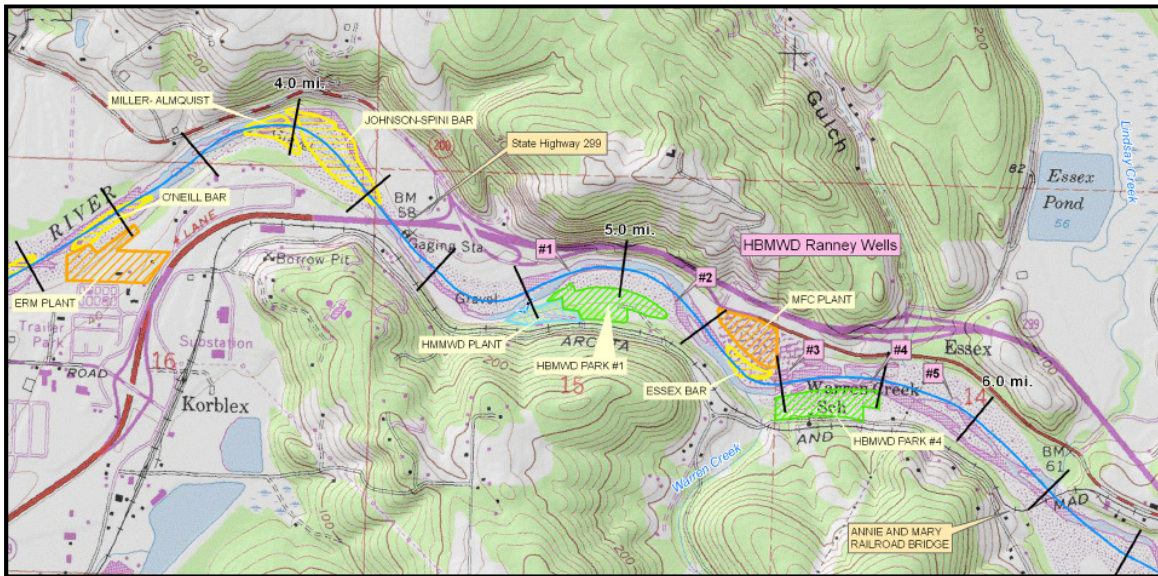


# Final Supplemental Program Environmental Impact Report for Gravel Extraction on the Lower Mad River

State Clearinghouse No. 1992083049

Humboldt County Apps No. 7077



October 2014

Prepared By:

Humboldt County Planning & Building Department  
3015 H Street  
Eureka, CA 95501-4484

## **Humboldt County Board of Supervisors**

First District: Rex Bohn  
Second District: Estelle Fennel  
Third District: Mark Lovelace  
Fourth District: Virginia Bass  
Fifth District: Ryan Sundberg

## **Humboldt County Planning Commission**

First District: Alan Bongio  
Second District: Robert Morris  
Third District: Noah Levy  
Fourth District: Kevin McKenny  
Fifth District: Ben Shepard  
At-Large: David Edmonds  
At-Large: Lee Ulansey

## **Humboldt County Planning & Building Department**

Kevin R. Hamblin, Director  
Norma Lorenzo, Business Manager

### **Project Staff**

Steve Werner: Supervising Planner  
Michael Wheeler: Senior Planner  
Jerry von Dohlen: GIS Support  
Catherine Munsee: Clerical, Editor  
Norma Lorenzo: Business Manager

# TABLE OF CONTENTS

## **Chapter 1. Introduction**

1.1	Introduction .....	1-1
1.2	Contents of this FEIR .....	1-1
1.3	Incorporation of DEIR by Reference .....	1-2
1.4	Submission of DEIR to the State Clearinghouse.....	1-2
1.5	Lead Agency Contact .....	1-2

## **Chapter 2. Comments Received on the DEIR and Responses**

2.1	List of Commenters .....	2-1
2.2	Comments and Responses .....	2-1

## **Chapter 3. DEIR Corrections & Additions**

3.1	Corrections & Additions .....	3-1
-----	-------------------------------	-----

## **Chapter 4. Mitigation Monitoring Program**

4.1	Introduction .....	4-1
-----	--------------------	-----

# CHAPTER 1 INTRODUCTION

## 1.1 Introduction

---

The Humboldt County Planning and Building Department (HCPBD) is the California Environmental Quality Act (CEQA) Lead Agency responsible for approving the proposed Supplemental Program Environmental Impact Report for Gravel Extraction on the Lower Mad River. This Final Supplemental Program Environmental Impact Report (FSPEIR) has been prepared in accordance with CEQA Guidelines §15132 to respond to substantive public agency and public comments received on the April 2014 Draft SPEIR (DSPEIR). The DSPEIR was circulated by the State Clearinghouse for the required 45-day public review period from April 25 through June 9, 2014.

Under CEQA, the County, as Lead Agency, is required to complete the following tasks after preparing and releasing the DEIR for public review and comment:

- Consult with and obtain comments from public agencies having jurisdiction by law with respect to the proposed project;
- Provide the general public with opportunities to comment on the DEIR; and
- Respond to substantive environmental issues raised in the comments, and revise the DEIR in response to the comments, as required.

Subsequent to Planning Commission review, the EIR, which includes the DSPEIR and FSPEIR, will be considered for certification by the Humboldt County Board of Supervisors.

## 1.2 Contents of this FSPEIR

---

As required by CEQA Guidelines § 15132, this FSPEIR consists of:

- The DSPEIR (incorporated by reference);
- A list of public agencies, organizations and members of the public that commented on the DSPEIR;
- Comments on the DSPEIR;
- Responses to substantive environmental issues raised in the comments;
- Corrections and additions to the DSPEIR in response to the comments received; and
- Mitigation Monitoring Program.

## **1.3 Incorporation of the DSPEIR by Reference**

---

The April 2014 Draft Supplemental Program Environmental Impact Report (DSPEIR) is hereby incorporated into this FSPEIR by reference. The DSPEIR is on file for review by members of the public at the Humboldt County Planning and Building Department, 3015 H Street, Eureka, California 95501.

## **1.4 Submission of the DSPEIR to the State Clearinghouse**

---

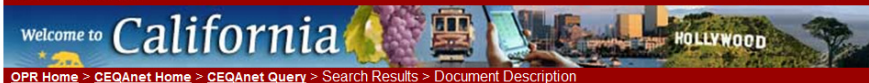
The attached printout from the State Clearinghouse CEQA Net Database confirms submission of the DEIR to the State Clearinghouse on April 25, 2014 and provision of the required 45-day public review period.

## **1.5 Lead Agency Contact**

---

Questions and comments on this FSPEIR may be forwarded by mail, phone, fax or e-mail to:

Michael Wheeler, Senior Planner  
Humboldt County Community Development Services Department  
3015 H Street  
Eureka, CA 95501  
Telephone: (707) 268-3730  
Fax #: (707) 445-7446  
Email: [mwheeler@co.humboldt.ca.us](mailto:mwheeler@co.humboldt.ca.us)



## Gravel Extraction on the Lower Mad River

**SCH Number:** 1992083049

**Document Type:** EIR - Draft EIR

**Alternate Title:** Final Supplemental to the Program Environmental Impact Report on Gravel Removal from the Lower Mad River, Humboldt County, California Lake or Streambed Alteration Agreement No. 1600-2013-0268-R1 - Christie and Leta Johnson Gravel bars Extraction Project Lake or Streambed Alteration Agreement No. 1600-2013-0101-R1 Graham Bar Culvert Removal Project Lake or Streambed Alteration Agreement No. 1600-2011-0267-R1 Miller Almquist Gravel Extraction Project SAA No. R1-04-0391 Gravel Removal from the Lower Mad River, Humboldt County The Surface Mining of Sand and Gravel on the Mad River SAA #04-0245 SAA #03-5153 SAA #02-0303 Streambed Alteration Agreement for Notification #02-0251 Streambed Alteration Agreement for Notification #01-0377 Streambed Alteration Agreement for Notification #01-0331 Streambed Alteration Agreement for Notification #02-0215 Lake or Streambed Alteration Agreement for Notification #04-0389 SAA No. R1-04-0245 SAA No. R1-04-0246 SAA No. R1-04-0390 SAA No. R1-04-0233

**Project Lead Agency:** Humboldt County

### Project Description

The Proposed Project is to continue gravel extraction and the CHERT adaptive management program on the lower Mad River.

### Contact Information

**Primary Contact:**  
Michael Wheeler  
Humboldt County Planning and Building Department  
707 445 7541  
3015 H Street  
Eureka, CA 95501

### Project Location

County: Humboldt  
City:  
Region:  
Cross Streets: Hwy 101 and Hwy 299  
Latitude/Longitude:  
Parcel No: Numerous  
Township:  
Range:  
Section:  
Base: HM  
Other Location Info:

### Proximity To

Highways: Hwy 101, 299  
Airports: Arcata/Eureka  
Railways: Northwestern Pacific  
Waterways: Mad River  
Schools: Arcata and Blue Lake Schools  
Land Use: PLU: Gravel Mining Z: Various GP: Various

### Development Type

Mining

### Local Action

Use Permit

### Project Issues

Wildlife, Air Quality, Biological Resources, Minerals, Noise, Soil Erosion/Compaction/Grading, Vegetation, Water Quality, Wetland/Riparian, Growth Inducing, Cumulative Effects

### Reviewing Agencies (Agencies in **Bold Type** submitted comment letters to the State Clearinghouse)

Resources Agency; California Coastal Commission; Department of Conservation; Department of Fish and Wildlife, Region 1E; Cal Fire; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services, California; Caltrans, District 1; Air Resources Board; State Water Resources Control Board, Division of Water Quality; Regional Water Quality Control Board, Region 1; Native American Heritage Commission; State Lands Commission

**Date Received:** 4/25/2014 **Start of Review:** 4/25/2014 **End of Review:** 6/9/2014

# **Chapter 2. Comments Received on the Draft Supplemental Program Environmental Impact Report and Responses To Comments**

## **2.1 List of Commenters**

The only comments received were from the California Department of Fish and Wildlife.

## **2.2 Comments and Responses**

Each comment letter is included as it was received, followed by responses to the comments made. Each comment is numbered, and responses are keyed to that numbered comment.



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Region 1 – Northern  
601 Locust Street  
Redding, CA 96001  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

EDMUND G. BROWN JR., Governor  
CHARLTON H. BONHAM, Director



July 1, 2014

Mr. Michael Wheeler, Senior Planner  
Humboldt County Planning and Building Department  
3015 H Street  
Eureka, CA 95501

**Subject: Draft Supplemental Programmatic Environmental Impact Report  
For Gravel Extraction on the Lower Mad River,  
State Clearinghouse (SCH) #1992083049**

Dear Mr. Wheeler:

On April 25, 2014, the California Department of Fish and Wildlife (CDFW) received from the Humboldt County Planning and Building Department (Lead Agency) a Draft Supplemental Programmatic Environmental Impact Report (SPEIR, SCH #1992083049) for instream gravel mining (Project) in the lower Mad River, between Blue Lake and Arcata, California. CDFW understands that you will accept comments on this Project until July 3, 2014.

As a trustee for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary to sustain their populations. As a responsible agency, CDFW administers the California Endangered Species Act and other provisions of the Fish and Game Code that conserve the State's fish and wildlife public trust resources. CDFW offers the following comments and recommendations on this Project in our role as a trustee and responsible agency pursuant to the California Environmental Quality Act (CEQA; California Public Resource Code §21000 *et seq.*).

#### **Basic Project Description and Purpose**

According to the SPEIR Executive Summary, the proposed Project is to continue gravel extraction and the CHERT adaptive management program on the lower Mad River. The Project described in this report is updated from that described in 2009. Four important updates, among others, include:

- Calculating extraction volumes using two methods. They are the current Mean Annual Recruitment method and the National Marine Fisheries Service (NMFS) new Fractional Extraction Volume method. If the two methods result in recommended extraction volumes that vary widely, then the operator(s), CHERT and NMFS scientists, and the County will either 1) allow extraction to whatever volume estimate is lowest, or 2) meet and come to a consensus decision.

*Conserving California's Wildlife Since 1870*



Mr. Michael Wheeler

July 1, 2014

Page 2

**OPR-14-001**

*"Instead of allowing wetland pits to be constructed as in the 1984 PERL, operators will not create habitat supportive of bullfrogs or red legged frogs (such as wetland pits) until a lower Mad River bullfrog and red legged frog study is conducted. The study will be performed by CHERT and CDFW, and will identify and determine whether additional extraction technique guidelines (such as the timings, locations, and depths of extraction pits and alcoves) could be developed, to favor red-legged frogs and suppress bullfrogs."*

**CDFW Comment:** Wetland pits that intercept groundwater and are therefore perennial are likely to be invaded and inhabited by the American bullfrog (*Lithobates catesbeianus*; hereafter bullfrog). Those same features are also likely to be used by ~~various other species including the American red-legged frog (*Rana aurora*) for a portion of time. The goal is to suppress bullfrogs and reduce competition by suppressing the hydroperiod to favor successful development and productivity of native species while at the same time limit or break the reproductive cycle of the bullfrog, similar to our collaborative effort at the Emerson Bar. CDFW cannot commit staff to participate in a "study" but certainly is available to provide technical expertise and discuss bullfrog control and management with CHERT.~~

**OPR-14-001**

*"Also, a river-wide bullfrog suppression plan, supported by all land owners, lessors, and operators who allow nearby and immediately adjacent ponds, is recommended, because these ponds are local sources of adult bullfrogs in the lower Mad River corridor. This suppression plan should: (1) identify source populations, (2) better quantify life history periodicity, habitat requirements, and habitat management, (3) define what are acceptable habitat types, and (4) develop a plan to implement the suppression plan and to monitor the suppression plan's effectiveness."*

**CDFW Comment:** CDFW supports the identification and management of wetlands by riparian habitat owners as the suppression plan items 1-4. The riparian habitat management plan will identify and monitor the suppression plan's effectiveness for implementation.

**OPR-14-001**

**CDFW Comment:** The riparian habitat management and riparian habitat management plan items 1-4 have changed and should be updated in the OPR-14-001, Final Review.

Mr. Michael Wheeler  
July 1, 2014  
Page 4

SPEIR Page 38, Table 3-5

#5 CDFW Comment: The western pond turtle, northern red-legged frog, and foothill yellow-legged frog (*R. boylii*) are all State Species of Special Concern (SSC). CDFW designates certain riparian systems as SSC because of their association with these species, and the resulting benefits to riparian systems. The goal of the riparian plan is to better manage these species' habitat by adding attention to their habitat and addressing the issues of riparian habitat connectivity. Hence, the ultimate goal of the SSC designation is to avoid CEQA or ESA listing.

SPEIR Page 40, 3.2.1 Riparian Habitat

*"The total WY2007 channelled area for the project area as a whole (from Highway 701 bridge to the Blue Lake Heichery) was 1,159 acres, so the net gain in channelled area from 1994 to 2007 was less than 1%."*

#6 CDFW Comment: As stated in our 2009 comment letter, CDFW does not consider a 1% change in riparian extent a significant improvement over what was collectively referred to as "degraded" in 1994. CDFW would like to see feasible targets set for riparian extent improvements in the lower Mad River. Riparian habitat improvements deferred to the riparian specialist as stated in the SPEIR will start within five years of the SPEIR certification is not adequate, nor is it what was intended in the 1994 PER. The riparian specialist should start in 2014.

SPEIR Page 41, Table 3-6

#7 CDFW Comment: Regarding scientist consensus, CDFW believes consensus is feasible. However, only one meeting occurred to discuss the SPEIR and CDFW comments. Additional communication probably would have led to consensus on these matters. As always, CDFW is available to discuss this with CHERT.

SPEIR:

*"Channel channel conditions have not been restored..."*

#8 CDFW Comment: In 1994 the PER considered the Lower Mad River "degraded" by past practices. CDFW does not think the riparian is degraded, as shown in the SPEIR. Therefore, the channel riparian condition is an improvement to channel riparian since 1994. CDFW would like to see specific goals included in the SPEIR, such as: a 5% percent increase in riparian habitat extent per decade. Working together CHERT, gravel operators, and resource agencies can strive to increase the extent of riparian habitat and still allow for a viable gravel extraction industry in the lower Mad River. As always, CDFW is available to discuss this with CHERT.

**SPEIR:**

*"Within five years of certification of this SPEIR, the riparian specialist shall work with CDFW and individual mining operators to develop site specific and practicable recommendations for riparian protection, enhancement and recovery plans associated with upland stockpiling and processing operations."*

- #9** **CDFW Comment:** Inclusion of a riparian specialist in the CHERT adaptive mangement process is long overdue and was a component of the original 1994 PEIR project. The CHERT riparian specialist should start in 2014.

SPEIR Page 43, Table 3-7

*"Riparian habitat quality is likely to remain similar to that of present conditions, however, it could decrease if wetland pits and alcove extraction techniques are curtailed to suppress bullfrogs."*

- #10** **CDFW Comment:** Wetland pits and alcove extractions do not have to be curtailed to suppress bullfrogs, they merely have to be constructed to not retain permanent year-round water. If the wetland pit or alcove dries out in August then bullfrog larvae will not complete metamorphosis and the bullfrog's reproductive cycle will be broken. Likewise, wetland pit and alcove extractions to the capillary fringe can still provide conditions conducive to riparian habitat development. Riparian habitat quality will likely develop over time. As always, CDFW is available to discuss this with CHERT.

SPEIR Page 46, 3.2.3.1 Northern Red-legged Frog

*"The status of this species is federally listed as threatened; the US Fish and Wildlife Service designations of critical habitat area have been challenged numerous times in court (USFWS 2006). Humboldt County does not contain any of the 34 critical habitat units designated in the April 2006 rule."*

- #11** **CDFW Comment:** The northern red-legged frog is a SSC and is not listed pursuant to the federal ESA; the SPEIR is confusing this species with the California red-legged frog (*Rana draytonii*) (Shaffer et al., 2004). CDFW made this same comment in 2009, please revise. CDFW has conducted egg mass visual encounter surveys (VES) in various locations in the lower Mad River watershed and that data is available in our Biogeographical Information and Observation System (BIOS) at <http://www.dfg.ca.gov/biogeodata/bios/>; search red-legged frog egg mass.

Mr. Michael Wheeler  
July 1, 2014  
Page 6

SPEIR Page 47, 3.2.3.3 Foothill yellow-legged frog

**SPEIR:**

*"Information on the foothill yellow-legged frog specific to the Mad River was scarce."*

#12

**CDFW Comment:** CDFW has conducted numerous instream VES for foothill yellow-legged frog egg masses between the Mad River hatchery and the Highway 101 bridge. CDFW collaborated with Eureka Read Mix on these efforts. For instance, in 2011 the CDFW survey team documented 794 egg mass locations within the study reach. The results of these surveys are available in our Biogeographical Information and Observation System (BIOS) at <http://www.dfg.ca.gov/biogeodata/bios/>; search yellow-legged frog egg mass.

SPEIR Page 50, Table 3-14

**SPEIR:**

*"Limiting bullfrog habitat would also limit red-legged frog habitat."*

#13

**CDFW Comment:** This statement is inaccurate. Due to important life history differences, hydroperiod can be manipulated or designed to allow for successful reproduction of the northern red-legged frog while limiting or eliminating bullfrog reproduction. As always, CDFW is available to discuss this with CHERT.

SPEIR Page 64:

*"Sustained yield extraction, a concept that is accepted by CHERT scientists, appears to be acceptable to NMFS scientists based on issuance of their July 2010 Biological Opinion, but is not readily accepted by CDFW scientists based on their comments to the 2009 Draft Supplemental PEIR. The concept requires that one accept that if instream gravel extraction occurs at a rate less than the river's ability to recruit new gravel, and if extraction occurs in ways that consider habitat maintenance and restoration, then effects based on morphological changes will be less than significant."*

#14

**CDFW Comment:** CDFW has not been critical of the sustained yield extraction concept and our 2009 SPEIR comments did not discuss the topic. The SPEIR should remove this comment, further explain it, or reach consensus with CDFW to more accurately depict differences in opinion, if they exist.

Mr. Michael Wheeler

July 1, 2014

Page 7

SPEIR Page 74, 1<sup>st</sup> Paragraph:

*"Mad River had started to migrate to the wetland pit. By WY2007, the wetland had been eroded away. Similar conditions occurred at the wetland pits excavated on Blue Lake and Emmerson bars; the pits "evolved into wetlands, and then naturally disappeared" (Trush 2008a)."*

#15

**CDFW Comment:** The wetland pit at the Emmerson Bar was modified to reduce its hydroperiod from perennial to ephemeral in order to break the bullfrog's reproductive cycle. The project was conducted collaboratively in September 2012 by Eureka Ready Inc., CHERT, and the Resource Agencies. Emmerson bar wetland pit did not naturally disappear, it was modified with heavy equipment in September 2012. Please review.

SPEIR Page 53, Table 3-23

*"The weir is no longer used. State agencies would like to remove the weir and its rock slope protection."*

#16

**CDFW Comment:** Mad River Highway weir and rock slope protection was stabilized in 2012. Please review.

SPEIR Page 96, Table 4-3

*"CDFW did not agree with the 1992 biological resources baseline used to determine significance (see Section 3.2.5) but did not specify an alternative baseline."*

#17

**CDFW Comment:** CDFW is fine with 1992 or 1994 as the baseline which was deemed "degraded." The extent of riparian habitat has largely remained as it was in 1994. As such, conditions with respect to riparian extent and condition have remained degraded. A goal of the 1994 PEIR (during the monitoring and planning phases) was to look for opportunities to mitigate past losses of riparian habitat (Veg-1 Mitigation M-1; HCPBD 1994).

Recovery Strategy, Veg-1 Mitigation M-1 of the 1994 PEIR:

*"...CHERT shall attempt to gain access and permission to initiate bank-stabilizing revegetation practices at sites where bank erosion is considered excessive, where revegetation may reduce the erosion rate, and especially where revegetation can be used to mitigate for current or cumulative losses in riparian habitat."*

Based on the status of riparian habitat reported in the SPEIR, this goal has not been met and additional work towards satisfying this goal is required. To be consistent with the *Recovery Strategy for California Coho Salmon* (DFG 2004) and the 1994 PEIR, the final SPEIR must identify additional strategies to increase and improve riparian habitat in the Project area.

Mr. Michael Alexander  
July 1, 2014  
Page 11

If you have any questions or comments regarding this matter, please contact Michael van Hattem, Environmental Scientist, at (707) 445-5368, or 619 Second Street, Eureka, California 95501.

Sincerely,



MICHAEL ALEXANDER  
Environmental Scientist  
Eureka, California

References: Page 9  
ec's Page 9

Mr. Michael Wheeler  
July 1, 2014  
Page 9

#### References

Department of Fish and Game. 2004. Recovery Strategy for California Coho Salmon. Report to the California Fish and Game Commission. Sacramento, CA.

Species boundaries, phylogeography and conservation genetics of the red-legged frog (*Rana aurora/draytonii*) complex. 2004. H.B. Shaffer, G.M. Fellers, S.R. Voss, J.C. Oliver, and G.B. Pauly. *Molecular Ecology* (2004) 13, 2667-2677.

cc: Mona Daugherty  
North Coast Regional Water Quality Control Board  
[MDaugherty@waterboards.ca.gov](mailto:MDaugherty@waterboards.ca.gov)

Dan Free  
National Marine Fisheries Service  
[Dan.Free@noaa.gov](mailto:Dan.Free@noaa.gov)

Laurie A. Monarres  
U.S. Army Corps of Engineers  
[Laurie.A.Monarres@usace.army.mil](mailto:Laurie.A.Monarres@usace.army.mil)

Clare Golec, Laurie Harnsberger, Michelle Gilroy  
Curt Babcock, Tony LaBanca, Scott Bauer, Gordon Leppig, David Manthorne,  
Michael van Hattem  
California Department of Fish and Wildlife  
[Clare.Golec@wildlife.ca.gov](mailto:Clare.Golec@wildlife.ca.gov), [Laurie.Harnsberger@wildlife.ca.gov](mailto:Laurie.Harnsberger@wildlife.ca.gov),  
[Michelle.Gilroy@wildlife.ca.gov](mailto:Michelle.Gilroy@wildlife.ca.gov), [Curt.Babcock@wildlife.ca.gov](mailto:Curt.Babcock@wildlife.ca.gov),  
[Tony.Labanca@wildlife.ca.gov](mailto:Tony.Labanca@wildlife.ca.gov), [Scott.Bauer@wildlife.ca.gov](mailto:Scott.Bauer@wildlife.ca.gov),  
[Gordon.Leppig@wildlife.ca.gov](mailto:Gordon.Leppig@wildlife.ca.gov), [David.Manthorne@wildlife.ca.gov](mailto:David.Manthorne@wildlife.ca.gov)  
[Michael.vanhattem@wildlife.ca.gov](mailto:Michael.vanhattem@wildlife.ca.gov)

## **Response to CDFW's July 1, 2014 Letter:**

**\*Response to Comment No. 1:** The County agrees that CHERT is comprised of five (5) members as specified in Board of Supervisors Resolution No. 96-37 establishing the County of Humboldt Extraction Review Team. According to the Resolution: "The composition of CHERT, in order to provide the necessary technical expertise shall, at a minimum, include experts in the fields of fluvial hydrology, fluvial geomorphology, fisheries, and botany. Other areas of expertise that may be required on CHERT include engineering, forestry, watershed management, and wildlife biology. The members of CHERT shall have a unique blend of knowledge and experience that, collectively, will enable them to combine the science and art of river management and monitoring to develop environmentally sound, flexible, site-specific recommendation to permitting agencies for gravel extraction. They shall also have the necessary skills to recognize when other expertise is needed and will be able to communicate with and call upon various other engineers, scientists, agency personnel, and the gravel operators for assistance and advice." County staff will work with the Board of Supervisors to review CDFW concerns over the level of technical expertise within CHERT as presently constituted and either: (1) fill the vacant CHERT position to include a biologist with expertise in riparian recovery; or (2) modify Resolution No. 96-37 to change the membership of CHERT from five to four permanent members with CHERT having the option of retaining a biologist with expertise as a riparian specialist to assist and advise them on matters of riparian recovery on an as needed basis.

---

*\* Revised by Planning Commission action at meeting of October 2, 2014*

**Response to Comment No. 2:** The County agrees. Operators that propose to utilize wetland pits that intercept groundwater shall be required to fund a study that will identify and determine whether additional extraction technique guidelines (such as the timing, locations, and depths of extraction pits and alcoves) could be developed, to favor red-legged frogs and suppress bullfrogs. The study design and execution may be contracted to professional specialists to be approved by the County and CDFW and with review oversight by CHERT and CDFW. The DSPEIR will be revised to reflect this change.

**Response to Comment No. 3:** County staff believes that a river-wide bullfrog suppression plan is a laudable goal, however, development of such a plan which incorporates all land owners of adjacent lands which are not mined, as well as lessors and operators, goes beyond the authority of CHERT to regulate, and would be more appropriate in the context of a watershed management effort. Such a plan should be developed under the guidance and management of CDFW, and should include implementation measures and a timeline for implementation. As noted in Response to Comment No. 2, individual operators that propose to utilize wetland pits that intercept groundwater will be required to fund a study that addresses specific mining operations effects on bullfrogs and utilize techniques that suppress bullfrogs in favor of red-legged frogs. The County is willing to work with CDFW to further identify who will perform and fund the suppression plan. The DSPEIR will be revised to reflect this change.

**Response to Comment No. 4:** The scientific name of the American bullfrog will be changed from *Rana catesbeiana* to *Lithobates catesbeianus* in the DSPEIR at the following locations:

Page I, last paragraph, 4<sup>th</sup> sentence

Page 39, 8<sup>th</sup> bullet point

Page 40, Table 3-5, 8<sup>th</sup> row after headings row

The scientific name of the western pond turtle will be changed from *Clemmys marmorata* to *Actinemys marmorata* in the DSPEIR at the following locations:

Page 3, first bullet

Page 39, sixth bullet

Page 40, Table 3-5, seventh row after heading row

References to the northwestern pond turtle in the DSPEIR will be changed to the western pond turtle at the following locations:

Page v, sixth row on that page

Page 3, first bullet

Page 5, second bullet

Page 34, second bullet

Page 39, sixth bullet

Page 40, first row on that page

Page 44, second sentence

Page 47, subheading, first paragraph

Page 48, third paragraph

Page 51, Table 3-15, second row after heading row

Page 103, first row on that page

**Response to Comment No. 5:** Table 3-5 on pages 39 and 40 of the DSPEIR shall be replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

**Table 0-1. Species addressed in this Draft SPEIR, with their regulatory status listings (CDFG 2008, 2009b)**

Species Common Name or Habitat	Species Scientific Name	Federal	State
Southern Oregon/North Coastal California coho	<i>Oncorhynchus kisutch</i>	Threatened; Critical Habitat designated	Threatened
California Coastal Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Threatened; Critical Habitat designated	No State listing
Steelhead-Northern California	<i>Oncorhynchus mykiss</i>	Threatened; Critical Habitat designated	No State listing
Longfin smelt	<i>Spirinchus thaleichthys</i>	No Federal listing, but USFWS seeking additional information	Threatened
Northern red-legged frog	<i>Rana aurora</i>	No Federal listing	No State listing, but classified as "State Species of Special Concern" by CDFW
Foothill yellow-legged frog	<i>Rana boylei</i>	No Federal listing	
Northwestern pond turtle	<del><i>Clemmys marmorata</i></del> <i>Actinemys marmorata</i>	No Federal listing, but Classified as "Sensitive" by the US Forest Service	
Bullfrog	<del><i>Rana catesbeiana</i></del> <i>Lithobates catesbeianus</i>	No Federal listing <sup>e</sup>	No State listing, but considered a predator and invasive species.
Willow flycatcher	<i>Empidonax traillii</i>	No Federal listing	Endangered

**Response to Comment No. 6:** It should be noted that in Tables 1 and 2 (page 8) of Trush 2008, riparian habitat increased in all mined reaches of the Mad River from 1994 to 2007. The only decreases in riparian habitat occurred in the HBMWD reach, which is not mined. CHERT believes that "feasible targets set for riparian extent improvements" is a concept that may work at a scale of the riparian planting required of gravel operators, but would be difficult to realize for the mined reach scale as a whole. CHERT gives the following reasons for this: 1) Large floods, as occurred in 1995 and 1997, cause large-scale reconfigurations of riparian conditions within the river

corridor; 2) Some riparian stands are eroded away, setting up new areas for riparian recruitment; 3) Flood-driven riparian destruction and renewal is the process that maintains a dynamic and healthy mosaic of riparian habitats in alluvial rivers; 4) Gravel mining, and the mitigation measures addressing riparian habitat, as it is done today, have shown small local improvements in riparian extent, but it is difficult to extrapolate the effect on these larger-scale processes. As a result, setting targets for enlarging riparian areas at the reach scale may be more appropriate as a long term goal, that could be addressed more appropriately in a river-wide watershed management plan that looks at all types of perturbation factors (such as floods, landslides, etc.), environmental constraints, all land uses, and their impacts, rather than just instream gravel mining. This, however, is beyond the scope of the current project. Additionally, as noted in Response to Comment No. 1, the County agrees that originally there were five members of CHERT as specified in Board of Supervisors Resolution No. 96-37. County staff will work with the Board of Supervisors with regards to the vacant CHERT position.

**Response to Comment No. 7:** The County believes that consensus is feasible and notes that there is widespread agency participation in the annual gravel meetings convened by the Army Corps of Engineers. County staff is in regular consultation with CDFW on specific mining operations through the project referral processes and is willing to meet more often with CDFW to address specific mining issues.

**Response to Comment No. 8:** See Response to Comment No. 6.

**Response to Comment No. 9:** See Response to Comment No.1.

**Response to Comment No. 10:** See Response to Comment No. 2 and Response to Comment No. 3.

**Response to Comment No. 11:** The last paragraph on page 46 of the DSPEIR shall be replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

The status of this species is “a State Species of Special Concern and is not listed pursuant to the federal ESA. CDFW has conducted egg mass visual encounter surveys (VES) in various locations in the lower Mad River watershed and that data is available in [their] Biogeographical Information and Observation System (BIOS) at <http://www.dfg.ca.gov/biogeodata/bios/>” (CDFW comment letter July 1, 2014). ~~federally listed as threatened; the US Fish and Wildlife Service designations of critical habitat area have been challenged numerous times in court (USFWS 2006). Humboldt County does not contain any of the 34 critical habitat units designated in the April 2006 rule. However, on September 16, 2008, the Service opened a 60 day comment period for a new plan to designate 1.8 million acres of critical habitat, which is 300% larger than the area designated in 2006 (USFWS 2008). The new proposed area includes units in Mendocino but not Humboldt counties.~~

**Response to Comment No. 12:** The first paragraph under Section 3.2.3.3 on page 47 of the DSPEIR shall be replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

At the time the 1994 Programmatic EIR was adopted, information on the foothill yellow-legged frog specific to the Mad River was scarce. The report supporting the 1994 programmatic EIR for gravel extraction simply states “its specific status along the Mad River in the study area needs to be determined” (MRB 1993). Within Humboldt County, but on the Trinity River, personal observations and a literature review were documented by the USDA Forest Service (Ashton et al. 1997). Breeding sites were shallow, slow flowing water with pebble and cobble substrate. The adults and sub-adults preferred river bars along both riffles and pools, with some shade. Occasionally, it was found in other riparian habitats such as backwater, isolated pools, or slow moving water with mud substrate.

Since adoption of the 1994 Programmatic EIR, “CDFW has conducted numerous instream VES for foothill yellow-legged frog egg masses between the Mad River hatchery and the Highway 101 bridge. CDFW collaborated with Eureka Ready Mix on these efforts. For instance, in 2011 the CDFW survey team documented 794 egg mass locations within the study reach. The results of these surveys are available in [their] Biogeographical Information and Observation System (BIOS) at <http://www.dfg.ca.gov/biogeodata/bios/>; search yellow-legged frog egg mass” (CDFW comment letter July 1, 2014).

**Response to Comment No. 13:** See Response to Comment No. 2 and Response to Comment No. 3.

**Response to Comment No. 14:** The first paragraph under Section 3.3.1 on page 64 of the DSPEIR shall be replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

Sustained yield extraction, a concept that is accepted by CHERT scientists, appears to be acceptable to NMFS scientists based on issuance of their July 2010 Biological Opinion, ~~but is not readily accepted by CDFW scientists based on their comments to the 2009 Draft Supplemental PEIR.~~ The concept requires that one accept that if instream gravel extraction occurs at a rate less than the river’s ability to recruit new gravel, and if extraction occurs in ways that consider habitat maintenance and restoration, then effects based on morphological changes will be less than significant.

The last row of Table 3-23 on page 75 of the DSPEIR shall be replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

Gravel mining tends to significantly increase bank-full channel widths, which leads to reduced pool depths (Brown et al. 1998)	<p><del>The literature cited by CDFW describes a site where mining was much in excess of sustained yield extraction; therefore, the conditions described in the literature do not apply to conditions on the lower Mad River.</del></p> <p>NMFS' analysis of channel widening concludes that "annual gravel extraction at rates in excess of estimated annual recruitment has caused channel enlargement..."</p>	No	<p><del>CDFW 2009 comment letter</del></p> <p>NMFS July 2010 BO</p>
--	--	----	---

**Response to Comment No. 15:** Acknowledged. The relevant portion of the DSPEIR will be revised to address CDFW's concerns regarding the Emmerson Bar wetland pit.

**Response to Comment No. 16:** The first row after the heading row in Table 3-29 on page 83 of the DSPEIR shall be replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

<p><u>The former</u> Mad River Fish Hatchery weir, and rock slope protection, RM 11</p>	<p>The weir <del>once acted</del> acts as a vertical control point in the river's longitudinal profile. The toe of this rock slope protection was keyed into a trench on the river's left bank, adjacent to the hatchery. Elevations or plans for its construction were not available.</p>	<p><del>The weir is no longer used. State agencies would like to remove</del> <u>†The weir and its rock slope protection were removed in 2013.</u></p>
---	--	--

**Response to Comment No. 17:** The DSPEIR, as currently written, is consistent with Mitigation Measure M-3 of the 1994 PEIR. See Response to Comment No. 1 and Response to Comment No. 6. Also, as noted above, there are riverine processes beyond the scope of CHERT and the in-stream gravel mining management program which affect riparian habitat abundance and distribution. Additionally, other land use activities not related to gravel mining may play a role in riparian habitat distribution. Additionally, tall terraces created by the 1964 flood now sit well above the dry season capillary fringe, thus they cannot support vigorous stands of cottonwoods – these terraces are vegetated mostly with grass and coyote brush. Recent mining designs attempt to lower some of these surfaces to foster natural cottonwood and willow recruitment. This goes beyond simple 'avoidance' as the LOP requires, to a more proactive approach, along with CDFW's requirements for riparian planting.

# CHAPTER 3

## DEIR Corrections & Additions

### 3.1 Corrections & Additions

---

The following corrections and additions are made to the DEIR in response to public comments received during the 45-day DEIR public review period:

**Responses to Comments No. 2 and 3:** The first paragraph on page 30 is revised as follows:

Instead of allowing wetland pits to be constructed as in the 1994 PEIR, operators will not create habitat supportive of bullfrogs or red legged frogs (such as wetland pits) until a lower Mad River bullfrog and red legged frog study is conducted. Operators that propose to utilize wetland pits that intercept groundwater shall be required to fund a study that ~~The study will be performed by CHERT and CDFW, and~~ will identify and determine whether additional extraction technique guidelines (such as the timings, locations, and depths of extraction pits and alcoves) could be developed, to favor red-legged frogs and suppress bullfrogs. The study design and execution may be contracted to professional specialists to be approved by the County and CDFW and with review oversight by CHERT and CDFW. Also, a river-wide bullfrog suppression plan, supported by all land owners, lessors, and operators who allow nearby and immediately adjacent ponds, is recommended, because these ponds are local sources of adult bullfrogs in the lower Mad River corridor. This suppression plan should: (1) identify source populations, (2) better quantify life history periodicity, habitat requirements, and adult movements, (3) define what an acceptable level of bullfrog suppression should be and how it would be measured, and (4) help develop guidelines for excavating gravel within the Mad River's floodplain and terraces. However, development of such a plan which incorporates all land owners of adjacent lands which are not mined, as well as lessors and operators, goes beyond the authority of CHERT to regulate, and would be more appropriate in the context of a watershed management effort. Such a plan should be developed under the guidance and management of CDFW, and should include implementation measures and a timeline for implementation. The County is willing to work with CDFW to further identify who will perform and fund the suppression plan.

**Response to Comment No. 4:** The scientific name of the American bullfrog is changed from *Rana catesbeiana* to *Lithobates catesbeianus* in the DSPEIR at the following locations:

Page 39, 8<sup>th</sup> bullet point

Page 40, Table 3-5, 8<sup>th</sup> row after headings row

The scientific name of the western pond turtle is changed from *Clemmys marmorata* to *Actinemys marmorata* in the DSPEIR at the following locations:

Page 3, first bullet

Page 39, sixth bullet

Page 40, Table 3-5, seventh row after heading row

References to the northwestern pond turtle in the DSPEIR are changed to the western pond turtle at the following locations:

Page v, sixth row on that page

Page 3, first bullet

Page 5, second bullet

Page 34, second bullet

Page 39, sixth bullet

Page 40, first row on that page

Page 44, second sentence

Page 47, subheading, first paragraph

Page 48, third paragraph

Page 51, Table 3-15, second row after heading row

Page 103, first row on that page

**Response to Comment No. 5:** Table 3-5 on pages 39 and 40 of the DSPEIR is replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

**Table 0-1. Species addressed in this Draft SPEIR, with their regulatory status listings (CDFG 2008, 2009b)**

Species Common Name or Habitat	Species Scientific Name	Federal	State
Southern Oregon/North Coastal California coho	<i>Oncorhynchus kisutch</i>	Threatened; Critical Habitat designated	Threatened
California Coastal Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Threatened; Critical Habitat designated	No State listing

Species Common Name or Habitat	Species Scientific Name	Federal	State
Steelhead-Northern California	<i>Oncorhynchus mykiss</i>	Threatened; Critical Habitat designated	No State listing
Longfin smelt	<i>Spirinchus thaleichthys</i>	No Federal listing, but USFWS seeking additional information	Threatened
Northern red-legged frog	<i>Rana aurora</i>	No Federal listing	No State listing, but classified as "State Species of Special Concern" by CDFW
Foothill yellow-legged frog	<i>Rana boylei</i>	No Federal listing	
NorthWestern pond turtle	<del><i>Clemmys marmorata</i></del> <i>Actinemys marmorata</i>	No Federal listing, but Classified as "Sensitive" by the US Forest Service	
Bullfrog	<del><i>Rana catesbeiana</i></del> <i>Lithobates catesbeianus</i>	No Federal listing <sup>e</sup>	No State listing, but considered a predator and invasive species.
Willow flycatcher	<i>Empidonax traillii</i>	No Federal listing	Endangered

**Response to Comment No. 11:** The last paragraph on page 46 of the DSPEIR is replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

The status of this species is "a State Species of Special Concern and is not listed pursuant to the federal ESA. CDFW has conducted egg mass visual encounter surveys (VES) in various locations in the lower Mad River watershed and that data is available in [their] Biogeographical Information and Observation System (BIOS) at <http://www.dfg.ca.gov/biogeodata/bios/>" (CDFW comment letter July 1, 2014). ~~federally listed as threatened; the US Fish and Wildlife Service designations of critical habitat area have been challenged numerous times in court (USFWS 2006). Humboldt County does not contain any of the 34 critical habitat units designated in the April 2006 rule. However, on September 16, 2008, the Service opened a 60-day comment period for a new plan to designate 1.8 million acres of critical habitat, which is 300% larger than the area designated in 2006 (USFWS 2008). The new proposed area includes units in Mendocino but not Humboldt counties.~~

**Response to Comment No. 12:** The first paragraph under Section 3.2.3.3 on page 47 of the DSPEIR is replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

At the time the 1994 Programmatic EIR was adopted, information on the foothill yellow-legged frog specific to the Mad River was scarce. The report supporting the 1994 programmatic EIR for gravel extraction simply states “its specific status along the Mad River in the study area needs to be determined” (MRB 1993). Within Humboldt County, but on the Trinity River, personal observations and a literature review were documented by the USDA Forest Service (Ashton et al. 1997). Breeding sites were shallow, slow flowing water with pebble and cobble substrate. The adults and sub-adults preferred river bars along both riffles and pools, with some shade. Occasionally, it was found in other riparian habitats such as backwater, isolated pools, or slow moving water with mud substrate.

Since adoption of the 1994 Programmatic EIR, “CDFW has conducted numerous instream VES for foothill yellow-legged frog egg masses between the Mad River hatchery and the Highway 101 bridge. CDFW collaborated with Eureka Ready Mix on these efforts. For instance, in 2011 the CDFW survey team documented 794 egg mass locations within the study reach. The results of these surveys are available in [their] Biogeographical Information and Observation System (BIOS) at <http://www.dfg.ca.gov/biogeodata/bios/>; search yellow-legged frog egg mass” (CDFW comment letter July 1, 2014).

**Response to Comment No. 14:** The first paragraph under Section 3.3.1 on page 64 of the DSPEIR is replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

Sustained yield extraction, a concept that is accepted by CHERT scientists, appears to be acceptable to NMFS scientists based on issuance of their July 2010 Biological Opinion, ~~but is not readily accepted by CDFW scientists based on their comments to the 2009 Draft Supplemental PEIR.~~ The concept requires that one accept that if instream gravel extraction occurs at a rate less than the river’s ability to recruit new gravel, and if extraction occurs in ways that consider habitat maintenance and restoration, then effects based on morphological changes will be less than significant.

The last row of Table 3-23 on page 75 of the DSPEIR is replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

<p>Gravel mining tends to significantly increase bank-full channel widths, which leads to reduced pool depths (Brown et al. 1998)</p>	<p><del>The literature cited by CDFW describes a site where mining was much in excess of sustained yield extraction; therefore, the conditions described in the literature do not apply to conditions on the lower Mad River.</del></p> <p>NMFS' analysis of channel widening concludes that "annual gravel extraction at rates in excess of estimated annual recruitment has caused channel enlargement..."</p>	<p>No</p>	<p><del>CDFW 2009 comment letter</del></p> <p>NMFS July 2010 BO</p>
---	--	-----------	---

**Response to Comment No. 15:** The first paragraph on page 74 is revised as follows (additional text is underlined and deleted text is noted by ~~strikeout~~):

Not all sites are suitable for wetland pits. Gravel pit wetlands have been constructed on Christie, Blue Lake, and Emmerson bars (see Section 4.2.2). The development and evolution of the gravel pit wetland on Christie bar, which was excavated in WY1993, has been photographed over time (Trush 2008a, see Appendix C). By WY1996, the wetland perimeter was densely colonized by vegetation such as cattails, rushes, and willows. This wetland area was neither scoured nor filled in the January 1997 flood, but by WY2000, the mainstem Mad River had started to migrate to the wetland pit. By WY2007, the wetland had been eroded away. Similar conditions occurred at the wetland pits excavated on Blue Lake ~~and Emmerson~~ bars; the pits "evolved into wetlands, and then naturally disappeared" (Trush 2008a). The wetland pit at the Emmerson bar was modified with heavy equipment in September 2012 to reduce its hydroperiod from perennial to ephemeral in order to break the bullfrog's reproductive cycle. The project was conducted collaboratively in September 2012 by Eureka Ready Mix, CHERT, and the Resource Agencies.

**Response to Comment No. 16:** The first row after the heading row in Table 3-29 on page 83 of the DSPEIR is replaced with the following (additional text is underlined and deleted text is noted by ~~strikeout~~):

<p><u>The former</u> Mad River Fish Hatchery weir, and rock slope protection, RM 11</p>	<p>The weir <del>once acted</del> acts as a vertical control point in the river's longitudinal profile. The toe of this rock slope protection was keyed into a trench on the river's left bank, adjacent to the hatchery. Elevations or plans for its construction were not available.</p>	<p><del>The weir is no longer used. State agencies would like to remove</del> <del>†</del>The weir and its rock slope protection <u>were removed in 2013.</u></p>
---	--	---

# CHAPTER 4

## Mitigation Monitoring Program

### 4.1 Introduction

---

Public Resources Code § 21081.6 requires a Lead Agency that approves or carries out a project, where an EIR has identified significant environmental effects, to adopt a mitigation monitoring program (MMP) for the changes to the project which it has adopted or made a condition of a project approval in order to mitigate or avoid significant effects on the environment. The Planning and Building Department of the County of Humboldt is the Lead Agency that must adopt the following MMP for the project.

The summary table included in the Draft SPEIR (pages ii to ix) lists all the significance determinations and whether or not there are any required mitigation measures. It was determined that no mitigation was required to make the projects potential impacts less than significant. Hence, there is no required mitigation monitoring program for the project.