-58, Table 8):

- "1) specific water management measures over the next 10 years (2002-2012);
- 2) a water bank and water supply enhancement program to provide flows in the Klamath River below IGD to improve coho salmon habitat;
- 3) an agreed upon flow target to be achieved by 2012;
- 4) an intergovernmental task force to develop, procure, and manage water resources in the Klamath River Basin; and
- 5) an intergovernmental science panel to develop and implement a research program to identify and fill gaps in existing knowledge regarding coho salmon and their habitat requirements during various life history stages and water year types."

RPA Flows

The NMFS developed a tentative long-term flow target to be achieved by 2012 (BO, page 53) or 2010 (BO, page 71) for incorporation in the RPA by utilizing habitat-discharge relationships for coho salmon fry (as a surrogate for coho salmon smolts) contained in the draft "Hardy Phase II Flow Study Final Report" (Phase II Report), other information in the Phase II Report, results of numerous other studies on the Klamath River and elsewhere, and conclusions and recommendations contained in the National Research Council's (NRC) 2002 Interim Report "Scientific Evaluation of Biological Opinions on Endangered and Threatened Fishes in the Klamath River Basin" (NRC Report). According to the BO, the long-term flow target would be subject to change as new studies during the ten-year period provided compelling information to either increase or decrease flows for various times of the year. The long-term flow schedule is described in Table 9 (BO, page 72) and recommends flow releases at Iron Gate Dam (IGD) by five water-year types for monthly, biweekly or weekly periods. The BO does not state whether these are mean, median, average minimum or instantaneous minimum flows. The final BO should clarify this issue.

Table 9 represents one hundred flow values based on five water-year types and twenty time periods; thirteen of these values exceed, nine are the same and seventy-eight are less than the corresponding flows recommended in the Phase II Report. We believe that the Phase II Report recommended flows, which are instantaneous minimums, represent the best currently available science regarding Klamath River coho salmon flow needs and should be implemented during 2002 Project operations and into the future until credible information indicates otherwise.

Project Contribution to RPA Flows

The RPA flows prescribed by NMFS were found to be not viable by the Department of Interior because they would result in deficiencies in deliveries of water to Project contractors (BO, page 55). To remedy this situation, NMFS and the USBR agreed to hold the Project

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responsible only for that amount of water represented by the percentage of Project irrigated acreage in the upper Klamath Basin which apparently totals fifty-seven percent. Thus, the USBR "would be responsible for 57% of the releases at Link River Dam needed to result in the IGD flows described in NMFS' RPA flows or the flows that are identified in Table 5.9 of the BA, whichever are greater" (BO, page 56). At this time, the Project does not have the capability to meet its fifty-seven percent share of the RPA flows and still make full irrigation deliveries under all water year types. The BO allows the USBR to take a phased approach and schedule that would allow the development of a water bank that would be dedicated to Klamath River flows and make progress toward its fifty-seven percent share in four increasing annual increments such that by water year 2006 the USBR will have developed a water bank of one-thousand acre-feet. In years when the one-thousand acre-feet water is insufficient, the USBR would employ "other actions and measures" to ensure it meets its share of Klamath River flows although the BO does not define what these actions or measures would be. In addition, the USBR has agreed to convene a panel of scientific experts to assist in designing studies to improve the understanding of the relationship between flows and fish survival.

The position of the USBR that irrigation deliveries have priority over ESA needs and that the Project is responsible only for the release of fifty-seven percent of the flow at Link River Dam that is needed to attain RPA long-term target flows at IGD is unprecedented and contrary to past legal and policy decisions. Several court cases, a number of Department of the Interior Solicitor's memoranda, past operations plans and other documents have previously asserted that ESA needs and tribal trust rights have priority over agriculture for Project water. Most of the water use above the Project is private and the water rights of the upper basin have not yet been adjudicated. Thus, there is little ability for the USBR to solicit additional water from outside of the Project area to contribute to full RPA flows. Since the USBR is the only Federal agency empowered to manage upper Klamath Lake waters, has control over Link River Dam and is the single largest diverter of water in the upper basin, it has the legal obligation to identify and provide for the full flow needs of all listed species that are adversely impacted by Project operations.

Other Sources Contributing to RPA Flows

The BO suggests that the USBR will take the lead to establish a multiagency task force comprising Federal, State, tribal and where possible local agencies and interests to develop the other forty-three percent of the flows identified in the RPA. The water to achieve these flows would come from areas outside the boundaries of the Project. The BO suggests that most of this water would come from stepped up water rights and water laws enforced by California and Oregon and programs to improve tributary flow above and below the Project so that by 2010 NMFS would expect the RPA flows to be realized unless those flows were modified by the results of scientific investigation. We have little confidence that such a complicated undertaking can be completed in eight years and will result in sufficient water to satisfy the long-term RPA flow target.

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A summary of the major components of the RPA and its implementation schedule is provided in Table 8. Proposed RPA Elements by Water Year (B O, page 57). The RPA implementation schedule indicates that, for the first few years, RPA flows are little different from the proposed action and that by the fifth year (2006) flows have only attained fifty-seven percent of the RPA long-term flow target assuming all proposed actions are successful. Not until year eight or ten are full long-term flow targets expected to be achieved and then only if all the actions, which have not yet even been identified, are successful. Because of all the uncertainties involved, this approach has an extremely high probability of not reaching the long-term flow target within the allotted ten-year time frame.

The "NMFS thinks that the (above) approach contained in this RPA sufficiently addresses the adverse effects of the Klamath Project to SONC (sic) coho salmon and its critical habitat by incrementally improving smolt migration habitat over conditions that would be achieved in the BA and those suggested in the NRC Report" (BO, page 57). Furthermore, NMFS believes that by implementing the RPA and the terms and conditions of the Incidental take statement the USBR will satisfy the conservation measures needed to protect both coho and chinook salmon EFH (BO, page 103).

The DFG believes that the RPA is vague and presents presents recommendations based on conjecture provided by USBR. The RPA will be extremely difficult to implement and, even if fully implemented, will not adequately protect SONCC coho salmon and its critical habitat. Any incremental increase in flows above those in the USBR's proposed action would only accrue if new sources of water, dedicated solely to the Klamath River, are developed either within or outside the Project. The USBR has not specified a mechanism for establishing a water bank. The ability to secure adequate and timely funding, cooperation among diverse interests and new sources of water is highly problematic. Under this RPA, many of the important new studies will take many years to complete and studies that indicate more water is needed to support coho salmon would not result in timely increases in flow.

The decision by the NMFS to delay full implementation of RPA flows by eight or more years, to not use stored water to meet coho salmon flow and habitat requirements and to give priority to agricultural water deliveries over the needs of listed species violates provisions of the ESA and is contrary to numerous past legal and policy decisions. Implementation of the proposed RPA will likely result in the reduced survival and abundance of several freshwater life history stages of coho salmon and would be expected to appreciably reduce the likelihood of survival and recovery of SONCC coho salmon. The approach that the NMFS has taken is to provide certainty for full irrigation deliveries at the expense of coho salmon habitat and flow needs and in so doing it has abandoned the conservative "precautionary approach" of giving the benefit of doubt to the species of concern. The "precautionary approach" is a risk management tool that is prominent in conservation biology that the NMFS has advocated (BO, page 7).

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Although there is merit in some of the actions that the RPA proposes, these actions are more suited to a long-term basin restoration plan or a habitat conservation plan. An RPA has to be much more precise, fully protective, immediately effective and have a high probability of being implemented.

Length of the Proposed Action

The proposed action and the RPA are for a ten-year period, yet little justification is provided why this time period was chosen or is important other than the conclusions of the NRC Interim Report which suggests that there is no convincing scientific justification at present for deviation from flows derived from operational practices in place between 1990 and 2000, a ten-year period. We do not understand the relevance of or need for prescribing Project operations for a ten-year period. The DFG spent several years working with the USBR and a host of other stakeholders in scoping-out the elements of a Project long-term operations plan based on multiple water year types. The proposed long-term plan, which was never finalized, did not include a defined time period. It was intended that the long-term plan meet the requirements of the National Environmental Policy Act (NEPA) and would include the evaluation of a broad range of alternatives. We recommend that, given the present disagreement among various parties regarding the water requirements for threatened and endangered species in the Klamath Basin, that the NMFS provide BO coverage only for the 2002 Project operations. We believe that if a BO is finalized that covers multiple water year types and/or multiple years that the Project action should be subject to NEPA.

Water Year Determination

In the proposed action, the USBR proposes determining water year type by using a seventy percent probability of exceedence for upper Klamath Lake inflow forecasting. The BO concurs with this approach. The use of a seventy percent exceedence forecast underestimates inflows to Upper Klamath Lake seven out of ten years, leading to planning and management for drier water year types and lower Klamath River flows than actual inflows would warrant. Drier water year types are forecast more often and wetter years less frequently than would naturally occur. The result is that, due to procedural bias in planning, less water is provided for Klamath River fish needs. We recommend that a fifty percent exceedence factor for inflow forecasting be made an element of the RPA. This would result in an equal probability of under- or overpredicting inflow to Upper Klamath Lake. The fifty percent exceedence factor is an RPA requirement of the USFWS 2002 draft BO.

Water Year Types

The USBR proposed action includes categorizing water years into four types (above average, below average, dry and critically dry). This partitioning results in above average and below average water year types and corresponding flow regimes accounting for eighty percent

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of all water supply forecasts and does not reflect the range of flow variability necessary to accommodate the needs of coho salmon. NMFS has included in its RPA the five water-year types proposed in the Phase II report. They represent wet years (10% exceedence), above average years (30% exceedence), average years (50% exceedence), below average years (70% exceedence) and dry years (90% exceedence). The DFG has long supported this change and agrees with this RPA element.

Ramping Rates

The USBR proposed action does not include criteria governing IGD down ramping rates to prevent potential coho salmon stranding. The RPA states that the USBR will operate the Project to provide the following down ramping rates: "(1) decreases in flows of 300 CFS or less per 24-hour period and no more than 125 CFS per four-hour period when IGD flows are above 1,750 CFS; or (2) decreases in flows of 150 CFS or less per 24-hour period and no more than 50 CFS per two-hour period when IGD flows are 1,750 CFS or less." We believe that this down ramping schedule is protective of anadromous fish and therefore support its inclusion in the RPA.

Essential Fish Habitat

The EFH regulations require that Federal action agencies obligated to consult with NMFS provide NMFS with a written statement on the effects of their action on EFH. Because an EFH assessment was not received from the USBR for the proposed action, NMFS relied on the draft BO and other sources of information in preparing its EFH conservation recommendations (Attachment A). The Pacific Fisheries Management Council, under Amendment 14 to the Pacific Coast Salmon Fishery Management Plan, has identified and described EFH for chinook and coho salmon in the Klamath River and its tributaries upstream to IGD. Upon receiving NMFS EFH recommendations, the USBR is required to provide a detailed written response within thirty days describing how they intend to avoid, mitigate or offset the impacts of the activity on EFH.

The NMFS determined that the proposed action "will adversely affect spawning, rearing and migratory EFH functions of Pacific Salmon currently or previously managed under the Magnuson-Stevens Act. Primarily, NMFS thinks that the proposed project would result in a continued decline in EFH conditions in the Klamath River over time, and thereby preclude rebuilding of the coho salmon population and reduce habitat required to support a sustainable chinook fishery" (BO, page 103). The NMFS concluded that implementation of the BO's RPA and the terms and conditions of the incidental take statement would constitute necessary conditions for conserving Klamath River chinook and coho EFH. The DFG disagrees based on our earlier discussion of the inadequacies associated with the proposed RPA. We believe it would be impossible to meet the mandates of the Magnuson-Stevens Act for EFH without providing flows in the Klamath River on a regular and long-term basis that are significantly greater than those proposed in the RPA. The proposed RPA will

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likely cause significant adverse impacts to EFH and the anadromous fish this habitat supports. We believe full implementation of the Phase II report recommended flows will help USBR meet the mandate of not adversely affecting EFH.

Section 7.6 - Hatchery Programs

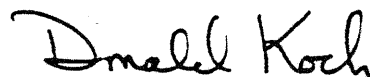
This section should be expanded to recognize the recent joint efforts of the DFG and NMFS to evaluate operation of the DFG's anadromous fish hatcheries and implement appropriate and effective changes when necessary to minimize their effects on naturally produced salmon and steelhead. This joint evaluation effort has already been completed for both Iron Gate and Trinity River hatcheries and changes are already being implemented. For example, release of the 4.9 million chinook salmon smolts produced this year was modified from a three-day forced release of all fish around the first of June to a phased approach beginning in mid-May. This year, four to five separate lots of 850,000 to 1.5 million fish averaging 90/pound will be volitionally released over a month long period. Each lot contains a group of 50,000 coded-wire tagged fish to enable the DFG to monitor the effectiveness of the program. This operational change is being implemented to minimize the effect of hatchery fish on naturally produced fish as well as each other.

Section 8.5 Summary of Effects

This section needs to be expanded to better reflect the likely impact of long-term Project operations that keep flows in the mainstem Klamath River at or below 1,000 cfs during dry and critically dry years. If the State's restoration efforts are successful at reducing overall sediment budgets in the tributaries, we would expect that the large gravel deltas at the confluence of the tributaries with the Klamath will also decrease. If this occurs, we would also expect improved conditions for coho fry forced within the mainstem to be able to access these tributaries to oversummer where habitat conditions, particularly with respect to water temperature, are better. If flows are too low in the mainstem, the ability of coho fry to access the tributaries will remain impeded as compared to higher flows. Thus, the significant financial commitment of the State to restoring tributary health may not be able to produce the expected and desired benefits for fish because mainstem flows are too low.

Again, thank you for the opportunity to comment on the draft BO. We look forward to reviewing the final BO when it becomes available. If you have any questions regarding our comments, please contact Habitat Conservation Program Manager Mark Stopher. He can be reached at the letterhead address or by telephone at (530) 225-2275.

Sincerely,



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