Findings of Fact
of the
California Department of Fish and Game

as a

Lead Agency under the
California Environmental Quality Act
(Pub. Resources Code, § 21000 et seq.)

for the

Suction Dredge Permitting Program
(Fish & G. Code, § 5653 et seq.)

as analyzed in the

Suction Dredge Permitting Program
Subsequent Environmental Impact Report
(SCH No. 2009112005)

March 16, 2012

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I. INTRODUCTION

The Department of Fish and Game (Department) has prepared these findings to comply with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). It does so as a "lead agency" for purposes of CEQA. (*Id.*, § 21067; CEQA Guidelines, § 15367.)[1] The Department is a lead agency in the present case because of its explicit permitting authority for suction dredge mining under the Fish and Game Code. (See Fish & G. Code, § 5653 et seq.) The Department adopts these findings specifically as set forth below as part of its discretionary decision to promulgate and adopt updated regulations to administer its suction dredge permitting program under the Fish and Game Code. (*Id.*, § 5653.9.) The Department last updated its regulations in 1994. (See Cal. Code Regs., tit. 14, § 228 et seq.)

In terms of required environmental review under CEQA, the Department prepared a draft subsequent environmental impact report (DSEIR) (State Clearinghouse No. 2009112005). (CEQA Guidelines, § 15162; see also Pub. Resources Code, § 21166.) The Department released the DSEIR for public review on February 28, 2011, holding six public hearings throughout the state to receive related comments before the close of the public review period as extended to May 10, 2011. The Department released its final subsequent environmental impact report (FSEIR) to the public on March 8, 2012, although it was under no legal obligation to do so under CEQA. For purposes of these findings and related certification requirements, both the DSEIR and FSEIR constitute the Department's "2012 EIR" for purposes of CEQA. Where the distinction between the DSEIR and FSEIR is important, these findings refer to the individual documents, respectively. Also of note, the 2012 EIR is a first "tier" environmental impact report under CEQA that the Department may rely on in the future for further related environmental review. (See generally Pub. Resources Code, §§ 21093, subd. (b), 21094; CEQA Guidelines, §§ 15152, 15153.)

The Department's decision to adopt updated regulations and certify the 2012 EIR marks an important milestone. Although currently prohibited by statute through June 30, 2016, the use of vacuum and suction dredge equipment for instream suction dredge mining is rooted in California history. So is related controversy, certainly over the past few decades. The Department's final actions here, including related environmental review under CEQA and rulemaking under the Administrative Procedure Act (APA) (Gov. Code, § 11340 et seq.), are both a product - and a current focus - of that controversy.

The Department is the only California state agency with explicit statutory authority to regulate suction dredge mining. (Fish & G. Code, § 5653 et seq.) Although the Fish and Game Code includes a general prohibition on the use of vacuum or suction dredge equipment in any river, stream, or lake, the same provision directs the Department to issue related permits in mandatory terms if suction dredging consistent with regulations

[1] The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

adopted by the Department will not be *deleterious to fish*. (*Id.*, §§ 5653, subds. (a)-(b), 5653.9.) The Department's explicit substantive legal authority for purposes of its suction dredge implementing regulations is limited, in this respect, to deleterious effects to fish. (*Id.*, § 45 (fish defined).) The effects of suction dredging on fish, however, are only a subset of the potentially significant environmental impacts caused by the activity. In the Department's opinion, that its regulatory authority is limited in the present context and likely misunderstood, is a factor contributing to ongoing controversy. Absent comprehensive regulatory reform governing suction dredge mining in California generally, and as discussed more fully below, the Department is still charged by statute and, in the present case, by court order to complete the underlying environmental review and rulemaking effort against the backdrop of existing law.

The Department's overarching interest in fulfilling its current legal obligations is the conservation of California's fish and wildlife resources. Established by statute, the Department serves by the same authority as the state's trustee agency for California fish and wildlife. (*Id.*, §§ 700, 711.7, subd. (a), 1802; Pub. Resources Code, § 21070; CEQA Guidelines, § 15386, subd. (a).) Consistent with its trustee mandate, the Department's mission is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public.

The trust status of California's fish and wildlife resources is rooted in the common law Public Trust Doctrine. As a state agency created by statute proposing to adopt updated regulations governing suction dredging, however, the Department must do so consistent with and subject to the controlling legal authority set forth in Fish and Game Code section 5653, subdivision (b). As explained in detail below, that charge and the related legal parameters governing the regulations puts the Department in the position of proposed final action having determined that the underlying regulated activity will result in significant and unavoidable environmental effects, including impacts to biological trust resources unrelated to fish. Those significant impacts run afoul of the Department's trustee mandate and, lacking the substantive authority to address those effects in this context, they are not acceptable.

In its capacity as a trustee agency the Department is often challenged to manage complex natural resource conflicts. Indeed, those conflicts typically highlight some of California's biggest challenges and, in many cases, the state's greatest achievements. Charged by existing law to effectuate a specific statutory mandate in the present case, the Department emphasizes its relevant substantive authority only goes so far. To the extent other potentially significant environmental effects occur beyond the Department's substantive reach, some of those effects are subject under current law to the jurisdiction and expertise of other federal, state, and local public agencies. As to the remaining significant impacts on biological trust resources, the Department has addressed those effects to the extent feasible consistent with its available substantive authority. (See, e.g., Pub. Resources Code, § 21004.)

The Department takes its final action in the present case and adopts these findings as set forth below consistent with its existing obligations under court order, CEQA, the APA, and the Fish and Game Code. It does so at the same time with a strong sense that existing state law governing suction dredge mining is ripe for comprehensive reform. In fulfilling its legal obligations, and doing so with the generous support and assistance of the California State Water Resources Control Board, the Department has made its best effort to find out and disclose all that it reasonably can about the environmental effects associated with suction dredging. The 2012 EIR, in fact, is the most comprehensive scientific analysis of suction dredging's impacts prepared in California to date. The Department anticipates its effort and related analysis will advance the related conversations among the myriad stakeholder groups involved in the issues.

The Department's lead agency analysis and disclosure obligations under CEQA are different, however, than its substantive legal authority to address related impacts. As to the former, the Department takes great pride noting the 2012 EIR is the most up to date technical analysis of suction dredging and its related effects in California. Recognizing related controversy will likely persist in the near term, the Department hopes nonetheless that its effort and the 2012 EIR will inform further policy, technical, and legal discussion regarding appropriate state regulation of suction dredge mining.

A. Project Description

This section describes the project for purposes of CEQA that is the subject of the Department's final action and these findings. That project consists of the proposed regulations as originally noticed by the Department in February and March 2011, as revised in February 2012 to include various environmentally superior elements. The revised regulations at issue here also include changes to address a small number of typographical and grammatical issues, and other nonsubstantial issues identified by the Department since February 17, 2012. The "revised regulations" for purposes of these findings and the Department's final action under CEQA, the APA, and the Fish and Game Code accompany these findings as a separate document.

In terms of general context, the DSEIR describes the proposed project for purposes of CEQA in the Program Description in Chapter 2. The Department's effort to develop proposed amendments to the existing regulations is described in the DSEIR in section 2.2.3, and the proposed regulations, highlighting the proposed changes to the 1994 regulations specifically, are described in DSEIR section 2.2.4, beginning at page 2-7. Importantly, the differences between the proposed regulations as originally noticed by the Department in February and March 2011, and the existing 1994 regulations currently found in Title 14 of the California Code of Regulations is highlighted in DSEIR Table ES-1. The proposed regulations as originally noticed, just like the existing regulations in Title 14, include a wide range of general provisions governing suction dredging under the Fish and Game Code, and specific restrictions by individual county and waterbody throughout California. The Department provided formal notice of the proposed regulations for purposes of the APA on March 18, 2011. (Cal. Reg. Notice Register 2011, No. 11-Z, p. 374.)

As noted elsewhere in these findings, the Department received, as expected, tremendous response to the DSEIR and the proposed regulations. The Department determined in response that various revisions to the proposed regulations were appropriate under both CEQA and the Fish and Game Code. Although the Department had signaled for some time following the close of the formal public comment period in May 2011 that revisions to the proposed regulations may be appropriate, it noted publicly its specific intention to issued revised regulations in early February 2011, providing formal notice of the *sufficiently related* changes under the APA on February 17, 2012. (See, e.g., Cal. Reg. Notice Register 2012, No. 7-Z, p. 174.) Those changes are also highlighted in the FSEIR as forwarded to public agencies that commented on the DSEIR on March 5, 2012, and as released to the public three days later. (FSEIR, Chapter 5, pp. 5.1 to 61.) The FSEIR discusses the revisions to the proposed regulations specifically, among other places, in sections 3.1 and 3.2.

Some of the revisions noticed in February 2012 and detailed in the FSEIR were simply prompted by the need to address typographical and grammatical issues. Others are intended to improve the overall efficiency of and the practicalities of administering and enforcing the proposed permitting program. The Department also revised the proposed regulations as originally noticed in response to factual and other technical information it received during the related public review period that ran from February to May 2011. Finally, the Department determined additional revisions were necessary to effectuate its obligations under CEQA's *substantive mandate* to reduce related significant effects to the extent feasible and, as directed by the Fish and Game Code, to ensure that authorized suction dredging would not be deleterious to fish. (Pub. Resources Code, §§ 21002, 21002.1, subd. (b); Fish & G. Code, §§ 5653, subd. (b), 5653.9.)

In addition to water body-specific revisions, the revised regulations include changes to the more general time, place, and manner restrictions as originally proposed. Of note, the revised regulations compared to the regulations as originally proposed: (1) reduce the total number of permits that will be issued by the Department during any calendar year from 4,000 to 1,500; (2) no longer require prospective permittees to identify the locations they intend to suction dredge in their permit applications, requiring instead that permittees keep an up-to-date report card regarding their operations, requiring permittees to submit that report card to the Department in January of the following calendar year; (3) include a density restriction prohibiting the operation of any vacuum or suction dredge equipment within 500' of another operating suction dredge; and (4) reduce the permissible hours to operate vacuum or suction dredge equipment from one half hour before sunrise to sunset, to 10:00 a.m. through 4:00 p.m.

As noted above, the Department has also identified a few additional typographical and grammatical, and *nonsubstantial* changes to the proposed regulations since public release of the revisions on February 17, 2012. All of these changes are necessary to address minor errors or typographical issues, and all are nonsubstantial. One such change reflected in the

revised regulations at issue here addresses an inadvertent error in the FSEIR.[2] The following table highlights the other grammatical and typographical, and other nonsubstantial changes between the revised regulations noticed on February 17, 2012, and the final revised regulations that are the subject of these findings and the Department's related final action:

COUNTY	WATER	DESCRIPTION	CHANGE MADE	REASON
Placer	American River, Middle Fork	Mainstem and all tributaries from American River North Fork upstream, unless otherwise noted	Added	Inadvertently left out. This was added to conform to the same reach of river in El Dorado so that there would be no confusion about the regulation. Change has no effect on fish.
Placer	American River, Middle Fork	Mainstem upstream from Oxbox Reservoir to Anderson Dam	Corrected to indicate only the reach upstream from Oxbow Reservoir.	Avoids having two different conflicting dredge seasons on the same river reach. Change has no effect on fish.
Riverside	Multiple Waterbodies	All shoreline pools and irrigation drains within one mile of the Salton Sea	Change Waterbodies to Waters.	Consistent use of term. Change has no effect on fish.
San Diego	Christianitos Creek	Mainstem	Delete "h" in Cristianitos. Delete reference to Gabino Creek upstream.	Correct spelling of Cristianitoes Creek. Gabino Creek is not in San Diego County. Change has no effect on fish.
San Diego	San Felipe Creek	Mainstem	Delete remainder of description	Avoids confusion because there are two SR-78 crossings. Change has no effect on fish.
Ventura	Hopper Creek	Mainstem	Delete entry	Redundant. No effect on fish.

[2] Specifically, the existing regulations currently found in Title 14 of the California Code of Regulations provided for the possibility of using a suction dredge with up to an 8-inch nozzle in the New River in Trinity County. The proposed regulations originally noticed by the Department in February and March 2011, removed this provision, thereby restricting maximum suction dredge nozzle size to 6 inches. The revised regulations released by the Department in February 2012, were consistent with that approach, as are the somewhat revised regulations at issue for purposes of final action here. The copy of the revised regulations included in the FSIER mistakenly indicate that an 8-inch suction dredge nozzle may be used, subject to other restrictions in the regulations, in the New River, Trinity County. That related description in the FSEIR is error, noted here simply to avoid confusion.

Again, all of the changes just highlighted, together with the revisions noticed to the public on February 17, 2012, constitute the "revised regulations" for purposes of these findings. These revised regulations also constitute the project that is the subject of and addressed in detail in these findings for purposes of the Department's final action under CEQA, the APA, and the Fish and Game Code.

Importantly, the Department has considered all the changes made to the proposed regulations as originally noticed in February and March 2011 in light of related obligations in CEQA and the CEQA Guidelines. (See, e.g., Pub. Resources Code, § 21092.1; CEQA Guidelines, § 15088.5.) In so doing, the Department finds the changes reflected by the revised regulations do not constitute significant new information added to the 2012 EIR, and that further revision and recirculation is not required under CEQA. The changes to the regulations as originally noticed are not attendant to, for example, nor do they give rise to or will they otherwise cause previously undisclosed new significant or substantially more severe environmental effects. In fact, the changes reflected in the revised regulations are both of product of and in response to the public review effort in the present case, with the revisions serving to reduce the severity specifically of various potentially significant effects first identified in the Department's Initial Study and later the DSEIR. The revised regulations in this respect as reflected for purposes of CEQA in the FSEIR, certainly compared to the Initial Study and DSEIR, merely clarify, amplify, or make insignificant modifications to the Department's environmental analysis, and the Department expects no new significant or more severe environmental effects with the revised regulations.

First, no new significant environmental impacts would result from the revised regulations. (CEQA Guidelines, § 15088.5, subd. (a)(1).) As discussed above, the revised regulations would lessen, not increase, the significant environmental impacts of the regulations as proposed in 2011, that were already identified in the DSEIR by, for example, reducing the total number of permits issued in a calendar year, including a related density restriction on operating suction dredges, and reducing the time in a given day when suction dredging is authorized.

Second, there would be no substantial increase in the severity of any previously identified environmental impact. (*Id.*, subd. (a)(2).) As discussed above, the revised regulations as approved by the Department lessen, not increase, the significant environmental impacts identified in the DSEIR. As an example, the DSEIR project description capped the total allowable annual number of permits at 4,000, while the revised regulations establish a cap of 1,500 annual permits, an almost sixty percent decrease. Fewer permits will result in less environmental effects and further reduce the prospect of deleterious effects to fish.

Third, there is no feasible alternative or any feasible mitigation measure considerably different from others previously analyzed that would clearly lessen the significant environmental impacts of suction dredging under CEQA or for purposes of the Fish and Game Code. (*Id.*, subd. (a)(3).) The potentially feasible alternatives evaluated in the DSEIR represent a reasonable range of alternatives, and the alternatives proposed by others in

comments on the DSEIR were infeasible. For further detail on this topic specifically, please see the Department's related discussion in the *Alternatives* section of these findings.

Fourth, the DSEIR was neither fundamentally and basically inadequate nor conclusory in nature so as to preclude meaningful public review. (*Id.,* subd. (a)(4).) The DSEIR contains a detailed, comprehensive review of all potentially significant environmental effects. By no measure is the 2012 EIR fundamentally and basically inadequate or conclusory.

In short, although the Department made changes to the proposed project since the release of the DSEIR, those changes lessen, not increase, the significant environmental impacts expected to occur with suction dredging authorized under the revised regulations.

B. Background and History

The background and history leading to the current environmental review and rulemaking effort, and of suction dredging in California generally are described in detail in a number of documents in the Department's administrative record of proceedings. The DSEIR, for example, describes the Program Background in section 1.1, discusses the history of suction dredging in section 3.1, and presents a detailed overview of the activity generally, along with a historical overview of the Department's permitting program in Chapter 3. The results of a survey conducted by the Department of 2008 permit holders also includes interesting background information as presented in Appendix F of the DSEIR. The same is true of a related socioeconomic report commissioned by the Department included in the DSEIR as Appendix H.

The FSEIR also includes important background information. Section 1.6, in particular, includes important information about the existing statutory moratorium on instream suction dredge mining, focusing on a related update following the enactment of Assembly Bill (AB) 120 in in July 2011. (See Stats. 2011, ch. 133, § 6, amending former Fish & G. Code, § 5653.1.) The section also discusses a December 2011 First District Court of Appeal decision in the *Hillman* litigation, one of three still pending lawsuits against the Department related to suction dredging.

In short, the background and history of suction dredging in California is marked, certainly since 2005, by considerable controversy. The current environmental review and rulemaking effort is itself a product of litigation. (*Karuk Tribe of California et al. v. California Dept. of Fish and Game*, Super. Ct. Alameda County, 2005, RG05211597; Order and Consent Judge entered December 20, 2006.) The December 2006 Order in the *Karuk* litigation directs the Department, specifically, to complete *further environmental review pursuant to CEQA* of its suction dredge permitting program and to promulgate, if necessary, updated regulations to protect special status fish species. Of note, the order also directs the Department to complete its environmental review and rulemaking effort by June 2008, which it was unable to do.

In that same vein, here is a list of the nine different suction dredge-related lawsuits filed against the Department since May 2005, highlighting those matters still pending:

Pending

- *Kimble et al. v. Schwarzenegger et al.*, Super. Ct. San Bernardino County, 2010, No. CIVDS1012922, filed September 15, 2010; hearing on demurrer, motion to stay, and motion for preliminary injunction scheduled on May 10, 2012.

- *Hillman et al. v. Department of Fish and Game et al.*, Super. Ct. Alameda County, 2009, No. RG09-434444, filed February 5, 2009; remittitur issued by First District Court of Appeal, Division 3 (A126402), on February 28, 2012.

- *Karuk Tribe et al. v. Department of Fish and Game et al.*, Super. Ct. Alameda County, 2005, No. RG05-211597, filed May 6, 2005; Order and Consent Judgment entered with Continuing Jurisdiction December 20, 2006; Case Management Conference scheduled on September 19, 2012.

Completed

- *Reynolds v. State of California et al.*, E.D. Cal. Case No. 2:11-CV-01381-MCE-CMK, filed June 7, 2011; Volunary Dismissal of Action filed by Plaintiff September 26, 2011.

- *Eddy v. Dept. of Fish and Game*, El Dorado County Small Claims Court No. PSC20100573, filed September 21, 2010; ruling in favor of Department issued November 16, 2010.

- *Public Lands for the People et al. v. State of California et al.*, U.S. District Court, Eastern Dist. of California, Case No. 2:09-CV-02566-MCE-EFB, filed September 14, 2009; Judgment Entered in favor of the State of California and the Department March 16, 2010.

- *Wegner v. Koch et al.*, Los Angeles County Sm. Claims Case No. LAV 09VO6983; filed October 8, 2009; Judgment Entered against the Department February 3, 2010.

- *Eason v. Department of Fish and Game et al.*, Super. Ct. Sacramento County, 2006, No. 06CS00768, filed May 26, 2006; Judgment Entered in favor of the Department October 24, 2007.

- *Hobbs v. Department of Fish and Game et al.*, Super. Ct. Sacramento County, 2006, No. 06AS00028, filed January 6, 2006; Dismissed without Prejudice July 25, 2006.

Suction dredging has also been the subject of various legislative efforts during the same time frame.

- SB 87, 2011 Budget Bill, Stats. 2011, ch. 33, p. 4, Item 3600-001-00001, Provision 3.

- AB 120 (Committee on Budget), Stats. 2011, ch. 133, § 6, p. 9, amending Fish & G. Code, § 5653.1, effective July 26, 2011.

- SB 657 (Gaines), introduced February 18, 2011; fails to pass out of Senate Committee on Natural Resources and Water in April 2011.

- SB 670 (Wiggins), Stats. 2009, ch. 62, § 1, adding Fish & G. Code, § 5653.1, effective August 6, 2009.

- SB 889 (Aanestad), 2009/2010 Legislative Session; fails to pass out of the Assembly Committee on Water, Parks, and Wildlife in June 2010.

- AB 32 (Wolk), 2007/2008 Legislative Session; vetoed by Governor Schwarzenegger in October 2007.

C. CEQA Process

The Department's current environmental review effort begins in a legal sense with entry of the December 2006 Order in the *Karuk* litigation. Although it took the Department some time to obtain the public funding and related legal authority to expend the funds necessary to conduct the court-ordered review (see, e.g., Fish & G. Code, § 711, subd. (a)(1)), it moved the related ball down the field with notice published in the California Regulatory Notice Register in October 2007. (Cal. Reg. Notice Register 2007, No. 42-Z, p. 1783.) Having reviewed the information it received in response to that notice, the Department determined and informed the trial court in the *Karuk litigation* in DATE, that a subsequent environmental impact report, statewide in scope, was necessary for the Department to meet its related obligations under CEQA. (See Pub. Resources Code, § 21166; CEQA Guidelines, § 15162.) Building momentum, the Department executed a consulting contract with Horizon Water and Environment in DATE, turning then with the necessary resources, including the generous support of the State Water Resources Control Board, to the current effort.

Consistent with CEQA, the Department completed an Initial Study in November 2009, issuing a related Notice of Preparation (NOP) to begin formal scoping in October 2009. (See Pub. Resources Code, §§ 21080.1, 21080.4, 21104, and 21153; CEQA Guidelines, § 15063.) Following a series of public meetings throughout the state, and after convening a public advisory committee (PAC) that met on three occasions in February and March, 2011, the Department worked to develop and then release the DSEIR and the proposed regulations for public review in February 2011. (See Pub. Resources Code, § 21092; CEQA Guidelines, §§ 15087 and 15105.) With the extended public commented period closing in May 2011 after six public hearings across the state, the Department began its effort to review public comments and related material, and to prepare written responses as

required by CEQA. (See Pub. Resources Code, § 21091; CEQA Guidelines, §§ 15088 and 15132, subd. (b)-(d).)

On February 17, 2012, the Department released the revised regulations to the public under the APA. (See, e.g., Cal. Reg. Notice Register 2012, No. 7-Z, p. 174.) The Department also released the FSEIR to the public in early March 2012, which also addresses the revisions, having forwarded proposed written responses under CEQA to all the public agencies that commented on the DSEIR on March 5, 2012. (See Pub. Resources Code, § 21092.5.) These findings and related final action by the Department mark the end of the CEQA review effort at hand. (See CEQA Guidelines, §§ 15089-15092.)

The 2012 EIR includes a detailed overview of the Department's environmental review effort from a process standpoint. The DSEIR provides related details in Chapters 1 and 2, for example, including sections 1.2 through 1.5, and 1.9. DSEIR Appendices B, C, D, and G also include important details. The FSEIR, in turn, describes the effort further. (See, e.g., FSEIR, Chapter 1, §§ 1.2 through 1.5.)

II. SCOPE OF FINDINGS

Findings are required by each "public agency" that approves a "project for which an environmental impact report has been certified which identifies one or more significant effects on the environment[.]" (Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a); see also Pub. Resources Code, § 21068 (significant effect on the environment defined); CEQA Guidelines, § 15382 (same).) In the present case the 2012 EIR identifies various potentially significant effects the Department expects to occur with its approval of the revised regulations, and any such approval constitutes the approval of project for purposes of CEQA. The Department has prepared and adopts these findings as set forth below to comply with its related obligations under CEQA.

III. FINDINGS REQUIRED UNDER CEQA

As noted above, CEQA requires all public agencies to adopt findings before approving a project for which an EIR was prepared where the prospect of significant effects on the environment exists. These findings, as a result, are intended to comply with CEQA's mandate that no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant effects thereof unless the agency makes one or more of the following findings:

(1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment;

(2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency;

(3) Economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the EIR.

(Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a).)

These findings are also intended to comply with the requirement that each finding by the Department be supported by substantial evidence in the administrative record of proceedings, as well as accompanied by a brief explanation of the rationale for each finding. (*Id.*, § 15091, subds. (a), (b); see also Discussion following CEQA Guidelines, § 15091.) To that end, these findings provide the written, specific reasons supporting the Department's decision under CEQA to adopt the revised regulations and, if and when the existing statutory moratorium is lifted, to issue individual suction dredge permits consistent with the adopted regulations.

IV. LEGAL EFFECT OF FINDINGS

These findings are not merely informational. They constitute a binding set of obligations as adopted by the Department that will come into effect at the time the revised regulations take effect and, if and when, the existing statutory moratorium is lifted and the Department begins to issue individual permits consistent with the adopted regulations.

V. ADMINISTRATIVE RECORD OF PROCEEDINGS

For purposes of these findings, the administrative record of proceedings for the Department's discretionary issuance of the Suction Dredge Permitting Program consists, at a minimum, of the following documents:

- All Suction Dredge Permitting Program application materials submitted to the Department;

- All staff reports and related non-privileged documents prepared by the Department with respect to its compliance with CEQA and the CEQA Guidelines, and with respect to the Suction Dredge Permitting Program;

- All written testimony or documents submitted by any person to the Department relevant to these findings and the Department's discretionary actions with respect to the Suction Dredge Permitting Program;

- All notices issued to comply with CEQA or the CEQA Guidelines or with any other law relevant to and governing the processing and approval of the Suction Dredge Permitting Program by the Department;

- All written comments received in response to, or in connection with, environmental documents prepared for the Suction Dredge Permitting Program;

- All written evidence or correspondence submitted to, or transferred from, the Department with respect to compliance with CEQA or with respect to the Suction Dredge Permitting Program;

- Any proposed decisions or findings submitted to the Department by its staff, or the plan proponent, plan opponents, or other persons;

- The documentation of the final decision by the Department, including all documents cited or relied on in these findings adopted pursuant to CEQA and the CEQA Guidelines;

- Any other written materials relevant to the Department's compliance with CEQA and the CEQA Guidelines, or the Department's decision on the merits with respect to the Suction Dredge Permitting Program, including any draft environmental documents which were released for public review, and copies of studies or other documents relied upon in any environmental document prepared for the plan and either made available to the public during a public review period or included in the Department's files on the Suction Dredge Permitting Program, and all non-privileged internal agency communications, including staff notes and memoranda related to the Suction Dredge Permitting Program or to compliance with CEQA or the CEQA Guidelines;

- Matters of common knowledge to the Department, including but not limited to Federal, State, and local laws and regulations; and

- Any other materials required to be in the Department's administrative record of proceedings by Public Resources Code section 21167.6, subdivision (e).

The custodian of the documents comprising the administrative record of proceedings is the California Department of Fish and Game, located at 1416 Ninth Street, Sacramento, California 95814. All related inquiries should be directed to the Department's Office of the General Counsel at (916) 654-3821.

The Department has relied on all of the documents listed above in exercising its independent judgment and reaching its final decision with respect to the revised regulations and its Suction Dredge Permitting Program, even if not every document was formally presented to the Department or its staff as part of the Department's files generated in connection with the underlying environmental review and rulemaking effort. Without exception, any documents set forth above not found in the Department's files for the Suction Dredge Permitting Program fall into one of two categories. Certain documents reflect prior planning or legislative decisions of which the Department was aware in approving the Suction Dredge Permitting Program. (See *City of Santa Cruz v. Local Agency*

Formation Comm. (1978) 76 Cal.App.3d 381, 391-392; *Dominey v. Department of Personnel Administration* (1988) 205 Cal.App.3d 729, 738, fn. 6.) Other documents influenced the expert advice of Department staff, who then provided advice to the decision makers at the Department with respect to the Suction Dredge Permitting Program. For that reason, all such documents form part of the underlying factual basis for the Department's decision related to the Suction Dredge Permitting Program. (See Pub. Resources Code, 21167.6, subd. (e)(10); *Browning-Ferris Industries v. City Council of City of San Jose* (1986) 181 Cal.App.3d 852, 866; *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 153, 155.)

VI. MITIGATION MONITORING AND REPORTING PROGRAM

CEQA and the CEQA Guidelines require the Department to adopt a mitigation monitoring and reporting program (MMRP) as part of its final action under CEQA to approve the revised regulations. (See Pub. Resources Code, § 21081.6, subd. (a)(1); CEQA Guidelines, § 15097.) According to CEQA, MMRPs help to ensure compliance with mitigation measures and changes incorporated into an underlying project avoid or substantially lessen significant environmental effects. Here, the Department is adopting updated regulations governing its suction dredge permitting program. The Department's revised regulations are not the typical project contemplated by CEQA in the MMRP context. The revised regulations themselves are designed to avoid or lessen significant environmental impacts related to suction dredging.

Pursuant to CEQA Guidelines Section 15097, subdivision (c), the Department may choose whether its MMRP will monitor mitigation, report on mitigation, or both. The revised regulations as adopted and implemented by the Department actually do both. The revised regulations, for example, provide more efficient permit management, account for further evaluation of species distributions and life histories, and make related adjustments to the Program to ensure that authorized suction dredging is not deleterious to fish. The revised regulations also specifically require permittees to keep and submit to the Department each January an up-to-date report card regarding their individual suction dredging operations during the past calendar year. This report card allows the Department to evaluate, on an ongoing basis, the significance of the environmental impacts related to suction dredging and to make changes, if needed, to ensure impacts remain less than significant. Additionally, upon adoption, the revised regulations will be enforceable as law, and therefore no additional document to ensure enforceability is necessary. Accordingly, the Department's action to adopt the revised regulations, viewing those regulations as its MMRP, is consistent with CEQA.

VII. SUMMARY OF FINDINGS

As noted above, the Department has prepared these findings to comply with CEQA. The relevant provisions of CEQA and the CEQA Guidelines require the Department against the backdrop of the 2012 EIR to address and adopt findings regarding all of the significant environmental effects expected with approval of the revised regulations. The Department

does just that in the sections that follow, focusing on the potentially significant effects that will be reduced to less than significant with the revised regulations followed by related discussion addressing the effects expected to remain significant and unavoidable. Although not required by CEQA, the Department begins its discussion focused on those effects determined to be less than significant as an initial matter.

VIII. LESS-THAN-SIGNIFICANT EFFECTS IDENTIFIED IN THE INITIAL STUDY NOT CONSIDERED FURTHER IN THE 2012 EIR

The Department prepared an "Initial Study" consistent with CEQA, issued an NOP, and conducted various public meetings through the state to solicit input about the scope of required analysis in the DSEIR. That effort and the related information are described in the 2012 EIR. (See, e.g., DSEIR, §§ 1.4.1, 1.4.2, and 1.5.1 through 1.5.3, pp. 1-7 through 1-11; and DSEIR Appendices B-D; see also Cal. Reg. Notice Register 2007, No. 42-Z, p. 1783.) An important purpose of the Initial Study and the Department's related scoping effort under CEQA was, among others, to focus the DSEIR on the effects determined as an initial matter to be significant or potentially significant, and to identify effects determined to not be significant. (See generally CEQA Guidelines, § 15063, subd. (c).) As part of that effort the Department determined in the Initial Study that the proposed permitting program would result in various less-than-significant effects that need not be addressed further in the DSEIR. The Department finds for the same reasons, and as discussed earlier, that the same impacts will also be less than significant with adoption of the revised regulations.

CEQA does not require findings for impacts deemed less than significant prior to mitigation. Yet, in the interest of comprehensive findings, the impacts the Department expects to be less-than-significant without mitigation as a result of suction dredging authorized under the revised regulations are identified below. Related discussion also appears, among other places, in the 2012 EIR. (DSEIR, § 4.0.3, pp. 4.0-2 through 4.0-5.) Nothing more is required for these findings or for CEQA generally. (See, e.g., Pub. Resources Code, §§ 21081, 21100, subd. (c), 21081; CEQA Guidelines, §§ 15091, 15126.2, 15128, 15143.)

To summarize, the Initial Study identified the following categories of impacts as less than significant that the Department also finds will occur with adoption of the revised regulations:

- Aesthetics: light and glare (Initial Study, p. 32);
- Air Quality: violation of air quality standards, exposure of sensitive receptors to substantial pollutant concentrations, and odors (*id.*, pp. 34-36);
- Cultural Resources: destruction of unique paleontological resources (*id.*, pp. 63-64);
- Geology and Soils: earthquakes and ground failure, unstable geologic units and expansive soils, and septic systems (*id.*, p. 66);

- Hazards and Hazardous Materials: location on a known hazardous materials site, and hazards to airports (*id.*, pp. 68-69);

- Hydrology and Water Quality: onsite or offsite flooding from drainage pattern alteration or flow contribution; placing housing or structures in a 100-year flood hazard area, or exposing people or structures to a significant risk involving flooding; contribute to inundation by seiche, tsunami, or mudflow (*id.*, pp. 73-75);

- Mineral Resources: loss of mineral resources (*id.*, p. 78);

- Public Services: police protection and parks (*id.*, p. 82-84);

- Recreation: recreational facilities and recreational conflicts between user groups (*id.*, pp. 85-86);

- Transportation and Traffic (*id.*, pp. 87-88); and

- Utilities and Service Systems: wastewater treatment and solid waste disposal (*id.*, pp. 89-90).

IX. PROJECT SPECIFIC LESS-THAN-SIGNIFICANT EFFECTS EXPECTED UNDER CEQA WITH APPROVAL OF THE REVISED REGULATIONS

This section discusses and sets forth the Department's findings with respect to the potentially significant impacts expected with approval of the revised regulations. The 2012 EIR, for example, examines in detail those impacts the Department deemed potentially significant as an initial matter for purposes of suction dredging authorized under the proposed regulations as originally noticed. (See generally DSEIR, Chapter 4, §§ 4.1 through 4.10.) The Department also explained in the 2012 EIR that, with the time, place, and manner restrictions in the proposed regulations, nearly all such impacts would be reduced to below a level of significance. As set forth below, the Department finds the same is true with respect to the potentially significant effects expected with the revised regulations.

A. Hydrology and Geomorphology (Draft SEIR Section 4.1)

1. Erosion, Transport, and Deposition of Alluvial Material in Rivers and Streams Resulting in Dredge Potholes, Tailings Piles, and Other Suspension/Depositional Features

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on existing geomorphic form and function, water quality, and aquatic habitat through the redistribution of alluvial material.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations require suction dredge operators to level tailings piles generated from suction dredging operations. The Department also intends to provide related guidance generally as to how to restore dredge holes in a "Best Management Practices" handout given to permittees. Removing these irregular bed surfaces following dredging will reduce impacts to geomorphic form and function. Furthermore, in most streams and rivers throughout the state, natural sediment transport process will restore irregular bed surfaces caused by suction dredging. As such, the Department finds that sediment redistribution impacts (e.g., potholes, tailings piles and other suspension/deposition events) caused by suction dredging authorized by, and conducted in compliance with, the revised regulations will be less than significant for purposes of CEQA.

2. Destabilization of the Streambanks

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the stabilization of streambanks.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations prohibit the operation of vacuum and suction dredge equipment in proximity to or beneath a streambank, or the diversion of flow into a streambank. The revised regulations also require permit applicants to identify the locations of planned mining activities, providing additional oversight and enforcement capabilities. The Department believes these prohibitions and reporting obligations will serve as a deterrent to illegal suction dredging activities. The Department recognizes that, even with the prohibitions and reporting obligation, some illegal dredging will cause bank erosion and instability. However, due to the limited extent of potential bank erosion and instability caused by suction dredging, the Department finds that environmental effects under the revised regulations will be less than significant for purposes of CEQA.

3. Destabilization of Channel Bed Forms such as Riffle and Bars

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on channel bed forms such as riffles and gravel bars.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Suction dredging under the revised regulations may destabilize channel forms such as riffles and bars. In most cases, the geomorphic process for recovery would reset and reestablish these channel forms within 1 to 3 years following dredging. The effects of dredging are likely to be most evident in small channels and watersheds, downstream of dams, and in areas with a high concentration of dredging activity. The revised regulations include several provisions that will protect aquatic habitat and reduce related disturbance to riffles and bar features, including: (1) restrictions on nozzle size, (2) dredging being restricted to the wetted portion of the channel, (3) requirements to restore irregular bed surfaces and channel grades following excavation, (4) guidance to avoid areas of fine sediment, and (5) prohibitions on dredging in gravel bars at the tails of pools. Even so, the Department expects suction dredging under the revised regulations will destabilize channel riffles and bars to some degree. However, the Department expects these effects to be substantially reduced under the revised regulations even compared to the proposed regulations as originally noticed, especially considering the form and function of rivers and streams at the statewide scale. The Department finds, as a result, that environmental effects under the revised regulations associated with destabilizing instream channel bed forms will be less than significant for purposes of CEQA.

4. Destabilization of Channel Profile

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on channel profiles as a result of the movement of channel structural elements such as boulders and coarse woody debris (CWD), destabilization of riffles and gravel bars, and dredging excessively deep pits.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations prohibit the movement of CWD and the use of power winches to move bed material. These restrictions will avoid and substantially lessen the potential for authorized suction dredging to destabilize channel profiles. Other restrictions and requirements in the revised regulations will further lessen such effects (e.g., knickpoints in channel profiles), including restrictions on nozzle size, and requirements that suction dredge operators restore channel grades and bed irregularities following dredging activities. The Department finds, as a result, that environmental effects under the revised regulations associated with channel profile destabilization will be less than significant for purposes of CEQA.

5. Streamflow Channelization, Diversion, or Obstruction

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on stream morphology and channel hydraulics as a result of obstructions and diversions of normal stream flows.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations prohibit (1) constructing permanent or temporary dams, (2) concentrating flow in a way that reduces the total wetted area of the stream, and (3) diversion of a stream or lake into the bank. Additionally, the revised regulations require that permittee keep an up-to-date report card logging mining activities. This reporting aids Department oversight and enforcement capabilities, and creates a deterrent effect on illegal activity. Even if illegal dredging activities were to occur that led to instream channelization, diversions, or obstructions, in most cases geomorphic recovery processes would likely reset and reestablish the channel form within 1 to 3 years following dredging activities. The Department finds, as a result, that environmental effects under the revised regulations associated with flow obstructions and diversions associated with suction dredging will be less than significant for purposes of CEQA.

6. Alteration or Destabilization of Lake Bed or Shoreline

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the morphology and shoreline of lakes.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations require that a permittee submit notification to the Department (pursuant to Fish & G. Code, §1602) of any suction dredging activity proposed in a lake. If the Department concludes, after an on-site inspection required by the revised regulations, that the proposed dredging activity would not substantially alter the lake bed or shoreline and therefore does not require a Lake or Streambed Alteration Agreement, then the activity is deemed to have a less than significant impact to the geomorphic form of the lake. Alternatively, if the Department determines that the proposed dredging activity would substantially alter the lake bed or shoreline, and requires a Lake or Streambed Alteration Agreement, then the activity would be subject to additional CEQA review. The Department finds, as a result, that environmental effects under the revised regulations associated with alteration or destabilization of lake beds or shorelines will be less than significant for purposes of CEQA.

B. Water Quality and Toxicology (Draft SEIR Section 4.2)

1. Effects of Contaminant Discharges from Dredge Site Development and Use

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects as a result of discharges of wastes to water bodies from encampments near mining locations.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations prohibit removal or damage to streamside vegetation and displacement of any material embedded on banks of rivers or streams during suction dredge operations. Because of these restrictions contained in the revised regulations, the Department does not anticipate suction dredging encampments to cause substantial erosion, runoff, or discharges of wastes and contaminants. In particular, undeveloped encampment activities for dredging are typically dispersed and along streams in primarily rural areas of the state, and conducted on a seasonal and temporary basis. Thus, implementation of the Program would not be anticipated to result in contaminant discharges that would be of sufficient magnitude, frequency, or geographic extent to adversely affect beneficial uses. Additionally, because of the seasonal, temporary, and intermittent character of most dredging activity, any water quality degradation that may occur is expected to be infrequent and dispersed and thus would not cause substantial or long-term degradation of water quality. Finally, development and use of encampments for suction dredging activities could result in the discharge of bioaccumulative constituents but the levels or frequencies would be too small to increase body burdens in aquatic organisms, or increase the health risks to wildlife (including fish and aquatic organisms) or humans consuming these organisms. The Department finds, as a result, that environmental effects under the revised regulations associated with discharges of wastes to water bodies from encampments near mining locations will be less than significant for purposes of CEQA.

2. Effects of Contaminant Discharges of Oil or Gasoline Used in Suction Dredges

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects as a result of accidental spills and discharges of fuel and oil used to power a dredge-mounted gasoline engine either directly into water bodies or indirectly to water or soil, where it may remain to be transported offsite by rainfall and runoff.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations require that all fuel, lubricants, and chemicals be stored more than 100 feet away from the water, and that all fueling and servicing of dredging equipment must be done in a manner such that petroleum products and other substances are not leaked, spilled, or placed where they may pass into the waters of the state. These prohibitions in the revised regulations are expected to limit the risk of accidental spills and discharges of contaminants to water bodies. Additionally, existing Fish and Game Section 5650 regulations restrict the allowable fuel handling procedures.

The Department will also provide guidance to permit holders related to appropriate spill control and response measures in the event of fuel or oil spills, or if leaks are detected. Such guidance will be incorporated into the "Best Management Practices" document distributed at the time of permit issuance. Thus, the Program and existing state regulations provide enforcement authority empowering the Department and other local, state, or federal law enforcement officers to stop activities that may result in fuel/oil spills or discharges or that are inconsistent with the revised regulations.

Based on the dispersed and temporary character of dredging activities, and restrictions in the revised regulations designed to limit accidental spills of petroleum products, the Department anticipates that the potential for substantial quantities or frequent discharges of contaminants to water bodies will be limited. The Department therefore expects that implementation of the Program will not result in contaminant discharges of sufficient magnitude, frequency, and geographic extent to adversely affect beneficial uses. Because dredging activities are largely conducted on a seasonal, temporary, and intermittent basis in California, the Department expects any near-term water quality degradation that may occur to be dispersed. Finally, while potential discharges of petroleum products associated with dredging activities could result in the discharge of bioaccumulative constituents, the levels or frequency would be too small to measurably increase body burdens in aquatic organisms, or increase the health risks to wildlife (including fish and aquatic organisms) or humans consuming these organisms. The Department finds, as a result, that environmental effects under the revised regulations associated with contaminant discharges of oil or gasoline will be less than significant for purposes of CEQA.

3. Effects of Turbidity/TSS Discharges from Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the water column as a result of an increase in water turbidity and TSS levels from the resuspension of coarse and fine sediment.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations prohibit activities that have the potential to disturb fine sediments and can result in higher levels of turbidity and TSS, such as mechanized winching, highbanking, removal of vegetation, dredging outside of the wetted channel, and diversion of flows. Additionally, the revised regulations require dredgers to take reasonable care to avoid dredging silt and clay materials. Thus, the Program provides enforcement authority under which the Department and other local, state, or federal law enforcement officers can act to stop activities that may result in turbidity/TSS conditions that are inconsistent with the revised regulations. It should be noted that dredging related discharges of turbidity/TSS, as an activity that has the ability to exceed numerical and narrative regulatory water quality objectives established in Basin Plans, may additionally be regulated by separate permitting authority of the RWQCBs pursuant to the CWA and

Porter-Cologne. While no such permitting processes have been established by the RWQCBs for the Program discharges or for the Department's previously authorized suction dredging program, such authority, if exercised, would have the potential to provide additional assurance that sufficient regulatory controls exist to prevent adverse effects to beneficial uses. At their discretion, individual RWQCBs or the SWRCB could develop a complementary permitting program for suction dredging activity to further address compliance with water quality regulations.

Suction dredging activities conducted in compliance with the revised regulations are not expected to result in substantial discharges of turbidity/TSS. Thus, the Department does not anticipate implementation of the Program to result in turbidity/TSS discharges of sufficient magnitude, frequency, and geographic extent to adversely affect beneficial uses. The revised regulations prohibit and/or limit specific channel disturbance activities and thus, limit the potential for excessively high turbidity/TSS levels from dredging activities. Because dredging activities are largely conducted on a seasonal, temporary, and intermittent basis in California, the Department expects any water quality degradation to be infrequent and dispersed and not a cause of substantial, long-term degradation of water quality. Turbidity and TSS are not bioaccumulative constituents and thus are not a concern for uptake in the food chain or health risk to wildlife or humans. The Department finds, as a result, that environmental impacts under the revised regulations associated with turbidity/TSS discharges will be less than significant for purposes of CEQA.

4. Effects of Trace Organic Compounds Discharged from Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on waterways as a result of the release of trace organic compounds such as the now-banned and persistent legacy chlorinated hydrocarbon pesticides (e.g., DDT, dieldrin, and chlordane) from sediment.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: There are several characteristics of trace organic compounds that reduce the potential for there to be adverse effects to beneficial uses associated with their resuspension caused by suction dredging. First, legacy chlorinated hydrocarbon pesticides in particular have a high affinity for binding to sediment; thus, resuspension is unlikely to result in substantial release of bioavailable compounds to the water column. Second, these trace organic compounds were generally not widely used in the rural areas where suction dredging activity typically occurs; thus, there are unlikely to be "hot spot" areas for these compounds where dredging occurs. Third, suction dredging activities target areas with relatively active stream flow conditions. Consequently, to the degree that a portion of re-suspended trace organics would be present in the water column in bioavailable forms, their concentrations would not be expected to be at levels that would cause toxicity to aquatic life at the site or immediately downstream of the site. Finally, because sediment

mobilization associated with suction dredging is not expected to re-mobilize high concentrations of trace organics (but rather mobilize sediments having "typical" levels of these compounds adsorbed to the sediments), its re-deposition downstream should not substantially alter downstream sediment concentrations of these compounds.

Based on the information discussed above, along with revised regulations that include (1) restrictions on nozzle size, and (2) guidance to avoid areas of fine sediment, the Department does not expect suction dredging under the Program to increase levels of trace organics in any water body such that the water body would exceed state or federal water quality criteria by frequency, magnitude, or geographic extent that would result in adverse effects on one or more beneficial uses. In addition, suction dredging as permitted by the revised regulations will not result in substantial, long-term degradation of trace organic conditions that would cause substantial adverse effects to one or more beneficial uses of a water body. Finally, the Department does not expect suction dredging to mobilize trace organics in a manner or to an extent that would increase levels of any bioaccumulative trace organic in a water body by frequency and magnitude such that body burdens in populations of aquatic organisms would measurably increase, thereby substantially increasing the health risks to wildlife (including fish) or humans consuming these organisms. The Department finds, as a result, that the environmental impacts associated with trace organic compounds discharged from suction dredging will be less than significant for purposes of CEQA.

C. Biological Resources (Draft SEIR Section 4.3)

1. Direct Effects on Spawning Fish and their Habitat

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on *Fish* (specifically, for the purposes of this impact discussion, on fin fish and amphibian) reproduction.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations impose spatial and temporal restrictions on suction dredging activities that are based on life history, distribution and abundance of *Fish* action species. These restrictions on suction dredging span the period immediately before spawning and during critical early life stages (i.e., spawning, incubation, and early emergence) of *Fish* action species (Draft SEIR, Table 4.3-1). Streams within the state that provide habitat for fish species that are either very limited in number and/or distribution will be closed to suction dredging (Class A), or closed during critical spawning periods. Therefore, the disturbance to spawning *Fish* and crushing of embryos and larvae posed by the act of suction dredging is not likely to occur for *Fish* action species. Impacts of dredging

to other *Fish* species (i.e., those listed in Draft SEIR, Table 4.3-2, as well as more common or widespread native and non-native fishes) are also not likely to result in impacts that would be considered significant.

The revised regulations further minimize the potential for disturbance to all spawning *Fishes* and their habitats by requiring dredgers to (1) provide the Department with information regarding the location of their dredging operation(s), allowing the Department to monitor and manage areas with high dredging use, and potentially modify regulations if deleterious effects are identified, (2) level all tailing piles prior to working another excavation site or abandoning the excavation site, minimizing the potential for *Fish* to spawn on unstable substrate, and (3) avoid the disturbance of redds and adult fish. The Department finds, as a result, that environmental impacts on spawning *Fish* and their habitat will be less than significant for purposes of CEQA.

2. Direct Entrainment, Displacement or Burial of Eggs, Larvae and Mollusks

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on fish eggs, fry and larvae, mollusks such as clams, mussels, snails, and limpets, and amphibian eggs and larvae, such as those of frogs and toads, as a result of displacement, entrainment, and burial.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation:

The revised regulations incorporate spatial and temporal restrictions to protect the most vulnerable early life stages of *Fish* action species (Draft SEIR, Table 4.3-1). The Department has utilized a broad range of scientific data and management tools to develop the revised regulations which ensure a deleterious effect and/or significant impact to *Fish* species is not likely to occur. For example, for foothill yellow-legged frog, the revised regulations impose Class E restrictions for select watersheds in the Department's Region 2. These watersheds are generally tributaries of mainstem streams whose hydrology has been altered by hydropower operations. In these watersheds, the tributaries provide important refugia for the species, and therefore Class E restrictions are imposed to avoid or minimize impacts to early lifestages. To provide additional protection for this species, streams within the known range of foothill yellow-legged frog, which encompasses a significant portion of the state, are designated Class D. The Class D restrictions will protect egg masses from entrainment; while tadpoles may still be present at the times that streams are open to suction dredging, sufficient refugia are believed to exist such that significant impacts would not result. Further, the revised regulations identify year-round closures(Class A) for other action species which in many cases would provide surrogate protection for foothill yellow-legged frog tadpoles. Similarly, surrogate protection may result from land use designations (e.g., National Parks, Wilderness Areas). Finally, the

revised regulations require dredgers to avoid disturbance of eggs, redds, tadpoles and mollusks. In summary, for the example of the foothill yellow-legged frog, the revised regulations' employment of spatial, temporal and operational restrictions will ensure that suction dredging activities will not have a significant impact on the species as a whole, and therefore the Department finds that the environmental impacts on foothill yellow-legged frog will be less than significant for purposes of CEQA.

The revised regulations further minimize the potential for entrainment, displacement, or burial of eggs, larvae and mollusks in areas open to suction dredging by requiring dredgers to (1) provide the Department with information regarding the location of their dredging operation(s), allowing the Department to monitor and manage areas with high dredging use, and potentially modify regulations if deleterious effects are identified, (2) take reasonable care to avoid dredging silt and clay materials that may result in increased turbidity and deposition of fines on the gravels, (3) level all tailing piles prior to working another excavation site or abandoning the excavation site, and (4) avoid the disturbance of eggs, redds, tadpoles and mollusks. The revised regulations also prohibit dredging in mussel beds.

With these regulations in place, the Department finds that the environmental impacts associated with direct entrainment of eggs and larvae of *Fish* species by a suction dredge will be less than significant for purposes of CEQA. The Department finds that the environmental impacts associated with burial of mollusks is also less than significant for purposes of CEQA based on the revised regulations' restriction on dredging in mussel beds, and the historical and projected level of suction dredging activity.

3. Effects on Early Life Stage Development

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on fish species (including salmonids and lamprey) and amphibians as a result of the release of fine particles that reduce flow and oxygen concentrations and negatively affect early life stage development.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations impose spatial and temporal restrictions on suction dredging where necessary to protect the development of critical early life stages of *Fish* action species (Draft SEIR, Table 4.3-1). Spatial and temporal closures of streams for *Fish* action species provides surrogate protection for many other species of aquatic fauna with life histories similar to the action species. In addition, the revised regulations further minimize the potential impacts to critical early life stages by prohibiting dredgers from (1) dredging or removing material within 3 feet of the lateral edge of the current water level, protecting against streambank destabilization that could result in release of fine sediment, and (2) damaging or removing streamside vegetation, protecting against streambank

destabilization that could result in release of fine sediment. The revised regulations also require dredgers to (1) take reasonable care to avoid dredging silt and clay materials that may result in increased turbidity and deposition of fines on the gravels, reducing the potential for eggs and larvae to be impacted by increased turbidity and fine sediment, (2) level all tailing piles prior to working another excavation site or abandoning the excavation site, ensuring that large piles of fines are not left in the stream that could later blanket embryos, and (3) avoid the disturbance of redds and tadpoles.

The Department finds, as a result, that the environmental impacts on development of early life stages of *Fish* species will be less than significant for purposes of CEQA.

4. Direct Entrainment of Juvenile or Adult Fish in a Suction Dredge

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on juvenile and adult fish as a result of direct entrainment.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Species at risk for this impact are those not able to escape velocities at the dredge intake, and whose populations are severely limited in size or distribution. The revised regulations impose Class A restrictions on, and therefore close to suction dredging, streams within the state that provide habitat for species that are very limited in number and distribution thus avoiding the potential for impacts. These closures are necessary to maintain the viability of these species, as direct impacts or degradation of habitat could have a substantial effect on the population or range of the species. In addition, the revised regulations further minimize the potential for entrainment of juvenile and adult Fish by requiring dredgers to (1) cover the intake for the suction dredge pump with screening mesh, which effectively eliminates the potential for entrainment of juvenile salmonids into the pump intake, and (2) avoid the disturbance of fish.

While some entrainment of juveniles and adult *Fish* species is likely to occur, the Department finds that the revised regulations avoid or minimize the environmental impacts based on spatial and temporal restrictions on dredging, and the operational requirements outlined above, and therefore the impacts on juvenile or adult fish from direct entrainment will be less than significant for purposes of CEQA.

5. Behavioral Effects on Juvenile or Adults

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on fish and amphibian behavior as a result of environmental changes and stimuli caused by silt deposition, noise, and vibrations.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Behavioral impacts are of particular concern during mating, spawning and early life stages. The revised regulations incorporate spatial and temporal restrictions on suction dredging in the period immediately before spawning/breeding and during critical early life stages of *Fish* action species (i.e., incubation, development, early emergence) (Draft SEIR, Table 4.3-1). The revised regulations also mandate specific closures of areas within streams that are known to provide thermal refugia (i.e., cold water holding pools) for Chinook and coho salmon in the Klamath River basin. Closures of these areas provide for protection of organisms and maintenance of stream features that serve as habitat during stressful periods (e.g. over-summer habitat for juveniles). Therefore, the potential to stress holding adults and/or juveniles of these species from actions associated with suction dredging is not likely to commonly occur. In addition, the revised regulations further minimize the potential for suction dredging to result in behavioral effects on fish and amphibians by requiring dredgers to avoid the disturbance of fish.

With the revised regulations' protections in place, the Department finds that environmental impacts related to behavioral effects will be avoided and/or minimized, and thereforeless than significant for purposes of CEQA.

6. Effects on Movement/Migration

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the migration and/or movement of fish, invertebrates, and amphibians.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations impose spatial and temporal restrictions on suction dredging activities within the range of *Fish* action species. The revised regulations designate as Class A and close to suction dredging streams within the state that provide habitat for species that are either very limited in number and/or distribution, thus avoiding the potential for impacts. The Department intends these restrictions to maintain the viability of these species, as disruptions of migration or movement may have a substantial effect on the population or range of the species. Areas of the state designated Class B through G by the revised regulations similarly provide direct protection for *Fish* action species and surrogate protection for the movement and migration of many other species (see Draft SEIR Appendix J, Tables J-1 and J-2).

In addition, the revised regulations further minimize the potential for impacts to migration and movement of *Fish* by requiring dredgers to (1) provide the Department with

information regarding the location of their dredging operation(s), allowing the Department to monitor and manage areas with high dredging use, and potentially modify regulations if deleterious effects are identified, and (2) avoid the disturbance of fish. The revised regulations also prohibit dredgers from (1) diverting the flow of a river or stream into the bank, (2) constructing permanent or temporary dams, (3) concentrating flow in a way that reduces the total wetted area of the stream, or (4) obstructing a stream or lake in such a manner that fish passage is impeded. The Department finds that, with the revised regulations in place, environmental impacts related to movement and migration will be sufficiently avoided and/or minimized, and therefore less than significant for purposes of CEQA.

7. Effects on the Benthic Community/Prey Base

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the composition of communities of benthic and epibenthic invertebrates on and within the stream substrate.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The impacts of suction dredging on stream benthic communities will be less than significant. The revised regulations will further reduce already less than significant temporal impacts to benthic and epibenthic communities by imposing spatial and temporal restrictions for streams within the state that provide habitat for *Fish* species. These restrictions either completely avoid impacts to benthic and epibenthic communities (i.e., in streams designated Class A) or allow for recovery of the benthic community (i.e., in streams designated Class B through G).

In addition, the revised regulations further minimize the potential for impacts to benthic and epibenthic communities by (1) requiring dredgers to provide the Department with information regarding the location of their dredging operation(s), allowing the Department to monitor and manage areas with high dredging use, and potentially modify regulations if it identifies deleterious effects, (2) limiting the nozzle size of dredging equipment, effectively reducing the potential area disturbed by an individual dredger, (3) prohibiting the cutting, movement or destabilization of woody debris, which is important for macroinvertebrate habitat and production. The revised regulations also prohibit the removal or damage of streamside vegetation. Terrestrial invertebrates can make up a significant portion of a fish's diet during some periods (Nakano and Murakami, 2001; Garman, 1991). Riparian trees and other vegetation are the source of these organisms. Prohibiting the removal of riparian vegetation will help maintain this component of the prey base.

The Department finds, as a result, that the environmental impacts on stream benthic communities will be less than significant for purposes of CEQA.

8. Creation and Alteration of Pools and other Thermal Refugia

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on stream pool habitat as a result of the creation, alteration or destruction of pools that provide coldwater (or thermal) refugia that are important to salmonids and other fishes as both over-summering juvenile and adult holding habitat. Dredging activities often create pools locally, but these features may not be persistent, nor function hydrologically in a manner similar to naturally formed pools. Suction dredging can alter or destroy pools by redistributing stream substrate in a manner that would destabilize bed form, or simply by filling a pool with dredge tailings.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Unrestricted dredging of thermal refugia utilized by Chinook salmon in the Klamath and Salmon River watersheds could result in a substantial decline of the species, alteration of thermal refugia habitat, and affect movement of the species within summer holding areas. However, the revised regulations impose specific year-round closures of areas within streams that are known to provide thermal refugia for this species (see Draft SEIR, Appendix L). Closures of these areas, and appropriate buffers in the upstream direction, will provide protection for this type of habitat. In addition, the revised regulations further minimize the potential for suction dredging to alter or otherwise degrade pool habitat by (1) prohibiting the cutting, movement or destabilization of woody debris, which is important for pool habitat formation and maintenance, and (2) requiring dredgers to level all tailing piles prior to working another excavation site or abandoning the excavation site, which limits the potential for dredgers to leave tailings that could be easily transported downstream and fill pools, and plug or reduce hyporheic flow in critical areas.

With the revised regulations in place, the Department finds that impacts related to alteration of pool and thermal refugia habitat would be sufficiently avoided and/or minimized, and therefore the environmental impacts will be less than significant for purposes of CEQA.

9. Destabilization/Removal of Instream Habitat Elements (e.g., Coarse Woody Debris, Boulders, Riffles)

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on instream habitat elements as a result of removing or destabilizing CWD (instream wood greater than 12 inches in diameter (measured at any point) and 6 feet in length, and root wads of any size), boulders, or riffles.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The importance of CWD and large boulders on the formation and maintenance of aquatic habitat structure is well documented. If left unrestricted, impacts of suction dredging on the abundance and distribution of CWD in sensitive habitats, including but not limited to USFWS/NMFS designated critical habitat, would be potentially significant. Likewise, displacement of large boulders that are important for formation and maintenance of aquatic habitat and stream structure would be potentially significant. However, the revised regulations minimize the potential for suction dredging to destabilize or remove instream habitat features by (1) prohibiting the use of motorized winches or other motorized equipment to move boulders or logs without prior approval and section 1602 notification, which limits the potential for dredgers to destabilize or alter instream habitat by moving large objects, (2) prohibiting the cutting, movement or destabilization of woody debris including root wads and stumps or logs, and (3) requiring dredgers to level all tailing piles prior to working another excavation site or abandoning the excavation site, which limits the potential for dredgers to destabilize or alter riffle and pool habitat.

With the revised regulations in place, the Department finds that the potential for key stream elements to be destabilized or removed by suction dredging would not commonly occur, and therefore the environmental impacts will be less than significant for purposes of CEQA.

10. Destabilization of the Streambank

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on aquatic and riparian habitats as a result of streambank destabilization.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: If left unrestricted, impacts of suction dredging on streambank stability would be potentially significant. Specifically, streambank destabilization may result in (1) excessive sedimentation in habitat utilized by *Fish* species, (2) degradation of sensitive habitat such as riparian areas, and (3) adverse effects on federally protected wetlands in or adjacent to streams through direct modification or sedimentation. The revised regulations will reduce the potential for suction dredgers to destabilize streambanks by (1) requiring dredgers to provide the Department with information regarding the location of their dredging operation(s), allowing the Department to monitor and manage areas with high dredging use, and potentially modify regulations if it identifies deleterious effects, (2)

prohibiting dredging and removal of material within 3 feet of the current water level at the time of dredging, greatly reducing the likelihood that a dredger would destabilize a streambank, and (3) prohibiting the removal of streamside vegetation.

While the revised regulations prohibit suction dredge activities into streambanks, illegal activities could cause streambank destabilization under the Program. This potential for bank erosion and instability as an outcome of suction dredge activities is considered a departure from the current baseline condition whereby no suction dredging occurs because it is prohibited by statute and court order. The Department anticipates that with the revised regulations in place, the extent of bank destabilization caused by dredging activity will be minimal and will not substantially degrade the biological function of rivers and stream of the state. The Department finds, therefore, that environmental impacts related to destabilization of streambanks will be less than significant for purposes of CEQA.

11. Effects on Habitat and Flow Rates Through Dewatering, Damming or Diversions

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on *Fish* as a result of channel flow manipulations, such as damming, dewatering and diversions.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: If left unrestricted, impacts of modification of flow regimes by suction dredgers would be considered potentially significant. More specifically, diversion or dewatering caused by dredgers may strand or impede the movement or migration of *Fish* species. The revised regulations prohibit (1) constructing permanent or temporary dams, (2) concentrating flow in a way that reduces the total wetted area of the stream, and (3) obstructing a stream or lake in such a manner that fish passage is impeded. Such activities would require compliance with Fish and Game Code section 1602, which may require a project-specific CEQA analysis. In addition, the revised regulations incorporate restrictions to protect the development of critical early life stages of *Fish* action species such that unauthorized diversion, dewatering or damming are not likely to cause significant impacts. The revised regulations requires dredgers to provide the Department with information regarding the location of their dredging operation(s), and therefore enable the Department to monitor dredging activities and enforce Program regulations that prohibit diversion, dewatering or damming of streams. While some unauthorized channel manipulations are likely to occur in spite of these restrictions, these are not anticipated to be widespread because of the revised regulations which prohibit this type of activity. The Department finds, therefore, that environmental impacts of modification of flow regimes will be less than significant for purposes of CEQA.

12. Effects on Special-Status Terrestrial and Non-Riverine Aquatic Invertebrates

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on special-status terrestrial and non-riverine aquatic invertebrates including species such as fairy shrimp (*Branchinecta spp.*), vernal pool tadpole shrimp (*Lepidurus packardi*), Trinity bristle snail (*Monadenia infumata setosa*) and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Suction dredging itself is not likely to adversely affect special-status terrestrial and non-riverine aquatic invertebrate species; ancillary activities such as encampments have a higher potential to impact these organisms and their habitats. However, the revised regulations solely address the suction dredging activity itself, and not related activities such as deployment of suction dredge equipment and camping, except as to damage to the streambank and minimum distance from the water that fuel, lubricants, or chemicals may be stored. Therefore, even with the revised regulations in place, ancillary activities associated with suction dredging may still result in impacts to one or more special-status terrestrial/non-riverine aquatic invertebrates species, some of which are protected under ESA or CESA.

With respect to fairy shrimp, vernal pools that support listed species are not common habitat features in the landscapes where dredging activities most commonly occur (see Chapter 3 of the Draft SEIR for a description and maps of suction dredging locations). Furthermore, vernal pools that do occur adjacent to streams will often be dry and organisms will be in the dormant embryonated cysts form when dredgers are present (typically the summer and fall months due to seasonal restrictions for other species). Thus, the potential for substantial disturbance to fairy shrimp and their habitat will be minimized because (1) when vernal pools are dry the organisms are in a life stage that is relatively resilient to disturbance (i.e., cyst form), and (2) the habitat would be less prone to disturbance/degradation that may be caused by ancillary suction dredge activities (e.g., encampments).

In the case of Trinity bristle snail and valley elderberry longhorn beetle, there is a somewhat higher potential for impacts due to dredging because their life cycles are not timed such that they enjoy surrogate protection from disturbance by activities that are ancillary to dredging. Thus, it is likely that some level of disturbance to terrestrial/non-riverine aquatic invertebrates will occur. However, the level of impact associated with activities that are ancillary to dredging (e.g., camping, access and egress) is not likely to result in a substantial adverse effect to any special-status terrestrial/non-riverine aquatic invertebrate species. Furthermore, the revised regulations require dredgers to comply with

applicable laws, including ESA and CESA. The Department finds, therefore, that environmental impacts to special-status terrestrial and non-riverine aquatic invertebrates will be less than significant for purposes of CEQA.

13. Effects on Special-Status Raptors Associated with Riparian Habitat

Impact Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the behavior, movements and distributions of special-status raptors as a result of human activity and associated noise from suction dredging activities. Suction dredging activities that occur during the raptor breeding season (typically March through August) may alter behavioral patterns of individual birds and potentially prevent special-status raptors species from continued nesting in a section of their territory. This may result in nest abandonment (even temporary), causing mortality to eggs or nestlings.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: In the absence of the revised Regulations, impacts to special-status raptor species would be considered potentially significant. The revised regulations impose spatial and temporal restrictions based on *Fish* action species that will provide surrogate protection for some nesting raptors within portions of these species' ranges. The revised regulations further minimize the potential for suction dredgers to impact nesting special-status raptor species and their habitats by prohibiting (1)dredging and removal of material within 3 feet of the lateral edge of the current water level, and (2) the removal of streamside vegetation, both of which, though not specifically intended to do so, minimize potential disturbance to nesting raptors and their habitat.

The Department finds that, while it is likely that some level of disturbance to raptors will occur, it is not likely to result in a substantial adverse effect on special-status raptor species or their habitats, and therefore the environmental impacts will be less than significant for purposes of CEQA.

14. Effects on other Special-Status and Non-listed Terrestrial Wildlife Species

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the behavior, survival, reproduction, and distribution of special-status and non-listed terrestrial wildlife species as a result of ancillary upland activities such as dumping of waste materials, nocturnal light sources, ground disturbance, and noise from encampments.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Activities associated with suction dredging have the potential to impact other special-status and non-listed terrestrial wildlife species and their habitats. The revised regulations impose spatial and temporal restrictions on suction dredging activities for *Fish* species, providing surrogate protection for other special-status and non-listed terrestrial wildlife species within the same geographical areas. The revised regulations further minimize the potential for suction dredgers to impact other special-status and non-listed terrestrial wildlife species and their habitats by requiring (1) dredgers to provide the Department with information regarding the location of their dredging operation(s), allowing the Department to monitor and manage areas with high dredging use, and potentially modify regulations if it identifies deleterious effects, and (2) all equipment be cleaned of mud, oil, grease, debris, and plant and animal material before accessing riparian areas or use in streams, limiting the dispersal of potentially harmful chemicals, invasive species, and other noxious materials. The revised regulations also prohibit (1) dredging and removal of material within three feet of the lateral edge of the current water level, limiting the potential for bank destabilization, and the subsequent impact to adjacent habitats that may support other special-status and non-listed terrestrial species, and (2) removing streamside vegetation., limiting the potential for disturbance to areas that provide habitat for other special-status and non-listed terrestrial species.

While it is likely that some level of disturbance to other special-status and non-listed terrestrial wildlife species will occur, it is not likely to result in a substantial adverse effect of any species listed in Draft SEIR, Table 4.3-4. The Department finds, therefore, that environmental impacts will be less than significant for purposes of CEQA.

15. Effects on Aquatic and Wetland-Associated Special-Status Plant Species and their Habitat

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on special-status aquatic and wetland associated plant species as a result of suction dredging activities including access to and egress from streams, establishment of encampments in riparian areas, the dispersal of non-native or invasive species, and unauthorized dredging-associated activities such as direct removal of aquatic or riparian vegetation, destabilization of streambanks, or release of noxious materials (e.g., fuel).

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Activities associated with the Program may cause impacts to special status aquatic and wetland-associated plant species and their habitats that are potentially significant. Draft SEIR, Table 4.3-5 provides a determination with regard to the potential for suction dredging to impact special-status aquatic and wetland associated plant species and their habitats in the absence of the Proposed Regulations. Species associated with

vernal pools, freshwater marshes, bogs, seeps, and fens are considered to have a "Low" potential for adverse impacts, since these are areas where suction dredgers are unlikely to be dredging or conducting related activities (e.g., staging, camping). Therefore, while these habitats may occur adjacent to, or in the vicinity of, streams, the potential for significant adverse impacts to these habitats is low. Species that only occupy areas where suction dredging is not likely to occur (e.g., Mojave Desert endemics such as Mojave tarplant [*Deinandra mohavensis*]) are also considered to have a low potential for adverse impacts. In general, the Department considers species associated with lotic, swift-flowing aquatic habitat, riparian areas, wet meadows and streambanks to have a "Moderate" potential to be impacted by suction dredging activities, since they have a higher potential to be co-located with suction dredging and related activities.

Of the 293 special-status aquatic and wetland associated plant species with the potential to occur in the Program Area, the Department considers 48 to have a moderate potential to be impacted by the dredging in the absence of the revised regulations. None of the 48 species have federal or state listing status; 22 of the species are RPR list 1.b status, and 26 are RPR List 2 status (Draft SEIR, Table 4.3-5).

While RPR List 1.b and 2 species are believed to occur in the vicinity of suction dredging activities, the precise locations of these species relative to specific suction dredging activities is not known. Where they do occur in proximity to one another, the potential exists for suction dredgers to trample, disturb or otherwise destroy individuals of these species. The revised regulations minimize the potential for suction dredgers to impact special-status aquatic and wetland-associated plant species and their habitats by: (1) requiring dredgers to provide the Department with information regarding the location of their dredging operation(s), allowing the Department to monitor and manage areas with high dredging use, and potentially modify regulations if it identifies deleterious effects, (2) restricting dredging and removal of material within 3 feet of the lateral edge of the current water level, (3) prohibiting the removal of streamside vegetation, and (4) requiring that all equipment be cleaned of mud, oil, grease, debris, and plant and animal material before accessing riparian areas or use in streams, limiting the dispersal of potentially harmful chemicals, invasive species, and other noxious materials.

With the revised regulations in place, impacts related to special-status aquatic and wetland-associated plant species would be avoided or minimized. It is reasonably foreseeable that some disturbance to special-status aquatic and wetland-associated plant species will occur, particularly RPR List 1.b and 2 species; however, with the revised regulations in place, there is a low probability that activities authorized under the Program will result in a substantial adverse effect to special-status aquatic or wetland plant species. The Department finds, therefore, that environmental impacts will be less than significant for purposes of CEQA.

16. Effects on Upland Special-Status Plant Species and their Habitat

Impact: Suction dredging as authorized under the revised regulations could result in

potentially significant environmental effects on special-status upland plant species as a result of suction dredging activities including access to and egress from streams, establishment of encampments in upland areas, the dispersal of non-native or invasive species, and activities such as direct removal of vegetation, or release of noxious materials (e.g., fuel).

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Of the 912 special-status upland plant species with the potential to occur in the Program Area, the Department considers 14 to have a moderate potential to be impacted by the dredging in the absence of the revised regulations. These 14 are generally associated with streams, alluvial floodplains and/or riparian habitats. One of these species, slender-horned spineflower (*Dodecahema leptoceras*), is listed as endangered under ESA and CESA. Eight of the species are RPR list 1.b status, and 6 are RPR List 2 status (Draft SEIR, Table 4.3-6).

While special-status upland plant species are believed to occur in the vicinity of suction dredging activities, the precise locations of these species relative to specific suction dredging activities is not known. Where they do occur in proximity to one another, there is the potential for suction dredgers to trample, disturb or otherwise destroy individuals of these species. That said, activities associated with suction dredging that may affect upland plants, such as camping and access to streams, are most likely to occur in previously disturbed areas that have a low potential to support special-status upland plant species (e.g., campgrounds). Furthermore, the disturbance mechanisms associated with these activities are not likely to substantially alter sub-surface plant or soil structure, though some moderate compaction and erosion may occur. Complete destruction of suitable habitat or a local population is highly unlikely to occur. The revised regulations further minimize the potential for suction dredgers to impact upland plant species and their habitats by (1) prohibiting dredging and removal of material within 3 feet of the lateral edge of the current water level, minimizing the potential for disturbance of upland vegetation located at the top of bank, (2) prohibiting the removal of streamside vegetation (including upland species), and (3) requiring that all equipment be cleaned of mud, oil, grease, debris, and plant and animal material before accessing riparian areas or use in streams, limiting the dispersal of potentially harmful chemicals, invasive species, and other noxious materials.

With the revised regulations in place, impacts related to special-status upland plant species will be minimized. While the revised regulations will reduce the potential for suction dredging itself to affect these species, it is reasonably foreseeable that some disturbance to special-status upland species will occur as a result of related activities (e.g., camping). However, there is a low probability that these activities will result in a substantial adverse effect to special-status upland plant species. The Department finds, therefore, that environmental impacts will be less than significant for purposes of CEQA.

17. Effects on Federal and State Protected Wetlands

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on federal and state protected wetlands as a result of suction dredging activities including access to and egress from streams, direct dredging in wetlands, the dispersal of non-native or invasive species, and unauthorized activities such as filling of wetlands, direct removal of vegetation, destabilization of streambanks, or release of noxious materials (e.g., fuel spills).

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The Department developed the revised regulations to prevent suction dredging activities from being deleterious to *Fish*. The regulations include measures to protect habitats that *Fish* are dependent upon, such as wetlands within and adjacent to streams.

The regulations minimize the potential for suction dredgers adversely affect federal and state protected wetlands by (1) requiring dredgers to provide the Department with information regarding the location of their dredging operation(s), allowing the Department to monitor and manage areas with high dredging use, and potentially modify regulations if it identifies deleterious effects, (2) prohibiting the use of motorized winches or other motorized equipment to move boulders or logs without prior authorization and section 1602 notification, limiting the potential for dredgers to destabilize or alter wetland habitat by moving large objects, (3) prohibiting dredging and removal of material within three feet of the lateral edge of the current water level, minimizing the potential for disturbance to off-channel wetlands such as vernal pools, (4) prohibiting the removal of streamside vegetation, limiting the potential for disturbance of wetland, riparian and upland vegetation, (5) prohibiting the diversion of the flow of a river or stream into the bank, (6) prohibiting construction of permanent or temporary dams, concentrating flow in a way that reduces the total wetted area of the stream, and obstructing a stream or lake in such a manner that fish passage is impeded, limiting the potential for wetlands to be dewatered, (7) prohibiting the import of any earthen or fill material into a stream, river or lake, limiting the potential for dredgers to fill wetlands, (8) requiring that all fueling and servicing of dredging equipment must be done in a manner such that petroleum products are not leaked, spilled or otherwise released into waters of the state, (9) requiring that stream substrates may only be moved within the current water level, limiting the potential for disturbance of aquatic and wetland vegetation, and (10) requiring that all equipment be cleaned of mud, oil, grease, debris, and plant and animal material before accessing riparian areas or use in streams, limiting the dispersal of potentially harmful chemicals, invasive species, and other noxious materials.

While it is likely that some level of disturbance associated with Program activities will occur with the revisedregulations in place, it is not likely to result in substantial adverse effects to federal and state protected wetlands when considered statewide. The Department finds, therefore, that environmental impacts will be less than significant for purposes of CEQA.

18. A Fundamental Change to the Structure of a Community or Stream Ecosystem, Including Substantial Reductions in Biodiversity or Resiliency to Disturbance

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on benthic invertebrate abundance and community composition which could reduce resiliency to disturbance. Suction dredging activities could also have potential adverse impacts on the stream ecosystem as a result of dredging activities that displace large volumes of material, change substrate characteristics, disperse non-native or invasive species, and release noxious materials (e.g., fuel spills).

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The Department developed the revised regulations to prevent suction dredging activities from being deleterious to *Fish*. These regulations include measures designed to maintain stream ecosystem function so that substantial reductions in biodiversity or resiliency do not occur.

The revised regulations minimize the potential for suction dredgers to adversely impact community or ecosystem level structure and function by (1) imposing seasonal closures of streams, which allows for recovery from disturbance caused by Program activities, and permanent closures of other streams, preventing disturbance caused by Program activities, (2) requiring dredgers to provide the Department with information regarding the location of their dredging operation(s), allowing the Department to monitor and manage areas with high dredging use, and potentially modify regulations if it identifies deleterious effects, (3) limiting the nozzle size of dredging equipment, effectively reducing the potential area disturbed and the amount of material displaced by an individual dredger, (4) prohibiting the use of motorized winches or other motorized equipment to move boulders or logs without prior authorization and section 1602 notification, limiting the potential for dredgers to destabilize or alter habitat by moving large objects, (5) prohibiting the cutting, movement or destabilization of woody debris, important for macroinvertebrate habitat and production, (6) prohibiting the diversion of the flow of a river of stream into the bank, (7) prohibiting construction of permanent or temporary dams, concentrating flow in a way that reduces the total wetted area of the stream, and obstructing a stream or lake in such a

manner that fish passage is impeded, limiting the potential for alteration of the channel structure, and (8) requiring dredgers to level all tailing piles prior to working another excavation site or abandoning the excavation site.

Activities associated with the Program are likely to cause noticeable temporary reductions in biodiversity and/or resiliency at the dredging site and potentially at the reach scale. However, the Program activities, when viewed at the state-wide scale, are unlikely to cause a measureable departure from the baseline condition with respect to stream community and ecosystem structure and function, or a measureable reduction in biodiversity or resiliency. Moreover, most reductions in biodiversity and/or resiliency at dredging sites are likely to be only temporary; the relevant literature indicates that most sites will largely recover their structure and function within a few months to a year following disturbances. The Department finds, therefore, that environmental impacts will be less than significant for purposes of CEQA.

19. Direct Disturbance to Riparian and Aquatic Habitats, and Other Sensitive Natural Communities

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on sensitive natural communities as a result of suction dredging activities including access to and egress from streams, establishment of encampments, direct dredging in aquatic and riparian areas, the dispersal of non-native or invasive species, and unauthorized activities such as direct removal of vegetation, destabilization of streambanks, or release of noxious materials (e.g., fuel spills).

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The Department regulates activities that occur in aquatic and riparian habitats through Fish and Game Code section 1602, which states that no person shall "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying the Department of that activity. The revised regulations include provisions which may allow suction dredgers to use equipment (e.g., larger nozzle size dredges, motorized winches) which has the potential to substantially alter aquatic and riparian habitat, after the Department conducts an on-site inspection and notification is made to the Department as specified in Fish and Game Code section 1602 subdivision (a)(1) and the provisions of Fish and Game Code section 1602 subdivision (a)(4)(A) or section 1602 subdivision (a)(4)(B) have been completed.

The Department developed the revised regulations to prevent suction dredging activities from being deleterious to *Fish*. The revised regulations include measures to protect habitats that *Fish* are dependent upon, such as aquatic and riparian habitats. The revised regulations minimize the potential for suction dredgers to adversely affect aquatic and

riparian habitats by (1) imposing seasonal closures of streams which allows for recovery from disturbance caused by Program activities, (2) requiring dredgers to provide the Department with information regarding the location of their dredging operation(s), allowing the Department to monitor and manage areas with high dredging use, and potentially modify regulations if it identifies deleterious effects, (3) limiting the nozzle size of dredging equipment, effectively reducing the potential area disturbed and the amount of material displaced by an individual dredger, (4) prohibiting the use of motorized winches or other motorized equipment to move boulders or logs without prior authorization and section 1602 notification, limiting the potential for dredgers to destabilize or alter aquatic habitat by moving large objects, (5) prohibiting the cutting, movement or destabilization of woody debris, and (6) requiring dredgers to level all tailing piles prior to working another excavation site or abandoning the excavation site, limiting the potential for dredging to impact the aquatic habitat by not filling pools, destroying riffles, or removing and destabilizing structural components.

Though not specifically intended to do so, many of the revised regulations would also minimize the potential for suction dredgers to impact sensitive upland natural communities. While it is likely that some level of disturbance associated with Program activities will occur, it is unlikely to cause a substantial departure from the baseline condition with respect to the integrity, function and quality of sensitive natural communities throughout the state. The Department finds, therefore, that environmental impacts will be less than significant for purposes of CEQA.

20. Introduction and/or Dispersal of Aquatic Invasive Species and Pathogens

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on stream ecosystems as a result of transporting aquatic invasive species (AIS) and pathogens through the movement of suction dredging equipment including intake nozzles, pumps, pontoons, sluice boxes, masks, wetsuits and other items from one waterbody to another.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Currently, the Department has an active program to educate boaters, anglers and other recreationists such as suction dredgers concerning the risks of AIS and the methods available to address those risks. The revised regulations require that all dredging equipment be cleaned of mud, oil, grease, debris, and plant and animal material before accessing riparian areas or being used in streams. While the revised regulations will minimize the potential dispersal of AIS and pathogens, suction dredging equipment is still likely to serve as a vector for AIS. However, most waters accessed by dredgers are also used by other recreationists such as anglers, kayakers, and rafters. Thus, it is likely that introductions would occur regardless of Program activities because dredgers constitute only a very small fraction of all recreational water users, averaging 3,650 permits annually

for the 15 years prior to the moratorium established in July 2009, and the revised regulations reduce the number of permits to less than half of this average. In addition, because dredging equipment is heavy and cumbersome, dredgers cannot change locations as readily as other recreationists; dredgers typically only occupy several waterbodies in a given season. Finally, the revised regulations require dredgers to provide the Department with information regarding the location of their dredging operation(s). This will allow the Department to monitor Program activities, and inform dredgers of the AIS status and risks in the areas they are accessing. While it is likely that some dispersal of AIS and pathogens will be associated with Program activities, it is not likely a major source of dispersal when considered among other user groups and vector mechanisms. The Department finds, therefore, that environmental impacts associated with dispersal of AIS and pathogens will be less than significant for purposes of CEQA.

21. Introduction and/or Dispersal of Non-native Invasive (terrestrial) Plant Species

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on native species and wildland ecosystems as a result of the introduction of non-native plants.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations require that all dredging equipment be cleaned of mud, oil, grease, debris, and plant and animal material before accessing riparian areas or used in streams. While this regulation will reduce the potential dispersal of non-native invasive terrestrial plants, suction dredging activities are still likely to serve as a vector. However, dredgers constitute only a very small fraction of all recreational wildland users. While it is likely that some dispersal of non-native invasive terrestrial plants will be associated with Program activities, it is not likely a major source of dispersal when considered among other user groups and vector mechanisms. The Department finds, therefore, that environmental impacts associated with dispersal of non-native invasive terrestrial plant species will be less than significant for purposes of CEQA.

22. Effects of Encampments and Other Activities Associated with Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on plant communities, wildlife habitat quality, and a variety of species that are sensitive to habitat structure (e.g., rodents, reptiles, amphibians, and invertebrates) as a result of trampling of vegetation, compaction of soils, improper disposal of trash and chemicals, unsanitary disposal of human waste, and use of off-road vehicles.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The potential exists that suction dredgers' encampments will have an adverse effect on the environment. As with any user group, it is possible that unauthorized activities will occur that could substantially harm the environment. When it issues a suction dredge permit, the Department does not authorize the permittee to violate any local, state or federal laws that address public health and safety, hazardous materials, protection of the environment, or any other statute. Encampments of permittees that adhere to local, state and federal laws are not likely to pose a significant threat to the environment or cause lasting degradation of functional wildlife habitats. Furthermore, the Department will distribute a "Best Management Practices" pamphlet which will be issued to each permittee under the Program. The "Best Management Practices" information pamphlet provides guidance to keep encampment sites clean and advice on the proper treatment of wastes. Operation in accordance with the proposed regulations and suggested "Best Management Practices" measures will reduce the potential for damage to plant communities and habitats from encampments and other activities related to suction dredging. The Department finds, therefore, that environmental impacts associated with encampments and suction dredging-related activities will be less than significant for purposes of CEQA.

D. Hazardous Materials (Draft SEIR Section 4.4)

1. Use, Handling, Storage, Transport, Disposal and/or Accidental Release of Oil or Gasoline Used in Suction Dredges

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on water bodies via indirect (i.e., stormwater runoff) or direct transport as a result of accidental spills of fuel or oil from suction dredging equipment and activities.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The revised regulations require that miners fuel and service equipment such that petroleum products are not leaked, spilled or otherwise released. In addition, miners are required to comply with relevant hazardous waste regulations. Furthermore, the Department will distribute a "Best Management Practices" informational packet to provide guidance on safe practices and proper conduct as it relates to suction dredging activities. The "Best Management Practices" guidelines will include an overview of relevant hazardous waste regulations and appropriate procedures for dredgers to follow in the event of a spill. Such measures will include a description on how and when to notify the Office of Spill Prevention and Response and site remediation steps, as appropriate.

Operation in accordance with the revised regulations and suggested "Best Management Practices" measures would reduce the potential for the handling, use, storage, transport, disposal, and/or accidental spilling of fuels and oils associated with the suction dredge mining activities to significantly affect the public and/or the environment. The Department finds, therefore, that environmental impacts associated with discharge of petroleum products will be less than significant for purposes of CEQA.

2. Handling, Storage, Transport and/or Disposal of Toxic Materials Collected by Suction Dredges

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on human health, particularly that of suction dredge miners, as a result of exposure to mercury, lead, and toxic substances during the handling, storage, transport, and/or disposal processes of suction dredge activities.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Compliance with applicable laws guiding the proper handling, storage, transport, and disposal of toxic materials will ensure that significant impacts will not occur. If miners implement the OSHA-recommended toxic waste handling, storage, and disposal measures, the potential for any risk to the miners' health will be reduced. Similarly, the State has established regulations related to the transport and disposal of household hazardous wastes (e.g., 15-gallon limit on the transport of household hazardous waste per trip and a 5-gallon limit on the maximum individual hazardous waste storage container size). The designated waste collection centers will accept various types of household hazardous waste, including potentially contaminated dredging concentrates. Information regarding applicable State laws, OSHA-recommendations, and descriptions on how to obtain further information for local disposal and treatment of hazardous materials, will be included in the "Best Management Practices" information document and distributed to each individual permit holder. Compliance with the State regulations regarding the transport and disposal of hazardous wastes and the specific disposal and operation rules of the local hazardous waste collection center will reduce the potential risk of the collected wastes affecting human health or the environment.

Although violations to State laws and OSHA regulations could result in the exposure of people or the environment to hazardous conditions, there has been no effort to determine if violations are common place. However, since the total number of suction dredgers state-wide is small, and the number of violations is anticipated to be even smaller, the Department finds that environmental impacts related to exposure to toxic materials will be less than significant for purposes of CEQA.

3. Use, Handling, Storage, Transport, Disposal, and/or Accidental Release of Materials Used to Process Suction Dredge Concentrates

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on human and environmental health as a result of exposure to mercury, mercury vapor, mercuric nitrate, or nitric acid used to process suction dredging concentrates. Suction dredge miners, in particular, could be exposed to any of these hazardous chemicals during use, handling, storage, transport, or disposal. In addition, accidental spills of any of these substances could result in potential impacts on human health and/or the environment.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Compliance with laws guiding the proper use, handling, storage, transport, and disposal of mercury and nitric acid will reduce the chances of significant impacts. If miners implement the OSHA-recommended hazardous chemical handling, storage, and disposal measures, the potential for risk to the miners' health will be reduced. In addition, the State has regulations regarding the maximum quantity of household hazardous wastes that can be transported per trip and the maximum volume of an individual hazardous waste storage container. Hazardous waste collection centers may also have specific rules related to the types and quantities of hazardous wastes accepted. Thus, if suction dredge miners comply with the State regulations regarding the transport and disposal of hazardous chemicals/wastes and the specific disposal and operation rules of the local hazardous waste collection center, the potential risk of mercury or the acids affecting human health or the environment will be reduced. The designated waste collection centers will accept various types of household hazardous waste, including acids and mercury.

As previously noted, the Department will provide information regarding the recommended and/or required protocols for the use, handling, storage, transport, and disposal of these hazardous chemicals in the "Best Management Practices" information document. The Department will distribute this guidance document to each individual permit holder to inform safe practices and proper conduct during dredge operations. If all suction dredge miners rigorously implement all of the recommended and/or required protocols, the chances of significant hazardous waste related incidents will be reduced. The Department finds, therefore, that environmental impacts associated with exposure to mercury and nitric acid will be less than significant for purposes of CEQA.

4. Human Wastes from Dredge Encampments

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on human health as a result of improper disposal of human waste.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Encampments of permittees that adhere to local, state and federal laws and ordinances are not likely to pose a significant threat to human health or the environment substantially different from those encampments of other recreationalists. Furthermore, the Department will incorporate into the "Best Management Practices" information document guidance for the proper disposal of waste, including human waste, to avoid disturbance to or contamination of streams, lakes or their surrounding environments. While such measures are outside of the Department's jurisdiction to regulate, violations may be reported to the local authorities. The Department finds, therefore, that environmental impacts associated with improper disposal of human waste will be less than significant for purposes of CEQA.

5. Safety Hazards to Dredgers and Others from Suction Dredge Operations, Equipment, and/or Geomorphic Changes

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on human safety as a result of anchoring equipment across or along channels, the creation of dredge potholes or tailings piles, and equipment staging.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The hazards presented by suction dredge equipment and operations will be regulated by local law enforcement entities. In addition, the revised regulations include general requirements prohibiting power-winching and any permanent grade alteration in the water body, and restricting the placement and movement of stream substrate. These requirements will reduce the potential for the suction dredge miners to create any long-term significant safety hazards. The Department finds, therefore, that the environmental impacts associated with operations, equipment, and/or geomorphic changes will be less than significant for purposes of CEQA.

6. Exacerbation of Wildland Fires

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects associated with an increased risk of wildland fires as a result of the use of certain equipment, including engines and hazardous materials (e.g., fuels, oils, etc.), during suction dredging activities. In addition, campfires used by miners during overnight camping excursions would pose a wildfire risk if the fires are not properly controlled or extinguished.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The equipment used by suction dredgers is not substantially different from those used by other motorized recreationalists and, with implementation of standard precautions, is not anticipated to result in a substantially increased threat of wildfire. Similarly, the wildfire risk associated with miners' campfires will not be substantially different than the risks from other overnight recreationalists. Suction dredge miners are required to comply with applicable wildfire-prevention measures, including limits or prohibitions on the use of campfires, established by the private land owners or state and federal land management agencies (e.g., U.S. Forest Service or BLM). An overview of applicable wildfire-prevention measures will be incorporated into the "Best Management Practices" informational packet distributed by the Department to all permit holders. The Department finds, therefore, that the environmental impacts associated with the risk of wildfire will be less than significant for purposes of CEQA.

7. Create Safety Hazards or Releases of Hazardous Materials in Proximity to a School

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects associated with increased risk of exposure to hazards near schools of other sensitive receptors if hazardous materials associated with suction dredging are transported through stormwater runoff to nearby receptors.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Suction dredging activities typically occur in undeveloped, remote locations along rivers or creeks. The likelihood of the hazards occurring near schools is therefore considered to be low. As such, the potential for hazardous emissions or the handling of hazardous or acutely hazardous material, substances, or waste occurring within one-quarter mile of an existing or proposed school is not considered to be substantial. Additionally, the revised regulations require compliance with federal, state, and local laws guiding the proper use, handling, storage, transport, and disposal of hazardous materials, which will reduce the potential for significant impacts. The Department finds, therefore, that environmental impacts associated with safety hazards in proximity to schools will be less than significant for purposes of CEQA.

8. Exposure to Mercury or Acid Vapor

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects associated with increased risk of exposure to mercury or acid vapor as a result of waste disposal or gold processing procedures.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Vaporizing mercury is an illegal disposal method known to be used by some suction dredge miners. A small portion of miners process their gold using mercury or nitric acid; however many miners do not (see *Suction Dredger Survey Results* in Draft SEIR, Appendix F). Miners processing gold using mercury and nitric acid do so at their campsites and homes, in a garage or similar space. No studies or anecdotal reports were available to the Department during preparation and environmental review of the revised regulations that indicated that incidents of mercury or acid poisoning of suction dredgers pose a substantial concern. However, as a precaution, the Department will include safety warnings against improper usage and handling of mercury or other hazardous chemicals in the "Best Management Practices" informational packet. The Department finds, therefore, that environmental impacts associated with exposure to mercury or acid vapor will be less than significant for purposes of CEQA.

E. Cultural Resources (Draft SEIR Section 4.5)

1. Disturbance of Human Remains

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on human remains, including those which may be interred outside of a formal cemetery, as a result of suctioning and sorting activities of suction dredge mining.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Potential impacts to human remains are significant; however California state law requires specific steps be followed when human remains are discovered accidentally (section 7050.5 of the Health and Safety Code and section 5097.98 of the Public Resources Code). The specific steps to be taken in the event of discovery of human will be included in the information packet distributed to each suction dredge permit holder. Compliance with State law, as required by Section 228(n) of the proposed regulations, would ensure impacts are less than significant. The Department finds, therefore, that environmental impacts associated with disturbance of human remains will be less than significant for purposes of CEQA.

F. Aesthetics (Draft SEIR Section 4.6)

1. Viewer Response to Suction Dredging Activities at the Suction Dredge Site

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on visual quality to a wide range of viewer groups, varying from very sensitive viewers (home or landowners / individuals opposed to suction dredging) to less sensitive viewers (other miners or motorized recreational proponents).

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The majority of views of the suction dredging activity within the stream channel are generally screened from view by riparian vegetation growing within the streambank corridor. Viewer response to the suction dredge and its operation will be variable, depending upon the viewer group in general, and perceptions of individuals within each viewer group.

Overall, the visual effects from the suction dredge for most viewers are short-term and limited (the average duration of suction dredging activities for California residents extend approximately 30 days per year with active dredging occurring an average of 5.24 hours per day; for non-California residents, the average duration of suction dredging activities extend for 33.4 days per year with an average active dredging duration of 5.43 hours per day. The revised regulations include prescribed hours outside of which suction dredge mining activities are restricted. The dredging activity itself is screened from view in many cases. Viewer response is anticipated to be a mix of positive and negative reactions. There are likely to be substantial adverse effects in particular locations with higher numbers of sensitive viewers and more intense dredging activity. However, when considering the relatively small number of dredgers dispersed throughout the state (a maximum of 1,500 permitted dredgers per year under the revised regulations), and the relatively short percentage of the year that dredging activities will occur, adverse visual effects are not considered substantial in the statewide context of the Program. Furthermore, the revised regulations additionally prohibit the removal of streamside vegetation. The Department finds, therefore, that environmental impacts associated with viewer response to suction dredge mining activities will be less than significant for purposes of CEQA.

2. Temporary Degradation of Visual Character from Turbidity Plumes Generated by Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects associated with changes in water color and clarity as a result of suction dredging activities.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The turbidity plume extends downstream for variable distances and dissipates shortly after dredging activities have ceased. In comparison to the viewshed of the dredging site, the viewer in many cases will likely be minimally affected by color and clarity changes over a small portion of the stream channel. While there are likely to be substantial adverse effects in particular locations where suction dredging is resulting in more extensive turbidity plumes, the overall impact on most viewers would be short-term and limited. Additionally, the proposed regulations include provisions that will avoid or minimize the potential for generation of turbidity plumes, such as limits on dredge size and prohibitions on dredging in gravel bars or areas with silt and clays. The Department finds, therefore, that environmental impacts associated with the visual character of turbidity plumes will be less than significant for purposes of CEQA.

3. Alteration of Visual Character or Quality, or Scenic Resources, Following Completion of Suction Dredging Activities

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on natural scenic resources such as natural features such as water bodies, vegetation, rock outcrops, and the overall landscape as a result of alteration of the physical morphology of the environment within a stream channel, including generation of dredge holes and tailings piles, and potentially movement of large rocks and boulders which serve as visual features.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The extent to which changes resulting from suction dredging and related activities are visible and have adverse effects will be variable and related to the sensitivity of the viewer group, the duration of exposure, and other factors. In many cases the duration of effect will be temporary and limited to a particular dredging season, as any residual evidence of dredging in the streambed itself is generally erased by winter storms. Further, the average recreationalist or motorist (the majority of viewers within designated scenic resource areas) will not notice geomorphic changes remaining in the channel after dredging activities have ceased because they likely are viewing the site for the first time and have no previous reference to compare the pre- and post-dredging conditions of the site. A relatively small number of residential and commercial viewers who are very familiar with the viewshed and suction dredging sites are more likely to recognize geomorphic changes to the area. However, considering that dredging activities will be limited to a group of approximately 1,500 permittees who generally dredge a relatively small portion of the state in areas identified as a scenic resource, the overall viewer response would not be considered substantially adverse.

Visible changes resulting from suction dredging activities may occur in areas considered to be scenic resources, such as a designated Wild and Scenic River reach. However, when conducted according to the requirements of the Program, alterations to the site will not significantly or permanently alter the visual character or quality of the site in comparison with the larger viewshed. The revised regulations prohibit alteration to riparian or in-channel vegetation or to the overall channel form or functioning, and require that suction dredgers restore the dredge site when ceasing dredge activities (e.g., leveling of tailing piles). Unauthorized activities have been reported to occur, including dredging into banks, removal of large woody debris, and damage to riparian vegetation from cables used to anchor dredges, which may have long-term visual effects. Additionally, ropes and cables left attached to trees and rocks on the banks, abandoned mining equipment, and trash such as discarded vacuum hoses may be left in the area after dredging activities have ceased. However, the Department does not consider visual effects of unauthorized activities to be substantial overall due to the relatively small number of dredgers believed to engage in such activities. The Department finds, therefore, that environmental impacts associated with natural scenic resources will be less than significant for purposes of CEQA.

4. Alteration of Visual Character or Quality from Upland Activities Related to Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the visual character of upland areas as a result of suction dredge encampments, staging, and access.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: There are no known reports of adverse visual effects from staging and access. There is also no evidence that the general aesthetic character of suction dredge encampments differs from that of campsites in general (considering all types of campers). As such, there is no information to suggest that suction dredge encampments would result in substantially different aesthetic conditions than those arising from camping in general, or that adverse aesthetic conditions are likely to be present in a substantial number of suction dredge encampments. The Department will distribute an informational packet to each suction dredge permit holder to provide "Best Management Practices" advice. This information packet will include guidance on proper site maintenance, equipment storage, and conduct as it relates to suction dredging activities. Finally, management of campsites is overseen by the landowner/manager (public or private), which may implement restrictions limiting aesthetic impacts. The Department finds, therefore, that environmental impacts associated with adverse visual effects from staging and access will be less than significant for purposes of CEQA.

G. Noise (Draft SEIR Section 4.7)

1. Result in a Temporary Increase in Noise Above Ambient Levels

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on existing ambient noise levels as a result of gasoline-powered engines.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Suction dredging causes temporary increases in noise above ambient levels. The degree of increase is dependent upon the ambient noise environment and distance from the suction dredging activity. It is likely that in certain instances, this increase will have the potential to adversely affect receptors, particularly those sensitive to increases in noise (e.g., residents, those seeking a quiet nature experience). However, this impact is not considered substantial overall due to the relatively small number of instances where these impacts are anticipated to occur, given the relatively small number of dredgers statewide, and the numerous other sources of noise that can be found in the riverine environment. Furthermore, the revised regulations prohibit the operation of more than one suction dredge within 500' of another operating suction dredge, and restrict suction dredging to the hours between 10:00 a.m. and 4:00 p.m. The Department finds, therefore, that environmental impacts associated with increase in noise will be less than significant for purposes of CEQA.

H. Recreation (Draft SEIR Section 4.8)

1. Effects on the Quality of Recreational Resources or Experience

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the perceived quality of recreation resources or recreation experience of recreationists, particularly those who participate in non-motorized activities (ex., hiking, rafting, fishing).

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Some of the potential conflicts that can occur between suction dredge miners and other recreationists are related to perceptions that ecological conditions have been degraded by suction dredge mining. The revised regulations include provisions which protect and restore ecological conditions during and after suction dredge mining activities. Some of the applicable regulations include restrictions related to chemical storage and use, equipment cleaning, vegetation removal or disturbance, and the disturbance of stream

substrates or flows. Similarly, the "Best Management Practices" informational packet to be distributed by the Department will provide guidance regarding equipment storage, waste disposal, and proper conduct as it relates to suction dredging activities. Adherence to the guidelines and enforcement of the revised regulations will reduce the potential for conflicts associated with suction dredge activities.

Finally, there are a relatively small number of suction dredge miners compared to the number of other recreationists in California, and most public recreational areas are managed to provide diverse opportunities for a wide variety of recreational activities and experiences, including suction dredging. Therefore, while individual instances may occur where non-suction dredging recreational resources or experiences may be substantially degraded under the Program, these occurrences are not expected to happen so frequently or for a long enough period of time to be considered substantial. Additionally, when taken as a whole, the overall impact on the quality of recreational resources, or the experiences of recreationists, in California, is not believed to be substantial. The Department finds, therefore, that environmental impacts associated with recreational resources will be less than significant for purposes of CEQA.

2. Changes in Recreational Facility Use or Availability

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the availability of recreational facilities for other recreationists as a result of occupation or use of trails and/or recreational areas by suction dredge miners. The other recreationists could be displaced and potentially accelerate deterioration of nearby facilities.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The access, staging, and dredging activities associated with suction dredge mining will be temporary and intermittent and will not cause entire trails or facilities to become unavailable. Furthermore, the Department's "Best Management Practices" informational packet will identify site access and staging methods that demonstrate courtesy to other area users, as well as additional measures which reduce the potential for conflicts.

In addition, dredging operations typically take place on public lands, where the right to use the area is equally applicable to all users. While anecdotal observations have cited instances where miners have, in effect, excluded other recreationists from the use of a particular location, this is believed to only occur infrequently, and numerous other locations remain for others to recreate. Moreover, any actions by miners to illegally exclude other recreationists from using a public area would be a law enforcement issue, to be handled by the appropriate agency with jurisdiction over the affected area. Based on the quantity of suction dredge permits issued in recent years, and the limit in the revised

regulations of 1,500 permits, the number of suction dredgers that will potentially use public recreational facilities in California will comprise only a very small portion of the millions of recreationists participating in other activities. Overall, the Department does not anticipate the Program will result in a substantial decrease in available recreational areas. Thus, the Program will not result in a significant displacement of recreational users that could accelerate the deterioration of nearby facilities. The Department finds, therefore, that environmental impacts associated with recreational facility availability will be less than significant for purposes of CEQA.

I. Transportation and Traffic (Draft SEIR Section 4.9)

1. Traffic Hazards Caused by Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on traffic by creating hazards for the general public as a result of erratic or unsafe driving maneuvers, unsecured equipment, and malfunctioning vehicles or trailers.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Dredgers frequently use personal vehicles in order to transport equipment and supplies to dredging locations. The number and size of vehicles used is dependent on the equipment being used, the number of persons in their group, and the duration of their stay. Such vehicular transport can range in size from small cars or pickups up to large SUVs and RVs. These vehicles may also be equipped with trailers. The potential risk for traffic hazards is inherent to all drivers operating such vehicles on California's roadways. Because this risk is not exclusive to drivers who participate in suction dredging activities, and given the historically small percentage of drivers who are transporting suction dredge equipment relative to other drivers in these locations throughout California, implementation of the Program will not result in a substantial increase in traffic hazards. Furthermore, the revised regulations require all dredgers to comply with local and state laws and ordinances, including those related to traffic hazards. The Department finds, thefore, that environmental impacts associated with traffic hazards will be less than significant for purposes of CEQA and no mitigation is necessary.

2. Inadequate Parking Capacity

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on limited parking resources for other users.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Parking is required by all activities involving personal vehicular transport to and from recreational areas, and parking demand is not exclusive to Program activities. Most parking spaces are generally utilized on a first-come, first-served basis regardless of recreational endeavor, whereby even individuals participating in suction dredging may be unable to find parking at their desired locations. Furthermore, the revised regulations require Program participants to comply with local policies regarding long-term parking and Program participants may be cited for improper or illegal placement if they fail to comply. As such, Program participants are not singularly responsible for lack of parking capacity, but rather, these conditions are a reflection of an area's recreational popularity and available facilities.

Because suction dredgers in general are anticipated to generate a small portion of the overall parking demand in areas subject to suction dredging, the Department finds that environmental impacts associated with potential parking demand and utilization associated with the implementation of the Program under the revised regulations will be less than significant for purposes of CEQA.

X. PROJECT SPECIFIC SIGNIFICANT AND UNAVOIDABLE EFFECTS EXPECTED UNDER CEQA WITH APPROVAL OF THE REVISED REGULATIONS

The 2012 EIR analyzes in detail the environmental effects of suction dredging under the proposed regulations originally noticed by the Department in February and March 2011, including impacts associated with, among other things, resuspension and discharge of mercury and other trace metals from suction dredging; direct and indirect impacts on biological resources; cultural resources; noise; and cumulative impacts. (See generally DSEIR, § 4, pp. 4.0-1 to 4.10-10, and § 5, pp. 5-1 to 5-32; FSEIR, § 4, pp. 4-1 to 4-142.) The 2012 EIR reflects the Department's independent judgment and related determination that, even with the proposed regulations as originally noticed, various effects would remain significant and unavoidable. As described above, the revised regulations noticed by the Department in February 2012 would further lessen these significant effects, most to a considerable degree compared to the proposed regulations and certainly compared to suction dredging under the 1994 regulations.

The Department finds as set forth below, informed by the 2012 EIR and other substantial evidence in its administrative record of proceedings, that suction dredging authorized under the revised regulations will result in significant and unavoidable impacts on water quality, biological resources, cultural resources, noise, and cumulative impacts. These significant and unavoidable environmental effects are expected to persistent because it is infeasible for the Department to do more in the regulations that it is required to adopt to implement Fish and Game Code section 5653. Of the expected significant and unavoidable effects, many are the responsibility of and are subject to the jurisdiction of another public agency. Having done everything it can to avoid and substantially lessen these effects consistent with its substantive legal authority available in the present context, the

Department finds that overriding economic, legal, social, and other benefits of the revised regulations outweigh the resulting significant and unavoidable impacts.

A. Water Quality and Toxicology (Draft SEIR Section 4.2)

1. Effects of Mercury Resuspension and Discharge from Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on levels of mercury as a result of resuspension and discharge from suction dredging.

Finding: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or alternatives identified in the 2012 EIR. (Pub. Resources Code, § 21081, subd. (a)(3); CEQA Guidelines, § 15091, subd. (a)(3).) Potentially feasible mitigation measures or alternatives may exist and are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency. (Pub. Resources Code, § 21081, subd. (a)(2); CEQA Guidelines, § 15091, subd. (a)(2).)

Explanation: Suction dredging under the revised regulations has the potential to contribute to: (1) watershed mercury loading to downstream reaches within the same water body and to downstream water bodies, (2) methylmercury formation in the downstream reaches/water bodies, and (3) bioaccumulation in aquatic organisms in these downstream reaches/water bodies. The associated increase in health risks to humans consuming these organisms is also considered a significant impact.

Potentially feasible mitigation measures to reduce this significant impact would necessarily involve actions to avoid or reduce total mercury discharge from areas containing elevated sediment mercury and/or elemental mercury from suction dredging activities under the revised regulations. However, it has been infeasible for the Department to identify a comprehensive set of actions to mitigate this significant impact through avoidance or minimization of mercury discharges has not been determined at this time. The Department finds this impact remains and will remain significant until such time that specific feasible mitigation is developed. The Department also notes there is no guarantee that this type of mitigation is practicable.

With respect to this effect and the 2012 EIR, the Department has done its best with the generous support and technical assistance of the State Water Resources Control Board to find out and disclose all that it feasibly can. The water quality effects of suction dredging generally, including under the revised regulations, involve some of the most complex, challenging environmental issues associated with the activity. Certainly water quality effects overlap with related impacts on biological resources, but at some point the issues diverge and the effects in each resource category persist in their own right. The Department has done its level best throughout its environmental review and rulemaking effort to identify that dividing line, informed by the technical expertise of staff at the State

Water Resources Control Board, as well as with the independent peer review of its water quality analysis conducted through and with the oversight of the Water Board.

Informed by its effort and the related input from the State Water Resources Control Board, the Department believes it has avoided and substantially lessened this significant effect to the extent feasible consistent with its substantive legal authority available in the present case and as required by CEQA's substantive mandate. The Department's explicit substantive legal authority to address significant impacts associated with proposed suction dredging under the revised regulations is limited in the present context to deleterious effects to fish. (Fish & G. Code, § 5653, subd. (b).) Those effects, however, are only a subset of the potentially significant environmental impacts caused by the activity. With the exercise of its available substantive authority the Department has determined that suction dredging consistent with the revised regulations will not be deleterious to fish and that related effects in all but two biological resource categories will be less than significant for purposes of CEQA. As to significant water quality effects, the Department finds that the revised regulations – compared to the proposed regulations as originally noticed in February and March 2011 – with further avoid and lessen those effects. Indeed, under the revised regulations permittees are subject to and must comply with all other applicable federal, state, and local law, and such other applicable law will further lessen significant effects. With its substantive authority available in the present case, however, it is infeasible for the Department to further reduce this significant and unavoidable effect, including importantly to below a level of significance under CEQA. The Department finds based on substantial evidence in its administrative record of proceedings that this effect remains significant and unavoidable as a result.

2. Effects of Resuspension and Discharge of Other Trace Metals from Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on levels of other trace metals as a result of resuspension and discharge from suction dredging.

Finding: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or alternatives identified in the 2012 EIR. (Pub. Resources Code, § 21081, subd. (a)(3); CEQA Guidelines, § 15091, subd. (a)(3).) Potentially feasible mitigation measures or alternatives may exist and are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency. (See generally Pub. Resources Code, § 21081, subd. (a)(2); CEQA Guidelines, § 15091, subd. (a)(2).)

Explanation: Generally, discharge of trace metals with individual suction dredge operations should result in less than significant impacts. However, suction dredging at known trace metal hot-spots resulting from acid mine drainage and characterized by contaminated sediment (e.g., low pH levels and high metal concentrations in the pore water) would remobilize potentially bioavailable forms of metals and has the potential to

increase levels of one or more trace metals in water body reaches such that the water body reach would exceed California Toxics Rule metals criteria by frequency, magnitude, and geographic extent that could result in adverse effects to one or more beneficial uses, relative to baseline conditions. The Department finds this is significant impact under the revised regulations.

Potentially feasible mitigation measures to reduce the impact would necessarily involve identifying known trace metal hot-spots associated with past mining operations (e.g., problematic sites with acid mine drainage), and closing those identified areas to suction dredging. However, not all locations with such contamination are known. Likewise, identifying those areas with the level of certainty sufficient to develop related closures, if appropriate, is speculative and infeasible at this time. As such, the Department considers this impact significant and unavoidable until such time that a sufficient and feasible mitigation program can be developed.

Informed by its effort and the related input from the State Water Resources Control Board, the Department believes it has avoided and substantially lessened this significant effect to the extent feasible consistent with its substantive legal authority available in the present case and as required by CEQA's substantive mandate. The Department's explicit substantive legal authority to address significant impacts associated with proposed suction dredging under the revised regulations is limited in the present context to deleterious effects to fish. (Fish & G. Code, § 5653, subd. (b).) Those effects, however, are only a subset of the potentially significant environmental impacts caused by the activity. With the exercise of its available substantive authority the Department has determined that suction dredging consistent with the revised regulations will not be deleterious to fish and that related effects in all but two biological resource categories will be less than significant for purposes of CEQA. As to significant water quality effects, the Department finds that the revised regulations – compared to the proposed regulations as originally noticed in February and March 2011 – with further avoid and lessen those effects. Indeed, under the revised regulations permittees are subject to and must comply with all other applicable federal, state, and local law, and such other applicable law will further lessen related significant effects. With its substantive authority available in the present case, however, it is infeasible for the Department to further reduce this significant and unavoidable effect, including importantly to below a level of significance under CEQA. The Department finds based on substantial evidence in its administrative record of proceedings that this effect remains significant and unavoidable as a result.

B. Biological Resources (Draft SEIR Section 4.3)

1. Effects on Special-Status Passerines Associated with Riparian Habitat

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on the behavior, movements and distributions of special-status passerines associated with riparian habitat as a result of noise associated with dredge rigs, dredgers accessing streams, direct disturbance of riparian habitat,

alteration of prey resource base, and suction dredging encampment activities at night (e.g., lights and noise), especially if suction dredging activities occur during the passerine breeding season.

Finding: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or alternatives identified in the 2012 EIR. (Pub. Resources Code, § 21081, subd. (a)(3); CEQA Guidelines, § 15091, subd. (a)(3).)

Explanation: The revised regulations substantially minimize potential impacts to special-status passerine species, but not completely avoided. Best Management Practices provided to permittees will also help to reduce the probability of significant effects. The same is true of various other provisions of the Fish and Game Code and other relevant law, including CEQA. (See, e.g., Fish & G. Code, §§ 2000, 3503, 3503.5, 2080.) However, the potential for direct disturbance of nests or adverse behavior modifications due to human activity under the revised regulations would remain.

Informed by its effort, the Department believes it has avoided and substantially lessened this significant effect to the extent feasible consistent with its substantive legal authority available in the present case and as required by CEQA's substantive mandate. The Department's explicit substantive legal authority to address significant impacts associated with proposed suction dredging under the revised regulations is limited in the present context to deleterious effects to fish. (Fish & G. Code, § 5653, subd. (b).) Those effects, however, are only a subset of the potentially significant environmental impacts caused by the activity. With the exercise of its available substantive authority the Department has determined that suction dredging consistent with the revised regulations will not be deleterious to fish and that related effects in all but two biological resource categories, including the effect at issue here, will be less than significant for purposes of CEQA. As to expected significant effects on passerines associated with riparian habitat, the Department finds that the revised regulations – compared to the proposed regulations as originally noticed in February and March 2011 – with further avoid and lessen those effects. Indeed, under the revised regulations permittees are subject to and must comply with all other applicable federal, state, and local law, and such other applicable law will further lessen related significant effects. With its substantive authority available in the present case, however, it is infeasible for the Department to further reduce this significant and unavoidable effect, including importantly to below a level of significance under CEQA. The Department finds based on substantial evidence in its administrative record of proceedings that this effect remains significant and unavoidable as a result.

C. Cultural Resources (Draft SEIR Section 4.5)

1. Substantial Adverse Changes, When Considered Statewide, in the Significance of Historical Resources

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on historical resources such as historically-

significant submerged vessels, historic-era mining sites and features that are submerged within or adjacent to waterways, and traditional cultural properties (TCPs).

Finding: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or alternatives identified in the 2012 EIR. (Pub. Resources Code, § 21081, subd. (a)(3); CEQA Guidelines, § 15091, subd. (a)(3).)

Explanation: Program activities under the revised regulations have the potential to result in a substantial adverse change in the significance of a historical resource due to possible demolition, relocation, or alteration. Similarly, the introduction of increased human activity in around the state's waterways could cause a substantial adverse change to traditional cultural properties. For these reasons, impacts to historical resources and traditional cultural properties resulting from suction dredge mining activities under the revised regulations are considered potentially significant. Potentially feasible mitigation measures to reduce impacts to a less-than-significant level for historical resources include archival research at the California Historical Resources Information System (CHRIS) or the State Lands Commission or field surveys by qualified archaeologists and/or architectural historians to determine the location of recorded resources prior to dredging activities and data recovery and other documentation efforts to collect or record the significant data associated with the resources. Lacking the substantive legal authority to include such measures in the revised regulations, however, the Department finds that impacts under the revised regulations to historical resources and TCPs remain significant and unavoidable.

Informed by its effort, the Department believes it has avoided and substantially lessened this significant effect to the extent feasible consistent with its substantive legal authority available in the present case and as required by CEQA's substantive mandate. The Department's explicit substantive legal authority to address significant impacts associated with proposed suction dredging under the revised regulations is limited in the present context to deleterious effects to fish. (Fish & G. Code, § 5653, subd. (b).) Those effects, however, are only a subset of the potentially significant environmental impacts caused by the activity. With the exercise of its available substantive authority the Department has determined that suction dredging consistent with the revised regulations will not be deleterious to fish and that most other environmental effects at issue here will be less than significant for purposes of CEQA. As to expected significant effects on historical resources, the Department finds that the revised regulations – compared to the proposed regulations as originally noticed in February and March 2011 – with further avoid and lessen those effects. Indeed, under the revised regulations permittees are subject to and must comply with all other applicable federal, state, and local law, and such other applicable law will further lessen related significant effects. With its substantive authority available in the present case, however, it is infeasible for the Department to further reduce this significant and unavoidable effect, including importantly to below a level of significance under CEQA. The Department finds based on substantial evidence in its administrative record of proceedings that this effect remains significant and unavoidable as a result.

2. Substantial Adverse Changes, When Considered Statewide, in the Significance of Unique Archaeological Resources

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on unique archaeological resources including resources that have yielded, or may be likely to yield, information important in prehistory or history.

Finding: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or alternatives identified in the 2012 EIR. (Pub. Resources Code, § 21081, subd. (a)(3); CEQA Guidelines, § 15091, subd. (a)(3).)

Explanation: Riverine settings are considered highly sensitive for the existence of significant archaeological resources. Suction dredge mining activities under the revised regulations could cause a substantial adverse change to a unique archaeological resource through riverbed suctioning and screening activities that could disturb or destroy cultural materials which may be located just below the surface of the riverbed or along its banks. Impacts to unique archaeological resources resulting from suction dredge mining could also occur through increased human activity in the vicinity of the state's waterways. Such impacts to unique archaeological resources are considered potentially significant. Potentially feasible mitigation measures to reduce impacts to a less-than-significant level for archaeological resources include archival research at the California Historical Resources Information System (CHRIS) or the State Lands Commission or field surveys by qualified archaeologists and/or architectural historians to determine the location of recorded resources prior to dredging activities and data recovery and other documentation efforts to collect or record the significant data associated with the resources. Lacking the substantive legal authority to include such measures in the revised regulations, however, the Department finds that impacts under the revised regulations to unique archaeological resources remain significant and unavoidable.

Informed by its effort, the Department believes it has avoided and substantially lessened this significant effect to the extent feasible consistent with its substantive legal authority available in the present case and as required by CEQA's substantive mandate. The Department's explicit substantive legal authority to address significant impacts associated with proposed suction dredging under the revised regulations is limited in the present context to deleterious effects to fish. (Fish & G. Code, § 5653, subd. (b).) Those effects, however, are only a subset of the potentially significant environmental impacts caused by the activity. With the exercise of its available substantive authority the Department has determined that suction dredging consistent with the revised regulations will not be deleterious to fish and that most other environmental effects at issue here will be less than significant for purposes of CEQA. As to expected significant effects on unique archaeological resources, the Department finds that the revised regulations – compared to the proposed regulations as originally noticed in February and March 2011 – with further avoid and lessen those effects. Indeed, under the revised regulations permittees are subject to and must comply with all other applicable federal, state, and local law, and such

other applicable law will further lessen related significant effects. With its substantive authority available in the present case, however, it is infeasible for the Department to further reduce this significant and unavoidable effect, including importantly to below a level of significance under CEQA. The Department finds based on substantial evidence in its administrative record of proceedings that this effect remains significant and unavoidable as a result.

D. Noise (Draft SEIR Section 4.7)

1. Exposure of the Public to Noise Levels in Excess of City or County Standards

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant environmental effects on existing noise levels in excess of city or county standards as a result of the use of noise-generating equipment.

Finding: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or alternatives identified in the 2012 EIR. (Pub. Resources Code, § 21081, subd. (a)(3); CEQA Guidelines, § 15091, subd. (a)(3).) Potentially feasible mitigation measures or alternatives may exist and are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency. (See generally Pub. Resources Code, § 21081, subd. (a)(2); CEQA Guidelines, § 15091, subd. (a)(2).)

Explanation: Suction dredging activities under the revised regulations have potential to generate noise in excess of local noise standards, which is a significant impact. Although all recreationists using noise-generating equipment, including suction dredge miners, are equally required to abide by local noise ordinances, violations can still occur. Violations can be reported at any time to the local authorities who have the jurisdiction to enforce applicable regulations as appropriate. However, because local noise standards are outside of the authority of the Department to enforce, the impact cannot be discounted.

Informed by its effort, the Department believes it has avoided and substantially lessened this significant effect to the extent feasible consistent with its substantive legal authority available in the present case and as required by CEQA's substantive mandate. The Department's explicit substantive legal authority to address significant impacts associated with proposed suction dredging under the revised regulations is limited in the present context to deleterious effects to fish. (Fish & G. Code, § 5653, subd. (b).) Those effects, however, are only a subset of the potentially significant environmental impacts caused by the activity. With the exercise of its available substantive authority the Department has determined that suction dredging consistent with the revised regulations will not be deleterious to fish and that most other environmental effects at issue here will be less than significant for purposes of CEQA. As to expected noise-related significant effects, the Department finds that the revised regulations – compared to the proposed regulations as originally noticed in February and March 2011 – with further avoid and lessen those effects. Indeed, under the revised regulations permittees are subject to and must comply

with all other applicable federal, state, and local law, and such other applicable law will further lessen related significant effects. With its substantive authority available in the present case, however, it is infeasible for the Department to further reduce this significant and unavoidable effect, including importantly to below a level of significance under CEQA. The Department finds based on substantial evidence in its administrative record of proceedings that this effect remains significant and unavoidable as a result.

XI. CUMULATIVE IMPACTS

A cumulative impact refers to the combined effect of "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines § 15355). As defined by the state of California, cumulative impacts reflect "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines, § 15355, subdiv. (b).) Under CEQA, an EIR must discuss the cumulative impacts of a project when the project's incremental contribution to the group effect is "cumulatively considerable." An EIR does not need to discuss cumulative impacts that do not result in part from the project evaluated in the EIR.

XII. LESS-THAN-SIGNIFICANT CUMULATIVE EFFECTS EXPECTED UNDER CEQA WITH APPROVAL OF THE REVISED REGULATIONS

1. Cumulative Effects on Fish Species and their Habitats

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant cumulative effects on *Fish* species (including wild fish, mollusks, crustaceans, invertebrates, and amphibians, including any part, spawn, or ova thereof) and their habitats.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Potential adverse effects of suction dredging on *Fish* species may include: direct entrainment, creation of barriers to movement/migration, stress or other behavior impacts, alteration of prey base, alteration of flow rates, and degradation of habitat and/or water quality. Non-program related activities that may impact *Fish* species either through increased competition, water quality degradation, flow alterations, barriers to movement/migration, or alterations to the natural hydrologic processes include: agriculture, aquaculture, climate change, dams, effluent pollution, introductions of nonnative species, recreational activities, streambed alteration, timber harvest,

urbanization, water diversions, and wildfire, fire suppression, and fuels management. Additionally, commercial and recreational fishing have contributed to declines of select fin fish species, particularly salmonids.

When developing the revised regulations, the Department considered the population-level effects of suction dredging in the context of the cumulative stresses on *Fish* species with respect to the baseline condition. For example, the revised regulations close all streams within the range of Central California Coast Coho ESU, thus avoiding an incremental contribution to the cumulative impact affecting this ESU. This approach of avoiding an incremental contribution that would be cumulatively considerable is the only biologically sound manner to develop regulations that ensure deleterious effects are not likely to occur. As such, the Department considered the cumulative effects of all known projects, foreseeable impacts, and environmental stressors in designing the revised regulations such that the Program would not make a cumulatively considerable contribution to the decline of any *Fish* species. The Department finds, therefore, that the incremental contribution of the Program on *Fish* species and their habitats will not be cumulatively considerable and will thus be less than significant for purposes of CEQA.

2. Cumulative Effects on Special-Status Plant Species

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant cumulative effects on 293 special-status aquatic and wetland-associated plant species and 912 special-status upland plant species.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Special-status plant species have the potential to be adversely affected by suction dredging through: access to and egress from streams; establishment of encampments in riparian areas; the dispersal of non-native or invasive species; and unauthorized dredging-associated activities such as direct removal of aquatic or riparian vegetation, destabilization of streambanks, or release of noxious materials (e.g., fuel). Non-program related activities that may impact special-status plant species either through direct disturbance or habitat alteration include: agriculture, climate change, dams, effluent pollution, introductions of nonnative species, recreational activities, streambed alteration, timber harvest, urbanization, water diversions, and wildfire, fire suppression, and fuels management. The primary causes of habitat destruction, degradation or fragmentation are conversion of natural areas to developed land uses and introduction of nonnative species.

With respect to upland plant species (Draft SEIR, Table 4.3-6), suction dredging and ancillary activities are not likely to result in substantial loss or degradation of habitats that support these species, and direct impacts to individuals or populations are unlikely. This conclusion is based on the known distribution of these organisms and their habitats in relationship to historical and anticipated dredging activity. Thus, the Department does not

consider the incremental contribution of the Program to be cumulatively considerable, but instead less than significant.

Dredging will be more likely to contribute to cumulative impacts on aquatic and wetland plant species (Draft SEIR, Table 4.3-5). However, various program regulations such as those prohibiting dredging of vegetation will provide protection for these species. With these measures in place, the Department finds that the incremental contribution of the Program on special-status plant species will not be cumulatively considerable and will thus be less than significant for purposes of CEQA.

3. Cumulative Effects Contributing to Non-Attainment Status

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant cumulative effects on non-attainment for a range of criteria pollutants (see Draft SEIR, Tables 5-3 through 5-5).

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Criteria pollutant emissions can result from the gasoline combustion engines typically used during suction dredge operations. Emissions from suction dredging, however, will be consistent with the amounts assumed in the baseline emissions inventories of the attainment plans, and will be relatively small compared to other sources of emissions, considering the number of dredgers, the emissions from the dredges, the frequency of use and distribution of use of the dredgers, and total emissions of the state. Further, on-road emissions associated with travel to/from dredge sites will decrease over time due to replacement of older, high emitting vehicles with newer, lower emitting ones. In addition, the Pavley rule, which is designed to reduce CO2 emissions, will also reduce criteria pollutant emissions because vehicles will on average be more efficient and burn less fuel (and generate less emissions) per vehicle mile traveled (VMT). Moreover, Section 228(g) of the proposed regulations limits the annual number of permits to 1,500. The Department finds, therefore, that the incremental contribution of emissions associated with suction dredging will not be cumulatively considerable and will thus be less than significant for purposes of CEQA.

4. Cumulative Effects Associated with Greenhouse Gas Emissions

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant cumulative effects associated with greenhouse gas (GHG) emissions.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Considering the small size of the engines, the relatively small number of dredges that can be operated under the Program, and the temporary and seasonal nature of those operations, the emissions from suction dredge operations are exceedingly small even when considered at a local or regional scale, let alone a statewide or global scale. In addition, California Air Resources Board's recent Low Carbon Fuels Standard will reduce the carbon content and associated CO2 emissions from gasoline and diesel fuel combustion by 10% by 2020. Furthermore, the Pavley regulation will additionally reduce CO2 emissions from on-road travel to and from dredge sites by requiring miles per gallon efficiency improvements in the light duty car and truck vehicle fleet between 2009 and 2020. The combined effect of these rules should substantially reduce CO2 emissions from suction dredge-related on-road travel when compared to 2008 conditions. Finally, over time, newer more efficient engines will be purchased as replacements for older higher emitting engines. This engine turnover should also reduce suction dredge CO2 emissions.

Particularly since the revised regulations limit the annual number of permits to 1,500, the Department does not anticipate emissions from suction dredge operations to have a measurable effect on the State's ability to meet its greenhouse gas reduction goals under AB 32, and those emissions are therefore not considered to make a cumulatively considerable contribution to this significant cumulative impact. In making this determination, the Department is keenly aware of the important issues faced by the State of California in terms of expected climate change. The Department would like to be clear against this backdrop that its cumulative impacts significance determination is not based on a proportional comparison of expected project emissions relative to much larger emissions expected at a regional, statewide, national, or even global scale. That is, the Department's determination that Program-related GHG emissions are not cumulatively considerable is not based on a conclusion that expected Program GHG emissions are small compared to a much larger problem. Rather, the Department's determination is based on the extremely small quantity of GHG emissions expected with the Proposed Program and the conclusion that, with that small quantity, approval of the Program is not expected to have a measurable effect on or otherwise impair the State's ability to achieve its long term GHG reduction goals under AB 32. The Department finds, therefore, that the incremental contribution of emissions associated with suction dredging will not be cumulatively considerable and will thus be less than significant for purposes of CEQA.

5. Cumulative Impacts of Resuspension and Discharge of Other Trace Metals from Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant cumulative effects associated with discharges of trace metals besides Hg (i.e., copper, lead, silver, cadmium, and zinc).

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The disturbance of creek sediments during suction dredging activities authorized under the Proposed Program could potentially result in discharges of trace metals. Trace metals besides Hg (i.e., copper, lead, silver, cadmium, and zinc) may be present in relatively elevated concentrations in the creek bed sediments from historic mining activities, industrial discharges, or other past sources. These metals would typically be adsorbed to sediment particles (in a total recoverable fraction) and not in a dissolved form.

Total recoverable and dissolved concentrations of trace metals could potentially increase downstream of creek bed sediment disturbances by suction dredge miners. Total recoverable trace metal fractions that are mobilized by suction dredging (i.e., fraction adsorbed to larger sediment particles) generally would settle out within a few hundred meters of the dredging site. The result is that trace metal concentrations that may be elevated in the dredging discharge tend to return to background levels within close proximity to the dredge. However, dissolved forms of trace metals may remain in the downstream water column, remain bioavailable (i.e., the ability for a metal to be taken into the body of an aquatic organism), and potentially affect a water body's ability to meet its beneficial uses. The specific water chemistry (ex., hardness) of a water body would dictate the fraction of the dissolved metals that is bioavailable. Discharges of dissolved trace metals from suction dredging activities would potentially affect aquatic life beneficial uses, which are the most sensitive beneficial uses to ambient water body concentrations of most trace metals.

Suction dredging will not result in substantial, long-term degradation of trace metal conditions that would cumulatively cause substantial adverse effects to one or more beneficial uses of unimpaired water bodies. Aquatic organisms will not be exposed to toxic conditions in the temporary discharge plumes. Additionally, because trace metals addressed in this assessment are not bioaccumulative constituents, the potential to mobilize the trace metals discussed herein will not substantially increase the health risks to wildlife (including fish) or humans consuming these organisms through bioaccumulative pathways.

However, suction-dredging related disturbances of sediments with other trace metals could incrementally contribute to a cumulative impact for receiving water bodies with existing trace metal impairments. Suction dredging at known trace metal hot-spots having acid mine drainage issues and associated low pH levels and high sediment and pore water metal concentrations, including high dissolved and bioavailable forms of metals, has the potential to increase levels of one or more trace metal in water body reaches such that it would cumulatively adversely affect a water body's beneficial uses.

Ultimately, water quality conditions in 303(d)-listed waters would improve as TMDL programs are completed. Additionally, implementation of the revised regulations under the Program to restrict nozzle sizes, minimize disturbances of streambanks and vegetation, and use reasonable care to avoid dredging silt and clay materials may reduce the potential for dissolved trace metal discharges and reduce the potential incremental contribution of

the suction dredge discharges to the cumulative impact. The increase in trace metal discharges as a result of suction dredging is anticipated to be relatively small and the Department finds, therefore, that the incremental contribution of trace metal discharges associated with suction dredging will not be cumulatively considerable and will thus be less than significant for purposes of CEQA.

6. Cumulative Impacts on Ambient Noise Levels in Suction Dredge Locations

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant cumulative effects associated with increases in existing ambient noise levels through the use of gasoline-powered engines for the suction dredging and/or the use of generators at the dredgers' campsites.

Finding: Changes or alterations have been required in, or incorporated into, the program which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: The ambient noise environment at suction dredging locations is affected by the land uses and recreational activities, including suction dredging, in the vicinity and the noise generated by the river itself. Activities that would potentially contribute to ambient noise level increases near suction dredging locations are other recreational motorized activities (e.g., motorized boats, off-road vehicles, or campers with generators), timber harvesting, urbanization, and suction dredging. Recreational activities may contribute to the ambient noise levels through the use of motorized boats, motorized equipment, or generators used by campers. Timber harvesting may contribute to increases in ambient noise levels through noises generated from the tree-cutting machinery and logging trucks used to transport the fallen trees. Urbanization near potential suction dredging areas may contribute to ambient noise level increases through motor vehicle traffic, aircraft noise, emergency service sirens, construction activities, motorized landscaping equipment, or other sources. Noise generated from suction dredging engines would not differ from those used in motorized boats or other motorized recreational equipment, except that engines for suction dredging activities are usually stationary and operated for extended periods throughout the day. Generators are commonly used by campers in general, and noise generated specifically from suction dredge miners will not be substantially different or greater than that generated by other campers. Timber harvesting may contribute to increases in ambient noise levels through noises generated from the tree-cutting machinery and logging trucks used to transport the fallen trees. Urbanization near potential suction dredging areas may contribute to ambient noise level increases through motor vehicle traffic, aircraft noise, emergency service sirens, construction activities, motorized landscaping equipment, or other sources.

There was no evidence obtained from the research indicating that ambient noise levels at sensitive receptor locations along the water bodies covered by the Program currently occur at levels that would adversely affect such receptors in a widespread geographic context or that noise levels are likely to significantly increase in the future under the cumulative

environment (including suction dredging). With the exception of urbanization, most of these activities are temporary or intermittent. The Department finds, therefore, that the incremental contribution of ambient noise levels associated with suction dredging will not be cumulatively considerable and will thus be less than significant for purposes of CEQA.

7. Cumulative Impacts on Recreational Facility Use or Availability

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant cumulative effects on existing recreational facilities and trails in California.

Finding: Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation: Suction Dredge Mining could potentially increase the use of recreational facilities, decrease the availability of these facilities for other recreationists, and potentially displace other recreational users. Recreational facilities in California at or near suction dredging locations may include the facilities and resources of recreational areas in the vicinity, such as rivers, streams, trails, campsites, restrooms, and picnic tables. Both land-based and water-based recreationists may utilize these facilities. As described in Chapter 4.8 Recreation of the Draft SEIR, land-based recreationists may include ATV users, RV campers, hunters, horse-back riders, picnickers, hikers, campers, and wildlife or scenery viewers. Water-based recreationists may include boaters, suction dredgers, fishermen, kayakers, rafters, and swimmers.

There was no evidence obtained from the research indicating that recreational facilities in California at or near suction dredging locations are currently over-used to such a degree as to constitute a significant cumulative impact or that the increase in use of facilities by permitted suction dredgers under the Program would significantly increase the demand for or use of such facilities in a widespread geographic context. Thus, the Department finds that the incremental impacts associated with recreational facility availability are not cumulatively considerable and will thus be less than significant for purposes of CEQA.

XIII. SIGNIFICANT AND UNAVOIDABLE CUMULATIVE EFFECTS EXPECTED UNDER CEQA WITH APPROVAL OF THE REVISED REGULATIONS

1. Cumulative Effects on Wildlife Species and their Habitats

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant cumulative effects on wildlife species and their habitats.

Finding: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or alternatives identified in the 2012 EIR. (Pub. Resources Code, § 21081, subd. (a)(3); CEQA Guidelines, § 15091, subd. (a)(3).)

Explanation: Suction dredging and ancillary activities under the revised regulations are likely to co-occur with several bird species. Of greatest concern are the incremental effects of the Proposed Program on species that are very rare and are likely to occur in close proximity to suction dredging activities. As described in Chapter 4.3, Biological Resources, suction dredging activities may lead to significant impacts on several of these species at the individual (Proposed Program) level. The incremental contribution of these impacts is also considered considerable at the cumulative level.

Best Management Practices provided to permittees by the Department at the time of permit issuance will also help to reduce the probability of significant effects. The same is true of various other provisions of the Fish and Game Code and other relevant law, including CEQA, along with the related obligation in the revised regulations requiring permittees to comply with all other federal, state, and local law. (See, e.g., Fish & G. Code, §§ 2000, 3503, 3503.5, 2080.) However, the potential for direct disturbance of nests or adverse behavior modifications due to human activity under the revised regulations would remain.

With respect to this effect and the 2012 EIR, the Department has done its best to find out and disclose all that it feasibly can. Informed by that effort the Department believes it has avoided and substantially lessened this significant effect to the extent feasible consistent with its substantive legal authority available in the present case and CEQA's substantive mandate. While, the Department's explicit substantive legal authority for purposes of addressing impacts associated with the proposed suction dredge implementing regulations is limited, the effects of suction dredging on fish, are only a subset of the potentially significant environmental impacts caused by the activity. Suction dredge permittees remain obligated to comply with the legal requirements of other federal, state and local regulatory entities whose jurisdiction does address those impacts not within the Department's jurisdictional reach. The Department's substantive legal authority relevant in the context of the revised regulations is Fish and Game Code section 5653, subdivision (b). With the exercise of that authority the Department has determined that suction dredging consistent with the revised regulations will not be deleterious to fish and that related effects in all but two biological resource categories, this one included, will be less than significant for purposes of CEQA. As to expected significant cumulative impacts on wildlife species and their habitats, the Department finds that the revised regulations – compared to the proposed regulations as originally noticed in February and March 2011 – with further avoid and lessen those effects. With its substantive authority available in the present case, however, it is infeasible for the Department to further reduce this significant and unavoidable effect, including importantly to below a level of significance under CEQA. The Department finds based on substantial evidence in its administrative record of proceedings that this effect remains significant and unavoidable as a result.

2. Cumulative Effects of Turbidity/TSS Discharges from Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant cumulative effects on turbidity/TSS discharges.

Finding: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or alternatives identified in the 2012 EIR. (Pub. Resources Code, § 21081, subd. (a)(3); CEQA Guidelines, § 15091, subd. (a)(3).) Potentially feasible mitigation measures or alternatives may exist and are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency. (See generally Pub. Resources Code, § 21081, subd. (a)(2); CEQA Guidelines, § 15091, subd. (a)(2).)

Explanation: Although the revised regulations under the Proposed Program would reduce the potential incremental contribution of the suction dredge discharges to a cumulative impact in impaired waters, sediment discharges would not be entirely avoided. Where such discharges are occurring in water bodies with existing turbidity/TSS impairments, the incremental contribution from suction dredging would be cumulatively considerable. To reduce these effects, potential mitigation could include closures or restrictions on suction dredging in waterbodies impaired for sediment. The Department finds this impact remains and will remain significant until such time that specific feasible mitigation is developed.

Informed by its effort and the related input from the State Water Resources Control Board, the Department believes it has avoided and substantially lessened this significant effect to the extent feasible consistent with its substantive legal authority available in the present case and as required by CEQA's substantive mandate. The Department's explicit substantive legal authority to address significant impacts associated with proposed suction dredging under the revised regulations is limited in the present context to deleterious effects to fish. (Fish & G. Code, § 5653, subd. (b).) Those effects, however, are only a subset of the potentially significant environmental impacts caused by the activity. With the exercise of its available substantive authority the Department has determined that suction dredging consistent with the revised regulations will not be deleterious to fish and that related effects in all but two biological resource categories will be less than significant for purposes of CEQA. As to significant water quality effects, the Department finds that the revised regulations – compared to the proposed regulations as originally noticed in February and March 2011 – with further avoid and lessen those effects. Indeed, under the revised regulations permittees are subject to and must comply with all other applicable federal, state, and local law, and such other applicable law will further lessen related significant effects. With its substantive authority available in the present case, however, it is infeasible for the Department to further reduce this significant and unavoidable cumulative effect, including importantly to below a level of significance under CEQA. The Department finds based on substantial evidence in its administrative record of proceedings that this cumulative effect remains significant and unavoidable as a result.

3. Cumulative Impacts of Mercury Resuspension and Discharge from Suction Dredging

Impact: Suction dredging as authorized under the revised regulations could result in potentially significant cumulative effects associated with mercury suspension and discharge.

Finding: Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or alternatives identified in the 2012 EIR. (Pub. Resources Code, § 21081, subd. (a)(3); CEQA Guidelines, § 15091, subd. (a)(3).) Potentially feasible mitigation measures or alternatives may exist and are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency. (See generally Pub. Resources Code, § 21081, subd. (a)(2); CEQA Guidelines, § 15091, subd. (a)(2).)

Explanation: Although the revised regulations governing the Proposed Program would reduce the potential for flouring and reduce the potential incremental contribution of the suction dredge discharges to the significant cumulative impact, mercury discharges would continue. Such discharges associated with Program activities would make a cumulatively considerable contribution to existing cumulative impacts related to watershed mercury loading, methylmercury formation in downstream areas, and bioaccumulation in aquatic organisms (and associated risks related to human or wildlife consumption). To reduce these effects, potential mitigation could include closing mercury contaminated watersheds, limiting the number of permits in areas impaired for mercury, or further restrictions on nozzle size, number of permits, and hours/days spent dredging. Potentially feasible mitigation measures to reduce this significant impact would necessarily involve actions to avoid or reduce total mercury discharge from areas containing elevated sediment mercury and/or elemental mercury from suction dredging. Imposing such mitigation in the revised regulations is infeasible, however, and the impact remains significant and unavoidable.

Informed by its effort and the related input from the State Water Resources Control Board, the Department believes it has avoided and substantially lessened this significant effect to the extent feasible consistent with its substantive legal authority available in the present case and as required by CEQA's substantive mandate. The Department's explicit substantive legal authority to address significant impacts associated with proposed suction dredging under the revised regulations is limited in the present context to deleterious effects to fish. (Fish & G. Code, § 5653, subd. (b).) Those effects, however, are only a subset of the potentially significant environmental impacts caused by the activity. With the exercise of its available substantive authority the Department has determined that suction dredging consistent with the revised regulations will not be deleterious to fish and that related effects in all but two biological resource categories will be less than significant for purposes of CEQA. As to significant water quality effects, the Department finds that the revised regulations – compared to the proposed regulations as originally noticed in February and March 2011 – with further avoid and lessen those effects. Indeed, under the revised regulations permittees are subject to and must comply with all other applicable

federal, state, and local law, and such other applicable law will further lessen related significant effects. With its substantive authority available in the present case, however, it is infeasible for the Department to further reduce this significant and unavoidable cumulative effect, including importantly to below a level of significance under CEQA. The Department finds based on substantial evidence in its administrative record of proceedings that this cumulative effect remains significant and unavoidable as a result.

XIV. ALTERNATIVES

Where a lead agency has determined that, even after the adoption of all feasible mitigation measures, a project as proposed will still cause one or more significant environmental effects that cannot be substantially lessened or avoided, the agency, prior to approving the project as mitigated, must first determine whether, with respect to such impacts, there remain any project alternatives that are both environmentally superior and feasible within the meaning of CEQA. (See, e.g., *Citizens for Quality Growth v. City of Mt. Shasta* (1988) 198 Cal.App.3d 433, 445.)

As required by CEQA, the 2012 EIR includes a detailed discussion of a reasonable range of potentially feasible alternatives that would achieve most of the basic project objectives and avoid or substantially lessen one or more of the potentially significant effects expected with suction dredging under the proposed regulations as originally noticed by the Department in February and March 2011. (See, e.g., DSEIR, §§ 6.1, 6.3.) The DSEIR also describes the Department's effort and rationale to devise the range of alternatives, guided by the rule of reason. (*Id.*, § 6.2.) Likewise, the DSEIR includes a discussion of other alternatives considered, but dismissed as infeasible, as well as including a related discussion regarding the environmentally superior alternative as also required by CEQA. (*Id.*, §§ 6.4, 6.5.) The FSEIR also includes discussion regarding alternatives to the proposed regulations. (FSEIR, pp. 4-28 to 4-33.)

The revised regulations at issue here for purposes of the Department's proposed permitting program include a number of environmental improvements compared to the regulations as originally proposed in February and March 2011. As described above in Section I.A., Project Description, many of these changes are elements included and addressed in the DSEIR as part of the Reduced Intensity Alternative. In addition to various waterbody-specific revisions, the most important elements included in the revised regulations consistent of: (1) a reduction in the permitting cap from 4,000 as originally proposed to 1,500; (2) a density restriction prohibiting the operation of vacuum and suction dredge equipment within 500' feet of another operating suction dredge; (3) a restriction limiting the hours of operation from 10:00 a.m. to 4:00 p.m.; and (4) various reporting and up-to-date record keeping obligations. These revisions are expected to further reduce and lessen the significant effects associated with suction dredging authorized under the revised regulations. Even so, as discussed in the preceding section of these findings, the Department expects suction dredging under the revised regulations will still cause a number of significant and unavoidable environmental effects.

Informed by the 2012 EIR and other substantial evidence in its administrative record of proceedings the Department finds there are no other project alternatives that are both feasible and environmentally superior compared to the revised regulations. With respect to the 1994 Regulations Alternative, for example, the Department would resume the issuance of suction dredge permits under the current regulations found in Title 14. However, the Department determined in October 2007, however, that suction dredging under the existing regulations was resulting in deleterious effects to fish. The 1994 Regulations Alternative is not environmentally superior to suction dredging under the revised regulations. With its deleterious effects, the 1994 Regulations Alternative is also inconsistent with the Department's stated objectives in the present case and legally infeasible. (See generally DSEIR, § 6.3.2, pp. 6-6 to 6-9.)

As to the Water Quality Alternative, the DSEIR highlights the various environmental *pros and cons* of this alternative compared to the regulations originally proposed by the Department in February and March 2011. With respect to water quality impacts, this alternative by design is environmentally superior to the Department's original proposal and the same is true of the revised regulations, albeit the difference is less with the revisions to the proposed program highlighted earlier. The Water Quality Alternative, however, is legally infeasible in the present case given the permissible substantive reach of the Department's regulations under Fish and Game Code section 5653, subdivision (b). For the same reason the Water Quality Alternative also fails to achieve the Department's stated project objectives to the same extent as the revised regulations. The Water Quality Alternative in this respect, though environmentally superior in terms of significant water quality effects, is not feasible for purposes of CEQA. (See generally DSEIR, 6.3.3, pp. 6.9 to 6.12.)

The same is true of the No Program Alternative. Under this alternative the existing moratorium on Department issuance of permits and the related statutory prohibition on instream suction dredge mining would persist. Absent permits and no related suction dredging in California, no related environmental effects would occur. That outcome, of course, makes the No Program Alternative environmentally superior to the revised regulations under CEQA, specifically so with respect to the expected significant and unavoidable effects under the revised regulations. This alternative for purposes of related action by the Department, however, would essentially require the Department disapproving the revised regulations and declining to take the action prescribed by Fish and Game Code section 5653.9. This predicament, in the Department's opinion, renders the No Program Alternative infeasible for purposes of CEQA. The Department believes as stated above and explained elsewhere in its administrative record of proceedings that suction dredging as authorized under the revised regulations will not be deleterious to fish. With that finding under the Fish and Game Code the Department is skeptical it has the legal authority in the present context under CEQA to disapprove the proposed project. Doing so is infeasible for the additional reason that, in the Department's opinion, the revised regulations constitute a significant improvement compared to the 1994 regulations; the revised regulations with those environmental and regulatory benefits, even with the existing statutory moratorium, should be codified in Title 14, replacing the 1994

regulations. The No Program Alternative, in this respect, would not achieve project objectives to the same extent as the revised regulations. The Department finds for these reasons that the No Program Alternative is not a feasible, environmentally superior alternative under CEQA compared to the revised regulations. (See generally DSEIR, 6.3.1, pp. 6-5 to 6-6.)

The Department finds the Reduced Intensity Alternative is also not a feasible, environmentally superior alternative under CEQA compared to the revised regulations. As noted above, the revised regulations incorporate nearly all of the substantive elements that rendered the Reduced Intensity Alternative the environmentally superior alternative in the DSEIR for purposes of CEQA. That the alternative remains environmentally superior compared to the revised regulations, at least to some small degree, stems from the related prohibition on the use of anything larger than a 4-inch nozzle. Yet, the revised regulations with its related restrictions, including required notification in certain circumstances subject to the Department's streambed regulatory authority, are consistent with and otherwise comply with the Department's substantive legal mandate in the present case under the Fish and Game Code. The Department has no current factual or legal basis under its explicit substantive authority relative to the revised regulations to find that the additional restrictions under the Reduced Intensity Alternative are necessary to fulfill that statutory charge. In so doing the Reduced Intensity Alternative does not achieve the Department's stated project objectives to the same degree as the revised regulations. The lack of evidence and related authority also renders the Reduced Intensity Alternative as a whole legally infeasible. The Department finds, as a result, that the Reduced Intensity Alternative is not a feasible, environmentally superior alternative under CEQA compared to the revised regulations. (See generally DSEIR, 6.3.4, pp. 6-12 to 6-14.)

With respect to other potentially feasible, environmentally superior alternatives, both the DSEIR and FSEIR, as discussed above, both consider and explain the basis for the Department's related infeasibility determination. Given the Department's substantive legal authority in the present case relative to the proposed regulations, the Department relies on and incorporates the related discussion of these other alternatives for purposes of its findings here. In so doing, the Department acknowledges the importance of *bridging the analytical gap* in these findings between the underlying environmental analysis and its decision to approve the revised regulations. Central to its final action is its determination regarding the nature and extent of its substantive authority in the present case under Fish and Game Code section 5653 and 5653.9. To the same end, the Department recognizes various potentially feasible alternatives exists that may well avoid or substantially lessen the significant and unavoidable effects the Department expects with approval of the revised regulations. Yet, those alternatives and any related potentially feasible mitigation measures are beyond the substantive legal reach of the Department in the context of the proposed regulations. (See Pub. Resources Code, § 21004.)

In summary, the revised regulations incorporate various elements of the Reduced Intensity Alternative described in detail in the 2012 EIR. As such, the Department expects and finds for purposes of CEQA that the significant environmental effects expected with the revised

regulations will be reduced when compared to the proposed regulations originally noticed by the Department in February and March 2011. The same effects will be substantially less compared to the 1994 regulations.

The Department finds based on substantial evidence in its administrative record that there is no other feasible, environmentally superior alternative that will avoid or substantially lessen the significant and unavoidable environmental effects expected to occur with the revised regulations. This finding is based on, among other reasons, notions of legal infeasibility. The Department is obligated by court order and Fish and Game Code section 5653.9, to complete its environmental review and rulemaking effort consistent with existing law. In fact, the December 2006 Order in the *Karuk* litigation directs the Department to complete the effort by June 2008, which it was not able to do. Likewise, the Department's explicit substantive authority for purposes of the regulations required by the Fish and Game Code in this case is specifically limited to a subset of the adverse effects caused by suction dredging. Many of the potentially feasible alternatives before the Department at this time may well reduce related significant and unavoidable effects compared to the revised regulations, the proposed regulations as originally noticed by the Department, and the 1994 regulations. However, none are feasible in light of the Department's relevant authority in Fish and Game Code section 5653, subdivision (b).

XV. STATEMENT OF OVERRIDING CONSIDERATIONS

This section addresses the Department's obligations under Public Resources Code section 21081, subdivisions (a)(3) and (b). (See also CEQA Guidelines, §§ 15091, subd. (a)(3), 15093.) Under these provisions, CEQA requires the Department to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of the revised regulations against the backdrop of unavoidable significant environmental impacts. For purposes of CEQA, if the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable significant environmental effects, those effects may be considered acceptable and the decision making agency may still approve the underlying project. CEQA, in this respect, does not prohibit the Department from approving the revised regulations even if suction dredging as authorized under the Fish and Game Code may cause significant and unavoidable environmental effects.

The DSEIR analyzes and discusses the significant and unavoidable environmental effects the Department expected with the updated regulations as originally proposed. (See, e.g., DSEIR, pp. ES-11 to 14; § 4.2.5, pp. 4.2-33 to 59; § 4.3.5, pp. 4.3-48; § 4.5.5, pp. 4.5-11 to 15; § 4.7.5, pp. 4.7-9 to 10; § 5.3, pp. 5-1 to 2; § 5.5.3, pp. 5-23 to 24, and 5-28 to 29; § 6.2.3, p. 6-4.) The FSEIR also includes considerable related discussion. (See, e.g., FSEIR, § 4.1, pp. 4.8 to 15, 4-35 to 37, 4-41 to 49, and 4-57 to 58; § 4.2, pp. 4-58 to 126, and 4-127 to 130; § 4.3, pp. 4-131 to 142.) In addition, the FSEIR identifies a small number of changes to the related discussion in the DSEIR and, importantly, identifies revisions to the regulations as originally proposed that were prompted by public input and the Department's consideration of that information. (FSEIR, § 5, pp. 5-1 to 61, and 5-61 to 5-65.)

As discussed above in detail, even though the Department revisions to the regulations as originally proposed will further reduce impacts from suction dredge mining, the Department's approval of the revised regulations will still result in significant and unavoidable effects to water quality, cultural resources, and noise. For purposes of CEQA, the Department's adoption of the revised regulations is expected to result in the following significant and unavoidable effects to non-biological trust resources:

- WQ-4: Effects Associated with Mercury Resuspension and Discharge;
- WQ-5: Effects Associated with Resuspension and Discharge of other Trace Metals;
- CUL-1: Substantial Adverse Changes, When Considered Statewide, in the Significance of Historical Resources;
- CUL-2: Substantial Adverse Changes, When Considered Statewide, in the Significance of Unique Archeological Resources;
- NZ-1: Exposure of the Public to Noise Levels in Excess of City or County Standards;
- CUM-6: Cumulative Effects Associated with Turbidity and Discharge of Total Suspended Sediment (TSS); and
- CUM-7: Cumulative Effects Associated with Mercury Resuspension and Discharge.

As also discussed in detail earlier, the Department's adoption of the revised regulations is also expected to result in two significant and unavoidable effects to biological trust resources. Again, these effects are not acceptable. The Department underscores that the revised regulations in no way relieve potential permittees from compliance with other laws. Yet, these two effects persist because of the Department's limited substantive authority in the context of the revised regulations, and the Department's related obligations under the December 2006 Order in the *Karuk* litigation under Fish and Game Code section 5653.9. The two significant and unavoidable effects to biological resources expected with approval of the revised regulations are the following:

- BIO-WILD-2: Effects on Special Status Passerines Associated with Riparian Habitat; and
- CUM-2: Effects on Non-Fish Wildlife Species and their Habitats.

A. The Benefits of Department Final Action to Approve the Revised Regulations

As noted above, the Department is charged by CEQA to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of the revised regulations against the backdrop of significant

unavoidable environmental impacts. This section describes those benefits. In addition, as explained in the next section, the Department finds that, on balance, the benefits of taking final action and adopting the revised regulations override the significant and unavoidable effects expected to occur with Department action alone.

The Department begins this discussion acknowledging a certain unease. That sentiment is not for lack of preparation or out of concern about its compliance with controlling law. For purposes of CEQA, in fact, the Department believes it has proceeded in the manner required by law and that its factual determinations are supported by substantial evidence. The same is true for purposes of the APA and the Fish and Game Code. The revised regulations are neither arbitrary and capricious, nor lacking in evidentiary support. Likewise, the Department is confident in the exercise of its independent judgment under the Fish and Game Code from a policy, scientific, and legal perspective. Indeed, the Department believes that suction dredging consistent with the revised regulations will not be deleterious to fish and that the revised regulations are a substantial improvement compared to the 1994 regulations currently found in Title 14.

The Department's unease is rooted instead in the prospect that the revised regulations, once approved and effective, if and when the moratorium is lifted, will cause significant and unavoidable effects on the environment, particularly on non-fish biological resources that the Department holds in trust for the people of California. The prospect of such effects is reduced with the revised regulations both with respect to the proposed regulations as originally noticed and certainly compared to the 1994 regulations. Various other provisions of the Fish and Game Code also provide additional legal safeguards that will likely lessen the remaining significant effects, particularly those to biological resources. (See, e.g., Fish & G. Code, §§ 1900 et seq., 2000, 3503, 3503.5, 2080.) Yet, the prospect that the remaining significant effects are lessened by the revised regulations, and likely further still by other legal safeguards, makes no more palatable the approval of regulations the Department has determined will cause significant impacts on the environment.

Another part of the Department's unease in the present context is rooted in its experience over the last number of years. That experience is marked since 2005, in particular, by considerable controversy about the future of suction dredge mining in California. The Department, more so by far than any other public agency, has been in the middle of that conflict, often as a policy and litigation target for disparate interests with understandably different views on the subject. The Department, however, has been unable to mediate that dispute in a judicial forum or otherwise identify common ground mutually agreeable to the interested stakeholders, facing nine related lawsuits since 2005, nearly always involving the same parties, all critical of the Department for different reasons. Of note, related taxpayer costs since 2005 for the Department alone, including the present environmental review and rulemaking effort, total millions of dollars. And the controversy, and the related expenditure of significant public funds, will continue in the foreseeable future in the Department's estimate regardless of its final action. The Department thus contemplates final action with an understanding that the revised regulations will not likely resolve years of related conflict.

With respect to the benefits expected with final action, the Department underscores that it is charged by existing law, including a related court order, to complete its environmental review and rulemaking effort, and to adopt regulations that ensure authorized suction dredging, if and when the moratorium is lifted, will not be deleterious to fish. CEQA, in this respect, required the Department to prepare its environmental analysis assuming the regulations will take effect and that related suction dredging will occur. As discussed more fully below, in this particular case, where the revised regulations serve to fulfill the Department's obligations under existing law, many of the adopted regulation's benefits are those inherent to completing that undertaking, and the manner in which the Department has done so.

There is no doubt, however, that the revised regulations are a substantial improvement, consistent with related requirements in the Fish and Game Code, over the existing regulations from 1994. When and if the current statutory moratorium lifts, the revised regulations as effective in Title 14 will constitute a substantial improvement, conferring an important statewide benefit from a regulatory and environmental perspective compared to the 1994 regulations. With respect to the 1994 regulations, the Department underscored its willingness to exercise leadership among the myriad conflicting stakeholder groups – despite the Department's limited authority to address the full spectrum of suction dredging's impacts with possible legal and political costs - when the Department noted in a court filing in October 2006, for example, that the Department itself believed suction dredging under those regulations was causing deleterious effects to fish in California. (*Karuk Tribe of California et al. v. California Dept. of Fish and Game*, Super. Ct. Alameda County, 2005, RG05211597, Defendants' Case Status Report with Declarations etc., October 3, 2006.) For purposes of its overall mission and charge under the Fish and Game Code generally, the revised regulations provide important benefits compared to the now-outdated regulations currently found in Title 14. In particular, the revised regulations rely on information on the distribution and status of aquatic species which was not available when the Department developed the 1994 regulations. The revised regulations also recognize that numerous species have declined over the years, requiring a greater level of protection than provided in the 1994 regulations.

Another important benefit of adopting the revised regulations concerns the Department's related legal obligations. Fish and Game Code section 5653.9, for example, as emphasized throughout these findings, directs the Department in mandatory terms to adopt regulations governing the issuance of related permits. The same section also directs the Department to adopt those regulations in compliance with CEQA and the APA, which is happening here. (See also Fish & G. Code, § 5653.1, subd. (a).) In the same vein, and perhaps even more importantly, is the order and consent judgment issued by the Alameda County Superior Court in the *Karuk* litigation in December 2006. That order, entered by the Superior Court on December 20, 2006, specifically directs the Department to conduct "further environmental review" of its suction dredge permitting program under the 1994 regulations and, if necessary, to conduct related rulemaking under the APA. The December 2006 Order also directs the Department to complete its related effort by June 2008. A

significant benefit of taking final action, in this respect, is the Department meeting its related legal obligation to do so by statute and court order.[3]

The benefit of completing the Department's environmental review and rulemaking effort is also highlighted by comments from the current and former governors. In vetoing a related portion of Senate Bill (SB) 87, the California 2011 Budget Act, Governor Brown objected to a related provision that would have prohibited the Department from expending public funds to complete this effort. Governor Brown did so underscoring the proposed funding restriction conflicted with the Department's legal obligation to complete the environmental review effort required by court order. (Stats. 2011, ch. 33, p. 4, Item 3600-001-00001, Provision 3.)

Former Governor Schwarzenegger acknowledged the same obligation and the importance of completing the effort in October 2007. The former governor did so vetoing Assembly Bill (AB) 1032 (Wolk), which would have provided the Department with related funding, but also imposed various restrictions on suction dredging while the Department completed the required environmental review. In vetoing the bill, which itself specifically acknowledged the Department's obligations under the court order, Governor Schwarzenegger commented he was doing so because the required *scientific environmental review* should necessarily precede any such restrictions or other changes to the Department's 1994 regulations. (Assem. Bill No. 1032 (2007-2008 Reg. Sess.), Governor's Veto Message, October 13, 2007.)

In August 2009, former Governor Schwarzenegger also signed SB 670 (Wiggins). In so doing, the State of California enacted the existing statewide moratorium on suction dredging as an initial matter. (Stats. 2009, ch. 62, § 1, adding former Fish & G. Code, § 5653.1.) As enrolled and signed by the former governor, SB 670 specifically acknowledges and codifies the Department's obligations under the December 2006 Order in the *Karuk* litigation. Governor Brown noted the same obligations signing AB 120 in July 2011, affirming the Department's obligation to complete the current effort while continuing the moratorium. (Stats. 2011, ch. 133, § 6, amending former Fish & G. Code, § 5653.1.)

Finally, at least one other important benefit of the Department completing the current effort bears emphasis. As noted above, the 2012 EIR and the Department's rulemaking effort generally constitute the most thorough, up-to-date technical analysis of suction dredging and its related effects in California history. The analysis, in turn, reflects the hard work and related expertise of the Department, its technical staff, as well as numerous consultants with related subject matter expertise working on the effort on behalf of the Department. The analysis also reflects the Department's partnership with and the work

[3] The importance of completing the environmental review and rulemaking effort is further underscored by an Order and Citation of Contempt issued against the Department in the *Karuk* litigation on August 20, 2009. Importantly, the order and citation does not constitute a judicial finding that the Department was in contempt of the December 2006 Order requiring updated environmental review. However, order and citation further underscore the importance of the Department completing the current effort consistent with its existing legal obligations. (See also *Karuk Tribe of California et al. v. California Dept. of Fish and Game*, Super. Ct. Alameda County, 2005, RG05211597, Order Discharging Contempt Citation, etc., October 15, 2009.)

product of the State Water Resources Control Board and its technical staff, and related peer review conducted by the Water Board independent of the Department. In addition, the analysis has been subject to and is a product of considerable public input from across the stakeholder spectrum, including input from many private sector and public agency technical experts. Finalizing the underlying technical analysis is not only a necessary and important component of the Department's final action from a regulatory standpoint. The technical analysis, once finalized, will also provide the important benefit of helping to inform ongoing debate by the people and State of California regarding whether and how to regulate suction dredge mining in the years to come.

B. Balancing The Benefits of Final Action by the Department With the Significant and Unavoidable Environmental Effects

CEQA next requires the Department to balance the benefits of proposed final action with the expected significant and unavoidable environmental effects. Unique to the CEQA Guidelines, compared to CEQA itself, is the notion that the decision making public agency may ultimately deem the adverse effects at issue *acceptable.* (CEQA Guidelines, § 15093, subd. (a).) To be clear, the Department does not intend to deem, nor does it consider any or all of the identified significant effects acceptable, particularly the significant and unavoidable impacts on biological trust resources. The Department finds instead, as set forth below, only that the benefits of final action and the substance of revised regulations generally, once effective in Title 14, override the expected significant effects.

The Department recognizes the authority acknowledged by the CEQA Guidelines to disapprove a proposed project to protect the environment where significant effects are implicated. (*Id.*, § 15002, subd. (h)(5).) A related provision acknowledging the important difference between lead and responsible agencies also underscores that any agency's relevant jurisdictional authority may be a limiting factor for such a disapproval. (*Id.*, § 15042; see also *San Diego Navy Broadway Complex Coalition v. City of San Diego* (2010) 185 Cal.App.4th 924, 937-941.) Here for purposes of CEQA, as explained earlier in detail, all impacts to fish subject to the Department's relevant substantive authority are reduced by the revised regulations to below a level of significance. Having fulfilled its substantive obligation under the Fish and Game Code section 5653.9 (i.e., promulgating regulations to ensure that authorized suction dredging will not be deleterious to fish), the Department believes it likely lacks the legal authority to decline to take final action in the present case (i.e., disapprove the project) in response to other significant effects beyond its substantive reach. (See, e.g., Fish & G. Code, 5653, subd. (b) (substantive parameters of the regulations the Department is required to adopt in the present context).)

Even if the Department is vested with the legal authority to disapprove the project at hand, it believes the benefits of final action to adopt the revised regulations override the expected significant effects. Again as noted earlier, the benefits of Department final action include substantial improvements to the existing regulations governing suction dredging under the Fish and Game Code, certainly as compared to the 1994 regulations; fulfilling its legal obligation by statute and court order to adopt updated regulations consistent with existing

law and to complete related environmental review; and finalizing in coordination with the State Water Resources Control Board the most comprehensive, up-to-date scientific and technical analysis of suction dredging and its related effects ever prepared in California. Taking final action, in this respect, will mean that, if and when the existing statutory moratorium is lifted, suction dredging as authorized under the Fish and Game Code will not be deleterious to fish. Likewise, any further policy and technical debate about appropriate regulation of the activity will benefit from the Department and the State Water Board's related efforts as reflected in the certified 2012 EIR.

As to the expected significant effects, none will occur in the relative short term with the existing statutory moratorium. (See generally *Id.*, § 5653.1.) Likewise, should the moratorium be lifted by a change in law or by court order, the significant and unavoidable effects expected with the revised regulations will still persist beyond the existing substantive legal reach of the Department relevant in the narrow circumstance at hand. Moreover, as to those effects, the Department took a conservative approach under CEQA, erring on the side of caution based on substantial evidence, to deem impacts significant even where the probability of related effects is small. Furthermore, nearly all of the significant and unavoidable effects expected with the revised regulations are subject to the regulatory authority and substantive expertise of other federal, state, and local agencies. The State and Regional Water Quality Control Boards' regulatory authority over water quality is but one example. (Wat. Code, § 13000 et seq.) Indeed, as emphasized by a provision in the Department's existing regulations left virtually unchanged in the current proposal, nothing in any suction dredge permit issued by the Department relieves the permittee of the obligation to comply with other applicable federal, state, and local law. (See Cal. Code Regs., tit. 14, § 228, subd. (g).) And the same is true of other controlling law in the Fish and Game Code that may apply to any given suction dredge operation. (See, e.g., Fish & G. Code, §§ 1900 et seq., 2000, 3503, 3503.5, 2080.)

All things considered, the Department finds on balance that the benefits of final action outweigh the significant and unavoidable effects expected to occur with suction dredging as authorized under the revised regulations. The Department is mandated by statute and court order to complete the environmental review and rulemaking effort under existing law. Moreover, in fulfilling that mandate from a substantive perspective, the Department's legal authority is prescribed in narrow terms based on Fish and Game Code section 5653, subdivision (b), specifically. Though unpalatable and inconsistent with the Public Trust Doctrine and its trustee charge under the Fish and Game Code, the Department believes it can do no more.

In CEQA terms, the Department has done all that it feasibly can to avoid and substantially lessen the significant effects associated with the revised regulations. The Department in fact and law has reduced to below a level of significance all the adverse environmental effects within its substantive reach under Fish and Game Code section 5653, subdivision (b). On balance, again, particularly with the Department's legal obligation to complete its environmental review and rulemaking effort, the Department's finds the benefits of final

action to approve the revised regulation are sufficient to override the remaining significant effects at issue.

Also relevant as the Department completes this Statement of Overriding Considerations are a few comments related to AB 120. (Stats. 2011, ch. 133, § 6, amending Fish & G. Code, § 5653.1.) The Department disagrees that AB 120 requires it to adopt updated regulations that *fully mitigate* all identified significant effects associated with suction dredging. The Department also disagrees that AB 120 expands or otherwise provides the Department with the independent substantive legal authority to fully mitigate or otherwise reduce such effects to below a level of significance under CEQA through the regulations required by the Fish and Game Code. The AB 120 amendments to Fish and Game Code section 5653.1 simply identify five substantive conditions that the Department would need to certify to the Secretary of State for the existing statutory moratorium to end any earlier than June 30, 2016. (Fish & G. Code, § 5653.1, subd. (b).) The AB 120 amendments do not expand the Department's substantive legal authority available in the present case. (*Id.*, § 5653, subd. (b).) Likewise, the amendments provide no legal authority for the Department to modify the existing, statutorily based fee structure for its related permitting program. (*Id.*, subd. (c).) Arguments along these lines, in the Department's opinion, simply highlight the broader need for comprehensive regulatory reform to address and resolve the complex issues associated with the future of suction dredging in California. The Department hopes that its final action in the present case, and its related lead agency effort to find out and disclose all that it reasonably can, aided considerably by the State Water Resources Control, will inform further dialogue.

Finally, the Department concludes with a comment about the significant and unavoidable effects to cultural resources expected to occur with the revised regulations. The Department believes, as noted earlier, that the prospect of such effects with the changes incorporated into the revised regulations is much less when compared to both the 1994 regulations and the proposed regulations originally noticed by the Department in February and March 2011. The Department also appreciates that this improvement over the 1994 regulations, and through the revisions to the regulations as originally noticed, may be of little consolation in the eyes of Native American interests. The Department wishes to specifically acknowledge that the State of California under Governor Brown, and the Department itself, recognize the importance and benefit going forward of robust coordination in the natural resource context with California Native Americans.

XVI. FINDINGS

The Department's findings set forth above identify and address all of the adverse project-level and cumulative environmental impacts expected with adoption of the revised regulations and the issuance of related permits under Fish and Game Code section 5653 et seq. The findings also address all the feasible changes to the revised regulations that would reduce related impacts to less than significant levels to the extent feasible under CEQA. Finally, the findings address all the potentially feasible alternatives to the revised regulations, including all environmentally superior alternatives, and whether they might avoid or substantially lessen the significant and unavoidable effects expected with the revised regulations and related suction dredging as authorized under the existing, relevant provisions of the Fish and Game Code.

Department final action to adopt the revised regulations will result in substantial improvements to the existing regulations governing instream suction dredge mining under the Fish and Game Code, certainly compared to the 1994 regulations currently found in Title 14 of the California Code of Regulations. In so doing, the Department will fulfill its legal obligation by statute and court order to complete updated environmental review and to adopt regulations consistent with existing law. Completing the environmental review effort with the support of the State Water Resources Control Board and adopting the revised regulations will also allow the Department to finalize the most comprehensive, up-to-date scientific and technical analysis of suction dredging and its related effects ever prepared in California.

These benefits do not render the related significant and unavoidable environmental effects acceptable. The Department finds, however, that the benefits of adopting the revised regulations outweigh the significant and unavoidable effects expected to occur as a result of its final action. The benefits of the revised regulations, in this respect, are hereby determined to be a basis for the Department to override all unavoidable project-level and cumulative environmental effects identified in the 2012 EIR and in these findings.

DFG has reviewed and considered the information contained in the 2012 EIR, finds that the 2012 EIR reflects its independent judgment and discretion, finds that the 2012 EIR was completed in compliance with CEQA, and hereby certifies the 2012 EIR.

In so doing, the Department adopts these findings of fact and the Statement of Overriding Considerations as set forth above; approves the revised regulations for purposes of CEQA and the APA, and Fish and Game Code sections 5653, 5653.1, and 5653.9; and adopts the revised regulations as its Mitigation Monitoring and Reporting Program for purposes of CEQA.

Charlton H. Bonham, Director
California Department of Fish and Game

3/16/12
March 16, 2012