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November 21, 2011

Elizabeth Vasquez
Bureau of Reclamation
U.S. Department of the Interior
2800 Cottage Way
Sacramento, CA 95825

Gordon Leppig
California Department of Fish and Game
619 Second Street
Eureka, CA 95501

Dear Ms. Vasquez and Mr. Leppig:

On behalf of the County of Siskiyou, City of Yreka, City of Dorris, City of Etna, City of Montague, City of Weed, and the Town of Fort Jones, we are submitting the attached comments on the Klamath Facilities Removal Draft Environmental Impact Statement/Environmental Impact Report ("EIS/EIR"). The Resolutions of each of the Cities and the Town joining in these Comments prepared by the County of Siskiyou are attached as Appendix 1. The Comments are attached as Appendix 2.

The Proposed Action to remove four dams along the Klamath River will have direct and immediate consequences for the County, the Cities, and the Town (collectively the "Commenters"). Three of the four dams are in the County of Siskiyou. The citizens of the County will bear the burdens of the adverse environmental, economic, and social consequences of the Proposed Action.

A close reading of the EIS/EIR demonstrates that the Proposed Action cannot go forward. The EIS/EIR admits that in far too many cases the effects of the Proposed Action will be significant and adverse, often making existing environmental problems worse. Contrasted with these admissions are the conclusions of Expert Panels appointed by the Department of the Interior which concluded that the benefits claimed for the Proposed Action are not likely or small.

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Compounding these problems is the fact that the EIS/EIR incorrectly and inadequately examines the impacts of the Proposed Action, glossing over or ignoring key data, and makes conclusions that have no supporting data. Often, the EIS/EIR simply fails to analyze key issues, some of which have impacts that, according to the Expert Panels, could not only render the claimed benefits of the Proposed Action moot, but could make environmental problems in the Klamath River Basin worse.

The National Environmental Policy Act ("NEPA") and the California Environmental Quality Act ("CEQA") demand better. These statutes require a full and complete analysis of the environmental effects, including the social and economic effects, of a proposed action. They require a thorough analysis of alternatives, mitigation plans, and cumulative effects. None of this is done in the EIS/EIR.

To satisfy NEPA and CEQA, there must be a hard look at the environmental consequences of a proposed action so the decision maker can make an informed decision. Here, the EIS/EIR is so lacking in analysis that a decision maker cannot make an informed decision. Not only has the EIS/EIR not taken the required hard look at the issues, but far too often it has taken no look at all.

For these reasons, and the reasons set forth in the attached Comments, the Commenters urge that the EIS/EIR be withdrawn and be redone so that it meets the legal and substantive standards of adequacy. To rely on the EIS/EIR as presently constituted would be arbitrary and capricious and not in accordance with law.

Sincerely,

Thomas P. Guarino
County Counsel
County of Siskiyou

George J. Mannina, Jr.
of Nossaman LLP

APPENDIX 1

RESOLUTION NO. 2939

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YREKA JOINING IN EIR/EIS COMMENTS OF THE COUNTY OF SISKIYOU

WHEREAS, the Department of the Interior has recently released the Klamath Facilities Removal Public Draft Environmental Impact Statement/Environmental Impact Report; and,

WHEREAS, this Report will be used to inform the Secretarial Determination in conjunction with the Klamath Hydroelectric Settlement Agreement (KHSA) and the Klamath Basin Restoration Agreement (KHSA); and,

WHEREAS, the City of Yreka is in opposition to a determination that would result in the removal of the Klamath hydroelectric facilities; and,

WHEREAS, due to the lack of resources and other economic limitations, it is to the benefit of the City if it is allowed to participate in the comments of the County of Siskiyou,

NOW, THEREFORE, BE IT RESOLVED that the City of Yreka joins in the comments to be filed by the County of Siskiyou with respect to the Draft EIR/EIS involving the Klamath dams.

BE IT FURTHER RESOLVED that the City of Yreka authorizes a copy of this Resolution to be provided with the comments of the County of Siskiyou and filed concurrently therewith as evidence of the adoption of the County's comments as the comments of the City.

PASSED AND ADOPTED this 3rd day of November, 2011, by the following vote:

AYES: FOSTER, MCNEIL & SIMMEN
NOES: NONE
ABSENT: Bicego & MERCIER
ABSTAIN: NONE

Rory McNeil,
Mayor of the City of Yreka

APPROVED AS TO FORM:

Mary Frances McHugh, City Attorney

Attest:
Elizabeth E. Casson, City Clerk

\\GOLDNUGGET\USERS\MARYFRANCES\MY DOCUMENTS\DOCUMENTS_WATER\FALL CREEK\SECRETARIAL DETERMINATION KHSA-KBRA\CITY OF YREKA RESOLUTION RE JOINDER KLAMATH FACILITIES REMOVAL PUBLIC DRAFT EIS-EIR.DOC

RESOLUTION 11-23

RESOLUTION OF THE CITY OF DORRIS JOINING IN EIR/EIS COMMENTS OF THE COUNTY OF SISKIYOU

WHEREAS, the Department of the Interior has recently released the Klamath Facilities Removal Public Draft Environmental Impact Statement/Environmental Impact Report; and,

WHEREAS, this Report will be used to inform the Secretarial Determination in conjunction with the Klamath Hydroelectric Settlement Agreement (KHSA) and the Klamath Basin Restoration Agreement (KHSA); and,

WHEREAS, the City of Dorris is in opposition to a determination that would result in the removal of the Klamath hydroelectric facilities; and,

WHEREAS, due to the lack of resources and other economic limitations, it is to the benefit of the City if it is allowed to participate in the comments of the County of Siskiyou,

NOW, THEREFORE, BE IT RESOLVED that the City of Dorris joins in the comments to be filed by the County of Siskiyou with respect to the Draft EIR/EIS involving the Klamath dams.

BE IT FURTHER RESOLVED that the City of Dorris authorizes a copy of this Resolution to be provided with the comments of the County of Siskiyou and filed concurrently therewith as evidence of the adoption of the County's comments as the comments of the City.

PASSED AND ADOPTED this 7th day of November, 2011, by the following vote:

AYES: Clontz, Barkeman, Hurst, Baldwin, Smith
NOES: None
ABSENT: None
ABSTAIN: None

DATED: 11/7/2011

CITY OF DORRIS

Liz Clontz, Mayor

ATTEST:
Shelly L. Fehr, City Clerk

RESOLUTION NO: 820-2011

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ETNA JOINING THE EIR/EIS COMMENTS OF THE COUNTY OF SISKIYOU

WHEREAS, the Department of the Interior has recently released the Klamath Facilities Removal Public Draft environmental Impact Statement/Environmental Impact Report; and

WHEREAS, this Report will be used to inform the Secretarial Determination in conjunction with the Klamath Hydroelectric Settlement Agreement (KHSA) and the Klamath Basin Restoration Agreement (KHSA); and,

WHEREAS, THE City of Etna is in opposition to a determination that would result in the removal of the Klamath hydroelectric facilities; and,

WHEREAS, due to the lack of resources and other economic limitations, it is to the benefit of the City if it is allowed to participate in the comments of the County of Siskiyou,

NOW, THEREFORE, BE IT RESOLVED the City Council of the City of Etna joins in the comments to be filed by the County of Siskiyou with respect to the Draft EIR/EIS involving the Klamath dams.

BE IT FURTHER RESOLVED that the City of Etna authorizes a copy of this Resolution to be provided with the comments of the County of Siskiyou and filed concurrently therewith as evidence of the adoption of the County's comments as the comments of the City.

I HEREBY CERTIFY that the foregoing resolution was passed and adopted by the City Council of the City of Etna at a special meeting thereof held on October 24, 2011 by the following vote:

Ayes: Duguay, Martin, Prather, Seward & Stein
Noes: None
Absent: None
Abstain: None

Mike Duguay, Mayor

ATTEST:

Pamela Russell

Pamela Russell, City Clerk

RESOLUTION NO: 12-07

RESOLUTION OF THE CITY OF MONTAGUE
JOINING IN EIR/EIS COMMENTS
OF THE COUNTY OF SISKIYOU
IN OPPOSITION TO A DETERMINATION
THAT WOULD RESULT IN DAM REMOVAL

WHEREAS, the Department of the Interior has recently released the Klamath Facilities Removal Public Draft Environmental Impact Statement/Environmental Impact Report; and,

WHEREAS, this Report will be used to inform the Secretarial Determination in conjunction with the Klamath Hydroelectric Settlement Agreement (KHSA) and the Klamath Basin Restoration Agreement (KHSA); and,

WHEREAS, the City of Montague is in opposition to a determination that would result in the removal of the Klamath hydroelectric facilities; and,

WHEREAS, due to the lack of resources and other economic limitations, it is to the benefit of the City if it is allowed to participate in the comments of the County of Siskiyou,

NOW, THEREFORE, BE IT RESOLVED that the City of Montague joins in the comments to be filed by the County of Siskiyou with respect to the Draft EIR/EIS involving the Klamath dams.

BE IT FURTHER RESOLVED that the City of Montague authorizes a copy of this Resolution to be provided with the comments of the County of Siskiyou and filed concurrently therewith as evidence of the adoption of the County's comments as the comments of the City.

PASSED AND ADOPTED this 3rd day of November, 2011, by the following vote:

AYES: Hammond, Robustellini, Benson, Keller, and Singelton
NOES:
ABSENT:
ABSTAIN:

ATTEST:

Janie Sprague, City Clerk

CITY OF MONTAGUE:

John Hammond, Mayor

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RESOLUTION NO. 27-2011

A RESOLUTION OF THE CITY OF WEED
JOINING IN EIR/EIS COMMENTS
OF THE COUNTY OF SISKIYOU

WHEREAS, the Department of the Interior has recently released the Klamath Facilities Removal Public Draft Environmental Impact Statement/Environmental Impact Report; and,

WHEREAS, this Report will be used to inform the Secretarial Determination in conjunction with the Klamath Hydroelectric Settlement Agreement (KHSA) and the Klamath Basin Restoration Agreement (KHSA); and,

WHEREAS, the City of Weed is in opposition to a determination that would result in the removal of the Klamath hydroelectric facilities; and,

WHEREAS, due to the lack of resources and other economic limitations, it is to the benefit of the City if it is allowed to participate in the comments of the County of Siskiyou,

NOW, THEREFORE, BE IT RESOLVED that the City of Weed joins in the comments to be filed by the County of Siskiyou with respect to the Draft EIR/EIS involving the Klamath dams.

BE IT FURTHER RESOLVED that the City of Weed authorizes a copy of this Resolution to be provided with the comments of the County of Siskiyou and filed concurrently therewith as evidence of the adoption of the County's comments as the comments of the City.

I HEREBY CERTIFY the foregoing resolution was introduced and adopted at a regular special meeting of the City Council held the 10th day of November, 2011 by the following vote, to wit:

AYES: COUNCIL MEMBERS Broomfield, Hall, Palfini, Pearce, and Sutton.
NOES: None
ABSENT: None
ABSTAIN: None

/s/ Dave Pearce
Mayor, City of Weed

ATTEST:

/s/ Deborah J Salvestrin
City Clerk, City of Weed

State of California)
) ss
County of Siskiyou)

I hereby certify the foregoing Resolution No. 27-2011 is a true and correct copy of the original adopted by the City Council on November 10, 2011.

Dated: November 10, 2011

Deborah J. Salvestrin
City Clerk, City of Weed

Resolution 999

RESOLUTION OF THE TOWN OF FORT JONES
JOINING IN EIR/EIS COMMENTS
OF THE COUNTY OF SISKIYOU

WHEREAS, the Department of the Interior has recently released the Klamath Facilities Removal Public Draft Environmental Impact Statement/Environmental Impact Report; and,

WHEREAS, this Report will be used to inform the Secretarial Determination in conjunction with the Klamath Hydroelectric Settlement Agreement (KHSA) and the Klamath Basin Restoration Agreement (KHSA); and,

WHEREAS, the Town of Fort Jones is in opposition to a determination that would result in the removal of the Klamath hydroelectric facilities; and,

WHEREAS, due to the lack of resources and other economic limitations, it is to the benefit of the City if it is allowed to participate in the comments of the County of Siskiyou,

NOW, THEREFORE, BE IT RESOLVED that the Town of Fort Jones joins in the comments to be filed by the County of Siskiyou with respect to the Draft EIR/EIS involving the Klamath dams.

BE IT FURTHER RESOLVED that the Town of Fort Jones authorizes a copy of this Resolution to be provided with the comments of the County of Siskiyou and filed concurrently therewith as evidence of the adoption of the County's comments as the comments of the City.

PASSED AND ADOPTED this 7th day of November, 2011, by the following vote:

AYES: McCulley, Berck, Smith, Tasem, Berry
NOES: none
ABSENT: none
ABSTAIN: none

Tom McCulley, Mayor

ATTEST:

Linda Romaine, City Clerk

APPENDIX 2

THE KLAMATH FACILITIES REMOVAL ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT

COMMENTS OF THE COUNTY OF SISKIYOU, CITY OF YREKA, CITY OF DORRIS, CITY OF ETNA, CITY OF MONTAGUE, CITY OF WEED, AND TOWN OF FORT JONES

November 21, 2011

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On September 21, 2011, the Department of the Interior ("DOI") released for public comment the draft Klamath Facilities Removal Environmental Impact Statement/Environmental Impact Report ("EIS/EIR"). These Comments by the County of Siskiyou, City of Yreka, City of Dorris, City of Etna, City of Montague, City of Weed, and Town of Fort Jones review the legal, factual, and analytical issues associated with the EIS/EIR.

I. INTRODUCTION AND SUMMARY

The County of Siskiyou, each City, and the Town are uniquely impacted by the action proposed in the EIS/EIR, the removal of four dams along the Klamath River ("Proposed Action"). Three of the four dams are in the County of Siskiyou. The environmental, economic, and social consequences of the Proposed Action will fall most heavily on the people of Siskiyou County. The citizens of the County, its cities, and its towns, as well as the natural resources in the County, will bear the brunt of the adverse consequences that will flow from a decision to remove the dams.

Comemnt 1 - NEPA/ CEQA

These Comments document extensive flaws in the EIS/EIR. However, these Comments identify only the most glaring errors, omissions, and legally inadequate aspects of the EIS/EIR. Because the EIS/EIR and its accompanying technical materials reflect inconsistent assumptions and contain inconsistencies between methodologies and actions analyzed, we expect we have not uncovered all of the flaws in the EIS/EIR. In addition, because the EIS/EIR defers substantial portions of the analysis to some later National Environmental Policy Act ("NEPA") and/or California Environmental Quality Act ("CEQA") document, the EIS/EIR does not provide a complete or comprehensive assessment of the impacts of the Proposed Action. The EIS/EIR meets neither the spirit nor the letter of the law.

Comment 2 - NEPA/CEQA

More importantly, from a practical perspective, the EIS/EIR fails to provide sufficient, or even the most basic, information necessary to enable a decision maker and stakeholders to

Comment 2 cont.

adequately compare and contrast project alternatives, and to make informed policy decisions regarding implementation of the Proposed Action. At a minimum, the EIS/EIR should, but does not provide adequate information to enable the Lead Agencies and stakeholders to determine:

- whether, on balance, removal of the four Klamath River facilities is reasonably likely to result in credible and measureable environmental benefits that would not be achieved by implementation of the dozens of existing, legally mandated, and enforceable habitat restoration and water quality management measures specified in: (a) the PacifiCorp Habitat Conservation Plan; (b) the Upper Klamath Lake Drainage Total Maximum Daily Loads ("TMDLs") and the Upper Klamath River and Lost River TMDLs (collectively, the "Oregon TMDLs"); (c) the Klamath River TMDLs, Lower Lost River TMDLs, Scott River TMDLs, Shasta River TMDLs, and Salmon River TMDL (collectively the "California TMDLs); (d) the National Marine Fisheries Service 2010 Biological Opinion; (e) the CDFG Code Section 5927 in-stream flow mandate for tributaries to the mainstem Klamath River; (f) the mitigation and monitoring plan for the 2007 FERC EIS; and (g) those provisions of the Klamath River Basin Restoration Agreement ("KBRA") that are *not* conditioned upon implementation of the Klamath Hydroelectric Settlement Agreement ("KHSA"), which measures (contrary to assumptions of the EIS/EIR alternatives analysis) must be implemented regardless of the implementation of the KHSA; and
- whether, on balance, removal of the four Klamath River facilities is reasonably likely to achieve environmental benefits that outweigh (a) the adverse socioeconomic impacts of the Proposed Action, (b) the numerous short term (0 to 2 years) and long term (2 to 50 years) significant adverse environmental impacts associated with the

Comment 2 cont.

Proposed Action, and (c) the substantial risk that many of the short term significant adverse environmental impacts, and some of the "insignificant" adverse environmental impacts, will actually result in long-term, substantial negative impacts on the ecology of the Klamath River watershed.

A revised EIS/EIR must be prepared to address the deficiencies and provide the information needed to determine if the claimed environmental benefits of the Proposed Action outweigh the likely significant adverse social, economic, and environmental impacts of the Proposed Action. Only by circulating a corrected and much expanded document will the EIS/EIR provide adequate information on environmental impacts, alternatives, and mitigation measures with which all stakeholders can evaluate the alternatives and decision makers can act.

II. THE ENVIRONMENTAL EFFECTS ANALYSIS IN THE EIS/EIR

This section will examine the most serious issues for adequacy of the analysis in the EIS/EIR regarding the effects of the Proposed Action.

A. The Legal Framework

1. NEPA

In reviewing the legal adequacy of an environmental impact statement ("EIS"), courts hold federal agencies to rigorous standards. In a landmark administrative law case, the Supreme Court held agencies must take a "hard look" at the environmental issues associated with a proposed action. *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402 (1971). *See also Maryland National Capital Park and Planning Commission v. United States Postal Service*, 487 F.2d 1029 (D.C. Cir. 1973). This "hard look" doctrine has been applied to NEPA. *Kleppe v. Sierra Club*, 427 U.S. 390, 411 (1976). *See also All Indian Pueblo Council v. United States*, 975 F.2d 1437 (10th Cir. 1992); *Tongass Conservation Society v. Cheney*, 924 F.2d 1137 (D.C. Cir. 1991). To meet this standard, an EIS may not contain vague, general, or conclusory reasoning.

Silva v. Lynn, 482 F.2d 1282 (1st Cir. 1973). The court in *Sierra Club v. United States Army Corps of Engineers,* 701 F.2d 1011, 1029 (2d Cir. 1983) (citations omitted), summarized the applicable standard as follows:

> [T]he ... [EIS] must set forth sufficient information for the general public to make an informed evaluation ... and for the decisionmaker to "consider fully the environmental factors involved and to make a reasoned decision after balancing the risks of harm to the environment against the benefits to be derived from the proposed action." [The EIS gives] assurance that stubborn problems or serous criticisms have not been "swept under the rug."

At a minimum, the "hard look" doctrine "encompasses a thorough investigation into the environmental impacts of an agency's action and a candid acknowledgment of the risks that those impacts entail." *National Audubon Society v. Department of the Navy,* 422 F.3d 174, 185-186 (4th Cir. 2005) (citations omitted). The Council on Environmental Quality ("CEQ") regulations implementing NEPA reflect these standards. Those regulations require that an EIS be "analytic" and not conclusory. 40 C.F.R. §1502.2(a).

The environmental consequences of a proposed action that are subject to NEPA analysis include the direct and the indirect effects of the action. 40 C.F.R. §1502.16(a) and (b) and §1508.8. The effects to be examined include "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative." 40 C.F.R. §1508.8. An effects analysis in an EIS must contain an adequate compilation of relevant information that is sufficiently complete to allow informed decision making by the decision maker. *See e.g., National Resources Defense Council v. United States Forest Service,* 421 F.3d 797 (9th Cir. 2005); *Sierra Club v. United States Army Corps of Engineers,* 701 F.2d 1011 (2d Cir. 1983).

2. CEQA

Under CEQA, the purpose of an Environmental Impact Report ("EIR") is to "alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." *Laurel Heights Improvement Ass'n v. Regents of the Univ. of California*, 47 Cal.3d 376, 392 (1988) ("*Laurel Heights 1*"). Thus, an EIR must "provide public agencies and the public with *detailed* information about the effect which a proposed project is likely to have on the environment ... list ways which the significant effects of the project might be minimized; and ... indicate alternatives to such a project." Pub. Res. Code §1061 (emphasis added). *See also*, Cal. Code Regs. tit. 14 ("CEQA Guidelines") §15002; *Laurel Heights 1*, 47 Cal.3d at 392. The agency must make a good faith effort at full disclosure. CEQA Guidelines §15151.

An EIR must provide a degree of analysis and detail about the project's environmental impacts such that a decision maker can make intelligent judgments in light of the environmental consequences of the decision. CEQA Guidelines §15151. It is essential that the project is adequately described and that existing setting information is complete. *County of Inyo v. City of Los Angeles*, 71 Cal.App.3d 185, 199 (1977). Both the public and decision makers need to fully understand the implications of the choices that are presented related to the project, the mitigation measures, and the alternatives. *Laurel Heights Improvement Ass'n v. Improvement Ass'n v. Regents of the Univ. of Cal.*, 6 Cal.4th 1112, 1123 (1993) ("*Laurel Heights II*").

An EIR must address a proposed project's "significant effects on the environment." Pub. Res. Code §21100(b)(l); *see also* CEQA Guidelines §15126(a) (the EIR "shall identify and focus on the significant environmental effects of the proposed project.") A significant effect on the environment is defined as "a substantial, or potentially substantial, adverse change in the environment." Pub. Res. Code §21068; *see also* Pub. Res. Code §21100(d). The EIR must

identify both direct and indirect significant effects. CEQA Guidelines §15126.2(a). The EIR should encompass both short-term and long-term effects. *Id.* Identification of a project's significant environmental effects is one of the primary purposes of an EIR and is necessary to implement the stated public policy that agencies should not approve projects if there are feasible mitigation measures or project alternatives available to reduce or avoid the environmental impacts. Pub. Res. Code §§21002, 21002.1(a). CEQA requires a finding that a project may have a significant effect on the environment if the "possible effects of a project are individually limited but cumulatively considerable" where "'cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects ... current projects, and ... probable future projects." Pub. Res. Code §21083(b)(2); CEQA Guidelines §15130 (b)(1).

B. The Effects Analysis

The remainder of this Part will examine the analysis in the EIS/EIR of the direct and indirect effects of the Proposed Action to determine if the EIS/EIR provides an impacts analysis that meets the applicable legal standards under NEPA and CEQA. As will become clear, the EIS/EIR does not meet these standards.

1. Improper Definition of Existing Conditions, the Proposed Action, the No Action Alternative, and Alternative 4

Before proceeding further, however, it is important to clearly identify the environmentally beneficial measures and activities that are reasonably likely to proceed regardless of whether the Proposed Action is implemented. As acknowledged in the EIS/EIR, such measures and activities, to the extent they are reasonably foreseeable or likely to occur, must be considered a part of the existing environmental conditions. CEQA Guidelines

Comment 3 - NEPA/ CEQA

§§15126.6(e)(2) and (3). Failure to consider such activities and measures results in an inaccurate determination of the relative environmental benefits and risks of the Proposed Action.

a. The Klamath Basin Restoration Agreement

The implementation of the KBRA is incorporated into, and is an integral part of, the Proposed Action. The EIS/EIR clearly states that "the KBRA is a component of the Proposed Action." EIS/EIR at 3.3-138. *See also id.* at 2-19 (the Proposed Action "would include ... the implementation of the KBRA...."); *id.* at 3.3-75 (the Proposed Action "includes the implementation of the KBRA.")

At the same time, however, the EIS/EIR fails to recognize that certain elements of the KBRA are reasonably expected to occur in the foreseeable future if the Proposed Action is not approved. By law, these elements should be considered part of the existing conditions under the No Action Alternative and Alternative 4. The EIS/EIR offers a variety of explanations for considering the KBRA as part of the Proposed Action, while incorrectly ignoring the fact that a significant number of the KBRA measures will be implemented even if dam removal does not occur. As a legal matter, these actions must be included in the analysis of existing conditions.

In an attempt to justify its incorrect application of law, the EIS/EIR states the Proposed Action includes implementation of the KBRA because the environmental restoration activities and water quality management actions under the KBRA will not occur, or alternatively might not continue, or alternatively might not occur as quickly, in the event that the removal of the Klamath facilities and implementation of the KHSA do not proceed. EIS/EIR at ES-3, ES-21, 2-13-18, and 3.2-35. However, the KBRA is a legally binding agreement enforceable by the parties, and is distinct and separate from the KHSA and from Klamath facilities removals. *Id.* at ES-2, ES-4. Further, implementation of many of the environmental restoration and water quality improvement obligations and measures of the KBRA is either already occurring, or their

Comment 3 cont

implementation is not conditioned upon implementation of the KHSA and from Klamath dam removals. *Id.* at ES-3. It is factually incorrect to assume in evaluating the Proposed Action and other Alternatives that no KBRA actions will occur in the absence of dam removal. Instead, the implementation of many of KBRA measures are reasonably expected in the foreseeable future. Those actions should be included in the description of the No Action Alternative, which must reflect actual conditions as well as conditions that would be reasonably expected to occur in the foreseeable future if the Proposed Action were not approved. 40 C.F.R. §§1502.16 and 1508.7; CEQA Guidelines §§15126.6(e)(2), 15126.4(a)(2), and 15130(c). In addition, analysis of all other Alternatives that do not preclude the implementation of the currently pending and unconditional measures of the KBRA, including Alternative 4, must assume that those measures will be implemented regardless of the Proposed Action.

Furthermore, because the EIS/EIR will result in significant adverse impacts with respect to at least some, and arguably with respect to the majority, of water quality and aquatic environmental parameters, the EIS/EIR by law must, but fails to, assess whether the Proposed Action will actually adversely impact or inhibit the environmental and water quality improvements that would otherwise be achieved under the No Action Alternative pursuant to implementation of the ongoing and unconditional obligations of the KBRA. CEQA Guidelines §§15126.6(e)(3)(B) and (C).

Accordingly, the No Action Alternative and Alternative 4 should reflect and presume the implementation of all ongoing and unconditional obligations of the KBRA. All measures that will actually be implemented regardless of the Proposed Action should be clearly and consistently identified throughout the EIS/EIR. The ongoing and unconditional obligations of the KBRA that should be reflected in the No Action and all other Alternatives appear to include

Comment 3 cont.

actions such as resource measures to secure additional water storage in the Basin; retirement of Upper Klamath Lake water uses under Section 15 of the KBRA; creation of additional water storage in the Basin under Section 18 of the KBRA, including the Lake Ranch and Barnes Ranch projects; implementation of fisheries restoration and reintroduction plans under Section 11 of the KBRA; measures to protect environmental water and in-stream flows under Section 20 of the KBRA; measures to manage flows and lake levels to improve the ecological, chemical, physical, and biological processes of the Klamath River Basin surface waters, including improving the status of anadromous and resident fish under Section 20.4 of the KBRA; and measures to protect environmental benefits under Sections 20.5 and 25 of the KBRA by, among other things, implementing water quality improvement measures such as TMDLs and other water quality standards.

In general, the false assumption that no KBRA actions (or only certain already ongoing KBRA actions) will proceed absent the Proposed Action leads to an inaccurate impacts analysis for the Proposed Action, improper comparison of the significance of environmental impacts for the Proposed Action versus other Alternatives, and improper identification of the environmentally preferable alternative because the EIS/EIR:

- overstates the environmental benefits of the Proposed Action by falsely linking all KBRA restoration actions to implementation of Klamath facilities removals pursuant to the KHSA; and
- overstates the adverse environmental impacts of the No Action Alternative and Alternative 4 by failing to recognize that certain KBRA restoration activities will proceed and will enhance the Klamath River Basin regardless of the dam removals.

Comment 3 cont.

Most importantly, the potential for the significant adverse impacts of the Proposed Action to preclude, limit or interfere with environmental and water quality improvements that would otherwise occur under the ongoing and unconditional provisions of the KBRA is not analyzed. These errors alone render the EIS/EIR legally insufficient.

b. The California TMDLs and the Oregon TMDLs

Currently, at least eight TMDLs have been fully adopted for Klamath Basin waters by the Oregon Department of Environmental Quality ("ODEQ"), California's North Coast Regional Water Quality Control Board ("NCRWQCB"), and California's State Water Resources Control Board ("SWRCB"),[1] and at least four technical TMDLs have been adopted by EPA. Once any TMDL is fully adopted by a State, the Best Management Practices ("BMPs") and Implementation Measures included in the TMDL, even if only conceptually stated, must, by law, be implemented. 33 U.S.C. §1313(d). Further, ODEQ and the NCRWQCB are obligated to assure the implementation of adopted State TMDLs via a variety of legal mechanisms, including issuance of enforceable Section 402 Clean Water Act permits and conditions, issuance of State law waste discharge requirements or conditional waivers of waste discharge requirements, adoption of Basin Plan amendments, adoption of non-point source management plan/Basin Plan requirements, and/or other similar mechanisms. 33 U.S.C. §1313(d). Further, implementation of fully approved State TMDLs, and particularly the BMPs and other Implementation Measures specified in those TMDLs, must, pursuant to the requirements of the Clean Water Act, attain the water quality standards for each TMDL pollutant. Accordingly, the adopted Oregon TMDLs and California TMDLs, including all TMDL BMPs and Implementation Measures (even if only

Comment 4 - Water Quality

[1] While the EIS/EIR does not provide a clear explanation of the status of adoption of each TMDL or set of TMDLs, it appears that U.S. Environmental Protection Agency ("EPA") approval is still pending for only one set of State adopted TMDLs, the Oregon Upper Klamath Lake Drainage TMDLs, and Section 3.2.2.4 of the EIS/EIR indicates that EPA approval of those temperature, dissolved oxygen and pH TMDLs is expected.

Comment 4 cont

conceptually described), must by law be implemented to attain water quality standards in the Klamath River Basin for dissolved oxygen/organic enrichment, nutrients, temperature, pH, ammonia, microcystin/chlorophyll-a, and sediment.[2] 33 U.S.C. §1313(d).

Because State TMDL requirements create legally enforceable plans or programs for attaining water quality standards over time, the implementation of the California and Oregon TMDLs and the attainment of water quality standards for dissolved oxygen/organic enrichment, nutrients, temperature, pH, ammonia, microcystin/chlorophyll-a, and sediment (collectively, the "Pollutants of Concern") must be reasonably expected to occur in the foreseeable future even if the Proposed Action is not approved. Consequently, the impacts analysis of the EIS/EIR must make it clear that under the No Action Alternative and any of the other Alternatives, including Alternative 4, water quality standards for those Pollutants of Concern will be attained. 40 C.F.R. §§1502.16 and 1508.7; CEQA Guidelines §§15126.6(e)(2), 15126.4(a)(2), and 15130(c).

In addition, because the EIS/EIR will result in significant adverse water quality impacts with respect to at least some, and arguably with respect to the majority of the Pollutants of Concern, the EIS/EIR by law must, but fails to, assess whether the Proposed Action will actually significantly adversely impact or inhibit attainment of water quality standards under the No

[2] It should be noted that evidence shows the Klamath River water quality standards underlying the recently adopted Klamath River TMDL (NCRWQCB Resolution Nos. R1-2010-0025 and R1-2010-0026 adopted March 24 2010; SWRCB Resolution No. 2010-0043 adopted September 7, 2010) and the Klamath River TMDL targets adopted for temperature, nutrients, dissolved oxygen, and microcystin are flawed. Contrary to the best available scientific data, and due to the errors and omissions in the technical analysis supporting the Klamath River TMDL, NCRWQCB and SWRCB ("Water Boards") relied on water quality standards and TMDL targets for the TMDL constituents that are unrealistically low, because, for example, the Water Boards (a) failed to distinguish natural background sources of the TMDL constituents, as opposed to point source discharges and anthropogenic sources, (b) improperly overestimated and attributed natural background sources of TMDL constituents to point source discharges and anthropogenic sources, such as power generation and fish hatchery operations within the Hydroelectric Reach, and (c) relied on incorrect assumptions and conclusions regarding water quality that is reasonably achievable in surface waters upstream of the Hydroelectric Reach, and particularly in Upper Klamath Lake. Despite these flaws, the State has determined that the implementation of this TMDL and the other California TMDLs will attain water quality standards for the constituents of concern by the end of the TMDL implementation period.

Comment 4 cont.

Action Alternative pursuant to the Oregon TMDLs and the California TMDLs. 40 C.F.R. §§1502.16 and 1508.7; CEQA Guidelines §§15126.6(e)(3)(B) and (C). Because the impacts analysis of the EIS/EIR, including the impacts analyses for the Proposed Action, the No Action Alternative, and Alternative 4, fail to account for water quality improvements and the attainment of water quality standards that legally must occur pursuant to adopted TMDLs, the environmental benefits of the Proposed Action are overstated in the EIS/EIR. At the same time, the adverse environmental impacts of the Alternatives allowing the Klamath facilities to continue to operate, including the impacts of the No Action Alternative and Alternative 4, are overstated. Most importantly, the potential for the significant adverse environmental impacts of the Proposed Action to preclude, limit or interfere with environmental and water quality improvements that would otherwise occur under the fully approved State TMDLs is not analyzed, providing an inadequate basis for any decision maker to determine whether the Proposed Action should be pursued.

Comment 5 - Proposed Project/Action

2. Other Restoration and Water Quality Improvement Measures

The preceding comments regarding the treatment of legally binding TMDL requirements apply with equal force to all of the habitat restoration and water quality improvement measures set forth in the following legally binding and enforceable documents: (a) the PacifiCorp Habitat Conservation Plan; (b) the National Marine Fisheries Service 2010 Biological Opinion; (c) the CDFG Code Section 5927 in-stream flow mandate for tributaries to the mainstem Klamath River; and (d) the mitigation and monitoring plan for the 2007 FERC EIS (collectively, the "Regulatory Restoration Measures"). The implementation of the Regulatory Restoration Measures can be reasonably expected in the foreseeable future, and all those measures and the anticipated resulting improvements in environmental and water quality must be incorporated into the description of the No Action Alternative, which must reflect actual conditions as well as

Comment 5 cont.

conditions that are reasonably expected to occur in the foreseeable future if the Proposed Action were not approved. 40 C.F.R. §§1502.16 and 1508.7; CEQA Guidelines §§15126.6(e)(2), 15126.4(a)(2), and 15130(c). In addition, analysis of all other Alternatives that do not preclude the implementation of the Regulatory Restoration Measures, including Alternative 4, must assume that those measures will be implemented regardless of the Proposed Action. Further, because the EIS/EIR will result in significant adverse impacts with respect to at least some, and arguably with respect to the majority, of water quality and aquatic environment parameters, the EIS/EIR by law must, but fails to, assess whether the Proposed Action will actually significantly adversely impact or inhibit environmental and water quality improvements that would otherwise be achieved under the No Action Alternative pursuant to the implementation of all ongoing and unconditional Regulatory Restoration Measures.

Because the impacts analysis of the EIS/EIR, including the impacts analysis for the Proposed Action, the No Action Alternative, and Alternative 4, fail to account for water quality improvements and environmental benefits that legally must occur pursuant the Regulatory Restoration Measures, the environmental benefits of the Proposed Action are overstated in the EIS/EIR. At the same time, the adverse environmental impacts of the Alternatives allowing the Klamath facilities to continue to operate, including the impacts of the No Action Alternative and Alternative 4, are overstated. Most importantly, the potential for the significant adverse environmental impacts of the Proposed Action to preclude, limit or interfere with environmental and water quality improvements that would otherwise occur under the Regulatory Restoration Measures is not analyzed. Again, this failure by itself, makes the EIS/EIR legally insufficient, providing an inadequate basis for a decision maker to determine whether the Proposed Action should be pursued.

Comment 6 - NEPA/CEQA

3. The Data Quality Act

It is also important to understand that the EIS/EIR fails to comply with the Data Quality Act. P.L. 106-554, §515. This Act requires federal agencies to establish policies and procedures that ensure the quality, objectivity, and integrity of information distributed and used by the agencies. Office of Management and Budget Circular A-130, which implements the Data Quality Act, forbids agencies from distributing substantive information that "does not meet a basic level of quality." OMB's Circular defines this basic level as requiring that information be accurate and the reasoning behind, and support for, analytic conclusions be clear. As discussed below, the EIS/EIR all too often contains inaccurate and incomplete information. All too often, the EIS/EIR makes analytic conclusions for which the facts and reasoning are not only unclear but non-existent. The EIS/EIR does not comply with the Data Quality Act.

Comment 7 - NEPA/CEQA

C. Aquatic Resources

"The need for the Proposed Action is to advance restoration of the salmonid fisheries in the Klamath Basin...." EIS/EIR at 1-29. This is the sole basis advanced to justify the Proposed Action. In a remarkable failure of NEPA and CEQA compliance, the EIS/EIR does not analyze many of the critical issues relevant to restoring salmonid fisheries. What analysis does exist demonstrates the Proposed Action will not meet the objective of restoring salmonid fisheries. The purported justification and major objective for the Proposed Action simply does not exist.

1. Coho Salmon

The Southern Oregon/Northern California Coast coho salmon evolutionary significant unit has been designated a threatened species under the federal Endangered Species Act ("ESA"). 62 Fed. Reg. 24,588 (May 6, 1997). Critical habitat was identified in 1999. 64 Fed. Reg. 24,049 (May 5, 1999). The EIS/EIR states the Proposed Action, if combined with the

Comment 8 - Fish

Comment 8 cont.

KBRA restoration actions, is "expected to advance the recovery of federally listed coho salmon." EIS/EIR, Summary of Key Conclusions.

To support this claim, the EIS/EIR relies on the findings of the Coho Salmon and Steelhead Expert Panel established by DOI to evaluate the Proposed Action, including the KBRA. According to the EIS/EIR, the Expert Panel concluded the Proposed Action "would result in a modest increase in the coho salmon population compared with existing conditions." EIS/EIR at 3.3-106. That is not what the Expert Panel said.

What the Expert Panel did conclude was that the "difference between the Proposed Action and Current Conditions is expected to be small." Klamath River Expert Panel, Final Report, Scientific Assessment of Two Dam Removal Alternatives on Coho Salmon and Steelhead, April 25, 2011 ("Coho and Steelhead Expert Panel Report") at ii. This is "especially" true for the ten years following dam removal. *Id.* Thereafter, "moderate" responses by coho salmon "are possible." *Id.* But this possibility might happen only "if the KBRA is fully and effectively implemented...", *id.*, a result about which the Expert Panel had considerable doubt, and, as noted above, a result that is not inextricably tied to or conditioned upon implementation of the Proposed Action. In fact, the Expert Panel found that even with the KBRA, there is such a "high uncertainty" about the many and various actions necessary to truly make a difference for coho salmon that there is a "low likelihood" of even moderate responses by coho salmon to the Proposed Action. *Id.*[3] The actual statements of the Expert Panel stand in stark contrast to the

[3] In addition to questions about the feasibility and effectiveness of the KBRA raised by the Expert Panel, the EIS/EIR identifies 13 activities that are responsible for the decline of coho salmon. Among those 13, and unrelated to the Proposed Action, are habitat degradation caused by logging, road building, grazing, mining, urbanization, wetland loss, beaver trapping, water withdrawals, and unscreened irrigation diversions. EIS/EIR at 3.3-20. None of those actions is addressed by the Proposed Action. They are only addressed by the KBRA, and, to the extent that KBRA measures are capable of implementation, many of them are ongoing or unconditional obligations that will be implemented regardless of the removal of the Klamath facilities.

Comment 8 cont.

characterization in the EIS/EIR that the Expert Panel agreed the Proposed Action "would result" in a "modest increase" in coho salmon populations. Instead, the Expert Panel's conclusions indicate that the Proposed Action may well inhibit any benefit that might result from implementation of the KBRA.

Further undermining the conclusion in the EIS/EIR that the Proposed Action "would result" in positive benefits are the Expert Panel's finding that so much scientific information for an appropriate analysis is missing that there needs to be "further scientific investigation [including] necessary and feasible data collection, analyses, and modeling...." Coho and Steelhead Expert Panel Report at i. The Panel noted its report is no "substitute for scientific analysis of solid data," *id.*, and that further analysis needs to be done before any conclusions can be made about the effect of the Proposed Action on coho salmon. In other words, DOI lacks the information necessary to reach any real conclusions about the merits of the Proposed Action regarding coho salmon, but what is known indicates the benefits of the Proposed Action will be "small."

Reading beyond the unsubstantiated claims in the EIS/EIR, one finds the admission that the most likely scenario under the Proposed Action for coho salmon downstream of Iron Gate Dam is that coho salmon from the Upper Klamath River Population Unit that spawn in the Klamath River and their progeny will suffer "up to 100% mortality" in the dam removal phase due to the effects of released sediment. EIS/EIR at 3.3-107. There are nine coho salmon population units in the Klamath River watershed. *Id.* Thus, during dam removal, the Proposed Action will destroy the entire population within the mainstem Klamath River of one of nine (11%) population units of the threatened coho salmon. *Id.* at 3.3-110. Overall for the entire coho population, the EIS/EIR states the direct mortality could be as high as 18% of smelts in

Comment 8 cont.

various population units. *Id.* at 4-77. The EIS/EIR cannot so lightly dismiss such adverse impacts on an ESA protected species.

Indeed, the EIS/EIR admits that if just one year class of coho salmon is eliminated by the Proposed Action, it "could result in a jeopardy decision" under the ESA. *Id.* at 3.3-53. A jeopardy opinion means the action being considered is likely to jeopardize the continued existence of the ESA-listed species. 16 U.S.C. §1536(a)(2). In plain English, the EIS/EIR admits that the sediment impacts of the Proposed Action could, by themselves, jeopardize the continued existence of coho salmon. This admission belies other statements in the EIS/EIR that there is no question but that the Proposed Action will advance the recovery of coho salmon. This admission is also important because, as discussed next, the EIS/EIR has dramatically understated the amount of sediment that will be released into the environment. In fact, if one considers how all of the dam removal issues will affect coho salmon, the conclusions about the impact of the Proposed Action are even more distressing. There is a real possibility that the Proposed Action will jeopardize the continued existence of coho salmon.

Further, the EIS/EIR must, but fails to, evaluate whether such substantial adverse impacts to coho salmon caused by dam removal could preclude the fisheries restoration and other environmental benefits anticipated to result from the expected implementation of the ongoing and unconditional KBRA measures, the Oregon TMDLs, the California TMDLs, and the Regulatory Restoration Measures (collectively the "Foreseeable Restoration Measures"), all of which have been analyzed and determined to benefit the environment.

Comment 9 - Fish

a. Sediment Discharges

The EIS/EIR dismisses the effects of sediment discharges from dam removal by claiming the impacts will be "short term," ending "within one year." EIS/EIR at 3.3-110. However, the Expert Panel contradicts the EIS/EIR noting the impacts of high sediment concentrations will

Comment 10 - Sediment Transport

Comment 10 cont.

persist not for one year but for "the first two years," and that the overall impacts of sediment releases will not be reversed for "decades." Coho and Steelhead Expert Panel Report at 19 and 28. This conclusive finding of the Expert Panel is certainly not acknowledged in the water quality section (or any other section) of the EIS/EIR.

The expert panel established by DOI to assess the impacts of the Proposed Action on lamprey also disagreed with the EIS/EIR that high sediment concentrations will be short-lived. The Lamprey Expert Panel concluded there will be "chronically high suspended sediment concentrations" for at least "the first year or two." Klamath River Expert Panel, Final Report, Scientific Assessment of Two Dam Removal Alternatives on Lamprey, January 14, 2010 ("Lamprey Expert Panel Report") at 27. The Lamprey Expert Panel went on to say it is "reasonable to expect that this fine-grained sediment will be remobilized over a period ranging from years to decades." *Id.* at 33.

The significance of this decades-long impact is that the EIS/EIR admits salmonids need spawning areas that are "relatively free" of sediment. EIS/EIR at 3.3-5. Thus, a critical question is whether the amount of sediment released from dam removal will so foul spawning areas that they are not relatively free of sediment. On this point, the EIS/EIR contains no comparative analysis of the actual sediment loads in those decades versus the amount of sediment that tips the balance so that the coho's spawning areas are no longer "relatively free" of sediment. Without this analysis, the impact of sediment releases on coho salmon, and all species, cannot be known – and the EIS/EIR cannot be said to have taken a "hard look" at the effects of the Proposed Action. However, the EIS/EIR does note that the sediment loading downstream of the four dams "would be less than 2 feet." EIS/EIR at 3.11-22 [citation omitted]. A two-foot deposition of sediment does not sound as if it leaves spawning beds "relatively free" of sediment.

Comment 10 cont.

It is also significant that the Expert Panel's analysis of the effects of released sediment on coho salmon was predicated on the assumption, based on numbers provided by DOI, that 200,000-300,000 tons of sand will be flushed downstream of Iron Gate Dam. Coho and Steelhead Expert Panel Report at 26. However, the Chinook Salmon Expert Panel concluded, again based on DOI data, that sediment releases would be 300,000-400,000 tons, an amount over 30% greater than considered by the Coho Expert Panel when evaluating the impacts of dam removal. Klamath River Expert Panel, Final Report, Scientific Assessment of Two Dam Removal Alternatives on Chinook Salmon, June 13, 2011 ("Chinook Expert Panel Report") at 21. If the Chinook Expert Panel is correct, the adverse impact of sediment release on the threatened coho salmon and on Klamath River beneficial uses are seriously underestimated even by the Coho Expert Panel and most certainly by the EIS/EIR. But, as discussed next, this error pales in comparison to the reality.

The adverse effects of sediment discharges from dam removal on coho salmon and all fish have been grievously underestimated by the EIS/EIR. Using numbers tucked away in other sections of the EIS/EIR, numbers omitted from the aquatic resources impact section, one finds that the basis upon which the ES/EIR and the Expert Panels assessed the impact of sediment release on aquatic resources was so fundamentally flawed that their conclusions about sediment impacts are wrong by orders of magnitude.

Recall that the Coho and Steelhead Expert Panel Report and the Chinook Expert Panel used first year sediment release numbers of 200,000-400,000 tons based on the data DOI gave the Panels. However, the EIS/EIR admits there are 13.15 million cubic yards of sediment behind the dams. EIS/EIR at 3.3-31. Using the numbers tucked away elsewhere in the EIS/EIR reveals that 8,430,000 cubic yards, or 3,540,600 tons, of sediment could be released in the first year after

Comment 10 cont.

dam removal.[4] To put this number into context, the EIS/EIR also admits that the average annual sediment load in the Klamath River is 5,834,091 tons. *Id.* at 3.11-10, Table 3.11-1.

In other words, the assessment by the Expert Panels of the impacts of sediment release (200,000-400,000 tons) is based on estimated sediment releases that are only a small fraction of the actual amount of sediment that could be released. Even more shocking is the statement in the EIS/EIR that the amount of sediment that will be released from dam removal is "relatively small compared to the sediment loading from other existing sources...." *Id.* at 3.6-26. *See also id.* at *See also id.* at 3.2-97, 3.11-22, 4-140. If the annual amount of sediment produced from existing sources is 5,834,091 tons and dam removal will produce up to 3,540,000 tons in the first year, the amount of the release is not "relatively small" compared to the normal sediment load.

To put this release in context, consider the likely result if a regulated party were to apply for a permit to release 3.540 million tons of sediment in a year. And remember that there is still more sediment behind the dams to be discharged after the first year of release. If such a permit application were to be submitted, it would almost assuredly be summarily denied based on the

[4] The EIS/EIR states that first year sediment releases could be up to 65% of the sediment behind J.C. Boyle dam, up to 81% of the sediment behind Copco 1 Dam and up to 38% of that behind Iron Gate Dam. EIS/EIR at 3.6-26. According to the EIS/EIR, the amount of sediment behind each dam is as follows: J.C. Boyle Dam-1,000,000 cubic yards; Copco 1 Dam-7,400,000 cubic yards; Copco 2 Dam-0 cubic yards; and Iron Gate Dam-4,700,000 cubic yards. *Id.* at 3.11-18, Table 3.11-3. Applying the above percentages produces the following first year release numbers in cubic yards: J.C. Boyle Dam-650,000 cubic yards (1,000,000 x 65%); Copco 1 Dam-5,994,000 cubic yards (7,400,000 x 81%); and Iron Gate Dam-1,786,000 cubic yards (4,700,000 x 38%) for a total of 8,430,000 cubic yards. Applying the conversion rate derived from the EIS/EIR of 0.42 tons per cubic yard reveals that up to 3,540,000 tons of sediment (8,430,000 x 0.42) could be released into the river in the first year of dam removal. The 0.42 tons per cubic yard conversion rate is derived from Table 3.11-2. EIS/EIR at 3.11-11. That table shows that the percent of clay in the dam reservoirs is 51.7% of the total deposits. Silt is 34.3% for a total silt and clay volume of 86%. The remaining 14% is sand. According to the April 2011 DOI Report titled Hydrology, Hydraulics and Sediment Transport Studies for the Secretarial Determination on Klamath River Dam Removal and Basin Restoration, the unit weight for silt and clay (*i.e.*, cohesive sediments) is 20 pounds per cubic foot and for sand and gravel (*i.e.*, non-cohesive sediments) 100 pounds per cubic foot. Therefore, (86% x 20 pounds per cubic foot) + (14% x 100 pounds per cubic foot) = 31.2 pounds per cubic foot. Converting 31.2 pounds per cubic foot to tons is by the following formula: (31.2 pounds/cubic foot) x (1 ton/2000 pounds) x (27 cubic feet/one cubic yard) = 0.42 tons/cubic yard.

Comment 10 cont.

potential for significant adverse affects on sensitive and ESA listed fish and wildlife, water quality, and beneficial uses. Incredibly, the EIS/EIR determines that such impacts are either less than significant or are potentially significant in the short term but do not require mitigation. *Id.* at 3.2-93.

The facts are that the assessment of sediment impacts associated with the Proposed Action in the EIS/EIR and in the Expert Panel Reports are based on clearly erroneous assumptions. The EIS/EIR, which relied on these assumptions and on conclusions of the Expert Panels to assess sediment impacts, is fatally flawed. To claim the EIS/EIR meets even the minimum standards of adequate analysis under NEPA or CEQA is ludicrous. Not only is there no analysis of the real first year impacts of dam removal, but recall that the Expert Panels stated that the impacts of only 200,000-400,000 tons of released sediment would last for decades. Nowhere does the EIS/EIR examine the long-term effects on species, water quality, or beneficial uses of releasing millions of tons of sediment into the Klamath River.

In addition, the EIS/EIR impermissibly dismisses the adverse short term impacts on species, aquatic resources and water quality by inaccurately stating that the sediment released is only a small fraction of typical sediment loads in the Klamath River, estuary and near shore environment. Not only is that factually incorrect, it is also legally improper to conclude that a project's environmental impacts, particularly those impacts associated with the release of pollutants, are insignificant based solely on the fact that the project contributes only a relatively small amount to an already existing pollution condition. Accordingly, even if it were accurate to characterize sediment releases associated with dam removal as relatively small as compared to existing sediment loads, such an analysis is not a permissible basis for concluding that sediment

Comment 10 cont.

impacts are less than significant, particularly when several surface water reaches within the Klamath basin that will be impacted by the sediment releases are already impaired for sediment.

In a vain attempt to argue the KBRA has mitigated for the effects of the increased fouling of spawning beds by sediment, the EIS/EIR points to the KBRA's gravel augmentation plan. However, the Coho and Steelhead Expert Panel Report dismissed the gravel augmentation plan in the KBRA as insufficient, as representing only a "small amount" relative to the overall area affected. Coho and Steelhead Expert Panel Report at 29. And recall that the Panel's assessment of the inadequacy of this mitigation measure was based on the assumption that only 200,000-400,000 tons of sediment would be released in the first year after dam removal, a number somewhat less than the actual 3,540,000 tons. Furthermore, the gravel mitigation measure is a measure likely to be implemented in certain bypasses and river reaches under the KBRA and as a part of other Foreseeable Restoration Measures even if the Proposed Action is rejected.

Finally, contrary to the requirements of NEPA and CEQA, the EIS/EIR fails to analyze or provide any conclusions or information regarding the potential adverse impacts of the Proposed Action on the habitat and water quality improvements that would otherwise be achieved by the implementation of the Foreseeable Restoration Measures. As a result of the completely inadequate analysis of adverse impacts of sediment associated with the Proposed Action, the EIS/EIR does not comply with CEQA and NEPA requirements for impacts analysis, has not assessed or prescribed sufficient mitigation measures for the Proposed Action, and does not have a sufficient basis for making an informed decision regarding implementation of the Proposed Action.

Comment 11 - Water Quality

b. Water Temperature

Salmon experience "acute thermal effect" when "mean daily water temperatures begin to exceed 20° C." EIS/EIR at 3.3-33 (citations omitted). Will the Proposed Action improve this

Comment 11 cont.

important parameter for coho salmon? The Expert Panel concludes "the net effects ... is [sic] not known...." Coho and Steelhead Expert Panel Report at 30. To evaluate the temperature effect "will require more detailed information..." than is presently available. *Id.* at 32. In other words, there is not enough information to know whether dam removal will make any difference.

Moreover, the Expert Panel found that the important issue for salmon is not the average daily mean temperature, which is the exclusive focus of the EIS/EIR analysis. The Expert Panel points out that fish do not experience average mean daily temperatures. Fish experience hour-by-hour temperatures. It is those temperatures, not mean daily averages, that are key. The Expert Panel then states that while dam removal may lower the average daily mean temperature, the "highest temperatures experienced by the fish ... will increase." *Id.* at 31-32. The EIS/EIR recognizes that temperatures will increase in certain reaches of the Klamath River as a result of the Proposed Action (*see e.g.*, EIS/EIR at 3.2-77, 3.2-79, and 3.2-83), but completely fails to assess the increased temperature variability associated with the Proposed Action, and fails to examine the fish population impact of these increased temperatures caused by dam removal, relying instead on generalized averages that ignore and mask the actual temperature effects of the Proposed Action. Due to the completely inadequate analysis of adverse impacts of temperature changes associated with the Proposed Action, the EIS/EIR has not complied with CEQA and NEPA requirements for impacts analysis, has not assessed or prescribed sufficient mitigation measures for the Proposed Action, and does not have a sufficient basis for making an informed decision regarding implementation of the Proposed Action.

Comment 12 - Water Quality

c. Nutrients

The principal water quality problems in the Klamath River basin are high nutrient loads that cause low dissolved oxygen and algae blooms. *Id.* Significantly, the EIS/EIR found that "under the Proposed Action total nutrient concentrations in the Klamath River downstream of

Comment 13 - Algae

Comment 13 cont.

Iron Gate Dam would increase." EIS/EIR at 3.2-101. In fact, the EIS/EIR admits that all of the various models "recognize ... that under the Proposed Action total nutrient concentrations in the Klamath River downstream of Iron Gate Dam would increase." *Id.*

These high nutrient concentrations not only affect dissolved oxygen levels, but they cause increased algae growth. In that regard, the EIS/EIR admits there will be "long-term increases" in harmful river algae that will have a "significant impact." *Id.* at 3.4-15. *See also id.* at 5-100 ("the Proposed Action ... would result in increases in nutrient inputs ... that could increase [algae] biomass; ... this impact would be significant and unavoidable."). In other words, the Proposed Action will not solve the principal water quality problem of nutrient loading that inhibits increased salmon populations. Instead, the Proposed Action will make the problem worse, and will adversely impact, to the point of potentially precluding, the success of the Foreseeable Restoration Measures focused on reducing nutrients.

Comment 14 - Algae

As to the mitigation plan in the KBRA, the Expert Panel concluded that "drastic reductions in loading from the watershed must accompany local amelioration to be effective." Coho and Steelhead Expert Panel Report at 33. Given that, "it would be premature" to conclude that any nutrient loading problems "will be substantially reduced by KBRA." *Id.* at 33-34.

d. New Spawning Habitat

A critical basis for the EIS/EIR's conclusion that the Proposed Action will help coho salmon is the view that the Proposed Action will open up 45 miles in the mainstem Klamath River and its tributaries and 23 miles of currently inundated reservoirs. EIS/EIR, Summary of Key Conclusions. Reacting to this view, the Expert Panel noted that the existence of both positive and negative effects of the Proposed Action downstream of Iron Gate Dam "prevent[s] the Panel from determining the net beneficial effects" of opening up new spawning habitat. Coho and Steelhead Expert Panel Report at 34. In fact, the Expert Panel concluded "it is

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Comment 15 cont.

impossible to establish the effects of [the Proposed Action] ... with the information available." *Id.* at 38.

Regarding habitat access above Iron Gate Dam, the Expert Panel concluded the Proposed Action "will allow for a small increase in coho ... but information is currently insufficient for providing quantitative estimates." *Id.* at 40. However, the Expert Panel did note that the "potentially lower flows during the fall" caused by dam removal "may reduce the ability of coho to migrate through the mainstem in order to reach spawning areas in tributaries...." *Id.* at 35.

While DOI and the EIS/EIR trumpet the benefit of a free flowing river and the related access to new habitat, the experts appointed by DOI to assess this argument found the available information insufficient to support any conclusions about the effects on coho spawning of increasing access to habitat. But there is one aspect of increased habitat that has very serious implications for coho salmon – and this issue, like so many others, is ignored in the EIS/EIR.

The EIS/EIR forecasts a significant increase in the redband trout population due to dam removal. EIS/EIR at 3.3-127. Redband trout are a major predator of juvenile salmon. Because of that, the Chinook salmon Expert Panel found that predation from increased redband trout population could have the effect of "reducing or cancelling" the benefits to salmon that the EIS/EIR claims will result from increasing salmon access to habitat. Chinook Expert Panel Report at 17. In a major failing, the EIS/EIR ignores the impact of increased redband trout predation on any potential increase in salmon populations, notwithstanding the fact that DOI's expert panel concluded such predation could cancel the alleged benefits of dam removal for salmon. And recall that the sole justification for the Proposed Action is to benefit salmon.

Comment 16 - Fish

e. Thermal Refugia

For many issues affecting coho salmon spawning success and survival, the Coho and Steelhead Expert Panel found we simply do not have enough information to reach any

Comment 16 cont.

conclusion as to whether the Proposed Action will benefit salmon. Regarding the effects of providing thermal refugia on the productivity, capacity, and habitat connectivity for coho, the Expert Panel found the Proposed Action "will likely" increase the availability of thermal refugia but the extent to which that will benefit the productivity of coho salmon "is not known." Coho and Steelhead Expert Panel Report at 43.

f. Ecosystem Function

As to improving natural ecosystem functions, the Expert Panel found there "is insufficient information available" to answer how the Proposed Action compares to the status quo. *Id.* at 51.

Comment 17 - Fish

g. Disease

Regarding how the Proposed Action differs from the status quo with respect to the incidence and impact of disease, the Expert Panel concluded "[t]he information available is insufficient to determine the net overall effects of the Proposed Action." *Id.* at 51. However, the Expert Panel notes that a "possible consequence" of dam removal will be to spread fish borne disease upstream of the removed dams which now act as a barrier. *Id.* at 53-54. Not only may the geographic range of the disease expand, but, as discussed in Parts II.C.2.b and II.C, the EIS/EIR admits the Proposed Action will make the disease problem worse by increasing the habitat for disease carrying worms.

h. Food Availability

The Expert Panel notes the potential for coho to gain access to additional habitat means increased competition for food in those habitats. However, according to the Expert Panel, "the food aspects of ecosystem function ... have not been rigorously analyzed to date." *Id.* at 51. In other words, the EIS/EIR has failed to consider a critical environmental issue, interspecies interactions. As noted above regarding redband trout predation, these interspecies interactions,

Comment 18 - Fish

Comment 18 cont.

ignored in the EIS/EIR, have the potential to negate the benefits the EIS/EIR asserts will flow from dam removal.

i. Conclusion

The EIS/EIR fails to meet even the minimum standards for acceptable NEPA or CEQA analysis. At the outset, reliance on the Coho and Steelhead Expert Panel Report is misplaced because the EIS/EIR mischaracterizes the Expert Panel's conclusions. While the EIS/EIR claims the Expert Panel validates the conclusion that dam removal "would result" in a modest increase in coho populations, the Expert Panel actually said there is a "low likelihood" of any such increases. Coho and Steelhead Expert Panel Report at ii. In fact, the Panel said the difference between the status quo and the Proposed Action "is expected to be small...." *Id.*

Equally important, the Expert Panel repeatedly affirms that so much information is missing, information essential for proper analysis, that no meaningful conclusions can be made about the alleged benefits of dam removal. In a biting criticism, the Panel notes that its "statements are no substitute for further scientific investigation" and cautions that "its statements not be used in lieu of doing the necessary and feasible data collection, analyses, and modeling...." *Id.* at i. Indeed, the Expert Panel concludes that what is needed is "scientific analysis of solid data." *Id.* at iii. The inescapable conclusion is that the EIS/EIR, based on the same information as was before the Expert Panel, is so devoid of the necessary facts and analysis that reliance on the EIS/EIR as an adequate environmental analysis is arbitrary and capricious.

It is also important to step back and to look at the larger picture. The facts are that the Expert Panel convened by DOI to examine the impact of the Proposed Action on coho salmon rejected the fundamental premise advanced to support the Proposed Action. The EIS/EIR states the need for dam removal is to restore salmonid fisheries. With respect to coho salmon, the

Expert Panel concluded the Proposed Action will not even adequately protect the resource, let alone the fisheries.

Comment 19 - Fish

Any reliance on the Expert Panel to justify the Proposed Action is misplaced for another significant reason. Although the EIS/EIR identifies five alternatives, the Expert Panel was told to ignore three. One need look no farther than the title of the Expert Panel Report: "Scientific Assessment of Two Dam Removal Alternatives on Coho Salmon and Steelhead." The Report states unequivocally that the Panel was asked to evaluate only "two alternative scenarios," the status quo and dam removal. *Id.* at 1. Other alternatives, such as Alternative 4, were cast aside. Yet, the EIS/EIR relies on the Expert Panel as validating DOI's view that the Preferred Alternative of dam removal is superior to all other alternatives as to coho salmon. That reliance is misplaced because the Expert Panel examined only two of the five alternatives.

2. Chinook Salmon

Chinook salmon is the second salmon species whose restoration is used to justify the Proposed Action. The EIS/EIR concludes that dam removal, combined with actions to be taken under the KBRA, will increase median annual production of adult Chinook salmon by 81.4%. EIS/EIR, Summary of Key Conclusions. To support this claim, the EIS/EIR turns to the Expert Panel appointed by DOI to evaluate the impact of the Proposed Action on Chinook salmon. The EIS/EIR characterizes the Expert Panel as finding that the Proposed Action will be a "major" step forward that will provide a "substantial increase in the abundance of naturally spawned Klamath River Chinook salmon...." EIS/EIR at 3.3-94.

As was the case with the Coho Salmon Expert Panel, the EIS/EIR misstates what the Chinook Expert Panel said. Regarding the alleged "substantial" increase in Chinook salmon, the Expert Panel defined the term "substantial" somewhat differently than what is represented in the EIS/EIR. What the Panel actually said is "[t]he term 'substantial' should be understood here to

Comment 20 - Fish

Comment 20 cont.

mean a number of fish that contributes more than a trivial amount to the population." Chinook Salmon Expert Panel Report at 7, n.3. The Panel then said they expected a possible total increase of just 10% in the average number of natural spawners. *Id.* This is several orders of magnitude below the 81.4% increase claimed in the EIS/EIR. Equally important, the Expert Panel stated that the possibility of gains actually equaling 10%, an amount 72% less than that claimed in the EIS/EIR, is itself questionable. The Expert Panel states it is not suggesting that a 10% number "is a likely increase or a minimum increase that is expected." *Id.* That is because "the nature of the uncertainties precludes attaching a probability" to any prediction. *Id.* at 7.

Not only does the Expert Panel not say what the EIS/EIR claims it says, but the Expert Panel disputes the conclusions in the EIS/EIR about the percentage increase in Chinook salmon populations. That the Expert Panel rejects DOI's position about the benefits of the Proposed Action for Chinook salmon is made abundantly clear by examining what the Expert Panel actually said as to the impact of dam removal on nine factors the Expert Panel said must be addressed if there are to be gains in Chinook salmon numbers. An analysis of the actual effects of dam removal on each of those factors shows just how tenuous, and incorrect, are the claims in the EIS/EIR.

a. Water Quality

Comment 21 - Water Quality

The first of the nine factors is water quality. Here, the Expert Panel notes that any benefit of the Proposed Action in reducing nutrient loads and thermal inputs could occur only "if" the KBRA provides otherwise unavailable funding for the implementation of Total Maximum Daily Loads ("TMDL"). Chinook Expert Panel Report at 9. Given today's federal budget climate, that is a major, and perhaps insurmountable, "if." Moreover, the Expert Panel found that "the major Proposed Actions" in the KBRA for addressing water quality "are unlikely to provide substantial improvements in water quality...." *Id.* Why is it "unlikely"? Because "the magnitude of the

Comment 21 cont.

proposed solutions may not match the scope and extent of the water quality problem." *Id.* at 10. For example, the principal KBRA proposed actions to reduce nutrient loads, wetland rehabilitation and riparian vegetation to capture nutrients, would require the creation of 18,000 hectares (44,479 acres) of wetlands, 78% of the area of the Upper Klamath Lake or about 40% of the entire area of irrigated agriculture in the Upper Klamath Lake basin. The Expert Panel concludes this as simply not feasible. *Id.* at 11. This conclusion finds significant support in the EIS/EIR which admits that dam removal, when coupled with the planned restoration efforts, will result in a gain of only "approximately 184 acres" of riparian habitat. EIS/EIR at 3.3-56.

Not only is the proposed mitigation likely to be ineffectual but, as noted above in Parts II.C.1.c and II.G.2, the EIS/EIR admits that dam removal will actually increase harmful nutrient loads, making the water quality problem worse, not better.

The Expert Panel found that after controlling nutrient loads, the next major water quality issue is high water temperatures. As to the likelihood of controlling water temperatures through the KBRA's proposed actions, the Expert Panel concluded that it too "seems infeasible." Chinook Expert Panel Report at 11.

In other words, as to water quality, the first critical component for improving Chinook spawning, even "if" the KBRA is 100% funded, the benefits of the Proposed Action are "unlikely" to be large because the actions proposed in the KBRA are not feasible. More importantly, the Proposed Action will make the problem worse. As the EIS/EIR admits: "The Proposed Action ... would result in increases in nutrient loads; ... this impact would be significant and unavoidable." EIS/EIR at 5-100. This finding is somewhat inconsistent with the EIS/EIR statement that the Expert Panel determined the Proposed Action would be a "major" step forward for Chinook salmon abundance.

Comment 22 - Fish

b. Disease

Disease is the second major factor that must be addressed to increase Chinook numbers. The Expert Panel noted that the "overall success" of the Proposed Action for Chinook salmon hinges "to a large degree" on disease reduction. Chinook Expert Panel Report at 13. As to how the Proposed Action would address this factor, the Panel concluded that "uncertainty about these aspects is very high." *Id.* Uncertainty is high not only because the proponents of dam removal have not done the necessary research to permit true analysis, but also because a reduction in the food supply for disease causing worms "seems like a remote possibility." *Id.* In fact, the population of disease causing worms is likely to increase because the EIS/EIR admits the river algae (periphyton) biomass will increase under the Proposed Action largely due to increases in nutrient loads. *See* Part II.D of these Comments. A significant component of this river algae is the species *Cladophora* which provides important habitat for the worms that are host to fish killing parasites. EIS/EIR at 3.4-5 and 3.4-8. Thus, the net result of the Proposed Action is to increase the habitat for, and the population of, disease carrying worms.

Uncertainty, the absence of necessary research, a remote possibility of progress, and increasing the habitat for disease carrying worms do not sound like statements that comport with the EIS/EIR claim of a "major" step forward under the Proposed Action. In fact, the Expert Panel found that a possible outcome of dam removal is that the disease issue, now made worse, will simply move upstream to other areas where spawning aggregations occur. *Id.* at 13. This concern was echoed by the Coho and Steelhead Expert Panel Report which also reported that dam removal could simply "spread infection upstream of the dams...." Coho and Steelhead Expert Panel Report at 53.

Comment 23 - Water Quality

c. Colonization

The Chinook Expert Panel's treatment of the other key factors for improving Chinook spawning numbers is equally critical of the EIS/EIR conclusions. As to the third factor, the actual ability of Chinook salmon to colonize the Upper Klamath Basin, the Expert Panel notes that Chinook salmon migration is influenced by low dissolved oxygen. Chinook Expert Panel Report at 14. Reviewing the Proposed Action, including the KBRA, the Expert Panel concludes it is "uncertain" if the low oxygen problem in the Klamath River can be improved and, "[w]ithout solving the water quality problems, a fully self-sustaining run of fall Chinook salmon to the upper basin is unlikely." *Id.* at 14-15. Recall that the Expert Panel found it "unlikely" the Proposed Action will successfully address the water quality problems and the EIS/EIR admits the Proposed Action will make existing water quality problems worse, and fails to analyze the degree to which it will impede the habitat and water quality improvements that would otherwise result from implementation of the Foreseeable Restoration Measures.

Comment 24 - Fish

d. Harvest Levels

Regarding the fourth factor, impact of fishery harvests, while the EIS/EIR projects an increase in harvest opportunities, the Expert Panel said "harvest levels may need to be reduced for at least several years" in order to permit the measures in the Proposed Action to take effect. *Id.* at 16. Whether these harvests can ever be increased seems to depend on the success of the Proposed Action in improving water quality ("unlikely," "infeasible"), controlling disease ("a remote possibility"), and re-colonization of the Upper Klamath Basin ("unlikely").

While the EIS/EIR predicts increased harvest levels approximating 50%, the Expert Panel says harvest levels may need to be reduced. Equally important, returning harvest levels to current rates, or expanding them, depends on a series of "unlikely" events and "remote" possibilities.

Comment 25 - Fish

e. Other Factors

Comment 26 - Fish

Regarding the fifth factor that must be addressed to increase Chinook numbers, the intermixing of natural and hatchery fish, the Expert Panel notes the proposed closure of Iron Gate Hatchery eight years after dam removal "could" increase the survival rate of naturally spawning Chinook by eliminating interbreeding. *Id.* at 17. However, in a related matter, the impact on commercial and recreational harvest levels of eliminating the hatchery is never analyzed in the EIS/EIR.

Comment 27 - Fish

The sixth factor that must be addressed to increase Chinook salmon populations is the negative impact on juvenile Chinook caused by redband trout predation. Recall the statement by the Expert Panel that the Proposed Action is projected to increase redband trout populations and that a larger redband trout population means increased predation on juvenile salmon. This is a critical point not only for Chinook salmon but also for coho salmon. In fact, the Chinook Expert Panel concluded increased redband predation could have the effect of "reducing or cancelling the benefits to Chinook salmon due to expansion of habitat." *Id.* at 17. In other words, the claims in the EIS/EIR about the advantages of new salmonid habitat could be moot because of trout predation on salmon. Conspicuously absent from the EIS/EIR is any analysis of the effects of changes in interspecies interactions that will result from the Proposed Action. Instead, the EIS/EIR inappropriately and incorrectly treats each species as an independent silo – ignoring the issue of redband trout predation.

As to the effects of climate change, the seventh factor, the Expert Panel can only point to unknown impacts. *Id.* at 18-19. However, regarding the next factor, the impact of changed river flows, the Expert Panel saw positive and negative impacts, concluding the "net effect ... is unknown." *Id.* at 20. However, as noted in Part II.C.1.b above, the Proposed Action will likely make the problem of high water temperatures worse.

Comment 28 - Sediment Transport

Finally, as to sediment loading, the ninth factor, and a factor discussed in more detail in the coho salmon section above, the Expert Panel noted dam removal will involve the release of "considerable amounts of sand" which may "reduce the quality of some spawning habitat." Further, "it is likely to take more than a decade" for these effects to be reversed and it is possible the fall Chinook run could be "overwhelmed" for some period. *Id.* at 21. The EIS/EIR fails to account for this possibility. And recall that the Expert Panel's analysis was based on estimates of sediment releases that were abysmally low. In fact, the Expert Panel assumed sediment releases that are only any small fraction of the amount that will be released in the first year along. *See* Part II.C.1.a. If the amount of sediment release on which the Expert Panel based its finding that Chinook salmon could be "overwhelmed" for some period of time is only a fraction, 11.3%, of the actual number, then the inescapable conclusion is Chinook salmon will be overwhelmed – and the EIS/EIR fails to consider, let alone analyze, the true impact of sediment release on these salmon.

f. Conclusion

A careful review of the analysis in the Chinook Salmon Expert Panel Report belies the statements in the EIS/EIR that the Proposed Action will be a "major" improvement causing "substantial" gains in Chinook salmon populations. Not only does the Expert Panel say that by "substantial" it means an increase that is "more than a trivial amount," but the Expert Panel estimates the "possible" Chinook salmon population increase to be on the order of 10%, far less than the 81.4% claimed in the EIS/EIR. Equally important, the Expert Panel states that even this number is uncertain because the "uncertainty about the likely outcomes of the Proposed Action is large...." Chinook Expert Panel Report at 21. The uncertainty is large because the Expert Panel's assessment of the effect of the Proposed Action on the nine elements necessary to improve Chinook salmon numbers revealed that the effect of the Proposed Action on these nine

factors is "unknown," "unlikely," and "remote." Further, in some cases such as water quality the Proposed Action makes the problem worse. Equally important, because of the increased predation of redband trout on salmon, it is possible that the alleged advantages of the Proposed Action for salmon will be moot, or even negative. All of this caused the Expert Panel to call the Proposed Action as to Chinook salmon "an experiment." *Id.* at 22. Recalling that the need for the Proposed Action stated in the EIS/EIR is to restore salmonid populations, the Expert Panel established by DOI clearly rejects the premise that the Proposed Action will achieve that objective.

Finally, as was the case with the coho review panel, the Chinook review panel was asked to evaluate only two alternatives, the status quo and dam removal. *Id.* at 4. The other alternatives were never analyzed, a clear violation of the purpose and intent of NEPA and CEQA.

3. Steelhead Trout

The same panel of experts that examined the effects of the Proposed Action on coho salmon examined its effects on steelhead trout. That analysis is contained in the same report covering coho salmon. The conclusions of the Coho and Steelhead Expert Panel regarding coho salmon discussed above apply with equal force regarding steelhead and need not be repeated here. Therefore, this section will focus only on the unique steelhead findings not common to coho salmon.

Comment 29 - NEPA/CEQA

Recall the Expert Panel concluded that the difference between the Proposed Action and the status quo regarding coho salmon "is expected to be small...." Coho and Steelhead Expert Panel Report at ii. For steelhead, the Expert Panel said it was more optimistic the Proposed Action "could" result in larger numbers. *Id.* However, "could" is far different than "would." The claim in the EIS/EIR that the Expert Panel concluded the Proposed Action "would" result in

Comment 29 cont.

increased steelhead numbers is inconsistent with what the Expert Panel actually said. EIS/EIR at 3.3-112.

Comment 30 - Fish

The EIS/EIR states the steelhead population will increase because "steelhead would be able to access a substantial extent of new habitat...." *Id.* However, the Expert Panel did not characterize any newly available habitat as "substantial." Instead, the experts said dam removal would allow for only "a small extension (likely 10-20 percent) of spawning and rearing" habitat. Coho and Steelhead Expert Panel Report at 18. *See also id.* at 40. As to the actual effect of this new habitat availability on steelhead numbers, the Expert Panel stated the "information is currently insufficient for providing quantitative estimates." *Id.*

Equally important, the Expert Panel said any positive benefits from increased access to habitat depend on whether steelhead "can successfully complete their life cycles." *Id.* at 41. One of the factors inhibiting life cycle completion is predation by other fish. *Id.* at 42. As noted above, predation by an expanding redband trout population is a serious problem ignored in the EIS/EIR. This is a significant failure of analysis in the EIS/EIR because, as the Expert Panels noted, predation arising from interspecies conflicts could cancel the alleged benefits of the Proposed Action. *See* Part II.C.1.d. Further, the Coho and Steelhead Expert Panel found that habitat expansion raises important issues of competition for food and space and these aspects of ecosystem competition "have not been rigorously analyzed to date." Coho and Steelhead Expert Panel Report at 51.

The Expert Panel then found that the short-term effects of sediment release from dam removal would be "especially injurious" to adult steelhead. *Id.* In considering this assessment of the adverse impacts of sediment, recall that this Expert Panel assumed an amount of sediment release that is 30% less than that identified by the Chinook Expert Panel. *Id.* at 18. And recall as

Comment 31 - Fish

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discussed in Part II.C.1.a that both of these estimates of sediment release are off by thousands of percent.

Even with the grossly understated impacts of sediment release on steelhead, the EIS/EIR admits that under the most likely to occur scenario up to 36% mortality is predicted for winter run adult steelhead as a result of dam removal. EIS/EIR at 3.3-113. Moreover, the EIS/EIR predicts that the most likely scenario from dam removal will result in up to 52% mortality for one and two year old juveniles in the mainstem Klamath River. *Id.* Given that the EIS/EIR understates the amount and impact of sediment release, even the worst case scenario where the EIS/EIR predicts 71% mortality for adult steelhead and for one and two year old juveniles, understates the reality. *Id.* at 3.3-118. These numbers do not comport with the alleged beneficial effects of dam removal.

Finally, the Coho and Steelhead Expert Panel confirms that the information relied on in the EIS/EIR is simply too incomplete to be the basis for informed decision making. For example, the Panel concludes that the extent to which thermal refugia will benefit steelhead "is not known." Coho and Steelhead Expert Panel Report at 43. Similarly, improved habitat conditions may occur for steelhead but the "net effects on abundance are unknown." *Id.* at 46.

Once again, the benefits of dam removal claimed to exist in the EIS/EIR are not substantiated by the Expert Panel or even by the EIS/EIR. And once again, the Expert Panel was told to examine the environmental effects of only two of the five alternatives identified in the EIS/EIR.

Comment 32 - Fish

4. Redband Trout

The EIS/EIR states the Proposed Action will expand the total distribution of redband trout. EIS/EIR, Summary of Key Conclusions. For support, the EIS/EIR turns to yet another expert panel report titled Klamath River Expert Panel, Final Report, Scientific Assessment of

Comment 32 cont.

Two Dam Removal Alternatives on Resident Fish, April 10, 2011 ("Resident Fish Expert Panel Report"). The EIS/EIR characterizes this Expert Panel as concluding redband trout abundance "could increase significantly" under the Proposed Action because "the habitat improvements associated with KBRA implementation, including water quality and quantity and riparian corridor improvements and protection, are anticipated to increase trout productivity...." EIS/EIR at 3.3-127.

On this point, recall that the Chinook Expert Panel fully addressed the issues of water quality and riparian corridor improvements. That panel determined the actions proposed in the KBRA to improve water quality are "unlikely to provide substantial improvements in water quality...." Chinook Expert Panel Report at 9. As to riparian corridor improvements, the Chinook Expert Panel found the KBRA plan is not feasible. *Id.* at 11. Also recall, as discussed in Part II.C.1.c of these Comments, the EIS/EIR admits the Proposed Action will make existing water quality problems worse. The bases set forth in the EIS/EIR for concluding the Proposed Action will significantly increase the trout population are without support.

The Resident Fish Expert Panel added its own criticism about assertions of improved habitat for redband trout. This Expert Panel agreed dam removal will increase free-flowing water habitat by 43 miles. Resident Fish Expert Panel Report at 77. However, in considering whether this will make any real difference to redband trout, the Panel found the "quality of this habitat ... has not been carefully evaluated." *Id.* In other words, we simply do not know. Moreover, from what we do know, the quality of these 43 miles is suspect because 22-23 miles are now under reservoirs, four miles have been adversely affected by dewatered flows, and 17 miles have been adversely affected by daily fluctuating flows. *Id.*

Comment 33 - Fish

Comment 33 cont.

In sum, the impact of the Proposed Action on redband trout is not known because the EIS/EIR has not done the required analyses. What we do know says habitat improvements are unlikely and not feasible. The basis upon which the EIS/EIR concludes there will be significant increases in the redband trout population is without foundation. The EIS/EIR provides no reasonable basis to evaluate the effects of the Proposed Action, let alone conclude that the effects will be positive. However, as discussed above, if the EIS/EIR is correct about redband trout population increases, the implications for salmon under the Proposed Action are extraordinarily significant because trout predation of salmon could cancel all of the benefits to salmon alleged to exist because of dam removal.

5. Lost River Sucker and Shortnose Sucker

The Lost River sucker and the shortnose sucker are listed as endangered under the ESA. 53 Fed. Reg. 27,130 (July 18, 1988). They are also listed as endangered under the California Endangered Species Act. These two sucker species are found primarily in lakes upstream of the dam removal sites and the majority of spawning occurs in tributaries above those lakes. Resident Fish Expert Panel Report at 9. Therefore, the EIS/EIR concludes that the difference in habitat value between the status quo and the Proposed Action "would not be substantive." EIS/EIR at 3.3-126. The Resident Species Expert Panel confirms this assessment stating "[d]am removal is not likely to change this species' range and abundance...." Resident Species Expert Panel Report at 66.

6. Green Sturgeon

The southern green sturgeon is classified as threatened under the ESA. 71 Fed. Reg. 52,300 (Oct. 9, 2009). The EIS/EIR concludes southern green sturgeon "are not expected to be affected by the Proposed Action." EIS/EIR at 3.3-123. The northern green sturgeon also "would not be affected by the Proposed Action...." *Id.*

Comment 34 - Other Aquatic Life

7. Bull Trout

Bull trout are listed as threatened under the ESA. 64 Fed. Reg. 58,910 (April 8, 1999). The best the EIS/EIR can say is that the Proposed Action offers some "promise" for increasing bull trout abundance. EIS/EIR 3.3-129. However, recall that the EIS/EIR claims the Chinook salmon population will experience an 81.4% increase. EIS/EIR, Summary of Key Conclusions. Recall also the EIS/EIR states dam removal will increase steelhead numbers. EIS/EIR at 3.3-112. These are significant statements because the EIS/EIR admits that Chinook salmon and steelhead prey on bull trout fry and juveniles. *Id.* at 4-70. There is no analysis in the EIS/EIR of the effects of this increased predation. If the EIS/EIR is correct as to the population growth of Chinook salmon and steelhead, then the conclusion in the EIS/EIR that dam removal offers some "promise" for the bull trout is not supportable without explanatory analysis – of which there is none.

Comment 35 - Fish

8. Lamprey

The EIS/EIR states "the Proposed Action could increase Pacific lamprey production by up to 14 percent." *Id.* at 3.3-120, citing the Lamprey Expert Panel Report. What the Expert Panel actually said as to the Upper Klamath was: "Since very little is known about the biology or habitat requirements for the freshwater-resident species in the upper Klamath River Basin, it is difficult to predict whether there would be a significant change in the habitat capacity for these species with dam removal." Lamprey Expert Panel Report at 31.

As to the overall Klamath River system, the Expert Panel states the habitat capacity for Pacific lamprey is predicted to increase 14%. *Id.* at 32. The EIS/EIR then assumes a 14% increase in habitat capacity automatically translates to a 14% increase in numbers, an assumption that is suspect because, as noted above, the quality of that habitat has not been evaluated. Indeed, the Expert Panel found that the extent to which lamprey can use any increased habitat

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depends on whether lamprey can actually colonize new habitat areas. *Id.* In yet another conspicuous failure of NEPA and CEQA compliance, the EIS/EIR contains no analysis of whether this will, in fact, happen. The EIS/EIR just assumes it will happen.

In that regard, it is interesting to note that the habitat condition that could make the Proposed Action favorable to lamprey is an increase in fine silt/sand in the river bottom. *Id.* at 15, EIS/EIR at 3.3-120. However, those things that may help lamprey, *i.e.*, increased sedimentation, are not so helpful to salmonids and trout. While the EIS/EIR seeks to downplay the size and duration of the adverse effects of sedimentation on coho salmon, Chinook salmon, and various species of trout, the Lamprey Expert Panel notes it is "reasonable to expect that this fine-grained sediment will be remobilized over a period ranging from years to decades." Lamprey Expert Panel Report at 33. The long-term prospect is for "an increase of approximately 127,000 tons per year of fine sediment" as a result of dam removal. *Id.* This may be helpful to lamprey but it is not helpful to salmon and trout species for which siltation has a detrimental impact on spawning grounds. And this number significantly understates the amount of sediment that will actually be released into the river.

Comment 36 - Fish

9. Fish Interactions in the River

Comment 37 - Fish

The EIS/EIR treats each species discussed above as if it is the only occupant of the ecosystem. The EIS/EIR chooses to ignore the fact that these various species share the same habitat, compete for the same space and food, and prey on each other. As a result, the EIS/EIR fails to examine the extent to which these ecosystem interrelationships change its already questionable assertions regarding the alleged benefits stemming from the Proposed Action.

For example, the EIS/EIR is devoid of any analysis regarding the effect of the Proposed Action on resident native fish. The Resident Fish Expert Panel noted there are 16 such species that may benefit from the Proposed Action. Resident Species Expert Panel Report at 64. The

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impacts of increasing the numbers of 16 different species and of the resulting predator prey relationships are totally ignored in the EIS/EIR. As the Chinook Expert Panel noted, predation by an increased redband trout population could cancel the benefits to Chinook salmon claimed for the Proposed Action. Chinook Expert Panel Report at 17. Although redband trout is not one of the 16 resident species referenced in this section, the same predation issues exist as to resident species. Not only has the EIS/EIR failed to examine the ecosystem impacts of a possibly increased population of 16 resident species, but, as discussed above, it has also ignored the ecosystem impacts of an enlarged redband trout population.

The absence of any analysis of these interspecies interactions is a conspicuous failure in the EIS/EIR. The Chinook Expert Panel clearly identified this failure stating that the overarching and controlling assumption in the EIS/EIR is that interspecies "interactions are less important" than the single species direct effects of dam removal. Chinook Expert Panel Report at 27. In a telling comment, the Expert Panel states it "does not know if this is true." *Id.* Nevertheless, the EIS/EIR persists with its single species, silo, analytical approach even though "[u]nder the Proposed Action all of the fish species would overlap with all others at some part of their life cycles, and some of them use similar habitat." *Id.* The Panel recommended that "a specific analysis be conducted ... to investigate whether trade-offs or synergies may exist among the various species likely to be affected by the Proposed Action." *Id.* In a total failure of common sense and analysis, the EIS/EIR ignores the fact that species share, and interact in, the same ecosystem. By itself, the failure to consider this environmental effect renders the EIS/EIR inadequate.

A related issue, also not addressed in the EIS/EIR, is the management requirements for ESA protected species and how those requirements affect the claimed benefits of the Proposed

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Action. For example, the Chinook Expert Panel noted that a petition has been filed to list the Klamath Spring Chinook salmon under the ESA. The Panel asserted such a listing would be "particularly problematic in the case of Lost River and shortnose suckers ... versus Chinook salmon ... the former would benefit from higher [Upper Klamath Lake] water levels and the latter would benefit from increased flows." Chinook Expert Panel Report at 26. Regardless of whether there is an ESA listing for spring Chinook, the issue of the competing needs of different species continues to exist. Further illustrating this problem, the Chinook Expert Panel found that the "current Biological Opinion [for protected suckers] may reserve more water for suckers than that offered under KBRA." *Id.* The EIS/EIR cannot ignore such issues, particularly when they involve ESA protected species.

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Similarly, the EIS/EIR states that implementing the Proposed Action will allow Chinook salmon and steelhead to have access to areas designated as critical habitat for the threatened bull trout. These are areas that Chinook and steelhead have not been able to access since the completion of the Copco 1 Dam in 1981. EIS/EIR at 4-70. The EIS/EIR then admits Chinook salmon and steelhead are likely to prey upon bull trout fry and juveniles in new habitat areas after the dams are removed, and vice versa. *Id.* There is no analysis in the EIS/EIR of the effects of this predation on the threatened bull trout, a significant omission given the EIS/EIR claims an 81.4% increase in the adult Chinook salmon population and an increase in steelhead numbers. EIS/EIR, Summary of Key Conclusions and at 3.3-112. If the EIS/EIR is correct, then the impacts on the threatened bull trout of this interspecies interaction cannot be dismissed with the statement "these species co-evolved in the watershed together and it is anticipated that they would be able to co-exist in the future." EIS/EIR at 4-70. While these species may have evolved together in a different era and in a different ecosystem, the EIS/EIR ignores the fact that the

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ecosystem has changed since that era – and the Proposed Action will change it again. The EIS/EIR incorrectly assumes the evolutionary past will somehow once again come into existence. That conclusion has no support in reality. The EIS/EIR inappropriately ignores this interspecies interaction – an interaction of particular note since bull trout is a threatened species.

Another key ecosystem conflict ignored in the EIS/EIR is the relationship between worms that carry fish killing parasites and the claimed increases in fish populations. As discussed above, increases in salmon populations hinge "to a large degree" on the ability to control fish disease. Chinook Expert Panel Report at 13. Yet, the EIS/EIR admits the Proposed Action will increase nutrient loads, which increases river algae populations, which increases the habitat and numbers of worms that host fish killing parasites and disease. EIS/EIR at 3.4-17, 3.2-101, 3.2-102, 3.4-5, 3.4-8. The effects of this ecosystem impact are ignored in the EIS/EIR.

Commenting on all such interspecies conflicts, the Chinook Expert Panel noted that "[r]esolving such potential conflicts may trump or substantially alter agreements developed under the Proposed Action...." Chinook Expert Panel Report at 26. Despite the possibility that these interspecies conflicts may trump the benefits claimed for the Proposed Action, the EIS/EIR is devoid of any analysis of interspecies interactions.

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10. Other River Species

The analysis of the impact of dam removal on other river species is equally deficient. For example, as to freshwater mussels the EIS/EIR states high sediment concentrations "for more than 4- to 5- day periods within the mainstem Klamath River ... might result in substantial mortality." EIS/EIR at 3.3-131. The EIS/EIR goes on to admit it "seems reasonable to presume that some percentage of Klamath River freshwater mussels buried under 0.5 to 3.0 feet of new sediment could not survive." *Id.* at 3.3-131. In another section of the EIS/EIR one finds the admission that the sediment deposition is not expected to exceed two feet. *Id.* at 3.11-22.

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Nowhere does the EIS/EIR discuss the immediate impact of burying freshwater mussels under two feet of sediment. Nowhere does the EIS/EIR discuss the long-term effects of this burial given that the EIS/EIR admits 4-5 days is the critical period before "substantial" mortality sets in and given that the EIS/EIR admits that the period of high sedimentation "would be 3 to 4 months." *Id.* at 4-54. Instead, the EIS/EIR simply concludes the impacts of burying freshwater mussels are "expected to be short-term." *Id.* How the EIS/EIR can make such a claim in light of the evidence is unclear. The reality is that freshwater mussels will be buried for an extended time and mortality will be "substantial." Yet, the EIS/EIR fails to discuss the extent, and the ecosystem implications, of this mortality.

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For other filter feeders, the EIS/EIR admits the sediment deposits from dam removal would "be expected to affect filter-feeding [benthic macroinvertebrates] in much the same fashion as described for freshwater mussels." *Id.* at 3.3-133. Based on that, one would expect "substantial" mortality for these macroinvertebrates. Yet, the EIS/EIR is once again devoid of any analysis of the extent, and the ecosystem impact, of this mortality.

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11. Estuarine and Ocean Impacts

Repeatedly the EIS/EIR states sediment release from dam removal will not have any real impact on the Klamath River estuary and the aquatic species found there. EIS/EIR at 3.3-110 ("The Proposed Action is not expected to … affect coho salmon estuarine habitat. Sediment … would likely not extend downstream to the estuary."); at 3.3-99 ("The Proposed Action would not …. affect estuarine habitat used by fall-run Chinook."); at 3.3-118 ("The Proposed Action is not expected to … affect steelhead estuarine habitat.... Sediment … would likely not extend downstream to the estuary."); at 3.3-130 ("The Proposed Action is not likely to … affect estuarine habitat …. [S]ediment … resulting from the Proposed Action would likely not extend downstream to the estuary.")

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There are two problems with this no impact conclusion. First, if the EIS/EIR is correct, then virtually all of the 3,540,000 tons of sediment released in the first year after dam removal, plus all the remaining sediment that will be released, will stay in the river. *See* Part II.C.1.a. The EIS/EIR fails to explain how leaving millions of tons of sediment in the river, coupled with the statement in the EIS/EIR that salmon need spawning areas that are "relatively free" of sediment, is consistent with the conclusions in the EIS/EIR that dam removal will help salmon or other fish that need sediment free spawning areas. Equally important for NEPA and CEQA compliance, the EIS/EIR fails to examine the overall ecosystem impacts of leaving 3,540,000 tons of sediment in the river.

This leads to the second problem with the many statements in the EIS/EIR that no sediment will reach the estuary and, therefore, the EIS/EIR need not examine estuarine impacts – which it did not. The problem is that these statements are contradicted by other statements in the EIS/EIR. The EIS/EIR states "the released sediment would likely exceed the carrying capacity of the river during some water year types, and it would result in sedimentation … [in] the Klamath River estuary." EIS/EIR at 3.11-20. At another point, the EIS/EIR states that "[essential fish habitat] in the estuary could be affected by elevated turbidity from sediment releases...." *Id.* at 4-72. The EIS/EIR also states there will be suspended sediment in the estuary for up to two years. EIS/EIR at ES28. Thus, the EIS/EIR contradicts its many earlier statements quoted above that sediment from dam release will not reach the estuary with almost as many statements that sediments will reach the estuary. But the contradictions continue.

The EIS/EIR also asserts that any sediment deposition in the river "would be flushed downstream during high-flow events. Any settling or sedimentation … is expected to be minimal and short-lived. Further … there is no sandbar within the mouth of the Klamath River

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itself; rather the sandbar is located offshore. As a result, the majority of the suspended sediment load from the river is carried out to sea and does not remain in the estuary itself." *Id.* at 3.11-21. The principal problem with the preceding quote is that it is factually incorrect. There is a rather large sandbar at the mouth of the Klamath River. Figure 1 attached to these Comments shows that several large sandbars exist within the river near its mouth. Moreover, a large spit of sediment is located directly along the coast, substantially blocking the majority of the Klamath River estuary.

Thus, we have multiple statements that "sediment … would likely not extend downstream to the estuary," meaning it stays in the river, followed by statements that there will be sediment deposits in the estuary, followed by statements that because of the absence of a sandbar at the mouth of the Klamath River the "majority" of the sediment will wash into the ocean and not stay in the estuary. So, which is it? The answer is we do not know. No decision maker can make an informed decision based on such inconsistent and poor analysis. There can be no "hard look" because the EIS/EIR cannot tell us what we are looking at.

If there is sediment deposition in the estuary, the inadequacy of the EIS/EIR becomes even more pronounced. The EIS/EIR has not one shred of analysis regarding the impacts of sediment deposit on species that spend all or some of their life cycle in estuarine habitat. For example, the federally listed eulachon (threatened) and the state listed longfin smelt (threatened) generally occur within 8 miles of the coast in the estuary. *Id.* at 3.3-129 and 3.3-130. Anadromous species such as salmon also move through the estuary. Further, the estuary has been designated as essential fish habitat for both pelagic fish and groundfish. *Id.* at 3.3-93 and 94.

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If the sediment is going to pass through the estuary to the ocean, then we have a new analytical problem. The EIS/EIR contains absolutely no analysis of the effects on the ocean and its resources of either the volume of the sediment that will be deposited into the ocean or of the contaminants in the sediment. Not only is there no analysis that meets NEPA and CEQA standards, but the EIS/EIR fails to discuss how the Proposed Action complies with Executive Order 13547. That Order directs federal agencies to consider the effects of their actions on the ocean and to ensure no adverse effects consistent with their existing statutory authorities. The EIS/EIR is devoid of the required analysis.

Comment 46 - NEPA/CEQA

12. The Significance Criteria

The EIS/EIR has categorized the adverse impacts of the Proposed Action as either significant or less than significant. Effects the EIS/EIR deems beneficial are so labeled. EIS/EIR at 3.3-52. However, as used in the EIS/EIR, this system of classification is meaningless for NEPA analysis and for the decision maker.

The EIS/EIR states a "significant" impact is one that has a "substantial" effect. *Id.* at 3.3-52, 53. But what constitutes a "substantial" effect? What level of effect comprises a "substantial" one? Without knowing the metric used in the EIS/EIR, there is no basis to evaluate the significance conclusions in the EIS/EIR. The Chinook Expert Panel, for example, addressed this core definitional issue by defining the term substantial to mean an effect that is more than trivial. Chinook Expert Panel Report at 7, n.3. Since the EIS/EIR cites with approval the Chinook Expert Panel Report, perhaps the EIS/EIR has adopted that Panel's definition of substantial. If so, then the EIS/EIR has misapplied its own significance standard and categorized as less than significant many effects which are significant. The reader and the decision maker are left with no standards by which to evaluate the "significance" conclusions in the EIS/EIR.

13. Conclusion

The EIS/EIR states the need for the Proposed Action is to advance the restoration of salmonid fisheries. DOI created four expert panels to assess the merits of the Proposed Action in achieving that goal, as well as in assisting other fish.

The EIS/EIR mischaracterizes and misstates the findings and conclusions of the Expert Panels. While the EIS/EIR claims the Expert Panels validated the EIS/EIR's assertion of "substantial" and "major" improvements, the Expert Panels called the results of the Proposed Action "small," "remotely possible," "unlikely," "uncertain," and "not feasible." Even these words seem inadequate when one considers the fact that the conclusions of the EIS/EIR regarding sediment impacts are based on estimates of sediment release that are off by orders of magnitude and when the Expert Panels and the EIS/EIR admit the Proposed Action will make existing problems of water quality worse.

A recurring theme in the Expert Panel Reports is that the data and analyses necessary to support the conclusions in the EIS/EIR have not been done. Therefore, the actual effects of the Proposed Action are simply not known despite claims to the contrary in the EIS/EIR. One Expert Panel, after considering this lack of data and analysis, termed the Proposed Action an "experiment."

The Expert Panels also pointed to significant flaws in what analysis has been undertaken. The Panels noted DOI elected to confine its analysis to the impacts of the Proposed Action on individual species, as if each such species exists in the ecosystem all by itself. But these species compete for food and space and often prey on each other. Changing the relative numbers and composition of these species changes the ecosystem. The EIS/EIR does not analyze the effects of interspecies interactions even though one Expert Panel found these interspecies interactions could "cancel" the benefits claimed for salmon under the Proposed Action. The EIS/EIR has not

taken the hard look required by NEPA nor does it meet CEQA's information disclosure provisions. In fact, the EIS/EIR has not taken any look. Moreover, in considering the needs of ESA-protected species, one Expert Panel questioned whether the KBRA projects aimed at benefitting salmon and other species could even be undertaken given the priority needs of ESA-listed species.

Furthermore, the EIS/EIR fails to examine the environmental effects of releasing millions of tons of sediment into the river, its estuary, and the ocean. Not only is the EIS/EIR internally inconsistent but is often factually wrong. These inconsistencies and factual errors make reliance on the analysis in the EIS/EIR arbitrary and capricious. Because of these errors, the analysis in the EIS/EIR fails to meet even the minimum standards of adequacy under NEPA and CEQA.

Finally, in a singular failure of NEPA and CEQA analysis, the Expert Panels were instructed to examine the fishery impacts of only two of the five alternatives identified in the EIS/EIR. Despite the resulting failure to examine all the alternatives, the EIS/EIR relies on the Expert Panel Reports as the basis on which the EIS/EIR can propose its preferred alternative and reject the other four alternatives.

The proper NEPA and CEQA analyses have not been undertaken. The necessary data to reach the conclusions made in the EIS/EIR do not exist. What data exist do not support the claim in the EIS/EIR that the Proposed Action will achieve its objective of restoring salmonid fisheries.

Comment 47 - Algae

D. Algae

Two algal communities predominate in the Klamath River Basin phytoplankton which is present in lakes and reservoirs and periphyton which is present in the river system. EIS/EIR at 3.4-2. The EIS/EIR admits that if the Proposed Action is implemented, there would be "no change from existing conditions from nuisance" phytoplankton and periphyton in the upper

Comment 47 cont.

Klamath Basin upstream of the J.C. Boyle Reservoir. *Id.* at 3.4-13. The result is different within the Hydroelectric Reach, defined in this section of the EIS/EIR as the area from the upstream end of J.C. Boyle Reservoir to Iron Gate Dam, including all sections categorized as mainstem, bypassed, and peaking reaches and including tributaries to the Klamath River such as Jenny, Spencer, Slate, Shovel, and Fall Creeks. *Id.* at 3.4-1.

In the Hydroelectric Reach, the EIS/EIR concludes dam removal will eliminate the reservoirs that are home to phytoplankton and, therefore, these algae blooms would be very limited or cease to exist. *Id.* at 3.4-13. However, for periphyton, the EIS/EIR concludes the Proposed Action will cause "long-term increases in nuisance periphyton growth due to increases in available habitat" and there will "be a significant impact" from dam removal. *Id.* at 3.4-15.

Below the Hydroelectric Reach, the EIS/EIR concludes "[p]eriphyton growth could continue to be relatively high ... following dam removal because of continuing nutrient inputs from the Upper Klamath Basin...." *Id.* at 3.4-17. In that regard, the EIS/EIR admits there are "overall increases in absolute nutrient concentrations anticipated under the Proposed Action...." *Id. See also id.* at 5-100 (the Proposed Action "would result in increases in nutrient inputs ... that could increase periphyton biomass; ... this impact would be significant and unavoidable."). In fact, the EIS/EIR states all of the various models "recognize ... that under the Proposed Action total nutrient concentrations in the Klamath River downstream of Iron Gate Dam would increase." *Id.* at 3.2-101. One model cited in the EIS/EIR concludes that total phosphorous concentrations would increase 2%-12% for the June-October period. However, total nitrogen concentrations would jump 37-42% June-October and 48%-55% for the middle months of July-September. *Id.* at 3.2-102. It is these high nutrient concentrations that feed the growth of harmful algae, making the existing problem worse. As the Chinook Expert Panel noted: "There

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is a clear conceptual relationship between nutrient loading to a water body and algal biomass...." Chinook Expert Panel Report at 10.

The increase in nutrients and the corresponding increase in algae is particularly significant given that the stated need for dam removal is to increase salmon populations. One of the key obstacles to achieving that objective is the incidence of fish disease. Indeed, the Chinook salmon Expert Panel found the overall success of any program to increase salmon populations hinges "to a large degree" on disease reduction. *Id.* at 13. However, the EIS/EIR admits that a significant component of periphyton is the species *Cladophora* which provides important habitat for the worms that are host to fish killing parasites. EIS/EIR at 3.4-5 and 3.4-8. In short, the Proposed Action increases the habitat favorable for fish disease, thereby making that problem worse.

In an attempt to rescue the case for the Proposed Action, the EIS/EIR falls back on the alleged benefits of KBRA implementation. A closer look at the EIS/EIR documents the weakness of this reliance. The EIS/EIR states: "If projects were well designed and implemented on a large enough scale ... KBRA projects ... proposed to reduce nutrient loading ... could fully mitigate for" increases in periphyton biomass associated with higher nutrient concentrations resulting from the Proposed Action. *Id.* at 3.4-15. This statement has four significant admissions. First, it is contradicted by the EIS/EIR which admits that the Proposed Action, which includes the KBRA, will increase algae concentrations. Second, the EIS/EIR admits there is not enough information in the KBRA to know if the projects are well designed, let alone if they will work. Third, the EIS/EIR admits the benefits from the KBRA might occur only if the KBRA is fully and completely funded and implemented, an unlikely event in today's budget

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climate. Fourth, even if the KBRA projects are well designed and fully implemented, the most that can be said is they "could" mitigate for the adverse effects of dam removal.

In other words, the most likely net result of the Proposed Action is to make the problem of harmful algae blooms a worse problem and to impede the benefits anticipated to result from already adopted Foreseeable Restoration Measures.

Comment 48 - Terrestrial/Wildlife

E. Terrestrial Resources

In this section, the EIS/EIR pretends to analyze the effects of the Proposed Action on terrestrial species of plants and animals, including birds. The most glaring example of the inadequacy of the EIS/EIR is that the "analysis" of the effects of the Proposed Action on terrestrial invertebrates is confined to just five lines. EIS/EIR at 3.5-40. Nevertheless, those five lines contain three damning statements. First, the EIS/EIR admits several "special-status" invertebrate species may occur in the project area. *Id.* Second, one of those species is of such concern that a petition has been filed to list it under the Endangered Species Act. *Id.* Third, the EIS/EIR excuses its failure to conduct any analysis of the effects of dam removal on invertebrate species by stating that the majority of its information comes from the PacifiCorp Final Technical Report and PacifiCorp simply "did not conduct surveys for terrestrial invertebrates." *Id.* at 3.5-3 and 3.5-40. The legal position appears to be that PacifiCorp's failure to examine the impact of the Proposed Action on terrestrial invertebrates excuses DOI from NEPA and CEQA compliance. The EIS/EIR fails to even come close to the required legal standard of taking a "hard look" at environmental issues.

Comment 49 - Terrestrial/Wildlife

As to birds, the EIS/EIR states 174 bird species are found in the project area, of which 46 are special-status species. *Id.* at 3.5-18 and 3.5-39. Among those species are bald and golden eagles protected under the Bald and Golden Eagle Protection Act ("BGEPA"), 16 U.S.C. §703. Numerous other birds are protected by the Migratory Bird Treaty Act ("MBTA"), 16 U.S.C.

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§668, including the osprey, willow flycatcher, peregrine falcon, and greater sandhill crane. EIS/EIR at 3.5-51-52. Also present is the northern spotted owl, listed as a threatened species under the ESA. *Id.* at 3.5-39. After a simple listing of the species in the project area, all analysis ends.

Instead of examining the impacts of the Proposed Action on these birds, the EIS/EIR simply states that buffer zones will be established around known nests, implicitly acknowledging the existence of adverse impacts that require buffer zones. *Id.* at 3.5-48-52. But there is no discussion of whether the size of these buffer zones is adequate and why. There is no discussion of whether the Proposed Action will affect the availability of new nesting sites that may be needed. There is no discussion about the impact of dam removal on other habitat needs such as feeding sites. Without these analyses, the EIS/EIR provides no basis for DOI to make any informed determination regarding the impact of the Proposed Action on birds. NEPA's and CEQA's standards for analysis and informed decision making are not met.

Also conspicuously absent from the "analysis" in the EIS/EIR is how the Proposed Action complies with existing law and agency policy. In its recently issued draft guidance on how wind power projects are to comply with the BGEPA and MBTA, DOI is suggesting multiple years of surveys on bird use patterns. Land Based Wind Energy Guidelines, U.S. Fish and Wildlife Service, September 13, 2011. The EIS/EIR states that the Proposed Action will only require two years of such studies. EIS/EIR at 3.5-50. The EIS/EIR applies a different and lesser standard to the Proposed Action than DOI is applying to wind power projects. The EIS/EIR fails to explain this inconsistency.

Comment 50 - Terrestrial/Wildlife

F. Floods and Fire

The EIS/EIR uses incomplete and inadequate criteria to determine if the flood related effects of the Proposed Action are significant. The EIS/EIR states the impact of the Proposed

Comment 51 - Hydrology

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Action is significant only if it will "substantially increase" the risk that a flood may occur. EIS/EIR at 3.6-20. The criteria are incomplete. Any change in the time available to respond to flood conditions is also a critical element of significance – an element completely ignored in the EIS/EIR.

This failure has particular consequences under CEQA. CEQA Guidelines Appendix G, state that the decision maker should consider whether the project would "Expose people or structures to a significant risk of loss, injury or death involving flooding" and also whether the project would "substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site[.]"

Furthermore, the data used to assess the likelihood of increase flooding understates the potential harm from dam removal. The EIS/EIR states the Lead Agencies "modeled flood events that meet criteria for a 100-year flood using daily average flows...." *Id.* at 3.6-21. The EIS/EIR then incorrectly concludes the Proposed Action will not increase flood risks because the EIS/EIR modeling results are very similar to the current flood risk determined to exist by the Federal Emergency Management Agency ("FEMA"). *Id.*

There are two problems with this statement. First, FEMA flood risk analysis is based on peak river flows. The EIS/EIR uses average daily flow. Peak flows are higher, and very often significantly higher, than average daily flows. It is incorrect to say that the effect of an average flow is comparable to the effect of a peak flow. To a flooded community, peak flows are the critical issue. It is the peak flow that sends the most water cascading into the community. Yet, the EIS/EIR bases its modeling of effects on average flows. The result is an incorrect and

Comment 52 - Hydrology

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understated flood risk from dam removal. To the people whose lives and property may be swept away in a flood, the callous disregard of the true risks of flooding is nothing short of shocking.

The second problem with the claim in the EIS/EIR that the Proposed Action will not change flood risks is that the EIS/EIR admits the geographic reach of an average daily flow in a post-dam removal flood event is "fairly close" to the geographic reach of a worst-case peak flow without dam removal because the average flow is less than the peak flow. The EIS/EIR is admitting that peak flood events will be worse after dam removal than before dam removal. Indeed, in an understatement noteworthy for its willingness to ignore the problem, the EIS/EIR states "[u]nder the Proposed Action, the 100-year flood plain inundation area downstream from Iron Gate Dam could change...." *Id.* at 3.6-27. Here, the EIS/EIR finally admits that dam removal will increase flooding and the effect will be "significant." *Id.* at 3.6-22.

In a vain attempt to rescue its case for dam removal, the EIS/EIR states these "significant" flooding effects will be rendered less significant because of the implementation of KBRA proposed mitigation measures. In other words, we need not worry because the KBRA is here. A closer analysis of the KBRA mitigation measures shows this is a false promise.

The principal KBRA mitigation measure is that prior to dam removal, the National Weather Service ("NWS") will be informed of the planned dam removal so that NWS can update its river forecast models to better advise people that a flood is coming. In other words, the mitigation proposed is not to reduce the flood risk but to tell people the flood is coming. The net effect of the Proposed Action is that flooding will be worse but people will be told the flood is coming.

However, the EIS/EIR incorrectly assumes that simply telling NWS the dams are being removed changes the ability of NWS to notify people of a coming flood. The EIS/EIR does not

Comment 53 - Hydrology

Comment 53 cont

consider how long it will take NWS to develop new flood forecast procedures based on new hydraulic conditions. Nor does the EIS/EIR consider how much data are required to properly calibrate the updated models to achieve an adequate level of flood forecast accuracy. It may take a decade or more of monitoring post-dam removal river flows to acquire sufficient information for accurate calibration. Furthermore, the EIS/EIR does not consider whether NWS has the funding or the infrastructure to undertake the data monitoring necessary to support adequate river forecasting post dam removal. Finally, simply telling people about a flood risk does nothing to improve the emergency response ability of the community. The EIS/EIR is devoid of any discussion of this important aspect of mitigating the increased risk of flooding caused by the Proposed Action.

Emergency response capability is critical because the timing of the flood peak will be significantly affected by the Proposed Action. Flood peaks under the Proposed Action will occur about 10 hours sooner than under the status quo. Bureau of Reclamation, Hydrology, Hydraulics and Sediment Transport Studies for the Secretary's Determination on Klamath River Dam Removal and Basin Restoration, Technical Report No. SRH-2011-02, 2011, at 6.3-6.7. This cuts the time available for floodplain occupants to escape rising waters by about 20% based on the more rapidly occurring peak, a significant fact ignored in the EIS/EIR.

Ignoring the fact that flooding will increase under the Proposed Action, the EIS/EIR closes with the statement that we can mitigate for increased flooding because, after the dams are removed, we will learn how to notify people of flood risks. EIS/EIR at 3.6-39. The EIS/EIR is telling us that mitigation measures "will be effective" because flood risks will be identified after the fact. In other words, remove the dams then assess the risks. This is backwards and violates the applicable legal standards by avoiding the required "hard look." The EIS/EIR impermissibly

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defers the analytical work to the post-action future. *National Audubon Society v. Department of the Navy*, 422 F. 3d 174 (4th Cir. 2005).

Turning from floods to fires, all of the towns in the County of Siskiyou are listed as "at risk" communities for wildfire by the federal government. 63 Fed. Reg. 751 (Jan. 4, 2001); California Fire Alliance, http://www.cafirealliance.org/communities_at_risk/. Fire history maps show that fires in this area are becoming geographically larger as well as greater in intensity.

Siskiyou County has 22 community Fire Safe Councils, a Siskiyou County Fire Safe Council, a Siskiyou County Fire Safe Panel that advises the Board of Supervisors, and a Community Wildlife Protection Plan. Fire is a very significant issue in the County of Siskiyou. With virtually no analysis, other than a significant admission that the loss of the reservoirs behind the dams will increase turnaround time for fire-fighting helicopters, the EIS/EIR concludes the impact of the Proposed Action on government's ability to fight fires will be "less than significant." EIS/EIR at 3.18-18 and 19. Reducing the ability to fight an increasing fire problem does not sound insignificant. The EIS/EIR offers no analysis of the likely effects of this reduced ability to fight wildfires other than the conclusory statement that it will not be a significant problem. Such conclusory statements offer little comfort to the citizens of the County of Siskiyou. Such conclusory statements violate NEPA's and CEQA's standards for adequate analysis.

Comment 54 - Other/General

G. Water Quality

The EIS/EIR identifies seven water quality issues associated with the Proposed Action: (1) sedimentation; (2) nutrient concentrations; (3) algae growth; (4) dissolved oxygen levels; (5) water temperature; (6) pH levels; and (7) the presence of organic and inorganic compounds. EIS/EIR at 3.2-1. Each of these water quality problems has led to determinations that surface waters and designated beneficial uses, including fish and wildlife related uses, of the Klamath

River Basin, including those of the Hydroelectric Reach and the lower Klamath River, are impaired with respect to these constituents of concern. Accordingly, as discussed above, numerous TMDLs have been adopted and will be implemented to address the existing conditions of pollution with respect to each constituent of concern. This section will discuss the inadequacy of the EIS/EIR impacts analysis for each constituent of concern.

1. Sedimentation Comment 55 - Sediment Transport

As discussed in Parts II.C.1.a, II.C.2.e, and II.C.11 of these Comments, the EIS/EIR proceeds from a series of incorrect and inconsistent assumptions regarding the quantity of sediment that will be released because of dam removal, the time it will take for the effect of the sediment release to dissipate, and whether the released sediment will remain entirely within the river or be deposited in the estuary or the ocean. Until these inconsistencies are resolved, and the baseline data corrected, the EIS/EIR provides no basis on which a decision maker can make an informed decision about the effects of dam removal consistent with the requirements of NEPA and CEQA.

Compounding these problems is the absence of analysis regarding the pollutant content of the sediment and the effects of those pollutant loads on aquatic life and human health. The EIS/EIR concludes, without explanation or supporting data, that there is "little positive indication that substantial aquatic toxicity, or ecological or human health risk, would likely result from exposure to the sediments." EIS/EIR at 3.21-4.

The fact that there are no data to support this conclusion is amply demonstrated by the very next sentence in the EIS/EIR that "further evaluations must be conducted before conclusions about the potential for contaminant-related impacts and risks can be reached. This includes direct laboratory testing of the sediments to assess their toxicity ... and [their] bioavailability ... *i.e.* whether contaminants [can bioaccumulate]...." *Id.* In other words, we do

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not know the effects of sediment release, notwithstanding the statement in the EIS/EIR that there is no problem. In fact, the EIS/EIR goes on to say that "some," but not all, of the toxicity and bioaccumulation tests have been done but "[t]he results of this biological testing are pending." *Id.* With only "some" testing done, and the results still "pending," the EIS/EIR somehow concludes there is "little" indication of a problem. Such specious analysis does not, and never can, meet the evidentiary standards of NEPA and CEQA for a hard look at the environmental consequences of the Proposed Action.

Comment 56 - Sediment Toxicity

Adding insult to analytical injury, the EIS/EIR acknowledges there have been significant nutrient inputs into the Klamath River Basin and, therefore, into the reservoirs behind the dams. *Id.* at 3.2-20, 3.2-101. Thus, mixed with the sediments are likely to be large amounts of nitrogen and phosphorous that will be released when the associated sediment is released. But the EIS/EIR never discusses, let alone analyzes, the environmental impacts of the release of these accumulated nutrients, impacts that could be severe given that up to 3.5 million tons of nutrient enriched/contaminated sediment will be released as a result of the Proposed Action.

2. Nutrient Concentrations

The EIS/EIR admits all of the models "recognize ... that under the Proposed Action total nutrient concentrations in the Klamath River downstream of Iron Gate Dam would increase." *Id.* at 3.3-101. One model concludes phosphorous concentrations would increase 2%-12% in the June-October period. Nitrogen concentrations would rocket up 37%-42% in the same period and 48%-55% July-September. *Id.* at 3.2-102. Thus, the EIS/EIR concludes the Proposed Action "would result in increases in nutrient inputs...." *Id.* at 5-100. *See also id.* at 3.4-17 and 3.2-103 (there are "overall increases in absolute nutrient concentrations anticipated under the Proposed Action...."). In other words, the Proposed Action makes the problem of nutrient concentrations worse. Yet, contrary to CEQA requirements, the water quality section of the EIS/EIR

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determines that all impacts from nutrient increases are not likely to be significant. Further, no mitigation measures or measures to try to preserve the efficacy of the Foreseeable Restoration Measures are proposed or analyzed.

3. Algae Growth

Comment 58 - Algae

The Proposed Action also makes the problem of river algae worse. There is a clear relationship between increased nutrient levels and the growth of harmful algae. Chinook Expert Panel Report at 10. Thus, the EIS/EIR is forced to admit that higher nutrient concentrations are likely to "increase [river algae] biomass; ... this impact would be significant and unavoidable." EIS/EIR at 5-100. *See also id.* at 3.4-15 (the Proposed Action will cause "long term increases in nuisance" algae growth that will have "a significant impact"). Despite these increases, no feasible alternatives or mitigation measures to reduce algae impacts and/or preserve the efficacy of the Foreseeable Restoration Measures are proposed or analyzed, contrary to CEQA.

4. Dissolved Oxygen

Comment 59 - Water Quality

The increased levels of sediments, nutrients, and algae discussed above have the concurrent effect of reducing dissolved oxygen levels and increasing the variability in daily dissolved oxygen levels. Indeed, the EIS/EIR recognizes that increased nutrient concentrations and related increases in algae populations consume oxygen (respiratory consumption) and reduce the amount of dissolved oxygen available to other organisms. *Id.* at 3.2-26. Nowhere does the EIS/EIR examine the effects of respiratory consumption by the increased algae populations resulting from the Proposed Action.

Sediment releases could also cause a decrease in dissolved oxygen concentrations in the Klamath River below J.C. Boyle Dam for up to two years and this would have "a significant impact" on the river. *Id.* at 3.2-104, 3.2-109. However, as noted above, the predictions in the EIS/EIR about the amount of sediment to be released and how long it will take to dissipate are

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incorrect and are disputed by DOI's own Expert Panels. *See* Parts II.C.1.a and II.C.2.e of these Comments. The actual impact, not analyzed in the EIS/EIR, will be much greater than assumed in the EIS/EIR.

Finally, the magnitude of daily fluctuations in the amount of dissolved oxygen in the river may be greater under the Proposed Action. EIS/EIR at 3.2-104, 3.2-109, 3.2-110. Having admitted that, the EIS/EIR fails to quantify either the amount or duration of these fluctuations. Instead, the EIS/EIR discusses the monthly average amount of dissolved oxygen in the river following dam removal. *Id.* at 3.2108, Table 3.2-13. However, aquatic species feel the effects of oxygen deprivation on a minute-by-minute basis, not on a monthly average. The EIS/EIR employs an incorrect baseline measurement and fails to properly examine the effects on aquatic species of the dissolved oxygen fluctuations.

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The EIS/EIR compounds the issues created by improper impacts analysis by failing to evaluate the availability and feasibility of mitigation measures to address dissolved oxygen impacts of the Proposed Action, or the potential for the Proposed Action to significantly adversely affect or inhibit the success of ongoing implementation of Foreseeable Restoration Measures.

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5. Water Temperature

Similarly, the EIS/EIR discussion regarding the impact of the Proposed Action on water temperature misses the point. The EIS/EIR reviews the impact of the Proposed Action on the average mean daily temperature. However, aquatic species experience water temperature effects on an hourly basis, not on an average mean daily basis. It is the hourly temperatures that are key. As DOI's Expert Panel for coho salmon and steelhead trout noted, while dam removal may lower the average mean daily temperature, this is not the relevant analytical point because under the Proposed Action the "highest temperatures experienced by fish ... will increase." Coho and

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Steelhead Expert Panel Report at 31-32. The EIS/EIR fails to examine the effect on aquatic species of these increased water temperatures, relying instead on generalized averages that ignore and mask the actual temperature effects of the Proposed Action.

In addition, the EIS/EIR fails to evaluate the availability and feasibility of mitigation measures to address temperature impacts of the Proposed Action as required by CEQA. Further, the EIS/EIR fails to examine the potential for the Proposed Action to significantly adversely affect or inhibit the success of ongoing implementation of the Foreseeable Restoration Measures. As a result, the EIS/EIR does not have sufficient information on which to base a decision regarding implementation of the Proposed Action.

Comment 64 - Water Quality

6. pH

Comment 65 - Water Quality

The EIS/EIR admits that elevated pH levels are linked to the high rates of photosynthesis by river algae (periphyton). EIS/EIR at 3.2-28. However, the EIS/EIR dismisses these effects, and fails to examine them, based on the assertion that increased periphyton growth is only a possibility in the Hydroelectric Reach under the Proposed Action. *Id.* at 3.2-113. The problem with this attempt to avoid analysis is that in the more specific section of the EIS/EIR dealing with algae, the EIS/EIR admits the Proposed Action will cause "long-term increases in nuisance periphyton" and this will have "a significant impact" on the environment. *Id.* at 3.4-15. Below the Hydroelectric Reach, the EIS/EIR admits that increased photosynthetic activity coupled with higher nutrient concentrations "would result in large daily variation in pH and generally high pH levels.... This may result in instantaneously exceeding the North Coast Basin Plan water quality objective maximum pH value of 8.5 ... which may be stressful to fish and other aquatic life and adversely affect beneficial uses." *Id.* at 3.2-115.

Notwithstanding these admissions that the Proposed Action will make the problem of pH levels worse, the EIS/EIR has no analysis of the effects of elevated pH on aquatic species, or the

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degree to which the Proposed Action will interfere with or inhibit pH improvements that can be reasonably expected to occur from implementation of the Foreseeable Restoration Measures. Instead, the EIS/EIR says the increased growth in river algae "may" be counteracted by river scouring from flood and storm events that increase river flow. *Id.* There are two major problems with this attempt to avoid meaningful discussion of the adverse effects of elevated pH levels. First, the EIS/EIR admits that notwithstanding any scouring that may occur, algae populations will still increase. Second, there is no analysis of the frequency of any such scouring, let alone the effects of algae growth and elevated pH levels in the years that lie between such events. The facts are that elevated pH levels will occur. The EIS/EIR fails to examine those effects and also fails to examine the impact of the Proposed Action on implementation of the Foreseeable Restoration Measures as required by CEQA.

Comment 66 - Sediment Toxicity

7. Inorganic and Organic Contaminants

The EIS/EIR states that sediment testing showed "low levels" of metals, pesticides, chlorinated acid herbicides, PCBs, volatile organic compounds, cyanide, and dioxins in the sediments behind the dams. *Id.* at 3.2-121. The EIS/EIR next states that acute bioassay tests designed to determine the toxicity of these contaminated sediments showed no significant harm to aquatic life except for the sediments behind J.C. Boyle Dam. Aquatic species exposed to chemicals at the concentrations found in sediments behind J.C. Boyle Dam showed "considerably lower survival." *Id.* The EIS/EIR claims an analysis of the effects of these admittedly threatening contaminants is not required because the contaminants will mix with, and be diluted by, the sediments and water released from the three dams below J.C. Boyle Dam. *Id.* at 3.2-121-123.

Contrary to the incorrect view embraced by the EIS/EIR, the solution to pollution is not dilution. Moreover, the EIS/EIR ignores the fact that approximately 22 river miles of aquatic