Chapter 3
Individual Comments and Responses

This chapter describes the format of the responses to comments; presents a summary of the comments; lists the agencies, organizations, and individuals who commented on the Draft Environmental Impact Statement (EIS); presents the written comment letters and e-mails received on the Draft EIS; and contains comments received on the Draft EIS during the public hearing.

Format of Comments and Response

Each comment in the comment letters was assigned a number, in sequential order. The numbers were combined with an abbreviation assigned to each commenter. Comments that were editorial in nature were not numbered and are identified as editorial. Responses to the comments correspond to the numbers assigned in each comment letter.

Written responses were prepared for all substantive comments. Written responses intend to describe the disposition of any significant environmental issues raised (e.g., revisions to the proposed project to mitigate anticipated impacts or objections) and to provide a good faith, reasoned analysis in the response. The range of responses includes clarifying the analysis in the Draft EIS, making factual corrections, or explaining why certain comments do not warrant further response. Comments that raise concerns unrelated to the content of the Draft EIS or to environmental issues, are generally referred to the Master Response "General Comment." No responses are included for editorial comments, however, all changes to the text are included in the Errata.

No comments were received on the Draft EIS that resulted in new impacts, required new mitigation, required consideration of new alternatives, or resulted in any other substantial change. Changes made to the Draft EIS in response to comments were limited to editorial fixes or clarifications to better describe the project, the analysis, or an environmental effect.

Summary of Comments

U.S. Department of the Interior, Bureau of Reclamation (Reclamation) received 30 letters commenting on the Draft EIS from elected officials, Federal agencies, tribes, State agencies, regional and local governments, special interest groups, and individuals. Key issue areas in the comments include the following:

- Causative factors for *Ichthyophthirius multifiliis* (Ich) infection and outbreak on the lower Klamath River

- Flow augmentation trigger criteria associated with release of preventive base flow augmentation, preventive pulse flows, and emergency pulse flow augmentation
- Role of Long-Term Plan to Protect Adult Salmon in the Lower Klamath River (LTP) Technical Team in implementing flow augmentation actions
- Monitoring and research actions to support refinement of flow augmentation trigger criteria
- Reclamation's authority to implement the action alternatives
- Effects of action alternatives on Trinity Reservoir levels and recreation
- Effects of action alternatives on Central Valley Project (CVP) water supply deliveries and hydropower generation
- Effects of implementing Alternative 1 on Sacramento River fisheries
- Effects of implementing Alternative 2 on Trinity River restoration efforts
- Basin-wide water quality and ecosystem issues in the Klamath River Basin

List of Commenters

Table 3-1 lists all agencies, organizations, and individuals who submitted comments on the Draft EIS, and attendees who commented on the document during the public hearing.

Table 3-1. List of Commenters on Draft Environmental Impact Statement

Elected Officials
Keith Groves, Trinity County Board of Supervisors
Federal Agencies
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
Tribes
Hoopa Valley Tribe (2 letters)
Yurok Tribe
State Agencies
California Department of Fish and Wildlife
North Coast Regional Water Quality Control Board

Table 3-1. List of Commenters on Draft Environmental Impact Statement (contd.)

Regional and Local Governments, Agencies, and Interest Groups
Klamath Drainage District
Klamath Irrigation District
Klamath Water Users Association
Northern California Power Agency
Pacific Power, a Division of PacifiCorp
Pacific Coast Federation of Fishermen's Associations et al.
City of Redding
San Luis & Delta-Mendota Water Authority
Siskiyou County (2 letters)
Siskiyou County Water Users
Tehama Colusa Canal Authority
Trinity Lake Revitalization Alliance
Individuals
Bacigalupi, Jerry L., P.E.
Garlick, Chad
Gierak, Dr. Richard A.
Goodyear, Gail et al.
Krizo, Jacqui
Loegering, George
Menke, John W.
Public, Jean
Sloan, Rob
Redding, California Public Hearing – November 9, 2016
Franklin, Robert – Comments provided on behalf of self
Chichizola, Regina – Comments provided on behalf of self

Comments from Elected Officials and Responses

This section contains a copy of the comment letter received from an elected official (see Table 3-2), and responses to his comments.

Table 3-2. Elected Officials Providing Comments on Draft Environmental Impact Statement

Abbreviation	**Elected Official**
GRO	Groves, Keith – Trinity Board of Supervisors, District 1

Groves, Keith – Trinity Board of Supervisors, District 1

GRO

TRINITY COUNTY
BOARD OF SUPERVISORS
Keith Groves
Supervisor District One
P.O. BOX 1613, WEAVERVILLE, CALIFORNIA 96093
PHONE (530) 623-1217 FAX (530) 623-8365

December 3, 2016

Julia Long
Bureau of Reclamation
Northern California Area Office
16349 Shasta Dam Blvd
Shasta Lake, CA 96019
(VIA email BOR-SLO-sha-ltpeis-public-comments@usbr.gov)

RE: Comments on the *2016Long-Term Plan to Protect Adult Salmon in the Lower Klamath River* Draft Environmental Impact Statement (DEIS)

Ms Long,

I respectfully submit the following comments into the record of the U.S. Bureau of Reclamation's (USBR) *2016Long Term Plan to Protect Adult Salmon in the Lower Klamath River* Draft Environmental Impact Statement (Klamath DEIS). GRO-1

I represent Trinity County on the Trinity River Restoration Program's Trinity Management Council (TMC), represent northern Trinity County on the Trinity County Board of Supervisors, am a native of Trinity County, and have lived in northern Trinity for over 55 years.

First, I oppose the Klamath DEIS Proposed Action's provision to take additional water from Trinity Lake for fishery restoration. The Trinity River Record of Decision (ROD) clearly allocates the water needed for restoration purposes. Any water released outside of the restoration flow period of April to July should be taken from the existing ROD water year allocation, not as an additional take. GRO-2

Second, in chapter 12, USBR continues to misrepresent the impact caused by Trinity River restoration efforts on Trinity County's economy. The bundling of Trinity County's impact data into the Humboldt and Del Norte County analysis does not correctly show the economy harm that low lake levels have on Trinity County's tourism and the trickle effect to the entire economy. GRO-3

The little economic revenue generated from sport fishing and river recreation on the Trinity River does not make up the great loss of revenue that occurs when tourists and the public have almost no access to Trinity Lake.

I ardently disagree with the analysis in chapter 12 page 13 that says:

> (Line 4)Trinity Lake recreation facility availability would change by less than 1 percent for all facilities. (Line 5)Changes to water surface and shoreline activity, and reservoir recreational economic opportunities under Alternative 1 are not anticipated due to these small changes. (Line 7)Similarly, changes in Trinity Lake recreational visitation and spending in tourism related sectors are not anticipated.

GRO-3 (contd.)

The late summer and fall augmentation flows impact lake levels by reducing the lake carry over volume. Compounded with climate change of less snow fall and more frequent droughts, the cumulative lake elevation impact is resulting in more years when access to the lake is almost impossible. Historically, Trinity Lake had only a 15% chance of full lake recover every year, this percentage is now even lower with the change in weather patterns.

Third, I ask that the USBR honor its recreation impact findings and mitigation measures identified in the *2000Trinity River Main stem Fishery Restoration* IS/EIR. On page 3-284, the EIS/EIR states that the ROD flows alone would have significantly impact on recreation:

> "Mitigation; Implementation of the following mitigation measures would reduce Trinity and Shasta Reservoir water elevation-reacted impacts to less than significant levels.
>
> - All affected boat ramps should be extended a sufficient distance to accommodate the new water elevations.
> - Marina owners should be compensated for costs associated with moving their facilities or constructing new facilities as a result of the new water elevations.
> - Campground facilities should be modified or funding provided to accommodate the new water elevations."

GRO-4

Furthermore, page 1-9 of the ROD states:

> "The following project objectives apply only to Trinity County...
> Minimize avoidable impacts to recreational activities on the Lewiston and Trinity Reservoirs."

Trinity County is the county of origin for ROD and augmentation flows, but Trinity has never been given relief from the economic impacts created by the management of the water that Trinity contributes. I ask that USBR take this opportunity to bring some equity to Trinity County.

Regards,

Keith Groves
TRRP TMC, member
Trinity Board of Supervisors, District 1

Responses to Comments from Groves, Keith TRRP TMC, Member Trinity Board of Supervisors, District 1

GRO-1: Please refer to Master Response "General Comment."

GRO-2: Please refer to Master Response "General Comment."

GRO-3: Reclamation concurs that climate change will affect lake inflows and lake levels. Chapter 2, "Description of Alternatives" (page 2-2) of the Draft EIS describes that anticipated climate change was incorporated into the analyses for the No Action Alternative and action alternatives. Chapter 2, "Water Supply Operations" (page 2-10) in the Analytical Tools Technical Appendix of the Draft EIS describes that Trinity River Restoration Program implementation is incorporated into the No Action and action alternatives.

As described in Chapter 12, "Socioeconomics" (pages 12-12 to 12-17) of the Draft EIS, the effects of implementing the action alternatives on Trinity Lake water elevations during the primary recreation season, and to recreation facility availability, would be less than 1 percent for all facilities in comparison to the No Action Alternative, and therefore are not anticipated to impact the regional economy of Trinity County. Since no additional information was provided that would change the analysis in the document, no revisions to the Draft EIS are required.

GRO-4: Chapter 2, "Description of Alternatives" (page 2-2) of the Draft EIS identifies that the No Action Alternative assumes continued implementation of the Trinity River Restoration Program. Implementation of either of the action alternatives was compared to the No Action Alternative, and effects to recreation were absent or minimal from implementation of either action alternative. Implementation of potential mitigation identified in the 2000 *Trinity River Mainstem Fishery Restoration EIS/Environmental Impact Report* (EIS/R) is outside the scope of this EIS.

Comments from Federal Agencies and Responses

This section contains copies of comment letters from Federal Government agencies listed in Table 3-3 and responses to their comments.

Table 3-3. Federal Agencies Providing Comments on Draft Environmental Impact Statement

Abbreviation	Elected Official
EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

U.S. Environmental Protection Agency

EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

December 1, 2016

Ms. Julia Long
Bureau of Reclamation
Northern California Area Office
16349 Shasta Dam Boulevard
Shasta Lake, California 96019

Subject: Long-Term Plan to Protect Adult Salmon in the Lower Klamath River Draft Environmental Impact Statement, Humboldt County, California [CEQ# 20160240]

Dear Ms. Long:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (EIS) for the Long-Term Plan to Protect Adult Salmon in the Lower Klamath River. Our review and comments are pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. EPA-1

The Long-Term Plan to Protect Adult Salmon in the Lower Klamath River would increase river flows with the goal to reduce the likelihood and severity of future salmonid die-offs due to crowded holding conditions for pre-spawn adults, warm water temperatures, and the presence of disease pathogens. The Bureau of Reclamation has been providing augmented flows in several recent years since a large-scale fish die-off in 2002. These augmented flows have had demonstrated success and Reclamation has worked closely with tribes, regulatory agencies, and basin partners to refine the flow augmentation criteria. Reclamation acknowledges that conditions leading to the need for augmented flows will likely continue, and has produced the current Draft EIS to analyze its proposed plans to manage the competing environmental and water supply demands in the watershed and Central Valley Project.

The temporal scope of the project extends to 2030, which is when Reclamation will revisit effects to the Federal Endangered Species Act from the larger Coordinated Long-Term Operation of the Central Valley Project and State Water Project (OCAP). EPA appreciates the approach to analyze the impacts of flow augmentation alternatives in a long-term strategic way, rather than year-by-year, while also stating the intention to reconsider flows in the lower Klamath River as part of the OCAP reevaluation. When Reclamation prepares the 2030 Central Valley Project operations update, EPA anticipates that future dam removal and other projects in the area will result in more options for increased natural flow regimes and protection of salmonids in the Klamath and Trinity Rivers. EPA-2

Based on our review of the Draft EIS, we have rated both action alternatives and the document as *Lack of Objections-Adequate (LO-1)* (See attached "Summary of EPA Rating Definitions"). Although we have no objections to the proposed project, we recommend the Final EIS provide further clarification EPA-3

regarding reliability and funding of monitoring sources, timing flows using adaptive management, and tribal consultation. EPA-3 (contd.)

To determine the need for augmented flows each year, the action alternatives would rely on monitoring data from U.S. Geological Survey stream gages, fish density data from tribes, fish health monitoring from tribes and resource agencies, and public observations of fish die-offs (page 2-4). The Draft EIS does not discuss the reliability of these monitoring data sources in terms of funding or availability of personnel time. EPA recommends that the Final EIS provide a discussion of how to ensure the reliability of the monitoring sources and data and consider providing a funding mechanism to ensure this dependability. EPA-4

EPA appreciates the inclusion of adaptive monitoring and management principles for the action alternatives. Adaptive management monitoring will help Reclamation refine the trigger criteria for the augmented flows. In the Final EIS, EPA recommends that this process explicitly provide flexibility to time the flows to account for when monitoring determines the greatest need may arise, particularly if that need is determined to be outside of the proposed August and September windows. EPA-5

Finally, the Draft EIS briefly describes Reclamation's efforts with regard to tribal consultation and notes that the Hoopa Valley Tribe, Karuk Tribe, Klamath Tribes, and Yurok Tribe are cooperating agencies (page 15-7). EPA encourages continued consultation and coordination with tribes and recommends that the Final EIS further discuss the results of these consultations. We recommend this discussion include a description of how the tribes were consulted regarding how to avoid and minimize impacts to Trinity River fisheries. EPA-6

We appreciate the opportunity to review and comment on this Draft EIS, and are available to discuss the recommendations provided. When the Final EIS is released for public review, please send one hard copy and one CD to the address above (Mail Code: ENF 4-2). Should you have any questions, please contact me at (415) 947-4161, or contact Jean Prijatel, the lead reviewer for the project. Jean can be reached at (415) 947-4167 or prijatel.jean@epa.gov. EPA-7

Sincerely,

Connell Dunning

Connell Dunning, Acting Manager
Environmental Review Section

Enclosures: Summary of EPA Rating Definitions

cc: Katharine Carter, North Coast Regional Water Quality Control Board
Justin Ly, National Marine Fisheries Service

2

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

Responses to Comments from United States Environmental Protection Agency

EPA-1: Please refer to Master Response "General Comment."

EPA-2: Please refer to Master Response "General Comment."

EPA-3: Reclamation appreciates U.S. Environmental Protection Agency's (EPA) review of the Draft EIS and ratings of the action alternatives in the Draft EIS as Lack of Objections-Adequate (LO-1).

EPA-4: As described in Chapter 2, "Description of Alternatives" monitoring and research efforts include both essential monitoring actions (specific to flow augmentation trigger criteria) as well as additional monitoring and research. Most of the data from essential monitoring actions are part of established, on-going programs. For example, flow and water temperature at the Klamath, California gage are part of established Federal programs (i.e., U.S. Geological Survey National Streamflow Information Program). Fish health monitoring will include information from the Klamath Fish Health Assessment Team (KFHAT) that is comprised of 18 Federal, State, and local agencies, tribes, and organizations. Many of the personnel that have performed monitoring to date would be involved with future monitoring activities. Reclamation, with input from the LTP Technical Team, will establish additional monitoring and research priorities based on available funding.

EPA-5: In the Executive Summary and Chapter 2, "Description of Alternatives" of the Draft EIS, text on page ES-4 (lines 9-10 and 19-21), and page 2-3 (lines 10-11 and 21-23), has been revised to clarify that Reclamation—in coordination with the LTP Technical Team—will initiate preventive base flow augmentation in consideration of flow levels, thermal regime, fish densities, and Ich infestation levels in the lower Klamath River.

EPA-6: Multiple tribes have been involved in past flow augmentation actions and their involvement is anticipated to continue in future efforts. Reclamation believes that tribal participation as cooperating agencies has improved our understanding of the issues associated with implementation of the action. Chapter 1, "Introduction" of the Draft EIS discusses tribal involvement in past flow augmentation actions and development of the *Draft Long-Term Plan for Protecting Late Summer Adult Salmon in the Lower Klamath River* (see pages 1-1 and 1-8). Chapter 2, "Description of Alternatives" identifies that tribal resource specialists will be involved with the implementation of annual flow augmentation actions as part of the LTP Technical Team (page 2-3). Also, as part of the LTP Technical Team, tribal resource specialists would be involved in monitoring and research efforts, including potential refinement of flow augmentation trigger criteria (page 2-7). Chapter 15, "Consultation, Coordination and Compliance" describes the consultation with tribal governments during development of the EIS (pages 15-7 and 15-8). The Yurok Tribe, Hoopa Valley Tribe, Karuk Tribe, and Klamath Tribes requested and received cooperating agency status pursuant to National Environmental Policy Act (NEPA) (page 15-4). As cooperating agencies, tribes participated in workshops, webinars, and provided review of EIS-related documents (e.g., technical memorandums, Administrative Draft EIS). Reclamation believes that tribal participation as cooperating agencies has improved our understanding of the issues associated with implementation of the action. Two tribes, the Hoopa Valley Tribe and the Yurok Tribe, provided comments on the Draft EIS. These comments are provided in the *Comments from Tribes and Responses*.

EPA-7: As described in Chapter 5, "Distribution List" of this Final EIS, one hard copy and one DVD of the Final EIS is being provided to U.S. EPA, Region IX.

U.S. Fish and Wildlife Service

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2014	All		A thorough tech edit is needed for this document.. Some suggestions/comments were made below but these are not comprehensive.	USFWS-1
LTP Lower Klamath Draft EIS October 2015	ES		Comments on information in executive summary also should be addressed in the main body of the EIS.	USFWS-2
LTP Lower Klamath Draft EIS October 2016	ES-4	21	references a fish harvest metric but none are provided in the text.	USFWS-3
LTP Lower Klamath Draft EIS October 2016	ES-5	29	references fish density but no details on what this is are provided. Is this the fish harvest metric or some other density estimate? Needs clarification.	USFWS-4
LTP Lower Klamath Draft EIS October 2016	ES-9	30	should put the 9.8 GW decrease in context of overall power generation of the TRD. % decrease would be a better metric	USFWS-5
LTP Lower Klamath Draft EIS October 2016	ES-10	Table	The frequency of flow augmentation should be included in this table as well as in the main EIS. This is a critical point that needs to be thoroughly evaluated because if this is going to be a regular management action with an established miminum flow of 2800 cfs in the lower Klamath River, there may be significant unintended consequences of having un-naturally high flows in the upper Trinity River on a regular basis.	USFWS-6
LTP Lower Klamath Draft EIS October 2016	ES-13	Table	Impacts to un-naturally high flows to fishery resources needs to be further explored. During fall-flow technical meetings over the past several years many concerns of the potential unintended consequences of these high flows have been discusses such as the changing of fall chinook immigration and increasing overlap of spawning with spring chinook as noted by CDFW.	USFWS-7
LTP Lower Klamath Draft EIS October 2016	ES-13	Table	The hydrographs developed for the ROD had very specific purposes/objectives for different water year types (USFWS and HVT 1999). Any changes to these hydrographs under Alternative 2 should evaluate impacts to the objectives identified in the ROD hydrographs. This is attempted for water temperature but there are many other objectives that need to be assessed and there are some question on the water temperature analysis presented. See addition comments on those sections.	USFWS-8

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	1-1	21	Put x-references to tables and figures in parentheses instead of "…as shown in Table X-X" (occurences throughout)	Editorial
LTP Lower Klamath Draft EIS October 2016	1-2	1	Recommend captions not be in title case (throughout)	Editorial
LTP Lower Klamath Draft EIS October 2016	1-3	11-12	A closing ")" is missing.	Editorial
LTP Lower Klamath Draft EIS October 2016	1-3	22-25	run-on sentence	Editorial
LTP Lower Klamath Draft EIS October 2016	1-4	19	How many is "many"? Most? From each of the groups mentioned?	Editorial
LTP Lower Klamath Draft EIS October 2016	1-5	6	Use of the fish harvest metric is potentially problematic. This metric was developed due to the anticiapted large run size in one year and was not meant to cover all years. Subsequent events with smaller runs but fish density/behavior led to conditions of Ich outbreaks at lower runs sizes. At lower run sizes the tribal fishery metric may not be appropriate due to harvest allocation and fishery structure (time and area closures). See text on page 1-7, line 36-39 concerning de-emphasis of run size trigger and citation USFWS 2015.	USFWS-9
LTP Lower Klamath Draft EIS October 2016	1-5	6	Current inforamtion on run size, flow augmentation, and Ich infection (prevalence and severity) needs to be incorporated into this document. While initial thoughs that the potential for an Ich outbreak were generally associate with a large fall Chionook run and the potential for large numbes of fish holding in the lower Klamath River which was the gensis of the fish harvest metric, we have learned form monitoring over the last several year that this is not the case and this contemporary information should be incorporated into the document.	USFWS-10
LTP Lower Klamath Draft EIS October 2016	1-6	7-9	specify that observed mortality can occur in "any" or "the" 20-km reach (not just "a") "over any 24-hr period" [also on 2-4(13)]	USFWS-11
LTP Lower Klamath Draft EIS October 2016	1-7	8, 11	specify type of scientist unless includes multiple disciplines	USFWS-12

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	1-7	19	There was also a pulse frow from IGD in mid-September peaking just over 2000 cfs, potentially associated with Boat Dance Ceremony.	USFWS-13
LTP Lower Klamath Draft EIS October 2016	1-7	20	note that it's the "2014 fall-run"	Editorial
LTP Lower Klamath Draft EIS October 2016	1-7	26	what type of conditions? Atmospheric, river,…?	USFWS-14
LTP Lower Klamath Draft EIS October 2016	1-8	10-11	Throughout this section: The inconsistent text and citation choices by the authors make it a bit hard to compare the reported post-season run size estimates. For instance, in this case does this number reference all adult salmonids? - only Chinook? - only Fall Chinook? It would be helpful if the authors were more consistent and clear throughout.	USFWS-15
LTP Lower Klamath Draft EIS October 2016	1-8	18	The authors should provide information on the duration, magnitude, and total volume of the flow augmentation like they have for previous years mentioned in this section.	USFWS-16
LTP Lower Klamath Draft EIS October 2016	1-8	36	As noted in comment on page 1-5, large run size in not necessarily a driving factor in the potential for an Ich ooutbreak. This should be clarified throughout the document, especially given the information from monitoring conducted in recent years. See text on page 1-7, line 36-39 concerning de-emphasis of run size trigger and citation USFWS 2015.	USFWS-17
LTP Lower Klamath Draft EIS October 2016	1-15	27, 29,…	References typically do not include 'month' at the end (also in other chapters)	Editorial
LTP Lower Klamath Draft EIS October 2016	2-1	3	It does not appear that the authors have fully considered the information learned in the last two years regarding in-river Ich-levels and lack of large scale fish kill events in the formatioon of their Proposed Alternatives.	USFWS-18
LTP Lower Klamath Draft EIS October 2016	2-2	15	PacifiCorp has alread transferred its license to a private company.	USFWS-19
LTP Lower Klamath Draft EIS October 2016	2-2	41	colon should not be used with this verbage; also, semi-colons should be commas (there are a few cases like this throughout)	Editorial

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	2-2	43	Remove comma after September	Editorial
LTP Lower Klamath Draft EIS October 2016	2-3	17	are there thermal regime criteria?	USFWS-20
LTP Lower Klamath Draft EIS October 2016	2-3	21-23	Does "does fish harvest metric above" reference that from the Join Memorandum? If so, this is well below its description and warrants citation here. Also, the Join Memorandum was specific to large run sizes, and would be considered inadequate in small run size years. That issue needs to be addressed here.	USFWS-21
LTP Lower Klamath Draft EIS October 2016	2-3	21-29	This reads as though minimum flows of 2800 cfs will always be maintained over the specified time period, is that correct?	USFWS-22
LTP Lower Klamath Draft EIS October 2016	2-3	22	Under alternative 1, flow augmention will likely be a regular occurance and the impacts of un-naturally high and cold releases from Lewiston Dam needs to be assessed in the context of meeting Trinity River Restoration Program goals.	USFWS-23
LTP Lower Klamath Draft EIS October 2016	2-3	30+	The specificed 24-hour duration appears inconsistent with prior year descriptions and justifications for Preventive Pulse Flows, and warrants more discussion.	USFWS-24
LTP Lower Klamath Draft EIS October 2016	2-3	33	Text states "fish density" but it is unclear what is meant here? Is it the Yurok Tribal fishery harvest metric or some other measure of fish density in the river?	USFWS-25
LTP Lower Klamath Draft EIS October 2016	2-4	30	trouble understanding what "to the extent possible" means in this case	USFWS-26
LTP Lower Klamath Draft EIS October 2016	2-6	1	See previous comments concerning the use of estuary harvest data as the fish metric for triggering flow augmentation. This is may be useful when inriver runs are projected to be large and the Yurok Tribe has a significant esturay fishery, especially a commecial fishery, but in agerage or lower runsize years this is likely not useful metric as we have seen the past couple of years.	USFWS-27

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	2-10	1	Converning alternative 2, the hydrographs developed for the ROD had very specific purposes/objectives for different water year types (USFWS and HVT 1999). Any changes to these hydrographs under Alternative 2 should be evaluated as to the impacts on meeting objectives identified in the ROD. This is attempted for water temperature but there are many other objectives that need to be assessed and there are some question on the water temperature analysis presented. See addition comments on those sections.	USFWS-28
LTP Lower Klamath Draft EIS October 2016	2-10	13	Under alternative 2, augmented flow volumes would come out of ROD flows, but since the majority of ROD releases come before the period of fall flow augmentation the water would have to be held back by modifying the spring/early summer hydrographs. In the cases were this held-back water was not neeed for fall flow augmentation what would happen to this water. While it would obviously be in the Trinity Reservoir, would that water be carried over to meet ROD flow objectives in the next water year? Currently there is no provision or rules for carrying over Trinity ROD water but it seem that under this alternative that would be a critical component of this management alternative.	USFWS-29
LTP Lower Klamath Draft EIS October 2016	2-13	8	Whose "evaluations"?	USFWS-30
LTP Lower Klamath Draft EIS October 2016	2-14	13	"they're" -> "they are"	Editorial
LTP Lower Klamath Draft EIS October 2016	3-2	8	actions associated with "obligations" are not specified (obligations to do what?)	USFWS-31
LTP Lower Klamath Draft EIS October 2016	3-4		Figure 3-1 show the analytical framework for evaluating impacts and the only economic analysis identified is associated with CVP agricultural production while there should be an analysis of the impacts on inriver (tribal and recreational) and ocean (commencial and recreational) fisheries dependent of Klamath basin fishery resources.	USFWS-32

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	4-4	34-35	"Average precipitation in the Trinity River subbasin ranges from … " How can the average precipitation have a range? I think it should read "Annual precipitation in the Trinity River subbasin…"	USFWS-33
LTP Lower Klamath Draft EIS October 2016	4-8	14-17	Humboldt and Del Norte counties are both listed twice.	USFWS-34
LTP Lower Klamath Draft EIS October 2016	4-10	16	Why are only data from 2009-2016 presented in Figure 4-5? Data at least starting in 2002 when the fish kill occurred should be presented.	USFWS-35
LTP Lower Klamath Draft EIS October 2016	4-11	4	Why are only data from 2009-2016 presented in Figure 4-6? Data at least starting in 2002 when the fish kill occurred should be presented.	USFWS-36
LTP Lower Klamath Draft EIS October 2016	4-35	1	In table 4-3 it shows large average monthly flows in Nov-March in Extremely Wet WY and Dec-March in Wet WY that are substantially above the ROD flow levels recommended in the Trinity River ROD for this period, which is 300 cfs. This seems to be a substantial overestimate of released downstream during these water years.	USFWS-37
LTP Lower Klamath Draft EIS October 2016	4-74	13	It is unclear how there can be reductions to diversions under alternative 2 when not additional flows are being released as the augmented flows are coming out of the ROD volumes so it seems like there should be no-net change in diversions.	USFWS-38
LTP Lower Klamath Draft EIS October 2016	4-77	1	In table 4-36 it shows large average monthly flows in Nov-March in Extremely Wet WY and Dec-March in Wet WY that are substantially above the ROD flow levels recommended in the Trinity River ROD for this period, which is 300 cfs. This seems to be a substantial overestimate of released downstream during these water years.	USFWS-39
LTP Lower Klamath Draft EIS October 2016	4-127	Table Row 2	I'm surprised of the claim here that Alt 1 would result in reduced CVP water deliveries, and that Alt 2 wouldn't given the apperant similarity in the more detailed results sections provided above.	USFWS-40
LTP Lower Klamath Draft EIS October 2016	5-3 to 5-6	all	These tables are formatted very poorly and difficult to read.	Editorial
LTP Lower Klamath Draft EIS October 2016	5-7	34	should "X2" be italicized? Inconsistent	Editorial

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	5-10	13	The juvenile outmigrant temperature objectives should be dicussed in the text of this paragraph that were established by the ROD. These temperatur eobjectives are not part of the North Coast Basin Plan that established the adult holding and spawning temperature objectives.	USFWS-41
LTP Lower Klamath Draft EIS October 2016	5-10	16	The temperature objectives for holding and spawning adult salmonids were not "developed to enhance productivity of the Trinity River Fish Hatchery". They were developed to protect holdign and spwanign adult in the river as well as the hatchery populations. This should be clarified in the text.	USFWS-42
LTP Lower Klamath Draft EIS October 2016	5-13	5	state what the "downstream location" is	Editorial
LTP Lower Klamath Draft EIS October 2016	5-14	1	Data missing from the table for 2013-2015 at Douglas City and for 2008-2015 at Weitchpec are available from USFWS in Arcata for many of the months, but not all, that are missing (=NA). This link is for the 2014 Trinity water temp report https://www.fws.gov/arcata/fisheries/reports/dataSeries/TR%202014%20WATER%20TEMP%20RPT.pdf and other reports can be found on this web site: https://www.fws.gov/arcata/fisheries/reportsDisplay.html or requested from the office.	USFWS-43
LTP Lower Klamath Draft EIS October 2016	5-27	9	should be "all native aquatic life"	USFWS-44
LTP Lower Klamath Draft EIS October 2016	5-32	3-4	last sentence of paragraph incomplete	Editorial
LTP Lower Klamath Draft EIS October 2016	5-32	18	Recently errors in the RBM-10 model outputs for the lower Trinity/Klamath have been identified that should be considered or discussed in the document on how this may change the interpretation of impacts.	USFWS-45
LTP Lower Klamath Draft EIS October 2016	5-32	30	Daily or hourly temperature swings are not "likely" masked by averaging to monthly, they are absolutely masked.	USFWS-46
LTP Lower Klamath Draft EIS October 2016	5-32	34+	check verb tense throughout paragraph (is/was/will be)	Editorial

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	5-33	24-27	awkward sentence needs rewrite	Editorial
LTP Lower Klamath Draft EIS October 2016	5-33	39-42	Examing temperatures at 5 locations is overkill.	USFWS-47
LTP Lower Klamath Draft EIS October 2016	5-37	1	In table 5-18, the water temp objectives for Douglas City are only pertinent to July-Sept, see table 5-3.	USFWS-48
LTP Lower Klamath Draft EIS October 2016	5-39	1	In table 5-19, water temp objectives for Ntrintiy River at North Fork Trinity River are only pertinent from Oct-Dec. See Table 5-3.	USFWS-49
LTP Lower Klamath Draft EIS October 2016	5-42		x-reference for Table 5-23 was skipped	Editorial
LTP Lower Klamath Draft EIS October 2016	5-42	10-11	Alternative 1 is listed twice in an apperant typo making the bullit hard to understand.	Editorial
LTP Lower Klamath Draft EIS October 2016	5-42	24	Days listed unclear. Are these individual days or a range of days?	Editorial
LTP Lower Klamath Draft EIS October 2016	5-43	1-3	This suggests that Alt 1 does not alter, compared to the No Action Alt, the water temperatures at the Trinity's confluence with the Klamath River. This is a very problematic result, as the increased flows are hypothesized to decrease water temperatures, and prior model runs have predicted lower water temperatures with augmented flows. This sentence completes a paragraph regarding the percentage of time of being in non-complinace. And while those percentages of days above a threshold may not differ, that does not indicate or suggest "that these two alternatives were nearly identical in temperature reponse" as the sentence states. This sentence should be altered to appropriately reflect the inference drawn from the numeric results presented in the paragaph.	USFWS-50
LTP Lower Klamath Draft EIS October 2016	5-43	1	Data should be presented for years after 2003, especially since after 2003 ROD flows were released into the Trinity following the resolution of legal challenges and the management of flows at the TRD changed which is not reflected in the inforamtion presented.	USFWS-51

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	5-44	1	Data should be presented for years after 2003, especially since after 2003 ROD flows were released into the Trinity following the resolution of legal challenges and the management of flows at the TRD changed which is not reflected in the inforamtion presented.	USFWS-52
LTP Lower Klamath Draft EIS October 2016	5-46	1	The data presented in Table 5-25 are irrelevant since outmigrant temperature criteria do pertain to the the Trinity River near Douglas City. Additionally, the title of the 1st couumn states from Lewison to Weitchpec which is impossible to evaluate becasue the water temp is not uniform thorughout the river. At the bottom of the table are summary numbers for (N/W/EW) and (D/CD) water years but these are only broken out for the last two columns while there are criteria for the other time periond that should be summarized in a similar manner. Data should be presented for years after 2003, especially since after 2003 ROD flows were released into the Trinity following the resolution of legal challenges and the management of flows at the TRD changed which is not reflected in the inforamtion presented.	USFWS-53
LTP Lower Klamath Draft EIS October 2016	5-47	1	The data presented in Table 5-26 are irrelevant since outmigrant temperature criteria do pertain to the the Trinity River at North Fork Trinity concluence. Additionally, the title of the 1st couumn states from Lewison to Weitchpec which is impossible to evaluate becasue the water temp is not uniform thorughout the river. At the bottom of the table are summary numbers for (N/W/EW) and (D/CD) water years but these are only broken out for the last two columns while there are criteria for the other time periond that should be summarized in a similar manner. Data should be presented for years after 2003, especially since after 2003 ROD flows were released into the Trinity following the resolution of legal challenges and the management of flows at the TRD changed which is not reflected in the inforamtion presented.	USFWS-54

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	5-48	1	The data presented in Table 5-27 are irrelevant since outmigrant temperature criteria do pertain to the the Trinity River at North Fork Trinity concluence. Additionally, the title of the 1st couumn states from Lewison to Weitchpec which is impossible to evaluate becasue the water temp is not uniform thorughout the river. At the bottom of the table are summary numbers for (N/W/EW) and (D/CD) water years but these are only broken out for the last two columns while there are criteria for the other time periond that should be summarized in a similar manner. Data should be presented for years after 2003, especially since after 2003 ROD flows were released into the Trinity following the resolution of legal challenges and the management of flows at the TRD changed which is not reflected in the inforamtion presented.	USFWS-55
LTP Lower Klamath Draft EIS October 2016	5-49	1	The data presented in Table 5-28, at the bottom of the table are summary numbers for (N/W/EW) and (D/CD) water years but these are only broken out for the last two columns while there are criteria for the other time periond that should be summarized in a similar manner. Data should be presented for years after 2003, especially since after 2003 ROD flows were released into the Trinity following the resolution of legal challenges and the management of flows at the TRD changed which is not reflected in the inforamtion presented. It seems based on the information presented that temperature exceedences are much greater for the two earlier periods that we have observed so there may be some error in the modeling outputs or more likely this is the result of how the data are presented and not partitioned into the two categories.	USFWS-56
LTP Lower Klamath Draft EIS October 2016	5-50	7-8	There aren't temperature objectives for the lower Klamath?	USFWS-57
LTP Lower Klamath Draft EIS October 2016	5-50	9-16	This paragraph is very confusing, as the last sentence appears to completely contradict what's concluded earlier in the paragraph. Perhaps the distinction of "near" Klamath vs. "at" Klamath is important in terms of location, and if so, that should be made clear in the paragraph above.	Editorial

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	5-52	17-19	shouldn't cooler water cause higher DO? Cooler water retains oxygen better [also on 5-84(27)]	USFWS-58
LTP Lower Klamath Draft EIS October 2016	5-66	1	All comments on the temperature analysis presented for alternative 1 above are pertinent for the analyses presented for alternative 2 but not repeated here for brevity.	USFWS-59
LTP Lower Klamath Draft EIS October 2016	5-73	9-10	There is an obvious copy/paste error relating to the results of the prior section.	Editorial
LTP Lower Klamath Draft EIS October 2016	5-76	22-24	"…were similar in temperature response" is again incorrect. This paragraph is not a summary of temperature response, but instead an accounting of days above threshold values. As an absurd example, temperatures from both Alternatives could be above a certain threshold value, but temperatures from one Alternative could be 10 degress warmer than the other.	USFWS-60
LTP Lower Klamath Draft EIS October 2016	5-82	10	Do the authors mean Alternative 2 instead of what's written (Alternative 1)?	Editorial
LTP Lower Klamath Draft EIS October 2016	5-82	8-15	This paragraph is very confusing, as the last sentence appears to completely contradict what's concluded earlier in the paragraph. Perhaps the distinction of "near" Klamath vs. "at" Klamath is important in terms of location, and if so, that should be made clear in the paragraph above.	Editorial
LTP Lower Klamath Draft EIS October 2016	thro ugho ut		general overuse of commas	Editorial
LTP Lower Klamath Draft EIS October 2016	thro ugho ut		other native species, like sturgeon, not taken into consideration? (Now I see they are addressed in Chapter 7)	USFWS-61
LTP Lower Klamath Draft EIS October 2016	7-1	17	compound adjectives are not hyphenated when lead be an adverb ("Federally listed"; occurs throughout)	Editorial
LTP Lower Klamath Draft EIS October 2016	7-1	26	While the flow augmentation actions considered are to address the prevention of an Ich related fish kill, it should be mentioned that in addition to inriver recreation and tribal fisheries the benefits of avoiding a fihs kill will have subsequent benefits of increase freshwater production that would also benefit ocean recreation and commercial fisheries.	USFWS-62

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	7-2	10	needs an endquote	Editorial
LTP Lower Klamath Draft EIS October 2016	7-2	14	is there a citation for the DPS definition?	Editorial
LTP Lower Klamath Draft EIS October 2016	7-5	6	rivers not capitalized when plural ("Klamath River" but "Klamath and Trinity rivers"; occurs throughout, also with creeks, sloughs, salmon, dams, bays…)	Editorial
LTP Lower Klamath Draft EIS October 2016	7-5	7	should lower Klamath be considered part of Trinity region?	Editorial
LTP Lower Klamath Draft EIS October 2016	7-5	10	specify only spawning is confined to upper river	Editorial
LTP Lower Klamath Draft EIS October 2016	7-5	15	"SanJaoquin" -> "San Joaquin"	Editorial
LTP Lower Klamath Draft EIS October 2016	7-9	10	"Coastrange"	Editorial
LTP Lower Klamath Draft EIS October 2016	7-10	4	Suggest: "The lower Klamath River begins at its confluence with the Trinity River near Weitchpec, located about 43 miles upstream from the Pacific Ocean."	Editorial
LTP Lower Klamath Draft EIS October 2016	7-11	1	specify run size estimates are for Coho Salmon in the Trinity River	Editorial
LTP Lower Klamath Draft EIS October 2016	7-11	14	Suggest: "fall run"	Editorial
LTP Lower Klamath Draft EIS October 2016	7-12	9-11	identify which life stage (Juvenile/adult) are associated with which actions	Editorial
LTP Lower Klamath Draft EIS October 2016	7-12	29	3 years seems low for a maximum. Is this correct?	USFWS-63
LTP Lower Klamath Draft EIS October 2016	7-12	30	citation references for different authors should be separated by semi-colon (also throughout)	Editorial

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	7-13	29-30	This sentence is false. See these references for status assessments of Pacific Lamprey in the Trinity River: https://www.fws.gov/arcata/fisheries/reports/technical/PLCI_CA_Assessment_Final.pdf https://www.fws.gov/arcata/fisheries/reports/technical/PLCI%20CA%202015_CA%20Implementation_North%20Coast_Final.pdf	USFWS-64
LTP Lower Klamath Draft EIS October 2016	7-13	41	citation refernces should be in chronological order (throughout)	Editorial
LTP Lower Klamath Draft EIS October 2016	7-14	20	should "noticable" be "notable"?	Editorial
LTP Lower Klamath Draft EIS October 2016	7-14	34	Has C shasta historically or just currently been the most significant disease?	USFWS-65
LTP Lower Klamath Draft EIS October 2016	7-15	1	are these populations resistant to C shasta? They seem susceptible	USFWS-66
LTP Lower Klamath Draft EIS October 2016	7-15	8	is high of 70% over entire season? i believe weekly max is 90-100%. perhaps in more recent reports; the latest cited here is from 2008	USFWS-67
LTP Lower Klamath Draft EIS October 2016	7-15	15-16	"typically…only" don't agree. Delete "only". Also can't it be lethal when gills reach hyperplasia?	USFWS-68
LTP Lower Klamath Draft EIS October 2016	7-18	7	Whiskeytown "Lake" or Whiskeytown "Reservoir"? "Reservoir" used later in document	Editorial
LTP Lower Klamath Draft EIS October 2016	7-20	17	Where was the M-S Dam?	Editorial
LTP Lower Klamath Draft EIS October 2016	7-22	12	"latefall-run" -> "late fall-run" (in other places too)	Editorial
LTP Lower Klamath Draft EIS October 2016	7-26	39	what are the 2 clam species?	USFWS-69
LTP Lower Klamath Draft EIS October 2016	7-28	28	suggest deleting "most" and "probably"	Editorial
LTP Lower Klamath Draft EIS October 2016	7-33	12	should be "young-of-the-year"	Editorial

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	7-33	25	fall-run historically or just currently the most abundant? In the Klamath spring-run were historically more abundant?	USFWS-70
LTP Lower Klamath Draft EIS October 2016	7-42	26	"vertical" temperature stratification	Editorial
LTP Lower Klamath Draft EIS October 2016	7-43	15-18	Simple linear equations are not reccomended for response values that are percentages. They can result in fitted or predicted values that are below 0% or greater than 100%. This risk is increased when extrapolating beyond measured explanatory variable values, which can commonly occur when considering non-standard scenarios, such as management alternatives that differ than those when data were collected.	USFWS-71
LTP Lower Klamath Draft EIS October 2016	7-45	5	Is "similar" quoting a reference? (also ccurs in a few other places after this)	USFWS-72
LTP Lower Klamath Draft EIS October 2016	7-45	6	The Trinity River Restoration Program has developed several hydraulic model that has been used to evaluate channel rehabilitation efforts and systemic habitat availability that should be used in this section to evaluate potential changes in habitat availability.	USFWS-73
LTP Lower Klamath Draft EIS October 2016	7-45	23-26	WUA-flow relationships are available for the Klamath River below Iron Gate Dam, and for the upper 40 miles of the Trinity River (between Lewiston and the confluence with the North Fork Trinity). This appears to be a significant oversight by the EIS authors.	USFWS-74
LTP Lower Klamath Draft EIS October 2016	7-52	3	How were the changes in salmonid production for the Trinity River evaluated? While there is extensive discussion of models used to evaluate central valley fishery resources it is unclear what was done for the trinity fishery resources.	USFWS-75
LTP Lower Klamath Draft EIS October 2016	7-60 to 7-61		A page appears to be missing, or perhaps the beginning of a sentence, as 7-60 ends with a period(.) and 7-61 begins mid-sentence.	USFWS-76
LTP Lower Klamath Draft EIS October 2016	7-63		It appears that this page was previously placed below 7-60 causing the error noted in above comment.	Editorial
LTP Lower Klamath Draft EIS October 2016	7-63	9-10	is 65 a metric? strange to phrase how many were not dewatered instead of how many were dewatered	USFWS-77

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	7-63	28	While there is discussion of the potential effects of increase flow in the lower Klamath there is no discussion of the potential adverse impacts to fishery resources due to unnaturally high and cold flows in the upper Trinity River. CDFW has noted increased overlap of spring and fall Chinook Salmon spawning, presumable due to higher fall flows triggering migration cues. There is also the potential for habitat changes for rearing coho that could be evaluated.	USFWS-78
LTP Lower Klamath Draft EIS October 2016	7-67	26	While there is discussion of the potential effects of increase flow in the lower Klamath there is no discussion of the potential adverse impacts to fishery resources due to unnaturally high and cold flows in the upper Trinity River. CDFW has noted increased overlap of spring and fall Chinook Salmon spawning, presumable due to higher fall flows triggering migration cues. There is also the potential for habitat changes for rearing coho that could be evaluated.	USFWS-79
LTP Lower Klamath Draft EIS October 2016	7-67	16	The data presented in tables 7-6 and 7-7 are irrelevant to the evaluation of meeting TRRP juvenile salmonid outmigrant temperature objectives because the target location is Weitchpec (just upstream of the confluence of the Klamath and Trinity Rivers) so any evaluation of the impacts of alternatives in meeting temperature objectives in the spring/early summer must be done at that location. The data for the Trinity River near Weitchpec is not presented here. Any analysis that relies on this information need to use the data from the lower Trnity at Weitchpec and not the Lewiston or North Fork data as presented in Tables 7-6 and 7-7.	USFWS-80
LTP Lower Klamath Draft EIS October 2016	7-69		Table 7-6. There are no spring-time water temperature objectives for the Trinity River at the Lewiston Dam. The spring outmigrant temperature objectives are for Weitchpec (see Trinity River Flow Evaluation USFWS and HVT 1999). See previous comments concerning presentation of water temperature data in chapter 5. Data are not presented or summarized for the different water year type categories (N/W/EW and D/CD)	USFWS-81

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	7-71		Table 7-7. There are no spring-time water temperature objectives for the Trinity River at the North Fork Trinity confluence. The spring outmigrant temperature objectives are for Weitchpec (see Trinity River Flow Evaluation USFWS and HVT 1999). See previous comments concerning presentation of water temperature data in chapter 5. Data are not presented or summarized for the different water year type categories (N/W/EW and D/CD)	USFWS-82
LTP Lower Klamath Draft EIS October 2016	7-73	15	Suggest: "increased"	Editorial
LTP Lower Klamath Draft EIS October 2016	7-81	3	should "experience" be "could experience" or "experienced"? Same goes for verb tense throughout this section	Editorial
LTP Lower Klamath Draft EIS October 2016	7-85	10	should be "would exceed" (see previous comment, relevant to multiple pages in this part of document)	Editorial
LTP Lower Klamath Draft EIS October 2016	7-91	34	Text needs to be re-written considering the proper data for the outmigrant criteria.. See following comments.	USFWS-83
LTP Lower Klamath Draft EIS October 2016	7-91	36	Data for Weitchpec, where the juvenile salmonid outmigrant temperature criteria are measured, are not presented in Tables 7-17 or 7-18. Data should also be summarized separately for the two categories of N/W/EW and D/CD as was done for some of the temperature information presented in Chapter 4.	USFWS-84
LTP Lower Klamath Draft EIS October 2016	7-91	39	The outmigrant temperature criteria during spring/early summer are for Weitchpec and not the NF Trinity confluence.	USFWS-85
LTP Lower Klamath Draft EIS October 2016	7-94		Table 7-17 not needed since the outmigrant temperature criteria are for Weitchpec.	USFWS-86
LTP Lower Klamath Draft EIS October 2016	7-95		Table 7-18 not needed since outmigrant temperatuer criteria are for Weitchpec.	USFWS-87
LTP Lower Klamath Draft EIS October 2016	7-107	Summary box	The summary overstates redd dewatering risk compared to evidence provided above in document.	USFWS-88

Document	Page	Line #	Comment	
LTP Lower Klamath Draft EIS October 2016	7-111	Summary box	The summary states under the heading "Spring Temperature Objectives: " that juvenile rearing and outmigration would not be affected by changes in the spring water temperatures under Alt 2. There is generally not sufficient evidence to make this claim, and further, because the EIS authors opted to not include habitat as an evaluation metric they did not sufficiently address issues related to juvenile rearing and outmigration.	USFWS-89
LTP Lower Klamath Draft EIS October 2016	7-all	all	The lack of incorporation of the available WUA information for Klamath and Trinity rivers is a significant shortcoming of this EIS document. In particular, the document lacks an important fish-habitat comparison between Alternatives 1 and 2 during the spring period.	USFWS-90
LTP Lower Klamath - Analytical Tools Tech Appendix	3-2	8	Recently errors in the RBM-10 model outputs for the lower Trinity/Klamath have been identified that should be considered or discussed in the document on how this may change the interpretation of impacts.	USFWS-91

Responses to Comments from U.S. Fish and Wildlife Service

USFWS-1: Please refer to Master Response "General Comment."

USFWS-2: Any text revisions in the Executive Summary were also made, as appropriate, in Chapters 1 to 18, and to appendices of the Draft EIS for consistency. See Chapter 4, "Errata" of this Final EIS.

USFWS-3: In the Executive Summary and Chapter 2, "Description of Alternatives" of the Draft EIS, text on page ES-4 (lines 19-22), and page 2-3 (lines 21-23), has been revised to clarify that Reclamation, in coordination with the LTP Technical Team, will initiate preventive base flow augmentation in consideration of flow levels, thermal regime, fish densities, and Ich infestation levels in the lower Klamath River. Based on input from the LTP Technical Team, fish harvest data may be used to help understand potential fish densities in the lower Klamath River. See Chapter 4, "Errata." of this Final EIS.

USFWS-4: It appears that the commenter meant to refer to page ES-4, line 29, of the Draft EIS, as there is no line 29 on page ES-5. Fish abundance and density in the lower Klamath River are very important considerations for release of preventive pulse flows. Fish density metrics will be dependent on the type of water year and anticipated fish returns. During years with flow augmentation actions, Reclamation, in coordination with the LTP Technical Team, will identify specific fish density metrics based on environmental and biological conditions. In years with large fish returns, metrics such as Yurok Tribal fish harvest data may be utilized. Please also refer to Master Response "Scientific Support for Flow Augmentation."

USFWS-5: The percent decrease in energy generation for the action alternatives is presented in Table ES-3 in the Executive Summary of the Draft EIS (see page ES-17).

USFWS-6: Chapter 4, "Surface Water Supplement and Management" Figure 4-17 of the Draft EIS (page 4-28) presents the estimated flow augmentation frequency and associated volumes for the three flow augmentation components (preventive base flow augmentation, preventive pulse flow, and emergency pulse flow augmentation). The Analytical Tools Technical Appendix (pages 2-12 to 2-27) provides additional detail on the anticipated frequency of flow augmentation actions (preventive base flow augmentation, preventive pulse flow, and emergency pulse flow augmentation), including descriptions of methods and assumptions. As described in Chapter 2, "Description of Alternatives" (pages 2-5 to 2-7, and page 2-11) of the Draft EIS, the action alternatives provide for potential refinement of the trigger criteria for the flow augmentation actions, including refinement of the 2,800 cubic feet per second (cfs) flow target in the lower Klamath River for preventive base flow augmentation. Reclamation considered the effects of implementing the action alternatives (see *Impact Analysis* sections of Chapters 4 to 14 of the Draft EIS), including effects related to higher flows in the upper Trinity River in August and September during some years.

USFWS-7: Chapter 7, "Biological Resources – Fisheries" pages 7-61 to 7-65 (Alternative 1), and pages 7-87 to 7-90 (Alternative 2), of the Draft EIS discusses the potential unintended effects of elevated late-summer flow releases on fisheries resources—particularly the effects on advanced-stage juvenile rearing habitat for Coho Salmon, spring-run Chinook Salmon, and steelhead (habitat shifts during elevated releases and potential for stranding during flow

reduction); and on adult spring-run Chinook Salmon in the Trinity River (redd dewatering during flow reduction), based on Trinity River Record of Decision (ROD) temperature and flow criteria, life history and biology of the affected species, and available monitoring data and evaluations cited in the Draft EIS.

Reclamation understands and is aware that additional emerging concerns and uncertainties have been voiced about the proposed action, including the potential for spatiotemporal alterations of immigration and spawning of spring- and fall-run Chinook Salmon in the Trinity River. These uncertainties and emerging issues that lack data, or are in the preliminary stages of evaluation, are explicitly acknowledged and listed as important scientific questions to be addressed through monitoring and research under an adaptive management framework in Chapter 2, "Description of Alternatives" (Tables 2-2 and 2-3 on pages 2-8 and 2-9, respectively). Reclamation intends to work with the LTP Technical Team to refine implementation as new information is developed and as understanding of the efficacy and unintended consequences of the proposed action increases.

USFWS-8: The Trinity River ROD allows for adjustments to the release schedule to respond to changing conditions and evolving scientific understanding (DOI and Hoopa Valley Tribe 2000). The Trinity River ROD established an Adaptive Environmental Assessment and Management Program to recommend possible adjustments to the annual flow schedule provided for in the Trinity River ROD, or other measures to ensure the restoration and maintenance of the Trinity River anadromous fishery continues based on the best available scientific information and analysis. Although Trinity River ROD flows were not originally intended to be used for late-summer flow augmentation releases, the flow augmentation releases under Alternative 2 would directly contribute to the maintenance of the Trinity River anadromous fishery. A larger proportion of Trinity River fall-run Chinook Salmon were lost in the 2002 fish die-off compared to the Klamath River run. Accordingly, returning Trinity River adult salmon are a primary beneficiary of the flow augmentation releases under Alternative 2.

Reclamation considered the effects of implementing Alternative 2 (see *Impact Analysis* sections of Chapters 4 to 14) and provided the analysis in the Draft EIS. As an implementing agency of the Trinity River Restoration Program and member of the Trinity Management Council, Reclamation fully understands and recognizes the intent and purpose of the Trinity River ROD objectives. The flow-related objectives of the Trinity River ROD, as presented in the 1999 *Trinity River Flow Evaluation Final Report*, were considered in the development of the effects analyses. In addition to the impact analyses on effects to Trinity River ROD water temperature objectives described in Chapter 5, "Surface Water Quality," the analyses presented in Chapter 7, "Biological Resources – Fisheries" and Chapter 8, "Biological Resources – Terrestrial" address effects on a number of relevant Trinity River ROD objectives potentially affected by Alternative 2. Specific Trinity River ROD objectives considered in the Chapter 7, "Biological Resources – Fisheries" analysis were listed in Table 7-2 (see pages 7-47 to 7-49), and those considered in the Chapter 8, "Biological Resources – Terrestrial" analysis were described on pages 8-35 and 8-36 of the Draft EIS. Chapters 5, "Surface Water Quality" (pages 5-66 to 5-81) and Chapter 7, "Biological Resources – Fisheries" (pages 7-87 to 7-100) of the Draft EIS describe the effects of Alternative 2 on water temperatures in the Trinity River, including objectives identified in the Trinity River ROD. Chapter 8, "Biological Resources – Terrestrial" (pages 8-41 to 8-43) describes the effects of Alternative 2 on terrestrial resources, including riparian habitats. With

respect to geomorphic processes described in Chapter 2, "Description of Alternatives" (page 2-10 to 2-12), the duration and magnitude of the spring peak flows would be maintained for extremely wet, wet, normal and dry year types, maintaining flows for geomorphic objectives. As presented in Table 8.2 of the *Trinity River Flow Evaluation Final Report* (USFWS and Hoopa Valley Tribe 1999), geomorphic objectives did not include channel-bed mobilization or transport as an objective for critically dry years. Accordingly, the reduced duration of spring peak flows (1,500 cfs) in critically dry years under Alternative 2 would not affect any intended benefits to these geomorphic processes. As described in Chapter 4, "Water Supply and Management" (page 4-34 and 4-77) of the Draft EIS, both Alternative 1 and Alternative 2 would reduce spills in some winter months during wetter year types, although Alternative 1 would have greater reductions in spills than Alternative 2.

USFWS-9: The text referenced by U.S. Fish and Wildlife Service (USFWS) is included under section *Background and History* of Chapter 1, "Introduction" of the Draft EIS. This section describes the history of flow augmentation actions on the lower Klamath River, and the referenced text accurately describes the recommendations included in the USFWS and National Marine Fisheries Service (NMFS) *2013 Fall Flow Release Recommendation Memorandum*. No text revisions were made to Chapter 1 of the Draft EIS.

USFWS-10: Chapter 1, "Introduction," (pages 1-1 to 1-8) describes the background and history of flow augmentation actions by Reclamation, in coordination with tribal resource agencies, and other stakeholders, to protect fall-run Chinook Salmon returning to the Klamath and Trinity Rivers. Recent biological and environmental conditions, and associated augmentation actions by Reclamation—for 2014 and 2015—are described on pages 1-6 to 1-8.

Further, Chapter 2, "Description of Alternatives" (pages 2-2 to 2-4) describes the flow augmentation criteria which are based upon the most current information and science. Please also refer to USFWS-21 that clarifies text of page ES-4 (lines 9-21), and page 2-3 (lines 10-23) in the Draft EIS, which has been revised to reflect that Reclamation, in coordination with the LTP Technical Team, will initiate preventive base flow augmentation in consideration of flow levels, thermal regime, fish densities, and Ich infestation levels in the lower Klamath River. Based on input from the LTP Technical Team, fish harvest data may be used to help understand potential fish densities in the lower Klamath River. See Chapter 4, "Errata" of this Final EIS.

Chapter 7, "Biological Resources – Fisheries" (pages 7-14 to 7-16) in the Draft EIS describes the current understanding, based on the best available information, of fish disease processes in the lower Klamath River. Please also refer to Master Response "Scientific Support for Flow Augmentation."

USFWS-11: In the Executive Summary, Chapter 1, "Introduction" and Chapter 2, "Description of Alternatives" of the Draft EIS, text on page ES-5 (lines 7-9), page 1-6 (lines 7-9), and page 2-4 (lines 13-15), has been revised to clarify that the emergency pulse flow augmentation criterion for observed mortality would be based upon any 20-kilometer reach of the lower Klamath River, not a specified reach. See Chapter 4, "Errata" of the Final EIS.

USFWS-12: Please refer to Master Response "General Comment."

USFWS-13: Please refer to Master Response "General Comment."

USFWS-14: Please refer to Master Response "General Comment."

USFWS-15: Please refer to Master Response "General Comment."

USFWS-16: Reclamation implemented flow augmentation actions for the lower Klamath River during August and September of 2016. Information and data from these 2016 flow augmentation actions were not used as part of the analysis in this EIS.

USFWS-17: Reclamation concurs that large run size is a factor, but not necessarily a driving factor. Chapter 7, "Biological Resources – Fisheries" (page 7-16) specifically discusses the primary factors currently thought to contribute to infection dynamics and outbreaks of Ich disease in adult salmon in the Klamath River. Please also refer to Master Response "Scientific Support for Flow Augmentation."

USFWS-18: Please refer to Master Response "General Comment."

USFWS-19: Please refer to Master Response "Removal of PacifiCorp Dams on the Klamath River."

USFWS-20: As described in Chapter 2, "Description of Alternatives" page 2-3, the thermal regime of the lower Klamath River will be considered by Reclamation, in coordination with the LTP Technical Team, when initiating preventive base flow augmentation releases. No specific thermal criteria for initiating a preventive base-flow augmentation are included in the action alternatives.

USFWS-21: In the Executive Summary and Chapter 2, "Description of Alternatives" of the Draft EIS, text on page ES-4 (lines 9-21), and page 2-3 (lines 10-23), has been revised to clarify that Reclamation, in coordination with the LTP Technical Team, will initiate preventive base flow augmentation in consideration of flow levels, thermal regime, fish densities, and Ich infestation levels in the lower Klamath River. Based on input from the LTP Technical Team, fish harvest data may be used to help understand potential fish densities in the lower Klamath River. In coordination with the LTP Technical Team, additional fish density metrics will be developed as part of the monitoring and research component of the action alternatives. See Chapter 4, "Errata" of this Final EIS.

USFWS-22: Once initiated, preventive base flow augmentation releases from Lewiston Dam would be maintained to provide for up to 2,800 cfs in the lower Klamath River at Klamath, California through September 21. Please also refer to Master Response "Scientific Support for Flow Augmentation."

USFWS-23: Please refer to the response to comment for USFWS-7.

USFWS-24: As described in Chapter 2, "Description of Alternatives" (page 2-3), a preventive pulse flow would target 5,000 cfs for one 24-hour period at Klamath, California. This targeted flow rate is consistent with the pulse flow augmentation action implemented in 2015. As described in the Analytical Tools Technical Appendix, Chapter 2 "Water Operations Modeling"

pages 2-19 to 2-22 of the Draft EIS, ramping rates from the *Trinity River Mainstem Fishery Restoration EIS/R* were used to develop preventive pulse flow requirements for water operations and related modeling. Please also refer to Master Response "Scientific Support for Flow Augmentation."

USFWS-25: Metrics to evaluate fish density will be based on real-time environmental and biological conditions. For example, particularly in years with large run sizes of fall-run Chinook Salmon, estuary fish harvest data (e.g., Yurok Tribe estuary counts) may be used to help understand potential fish densities in the lower Klamath River. In addition, additional fish density metrics may be developed in coordination with the LTP Technical Team as part of the monitoring and research component of the action alternatives, as described in Chapter 2, "Description of Alternatives" Table 2-3 (on page 2-9) in the Draft EIS.

USFWS-26: Please refer to Master Response "General Comment."

USFWS-27: In Chapter 2, "Description of Alternatives" of the Draft EIS, text on page 2-6 (lines 1-7), has been revised to clarify that various methods would be utilized to determine fish densities, including estuary counts and other methods identified by the LTP Technical Team. Reclamation concurs that estuary counts may have limited usefulness during years with lower run sizes. See Chapter 4, "Errata" of this Final EIS.

USFWS-28: Chapters 4 to 14 of the Draft EIS describe the effects of Alternative 2 (see *Impact Analysis* section in each chapter). The flow-related objectives of the Trinity River ROD, as presented in the *Trinity River Flow Evaluation Final Report*, were considered in the development of these effects analysis. In addition to the impacts analyses on effects to Trinity River ROD water temperature objectives described in Chapter 5, "Surface Water Quality," the analyses presented in Chapter 7, "Biological Resources – Fisheries" and Chapter 8, "Biological Resources – Terrestrial" address impacts on a number of relevant Trinity River ROD objectives potentially affected by the proposed action alternatives. Specific Trinity River ROD objectives considered in the Chapter 7, "Biological Resources – Fisheries" analysis were listed in Table 7-2, and those considered in the Chapter 8, "Biological Resources – Terrestrial" analysis were described on pages 8-35 and 8-36 of the Draft EIS. The analyses were conducted at a level of detail commensurate with the potential degree of impact to the various resources, and at a level of detail sufficient to distinguish between each alternative's relative level of potential impacts on resources of concern, including those benefited by Trinity River ROD objectives.

USFWS-29: The ROD for the *Trinity River Mainstem Fishery Restoration EIS/R* provides for annual instream flows below Lewiston Dam, and a total volume of water released from the Trinity River Division (TRD) to the Trinity River depending on the annual hydrology (water-year type). The commenter is correct that the Trinity River ROD does not include any provisions for carrying water over between water years in the Trinity River. Under the Trinity River Record of Decision Flow Rescheduling Alternative (Alternative 2), in years when flow augmentation requirements were less than the reschedule volumes, any unused water from the rescheduling of Trinity River ROD flows would remain in storage within Trinity Reservoir and be available to meet CVP obligations.

USFWS-30: Please refer to Master Response "General Comment."

USFWS-31: Please refer to Master Response "General Comment."

USFWS-32 : Chapter 7, "Biological Resources – Fisheries" of the Draft EIS describes potential changes in fish and aquatic resources, and the methods used to evaluate Lower Klamath and Trinity River Region fisheries effects from the action alternatives. Chapter 12, "Socioeconomics" of the Draft EIS describes commercial, sport, and tribal salmon fishing in the Lower Klamath and Trinity River Region (pages 12-2 to 12-6). Potential effects of the action alternatives to commercial, sport, and tribal salmon fishing in the Lower Klamath and Trinity River Region are described on pages 12-9, 12-12, and 12-16 of Chapter 12, "Socioeconomics" of the Draft EIS. In addition, please refer to Master Response "Best Available Information."

USFWS-33: In Chapter 4 "Surface Water Supply and Management" of the Draft EIS, text on page 4-4 (line 34) has been revised per comment to clarify that annual precipitation ranges between 30 and 70 inches per year in the Trinity River Subbasin. See Chapter 4, "Errata" of this Final EIS.

USFWS-34: In Chapter 4 "Surface Water Supply and Management" of the Draft EIS, text on page 4-8 (line 16) has been revised per comment to clarify that the Klamath River downstream from the Trinity River does not flow through the Hoopa Valley Indian Reservation or the Resighini Indian Reservation. See Chapter 4, "Errata" of this Final EIS.

USFWS-35: As described in Chapter 4, "Surface Water Supply and Management" on pages 4-2 and 4-3 of the Draft EIS, the period 2009 to 2016 was selected because the Reasonable and Prudent Alternatives (RPA) in the 2008 USFWS *Formal Endangered Species Act Consultation on the Proposed Coordinated Operations of the Central Valley Project and State Water Project* and the 2009 NMFS *Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project* changed CVP and State Water project (SWP) operations. Historical data before 2009 is not representative of current CVP and SWP operations as used in this analysis, and was not included to avoid confusion in interpretation of analysis results.

USFWS-36: Please refer to the response to comment for USFWS-35.

USFWS-37: As described in Chapter 4, "Surface Water Supply and Management" page 4-6 of the Draft EIS, releases may be made to the Trinity River over the Trinity River ROD flow requirements as part of flood control operations. During times of high inflows, releases may be made from Trinity Lake as part of normal operations to meet Reclamation's Safety of Dams requirements. If the release is not diverted from Lewiston Reservoir into Whiskeytown Lake then the water is released to the Trinity River, resulting in Trinity River flows above the required Trinity River ROD flows. The large average-monthly flows in extremely wet and wet water years in Table 4-3 on page 4-35 are the results of these releases. As shown in Tables 4-1 and 4-3, and as described on page 4-31 of the Draft EIS, Alternative 1 reduces releases to the Trinity River during certain months (October through March) in comparison to the No Action Alternative because storage levels were lower at the start of the month and water was captured and stored.

USFWS-38: Chapter 2 "Water Operations Modeling" (pages 2-19 to 2-27) of the Analytical Tools Technical Appendix of the Draft EIS documents the development of flow augmentation volumes required each year (1922 to 2003) for use in the CalSim II water operations modeling. Table 2-8 "Summary of Preventive Base Flow Augmentation, Preventive Pulse Flow and Emergency Pulse flow Augmentation Volume by Water Year"(pages 2-24 and 2-25), Table 2-9 "Preventive Base Flow Augmentation for the 1922-2003 Period by Hydrologic Year Type" (page 2-27) and Figure 2-6 "Estimated Flow Augmentation Volumes of Action Alternatives for the CalSim Period of Analysis"(page 2-26) summarize the augmentation volumes used in the CalSim II modeling.

In real-time operations, the volume of augmentation that may be required in the fall is not known at the time the CVP delivery allocation, Trinity Lake release and Lewiston Reservoir diversion decisions are made in the spring. This real-time operational uncertainty may result in too little or too much being reserved in some years, with associated impacts to carryover storage, spills, and deliveries in the same or following years. This uncertainty was implemented in the CalSim II simulation of the alternatives to insure a representative simulation of the project for impact analysis. The change in delivery is due to the inclusion of this real-time uncertainty in the CalSim II simulations.

The assumption was made that the reservation of Trinity River ROD volumes each spring would be based on the mean preventive flow for the current year Trinity water year type. Chapter 2, "Description of Alternatives" Table 2-4 (on pages 2-11) in the Draft EIS summarizes these values. This mean annual-augmentation volume is used each spring as the basis for planning the annual operational decisions for the remainder of the year. This estimate will be too low in some years and too high in others to represent the same type and level of uncertainty that would be faced in real-time operations.

Alternative 1 is implemented in the CalSim II simulations by removing the anticipated mean annual-augmentation volume for the current water year from the CVP allocation logic to prevent scheduled delivery and retain the water in storage in Trinity Lake. In the fall, the actual water need for the specific year for preventive and emergency levels may be none, or a value less than was reserved, or a value higher than was reserved. If the requirement is lower than the reservation, CalSim II will make the required release and the carryover storage will either be exported later in the year or kept in storage, to either be spilled or included in the allocation the following year. If the requirement is higher than the reserve, then the extra water will be released.

Alternative 2 modifies the Trinity River ROD release requirements in the spring but does not modify the CVP delivery logic. The lower release requirements maintain the water in storage during the spring for use later in the year. The fall operations are the same as described in Alternative 1.

USFWS-39: Please refer to the response to comment for USFWS-37.

USFWS-40: Please refer to Master Response "General Comment."

USFWS-41: In Chapter 5, "Surface Water Quality" of the Draft EIS, text on page 5-10 (lines 13-17) has been revised to include discussion on juvenile outmigrant temperature objectives established in the ROD. See Chapter 4, "Errata" of this Final EIS.

USFWS-42: In Chapter 5, "Surface Water Quality" of the Draft EIS, text on page 5-10 (lines 13-17) has been revised to clarify that the temperature objectives for holding and spawning adult salmonids were developed to protect adults in the river as well as the hatchery populations. See Chapter 4, "Errata" of this Final EIS.

USFWS-43: In Chapter 5, "Surface Water Quality" in the Draft EIS, Table 5-6 and Figure 5-1 (on pages 5-14 and 5-15, respectively) were updated with additional historic temperature data for the Trinity River per the comment. The revisions to Table 5-6 and Figure 5-1 do not change the analyses presented in the *Impact Analysis* section of Chapter 5 of the Draft EIS. See Chapter 4, "Errata" of this Final EIS.

USFWS-44: In Chapter 5, "Surface Water Quality" in the Draft EIS, text on page 5-27 (line 9) has been revised to reflect that water quality is supportive of native aquatic life.

USFWS-45: The RBM10 model used to evaluate temperatures on the lower Klamath and Trinity Rivers are described in Chapter 3, "Water Operations Modeling" (pages 3-2 to 3-10) of the Analytical Tools Technical Appendix of the Draft EIS. The RBM10 model used in the analysis was based on the latest available model source codes and executables for the two models employed: the Klamath River RBM10 model and Trinity RBM10 model. Communication with United States Geologic Survey staff identified that there has been no change in the FORTRAN programs that are used in the RBM10 models provided to the project team for use in the Draft EIS. Apparently there have been some issues with the Graphical User Interface (GUI) that can be used to run the RBM10 model. However, the executable files were used directly without use of the GUI, and errors associated with the GUI do not affect this analysis. Some minor bookkeeping changes have been made to RBM10, but these will not impact the analysis or conclusions in the Draft EIS.

USFWS-46: Please refer to Master Response "General Comment."

USFWS-47: Please refer to Master Response "General Comment."

USFWS-48: The referenced table presents data for the full year for comparative purposes. Please also refer to Master Response "General Comment."

USFWS-49: The table presents data for the full year for comparative purposes. Please also refer to Master Response "General Comment."

USFWS-50: In Chapter 5, "Surface Water Quality" of the Draft EIS, text on page 5-43 (lines 1-3) has been revised to clarify that the abilities of the No Action Alternative and Alternative 1 to meet the temperature objectives were nearly identical. See Chapter 4, "Errata" of this Final EIS. Chapter 5, "Surface Water Quality" of the Draft EIS explains that water temperatures are decreased in response to increased flows (see page 5-51, Table 5-29), but do not appreciably change the ability to meet the temperature objectives.

USFWS-51: The data presented in the Draft EIS, Chapter 5, "Surface Water Quality" Table 5-22 (on page 5-43), "Number of Days that No Action Alternative and Alternative 1 Temperatures at Douglas City Exceeded Basin Plan Temperature Objectives" is the result of temperature modeling performed with the RBM10 temperature model and is not historic measured data. As documented in the Analytical Tools Technical Appendix, Chapter 3, "Reservoir and River Temperature Modeling" (page 3-3), all RBM10 simulations covered the period from 1/1/1980 to 9/30/2003 to overlap the CalSim II dataset. As described in Chapter 2, "Water Operations Modeling" of the Analytical Tools Technical Appendix, the CalSim II modeling analyses reflected anticipated 2030 conditions, including continued implementation of the Trinity River Restoration Program (page 2-8) and other programs, climate change, and related regulatory requirements. The results of the CalSim II water operations modeling were used as inputs to the Trinity-Sacramento River HEC-5Q model which was used to evaluate reservoir temperatures (including Trinity Reservoir and Lewiston Reservoir). Outputs from the Trinity-Sacramento River HEC-5Q model were input into the RBM10 model and used to evaluate temperatures in the Trinity and Klamath Rivers. Please also see Master Response "Best Available Information."

USFWS-52: The data presented in the Draft EIS, Chapter 5, "Surface Water Quality" in Table 5-23 (on page 5-23), "Number of Days that No Action Alternative and Alternative 1 Temperatures at Trinity River Below North Fork Trinity River Exceeded Basin Plan Temperature Objectives" is the result of temperature modeling performed with the RBM10 temperature model and is not historic measured data. As documented in the Analytical Appendix, Chapter 3, "Reservoir and River Temperature Modeling" (page 3-3), all RBM10 simulations covered the period from 1/1/1980 to 9/30/2003 to overlap the CalSim II dataset. Please also see Master Response "Best Available Information."

USFWS-53: As described in Chapter 5, "Surface Water Quality" of the Draft EIS, the temperature objectives presented in the column header of Table 5-25 are provided for context. The title of the table identifies the location of the temperature compliance. In addition, please refer to the response to comment for USFWS-51 for additional information on the period of analysis (from 1922 to 2003).

USFWS-54: Please refer to the response to comment for USFWS-53.

USFWS-55: Please refer to the response to comment for USFWS-53.

USFWS-56: Please refer to the response to comment for USFWS-53.

USFWS-57: In Chapter 5, "Surface Water Quality" of the Draft EIS, text on page 5-11 (line 10) has been revised to clarify that the full name of the North Coast Regional Water Quality Control Board's "Basin Plan" is the *Water Quality Control Plan for the North Coast Region.* The *Water Quality Control Plan for the North Coast Region* does not identify specific temperature objectives for the lower Klamath River.

USFWS-58: In Chapter 5, "Surface Water Quality" of the Draft EIS, text on page 5-52 (line 18), and page 5-84 (line 27) has been revised to clarify that dissolved oxygen (DO) concentrations in the lower Klamath River will be higher during flow augmentation actions under the action alternatives. The text previously stated incorrectly that DO concentrations would be lower. The

revised text states that because DO saturation concentration is a function of water temperature, the lower Klamath River may experience slightly higher DO concentrations during augmentation due to slightly cooler water temperatures. See Chapter 4, "Errata" of this Final EIS.

USFWS-59: In Chapter 5, "Surface Water Quality" of the Draft EIS, text was revised on page 5-69 (line 2) to add a reference to Table 5-45. Please also refer to the responses to comments for USFWS-47 to USFWS-58.

USFWS-60: In Chapter 5, "Surface Water Quality" of the Draft EIS, text on page 5-76 (line 23) has been revised to clarify that the RBM10 simulation results for the No Action Alternative and Alternative 2 indicate that the two alternatives were similar in meeting temperature objectives, with the exception of critically dry and dry years in early June. See Chapter 4, "Errata" of this Final EIS. For further clarification, please also refer to the response to comment for USFWS-45.

USFWS-61: Please refer to Master Response "General Comment."

USFWS-62: Chapter 12, "Socioeconomics," page 12-1 (lines 29-40) and page 12-16 (lines 7-18), describe the effects to tribal, commercial and recreational fisheries for the No Action Alternative and action alternatives. Additional information is also provided in Chapter 7, "Biological Resources – Fisheries" on pages 7-56 to 7-58, regarding potential effects of implementing the No Action Alternative.

USFWS-63: Please refer to Master Response "General Comment."

USFWS-64: In Chapter 7, "Biological Resources – Fisheries" of the Draft EIS, text on page 7-13 (lines 29-30) has been revised to update the description of the current status of Pacific Lamprey in the Klamath-Trinity Basin and to correct omissions of reference to pertinent scientific publications originating with the Arcata USFWS office. See Chapter 4, "Errata" of this Final EIS.

USFWS-65: Please refer to Master Response "General Comment."

USFWS-66: In Chapter 7, "Biological Resources – Fisheries" of the Draft EIS, text on page 7-15 (line 1) has been revised to clarify meaning. References are provided for this discussion. Commenter does not provide additional reference to further clarify that despite the resistance to *Ceratonova shasta* (*C. shasta*) generally exhibited by native sympatric salmonid populations in the Klamath Basin—including Redband Trout from the upper basin and anadromous salmonids—juvenile salmon exposed to high levels of the parasite, particularly at high temperatures, appear to be more susceptible to the disease. See Chapter 4, "Errata" of this Final EIS.

USFWS-67: In Chapter 7, "Biological Resources – Fisheries" of the Draft EIS, text on page 7-15 (lines 7-8) has been revised to update information on severity of infection rates by *C. shasta* in juvenile salmon in 2015, including the addition of a new citation for True et al. (2016). See Chapter 4, "Errata" of this Final EIS.

USFWS-68: In Chapter 7, "Biological Resources – Fisheries" of the Draft EIS, text on page 7-16 was revised to clarify that the two pathogens typically become lethal when fish experience high degrees of stress. See Chapter 4, "Errata" of this Final EIS.

USFWS-69: Please refer to Master Response "General Comment."

USFWS-70: The reference to fall-run Chinook Salmon in Chapter 7, "Biological Resources – Fisheries" on page 7-33 pertains to Central Valley salmon runs, not Klamath Basin salmon runs. Fall-run Chinook Salmon are currently the most abundant in the Central Valley of California, as is correctly stated in the Draft EIS. Similarly, fall-run Chinook Salmon currently comprise the most abundant salmon runs in the Klamath and Trinity Rivers.

USFWS-71: Reclamation appreciates and understands the limitations of such regression models and key qualifications for the interpretation of results. As applied in Chapter 7, "Biological Resources – Fisheries" of the Draft EIS, Reclamation believes the technique adequately discriminates between the relative levels of impacts of the alternatives considered, without significantly violating key assumptions for their use. Additionally, these fish habitat-reservoir drawdown relationships have been used in evaluations of impacts to reservoir fish for other CVP actions, including the 2000 *Trinity River Mainstem Fishery Restoration EIS/R*, and more recently, the *Coordinated Long-Term Operation of the Central Valley Project and State Water Project EIS*.

USFWS-72: In the context of the Draft EIS, the term *similar* is used to describe modeling results that are not substantially different for impacts assessment purposes. This term is not quoting a reference, but was separated by quotation marks to highlight the term. Chapter 4, "Water Supply and Management" on page 4-26, lines 32 to 35 (for results based on CalSim II output) and in Chapter 7 "Biological Resources – Fisheries" on page 7-50, lines 3 to14 (for results on water temperatures), first explain why and what level of change between the No Action Alternative and the action alternatives are classified as *similar*. This classification is used because modeling assumptions and approaches create limitations and uncertainties in the hydrologic model (CalSim-II) and temperature models. Alternative comparisons described as *similar,* either a 5 percent or less change for flows, or, a 0.5 degrees Fahrenheit (°F) change for water temperature, would not be expected to result in substantially different effects. The use of this term in the Chapter 7, as well as other EIS chapters, is intended to allow the reader to better understand and interpret the results.

USFWS-73: Reclamation is aware of the various fish habitat models used in support of the development of the Trinity River ROD, and current modeling efforts being applied to various channel rehabilitation design and evaluation processes for the Trinity River Restoration Program. While the potential use of applicable and available hydraulic-habitat models was considered early on, such a modeling effort and analysis was deemed without merit to discriminate between the relative impact levels to Trinity River fisheries resources, once the range of alternatives to be evaluated in the Draft EIS was identified. Because the primary difference between the alternatives analyzed in the Draft EIS is the timing (and in critically dry years the duration) of spring-time flow recessions—not changes to the magnitude of Trinity River ROD peak flows and other functional flow levels—the focus of the impacts analysis is on changes to water

temperature-mediated habitat conditions affected by an earlier flow reduction schedule of Alternative 2, compared to Alternative 1 and the No Action Alternative.

The analytical approach for evaluating potential impacts to fish habitat conditions and fishery resources in the Trinity River was discussed and vetted with cooperating partners early in the development of the Draft EIS. During development of the Draft EIS, the cooperating agency workshop conducted on May 10, 2016, reviewed the proposed analytical framework, including proposed analytical tools/models to be applied for resource evaluations, and the methodology for impact analyses (e.g., models, desktop analysis, literature review). Specifically, a handout titled *Preliminary Framework and Potential Methodology for Impact Analyses* specified that effects to Trinity River fisheries would be evaluated based upon modeling outputs from CalSim II, RBM10 and desktop analyses. Following the workshop, the information presented and refined in the workshop was shared with the cooperating agencies for further review and comment. In addition, the cooperating agency webinar conducted on June 6, 2016, further reviewed the proposed analytical framework, including proposed analytical tools/models to be applied for resource evaluations. Cooperating agencies did not suggest an alternative impact methodology for Trinity River fish habitat evaluations. Reclamation's rationale for using water temperature and flow statistics as primary evaluation criteria to discriminate between the relative impacts to these key fish habitat factors among alternatives is described in Attachment 1 – Selection of Analytical Tools (pages 6 and 7) in the Analytical Tools Technical Appendix of the Draft EIS.

USFWS-74: Please refer to the response to comment for USFWS-73. Additionally, Weighted Usable Area (WUA) relationships used for the Trinity River Flow Study have likely changed based upon implementation of the Trinity River ROD and the numerous channel rehabilitation projects completed to date. Accordingly, the analytical approach adopted to discriminate between the alternatives (as to the relative impacts to key factors affecting fish habitat) is described in the Analytical Tools Technical Appendix of the Draft EIS. Several monitoring reports prepared by the USFWS, addressing juvenile salmonid stranding and salmon redd dewatering (since implementation of the Trinity River ROD), were also used to inform the evaluation of Trinity River fishery impacts and are included in the Chapter 7, "Biological Resources – Fisheries" in the *References* section (pages 7-116 to 7-136) of the Draft EIS.

USFWS-75: Please refer to the responses to comments for USFWS-73 and USFWS-74.

USFWS-76: As noted by the commenter, the DVD of the Draft EIS unintentionally omitted page 7-61. On December 15, 2016, Reclamation redistributed the DVD of the Draft EIS to the cooperating agencies and libraries to correct the error. Chapter 16, "Distribution of Draft EIS" includes the locations where the Draft EIS was distributed (pages 16-1 and 16-2). It should be noted that the Draft EIS made available to the public for review on the Reclamation website did not omit page 7-61.

USFWS-77: In Chapter 7, "Biological Resources – Fisheries" of the Draft EIS, text on page 7-63 (lines 9-10) was revised to clarify that no spring-run Chinook Salmon redds, completed during elevated flows, were dewatered during a flow reduction from 900 cfs to 450 cfs. See Chapter 4, "Errata" of this Final EIS.

USFWS-78: Please refer to the response to comment for USFWS-7.

USFWS-79: Please refer to the response to comment for USFWS-7.

USFWS-80: In Chapter 7, "Biological Resources – Fisheries" of the Draft EIS, the titles for Table 7-6 and Table 7-7 (on pages 7-69 to 7-72) were revised to clarify the locations for the data presented and used in the analysis. The data presented in Table 7-6 and Table 7-7 are modeled Trinity River average daily water temperatures and associated ranges for time periods specified in the table headings at the North Fork confluence and at Weitchpec, respectively, under the No Action Alternative and Alternative 1. The table headings contain the relevant spring-time water temperature objectives for the river from Lewiston Dam to Weitchpec, which were recommended by the 1999 *Trinity River Flow Evaluation Final Report*, adopted by the Trinity River ROD, and used for comparative analysis. See Chapter 4, "Errata" of this Final EIS.

USFWS-81: Please refer to the response to comment for USFWS-80.

USFWS-82: Please refer to the response to comment for USFWS-80.

USFWS-83: Please refer to the responses to comments for USFWS-84 to USFWS-87.

USFWS-84: In Chapter 7, "Biological Resources – Fisheries" of the Draft EIS, the titles for Table 7-17 and Table 7-18 (on pages 7-93 to 7-96) were revised to clarify the locations for the data presented and used in the analysis. The data presented in Table 7-17 and Table 7-18 are modeled Trinity River average daily water temperatures and associated ranges for time periods specified in the table headings—at the North Fork confluence and at Weitchpec, respectively—under the No Action and Alternative 2 scenarios. The table headings contain the relevant spring-time water temperature objectives for the river from Lewiston Dam to Weitchpec, which were recommended by the 1999 Trinity River Flow Study Report, adopted by the Trinity River ROD, and used for comparative analysis. See Chapter 4, "Errata" of this Final EIS.

Tables 7-17 and 7-18 provide water temperatures and Trinity River water year types for each of the simulated years (1980 to 2003). A summary by water year type was not provided in the tables because it was not considered essential for discriminating between thermal impacts on fish habitat for the alternatives. Modeled water temperature values for each year, including year type, are presented separately for each year in the tables to preserve inter-annual detail for interested readers.

USFWS-85: Please refer to the response to comment for USFWS-84.

USFWS-86: Please refer to the response to comment for USFWS-84.

USFWS-87: Please refer to the response to comment for USFWS-84.

USFWS-88: As described in the Executive Summary of the Draft EIS, Table ES-3 provides a summary of the environmental effects of the action alternatives compared to the No Action Alternative. The *Impact Analysis* section of Chapter 7, "Biological Resources – Fisheries" of the Draft EIS provides additional discussion on potential effects of the action alternatives on redd dewatering in the Trinity River.

USFWS-89: In Chapter 7, "Biological Resources – Fisheries" of the Draft EIS, Table 7-26 (on page 7-107) was revised to reflect that suitable and marginally-suitable thermal conditions for juvenile rearing and outmigration would be of shorter duration under Alternative 2, especially in dry and critically dry years. The original statement that juvenile rearing and outmigration would not be affected by water temperature changes under Alternative 2 was incorrect. See Chapter 4, "Errata" of this Final EIS.

USFWS-90: Please refer to the responses to comments for USFWS-7, USFWS-73 and USFWS-74.

USFWS-91: Please refer to the response to comment for USFWS-45.