



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

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

RE: Suction Dredge Permitting Program
Draft Subsequent Environmental Impact Report, February 2011

Dear Mr. Stopher:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document. We are concerned that four significant and unmitigable impacts to water quality have been identified from the proposed Suction Dredging Permit Program (Program): Effects of Mercury Resuspension and Discharge, Cumulative Impacts of Mercury Resuspension and Discharge, Effects of Resuspension and Discharge of Other Trace Metals, and Cumulative Impacts of Turbidity/TSS Discharges. These outcomes conflict with EPA and the California Water Boards' many efforts to reduce pollutants and toxicity in our waters. Any such program must assure the activities do not cause or contribute to exceedances of applicable water quality standards.

EPA and our Water Board partners are committed to the restoration of water quality limited waterbodies, particularly as these impairments directly affect beneficial uses including critical and sensitive aquatic resources such as Pacific Salmon stocks. EPA is concerned that the Program is not fully protective of key beneficial uses such as anadromous species habitat. More focused and science-based studies would help CDFG develop a Program to improve habitat conditions for our imperiled fisheries.

Based on our review, EPA believes that the data supports the **No Project Alternative**. EPA recommends that CDFG reconsider reissuance of the Program until CDFG has worked with EPA, the State Water Quality Control Board, the Regional Water Quality Control Boards, and other State and local departments to ensure impacts are avoided, minimized and mitigated, and that the Program is consistent with the environmental and health protection activities of other agencies. EPA also recommends CDFG reconsider reissuance of the Program until CDFG has coordinated with affected Tribes and EPA to ensure Tribal concerns are considered.

EPA appreciates the opportunity to comment on the DSEIR. We look forward to working with CDFG and other agencies to identify the best approaches to developing a program to achieve the multiple goals of our agencies. If you have any questions, please contact me or refer staff to Wilson Yee (415) 972-3484 or John Tinger (415) 972-3518.

Sincerely yours,


Alexis Strauss
Director, Water Division

10 May 2011

Enclosure

EPA Comments on
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Mercury and Methylmercury Effects (WQ-4, CUM-7); Other Trace Metals (WQ-5)

The DSEIR finds that both direct effects and cumulative impacts of mercury (Hg) resuspension and discharge from dredging activities, and, similarly, direct effects of resuspension and discharge of other trace metals, have the potential to be significant and unavoidable. Impacts include both water quality as well as human health, as activities may discharge the most reactive form of Hg. These impacts would be due to (1) increased total Hg loading to the same water bodies and downstream waterbodies, (2) increased methylmercury (MeHg) formation in downstream reaches and waterbodies, and (3) bioaccumulation in aquatic organisms in downstream reaches and waterbodies. A comprehensive set of actions to mitigate these potential impacts through avoidance or minimization was not identified in the document, noting that a feasible mitigation program needs development.

EPA is concerned about the effects of resuspension and transportation of Hg to downstream reaches and waterbodies, especially in Hg-impaired watersheds. The DSEIR notes the current development of the American River Mercury TMDL and the Sacramento-San Joaquin Delta Methylmercury TMDL. However, the document does not consider or discuss how the proposed Permit Program will comply or coordinate with these efforts. EPA believes that all direct effects of dredging, including disturbance, collection, and safe disposal of mercury and other metals, need to be considered in the environmental analysis, and appropriate mitigation measures developed and implemented by the Program. Furthermore, EPA believes that removing mercury-impaired waterbodies from consideration in the Program is a viable way to mitigate impacts.

EPA recommends that CDFG coordinate with EPA, the State Water Resources Control Board (State Board) and the Regional Water Quality Control Boards (Regional Boards), the Department of Public Health, and the Department of Toxic Substances Control to ensure that the Program supports the goals of restoring Hg and MeHg-impaired waterbodies; fully meets metals drinking water standards in surface water systems; ensures the safe recovery, storage, transport and disposal of any hazardous materials that may be encountered by dredgers, and conforms with State and Federal Anti-Degradation Policies.

Turbidity/TSS Cumulative Effects (CUM-6)

The DSEIR finds that even with proposed mitigation measures, contributions of turbidity and TSS from suction dredging activities to sediment-impaired waterbodies would be significant and unavoidable. Additionally, sediment loading may contribute to other water quality impairments by altering nutrient loading and temperature regimes, or degrading waters used for drinking water supply.

EPA is very concerned the Program will contribute pollutant sources and loadings to waterbodies impaired due to sediments or sediment-related impairments, without adequate management measures. The DSEIR does not consider or discuss specific sediment-related TMDL goals or requirements. Existing TMDLs have not evaluated the contributions from suction dredging activities and, consequently, may not have allocated waste loads to these activities. If the Program were to go forward, the relevant Regional Boards would need to amend TMDL analyses to account for any new loads from the suction dredging activities, if dredgers are allowed to discharge sediment. However, because suction dredging activities are new dischargers and therefore controllable, waste load allocations may limit the amount of

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sediment discharged by dredgers; such limits will need to be incorporated into the Program through permits to dredgers. In addition, new discharges of a pollutant to impaired waterbodies may be restricted.

EPA believes that exclusion of waterbodies impaired due to sediments (either directly or indirectly) from the Program is a viable way to mitigate impacts that needs to be fully explored by CDFG. EPA recommends that CDFG coordinate with EPA, the State Board and the Regional Boards, and the Department of Public Health, to ensure that the Program meets the requirements of existing and future TMDLs addressing sediment-related impairments, fully meets turbidity drinking water standards in surface water systems, is consistent with any new source restrictions, and conforms with State and Federal anti-degradation policies.

Section 402 of Clean Water Act applies to Suction Dredging Mining Operations

EPA concurs with the summary provided in Chapter 4.2 of the DSEIR on the regulatory overview of suction dredging mining operations within the context of the Clean Water Act. As noted in the DSEIR, the State Board and/or the Regional Boards may require suction dredge operators to obtain NPDES permits to ensure compliance with the CWA, the Porter-Cologne Act, and with California's water quality standards. As noted above, many of the waterbodies in which suction dredging will discharge are water-quality-impaired for sediment and/or mercury. Special considerations for new discharges which would contribute additional sediment and/or mercury loads to an already impaired waterbody would need to be addressed prior to allowing such discharges to occur. EPA recommends CDFG reconsider reissuance of the Program until CDFG has coordinated with the State and Regional Boards and EPA to ensure suction dredgers are properly authorized.

Protection of Coldwater Fisheries and Listed Species

The DSEIR concludes that there will be less-than-significant direct effects to all life stages of salmonids, their prey, and habitat types (BIO-FISH-1 to BIO-FISH-11) with mitigation measures. The DSEIR provides data showing the effects of suction dredging activities on adult spawning habitat, egg-to-fry survival rates, and juvenile entrainment of salmonids, lamprey, and other non-salmonids. EPA appreciates that watersheds within the range of the Federally endangered Central California Coast Coho ESU are closed to the Program, and, further, that restricted temporal windows for activities may mitigate identified impacts.

It is unclear that direct and cumulative impacts to individuals, subpopulations, and populations of Chinook and Steelhead, also Federally threatened or endangered, as well as Pacific lamprey, whose status is less understood, are equally considered. EPA recommends the Program incorporate protections to ensure the viability of these other populations, as the effects of excessive turbidity, thermal refugia loss, loss of protective cover, and habitat complexity are also serious limitations to these species. Temperature and sediment TMDLs in Northern California watersheds have been developed to minimize stressors and target increases in thermal refugia, protect stream geomorphology, and enhance streambank stabilization through protection of the riparian zone to restore beneficial conditions. The Program should ensure that it meets the requirements of existing TMDLs aimed at restoring and protecting habitat requirements for these species.

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EPA recommends that CDFG conduct further studies within the potentially affected watersheds and aquatic wildlife populations to gain a fuller understanding of the potential risks of direct and cumulative effects to native fish, including mollusks and lamprey. EPA also recommends that all direct and cumulative impacts are analyzed at local, reach, watershed, individual, subpopulation, and population scales to ensure that effects are adequately understood and avoided, minimized, and mitigated.

EPA also notes that CDFG restricts potential impacts to endangered salmonid species by protecting individuals under the Incidental Take Permit in Siskiyou County, including effects related to surface water diversions using stationary hoses of smaller diameter than the proposed suction dredge nozzles. The “deleterious to fish” standard used in the proposed Program, which apparently does not consider harming individuals as significant, appears to contradict the approach under CDFG’s Incidental Take authorities. It is similarly unclear how CDFG has concluded that impacts to State fully protected, riparian-associated species such as Osprey are less than significant, when only a portion of their range will receive temporal restrictions, and noncompliance with permit conditions is assumed. The Program must demonstrate sufficient protection of State and Federal listed species by analyzing and mitigating effects to native fishes and fully protected species at multiple levels.

Impacts to Stream Physical Condition

The DSEIR finds that direct effects to hydrology and stream geomorphology are less than significant (GEO-1 to GEO-5) once mitigation measures are implemented. Streambank destabilization, fine sediment entrainment in the water column, disturbances to streambed topography, destabilization of the channel profile, and channelization, diversion, or impoundments are all identified as potential impacts of the Program.

EPA is concerned that the analysis of geomorphic effects was inadequate, using inappropriate scales. For instance, direct and cumulative effects of disturbances to streambanks (GEO-2) are analyzed at the statewide scale rather than the more appropriate local, reach, or watershed scales; this is also true for destabilization of riffles and bars (GEO-3) and channel profiles (GEO-4). Also, no analysis was performed to determine direct and cumulative effects of high flows exacerbating anthropogenic streambank destabilization or flow diversion, or the specific effects of the authorization to use larger diameter nozzles (up to 8”).

As noted previously, because the success of the Program depends upon minimizing impacts at the time of the activities, ensuring that adequate BMPs are developed and implemented correctly is critical. As an example, the mitigation measure for GEO-1 (erosion, transport, and deposition of alluvial material resulting in dredge potholes, tailings piles, and other anthropogenic features) is to level tailings piles and fill pits. However, this mitigation measure will not address the increased embeddedness expected to occur downstream. The fact that the analysis assumes that there will be noncompliance with regulations underscores the importance of Program enforcement. BMPs also need to be clear enough to be implemented correctly by untrained permittees. EPA recommends that the Program include a required outreach and education component to ensure that mitigation measures are clearly understood by permit holders.

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Program Management and Enforcement

EPA believes that the fees assessed to users must be adequate to cover Program administrative costs, and that the Program should include an enforcement component. This is important because all of the potential impacts described – both significant and less than significant – are estimated based on full implementation of mitigation measures. Without adequate compliance with permit conditions, impacts to water quality and beneficial uses are sure to be higher than estimated. Some noncompliance is assumed in the analysis; however, this will likely increase if there is no deterrence to noncompliance. A criticism of the Program in the past is that estimated revenues have only covered one-quarter of the funds needed to implement the Program, and EPA concurs that this issue needs to be addressed due to the potential impacts to water quality, beneficial uses, and human health.

EPA recommends that the DSEIR analysis demonstrate how the fee structure will adequately support the components of a successful Program, including:

1. Resources to develop mitigation measures shown to be effective in addressing all direct and cumulative impacts to less than significant levels
2. Funding for education and outreach to applicants
3. Adequate staff and resources to assess sites prior to issuing permits
4. Funds to monitor post-dredging impacts to adaptively manage the Program
5. Adequate enforcement to ensure permit compliance and water quality, human health, and aquatic resource impacts are minimized to the extent feasible.

Subject: Comments to Suction Dredging Public Hearing

Date: Tuesday, May 10, 2011 11:47:23 PM PT

From: Stephen Fong

To: mstopher@dfg.ca.gov

Hi Mark,

This letter is in response to the public hearing today. As you stated it was pretty much covered from both sides today. But I would half to say I agree with those who said the final out come should be based on accurate data. Everything else is hearsay and biased. I just hope you and the people making these decisions will make an honest and fair response thats based something concrete. Below are various areas of the proposed regulations that I have concerns with.

The reduction of the intake nozzle to four inch nozzle is over the top and a slap in the face of dredgers. If you were to experience dredging first hand you would realize the amount of work and effort it takes to operate a dredge. Its probably the hardest work I've ever done and truly a labor of love. My analogy would be like landscaping your backyard. Your 8" would be like using a long handle shovel, a 6" would be a hand shovel and a 4" is like using a spoon to garden with. In every river or stream the rocks and boulders only get bigger the deeper you go. Reducing the size only makes it more impossible and dangerous to get to the bottom. I typically use an 8" dredge because of the amount of overburden and the size of the river. On small creeks it would not be possible to utilize an 8" because the amount of water flow would not support it.

As for the turbidity of the water behind a dredge, anyone who has been fortunate to see a gold bearing river or stream in the winter would realize the movement of gravel from dredging is nothing in comparison to nature itself. There is a reason why most effects of dredging will not be evident the following year after winter runoffs.

Another concern is the restriction that will be imposed by the need for onsite inspection for things like winching. Given impending state fiscal cutbacks, shortage of manpower, remoteness of some mining locations, short open mining seasons, how would that be feasible? I recommend that we be allowed to operate as usual until it has been discovered upon inspection that someone is out of compliance with dredging regulations. Then at that time require corrections, impose sanctions, fines or prohibit that person from dredging until such time it is corrected. I feel like we're being penalized or found guilty before proven innocent.

Lastly I would like to say that the permit process and even the posting of our permit numbers on our dredges should be no more onerous than it is with fisherman or hunters. Let's just be fair. And no, I would not like to see permit numbers on fishing poles and guns.

As I sorted through some old magazines I found this article out of Popular Mining Magazine (Mar/Apr 1989). I found it interesting because it touched upon the same battles back then but went on to speak of ecological dredging. It was way of dredging that was more beneficial for the environment. It was a step in that maybe both sides may be able to coexist to come to some common ground. I have attached a copy for your review.

In closing I just have to say I am saddened that perceptions or petty things such as aesthetics, noise pollution, negligible environmental impacts are valued more in this day and age than local economies, livelihoods, california history and mental well being.

Thanks

audiver@sbcglobal.net



Mr. Mark Stopher
California Dept of Fish and Game
601 Locust St
Redding, CA 96001

Re: Comments on Suction Dredging Program SEIR
May 10, 2011 *by e-mail*

Dear Mr. Stopher:

The Foothill Conservancy is a membership, nonprofit organization based in Amador County, with a long and special interest in the Mokelumne River. Many of our members live in the watershed and recreate on the Mokelumne. Our comments on the Suction Dredging Program SEIR are specific to suction dredging on the Mokelumne River.

Recreation Impacts

Despite the dismissive attitude toward recreation user conflict displayed in the EIR, suction dredging clearly conflicts with other recreation uses of the Mokelumne River. Throughout the year, hundreds of families enjoy the banks of the National Wild and Scenic-eligible Mokelumne River. Some of the best access is along the "Electra" run of the Mokelumne, from just below the PG&E Electra Powerhouse to the Highway 49 Bridge at Big Bar. There are many opportunities to easily access this central Sierra river from Electra Road, which runs for several miles along the river. For generations, residents of Amador and Calaveras counties (and beyond) have enjoyed fishing, boating, family picnics, skipping rocks and just dipping into the river on a sweltering summer day.

In this region of California, there are few options for free summer outdoor recreation. Private interests control a majority of the property in the region. Most people don't have access to regional parks and there are very few public swimming pools. The river offers the only real summer recreation option for most area residents.

Prior to the dredging moratorium, there was a classic recreational user conflict between the dredging operators and all other users of the river. Where once most beaches and access areas along the river were occupied by families, now they were empty save a few trucks and dredging operators. This is not surprising because instead of the chattering of children and the pleasant sounds of the river, one would experience an industrial outing.

Instead of the clean river air, one was exposed to the noxious odors, fumes and sounds more appropriate for a Walmart parking lot. And the crystal-clear water of the Mokelumne was filled with streams of sediment from the dredge discharge.

Dredging on the Mokelumne River's Electra Run conflicts with nearly every other recreational use of this very popular river reach. The noise and exhaust from the dredges renders the areas where they are in use inhospitable to the anglers, families and children that frequent the river, seeking a quiet recreation experience. Small children are especially frightened by the noise. The sediment stream from the dredges turns an otherwise clear river enjoyed by swimmers and anglers into a muddy mess. Dredgers stretch ropes and cables across parts of the river, forming a hazard for kayakers, rafters and tubers. Dredgers often drive on the banks of the river, leading to bank damage and more erosion and sedimentation.

Similar recreation user conflicts exist at other sites on the North Fork Mokelumne, including the area around Highway 26 and the campgrounds downstream of Salt Springs Reservoir.

Allowing suction dredging on the Electra and Middle Bar runs is a de facto exclusion of other forms of recreation. The benefit to a few suction dredgers should not outweigh the general public's right to use and enjoy this valuable and valued public trust resource. There is no realistic way to mitigate this significant impact. And there is no public river recreation resource in our region comparable to the Electra Run.

Water quality and bioavailability of mercury

Dredging in the Mokelumne River takes place in areas that are likely to have gold deposits, where historic mining activity occurred. Mercury is likely to be found in those locations, and the suction dredging makes it more bioavailable. Many people eat fish from the Mokelumne, including some who rely on it to feed their families, and more than 1.4 million people drink its water. In recent years, the state and EBMUD have found high levels of mercury in fish in Pardee and Camanche Reservoirs. There is no way to realistically mitigate this significant impact of suction dredging on the Mokelumne's water quality and public health.

Biological resources

As noted in the related Environmental Impact Report, foothill yellow-legged frogs (FYLFs) are a California species of special concern. There is a small, fragile population of foothill yellow-legged frogs in the North Fork Mokelumne upstream of Tiger Creek Powerhouse, which winter in the tributary streams. DFG is aware of this population due to its participation in the FERC Project 137 Ecological Resources Committee.

Very little is known about the life cycle habits of this population, including how far upstream the frogs move or at what time upstream and downstream movement occurs. Allowing any dredging that could affect this fragile population is unreasonable considering the lack of knowledge regarding the frog's actual habitat needs and life cycle. The EIR states in its discussion of amphibian impacts, "**Streams within the state that**

provide habitat for species that are either very limited in number and/or distribution **are proposed to be closed to suction dredging** (Class A), thus avoiding the potential for impacts.” (emphasis added) However, this closure has not been applied to the North Fork Mokelumne or tributaries that are documented as habitat for a known, limited population of FYLFs. It should be. The Class E restrictions proposed for the North Fork and tributaries cannot be counted on to mitigate the potentially significant impact of dredging considering the lack of knowledge about this particular frog population and its habits and habitat needs.

Cultural and historical resources

The Mokelumne River and its tributaries are rich in Native American and Gold Rush cultural and historical resources. In fact, the river’s eligibility for National Wild and Scenic designation is largely based on the number, quality and significance of those resources.

The EIR concludes that statewide, suction dredge mining will have a significant impact on cultural and historical resources. This is likely to be the case along the Mokelumne as well as other Sierra foothill rivers. The lack of specific impact analysis for the Mokelumne warrants restrictions on suction dredging greater than those proposed by DFG.

Conclusion

We do not believe the new regulations sufficiently mitigate the significant environmental impacts of suction dredging on the Mokelumne River. Suction dredging is enjoyed by, as the EIR puts it, “a relatively small number of suction dredge miners compared to the number of other recreationists in California...”. This is certainly true on the Mokelumne River. We believe that the public’s right to eat healthy fish and drink clean water; enjoy a clean, quiet, safe river recreation experience; preserve cultural and historic resources; and protect rare wildlife is more important than the desire of those “relatively small number” of miners to continue suction dredging on the Mokelumne.

Thank you for considering our comments.

Very truly yours,

Chris Wright
Executive Director

See photos on following pages



Silt from suction dredging, Mokelumne River Electra Run, 2008



Suction dredge operating on Mokelumne Electra Run, 2008



FRIENDS
OF THE
RIVER

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May 10, 2011

Mr. John McCamman
Acting Director
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1416 Ninth Street
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Mr. Mark Stopher
Calif. Department of Fish and Game
601 Locust Street
Redding, CA 96001
dfgsuctiondredge@dfg.ca.gov

Re: **Comments On Proposed Suction Dredge Mining Regulations & SEIR**

Dear Director McCamman and Mr. Stopher:

Friends of the River is deeply concerned about the suction dredge mining regulations proposed by the California Department of Fish and Game (CDFG). Please consider these comments in response to CDFG's draft Subsequent Environmental Impact Report and proposed regulations.

The proposed regulations will adversely affect and harm many rivers and streams throughout California, the recreational use of these waterways by residents, as well as the quality of water in rivers and streams that supply local drinking water supplies. There are a number of problems with the overall regulatory program and the proposed regulations that must be rectified before they become final. These include:

1. The proposed regulations are vague, confusing and contradictory. – The proposed regulations are vague, confusing, inconsistent, and contradictory in many areas and for several rivers and streams. For example, there are several instances where a river segment forms a boundary between two counties with different mining regulations. There are other instances where it is difficult to discern which mining classes apply to specific stream segments. Regulations that are difficult for the public to understand will be difficult, if not impossible, to achieve public compliance. The new regulations must be easy for the public to understand in order to ensure compliance.

2. The proposed regulations open many rivers and streams to mining that were closed in the 1994 regulations. – Many waters previously closed under the 1994 regulations will be open to suction dredge mining under the new regulations, with little or no reasoning provided to justify the changes. Friends of the River has identified more than 46 river and stream segments that were previously closed to mining that will be open to mining under the proposed regulations. Many of the river and stream segments proposed for mining provide critical habitat for threatened and endangered species and possess other sensitive natural values, as well as beneficial uses that could be harmed by mining. Waters previously closed in the 1994 regulations should remain closed, unless river or stream-specific justification is provided and all potential impacts from mining are fully mitigated.

3. The proposed regulations fail to mitigate or remediate in any way mercury pollution and water quality degradation caused by suction dredging. – Scientific studies show that suction dredging mobilizes toxic mercury and other trace metals, to the point that the dredge discharges are hazardous. This poses a serious human health hazard and significant impacts on fish and wildlife. The proposed regulations make no attempt to close mercury-impaired rivers or rivers and streams that feed into mercury-impaired water supply reservoirs. The regulations must consider closing to suction dredging mercury-impaired rivers and or waterways that feed into mercury-impaired reservoirs.

4. The proposed regulations result in several significant, unavoidable, and unmitigated impacts. – CDFG identifies several significant and unavoidable impacts caused by the regulations, including mercury and trace metals discharge from suction dredging, adverse impacts on riparian-dependent perching birds, statewide impacts on historical and Native American cultural and historical resources, and potential violations of local noise ordinances. Alarming, no mitigation is proposed for these significant impacts because CDFG claims it has no jurisdiction to regulate or mitigate them. In its permitting program, CDFG has the legal obligation to either avoid or mitigate impacts (by denying permits if needed) to all public resources.

5. The proposed regulations permit suction dredge mining in many rivers and stream that provide critical habitat for threatened and endangered species. – Many rivers and streams that provide critical habitat for threatened and endangered fish and wildlife species will be open to suction dredging under the new regulations, possibly furthering endangering these species and degrading their habitat. Friends of the River identified ten river and streams segments in the Central Valley alone that provide critical habitat for threatened steelhead and salmon that will be open to mining under the proposed regulations. In addition, another 15 Central Valley rivers identified by the National Marine Fisheries Service for the reintroduction of threatened steelhead and salmon are also open to mining under the proposed regulations. All rivers and streams designated as critical habitat and for the reintroduction of threatened and endangered species should be closed to dredging.

6. The proposed regulations utilizes an overly broad definition of “deleterious to fish” that will allow significant impacts on fish and wildlife and their habitat. – CDFG is defining the term “deleterious to fish” so broadly that adverse impacts to fish at the community or population level is required before CDFG will limit permits. CDFG should follow the original 1961 legislative intent establishing suction dredge mining regulations, which was to ensure that any “damage” to fish must be “minimal”, including avoiding disturbing eggs and fish food organisms, and stirring up silt. In supporting the 1961 legislation establishing regulations, CDFG promised that suction dredging permitted under the regulations “will be safe for fish life.”

7. The proposed regulations permit mining in parks and other special areas that are not open to mining under local, state, and federal laws and regulations. – The regulations require CDFG to issue suction dredge permits for many rivers and streams in areas where such use is typically prohibited by other local, state, and federal agencies, regulations, and law. As currently written, the regulations require the issuance of CDFG mining permits in State and National Parks, State Wild Trout Streams, California and National Wild & Scenic Rivers, and other areas that are often off-limits to such use. A partial inventory by Friends of the River found that the proposed regulations open to mining rivers and streams in least three National Parks (including Yosemite, Sequoia-Kings Canyon, and Redwood National Parks) four State Parks (including Marshall Gold Discovery, Calaveras Big Trees, and South Yuba River State Parks, and the Auburn State Recreation Area). In addition, the proposed regulations open to mining 23 Wild Trout Streams and Heritage Waters, and 24 state and federal Wild & Scenic Rivers. The provision in the proposed regulations noting that permittees are not “relieved” from compliance with local, state, and federal laws and

regulations is legally insufficient. As current written, the proposed regulations require CDFG to issue a permit for many rivers and streams where such activity is prohibited by other laws and regulations. This makes CDFG an accessory to illegal mining in prohibited areas. CDFG's proposed regulations should clearly prohibit suction dredge mining in specifically-named rivers and streams where other local, state, and federal agencies, regulations, and laws prohibit such use.

8. The proposed regulations allow discretionary permits for the use of 8 inch commercial-size dredges – The regulations generally permit the use of 4 inch dredges, except CDFG may grant discretionary permits to allow the use of commercial-size 8 inch dredges on some of California's most resource sensitive and recreationally popular rivers, including the American, Cosumnes, Feather, Klamath, Merced, Mokelumne, Scott, Trinity, and Yuba. Many of these rivers are mercury-impaired but are also important local and statewide water supply sources. Many of them provide critical habitat for threatened and endangered species. Some of the rivers have special designations or flow through special areas where suction dredging is prohibited by other laws and regulations. No criteria are provided in the proposed regulations as to why and under what circumstances these mega-dredges will be allowed. The new regulations should limit suction dredge size to 4 inches.

9. The proposed regulations fail to regulate the use of multiple dredges in short river segments. – A disturbing trend in suction dredge mining is the use of relatively short segments of rivers by multiple dredges, either by a mining "club" or through multiple lease arrangements with single claim owners. This has been a particularly prominent problem on the Klamath River and the East Fork San Gabriel River, where dozens of suction dredge rigs formerly concurrently working short river segments. This intensive mining use creates a significant increase in cumulative impacts, particularly conflicts with other recreational activities, which is completely unaddressed in the SEIR. The regulations should prohibit this kind of intensive use along short river segments.

10. The suction dredge permit program fails to cover the cost of regulating suction dredge mining. – The suction dredge permit program is a money-loser. Permit fees bring in about \$325,000 annually, but it costs CDFG at least \$1.25 million annually to administer the program. At a time when the state suffers from a severe deficit, CDFG can ill-afford to re-start a permit program that essentially steals fishing and hunting license revenues and depends on limited general funds to cover its basic operation and regulatory costs. Suction dredge permit fees should cover the full costs of the program, including maintaining sufficient wardens in the field to ensure compliance. Unfortunately, there is clearly not enough funding and not enough wardens in the field to effectively regulate mining – a fact on which the miners are relying. On one recent internet blog, one miner stated "...they (government regulators) can't be everywhere and I figure they won't get far from their truck or donuts."

11. The proposed suction dredge regulations open to mining rivers and streams that do not possess placer gold geology. – The placer gold bearing regions of California are well documented and mapped. The 1994 regulations seem to reflect the reality that many areas simply have no placer gold by simply prohibiting suction dredge mining in entire counties. However, the proposed regulations open to mining many counties and watersheds that do not appear to possess placer gold deposits. Given that the suction dredge regulation program is a money sink, CDFG should save money by prohibiting mining in streams and rivers that do not possess placer deposits.

Until these significant problems are resolved, Friends of the River cannot at this time support any alternative outlined in the SEIR except the No Program/Environmentally Superior Alternative.

Following are our river and stream specific comments.

North Fork American River – According to the SEIR, a limited mining season is proposed for the segment of the North Fork between the Iowa Hill Bridge and the confluence of Big Valley Canyon. The limited mining season is intended to protect the North Fork's wild trout fishery (which are genetically identical to steelhead). No explanation is provided as to why mining will be allowed all year on the North Fork upstream of Big Valley Canyon.

The North Fork is a state and federally designated Wild & Scenic River and a state-designated Wild Trout Stream. The 1994 regulations prohibited mining in the Wild River and Wild Trout Stream segments upstream of the Iowa Hill Bridge. The federal management plan for the Wild River prohibits motorized suction dredging. CDFG is obligated under state law to protect the North Fork Wild River's extraordinary wild trout fishery, water quality and clarity, which are the values for which the North Fork was designated a state and federal Wild & Scenic River. The North Fork is located in a National Forest roadless area that is proposed for Wilderness protection. Motorized suction dredging is incompatible with Wilderness management.

The North Fork is identified by the National Marine Fisheries Service (NMFS) as a reintroduction candidate for threatened spring Chinook salmon and steelhead. The North Fork also possesses important ecological values, which are not addressed in the SEIR. The Sierra Nevada Ecosystem Project Report (SNEP, UC Davis, 1996) identified the upper North Fork as possessing one of the highest levels of biotic integrity in the Sierra Nevada (due to its native fish species, lack of dams and diversions, roadlessness, etc). Suction dredge mining is incompatible with the North Fork's anadromous fish reintroduction candidacy and its high biotic integrity.

According to the State Water Resources Control Board (SWRCB), the North Fork is a mercury-impaired stream, which feeds water into Folsom Reservoir – a major water supply reservoir that is also mercury impaired. The proposed regulations will simply exacerbate this pollution and human health problem. The proposed regulations are unclear as to whether the segment of the North Fork downstream of the North Fork Dam is Class H (all streams in Placer County unless otherwise noted) or Class C (streams west of I-80 and Placer Hills Road). The proposed regulations allow use of 8" nozzles on the North Fork at CDFG's discretion. The use of this commercial-size dredge is incompatible with the North Fork's resource values. For all these reasons, Friends of the River recommends that the entire North Fork American River from its source to Folsom Reservoir be closed to suction dredge mining year round (Class A).

Middle & South Forks American River – Segments of both rivers are listed by the SWRCB as mercury-impaired and they feed into the mercury-impaired Folsom Reservoir. French Meadows Reservoir on the Middle Fork and Slab Creek Reservoir on the South Fork are also mercury impaired. Both rivers feed into the mercury-impaired Folsom Reservoir. The proposed regulations will simply exacerbate this pollution and human health problem. Both the Middle and South Forks are identified by NMFS as reintroduction candidates for threatened spring Chinook salmon and steelhead. Suction dredge mining is incompatible with the reintroduction of these species. The proposed regulations allow use of 8" nozzles on the Middle and South Forks at CDFG's discretion. The use of this commercial-size dredge is incompatible with the rivers' resource values. Segments of the Middle and South Forks flow through the Auburn State Recreation Area and Marshall Gold Discovery State Park (respectively), where motorized suction dredge mining is prohibited. Accordingly, Friends of the River recommends that all of the Middle and South Forks from their sources to Folsom Reservoir be closed to suction dredge mining year round (Class A).

Alameda Creek – The proposed regulations permit suction dredge mining from Jul. 1-Sep. 30 (Class F). Portions of Alameda Creek are designated critical habitat for the threatened California red-legged frog. Alameda Creek is also a prime candidate for the reintroduction of threatened steelhead. For these reasons, the creek should be closed to mining (Class A).

Antelope Creek – The proposed regulations permit suction dredge mining from Jul. 1-Sep. 30 (Class F). Antelope Creek is critical habitat for threatened spring Chinook salmon and steelhead. It is a federally-recommended Wild & Scenic River and is located in a National Forest roadless area. SNEP identified Antelope Creek as possessing one of the highest levels of biotic integrity in the Sierra Nevada. Due to its volcanic geology, it is unlikely that Antelope Creek has any placer gold deposits. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Battle Creek – The proposed regulations permit mining on Battle Creek in Shasta County from Jul. 1-Sep. 30 (Class F) and in Tehama County from Jul. 1-Jan. 31 (Class D). These regulations make no sense where the creek forms the boundary between the two counties. Portions of Battle Creek have been determined eligible for federal Wild & Scenic River protection. The creek is designated habitat for threatened spring Chinook salmon and steelhead and reintroduction habitat for endangered winter Chinook salmon. Due to its volcanic geology, it is unlikely that the stream has any placer gold deposits. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Big Chico Creek – Formerly closed to mining in the 1994 regulations, Big Chico Creek is open to mining under the proposed regulations. Big Chico Creek is designated critical habitat for spring Chinook salmon and steelhead. City of Chico regulations for Bidwell Park (through which Big Chico Creek flows) prohibits loud and excessive noise and any non-manually powered watercraft or other floatation device. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Cache Creek – The proposed regulations allow mining from Jul. 1-Sep. 30 (Class F). Cache Creek is a state-designated Wild & Scenic River. CDFG has an obligation under state law to protect Cache Creek's extraordinary wildlife and other values. Cache Creek is also a designated recovery area for the threatened California red-legged frog. In addition, Cache Creek is a mercury-impaired stream. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

East Carson River – The proposed regulations open the East Carson River below Carson Falls to mining from Sep. 1-30. The East Carson is a state designated Wild & Scenic River and Wild Trout Stream. CDGF has a legal obligation to protect the river's extraordinary wild trout fishery and other values. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Clavey River – Formerly closed to mining in the 1994 regulations, the Clavey River below 4,000 feet elevation is open to mining under the proposed regulations. The Clavey River is a federally recommended Wild & Scenic River and a state-designated Wild Trout Stream. It possesses the second highest level of biotic integrity of Sierra Nevada watersheds. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Cottonwood Creek – The proposed regulations permit mining on Cottonwood Creek in Shasta County from Jul. 1-Sep. 30 (Class F) and in Tehama County from Jun. 1-Sep. 30. These regulations make no sense where the creek forms the boundary between the two counties. Cottonwood Creek is designated critical habitat for threatened spring Chinook salmon and steelhead. Portions of Cottonwood Creek are eligible for federal Wild & Scenic River protection. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Deep Creek – The proposed regulations permit year round mining on Deep Creek upstream of Holcomb Creek. Deep Creek is a state designated Wild Trout Stream and is actively under

consideration by Congress for federal Wild & Scenic River protection. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Dillon Creek – Formerly closed to mining in the 1994 regulations, the proposed regulations open Dillon Creek to mining throughout the year. Dillon Creek is one of the best remaining habitats for summer steelhead in the Klamath River watershed. It is a federally recommended Wild & Scenic River. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Eel River – The Eel River and its primary forks in Mendocino County were formerly closed to mining in the 1994 regulations but the proposed regulations permit mining from Jul. 1-Sep. 30 (Class F). The Eel and its forks are state and federally designated Wild & Scenic Rivers. CDFG has a legal obligation to protect the river's extraordinary anadromous fisheries, which has suffered from severe decline in the past decades. In addition, the upper Eel feeds into Pillsbury Reservoir, a water supply reservoir that is mercury impaired. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Feather River (Lower) – The lower Feather River in Butte County is closed to mining under the proposed regulations because it is designated critical habitat for threatened spring Chinook salmon and steelhead. The river segment that forms the boundary between Yuba and Sutter Counties is also designated critical habitat for these species. But the river is open to mining in Yuba County and closed to mining in Sutter County. In addition, the proposed regulations appear to allow 8" nozzles. The entire river to its confluence with the Sacramento River should be closed to mining.

Middle Fork Feather River – The proposed regulations open the Middle Fork to mining from July 1 to January 31 (Class D). The regulations also appear to allow use of 8" nozzles. The Middle Fork Feather River is a federally-designated Wild & Scenic River and state-designated Wild Trout Stream. Suction dredge mining is incompatible with these designations. The Middle Fork flows into Oroville Reservoir, a major water supply reservoir that is mercury-impaired. Allowing suction dredge mining upstream in the Middle Fork will simply exacerbate this water pollution and human health problem. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

North Fork Feather River – The North Fork upstream of the East Branch confluence is open year round to mining under the proposed regulations. NMFS has identified this segment as a candidate reintroduction area for threatened spring Chinook salmon. In addition, the North Fork feeds water into Oroville Reservoir, a water supply reservoir that is mercury impaired. Increased flows for fish and wildlife have been negotiated as part of the recent federal relicensing of hydroelectric projects on the North Fork. Allowing suction dredge mining could nullify these environmental gains. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

North and South Forks Kern River – The proposed regulations permit suction dredging from 1,000 to 4,000 feet in elevation from Jul. 1-Sep. 30 (Class F). The North Fork was formerly closed to mining under the 1994 regulations. The North and South Forks are federally designated Wild & Scenic Rivers. SNEP identified them as possessing one of the highest levels of biotic integrity in the Sierra Nevada. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Kings River – The proposed regulations permit suction dredging from 1,000 to 4,000 feet in elevation from Jul. 1-Sep. 30 (Class F). This includes a segment of the river that is a federally designated Wild & Scenic River (which is also located in a National Forest roadless area) and a state-designated Wild Trout Stream. The Kings flows into Pine Flat Reservoir, a major water supply

reservoir that is mercury impaired. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Middle and South Forks Kings River – The proposed regulations permit suction dredging from 1,000 to 4,000 feet in elevation from Jul. 1-Sep. 30 (Class F). These segments are federally designated Wild & Scenic Rivers and the Middle Fork is located in the federally designated Monarch Wilderness, where motorized activities are prohibited. The South Fork is also a state designated Wild Trout Stream. SNEP identified the South Fork as possessing one of the highest levels of biotic integrity in the Sierra Nevada. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Klamath River – The proposed regulations permit mining from Jul. 1-Sep. 30 below 4,000 feet in elevation and year round mining above that elevation. A number of thermal refugia associated with tributary inflows are off limits to mining. The Klamath is both a state and federally designated Wild & Scenic River. CDFG has a legal obligation to protect the river's extraordinary anadromous fisheries, which have suffered serious declines in the past decades. The proposed regulations are insufficient to protect and restore the fishery, therefore Friends of the River recommends that suction dredge mining be prohibited year round on the entire river (Class A).

McCloud River – The proposed regulations permit suction dredging downstream of the southern boundary of section 16, T38N, R3W from Jul. 1-Jan. 31 (Class D). The section number ("16") appears to be a typo carried over from the 1994 regulations. The McCloud River does not intersect a section 16 anywhere between McCloud Dam and Shasta Reservoir. The correct section number is likely 36, which delineates the end point of the state designated Wild Trout Stream. However, the SEIR claims that the proposed closure of the river from McCloud Dam to section 16 (probably 36) is to protect McCloud redband trout. But there are no McCloud redband trout in the river or its tributaries in Shasta County. The redband trout are found in tributaries of the upper McCloud in Siskiyou County, which are ironically left open to suction dredge mining under the proposed regulations. The McCloud is a federally identified eligible Wild & Scenic River. Its outstanding values include its wild trout fishery (which is found downstream of the designated Wild Trout Stream segment) and Native American cultural values. These values could be severely degraded by suction dredging. For all these reasons, Friends of the River recommends the entire stream from its source to Shasta Reservoir be closed to mining (Class A).

Merced River (main stem, South Fork and lower) – The proposed regulations permit suction dredge mining from Jul. 1-Jan. 31 (Class D) on these river segments from 2,000 to 5,000 feet in elevation and from Jul. 1-Sep. 30 (Class E) below 2,000 feet elevation. Formerly closed to mining under the 1994 regulations, the lower Merced is now open to mining under the proposed regulations from Jun. 1-Sep. 30 (Class C). The upper Merced and South Fork are federally designated Wild & Scenic Rivers. Portions of the upper segments are located in Yosemite National Park, where motorized suction dredge mining is prohibited. A portion of the South Fork flows through an area recommended for federal Wilderness protection, where motorized suction dredge mining is prohibited. NMFS has identified the upper Merced as a reintroduction stream for threatened spring Chinook salmon and steelhead. The lower Merced is designated critical habitat for threatened spring Chinook salmon and steelhead. The river flows into McClure Reservoir, a major water supply reservoir that is mercury impaired. Further downstream, the lower Merced River is also mercury impaired. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Mokelumne River – The Mokelumne from Pardee Reservoir to Highway 49 is Class D, upstream of Highway 49 is Class C and from Tiger Creek to Salt Springs Dam, the North Fork is Class E. Portions of the Mokelumne from Salt Springs Dam to just downstream of Highway 49 are a federally

recommended Wild & Scenic River. Federal studies have identified outstanding cultural values along the Mokelumne River, which are susceptible to SEIR identified significant and unavoidable impacts from suction dredge mining. NMFS identified the river upstream of Pardee as a reintroduction area for threatened spring Chinook salmon and steelhead. The river downstream of Commanche Dam is designated critical habitat for threatened steelhead. The river flows into Pardee Reservoir, a major water supply reservoir that is mercury impaired. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Piru Creek (Middle) – The proposed regulations permit mining year round (Class H). A 7.5 miles segment of this portion of Piru Creek is a federally designated Wild & Scenic River. Much of the segment upstream of Fish Creek is located in the Sespe Wilderness, where motorized activities are prohibited. The creek is designated critical habitat for threatened California red-legged frog and supports known populations of endangered arroyo toad, least Bell's vireo, and southwest willow flycatcher. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Rubicon River – The Rubicon River from Hell Hole Dam to Oxbow Reservoir is both a federally-recommended Wild & Scenic River and a state designated Wild Trout Stream. The proposed regulations allocate the recommended Wild & Scenic River and the existing Wild Trout Stream segments of the Rubicon to Class E. Suction dredge mining is incompatible with these designations. The Rubicon feeds into the Middle Fork American River, which is mercury-impaired. Suction dredge mining will simply exacerbate this pollution and human health problem. Friends of the River recommends that the entire Rubicon River from its source to Oxbow Reservoir be closed to suction dredge mining year round (Class A).

Sacramento River (upper) – The Sacramento River above Shasta Reservoir to the Siskiyou County line is open to mining under the proposed regulations from Jul. 1-Jan. 31 and is open to mining year round upstream of the Siskiyou County line. All these segments were formerly closed under the 1994 regulations. The upper Sacramento River is state designated Wild Trout Stream and federally identified eligible Wild & Scenic River. The river fishery and ecosystem is still recovering from a catastrophic chemical spill. The Sacramento River flows into Shasta Reservoir, the state's largest water supply reservoir, which is mercury impaired. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

East Fork San Gabriel River – The proposed mining regulations permit mining on the East Fork downstream of Cattle Canyon from Sep. 1-Jan. 31 (Class E). This segment of the East Fork is designated critical habitat for the threatened Santa Ana sucker. Federal law prohibits mineral entry on public lands along this river. Prior to the moratorium, this segment of the river has been particularly vulnerable to multiple dredging operations over a short 2-3 mile stretch. The river flows into major water supply reservoirs downstream. Although not currently identified as mercury impaired, given the history of mining on the East Fork, both the river and the downstream reservoirs will likely qualify as mercury impaired water bodies. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

San Joaquin River (lower) – Formerly closed to mining under the 1994 regulations, the river below 1,000 feet elevation will be open to mining year round (Class H) in both Fresno and Madera Counties. The lower San Joaquin River is designated critical habitat for threatened spring Chinook salmon and steelhead. The river flows into Millerton Reservoir, a major water supply reservoir that is mercury impaired. Significant legal and legislative efforts have restored flows to the lower San Joaquin River in a major project to restore the anadromous fishery. Opening this segment of the

river to suction dredge mining would negate these environmental gains. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

San Luis Rey River – The proposed mining regulations permit mining below Henshaw Dam from Sep. 1-Jan. 31 (Class E). NMFS identified this segment for reintroduction of endangered southern steelhead. A short segment of the river supports the largest population of endangered willow flycatcher (a passerine) in the San Diego region and is eligible for federal Wild & Scenic River protection. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

San Mateo Creek – The proposed regulations prohibit mining on San Mateo Creek “upstream of Camp Pendleton boundary”. This arguably opens the creek segment within Camp Pendleton and San Onofre State Park to mining. San Mateo Creek is the southern most stream in California still supporting endangered southern steelhead. The entire creek from its source to the Pacific Ocean should be closed to mining (Class A).

Scott River – The proposed mining regulations permit mining from Jul. 1-Sep. 30 (Class F). A portion of this river is a state and federally designated Wild & Scenic River. CDFG has a legal obligation to protect the river’s extraordinary anadromous fisheries, which have declined significantly over the past decades. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Sisquoc River – The proposed regulations permit mining from Jul. 1-Jan. 31 (Class D). Much of the Sisquoc River is a federally designated Wild & Scenic River. It is also critical habitat for the endangered southern steelhead and threatened California red-legged frog. Mining is incompatible with these designations and the entire river should be closed to mining (Class A).

Smith River – Various forks and segments of the Smith River are Class F or B under the new regulations. The Smith River is a state and federally designated Wild & Scenic River. CDFG has an obligation under state law to protect the Smith’s extraordinary anadromous fishery. The Smith is also a federally designated National Recreation Area. Mining is incompatible with these designations and the entire Smith River and all its forks and tributaries should be closed to mining (Class A).

Stanislaus River (Lower) – The proposed regulations permit mining from Jun. 1-Sep. 30 (Class C). Under the former 1994 regulations, the lower Stanislaus below Goodwin Dam was closed to mining. The lower river is designated critical habitat for threatened steelhead. The river is mercury impaired. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

North Fork Stanislaus River – The proposed regulations permit mining from Jul. 1-Jan. 31 (Class D). This portion of the North Fork is a Forest Service-recommended Wild & Scenic River. It also flows through Calaveras Big Trees State Park, where motorized mining is prohibited. NMFS identified the North Fork as a reintroduction stream for threatened spring Chinook salmon. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Stony Creek (North, Middle, & South Forks) – The proposed regulations are Class F and D. The upper forks of Stony Creek are state designated Wild Trout Streams and the North Fork is a federally recommended Wild & Scenic River. The stream flows into the mercury impaired Stony Gorge Reservoir. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Tuolumne River (Upper) – The Tuolumne River from 2,000 to 5,500 feet in elevation is open to mining from Jul. 1-Jan. 31 (Class D). This a federally designated Wild & Scenic and state designated Wild Trout Stream. A portion of the river is located in Yosemite National Park, where motorized suction dredging is prohibited. NMFS has identified this segment as a reintroduction area for threatened spring Chinook salmon and steelhead. This section of the Tuolumne flows into New Don Pedro Reservoir, a major water supply reservoir that is mercury impaired. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Tuolumne River (Lower) – The lower Tuolumne below La Grange Dam was formerly closed to mining under the 1994 regulations. The proposed regulations open this segment up to mining from Jul. 1 to Sep. 30 (Class F). This segment is designated critical habitat for threatened steelhead. It is also mercury impaired. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

North Yuba River – The proposed regulations permit mining from the Yuba County line to Ladies Canyon Creek from Sep. 1-Jan. 31 (Class D). The North Yuba is a federally recommended Wild & Scenic River. NMFS identified the river as a reintroduction area for threatened spring Chinook salmon and steelhead. The North Yuba River is mercury impaired and it flows into New Bullards Bar Reservoir, a major water supply reservoir that is mercury impaired. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

South Yuba River – The proposed regulations permit mining from the Yuba County line to Spaulding Dam from Sep. 1-Jan. 31 (Class D). The South Yuba is a state designated Wild & Scenic River. CDFG has an obligation under state law to protect the river’s extraordinary scenic and recreation values. A portion of the South Yuba is designated critical habitat for the threatened California red-legged frog. NMFS identified the South Yuba as a reintroduction stream for threatened spring Chinook salmon and steelhead. The South Yuba flows through the South Yuba River State Park, where motorized suction dredge mining is prohibited. The river is mercury impaired and it flows into the mercury impaired Englebright Reservoir. For all these reasons, Friends of the River recommends the stream be closed to mining (Class A).

Friends of the River urges CDFG to resolve the significant problems associated with the proposed regulations and release a revised SEIR to further public review.

Sincerely,



Steven L. Evans
Conservation Director

SUCTION DREDGE PERMITTING PROGRAM
Draft Subsequent Environmental Impact Report (DSEIR)
Comment Form

Name:	GARY GERLACH
Mailing Address:	9628 RUFF AVE.
	STOCKTON, CA 95212
Telephone No. (optional):	
Email (optional):	g.g.g@CPUC.CA.GOV

Comments/Issues:
I HAVE BEEN A GOLD MINER FOR OVER 40 YEARS. THE CURRENT SUCTION DREDGE PERMIT PROGRAM HAS HAD A NEGATIVE EFFECT ON MY INCOME. MOST OF THE MINERS I HAVE WORKED WITH ARE LIKE ME. WE REMOVE TRASH & HEAVY METALS FROM CA. RIVERS AND DO NO HARM TO THE ENVIRONMENT. DREDGING HAS PROVEN TO BE BENEFICIAL TO FISH HABITAT. THE CA. DEPT. OF FISH & GAME SHOULD CONCENTRATE ON STOPPING VIOLATIONS & NOT ATTEMPT TO LIMIT HONEST MINERS BY RESTRICTING DREDGING. LET US GO BACK TO OUR JOBS.

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 05/10/11) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Fax: (530) 225-2391

Subject: (no subject)

Date: Tuesday, May 10, 2011 10:23:39 AM PT

From: Yubafish@aol.com

To: dfgsuctiondredge@dfg.ca.gov

Dear Mr Stopher

I am a cattle rancher and outdoors man. I have lived in a rural environment practically my whole life. I definitely feel I understand nature and how to protect wildlife.

I attended the Sacramento public comment meeting and share the concerns that many of my fellow dredgers have with the very restrictive proposed regulations.

My dredging is done mostly on small streams with a 2 inch back pack type dredge. A full days work would only move a fraction of a yard of material. The impact to the stream is very minimal.

A big problem with the proposed regulations is the elimination of a summer season on most rivers and streams. My understanding is that this is to protect the Yellow Legged Frog. After doing some research on the Internet I see that the frog is mostly a high altitude animal that resided in mostly predator free high mountain lakes. Most of the rivers and streams where we dredge are lower elevation water ways that have always had native fish populations that would preyed on these frogs. Therefore their population would have most likely have been very limited in the fish filled waters. Dredging also takes place mostly away from the kind of water where one would expect to find frog eggs or even frogs.

I also have concerns about the complete closure of the tributary creeks on the Klamath River. I understand that we need to protect the Coho Salmon, but a complete closure of these waterways seem excessive. May be we could allow smaller dredges and close the streams when spawning is occurring. When using my 2 inch dredge I have seen nothing that looks as if would harm juvenile fish or their habitat.

Another issue I share with other miners are the three foot bank restriction. Many of the small streams by late summer and fall are narrow enough that not many spots would be legal because the stream width is 6 feet or less. The existing regulations state not to dredge into the bank. Why is this not good enough. Also the water has normally receded enough by dredging season that the fragile part of the bank is high and away from the water. A large part of most stream beds are made up of bedrock. Dredging to the waters edge where bedrock is present would not harm the waterway.

We need to allow enough permits so we all have a chance to dredge. Most of us only have time to go out a few days a year. It is proposed to only allow dredges within a certain distance of each other. This should protect the river.

Most of us are concerned with protecting wildlife and the environment. We don't use approaches we feel are harmful. Maybe we don't need such restrictive regulations and closures. We need to educate miners about the best ways to protect wildlife and the waterways.

Thank you, David A Gibb

Subject: Suction Dredge Permitting Program Comment Hearing Process

Date: Tuesday, May 10, 2011 10:44:32 PM PT

From: Penny Gonzales

To: dfgsuctiondredge@dfg.ca.gov

To All Concerned:

My comments and issues are as follows:

1. It is a violation of my personal freedom and rights as a US Citizen to not allow me to dredge for gold to support my family.
2. Why is this being brought up now during a time of financial crisis in our state. Thousands of people are being laid off and cannot find work. My profession has died and dredging is how I am able to continue to support my family.
3. I am concerned about the accuracy of the analysis used to support the banning of dredging and the findings are less than significant. Just because it is printed on a brochure does not make it correct and complete.
4. High water moves much more material in the rivers than suction dredging.
5. More concern is being given to the survival of frogs than to the survival of families.
6. We need more time and less regulation on dredging. Less concern for the frogs who are more seriously threatened by the German brown trout than miners.
7. Miners are being vilified unjustly. Inaccurate and incomplete information is being publicized in order to gain support for the halt on suction dredging.
8. I would like to be reimbursed for the lost income and hardship imposed on my family by this halt to dredging this last year - we have good reason to be angry.
9. My family was able to have quality time together at the river - now we have stress and tension over how we are going to survive. It is not like we can just go get another job. How would you like to have your only means of producing income stripped from you?
10. Eliminating dredging is not going to solve the mercury situation. It is naturally occurring.
11. I think all waterways including the South and North Forks of the Consumnes River and Weber Creek should be opened up for dredging. The season should be lengthened and the fees reduced.

Lorren R Gonzales
PO Box 684
Somerset, CA 95684
530-391-9675

SUCTION DREDGE PERMITTING PROGRAM

Draft Subsequent Environmental Impact Report (DSEIR)

Comment Form

Name:	LEON A GUICHARD
Mailing Address:	Po Box 994708 Redding CA 96099
Telephone No. (optional):	530-209-2027
Email (optional):	

1	Comments/Issues: THERE SHOULD NOT BE A LIMIT OF DREDGE PERMITS!
2	IT WOULD BE AN INFRINGEMENT ON OUR CONSTITUTIONAL RIGHTS!
3	THERE SHOULD NOT BE A LIMIT OF HAVING TO STAY THREE FEET FROM THE BANK. THE RIVERS AND STREAMS MOVE ALL MATERIALS DOWN STREAM ON ITS OWN EVERY YEAR!
4	THE RULE REQUIRING THE DEFINING OF SIX DREDGING LOCATIONS. IT'S JUST A WAY OF TRYING TO LIMIT A PERSON'S CONSTITUTIONAL RIGHTS!
5	14 DAY RESTRICTION PER YEAR OF DREDGING. THERE SHOULD NOT BE ANY RESTRICTION BETWEEN THE FISH SPAWNING TIMES!
6	4" NOZZLE SIZE. THERE IS NO REASON WHY THERE SHOULD BE A RESTRICTION ON THE NOZZLE SIZE. IT DOESN'T HURT THE SPAWNING AREAS!
7	IDENTIFICATION OF THE DREDGE MOTOR AND PLACING AN I.D. ON THE DREDGE. IT'S JUST ANOTHER WAY OF TRYING TO CONTROL AND RESTRICT OUR CONSTITUTIONAL RIGHTS!
8	MERCURY - IT ABSORBS FINE AND INVISIBLE GOLD AND OTHER HEAVY METALS. IT GETS THICK LIKE PUDDY AND IT DOESN'T FLOW. IT STAYS IN THE SLUICE BOX!
9	DREDGING THE TRIBUTARIES IS AS MUCH OUR RIGHT AS THE RIVERS!
10	STOP INFRINGING ON OUR CONSTITUTIONAL RIGHTS! Leon A Guichard

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 05/10/11) TO:

Mail: Mark Stopher
 California Department of Fish and Game
 601 Locust Street
 Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Fax: (530) 225-2391

SUCTION DREDGE PERMITTING PROGRAM
Draft Subsequent Environmental Impact Report (DSEIR)
Comment Form

Name:	JAMES HAZEN
Mailing Address:	135 PALOMA AVE STOCKTON CA 95209
Telephone No. (optional):	209 473 8573
Email (optional):	JHazen@SBCGLOBAL.NET

Comments/Issues:
<p>The restrictions placed on Gold Mining in Calif are ridiculous + keeping me and my Grandson from recreational fishing w/ our small Alege. Turbidity is a bunch of horse shit! What do you think fish do in winter when its flooding muddy water? IF ANYTHING we help keep sediment out of spawning gravel!</p> <p>THIS LAND IS OUR LAND TOO, THE PUBLIC, AND WE DEMAND OUR RIGHTS BE RESTORED</p>

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 05/10/11) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Fax: (530) 225-2391

Questions? Please call us at (530) 225-2275 • More information: www.dfg.ca.gov/suctiondredge

SUCTION DREDGE PERMITTING PROGRAM

Draft Subsequent Environmental Impact Report (DSEIR)

Comment Form.

Name:	VICTORIA HAZEN
Mailing Address:	1135 PALOMA AVE STOCKTON CA 95209
Telephone No. (optional):	209 473 8573
Email (optional):	VHAZEN1@SBCGLOBAL.NET

Comment/Issues:

I TOTALLY DISAGREE WITH THE RESTRICTIONS. YOU HAVE TAKEN AWAY MY FISHBOARDS LIVELIHOOD AND MADE IT DIFFICULT ON US.

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 05/10/11) TO:

Mail: Mark Stopher
 California Department of Fish and Game
 601 Locust Street
 Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Fax: (530) 225-2391

Questions? Please call us at (530) 225-2275 • More information: www.dfg.ca.gov/suctiondredge

Subject: suction dredging

Date: Tuesday, May 10, 2011 9:19:04 AM PT

From: MATTHEW HEILMANN

To: dfgsuctiondredge@dfg.ca.gov

Hello:

I urge you to please end suction dredge mining for good. It is an incredibly destructive practice that no doubt stirs up mercury and other toxic remnants of California's mining legacy. A very few miners end up ruining the outdoor experiences of many outdoor enthusiasts not to mention a myriad of wildlife that depend on these ecosystems by their noisy, polluting machines that stir up the rivers and streams.

This type of mining just doesn't co-exist peacefully with the other watershed uses like swimming, hiking, fishing, and camping. People just don't want to be around this noisy polluting activity.

The mentality of many of these miners is totally exploitative, the amount of garbage and abandoned equipment and campsites that have been left behind by them is staggering compared to what is left by other watershed users. As a lifelong river enthusiast, I have encountered this for decades. The water quality and tranquility that has existed since the dredging moratorium is priceless to all of us who go to appreciate the rivers, not exploit them.

Times change. The west is no longer pushing to have new residents and encouraging environmentally destructive practices the way it was when many of these archaic mining regulations were put into place. Please bring California environmental law into the 21st century and ban suction dredge mining completely and forever.

Matt Heilmann
P.O. Box 872
Penn Valley, CA 95946

Subject: Regarding F & G Enforcement of Dredge Separation

Date: Tuesday, May 10, 2011 11:39:26 AM PT

From: james hutchings

To: mstopher@dfg.ca.gov, jhutchings22@hotmail.com

I have surveyed members of the GPAA Sacramento Chapter, and made personal contacts with other miners in my community. The issue that was raised was this, to refresh your memory. If an enforcement officer is confronted with two dredgers in violation of the spacing requirements and the enforcement officer has both offenders pointing fingers at each other as to who was in the water or commenced operations first, how does the officer proceed.

You may be surprised to know that the consensus was this, the officer is not responsible for resolving the issue, both offenders should be cited. However, it would seem reasonable that the officer allow sufficient time for the offenders to resolve the issue, but is not required to listen to the case made for either side. The offending miners must resolve the issue or seek relief in the courts. The miners should develop strategies for establishing first rights. They may wish to document by GPS and file a notice of intent with the land manager, indicating the date operations will commence and the distance and area that is intended to be dredged. Miners may wish to make formal notice in writing to any other dredger imposing in their area of restriction. In any case, it is up to the miners to work it out and establish in court their case, with or without a citation.

This is probably the only solution to the problem. For many of us, we own our own claims and have total control over the distance of the claim. In my case, I have over 1 mile of stream under claim. For original filings in California, a mining claim is 20 acres, described on the claim form. As you may know, up to eight (8) individuals may file together under one claim, as associates, with up to 20 acres each for a total of 160 acres.

After the original filing, a claim may be sold or transferred in any manner to any number of individuals. The point here is that someone, (or some organization) is in constructive control of each claim (or public mining area) and should be responsible for managing the claim. In the case of the Auburn State Recreation Area, and other such public areas, the land management agencies should be responsible for establishing reasonable distances between dredge operations.

It occurs to me, and I am sure that it is obvious to you, that the mining community is divided into two camps, claim holders, and those that are leasing, using public lands, or using organized co-operative claims. I would suppose that is how someone like me, cannot imagine, my 2 1/2 inch dredge on 1 mile of stream could possibly damage the fish habitat. Limits on the dredge population within a determined stretch of stream will be opposed, but is probably necessary. I think also, that there is no distinction being made between small dredges, 1 1/2, 2, 2 1/2, and 3 inch dredges versus the standard 4 inch. The larger dredges absolutely need to have a significant distance between them, the smaller dredges should be considered not significant and allowed less spacing.

The last thing I did want to mention was this. The mercury study is coming under fire by a lot of folks a lot smarter than I am on the matter of suspension, hydration etc... However, as a mineralogist, I am having a real problem with the conclusions about suspension. As you are well aware, natural California Gold, particularly on this side of the Sierra's, is only 85% actual gold, with a specific gravity on the lower side at 17 times an equal volume of water. Cinnabar, the rock, has a substantially lower specific gravity. However, elemental mercury, the free mercury in the rivers, is 14 times heavier than an equal volume of water. That is not a significant difference from gold, and certainly heavier than the next heaviest materials such as hematite and magnetite at 5 to 7 times an equal volume of water. If mercury is going to be floured and deposited back into the stream, the turbulence at the output of the dredge box, or at least the next high water event, is going to (with the slightest agitation) force the mercury to sink to the basement of the stream or river, quickly!!!!!!!!!!!!!! In addition, mercury, being a liquid at earth surface temperatures, is unlike any of the solids in the stream. It will migrate downward, and even through tightly packed fine material such as the black sand constituents that would block migration of slightly larger particles of flat gold flake.

My point here is that this mercury study has been used and misused on numerous occasions before the EIR

process is even complete. This very flawed and biased report must be removed or come with some sort of statement that identifies that it is not a complete, thorough, or necessarily a competent and substantiated report! There must be room to challenge this report as it will surface again and again among groups less informed and likely to use it to end dredging for that reason alone. There is no mercury in Duncan Canyon, my mining claim! If there ever was, it has been flushed down to the main river systems and this report needs to distinguish that not all rivers contain mercury in all sections of these rivers. The Sierra Fund has already put out a boiler plate sample for response to this EIR, and includes quotes from this very poor report.

Thanks for your consideration in these matters.

J Hutchings
President, Sacramento Chapter GPAA
Claim Owner
Custom Natural Gold Fabrication Business Owner
jhutchings22@hotmail.com

SUCTION DREDGE PERMITTING PROGRAM

Draft Subsequent Environmental Impact Report (DSEIR)

Comment Form

Name:	ALBERT ISAAC
Mailing Address:	2318 ROBERT'S RD
	Turlock CA 95382
Telephone No. (optional):	209 818 4221
Email (optional):	

Comments/Issues:

I Don't agree with Fish and Game program

Albert Isaac

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 05/10/11) TO:

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California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Fax: (530) 225-2391

Questions? Please call us at (530) 225-2275 • More information: www.dfg.ca.gov/suctiondredge

Subject: suction dredging renewal

Date: Tuesday, May 10, 2011 2:16:12 PM PT

From: Dave Ayala

To: dfgsuctiondredge@dfg.ca.gov

to: Suction Dredge Permitting Program
Subsequent Environmental Impact Report (SEIR)

PLEASE, do not allow suction dredging to resume.

I had a 27-acre placer mining claim on the Middle Fork of the Yuba from 1981 to 1993 called the BLUE MULE CA MC176563. I witnessed firsthand the destruction of river banks, the undermining of large, old trees, the undermining of huge boulders, causing changes in the flow of the river. caused by suction dredging. I'm surprised that the Tyler-Foote Crossing bridge is still standing due to gold seekers digging into the banks surrounding it and its footings. You aren't supposed to dredge within 300 feet of a bridge, but nothing was ever done about it despite my complaints and photos sent to Sierra County. The noise pollution, gasoline fumes, and murky water wreck all the swimming holes. A meth-making operation was discovered just a little below the Foote's Crossing bridge in the late 90s. Some dredgers leave a summer's worth of garbage, gasoline barrels, and oil cans and just move on. Suction dredging is ruining the ecology of the rivers. A lot of this would not happen if the rivers were patrolled and mining laws enforced.

Delores D. Johnson
549 Uren St.
Nevada City, CA 95959
530-265-5937
e-mail: dvayala@sbcglobal.net

Subject: Suction Dredge Permitting Program Comments

Date: Tuesday, May 10, 2011 11:22:33 PM PT

From: iliturit@aol.com

To: dfgsuctiondredge@dfg.ca.gov

I offer the following comments on the proposed Suction Dredge Permitting Program:

The number of dredging permits has not been limited in the past. The state does not limit fishing licenses which also has an impact on the environment yet it now feels the need to limit dredging permits, a hobby that is practiced by far less people than those that fish. The proposed limit of 4,000 permits per year does not allow for population growth. As the population of California increases the regulation should allow for an increase in permits should it be needed.

The regulation requires that permits be amended any time the location of a suction dredge is changed from that stated in the original permit application. The regulation further requires that any changes or amendments to the permit application must be made in person by the applicant. Given the geographic size of California this can require the applicant to travel a substantial distance to amend the permit. Given the technology available there is no reason why these amendments cannot be done via the internet. This is also a cost-saving measure for an already over-burdened state budget.

Use of a winch or an oversized dredge requires an inspection by a state official. This seems like an additional layer of bureaucracy on an already over-regulated area. The regulation should allow the use of a winch but impose a threshold size for the boulder to be moved at which an inspection would be required. For example, if a boulder more than 64 cubic feet is to be moved an inspection would be required. However another problem is that the regulation does not provide timeframes in which the State is required to complete its inspection. Given the current condition of the State budget, staffing cuts and furloughs, it is not realistic to leave this an open-ended proposition. This is especially true if these additional conditions require additional fees to be paid by the applicant.

Section K (11) at page 15 provides that "stream substrate, including gravel, cobble, boulders and other material may only be moved *within the current water level*" (emphasis added). This makes dredging impossible in those areas where the water levels naturally decrease to that of a stream as many rivers do in the summer months. This does not allow you to stack your cobble above the water level in order to start a hole in a shallow stream. In essence, this prevents any dredging at all. You should be able to stack your cobble within the "wet water line".

The start of the dredging season is being moved from the third Saturday in May to June 1st. While this may seem like a minor change it eliminates the three-day Memorial Day weekend. As most people who enjoy dredging are employed at other occupations the elimination of this weekend shortens the time they can enjoy their hobby. There does not seem to be any explanation for this change.

Ben Johnston
8000 Division Road
Manteca, CA 95337

Subject: Suction dredge seir

Date: Tuesday, May 10, 2011 9:45:59 AM PT

From: Doug (Pucky) Junghans

To: Dfgsuctiondredge@dfg.ca.gov

I think you should keep the old regs; Include some of the new scientific facts and let us have a life again!

Douglas(Pucky)Junghans; 1066 Panadero Way, Clayton, CA 94517
tel# 925-672-1863

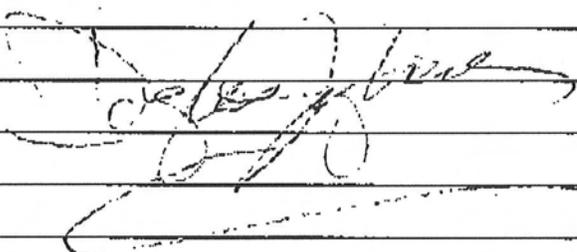
SUCTION DREDGE PERMITTING PROGRAM

Draft Subsequent Environmental Impact Report (DSEIR) Comment Form

Name:	Doug Junghans
Mailing Address:	1066 PANADERO WAY
	CLAYTON CA 94517
Telephone No. (optional):	925-672-1863
Email (optional):	Puck48-99@YA-HOO.COM

Comments/Issues:

I think the whole deal is a FARCE & SHOULD Be Repeated ASAP



Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 05/10/11) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Fax: (530) 225-2391

Comments on proposed Draft Regulations for Suction Dredging

051011_Keene1

pat keene

Sent: Tuesday, May 10, 2011 5:35 PM

To: dfgsuctiondredge@dfg.ca.gov

 dredge yardagealaska.xlsx[1].pdf (38.3 KB) [Preview](#)

Mark Stopher,
Here is a updated chart of yardage. Realistic yardage of dredging.
Sincerely,
Patrick Keene

Dredge Study

Typical California type conditions. Such as dredging on the North fork of Yuba River
All test are based on a 1 to 1 flow ratio. Hose length not to exceed 20 feet or less material will be moved.

These numbers are based on real field testing and hands on experience. These test results are not for public use !

Dredge Size hose Diameter	Engine horse power	Pump Intake & Discharge size	Pump open flow Capacities Gallons per minute	Actual out put of pumps in Working conditions Gallons per minute	Total water discharge through Sluice Gallons per minute	Average % of solids in slurry	Gallons of solids per minute	Cubic Yards of solids per hour
2 inch	2.5 hp	1.5 x 1.5	100	40	80	1	0.4	0.05
2.5 inch	4 hp	2.5" x 2"	200	50	100	1.5	0.75	0.10
3 inch	6.5 hp	2.5" x 2"	250	100	200	2	2	0.27
4 inch	6.5 hp	2.5" x 2"	350	150	300	2	3	0.41
5 inch	13 hp	4" x 3"	500	300	600	2	6	0.82
6 inch	25 hp	4" x 3"	700	350	700	3	10.5	1.44
8 inch	60 hp	5" x 4"	1500	750	1500	3	22.5	3.08
10 inch	120 hp	5" x 4" x 2	3000	1600	3200	3	48	6.58

KEENE ENGINEERING COMPANY INC.

20201 Bahama Street, Chatsworth, California 91311 U.S.A.

Tel. (818)-993-0411 Fax. (818)-993-0447

E-mail: pat@keeneeng.com Web site: www.keeneeng.com" www.keeneeng.com

May 10, 2011

California Department of Fish and Game
601 Locust Street.
Redding, CA. 96001

Attn: Mark Stopher
dfgsuctiondredge@dfg.ca.gov

RE: Comments regarding SEIR and Proposed Regulations for Suction Dredge Mining in California in Favor of Maintaining Current 1994 Regulations.

Dear Mark Stopher,

Thank you for allowing us the opportunity to comment on the California Department of Fish & Game's (DFG) Suction Dredge Permitting Program Subsequent Environmental Impact Report (SEIR) and Proposed Regulations.

My name Patrick Keene and I am part of a third generation, a 60 year old company which, has become the "Worlds Largest Manufacturer of Portable Gold Dredging Equipment" and with my 41 years of experience, I am considered as an expert in this field.

I am also a one of the founding board members of P.L.P. (Public Lands for the People) that attempt to preserve mining and prospecting. I am also an advocate responsible for sustainable use of public lands. My comments include factual information about our laws and best-presumed science, which helps to validate other authored evidence.

The D.F.G. has the responsibility to regulate without prohibiting use of suction dredging in the State of California. I urge the D.F.G. to resume current regulations and not regulate beyond their legal capabilities for the general public. It is essential to maintain our rights under the 1872 Mining Laws and property rights of individuals of the United States and California.

I was also part of the P.A.C. Committee for the Department of Fish and Game. Information was gathered and discussed by numerous groups that were for and against dredgers. The D.F.G compiled information to be used in the Draft E.I.R. At this time there was no peer-reviewed evidence set fourth at any time that

supported any deleterious effects to fish and aquatic life. Therefore, if there is no cause or negative impact to the environment, I cannot understand any logical reason to merit such changes, to the 1994 regulations. I urge the DFG to use 1994 Regulations Alternative, continuation of previous regulations in effect prior to the 2008 moratorium.

I feel that the Department and other biased environmental groups have conspired to rewrite the regulations to reduce dredging and over regulate, in an attempt to stop the average person from operating their dredges.

Most of the reviewed changes were never discussed among the P.A.C. members and demonstrates that the authors of the D.I.E.R. have limited experience in dredging but an abundance of experience in writing environmental regulations along with "Horizon's Water and Environmental Report".

Almost all of the issues that the DFG has addressed have a conclusion of **"less than significant, or unavoidable"**, so why are the changes in the new proposed regulations considered significant as compared to the 1994 regulations? The DFG and Horizon are making decisions that are: **ARBITRARY AND CAPRICIOUS**: "Absence of a rational connection between the facts found and the choices made are validated in Natural Resources. v. U.S.,966 F.2d 1292, 97,(9th Cir.'92). **"A clear error of judgment; an action not based upon consideration of relevant factors and so is arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law or if it was taken without observance of procedure required by law"**. 5 USC. 706(2)(A) (1988).

This D.E.I.R was written in such a manner that it appears to be simply an attempt to reduce the liability of lawsuits from the environmental community and not serve the People of California. The D.F.G. is expected to make decisions based on facts and objective evidence, not opinion. To do otherwise would constitute a type of arbitrary and capricious conduct that State and Federal Constitutions forbid government decision makers and the D.F.G. to make.

Why does the public have to attempt to understand an 800 plus page D.I.E.R. document that includes 30 to 40 additional regulations without any scientific substantiation or background information? This is an unnecessary burden on the public who wish to participate in the regulatory process

The Administrative Procedures act was not fully addressed to include economic aspects, which are critical to the economy of the

State of California that should be included for our economic survival.

After reading this report, I simply cannot understand why the D.F.G. has made these changes, which are so drastic and create “a takings” to most miners and violate our Federal and State constitution.

The DFG prolonged the D.E.I.R., so that Horizon Environmental could write their version of D.E.I.R., using mainly non peer reviewed science with a limited ability to address environmental concerns. Since Horizon had no previous experience to create such a study having never witnessed an actual dredging operation, I feel their findings are false and misleading.

The Methyl Mercury caused by suction dredging remains to be tested by scientific studies, or peer review literature. Claudia Wise, used numerous studies from many peer-reviewed studies which have eliminated the hypothesis of methyl mercury contamination.

During the Public Action Committee Meetings, Claudia Wise, a retired Environmental Protection Agency (EPA) scientist that spent the best part of one and a half hour power point presentation explaining the actions of Selenium vs. Mercury and how they cancel each others toxicity. In the DFG DSEIR, it is unfortunate that we are unable to see any reference to her presentation. It did exist in one short paragraph that could have been missed even with a diligent reading. The selenium issue needs to address in full because there are several good PEER REVIEWED documents on the subject. For Horizon and the DFG to ignore this issue, is a violation of CEQA and best science procedures.

This attack on suction dredging, alledging that 2% of the recoverable mercury is being lost, is a fear tactic to discredit an honest endeavor. The advantage of removing 98% of a poison from the waterways, means it would never have an opportunity to methylate. If the DFG an other California Agencies had factual evidence, they would recognise this opportunity by rewarding the the dredging industry for the recycling of mercury instead of attacking this procedure.

Siskiyou National Forest Draft EIS on Suction Dredging.

With the following information it would be very hypocritical for the (DFG) or any other agency or persons to show the massive concern, over a few thousand suction dredge operators spread out over tens of thousands of miles of rivers. Suction dredges only recirculate back into the river, gravels that have already been deposited by man or nature. Even though the suction dredging materials that are considered TMDL's are only .7 of one percent of total gravel and soils added from the riparian area erosion in any given year, the suction dredging process does not add anything to the water such as additional soils from the

riparian areas. (Siskiyou National Forest DEIR on suction dredging).

Mr. Humphrie's Mercury test is not a viable study and has considerable flaws in it. For example; Mr. Humphries states that the 2% of the Mercury that was lost by the suction dredge. This test was conducted by an older model header box type dredge and not by the present flair jet type dredge used by most dredgers today. He stated that it was floured and was more susceptible to mercury methylation. However, Mr. Humphries did not check the soil overburden prior to it entering the intake nozzle to determine that the mercury may have been floured prior to being dredged into the dredge header box. The bacteria required to methylate mercury is not commonly found in rivers and streams where suction dredging normally prevails, because of the high dissolved oxygen (DO) content, the bacteria required to methylate mercury is associated with low oxygen areas such as swamps and lakes. Most suction dredging is done in fresh water streams and rivers and where a suction dredge creates its own dissolved oxygen, bearing absolutely no threat to the environment.

We have also found an Improper Conclusion from Charles Alpers, when relating the potential statewide impacts to the estimated production yardage figures which Keene Industries (a dredge manufacturer) publishes in their promotional material. Even though the USGS team stood by and watched a team excavate, using a 3-inch dredge, they did not take the opportunity during the study to measure the volume dredged to accurately determine an accurate production capacity of a suction dredge. Therefore, Charles Alpers used our projected estimate from a promotional brochure that could be highly inaccurate in some instances?

There are many variables to estimate capacity of a dredge, such as; make up of the streambed, speed of the river water, depth of the excavation, type of equipment used, experience of the operator, etc). There is no way Charles Alpers could use unproven information from a promotional brochure to make a reasonable statewide projection in a scientific conclusion!" in many cases I have been only to excavate one yard per hour with a six inch dredge that has a promotional estimate of up to 25 yards per hour. Mark Stopher had asked me to give an estimate of yardage to the material excavated with each size dredge we manufacture, which he previously had little knowledge of a dredge's capacity. Their own survey should have been clear to them that they had little to no experience when conducting their own test. The case of mercury methylation should be "less than significant" for cause any of action.

Suction Dredging is and has always been the lowest impact to the environment of any other type of mining activity, where any evidence of such activity is simply washed away in the winter runoff.

The DFG does not have the authority to dictate laws that have already been given under Federal laws such as the 1872 Mining law and current Mineral Grant laws, which establish freedom and give rights to the citizens of United States. These changes made will substantially affect rights already allowed under the State and Federal constitution and the 1872 Mining law.

The D.F.G is showing a clear intention to deny the responsible and sustainable use of the land and denying the people of California additional resources, which create economic prosperity.

How can the Department of Fish and Game DFG make determination of an absolute fact that the activity is deleterious when all of the scientific studies are speculative and non conclusive? The law does not allow the agency or the dredger to comply with this impossible determination.

“An environmental impact report (EIR) must contain facts and analysis, not just the bare conclusions of the agency”. Gray v. County of Madera, 167 Cal. App. 4th 1099, 85 Cal. Rptr. 3d 50 (5th Dist. 2008).

How can the D.F.G. predetermine the outcome of listing the Yellow Legged Frog before the frog is even listed and are attempting to change many of the regulations for the potential E.S.A Protection. Many species are predators such as Rainbow Trout and Geman Browns which the D.F.G is guilty for stocking non-native species which feed on these frogs and tadpoles. This is illegal and a civil rights violation. The DFG cannot regulate any rights from a species that is a candidate species. This is an illegal act.

The new limit of the allowance of only 4000 permits presents several problems. For example; what is possibility of an adversary buying an excessive amount of permits, thus preventing the amount of actual users. Has the future population of our state been considered? We are living in severe financial times and have been prohibited from dredging in California for 2 years. Dredging is the the only viable means of subsidy for many of our citizens involved in prospecting and mining. Such a limitation or “CAP” could prevent many from participating in their means of making a living Millions of Rafters, Fisherman, kayakers & other users are not being “limited” in their activities, or their impacts to the environment. The number of only 4000 permits is an arbitrary number. It is considered a “takings”, and if only one claim owner could not purchase a dredge permit to operate his mine. This regulaton should be eliminated.

The “Three Foot Rule” addressing riparian life forms as written by the DFG is not a reasonable consideration. Other user groups also use the three foot area of the waters edge and create a much greater environmental impact than dredgers. Dredgers are typically “site specific of ingress and egress”, which means entering and exiting the dredging area from one path. If the intention were to protect the life forms in the riparian zone they would also prevent the millions of fisherman to walk on the “Three Foot Zone”. **This proposed regulation is unfairly biased towards the dredging community and should be eliminated.**

The DFG addresses the destabilization of stream banks by suction dredgers and calculates that 34% of suction dredgers undermine stream banks. However, if you examine the dates of the studies listed, you will find that over 2/3rds. are dated prior to the 1994 regulations, which made it unlawful to dredge into the banks of the rivers and streams. All suction dredgers should not be punished for the few who violate the law. If the DFG did there due diligence in their job and cited those violators it would not be necessary to address this issue. There are all types of user groups that break down and destroy the banks of rivers streams that have not been addressed by the DFG. To name a few; is the rafting community, fisherman, day users and boaters, etc. If the DFG wants to punish all for the actions of a few, put a moratorium on the rest of the users, make them also stay 3 feet from the banks. Our activity is “less than significant”.

The proposed 4 inch ring restriction is unreasonable and only allows a dredger to sample. Small-scale miners with a 4" ring cannot move enough material to be profitable. The effect of this restrictiion will make dredging non-viable and profitable entity. The overhead cost of maintaining a typical mining claim cannot be supported with a 4" ringed dredge. The 1994 regulations were prohibitive but allowed for larger dredges. Special permits allowed underwater miners to use larger dredges as provided for in the 1994 regulations, but were later canceled. **The 4" ring proposal has no scientific, practical or economic basis and should be eliminated.**

Why does the DFG want a site-to-site visit for use of a gas powered winching? Winching is used as a safety precaution. Winching can prevent looming and hanging rocks from being dislodged and crushing a diver, thereby creating a dangerous and deadly situation. How long could it take to wait for a Site Survey Specialist and at what cost? Who would be qualified to conduct this survey in a timely manner?

The DFG formerly required a Stream alteration permit for Winching. They quickly eliminated that permit, replacing it with the wording “wet rocks stay wet, dry rocks stay dry”. This is a rehashed old Idea. It’s more about the money and regulating us out of dredging. Dredge operators who live remotely from their

claims would find it hamful if not impossible to make precise appointments with a DFG representative.

Additional adjustments to the mining seasons are not necessary, since we are not dredging during the fish spawning season and the D.F.G. has not shown adequate evidence of any harmful effects from existing seasonal dredging or harm to aquatic life. This regulation will also make mining unprofitable. We are being treated different than other user groups (WHO DO NOT HAVE FEDERALLY GRANTED RIGHTS). The existing seasons have worked for 50 years without reported harm. This will greatly effect dredgers and make our claims unworkable due to unpredictable weather, high water. Etc. **There is not reasonable explanation for this change.**

Gas can restrictions to be 100 feet away from the edge of the water could be impractical, if not impossible in many mining locations. Narrow and steep canyons could make this new storage restriction more dangerous for miner's and could create a greater fire hazard placing fuel in remote wooden areas. 1994 regulations found that incidental fuel and oil storage was found to be "less than significant". **This is another attempt is to regulate us out of the water. No Change should be necessary.**

The requirement of a permit number on the side of a suction dredge in large numbers is an invasion of privacy and is of no practical significance.

Law enforcement has always had the ability to speak to the operators and ask for their permit. Attaching a permit would be difficult to even keep it legible and dry, and in many cases there may be several dredge operators on one dredge operation. Since permit numbers are public knowledge, an outside person can look up the address where they live and potentially rob them of their gold. There is absolutely no reasoning to require permit posted on a dredge. The rest of the world has no business knowing what the dredgers permit number is or even if he does exist. A citizen could use that number on the suction dredge for unsavory reasons.

The requirement of a "3/32nd" screen on Intake of a pump is unreasonable and unwarranted. There is no evidence of any entrainment of fish or aquatic life. The diameter of the hole is so small it will clog quickly, with any floating or submerged debris. This potential regulation will create an unnecessary burden to constantly keep the screen free of debris. All previous studies show juvenile fish have the burst rate sufficient to escape entrainment. All dredgers will immediately be out of compliance. **This change should be necessary.**

The DFG's plan is to regulate us out of existence with excessive permits and

fees. In an effort to keep us from making a living and attempting to favor other user groups over us. Miners could not survive in this economy with only a sluice box and a gold pan.

The D.F.G does not have the manpower, budget, or resources to enforce proposed regulations and on site inspections. Leaving the dredger waiting for months or the entire season for permit endorsements. The effect would be to keep the dredger out of the water and eliminate dredging completely.

For 50 years our seasons winching have been allowed. If the DFG were really trying to protect Riparian zones, they would adopt similar regulations, permits and fees for the other user groups and hold them to the same bar.

No pro dredging reports that were presented or used at the PAC meeting. Where is all the PRO Dredging Science? All and any of the benefits of Suction Dredging were strikingly missing from DSEIR. Economic impact to state, local cities and county businesses, tax revenue etc. A loss of over 200 million a year to our state as a result of eliminating dredging in California. (source 1994 EIR).

Removal of the polluting heavy and toxic metals from the waterways. The 1994 EIR found that Suction dredging would have a beneficial impact related to the capture and removal of lead from waterways, which, would help to keep lead from entering the food chain. Less-than-Significant impact on water quality as it relates to mercury present in streams. Creating beneficial habitat for Fish, see section 45 of DFG regulations.

Fish is defined a wild fish, mollusks or crustaceans, invertebrates or amphibians, including any part, spawn or ova there of.

The D.F.G. does not have peer-reviewed evidence, that supports any deleterious effect to fish and aquatic life. Therefore, if there is no cause or negative impact to the environment, changes should not be warranted to the 1994 dredging regulations.

The DFG does not seem to be interested in our Federal Granted Mining Rights. **Mark Stopher said, "don't even bring up your federal mining rights"**. The DFG staff seemed uninterested and apathetic at any speaker who addressed the **"Takings and Prohibition of our Granted Rights"**. California representatives seem to forget about the **"Supremacy Act"** which, Federal Law supercedes the State on Federally Granted Mining Rights. The new permit attempts to restrict and circumvent our Federally granted mining rights. This process to amend our current regulations is an attempt to over regulate, thus eliminate suction dredging. This is a blatant attempt to do away with our civil liberties.

California is in dire need for tourism and economic relief from the

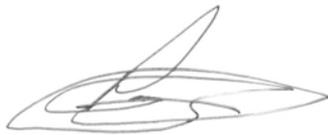
E.S.A. destruction of County and State abilities to survive economically.

The D.F.G. is buckling to the environmental lawsuits such as Center for Biological Diversity and others. This environmental attack undermines every Americans right which people have fought and died for our freedom.

Mining is and always has been paramount to any other use of lands our lands and is needed for our future economic survival to The United States.

I would like to thank P.L.P., Gerald Hobbs, Claudia Wise, Joe Greene, Craig Lindsley, Mojave Joe, Eric Maksmyk, Scott Harn, my father Jerry Keene and the countless others who worked dilligently on reaching sensible regulations.

Sincerely,

A handwritten signature in black ink, appearing to read 'Patrick Keene', with a stylized flourish at the end.

**Patrick Keene
Keene Engineering**

Cc; P.L.P.

Cc; Senator Tom McClintock

Cc; legal files

Cc; I.C.M.J.

Mark Stopher
California Department of Fish and Game
Suction Dredge Program Draft SEIR Comments
601 Locust Street
Redding, CA 96001

RE: Black Krim claim, Elk Creek , Siskiyou County (BLM CAMC #292073).

Please take notice that I am the owner of the Black Krim claim, located on Elk Creek in Siskiyou County (Bureau of Land Management CAMC #292073). I have reviewed your proposed regulations for suction dredging, which appear to forbid any and all suction dredge mining on my claim.

I am writing to commend you and show my support for these proposed regulations. Not only do I practice mining on my claim without the use of suction dredging practices, I also reside on private property adjacent to my claim and see the negative effects on the fish and water caused by dredge mining on claims upcreek from my home and claim location. Salmon populations are clearly in decline and I and my fellow claimants feel strongly that this cornerstone species of our ecosystem deserves all the help we can give them in maintaining an existence here in the Klamath watershed.

Thank you very much for taking the time to review my comments. I am fully in support of the ban on suction dredge mining on all tributaries and the mainstem of the Klamath River. Best of luck on your work in getting approval for these regulations.

Sincerely,

Tai Kim

A handwritten signature in black ink, appearing to read 'Tai Kim', written in a cursive style.

Subject: Comment on Suction Dredge Mining DSEIR

Date: Tuesday, May 10, 2011 12:16:55 PM PT

From: Tai Kim

To: mstopher@dfg.ca.gov

Dear Mark,

RE: Black Krim claim, Elk Creek , Siskiyou County (BLM CAMC #292073).

Please take notice that I am the owner of the Black Krim claim, located on Elk Creek in Siskiyou County (Bureau of Land Management CAMC #292073). I have reviewed your proposed regulations for suction dredging, which appear to forbid any and all suction dredge mining on my claim.

I am writing to commend you and show my support for these proposed regulations. Not only do I practice mining on my claim without the use of suction dredging practices, I also reside on private property adjacent to my claim and see the negative effects on the fish and water caused by dredge mining on claims upcreek from my home and claim location. Salmon populations are clearly in decline and I and my fellow claimants feel strongly that this cornerstone species of our ecosystem deserves all the help we can give them in maintaining an existence here in the Klamath watershed.

Thank you very much for taking the time to review my comments. I am fully in support of the ban on suction dredge mining on all tributaries and the mainstem of the Klamath River. Best of luck on your work in getting approval for these regulations.

Suction dredge mining has no place in the 21st century. Historic gold mining has left a legacy of toxic waste in our watersheds that has yet to be cleaned up. Present day suction dredge mining, while different from the old ways, carries many of the same dangers, while presenting new problems.

This destructive practice threatens water quality across much of the state, especially in rivers and streams that provide essential habitat for fish and wildlife, and drinking water for thousands of people. Therefore, I urge you to adopt the No Action alternative.

Expert hydrologists and fish and wildlife biologists have consistently testified that suction dredge mining destroys the clear, cold water that many species depend on, including threatened and endangered salmon and steelhead. Furthermore, suction dredging mobilizes toxic mercury, creating a health risk, not only for fish and wildlife, but for people too.

Suction dredge mining should be forever banned. Unfortunately, the department has taken an ill-advised approach that could allow this destructive practice to continue. At a minimum, any final regulations must prohibit suction dredge mining in all waters that harbor sensitive fish or wildlife and future recovery areas for these species. All waterways that are listed as impaired for any reason should also be closed to suction dredging.

Suction dredge mining destroys our water quality and harms fish and wildlife. Again, I urge you to adopt the No Action alternative.

Thank you for considering my concerns.

Tai Kim

po box 188
Happy Camp, CA 96039

Subject: Suction Dredging in Mono, Inyo Counties

Date: Tuesday, May 10, 2011 10:18:41 PM PT

From: Jim and Sue King

To: dfgsuctiondredge@dfg.ca.gov

Hello, I am a business owner in Inyo County, and a member of the Mono County Fisheries Commission. Allowing suction dredging in our local creeks and rivers will annoy fishermen, harm trout spawning grounds and habitat, and will be detrimental to the main economy of the Eastern Sierra region, which is recreational fishing. We have no rivers anywhere near as large as those on the western slope of the Sierra, or in Northern California where suction dredging has been allowed. Please consider the resource and economic damage, and keep suction dredging out of the waterways of the Eastern Sierra. Thank you.

Jim King
Rock Creek Lake, CA.

SUCTION DREDGE PERMITTING PROGRAM
Draft Subsequent Environmental Impact Report (DSEIR)
Comment Form

Name:	MICHAEL KIRKWOOD AKA MO KIRKWOOD
Mailing Address:	12450-F GRIMES RD. TRACY, CAL.
Telephone No. (optional):	
Email (optional):	

Comments/Issues:	<p>I AM A PROSPECTOR I ALSO AM DISABLED. I CAN'T WORK AT MY TRADE FULL TIME ANYMORE. SINCE I WAS A YOUNG BOY MY FAMILY WERE PROSPECTORS ON THE YUBA RIVER. BEFORE ALL THE RESTRICTIONS CAME DOWN ON SUCTION DREDGING. I HAD PLANNED TO PURCHASE A DREDGE. SINCE I CAN'T WORK FULL TIME AND THE SMALL AMOUNT I RECEIVE FROM SOCIAL SECURITY I WOULD HAVE BEEN ABLE TO SUPPLEMENT MY INCOME PROSPECTING FOR GOLD AS MY CONDITION ALLOW. IF I WAS TO WORK FOR A COMPANY I WOULD NOT BE ABLE TO TAKE BREAKS WHEN I NEEDED. ALSO BEING UNDER WATER TAKES THE STRESS AWAY FROM MY SPINAL PROBLEMS. I HAD THE MONEY IN MIND WHEN SUCTION DREDGING WAS BANNED. AS BAD AS THINGS ARE THESE DAYS, IT SEEMS TO ME YOU ARE PUTTING ME AND THE FOLKS THAT BUILD THESE DREDGES OUT OF WORK. I AM NATIVE TO CALIFORNIA. I AM 58 YEARS OLD AND I SEE MORE AND MORE OF MY FREEDOMS TAKEN AWAY FROM ME. THIS IS NOT RIGHT. PLEASE REMOVE THESE RESTRICTIONS ON SUCTION DREDGING AND LET US GO BACK TO WORK.</p>
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Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 05/10/11) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Fax: (530) 225-2391

Questions? Please call us at (530) 225-2275 • More information: www.dfg.ca.gov/suctiondredge

SUCTION DREDGE PERMITTING PROGRAM
Draft Subsequent Environmental Impact Report (DSEIR)
Comment Form

Name:	VALERI KIRKWOOD
Mailing Address:	12450-F Grimes Rd
	Tracy; CA 95304
Telephone No. (optional):	209 608 1488
Email (optional):	vlbishopkirkwood@hotmail.com

Comments/Issues:
I totally disagree with your legislation regarding miners & dredging. You are taking away our livelihood. My husband was just getting ready to buy a dredge and stopped because of this legislation. We have mined on some great areas. We have also cleaned a lot of other people's garbage up, that was left behind by slob's that don't respect our environment.
We respect our land and rivers. We aren't here to mess up the rivers and areas.
You're killing our business!!!

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 05/10/11) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Fax: (530) 225-2391

Questions? Please call us at (530) 225-2275 • More information: www.dfg.ca.gov/suctiondredge



California
PO Box 751
Somes Bar, CA 95568
(530) 627-3311 (ph/fax)
info@klamathriver.org

Oregon
PO Box 154
Klamath Falls, OR
97601
admin@klamathriver.org

May 10, 2011

Via E-mail

California Department of Fish and Game
Attn: Mark Stopher
Suction Dredge Program Draft SEIR Comments
601 Locust Street
Redding, CA 96001

Dear Mr. Stopher:

Please find attached comments by Klamath Riverkeeper in consultation with Scott Harding regarding CDFG's Draft SEIR on suction dredging. These comments are submitted officially onto the record as part of the CEQA process underway to analyze the environmental impacts of suction dredging. Thus, your agency is legally obligated, pursuant to CEQA Article 7 § 15088, to respond to them in a Final EIR.

Note that a number of errors and flaws in the Draft SEIR pointed out in our comments need correction. Without such corrections, we are concerned that the Draft SEIR will be scientifically and legally vulnerable as an environmental analysis. We hope you carefully consider the recommendations made in these comments and make substantial revisions accordingly.

Please contact me if you have any questions.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Erica Terence', is written over a light blue circular stamp. The signature is fluid and cursive.

Erica Terence, Conservation Director/Executive Director
Klamath Riverkeeper

COMMENT 1: THE PROPOSED REGULATIONS ARE OVERLY VAGUE IN REGARD TO FUEL SPILL CONTAINMENT AND LOCATION OF FUEL AND PETROLEUM PRODUCTS NEAR WATER AND DO NOT ADEQUATELY ENSURE THAT FUEL SPILLS WILL NOT REACH THE STREAM.

Reasoning

The proposed regulations (§ 228(k)(10)) specify:

“No fuel, lubricants or chemicals may be stored within 100 feet of the current water level. Where this is not feasible, a containment system must be in place beneath the fuel, lubricants or chemicals.”

The regulations are unclear as to whether “100 feet of the current water level” means 100 horizontal feet or 100 feet along the slope of a stream bank. Due to the typical slope of many stream banks, the difference in distance from the current water level could be remarkably different with a slope wise measurement versus a horizontal measurement.

On larger streams, 100 feet from current water level may be within the active stream channel and/or below the mean high water mark. As such, fuel spilled in this area would infiltrate the ground and either reach subsurface water in the streambed and/or contaminate the stream during the next higher water flow that inundates the spill area.

The regulations indicate that a containment system is required for storing fuel within 100 feet of current water level but provides no input as to what type of containment system is required. This could be interpreted to mean that a towel must be placed beneath fuel, lubricants, and chemicals stored near stream or that a properly designed petroleum fuel spill containment system must be in place.

Finally, this regulation should also cover safe and spill-proof handling and disposal of any fuel captured in a spill containment system.

Recommendation

Section 228(k)(10) needs to be written clearly and more thoroughly to provide sufficient protection from fuel spills. Recommended wording:

“No fuel, lubricants or chemicals may be stored within 100 horizontal feet of the mean high water mark. Where this is not feasible, an appropriately sized chemical spill containment system meeting the design criteria specified in 40 CFR 264.175 must be in place beneath the fuel, lubricants or chemicals. Any fuel, lubricants, or chemical captured in the spill containment system must be completely removed and properly disposed of per local, state and federal regulations.”

COMMENT 2: The proposed regulations do not adequately protect aquatic and terrestrial resources from the spread of invasive species.

Reasoning

The spread of invasive species is an issue of major concern in California and has enormous negative economic impacts throughout the state. Suction dredges can easily transport aquatic invasive species from one river system to another as well as terrestrial invasives that favor riparian environments (e.g., star thistle, Marlahan mustard, and spotted knapweed).

Section 228(k)(19) regulations require:

“All suction dredge equipment shall be cleaned of mud, oil, grease, debris, and plant and animal material before use in a river, stream or lake.”

The regulations make no particular mention of invasive species. Although, to be certain, all invasive species are either plants or animals of some type, the regulations should be made clear as to intent and specific actions required to properly clean dredge equipment.

The regulations do not explicitly require dredge equipment to be cleaned prior to moving it from one river system or watershed to another. As such, a dredger could comply with the regulation at the start of the season and move the dredge multiple times, spreading invasive aquatic and terrestrial species at each relocation. The regulations need to require a complete cleaning *and* drying of equipment each time it is moved from one watershed to another. The regulations also need to be clear that the equipment shall be cleaned each time it is put to use.

As written, Section 228(k)(19) is both vague and inadequate in terms of minimizing impact and potential as related to the spread of invasive species.

Recommendation

Rewrite Section 228(k)(19) to include a provision for cleaning of all invasive species, requires washing and drying of all dredge equipment each time it is relocated from one drainage to another, and specify that all dredge equipment must be cleaned prior to each placement in any river, stream, or lake.

COMMENT 3: THE PROPOSED REGULATIONS DO NOT ADEQUATELY PROTECT SCHOOLS AND OTHER SENSITIVE RECEPTORS NEAR RIVERS FROM THE HAZARDS ASSOCIATED WITH SUCTION DREDGING (IMPACT-HAZ-7).

Reasoning

On p. 4.4-13, the SEIR recognizes:

“Schools or other sensitive receptors in proximity to rivers or creeks would have a relatively higher potential to be exposed to hazards associated with suction dredging.”

However, rather than provide any substantive additional protection for these sensitive areas, the SEIR dismisses the likelihood of impact on the following, incorrect rationale:

“...suction dredging activities would typically occur in undeveloped, remote locations along rivers or creeks. Therefore, the likelihood of the hazards

identified under Impacts HAZ01 through HAZ06 occurring near schools is considered low. As such, the potential for hazardous emissions or the handling of hazardous or acutely hazardous material, substances, or waste to occur within one-quarter mile of an existing or proposed school is not considered to be substantial.”

Although a vast majority of suction dredging does occur in undeveloped, remote locations, it does also occur in proximity to schools and other sensitive receptor sites. In the Klamath River watershed, for example, there are several schools located immediately adjacent to sections of river that are commonly suction dredged. The Forks of Salmon Elementary School in Forks of Salmon, CA is located only 500 feet from the nearest commonly dredged location. The Junction Elementary School in Somes Bar, CA is located less than ¼ mile of the Klamath River, which is proposed to be open to dredging.

The dismissal of the likelihood of exposure to hazards is based on an incorrect assumption that ignores the fact that throughout California, there are many schools and sensitive receptor sites located within ¼ mile of areas proposed to be open to dredging. The fact that these are primarily rural locations in no way minimizes CDFG’s duty to accurately analyze impacts and implement regulations that will minimize exposure.

Recommendation

Close all areas within ¼ mile of schools or other sensitive receptor sites to suction dredging.

COMMENT 4: THE SEIR ROUTINELY USES AN INCORRECT GEOGRAPHIC SCALE FOR ANALYZING IMPACTS.

Reasoning

The SEIR frequently and systemically defaults to using entire program area (i.e., the entire state of California) as the geographic context for assessing impacts. Although the program may be intended to provide a permitting system for the entire state and some impacts do manifest themselves at the state level, most impacts that are being analyzed manifest themselves at a different (often local or regional) scale. It is improper and contrary to existing scientific evidence to analyze impacts at such a grossly incompatible spatial scale. The result of this mismatch in geographic scale is a systemic minimization of the proposed program’s actual impacts. This error is perpetuated throughout the SEIR in analyzing a variety of impacts (BIO, GEO, HAZARD, etc.).

For example, IMPACT-GEO-3 (Destabilization of Channel Bed Forms such as Riffle and Bars) is an impact with significant but localized impacts and potential for deleterious effects on fish species in some watersheds. However, in concluding that there is a less than significant impact, the SEIR uses a statewide scale for analyzing impact (p. 4.1-23 line 33):

“However, given the proposed regulations which would reduce these potential effects, and due to the limited extent of this potential impact when considered for the form and function of rivers and streams at the statewide

scale, the potential effect of suction dredging on destabilizing instream channel bed forms is considered less than significant.”

From a biological perspective, the determination of no significant impact at the state level is meaningless when, in fact, there is very likely an impact at the stream reach level.

The scientific literature is clear that suction dredging impacts must be assessed in a much smaller geographic scale, such as individual stream systems or even reaches within systems:

From p. 14 of Harvey & Lisle (1998):

“Effects of suction dredging must be analyzed in the context of individual stream systems. The potential for a variety of dredging effects is great, and the distribution of physical and biological attributes and human activities in each stream basin is unique...**A useful strategy is to adapt a watershed-scale approach** to identify and evaluate important conflicts between dredging and aquatic organisms.” (emphasis added)

And Id., from p. 8:

“Effects of dredging commonly appear to be minor and local, but **natural resource professionals should expect effects to vary widely among stream systems and reaches within systems.** Fishery managers should be especially concerned when dredging coincides with the incubation of embryos in stream gravels or precedes spawning runs soon followed by high flows. **We recommend that managers carefully analyze each watershed so regulations can be tailored to particular issues and effects.** Such analyses are part of a strategy to (1) evaluate interactions between suction dredging and other activities and resources; (2) use this information to regulate dredging and other activities; (3) monitor implementation of regulations and on- and off-site effects of dredging; and (4) adapt management strategies and regulations according to new information. **Given the current level of uncertainty about the effects of dredging, where threatened or endangered aquatic species inhabit dredged areas, fisheries managers would be prudent to suspect that dredging is harmful to aquatic resources.**” (emphasis added)

Other recent government analyses of proposed suction dredging activity in rivers have used a more geographically appropriate program area for analyzing impacts, taking into account the characteristics of individual streams and the specifics of proposed dredging activity.

For an example of a recent (2009) federal suction dredge operation environmental impact study conducted on a stream-specific geographic scale for a cluster of proposed suction dredge projects, see *Small-Scale Suction Dredging in Lolo Creek and Moose Creek, Draft Supplemental Environmental Impact Statement, Clearwater National Forest Lochsa and North Fork Ranger Districts Clearwater County and Idaho County,*

http://www.fs.fed.us/r1/clearwater/Projects/sss_dredging/SuctionDredging_SEIS_final_081209.pdf

Relatively few impacts are properly assessed at the geographic scale of the entire state.

Recommendation

Assess impacts on a geographic scale that is appropriate for that particular impact. Accordingly, the SEIR analysis should take into account the unique characteristics of individual stream reaches and the impacts of suction dredge activity to these individual streams and stream reaches. The program’s proposed regulations should also use a stream-reach of watershed-scale (when appropriate) geographic division rather than using a biologically and hydrologically illogical system of regulating suction dredging based on county lines.

COMMENT 5: THE PROPOSED PROGRAM LACKS ANY MECHANISM OR REGULATION TO PREVENT ADVERSE IMPACTS RESULTING FROM HIGH DREDGE DENSITY OR OVER-USE IN SENSITIVE WATERSHEDS. INSTEAD, THE PROPOSED PROGRAM RELIES ON THE SERENDIPITOUS ASSUMPTION THAT, IN NO CASES, WILL TOO MANY OF THE POTENTIAL 4,000 DREDGE PERMITEES CHOOSE TO OPERATE THEIR DREDGES IN A HIGH ENOUGH DENSITY THAT ADVERSE IMPACTS CANNOT BE AVOIDED DESPITE OTHER REGULATIONS INTENDED TO REDUCE IMPACTS.

Reasoning

The SEIR has correctly noted that dredge density and sheer numbers of dredges operating has a magnified impact. Surprisingly, the proposed program does not provide any mechanism for preventing a crisis of overuse or management of dredging impacts that, while perhaps less than significant in limited numbers, become significant and adverse when multiple dredges operate in a single reach or watershed. As such, for example, word of a significant find of gold and a particular stream could conceivably lead to a rapid influx of a great number of suction dredgers (recall how the 1849 Gold Rush worked much this way), leading to rapid and significant impacts. CDFG has no means to manage, control, or prevent such an incident from occurring. With gold prices pushing record levels (over \$1537/oz. on 5/3/11), the demand for gold is high and likely to increase.

Recommendation

The proposed program needs a mechanism for preventing overuse of any stream reach, river, or watershed to avoid adverse impact. Suction dredge permits should be location-specific for specified dates so that CDFG can ensure the maximum allowable capacity of any stream is not exceeded. Additionally, CDFG needs to be able to monitor dredging activity and curtail dredging if impacts from high dredge density become apparent. Alternately, after full analysis, if CDFG determines that it is impractical for the agency to effectively regulate and enforce dredge density limits, CDFG should ban suction dredging outright based on a precautionary principle of management and an obligation to protect listed species impacted by this disturbing form of mining.

COMMENT 6: THE PROGRAM DOES NOT ESTABLISH ANY ONGOING MONITORING OF SUCTION DREDGE OPERATIONS EITHER TO ROUTINELY ENSURE COMPLIANCE WITH REGULATIONS AND BEST MANAGEMENT PRACTICES NOR TO EVALUATE EFFECTIVENESS OF THE PROGRAM ITSELF.

Reasoning

Ongoing monitoring would provide important assurance that any impacts that do occur are not likely to go unnoticed.

Monitoring data should be collected at frequent and regular intervals both upstream and downstream from some active dredges to quantitatively evaluate the amount of turbidity that results from dredging (both individually and cumulatively). The SEIR uses lines of evidence rather than direct evidence to predict that many aspects of suction dredge operations have less than significant impacts. Direct measurements and site-specific data would be more useful and scientifically defensible. Ongoing monitoring would allow a program of adaptive management and regulation to better protect fish and other resources.

Recommendation

The proposed program should include a monitoring component with data collected in key stream reaches and watershed throughout the state. Monitoring should be done before, during, and after suction dredging operations to help gain an understanding of the impacts of dredging. CDFG should request that the Legislature increase permit fees to include the cost of monitoring and adaptive management and regulation.

COMMENT 7: THE FEBRUARY 11, 2011 DECISION BY THE NATIONAL MARINE FISHERIES SERVICE TO CONDUCT AN ENDANGERED SPECIES ACT STATUS REVIEW OF UPPER KLAMATH AND TRINITY RIVERS ESU CHINOOK (NATIONAL MARINES FISHERIES SERVICE 2011) AND THEIR INTERIM DESIGNATION AS A CANDIDATE SPECIES REPRESENTS A SIGNIFICANT CHANGE SINCE THE SEIR WAS WRITTEN AND SHOULD TRIGGER A MORE THOROUGH EVALUATION OF THE PROGRAM’S IMPACTS TO KLAMATH-TRINITY RIVERS (KTR) CHINOOK AND, IN PARTICULAR, KTR *SPRING-RUN* CHINOOK.

Reasoning

A primary reason for the re-evaluation of CDFG’s suction dredge permitting program at this time stems from the Department’s failure to update the 1994 suction dredge regulations after the Southern Oregon Northern California Coho (SONCC) was federally listed as “threatened” in 1997. The recent declaration of Upper Klamath and Trinity Rivers ESU Chinook as a federal ESA Candidate Species as defined by 50 CFR 424.02(b) underscores the fact that KTR Chinook meet the criteria for consideration as an endangered or threatened species for the purposes of a CEQA analysis pursuant to CA Title 14 Sec. 15380(d). The very fact that NMFS is now evaluating Klamath-Trinity Chinook for addition to the federal listing indicates that this species

may be "threatened" as that term is used in the Federal Endangered Species Act (see SEIR 4.3-5 lines 3-16).

Recommendation

The Department should proceed from this point with the assumption that Upper Klamath and Trinity Rivers ESU Chinook (inclusive of KTR spring-run Chinook) will be federally listed so that the proposed program's CEQA analysis and subsequent regulations will not be out-of-date and/or out of compliance should Upper Klamath and Trinity Rivers ESU Chinook be federally listed on or before the statutory deadline of January 28, 2012 for NMFS to issue their listing decision. Table 4.3-1 ("Action Species") should be updated to show Upper Klamath and Trinity Rivers ESU Chinook as a federal Endangered Species Act Candidate Species as defined in 50 CFR 424.02(b).

COMMENT 8: THE SEIR INCORRECTLY ASSUMES THAT SALMON RIVER'S DISTINCT METAPOPOPULATION OF KTR SPRING-RUN CHINOOK IS NOT LIMITED ENOUGH IN NUMBER OR GEOGRAPHIC DISTRIBUTION TO WARRANT CONSIDERATION OF IMPACTS TO INDIVIDUAL FISH AS POTENTIALLY AFFECTING THE SPECIES AT THE POPULATION- AND RANGE-LEVEL.

Reasoning

The SEIR on p. 4.3-23 line 26, states that:

"CDFG did not consider impacts to individual members of a population to be significant, unless the species was extremely rare. While a more conservative approach was contemplated, it was determined to be inappropriate because it would not be an effect that would be considered "substantial," especially given the statewide scope of the Proposed Program. For these reasons, the analysis focuses instead on population- and range-level effects."

Thirty years of Salmon River spring-run Chinook census population surveys between 1980 and 2010 provide unequivocal evidence that this species is, in fact, rare and very limited in distribution. Total census population numbers of adult spring Chinook in the Salmon River have ranged between 78 and 1,304 individuals with a 30-year median census population of 466 adults (Salmon River Restoration Council 2010).

Further underscoring the significance of these low numbers, Nehlsen et al. (1991) point out that, for wild stock, *effective population* size may be one-half of the *census population* because "the effective population size is defined as one in which each spawner contributes equally to the subsequent generation (which requires equal sex ratios and equal spawning success among all individuals)." Using the ratio of effective population = ½ census population, the Salmon River spring-run Chinook has a 30-year median *effective population* of 233 fish (and a low of 39 fish and a high of 652 fish).

Effective populations of more than 500 fish may be necessary to reduce a stock's vulnerability to environmental stochasticity (Nehlsen et al. 1991), and the Salmon River KTR spring-run Chinook have a median effective population far below this threshold (as well as a median census

population also below this threshold). Elder et al. (2002) concluded that Salmon River spring-run Chinook escapement is low enough to place the population at elevated risk of significant mortality due to stochastic events in many years. Nehlsen et al. (1991) classify the greater Klamath River spring-run Chinook as being at “high risk of extinction.”

Given these critical numbers, any additional stress to Salmon River KTR spring-run Chinook—including impacts to individual fish, holding habitat, or spawning substrate, etc.—can be conservatively estimated to be likely to adversely affect the run at a population- or range-level and pose deleterious effects to these fish. It is significant to note the main areas of summer holding habitat coincide with areas most commonly dredged in the Salmon River watershed, and CDFG has identified the entire range of KTR spring-run Chinook as receiving moderate to high suction dredging activity (SEIR Appendix F).

The Salmon River’s KTR spring-run Chinook are a distinct wild metapopulation, distinct from the Trinity River’s hatchery-influenced stock. In fact, the Salmon River’s stock is the largest wild run of spring Chinook in the entire Klamath River system (West 1991) and one of the last in California (Moyle 2002). The Klamath River Basin Stock Identification Committee of the Klamath River Basin Fisheries Task Force identified the Salmon River spring-run Chinook as a distinct metapopulation (Barnhart 1994). Fin-clipped Trinity River hatchery spring-run Chinook have never been found in the Salmon River (Peter Brucker, personal communication, April 2011), suggesting that there is no crossover between the Salmon River and Trinity River spring-run Chinook.

Additionally, although the proposed program would operate statewide, basing the determination of whether an impact is “substantial” on the statewide scale is inappropriate for a species of very limited population and limited geographic distribution, such as KTR spring-run Chinook. More appropriate for KTR spring-run Chinook on the Salmon River would be to analyze impacts on a geographic scale defined by the boundaries of a recognized distinct metapopulation for the species and on individual members of the population since, with a median annual census population of 466 adults, impacts to individual Salmon River KTR spring-run Chinook can be reasonably assumed to have an impact on the remarkably small Salmon River population as a whole.

Recommendation

The SEIR should more comprehensively analyze impacts to Salmon River’s metapopulation of KTR spring-run Chinook including impacts to individuals as they relate to population- and range-level impacts.

COMMENT 9: THE PROPOSED PROGRAM DOES NOT AVOID THE ADVERSE IMPACTS IDENTIFIED IN IMPACT-BIO-FISH-1 FOR SALMON RIVER KTR SPRING-RUN CHINOOK AS WELL AS OTHER SPAWNING FISH SPECIES ON RIVERS THROUGHOUT THE STATE.

Reasoning

The SEIR purports that potentially significant adverse impacts to fish (Impact BIO-FISH-1) are avoided by spatial and temporal restrictions on dredging (SEIR 4.3-24):

“If left unrestricted, impacts of suction dredging on spawning of Fish would be potentially significant with respect to Significance Criteria A and D. However, the Proposed Program incorporates spatial and temporal restrictions on suction dredging activities that are based on life history, distribution and abundance of Fish action species. This includes restrictions on suction dredging in the period immediately before spawning and during critical early life stages (i.e., spawning, incubation, and early emergence) of Fish action species (Table 4.3-1). Streams within the state that provide habitat for Fish species that are either very limited in number and/or distribution are proposed to be closed to suction dredging (Class A), or closed during critical spawning periods.”

However, in the case of KTR spring-run Chinook in the Salmon River watershed, the life history, abundance, and distribution of the fish are improperly accounted for in the spatial and temporal restrictions proposed by CDFG. The Class F suction dredging season (June 1 – Sept. 30) overlaps a minimum of two weeks with the well-documented start of spring-run Chinook spawning season beginning on the Salmon River no later than mid-September (Salmon River Restoration Council 2011) and does not, as the SEIR claims, restrict suction dredging “in the period immediately *before* spawning” (which would be late August or early September for the Salmon River KTR spring-run Chinook). As such, dredging will be permitted concurrently with the spawning of Salmon River KTR spring-run Chinook.

Similarly, the Class F suction dredging season overlaps with the latter period of fry emergence for KTR spring-run Chinook on the Salmon River in June. West (1992) indicates, “first emergence is not observed until March **and extends until early June**” (emphasis added). Consequently, suction dredging operations permitted under a Class F season beginning June 1 are likely to overlap with fry emergence and pose potentially significant and adverse impacts to emerging fry.

The Class F season, therefore, fails to adequately avoid potentially significant impacts identified in Impact-BIO-FISH-1 to KTR spring-run Chinook *both* during spawning *and* early fry emergence.

Additionally, the very limited number and limited distribution of KTR spring-run Chinook in general and of the Salmon River’s distinct wild metapopulation in particular, suggest that this species would be adequately protected solely via a Class A closure so that direct, indirect, concurrent, and delayed impacts of dredging do not adversely impact the species.

The SEIR continues its rationale of how the “proposed program regulations will minimize the potential for disturbance to all spawning Fishes and their habitats” on 4.3-24 & 25:

- *“Section 228(c)(2): requires dredgers to provide CDFG with information regarding the location of their dredging operation(s). This will allow CDFG to monitor and manage areas with high dredging use, and potentially modify regulations if deleterious effects are identified.*

- *Section 228(k)(15): requires dredgers to level all tailing piles prior to working another excavation site or abandoning the excavation site. This will minimize the potential for Fish to spawn on unstable substrate.*
- *Section 228(k)(16): requires dredgers to avoid the disturbance of redds and adult fish.”*

As for Section 228(c)(2): the proposed program does not establish any formal or organized effort to monitor the impacts of suction dredging nor to review regulations in light of further examination of the proposed programs actual impacts once implemented. In fact, the SEIR dismissed the alternative of tracking and adaptively managing stream use by suction dredgers. (SEIR 6-16, lines 26-33). With CDFG under tight budgetary restrictions and with no plan to request the Legislature to increase suction dredge permit fees to pay for monitoring or the additional expense of enforcing increasingly complex regulations, there is no reason to believe nor any evidence presented that indicates the dredge location reporting requirement will provide any reduction of impact to any biologic resource. Without a plan for monitoring in place nor the budgetary likelihood of being able to pay for such monitoring, this regulation is, in effect, meaningless.

As for Section 228(k)(15): the SEIR provides no scientific evidence in support of the claim that the requirement for dredgers to level all tailings piles will minimize the potential for fish to spawn on unstable substrate. In fact, Harvey & Lisle (1999) indicate that “where managers determine that unstable dredge tailings may lead to unacceptable effects on spawning success, these effects could be reduced or eliminated through regulations that require that **tailings piles be redistributed to restore the original bed topography and particle size distribution**” (emphasis added). The proposed program’s regulations do not require dredgers to meet this standard. Even if it were possible to restore original bed topography (and dredgers are submitting comments on this SEIR indicating that this requirement cannot be met), the regulations do not require restoration of original particle size distribution as the best available science indicates is necessary to reduce unacceptable effects on spawning success. As such, the best available science suggests that this regulation is insufficient to minimize adverse impacts and potential deleterious effects.

As for Section 228(k)(16): the proposed program allows dredging to occur concurrently with the start of KTR spring-run Chinook spawning season on the Salmon River. Although this regulation prohibits the disturbance of redds and adult fish, the proposed program should not be creating a situation in which dredging season overlaps with spawning season and early fry emergence and, having recognized yet allowed a potential deleterious effect of overlapping seasons, is in violation of Fish and Game Code § 5653. This regulation is no substitute for prohibiting all dredging during all parts of spawning season and fry emergence with enough of a temporal buffer to ensure no overlap even during atypical years or issuing a Class A closure on the Salmon River and its forks.

Recommendation

Assign a Class A or Class B use classification to KTR spring-run Chinook (SEIR Table 2-1) to address temporal problems with the Class F use classification and impacts of a Class F season.

Reassess and quantitatively analyze whether Section 228(c)(2) and Section 228(k)(15) regulations truly reduce the proposed program’s adverse impact on KTR spring-run Chinook.

COMMENT 10: THE PROPOSED PROGRAM DOES NOT AVOID THE ADVERSE IMPACTS IDENTIFIED IN IMPACT-BIO-FISH-2 FOR SALMON RIVER KTR SPRING-RUN CHINOOK AS WELL AS OTHER SPAWNING FISH SPECIES ON RIVERS THROUGHOUT THE STATE.

Reasoning

The SEIR purports that potentially significant adverse impacts to fish (Impact BIO-FISH-2) are avoided by spatial and temporal restrictions on dredging (SEIR 4.3-28):

“If left unrestricted, direct entrainment, displacement or burial of eggs, larvae and mollusks by suction dredging would be potentially significant with respect to Significance Criteria A and D. However, the Proposed Program incorporates spatial and temporal restrictions to protect the most vulnerable early life stages of Fish action species (Table 4.3-1).”

However, in the case of KTR spring-run Chinook in the Salmon River watershed, the life history, abundance, and distribution of the fish are improperly accounted for in the spatial and temporal restrictions proposed by CDFG. The Class F suction dredging season (June 1 – Sept. 30) overlaps a minimum of two weeks with the well-documented start of spring-run Chinook spawning season beginning on the Salmon River no later than mid-September (Salmon River Restoration Council 2011) and does not, as the SEIR claims, restrict suction dredging “in the period immediately *before* spawning” (which would be late August or early September for the Salmon River KTR spring-run Chinook). As such, dredging will be permitted concurrently with the spawning of Salmon River KTR spring-run Chinook.

Similarly, the Class F suction dredging season overlaps with the latter period of fry emergence for KTR spring-run Chinook on the Salmon River in June. West (1992) indicates, “first emergence is not observed until March **and extends until early June**” (emphasis added). Consequently, suction dredging operations permitted under a Class F season beginning June 1 are likely to overlap with fry emergence and pose potentially significant and adverse impacts to emerging fry.

The Class F season, therefore, fails to adequately avoid the potentially significant direct impacts identified in Impact-BIO-FISH-2 to KTR spring-run Chinook *both* during spawning *and* early fry emergence.

Additionally, the very limited number and distribution of KTR spring-run Chinook in general and of the Salmon River’s predominantly or exclusively wild subpopulation in particular, make this species protected from adverse impacts solely via a Class A closure so that direct, indirect, concurrent, and delayed impacts of dredging do not adversely impact the species. As proposed, the program fails to close the Salmon River to dredging for the complete spawning season much less provide the more protective Class A closure.

The SEIR continues its rationale of how the proposed program regulations “would further minimize the potential for entrainment, displacement, or burial of eggs, larvae and mollusks in areas open to suction dredging:” on 4.3-28:

- *“Section 228(c)(2): requires dredgers to provide CDFG with information regarding the location of their dredging operation(s). This will allow CDFG to monitor and manage areas with high dredging use, and potentially modify regulations if deleterious effects are identified.*
- *Section 228(k)(13): prohibits dredging in mussel beds.*
- *Section 228(k)(14): requires dredgers to take reasonable care to avoid dredging silt and clay materials that may result in increased turbidity and deposition of fines on the gravels.*
- *Section 228(k)(15): requires dredgers to level all tailing piles prior to working another excavation site or abandoning the excavation site.*
- *Section 228(k)(16): requires dredgers to avoid the disturbance of eggs, redds, tadpoles and mollusks.”*

As for Section 228(c)(2): the proposed program does not establish any formal or organized effort to monitor the impacts of suction dredging nor to review regulations in light of further examination of the proposed programs actual impacts once implemented. In fact, the SEIR dismissed the alternative of tracking and adaptively managing stream use by suction dredgers. (SEIR 6-16, lines 26-33). With CDFG under tight budgetary restrictions and with no plan to request the Legislature to increase suction dredge permit fees to pay for monitoring or the additional expense of enforcing increasingly complex regulations, there is no reason to believe nor any evidence presented that indicates the dredge location reporting requirement will provide any reduction of impact to any biologic resource. Without a plan for monitoring in place nor the budgetary likelihood of being able to pay for such monitoring, this regulation is, in effect, meaningless.

As for Section 228(k)(14): this requirement is based on a subjective determination of what “reasonable care” means as well as a subjective determination of what defines a “significant increase in increased turbidity.” No scientific study has ever indicated that dredging does not increase turbidity or deposition of fines on gravel. It is important to note that despite the SEIR’s claim to the contrary on p. 4.3-28, Section 22k(k)(14) does not actually address the issue of deposition of fines on gravels (see Proposed Amendments To Regulations, Title 14, p.15).

As for Section 228(k)(15): the SEIR provides no scientific evidence in support of the claim that the requirement for dredgers to level all tailings piles will minimize the potential for fish to spawn on unstable substrate. In fact, Harvey & Lisle (1999) indicate that “Where managers determine that unstable dredge tailings may lead to unacceptable effects on spawning success, these effects could be reduced or eliminated through regulations that require that **tailings piles be redistributed to restore the original bed topography and particle size distribution**” (emphasis added). The proposed program’s regulations do not require dredgers to meet this standard. Even if it were possible to restore original bed topography (and dredgers are submitting comments on this SEIR indicating that this requirement cannot be met), the regulations do not require restoration of original particle size distribution as the best available science indicates is

necessary to reduce unacceptable effects on spawning success. As such, the best available science suggests that this regulation is insufficient to minimize adverse impacts and potential deleterious effects.

As for Section 228(k)(16): the proposed program allows dredging to occur concurrently with the start of KTR spring-run Chinook spawning season on the Salmon River. Although this regulation prohibits the disturbance of redds and adult fish, the proposed program should not be creating a situation in which dredging season overlaps with spawning season and early fry emergence and, having recognized yet allowed a potential deleterious effect of overlapping seasons, is in violation of Fish and Game Code § 5653. This regulation is no substitute for prohibiting all dredging during all parts of spawning season and fry emergence with enough of a temporal buffer to ensure no overlap even during atypical years or issuing a Class A closure on the Salmon River and its forks.

Recommendation

Assign a Class A or Class B use classification to KTR spring-run Chinook (SEIR Table 2-1) to address temporal problems with the Class F use classification and impacts of a Class F season. Reassess and quantitatively analyze whether Section 228(c)(2), Section 228(c)(14) and Section 228(k)(15) regulations truly reduce the proposed program’s adverse impact on KTR spring-run Chinook.

COMMENT 11: THE PROPOSED PROGRAM DOES NOT AVOID THE ADVERSE IMPACTS IDENTIFIED IN IMPACT-BIO-FISH-3 FOR SALMON RIVER KTR SPRING-RUN CHINOOK AS WELL AS OTHER SPECIES ON RIVERS THROUGHOUT CALIFORNIA.

Reasoning

The SEIR purports that potentially significant adverse impacts to fish (Impact BIO-FISH-3) are avoided by spatial and temporal restrictions on dredging (SEIR 4.3-30):

“If left unrestricted, impacts of suction dredging early life stages of Fish would be potentially significant under Significance Criteria A and D. However, the Proposed Program incorporates spatial and temporal restrictions on suction dredging where necessary to protect the development of critical early life stages of Fish action species (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.”

Again, in the case of KTR spring-run Chinook in the Salmon River watershed, the life history, abundance, and distribution of the fish are improperly accounted for in the spatial and temporal restrictions proposed by CDFG. The Class F suction dredging season (June 1 – Sept. 30) overlaps a minimum of two weeks with the well-documented start of spring-run Chinook spawning season beginning on the Salmon River no later than mid-September (Salmon River Restoration Council 2011) and does not, as the SEIR claims, restrict suction dredging “in the period immediately *before* spawning” (which would be late August or early

September for the Salmon River KTR spring-run Chinook). As such, dredging will be permitted concurrently with the spawning of Salmon River KTR spring-run Chinook.

Additionally, the Class F suction dredging season most likely overlaps with the latter period of fry emergence for KTR spring-run Chinook on the Salmon River in June. West (1992) indicates, “first emergence is not observed until March **and extends until early June**” (emphasis added). Consequently, suction dredging operations permitted under a Class F season are likely to overlap with fry emergence and pose potentially significant and adverse impacts to emerging fry.

West et al. (1990) found spring-run Chinook survival to fry emergence in the South Fork Salmon River was highest in areas with the lowest volume of sediment, and lowest in areas with the most sediment. The SEIR (p. 4.3-29) recognizes that “dredging has potential to release fine materials which can clog interstitial spaces” and “can result in a number of negative effects, including the reduced size of embryos at various developmental stages, premature emergence of alevins (newly hatched salmon still attached to the yolk sac), increased alevin development time, and higher pre-and post-hatching mortality.” According to the Salmon River TMDL, “local residents have observed turbidity plumes and deposition of fine material downstream of suction dredges” (North Coast Regional Water Quality Control Board 2005).

The SEIR continues its rationale of how the proposed program regulations “would further minimize the potential impacts to critical early life stages:” on 4.3-30 & 31:

- *“Section 228(k)(3): prohibits dredgers from dredging within 3 feet of the lateral edge of the current water level. This regulation would protect against streambank destabilization that could result in release of fine sediment.*
- *Section 228(k)(4): prohibits dredgers from damaging or removing streamside vegetation. This regulation would protect against streambank destabilization that could result in release of fine sediment.*
- *Section 228(k)(14): requires dredgers to take reasonable care to avoid dredging silt and clay materials that may result in increased turbidity and deposition of fines on the gravels.*
- *Section 228(k)(15): requires dredgers to level all tailing piles prior to working another excavation site or abandoning the excavation site.*
- *Section 228(k)(16): requires dredgers to avoid the disturbance of eggs, redds, tadpoles and mollusks.”*

While Section 228(k)(3) and (4) regulations are likely to assist in minimizing sedimentation originating outside the active stream channel, the requirement to level all tailings piles in Section 22(k)(15) is unlikely to minimize impacts associated with sedimentation or redistribution of fines on gravels because it is inconceivable for dredgers to be able to place fines and sediment back into a dredge hole. In many situations, dredging re-suspends and transports most or all of the fine sediment that may clog interstices of gravel and impact early life stages of fish well away from the dredge and tailings pile. The SEIR provides no indication of how this easily transported fine sediment may be captured returned to the originating dredge hole.

As for Section 228(k)(14): this requirement is based on a subjective determination of what “reasonable care” means as well as a subjective determination of what defines a “significant increase in increased turbidity.” This is too vague and subjective and can be expected to result in less than adequate compliance. No scientific study has ever indicated that dredging does not increase turbidity or deposition of fines on gravel. It is important to note that despite the SEIR’s claim to the contrary on p. 4.3-28, Section 22k(k)(14) does not actually address the issue of deposition of fines on gravels but rather simply the subjective and qualitative interpretation of increased turbidity (see Proposed Amendments To Regulations, Title 14, p.15).

Recommendation

Assign a Class A or Class B use classification to KTR spring-run Chinook (SEIR Table 2-1) to address temporal problems with the Class F use classification and impacts of a Class F season. Reassess and quantitatively analyze whether Section 228(c)(14) and Section 228(k)(15) regulations truly reduce the proposed program’s adverse impact on KTR spring-run Chinook.

COMMENT 6: THE PROPOSED PROGRAM DOES NOT AVOID THE ADVERSE IMPACTS IDENTIFIED IN IMPACT-BIO-FISH-8 FOR SALMON RIVER KTR SPRING-RUN CHINOOK BECAUSE MANY IMPORTANT AND WELL-DOCUMENTED THERMAL REFUGIA HAVE BEEN OMITTED FROM THE LIST OF AREAS CLOSED TO DREDGING.

Reasoning

The SEIR purports that potentially significant adverse impacts to fish (Impact BIO-FISH-8) are avoided by “specific year-round closures of areas within streams that are known to provide thermal refugia for this species” (SEIR 4.3-41):

“If left unrestricted, impacts of suction dredging on thermal refugia would be potentially significant with respect to Significance Criteria A, B and D. More specifically, 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 Proposed Program regulations include specific year-round closures of areas within streams that are known to provide thermal refugia for this species (Appendix L). Closures of these areas, and appropriate buffers in the upstream direction, will provide protection for this type of habitat.”

Salmon River thermal refugia with holding habitat that have been documented both on the ground and/or by airborne remote sensing surveys but are omitted from the SEIR’s Appendix L (“Species-Based Restrictions On Proposed Program Activities”) include:

1. Wooley Creek confluence with mainstem Salmon River ^{*†}
2. Tom Payne Creek confluence with mainstem Salmon River [†]
3. Grants Creek confluence with mainstem Salmon River [†]
4. Morehouse Creek confluence with mainstem Salmon River ^{*†}
5. Lewis Creek confluence with mainstem Salmon River ^{*†}

6. Springs at Bloomer Falls on mainstem Salmon River *
7. Crapo Creek confluence with mainstem Salmon River *†
8. Knownothing Creek confluence with SF Salmon River **†
9. Hotelling Creek confluence with SF Salmon River *
10. Black Bear Creek *†‡
11. Indian Creek confluence with SF Salmon River *
12. East Fork of the SF Salmon River confluence with SF Salmon River *†
13. Picayune Gulch confluence with NF Salmon River †
14. Peck Gulch confluence with NF Salmon River †
15. Cronan Gulch confluence with NF Salmon River *†‡
16. Olsen Gulch confluence with NF Salmon River *
17. Glasgow Creek confluence with NF Salmon River *†
18. Whites Gulch confluence with NF Salmon River *†‡ (SRRC 2005 thermal refugia survey documented dredge tailings filling in much of the pool)
19. North Russian Creek confluence with NF Salmon River *†‡
20. South Russian Creek confluence with North Russian Creek (NF Salmon drainage) *†‡

* = identified by Salmon River Restoration Council's Thermal Refugia Surveys, 2004 & 2005

† = identified by Salmon River Basin Thermal Infrared (TIR) Survey, 2009

‡ = coho present in refugia during Salmon River Restoration Council's Thermal Refugia Survey, 2005

All data from Salmon River Restoration Council, PO Box 1089, Sawyers Bar, CA, (530) 462-4665

Not all thermal refugia occur at mouths of cooler tributary streams. Interactions with groundwater and hyporheic flows also provide cool water for thermal refugia or to otherwise buffer stream temperatures along discernable sections of stream reach, providing local habitat and refugia from warmer mainstem temperatures (Burkholder et al. 2008). An airborne thermal infrared remote sensing survey of the Salmon River and its forks conducted by Watershed Sciences, Inc. on July 22 & 23, 2009 identified several areas in the Salmon River watershed where subsurface and hyporheic flows create areas of cooler water, sometimes providing substantial cool water inputs for long reaches. (Watershed Sciences 2010). Areas with an important contribution of cool water from subsurface flows, hyporheic flows, seeps and springs identified by the 2009 Salmon River Basin Thermal Infrared Survey include:

1. the 2.5 mile long reach on the mainstem Salmon River immediately below the confluence of the NF and SF Salmon Rivers at Forks of Salmon, CA,
2. at river mile 9.25 on the NF Salmon River,
3. the vicinity around and below Little North Fork confluence with the NF Salmon River,
4. at river mile 14.79 on the NF Salmon near Sawyers Bar, CA,
5. at river mile 14.93 on the NF Salmon near Sawyers Bar, CA,
6. near the confluence of Little Grizzly Creek and the South Fork Salmon River.

Despite the clear scientific understanding of the significance of thermal refugia for the survival of salmonids and other species, the locations of thermal refugia created by springs, seeps, subsurface, and hyporheic flows are poorly known. Nevertheless, all identified areas of cool water holding habitat should be closed to all dredging.

Recommendation

Add all omitted thermal refugia listed above to Appendix L and place a Class A closure on these areas with an effective 500 foot closure. Obtain and closely review the Salmon River Restoration Council's detailed July 2009 TIR data to identify all areas where hyporheic thermal refugia are likely to exist and close these areas to dredging.

COMMENT 12: THE COMPLEX SET OF THERMAL REFUGIA CLOSURES AND REGULATIONS REQUIRED TO ATTEMPT AVOIDANCE OF ADVERSE IMPACT TO FISH ON THE SALMON RIVER CREATES A FAILURE-PRONE SYSTEM DEPENDENT UPON MICROMANAGEMENT OF TOO MANY VARIABLES TO BE EFFECTIVE.

Reasoning

In order to avoid adverse impacts to fish, the proposed program relies very heavily on a complex set of regulations to micromanage when, where, and how a dredge may be used. Nowhere is this more apparent—or prone to failure—than on the Salmon River with its 38 known thermal refugia that, if closed to dredging, will create a complex and confusing patchwork of opened and closed areas throughout the river system. If any component in this system of micromanagement is not working flawlessly—whether that is the result of an individual dredger knowingly or unknowingly violating the regulations or a systemic issue with the regulations to begin with (e.g., how will a thermal refugia and its 500 foot radius be identified on the ground)—there are likely to be adverse and potentially deleterious effects to sensitive, rare, and threatened species. Given the significance of potential impact and the likelihood of some degree of failure to successfully micromanage the many potentially adverse impacts, an added degree of caution is required.

For example, how will CDFG manage the multitude of thermal refugia closures on the Salmon River? There are a minimum of 38 known thermal refugia at tributary confluences alone, and managing these 38 closed areas as is required to avoid significant impacts to fish would require an extraordinary effort on part of CDFG *and* the willing and knowledgeable cooperation of all dredgers. Almost none of the tributaries that form thermal refugia at their mouths are identified on the ground by signs at all (and none of them are signed at the refugia). Every dredger would need a detailed map and geographic awareness to be able to determine whether or not they are dredging in a closed thermal refugia. It is unrealistic to assume that placing a thermal refugia on a Class A closure list will equate to compliance on the ground when there are so many different refugia in a small area. This is not a situation where one or two places are closed; it is a large number of unmarked closed areas within a heavily dredged river corridor. The SEIR does not discuss how this will be successfully managed nor provide any analysis of consequences of failure.

Any failure of the proposed program's complex set of regulations, seasonal restrictions, and geographic closures to avoid impacts of dredging on KTR spring-run Chinook could have a significant impact and deleterious effect on these fish. Due to the exceptionally low population of KTR spring-run Chinook on the Salmon River—as few as 78 adult fish have been counted

some years and the median population is only 466 fish (Salmon River Restoration Council 2010)—an impact on any individual fish could have an impact at the population level.

Recommendation

Rather than relying on a complex program of micromanagement prone to failure, the proposed program should close the Salmon River, its forks and tributaries to all dredging year-round (Class A).

COMMENT 13: THE PROPOSED PROGRAM’S REGULATIONS EXTEND THE OPEN DREDGING SEASON ON THE SALMON RIVER AND ITS FORKS AS COMPARED TO THE 1994 REGULATIONS, OVERLAPPING DREDGING WITH THE BEGINNING OF SPRING-RUN CHINOOK SPAWNING SEASON IN FALL AND THE LATTER PORTION OF FRY EMERGENCE IN SPRING. THIS CREATES A SITUATION WHERE MINING ACTIVITY WILL DIRECTLY THREATEN AND ADVERSELY IMPACT SPAWNING ADULT FISH, REDDS, EMERGING FRY, AND HABITAT ACTIVELY BEING USED FOR REPRODUCTION.

Reasoning

Although this discrepancy is mentioned in several of the previous comments, it is of such significance that it merits its own comment. If anything, the increase in knowledge and understanding of the impacts of suction dredging on salmonids coupled with the continued decline of KTR spring-run Chinook population on the Salmon River since 1994, these fish should be receiving an increase in temporal protection by the proposed program’s new regulations, not a decrease in temporal protection as is proposed.

Spawning surveys on the Salmon River have located redds as early as September 14 (Salmon River Restoration Council 2011), indicating that KTR spring-run Chinook spawning is, at least in some years, taking place prior to mid-September.

Additionally, the opening of the Class F season on June 1 overlaps with early fry emergence for KTR spring-run Chinook on the Salmon River. West (1992) indicates, “first emergence is not observed until March **and extends until early June**” (emphasis added) on the Salmon River. Consequently, suction dredging operations permitted under a Class C season are likely to overlap with fry emergence and pose potentially significant and adverse impacts to emerging fry.

West (1992) recommended “CDFG should consider changing suction dredge operating season for Klamath River tributaries in Siskiyou County (Zone D) to June 15 or July 1 to September 15, to reduce potential impacts to larval steelhead development.” Combining this earlier recommendation aimed at protecting steelhead with the known dates of spring-run Chinook spawning and fry emergence, *at the very minimum* the Salmon River should not be open to any dredging between September 1 and July 1 (Class B). As stated earlier, the challenge of

successfully implementing a program reliant on micromanaging the time, space, and specific methods of suction dredging combined with the likelihood for significant adverse impact and deleterious effect on an already rare population of the last remaining wild KTR spring-run Chinook, the only logical and reasonable method of protecting these fish from harm is to completely close the Salmon River to dredging (Class A).

Further, Dr. Peter Moyle’s expert opinion on the potential effects of suction dredging on fishes of the Klamath River and tributaries, provided on behalf of the plaintiffs in Karuk Tribe vs California Department of Fish and Game (Superior Court of California, Alameda County, RG0521197) states:

“In my professional opinion, the following waters should be Class A (no dredging permitted) waters beyond what is already classified as such: ...Salmon River including the north and south forks and all tributaries. This designation is to protect the entire suite of Klamath Basin anadromous fishes, especially coho salmon in the tributaries, spring-run Chinook and summer steelhead in the two forks of the Salmon River, and green sturgeon and lamprey in the mainstem salmon.”

Recommendation

Designate the Salmon River as Class A to adequately protect KTR spring-run Chinook and other species, such as steelhead, from temporal conflicts with active dredging and residual adverse habitat impacts that remain following any dredge season.

COMMENT 14: THE SEIR APPEARS TO HAVE MISSED THE EXPERT REPORT PROVIDED BY DR. PETER MOYLE OF UC DAVIS AS PART OF THE CASE KARUK TRIBE VS. CALIFORNIA DEPARTMENT OF FISH AND GAME (SUPERIOR COURT OF CALIFORNIA, ALAMEDA COUNTY, RG0521197).

Reasoning

Dr. Peter Moyle is a leading expert on the fishes of California and is an expert on the Klamath River fishery and its current status. The SEIR appears to have omitted a careful study of his analysis and recommendation provide as testimony for the court case that, in many ways, triggered the entire current SEIR process. Some of Dr. Peter Moyle’s suggestions were incorporated into the proposed program, some were contradicted, and some appear to have been ignored. The portion of his report related to Klamath River thermal refugia and tributaries containing fish particularly at risk from suction dredging states:

“The NRC (2003) report emphasized two important considerations for the recovery of Klamath basin fishes that are especially relevant here: (1) cold water refuges are key to the persistence of many species, especially coho salmon and (2) the entire array of anadromous fishes (i.e., the Tribal Trust Species) need large scale and pro-active measures to assure recovery. Suction dredging is one more insult to these fishes that is likely to hurt their chances for recovery. In particular, coho salmon, spring-run Chinook salmon, and summer (spring) steelhead are

particularly vulnerable to the immediate effects of dredging and have been reduced to low numbers in the Klamath Basin so need special protection.

In my professional opinion, the following waters should be Class A (no dredging permitted) waters beyond what is already classified as such:

1. All Klamath River cold-water tributaries, including the Shasta (already class A) River. This is to protect coho salmon in particular.
2. The Klamath River below Iron Gate at the mouths of all tributaries for a minimum of 500 meters (1500 ft) upstream of the mouths and 500 meters downstream of detectable coldwater influence. Most of the smaller tributaries of the Klamath River are substantially colder than the main river and the short sections along the edges that are influenced by the creeks are important summer refuges for juvenile Chinook and coho salmon, as well as steelhead. For example in 2001, USFWS (unpublished data) found juvenile salmonids using refuge areas at the mouths of the following creeks: Aikins, Beaver, Blue, Bluff, Bogus, Boise, Cade, Camp, Cappell, China, Clear, Coon, Dillon, Elk, Elliott, Fort Goff, Grider, Halverson, Hopkins, Horse, Independence, Indian, Irving, Little Grider, McGarvey, Miners, Oak Flat, Pearch, Pecwan, Perch, Pine, Portuguese, Red Cap, Roach, Rock, Rogers, Roseland, Sandy Bar, Seiad, Slate, Stanshaw, Swillup, Thompson, Ti, Tinkman, Tully, Uksnom, Ullthorne, Ukanom, Upsanddown, and Walker. The mouths of the Scott, Shasta, and Salmon rivers should also be protected.
3. Klamath River from Trinity River confluence to Green Riffle, to reduce potential impacts on green sturgeon spawning and rearing.
4. Canyon Creek and all other Scott River tributaries. These streams contain cold water habitats essential for the rearing of juvenile coho salmon.
5. Salmon River including the north and south forks and all tributaries. This designation is to protect the entire suite of Klamath Basin anadromous fishes, especially coho salmon in the tributaries, spring-run Chinook and summer steelhead in the two forks of the Salmon River, and green sturgeon and lamprey in the mainstem salmon.”

Recommendation

Incorporate all of Dr. Peter Moyle’s recommendations contained in his expert report (Moyle 2004) into the proposed program and its regulations. Do not open the Shasta River to suction dredging, close the Klamath River between the Trinity River confluence and Green Riffle, close all Scott River tributaries, close the entire Salmon River watershed.

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P.O. Box 1010, Lake Isabella, CA 93240

O: 760.549.2131 E: brobinson@iwvisp.com

May 10, 2011

Mark Stopher
CA Department of Fish & Game
601 Locust Street
Redding, CA 96001

Re: Comments on Draft Suction Dredge Mining EIR

Dear Mr. Stopher,

I am(/We are) writing to express concern about the draft Supplemental Environmental Impact Review (EIR) of suction dredge mining that is currently being circulated for comment by your Department (DFG). **(One sentence here on your organization or interest in the issue).** **I/we** believe that the current EIR proposes draft regulations for mining that are seriously flawed.

The document proposes as its "preferred alternative" draft regulations for suction dredge gold mining that will cause significant and unavoidable impacts on water quality, historical and archaeological resources, noise, wildlife, turbidity and mercury discharge. The new rules open new river and stream segments to dredging where it has already been outlawed by tribal, federal, state or local law, and allows "mega-dredges" to be used.

The program costs much more money to administer than it brings in to the state. The proposed regulations lack clarity and cohesion, and for many rivers and streams in California are vague, confusing, inconsistent, and contradictory. Finally, the document relies on a definition of "deleterious to fish" that is not consistent with California law or legislative intent in directing funds for development of the EIR.

This EIR needs to be redrafted with an eye toward protecting all of California's fish and wildlife and other natural resources. It is not acceptable for the DFG to spend \$1.5 million on this document and then fail to issue protective regulations that are appropriate and consistent with California's state laws. At a minimum the Department should adopt the most environmentally protective alternatives – either the "no project" or "water quality" alternatives outlined in the document.

Thank you for this opportunity to comment on the suction dredge EIR.

Sincerely,

A handwritten signature in blue ink, appearing to read "Robert Robinson". The signature is fluid and cursive, with a large, sweeping flourish at the end.

Robert Robinson
Co-Chairman, Historic Preservation Officer
Kern Valley Indian Council

Subject: Suction Dredging Comments

Date: Tuesday, May 10, 2011 11:59:10 PM PT

From: James Lee

To: dfgsuctiondredge@dfg.ca.gov

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, California

My name is James Robert Lee, Jr. I live in Auburn, California
I am a graduate of the Environmental School of Design with a B.S.degree in Landscape Architecture, and a practicing Landscape Architect for over 30 years. In the early 1970's I produced both analysis and mitigation proposals for EIR's . My more recent exposure relates to CEQA and Storm Water Management Plans as required by the California Water Quality Act, and to having expert witness status in several court cases.

My primary position, in this suction dredging EIR review is that it is based on a flawed premise. The riverine is presented or treated as a relative stable, infrequently changing environment., rather than the historically, dynamic, naturally eroding (canyon building) or depositing environment (alluvial).

We are spending a million plus dollars of the people of California money , in the hopes that it will provide enough protection against the fear and extortion tactics of certain agenda oriented groups.

While the technical goals of the EIR have been stated in the document, the practical goal is to satisfy the court, and to get certain well funded groups, who appear to possess a self-righteous philosophy, from continually suing you.

My position is that gold dredging is an activity that does not destroy the environment, it merely alters it minimally in the short term. The alteration, (even by a dredge of large nozzle size) is proportionally minuet in relationship to the total area of the waterway and cumulatively insignificant, even if the number of dredgers was in the 10 or 20 thousands range, when area of all gold bearing waterways are considered. In addition, impact occurs in a localized area. More importantly, and although referred to within the DSEIR both in the body and the appendix, the geology and morphology dynamics are understated. This historical, scientifically proven, observed natural and cyclical process of scouring and transporting of fluvial material, negates the majority of the "significant impacts" as noted within the report. This includes The Malloloff Digging are a prime example. Within a few years of hydraulic mining, the tailings were naturally transported several miles to the Yuba River and tens of miles to the flat lands of the valley where farmers complained of the flooding caused by the additional material (which I assume may have contained some amount of mercury) in the river.

While we in the dredging community have stood on the defensive against (to date and apparently in the DSEIR) un substantiated charges, one of the groups, whose tactic is to provide fear and mis-information to garner support from a large group of people. These people, without regard to their "station or success" in life, seem to have unfulfilled lives of lost or wasted dreams. These groups feed these people with the feeling of truly belonging and the illusion -for maybe the first time - being a part of doing something magically meaningful - they are saving the Earth.

The fact that most of these groups are not capable of saving the Earth, and use most of the followers resources and the general populations resources (through court judgements for missed deadlines by creating scenarios of paper work blizzards and piling on requests for consideration and evaluation of everything from whales to micro ameba.

A representative of one of these groups stood before us at the last Sacramento meeting and nicely informed us that if we ever wanted to be dredging again, we would have to meet them half way. Sounds reasonable but actually reminds me a of a passage from the book the "Art of Negotiation" where, during World War Two, the leader of an aggressor country informed a coalition of other countries that he was going to take over six countries. The coalition fought back and negotiated a settlement that allow for the take over of only 3 countries. The coalition was very proud of itself but the real problem was that the aggressor did not have a right to any of the countries.

I was educated and perhaps over-educated (post-grad work) in Environmental Science but I never did quite fit in. I was the "free thinker non-conformist" that all my late 60's and early 70's, dope-smoking, tie-dyed, filthy, long haired, carbon copy class mates said they were.

I learned my "stuff" but didn't really fit into the Environment departments in professional firms. They had their place for me when they realized I could dissect and analyze their reports with a truly un-biased point of BOTH views. I could find the flaws, the strengths and the weakness.

While it was many years that I was very accomplished at my task and an irritatingly encyclopedia of knowledge not only of regulation content but in most cases and more importantly, I had an practical and near intuitive sense of the intent of the regulation. I have dusted off some grey cells and as time permitted, pulled out the scalpel and cut into the meat of the DSEIR - mostly from the supporting documentation, analysis of data and methods, and the application of "threshold of significance" based on the most telling aspect of "potentially significant impact" - statistical probability and/or likelihood of event occurrence.

Example: Dozens of meteorites hit the earth each day. Most are rice size of smaller. But weekly or so, marble size particles also hit the earth. It would be reasonable to say, that if one of these meteorite marbles hit you the impact would most definitely be considered significant. If this were considered under an EIR as a function of required non-sheltered outside activity, the POTENTIALLY "significant impact" to a living organism (that would be you). But the threshold of significance is not met as it is not supported by statistical probability. Documented information, scientific tests with supporting data to up hold the supposition/anticipated conclusion/hypothetical, analysis of past occurrence and possible cumulative impacts must be brought forth and fully vetted. The unsubstantiated opinion of a scientist at Livermore Labs has no more weight for this purpose, than a person wearing an aluminum foil hat, standing on a street corner carrying a sign saying that the END IS NEAR!!! What I am saying is that while an event may have POTENTIAL, that it alone does not presume to make the action one that may ("may" supported as likely - that is 51% or higher) be presumed to be labeled and "significant impact" when viewed against the "whole".

I presume that the DFG is hoping, with a well documented, and fully scientifically supported EIR , to insulate itself from further attacks for either side. I have completed a superficial forensic of analysis of the document, with primary emphasis on the Alternatives sections and its conclusions with supporting data as take from the Chapter 8. This document with proposed Alternatives as presented and using its own data, is so flawed, that in my professional opinion, it makes you more venerable than no document at all.

There is a readily apparent lack of understanding:
Of the process, methodology, economics and/or feasibility of suction mining;
That within the placer mining methods, suction mining represents Best Method Practices;
Suction mining using Best Available Technology for the purpose of most efficient and effective recovery of precious metals with the least impact;
Suction mining is referenced as to a specific industrial/construction like category with specific allowable standards of operation that differ from home or recreation equipment and/or home or recreation equipment use specifically relating to noise and time of operation.

The shallow superficial information:
Within the glossary;
The lack of relevant supporting scientific documentation for hypotheticals or assertions;
The flawed premise;
The un-supported suppositions;
The projections of the un-supported assertions and/or hypotheticals to conclusions of inevitable consequence;
The above mentioned and the dated or complete lack of even basic information, creates a situation that has significant potential and an extremely high probability of being successfully destroyed in a court of law.

The Alternative Section of the DSEIR is constantly using this substandard documentation, analysis, and conclusion to evaluate and establish program alternatives. The DFG in turn created a proposed set of regulations to address these alternatives.

A brief highlight of three of the more egregious shortcomings in the "significant impact" areas:
No supporting or referenced scientific studies and data within the document to support that half of the special species Passerines are actually at risk.

The "significant impact" regarding mercury and the cumulative impact is based of sampling methods so flawed and easily checked by simple mathematics, that if they were presented to a buyer of a mining property as a representative "sample" (refer Humphreys: one Kg sample taken and processed from the 5900 KG tailings. Results yielded a recovered amount of 298 mg of mercury/Kg for what was presented as a "representative sample" or Fleck: the super concentration of the "water column"; resulting in very high amounts of mercury presented as a "representative sample") you would be successfully sued for criminal fraud.

The cultural and archaeological "significant impacts" and cumulative impacts are similarly flawed. Having checked with Ric Windmiller a renowned consulting archaeologist as to the potential for meeting CEQA criteria within the riverine, his professional opinion from 40 + years of investigation, is that the potential is nill.

The project alternatives are typically presented and are demonstrated to show there strong and weak points as supported by the documented scientific supporting data. The author of the alternatives shows complete ignorance of the placer mining types, methodology and procedures as it relates to site conditions and balanced against both feasibility and practicality. If they had even a basic understanding or had aquired a professional consultant regarding this matter, their own conclusion would have been that suction mining represents Best Available Technology and more importantly a Best Methods Practice.

The major emphasis of the Alternatives was a "sales presentation" on why their Proposed

Alternative was best with incessant comparison within the description of other Alternatives.

Reduced nozzle size; limited permit numbers; winching restrictions; hours of operation; etc were all predicated on the presumption that there conclusions and designations of "significant impacts" were in fact accurate when IN FACT there are no CEQA required, scientific supporting data to up hold nearly ANY of there supposition or misstating of fact or presumed facts.

James Robert Lee, Jr.
Landscape Architect RLA #1528
Auburn, California

Subject: Comment on Suction Dredge Mining DSEIR

Date: Tuesday, May 10, 2011 3:52:13 PM PT

From: Philip Leighton

To: mstopher@dfg.ca.gov

Dear Mark,

With its damage to stream and river ecology, suction dredging is only one step removed from hydrolic mining, an extraction technique that was outlawed many years ago for good reason. If there is any genuine concern for the environment, there is no question that suction dredging should not be permitted, particularly in a watershed as critical as the Klamath basin though the same should apply to other basins in California. Don't allow it to happen. Alternatively, one should ask why hydrolic mining is not allowed.

Phil Leighton

Philip Leighton
220 Willowbrook Drive
Portola Valley, CA 94028

Subject: Bring back Dredging

Date: Tuesday, May 10, 2011 4:40:40 PM PT

From: michael lewis

To: dfgsuctiondredge@dfg.ca.gov

Hi, Mark I am writing you this letter hoping you will let us dredge again. I have been dredging for many years and have removed at least 50 lbs of fishing lead, bullets, swimmers garbage, and about 2 one ounce vials of mercury. As you have heard everyone else's comments at the scoping meetings, well mine are the same! It has taken a big toll on my family since we purchased our claim 2 years ago, with a little 5 inch dredge and had to sell it all since I couldn't use it. Anyway, please open it back up and let us dredge on the North Fork American River above Lake Clementine dam. Thanks, Michael Lewis.

Use of the CWHR System Software for Distribution Maps

Assumptions and Pitfalls

What is the CWHR System?

- **A software modeling program**
- **Predicts presence of and habitat suitability for 694 terrestrial vertebrates based on geographic distribution, relationships to habitats and stages, seasonal use patterns and presence of habitat elements.**

A Predictive Model

- **Consequently represent only potential habitat NOT actual species distribution is represented**
- **Does actually not show where any given species is to be found**

What is the CWHR Software Used For?

- **Used to construct action species Distribution Maps**
- **The action species maps are then used to control or eliminate dredging through the A to H waters use classification**
- **This why it's extremely important that it is correctly applied**

Limitations of the CWHR System

- **The granularity (resolution) of the software program is too course**
- **Cannot precisely identify a specific stream in a given watershed and assign a use classification correctly**
- **Especially since it is based on GIS maps at 1:1,000,000 or 1:250,000 scale**

Limitations of the CWHR System

- **The input data used for generation of the CWHR range distributions maps are user selected and subject to the biases of the individual inputting data into the CWHR model.**
- **Distribution maps are outdated**
- **Extirpation data in the last 10+ years is not taken into account**

Limitations of the CWHR System

- **From the DFG (personal communication, e-mail, 4/29/11):**
- **“the range map is only meant to show the limits of distribution of a species in California. It is coarse and statewide and, by design, errs on the side of overestimating.”**

Limitations of the CWHR System

- From Loo and Vindum (1999):
- Because large-scale biological inventories are financially prohibitive , habitat model are constructed to predict species compositions.
- Their sampling detects only 50% of the predicted species (one amphibian and nine reptile species). Recent fieldwork, thus, brings into question the reliability of their model, quite apart from the lack of hard data.” Howell and Barrett (1998)

Limitations of the CWHR System

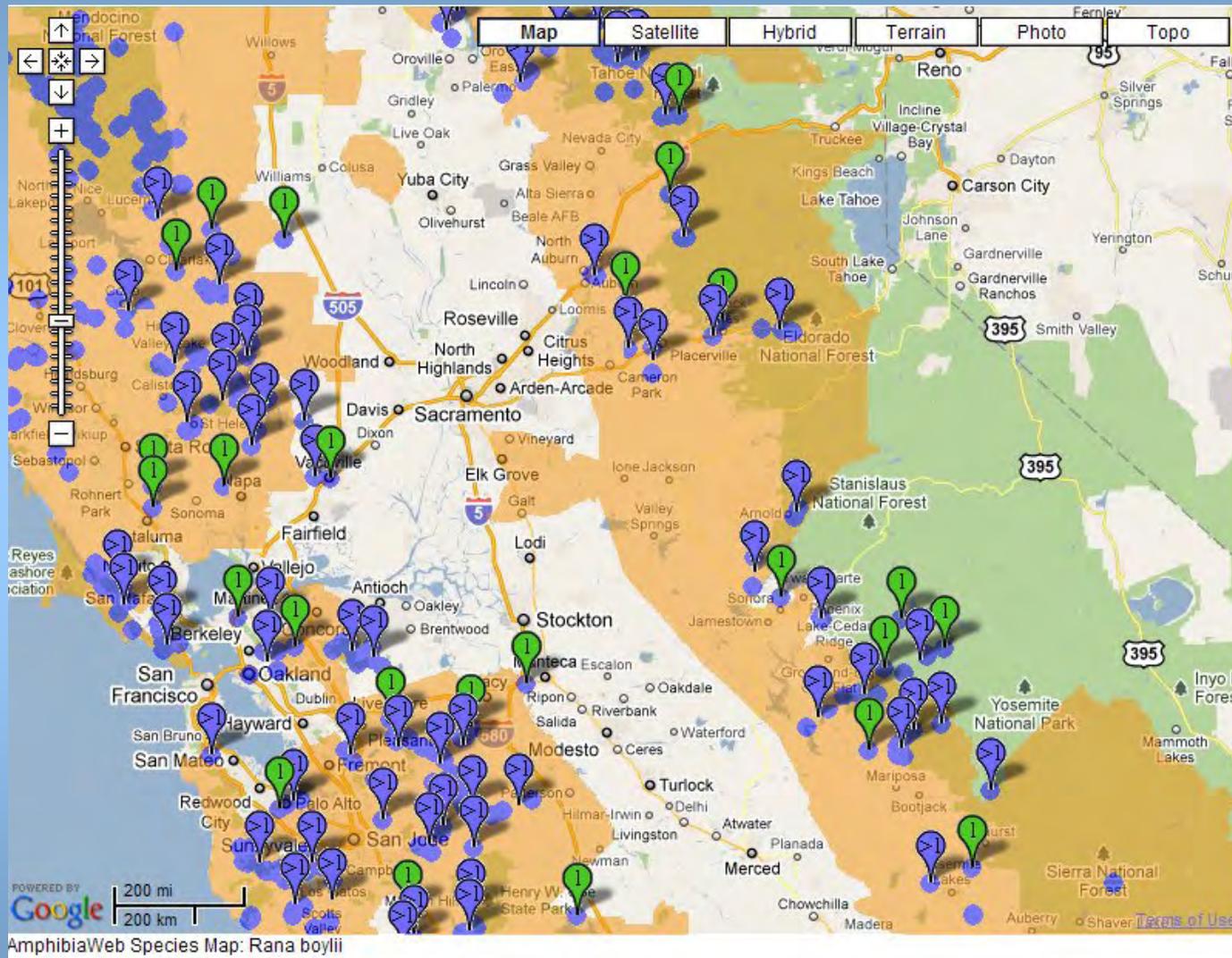
- **So using CWHR software, even in the hands of competent research scientists predicts a greater number of species than are actually resident at the site being mapped.**
- **In the above example, only one of three amphibian species was present, 33%. The CWHR System software does not have a great enough predictive value to used to close down whole streams and rivers.**

Map From CaliforniaHerps.com

*Historical
Range
R. boylii*



Map from Berkeley Viewer



Conclusions

- **CWHR modeling software is an incorrect and inappropriate tool for use in deciding a use classification for any given waterway.**
- **Its gross imprecision and the inherent overestimation of species negate any value for action species restrictions.**
- **Distribution maps are dated and do not factor in current extirpation data. The proposed DSEIR protects habitat with no known amphibia to protect.**

Takeaway

- **The action species restrictions and distribution maps need further review, appropriate modifications, elimination and/or changes based on correct data.**
- **Proposed DSEIR use classifications need to better reflect the actual presence of amphibia**
- **A sniper rifle should be used not an area effects weapon (bomb)!**
-

*Thank You for Your Attention
and Your Time*

*Craig A. Lindsay, BS Animal Science,
U.C. Davis
President, North Fork Dredger's
Association*

Subject: Proposed 2011 Dredging regulations
Date: Tuesday, May 10, 2011 9:47:12 AM PT
From: Harry Lipke
To: mstopher@dfg.ca.gov

Mr. Stopher;

As a holder of numerous valid placer mining claims, I object to the following items in the 2011 proposed dredging regulations:

I object to the limitation of 4000 permits on a "first come, first served" basis. As a holder of valid claims, I should be entitled to a permit. If I were denied one, my right to remove minerals has been denied also. Resulting in a "taking".

I object to the "six locations". The permit should be valid anywhere in California where dredging is permitted. I have 7 placer claims.

I object to the pump intake size. 3/32" is too small. No other "in water" activity is limited to this size.

I object to having to use nozzle, constriction ring (unless it exceeds the legal size) and model of engine listed in permit. Max horsepower and nozzle size should be listed on permit and that should be a limiting factor.

I object to the limitations on motorized winching. No other activity requires an inspection before using a motorized winch.

I object to the 1/2 hour after sunrise to sunset limitation on dredging. I would say that limitation might be valid if you are within a certain distance of a residence or organized campground. Say 500 feet?.

I object to the permit number having to be displayed visibly on dredge equipment. This is not practicable. Permit or copy of permit should be sufficient.

Thank you,

Harold Lipke
8748 Apple Lane
Yreka, CA 96097
530-340-1432

Timothy J. & Mary A. Livingston
23904 Coleman Fish Hatchery Road
Anderson, CA 96007

May 10, 2011

Mark Stopher
Department of Fish and Game
601 Locust St
Redding, CA 96001

RE: Comments on the DSEIR for the Suction Dredge Permit Program

Dear Mr. Stopher:

We are formally submitting our comments on the DSEIR for the Suction Dredge Permit Program. We believe that the rules should serve the dual purpose of protecting our public trust resources, while allowing for and facilitating the rights of claim holders to operate on our mining claims. Our comments will be referred to the specific sections of the DSEIR.

228. Suction Dredging

(c) Permit Application.

We are concerned that the requirement to list six locations of operation opens up the opportunity for other parties to access that information for the purpose of damaging or stealing equipment, or otherwise interfering with operations. Neither hunters nor fishermen are required to notify the Department in advance of a hunting or fishing trip and they have a direct impact on fish and wildlife. It would be better for the DFG to contact dredge operators directly for the purpose of inspections. Also, attaching the numbers of dredge permit holders on the dredge is not at all practical since these number can change from year to year. It would be better to register the dredge itself with its own number and have the operators purchase a separate license. The amount of suction dredging taking place at any given time is limited by the number of dredges not the number of operators.

(g) Number of Permits

A limitation of 4,000 permits appears to be totally arbitrary and should be removed. Where is the study of carrying capacity to arrive at this level? If the rules protect against negative impacts by using best management practices then a permit limit is unnecessary. If a limit were deemed to be absolutely necessary then it should apply to the number of registered dredges and not dredging permits. Also, applying a set number to dredging permits allows for abuse by groups opposed to suction dredging by buying large numbers of permits and referencing them all to a single dredge for the purpose of further blocking mining operations.

(j) Equipment Requirements

Nozzle restrictions should be left at six inches. All the large rivers have flood control dams. This prevents the river bottoms from being completely picked up and moved during massive flood events like they were prior to the dams' construction. As a result river bottoms become impacted, thus lose desirable spawning characteristics. Dredging frees up material in the impacted river bottoms and allows for fresh and loose gravels to be deposited. The larger nozzles allow for more material to be processed creating a greater positive effect. If disturbance is a concern we believe that is addressed in section that requires that the tailing

piles be returned to pre-mining grade. However, deep pools created by dredging also provides for deeper cooler water for the hot summer months during that dredging season.

The proposed rule for Pump Intake Screening states “**Screen mesh** openings shall not exceed **3/32 inch** (2.38 mm) for woven wire or perforated plate screens, or 0.0689 inch (**1.75 mm**) for profile wire screens, with a minimum **27% open area.**” NMFS follows this standard with this statement “If fry-sized salmonids are never present at the site (by determination of agency biologists) screen mesh openings shall not exceed **1/4 inch** (6.35 mm) for woven wire, perforated plate screens, or profile wire screens, with a minimum of **40% open area.**” This should be the standard for non-salmon bearing streams.

(k) Restrictions on Methods of Operation

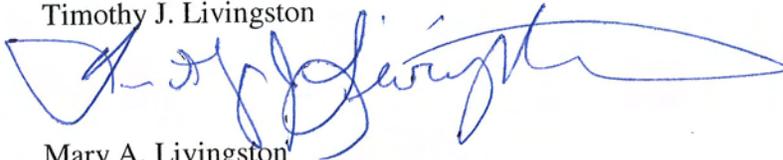
No dredging allowed within three feet of the lateral edge of the current water level appears to be an arbitrary distance applied to create an enforceable standard. On small streams this has the onerous affect of eliminating most of the streambed from dredging. In the narrowest areas of most small stream channels restriction by bedrock sidewalls is the most common cause. These bedrock sidewalls do not allow for the possibility of bank destabilization during dredging. Furthermore, most dredging seasons open in late spring to summer when the water level has dropped and the lateral edge of the current water level is a gravel bar. There is no effect to bank stability along these gravel bars especially when the tailing piles are re-graded in the three-foot zone. The three-foot distance should be removed since the existing protections are adequate. Additional protection is also covered by the new proposed rules that state “No person shall displace any material embedded on banks” and “Reasonable care shall be used to avoid dredging silt and clay material that would result in a significant increase in turbidity.” The three-foot restriction should not be applied to “instream gravel bars” or bedrock banks. Perhaps a seasonal three-foot restriction is appropriate in areas that allow dredging during the winter period.

The follow section on fuel storage should be changed as shown.
“(10) No fuel, lubricants or chemicals may be stored within 100 feet of the current water level. ~~Where this is not feasible~~ or, a containment system must be in place beneath the fuel, lubricants or chemicals.”

Thanks you for the opportunity to comment.

Respectfully,

Timothy J. Livingston



Mary A. Livingston



Revised DEIR Comments

In my comments to the DEIR on suction dredging I will use some examples. These examples are not used to limit my comments. Rather, they are used to give an example of problems that exist. I would be unable to list everything that is wrong with the DEIR without being given information that has been withheld from the DEIR itself. Therefore, I reserve the right to use general descriptions rather than locking myself into the use of only exact specific comments on every minute problem contained within the DEIR.

I find the term Recreational Miner and recreational mining offensive and request that your Department stop using such terms. We are Miners. We mine for locatable minerals, mostly in the mineral estate. The tools we choose to use include, but are not limited to, suction dredges, pans, classifiers.... We mine for gold. Gold is a valuable commodity. When we find gold, we are creating value. An enterprise that has the focus on creating value can't be classified as recreational.

Placing numbers on our dredges is offensive. Fisherman and hunters do not need to place numbers on their tools or equipment to identify themselves. CDFG is required to approach the individual and talk with them. Not using this same strategy gives me the feeling that the CDFG personnel do not want to interact with Miners. Furthermore, I would be required to change the numbers if the nozzle operator changes thought the season or day. This is unreasonable.

CDFG has chosen to uses much incomplete, inaccurate and biased information, studies and tests to draw conclusions in this DEIR.

CDFG has chosen to ignore laws that apply to mining, laws such as, but not limited to, the 1866 Load Law, the 1870 Placer Law and the 1872 General Mining Law.

CDFG has chosen to incorrectly apply laws that Miners for the Mineral estate are exempt from, such as, but not limited to, FLPMA. Sec. 701 clearly states, [43 U.S.C. 1701 note]

(a) Nothing in this Act, or in any amendment made by this Act, shall be construed as terminating any valid lease, permit, patent, right-of-way, or other land use right or authorization existing on the date of approval of this Act.

Since mining is a land use right granted in 1866, mining for gold within the mineral estate is exempt from FLPMA, as with other laws.

CDFG has chosen to use no dredging as a base line for activity while choosing to use the 1994 regulations as the base line for regulations.

CDFG is the Lead Agency for Suction dredging in the State of California. As such, has the responsibility to work with all Agencies that have a stake in mining for gold with a suction dredge. Other Agencies have clearly given CDFG wrong, misleading or fabricated information and CDFG has not spent its time to verify the information. It is clear that CDFG has chosen to incorporate into their regulations wording and regulations from other agencies. However, the communications between CDFG and the other

agencies have been omitted in the DEIR. As aforementioned, much of this information is misleading, incorrect or fabrications and should not be included or given any attention.

There has not been shown by CDFG within this DEIR a need to change the regulations from the 1994 regulations to the proposed regulations in the DEIR.

Alan J. London

Subject: DSEIR and power winching

Date: Tuesday, May 10, 2011 10:24:35 PM PT

From: Jim Madden

To: dfgsuctiondredge@dfg.ca.gov

One last final word, I know that you have heard the disgruntled people talking about power winching and safety. It is all about being safe. I spent 37 years in a large corporation. One of the jobs that I took on my own was safety training. Our company puts great emphasis on making sure that the job site was safe and secure. One slip or loss of attention could result in an injury or fatality. Now that I have retired I spend some of my time at the TechShop where we have a full machine shop, wood shop and other inventors toys to play with. SAFETY is number one there also. I spend a lot of time watching for safety violations there. While most of the tech shop dream coaches watch for unsafe machine use, I focus on other areas. Most people will work for hours on a wood or metal project and not consider stopping once in a while to sweep the floor to avoid slipping hazards. So safety in the work place, safety while doing your hobbies and safety while mining is very important. At our club meetings I always bring up the subject of being safe and I post regular safety tips on the clubs websites.

With that being said, I take an **extremely prejudicial** view of the non power winching clause. **This is all about safety, safety safety it cannot be said enough.** When you use those mechanical hand operated winches you are literally taking your life into your own hands. Most of these have a very short pull range and it takes multiple attachments to the rock to move it safely out of the work area. When winching you want to get the rock moved with minimal interaction.

Every time you go under water to re strap or take another bite on the rock you have to rebrace the rock in its current position and loosen the winch. This can be very dangerous just the act of re slinging a strap around a rock can cause the support rocks to fail and the rock could and often does tumble. This can have hazardous or fatal results.

It is always good to have a lengthy cable and a safe winch that you can do this operation in one pass.

Those small mechanical winches are mostly made in China and have a high failure rate. I have used them in the past and have had several close calls where the ratcheting mechanism failed the winch jerked back and I was thrown off balance. One instance I fell and received a broken wrist. Several other times scrapes and cuts were involved.

For these reasons I switched to a reliable hydraulic winch. This is usually attached to a much larger boulder to pull from. Yes trees can be used but safeguards are also used there. Whether it is a power or mechanical winch you will never find one using them on a tree without using at least a 4" wide

strap. This protects the tree and distributes the force over a larger area. A thin cable cinched could snap.

So now comes the legal not so small print.

Should this amendment be in the final document **EVERY ONE** involved with the amendment will be subject to very serious litigation. Not only you but the state with its deep pockets, the ones who thought this up and the ones who voted it in can and will be sued. If even one person is fatally injured while using a mechanical winch you can bet your home that there are plenty of lawyers who would take the case.

Some of the Pac group may take this lightly, but there are many cases where homes and savings were attached to satisfy the judgment. This is very serious and should not be taken with a grain of salt.

End of not so small legal information.

Remember it is a matter of safety, we are not altering the stream bed we are just making a safe area to work in.

Over the years there has been quite number of fatalities just from dredgers trying to move one more foot of material from under a boulder or working without a winch.

It is all about safety, something your organization should be promoting. Think about all the hours or days it would take the DFG or BLM people off the job answering questions and filling out paperwork because of a fatality in his or her district.

They have enough to do in their jobs with some of the bikers, off roaders, meth labs and Pot farms in their territory. Yes we know of a pot farm near one of our claims and the sheriff has been alerted. These are the things that are more important for your officers to be dealing with, not some dumb rule about a power winch.

James Madden
2362 Rosewood dr
San Bruno, Ca
94066

650 589 8081

1) BACKGROUND - Eric Maksymyk

BS, MS

Retired LTC

SOCom - Intel

MACYST

TRIC Rsch

expect w data analysis for CEQA

Mercury LTS

Approach - looked at factors then looked at data

To reach that conclusion I used the DSEIR
Rems for Significant

- Evaluated each factor

Summary - Quick overview

These are the results of the two tests

20 mg/kg is the average level of mercury in
Western States soil

Averaging

Dredge captured

CRIT #2 - Based on RemoB - Flouj - conversion

IMPOSSIBLE - Dredge go to the moon

BACKG



trillium
R E S E A R C H

Mercury and Suction Dredging Analysis of Data

Eric Maksymyk

10 May 2010



Mercury and Suction Dredging Analysis of Data

Eric Maksymyk

10 May 2010

SYNOPSIS

Impact of Mercury from suction dredging should be “Less than Significant”

- Individual and Cumulative Impacts
- Under the Existing Program

DSEIR Requirements for Significance

1. **Increase** levels of any priority pollutant (Hg) that would exceed State or Federal established levels

2. Result in **substantial, long-term** degradation of existing water quality that would cause substantial adverse effects to one or more beneficial uses of a water body.

3. Increase levels of any bio-accumulative pollutant in a water body by frequency and magnitude such that body burdens in populations of aquatic organisms **would be expected to measurably increase.**

Criteria 1

Increase levels of any priority pollutant (Hg) that would exceed State or Federal established levels

Must show suction dredging increases pollutants that exceed hazardous limits –
What does the data show?

Increase or Decrease?

Detailed analysis of studies showed:

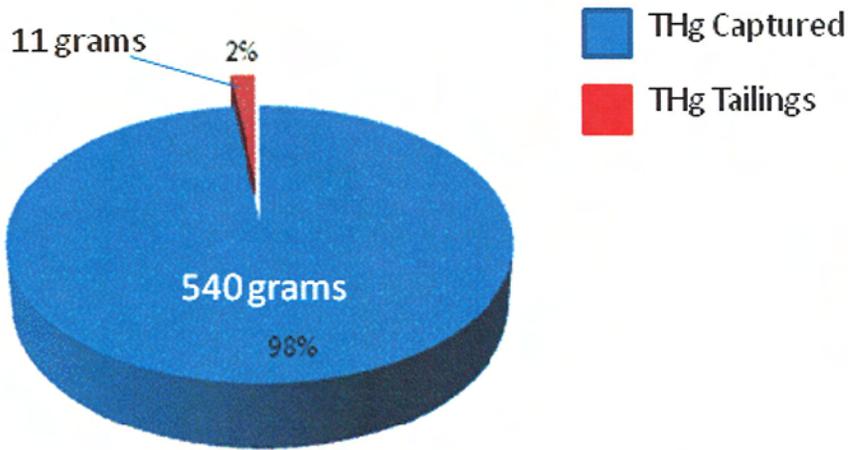
- Humphrey's 2005 [RWQCB]
 - Unmodified suction dredge captured 98% of floured mercury
 - Highest level measured was 1.9mg/kg
 - Mercury mobilized on its own during low flow conditions
 - Floured mercury in material was unchanged before and after dredging
- Fleck 2010 [USGS]
 - Unmodified suction dredge captured 98% of mercury
 - Hg released in water flow was below detection limits
 - Hg(II)r from sample to tailings decreased
 - MeHg release was below detection limits

Both actual dredge studies show a decrease in Hg from suction dredging

Suction Dredges Remove 98% of the Mercury from the Source Material

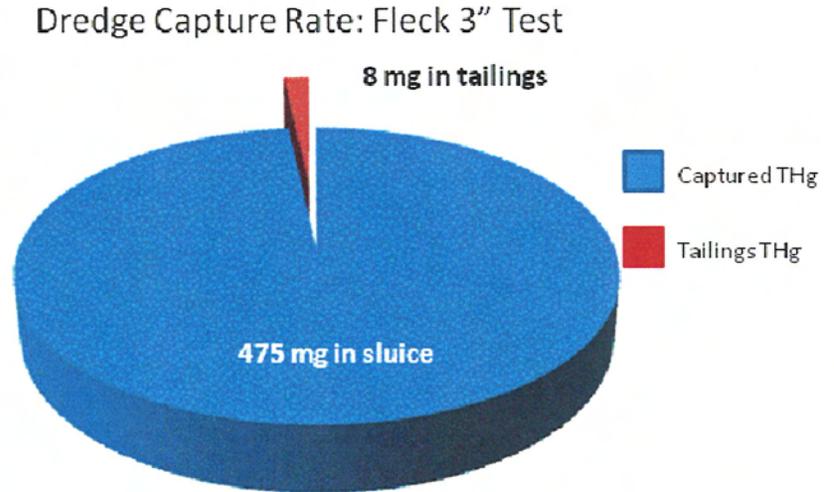
Actual Dredge Test

RWQCB (Humphreys 2003)



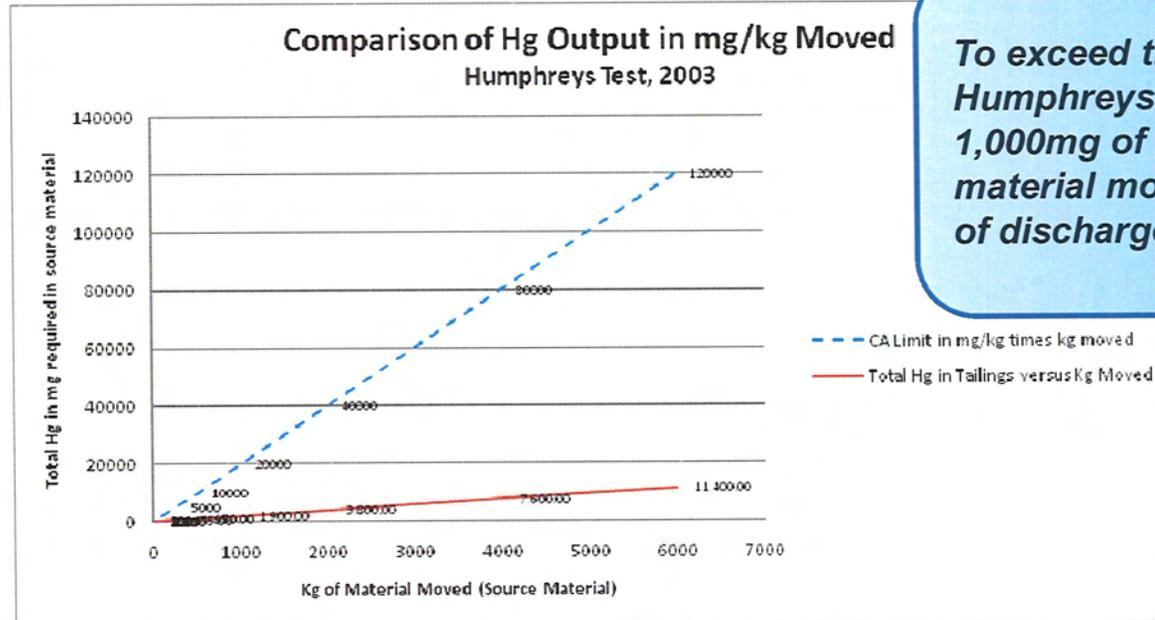
Second Dredge Test

US Government Study 2007 (Fleck, 3" Dredge)



Why is this not mentioned in the DSEIR?

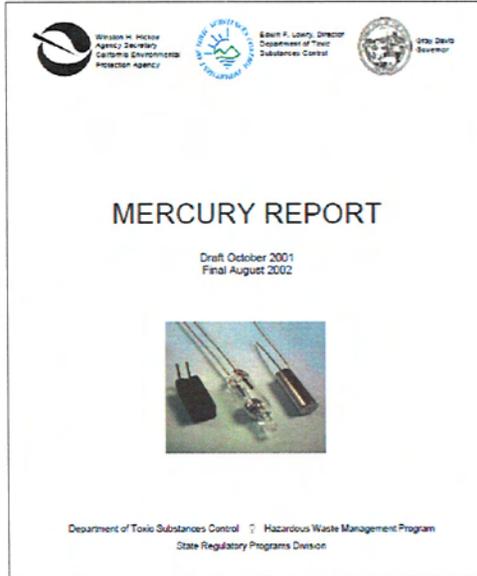
Mercury Discharges from a Dredge Never Exceed California Hazardous Waste Thresholds



To exceed the threshold from the Humphreys test would require 1,000mg of mercury per kg of material moved to result in >20mg of discharged Hg

MERCURY CAPTURE RATES FROM HUMPHREYS STUDY			
Humphreys Sample	THg in mg/kg	THg from dredge test in grams	Calculated Hg levels in mg/k
Source Material	1170	551	93.39
Dredge Capture	1550	540	91.53
Tailings	240	11	1.86
THg in Tailings Compares to California Haz Waste Threshold			9%

California Hg Waste Threshold



A suction dredge would NEVER exceed the threshold under any realistic scenario and actual testing using a real dredge confirms this

California Hazardous Waste Threshold is 20mg/kg. At no point did either dredge even approach this limit. Dredging the most contaminated site in the state resulted in a release of 1.9 mg/kg – 90% below the threshold.

IN ADDITION:

California rules allow averaging of samples over a 30 day period – *not mentioned in the DSEIR*

California Toxics Rule (U.S. EPA)	Inland Surface Waters	Human Health (30-day average)	Drinking Water Sources (consumption of water and organisms)	0.05	
			Other Waters (aquatic organism consumption only)	0.051	

Same Flaw in Both Studies

Hg Calculations not based on a real dredge

“Release of Mercury” was actually computed on the captured mercury in the concentrates – how?

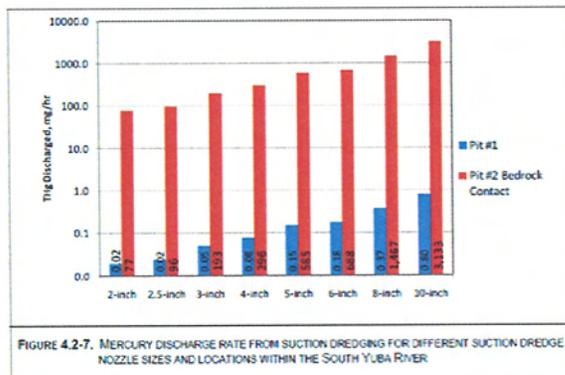


FIGURE 4.2-7. MERCURY DISCHARGE RATE FROM SUCTION DREDGING FOR DIFFERENT SUCTION DREDGE NOZZLE SIZES AND LOCATIONS WITHIN THE SOUTH YUBA RIVER

Graph from SEIR – 298 mg/hr

298 mg/hr is based on concentrate levels + the highest TSS ever observed from a dredge (8" dredge).

No recovery sluice box results in skewed results for TSS analysis



Hg and silt forced through pump impeller resulting in fragmentation of mercury into finer and finer particles

Re-circulated and re-concentrated Hg contaminated water with fine Hg particulates forced into sediment layer ensuring contamination of all sediment

This is where the 298 mg/hr rate came from – not a real dredge

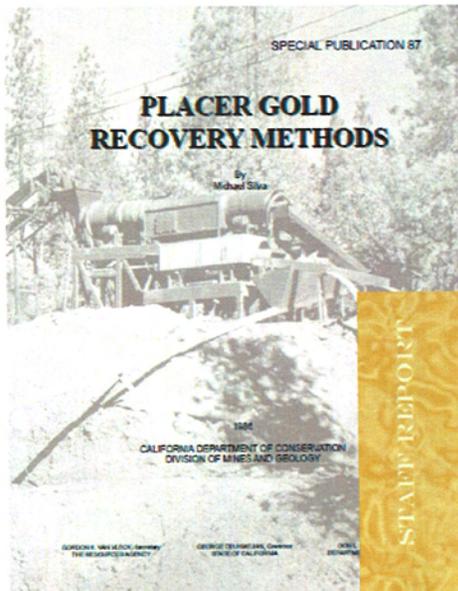
Criteria 2

Result in **substantial, long-term** degradation of existing water quality that would cause **substantial** adverse effects to one or more beneficial uses of a water body.

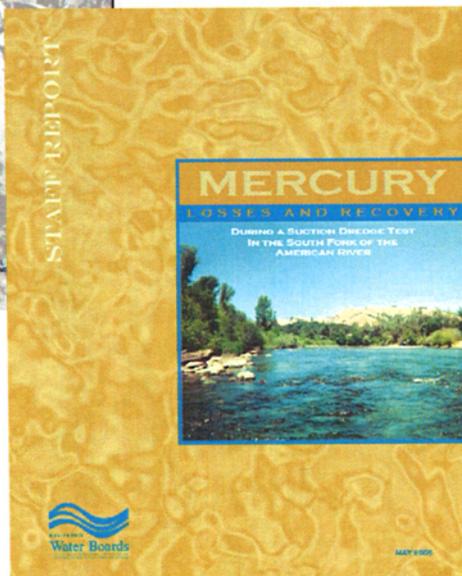
Appears DSEIR conclusion is based on:

1. Speculation that suction dredges cause flouting of mercury
2. Speculation that mobilization of floured mercury causes transformation to MeHg

Flouring of Mercury



DSEIR references two sources on flouring – “Silva, 1986 and Humphreys 2005.”



As Silva doesn't make one mention of a gold dredge in the entire pub and actually recommends the use of mercury, we'll look at Humphreys

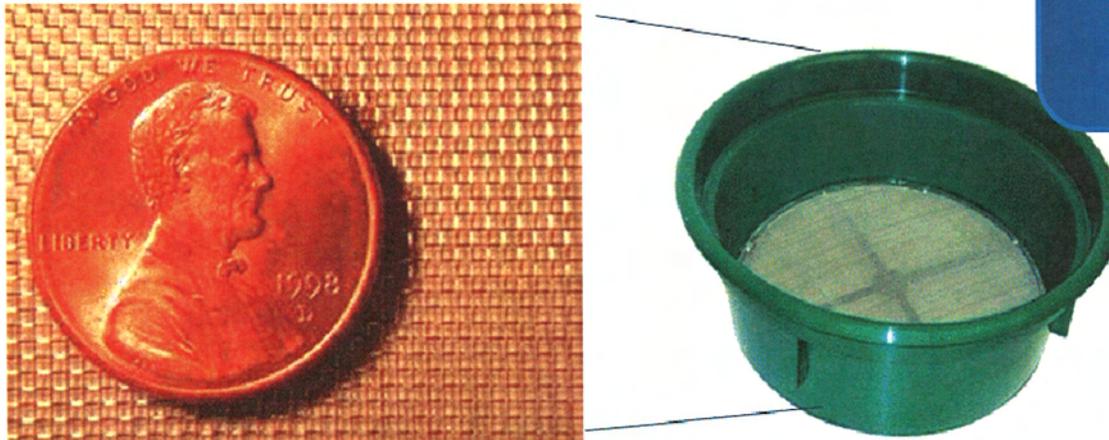
Humphreys Study

Humphreys found that **ALL** mercury in the sample prior to dredging passed through a 30 mesh screen (floured)

Humphreys found that ALL mercury in the tailings passed through a 30 mesh screen (floured)

Yet the dredge captured 98% of the floured mercury!

Mercury was Floured both before and after dredging



30 Mesh Screen

Actual Use of a 3" Dredge in 2007

Fleck 2010 (USGS Test)

Site	Collection Date	Time relative to start of dredging (hours)	THg _{SS} (ng/g)	pTHg (ng/L)	TTHg (ng/L)	MeHg _{SS} (ng/g)	pMeHg (ng/L)	TMeHg (ng/L)	Hg(II) _{SS} (ng/g)	% MeHg _{SS}	% Hg(II) _{SS}	TSS (mg/L)
Field blank	11-Oct-07	-1	<MDL	<MDL	0.67	nd	nd	<MDL	<MDL	nd	rd	0.1
Field blank	12-Oct-07	24	<MDL	<MDL	0.38	nd	nd	<MDL	<MDL	nd	rd	0.0
SYR-MP	11-Oct-07	1.5	421	0.84	nd	nd	nd	0.015	<MDL	nd	rd	3.0
SYR-MP	11-Oct-07	3	440	0.48	0.57	5.2	0.012	0.021	<MDL	1.2	rd	2.1
SYR-MP	12-Oct-07	24	670	0.17	nd	nd	nd	0.041	<MDL	nd	rd	0.5
SYR-EP	11-Oct-07	-1	717	0.43	0.53	14.2	<MDL	<MDL	<MDL	2.0	rd	1.0
SYR-EP	11-Oct-07	1	338	0.54	0.47	8.4	<MDL	0.012	<MDL	2.5	rd	1.5
SYR-EP	11-Oct-07	3	510	0.68	0.53	5.9	<MDL	0.011	<MDL	1.2	rd	1.6
SYR-EP	12-Oct-07	24	410	0.20	1.08	13.3	<MDL	0.008	<MDL	3.2	rd	0.8

pTHg increases by less than half of one part per trillion

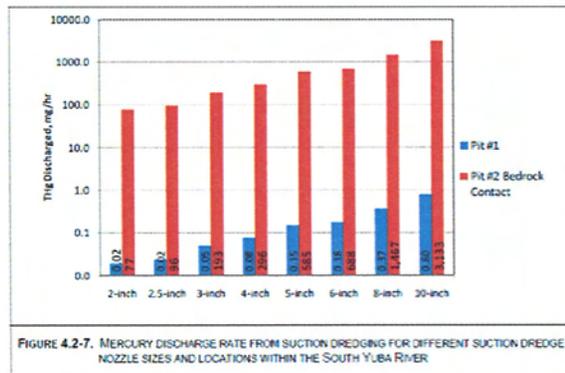
MeHg Lowers after the start of dredging

Why is this not mentioned in the DSEIR?

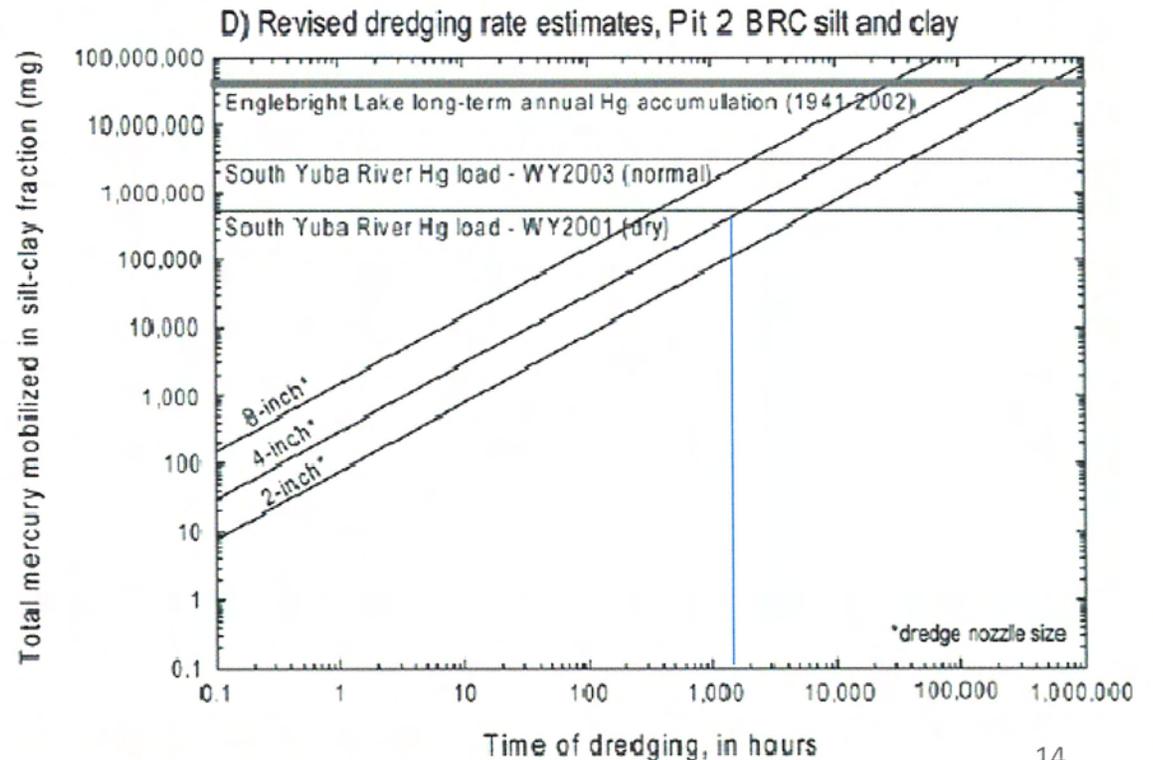
DSEIR Conclusion

One 4" dredge working in Fleck Test Pit #2 would produce 298mg an hour exceeding the natural annual load of Hg in the S. Yuba River in 1,100 hours

Simple – but wrong

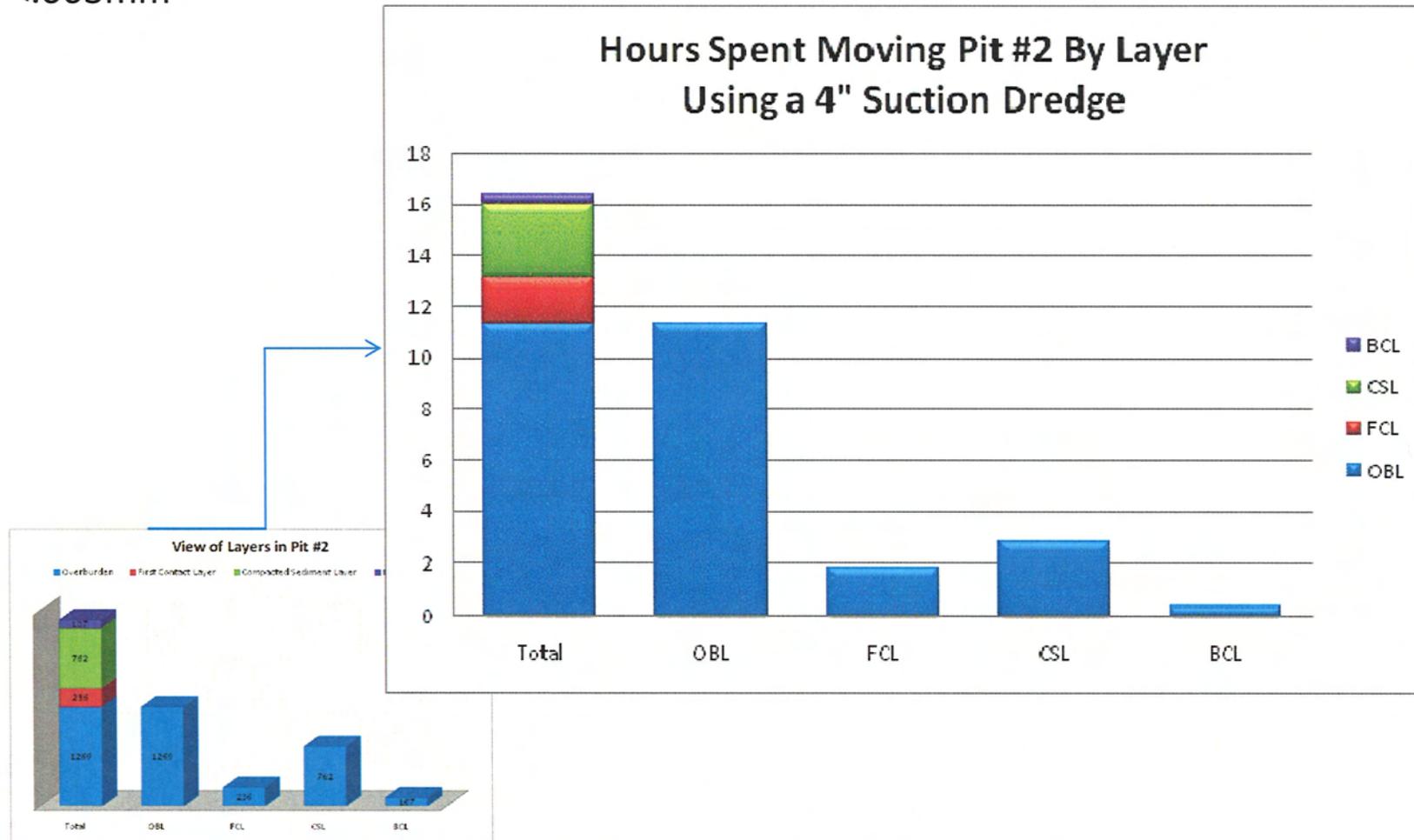


But – The real dredge test Fleck cited produced 3 mg / hr dredging in a nearby hotspot – actual data vs. theoretical



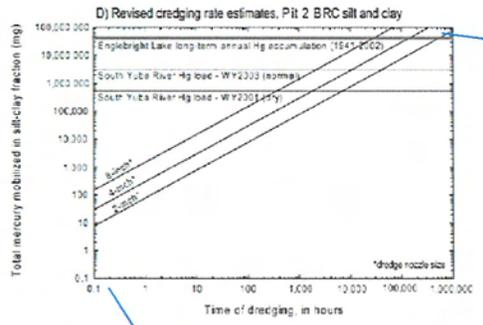
DSEIR Calculations are Impossible

A suction dredge must work for 19 hours to move the 2% fraction of material containing <.063mm



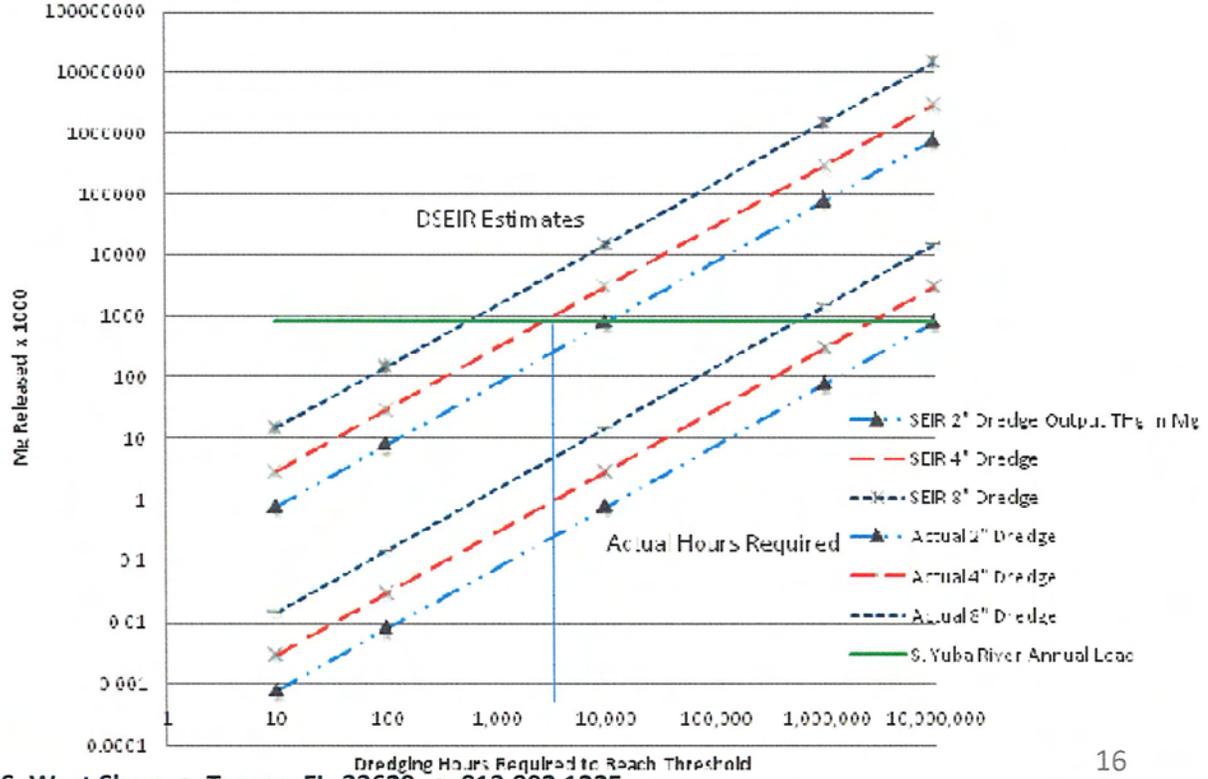
The Real Time Required

DSEIR = 1,100 hours
Actual = 2,800,000 hours



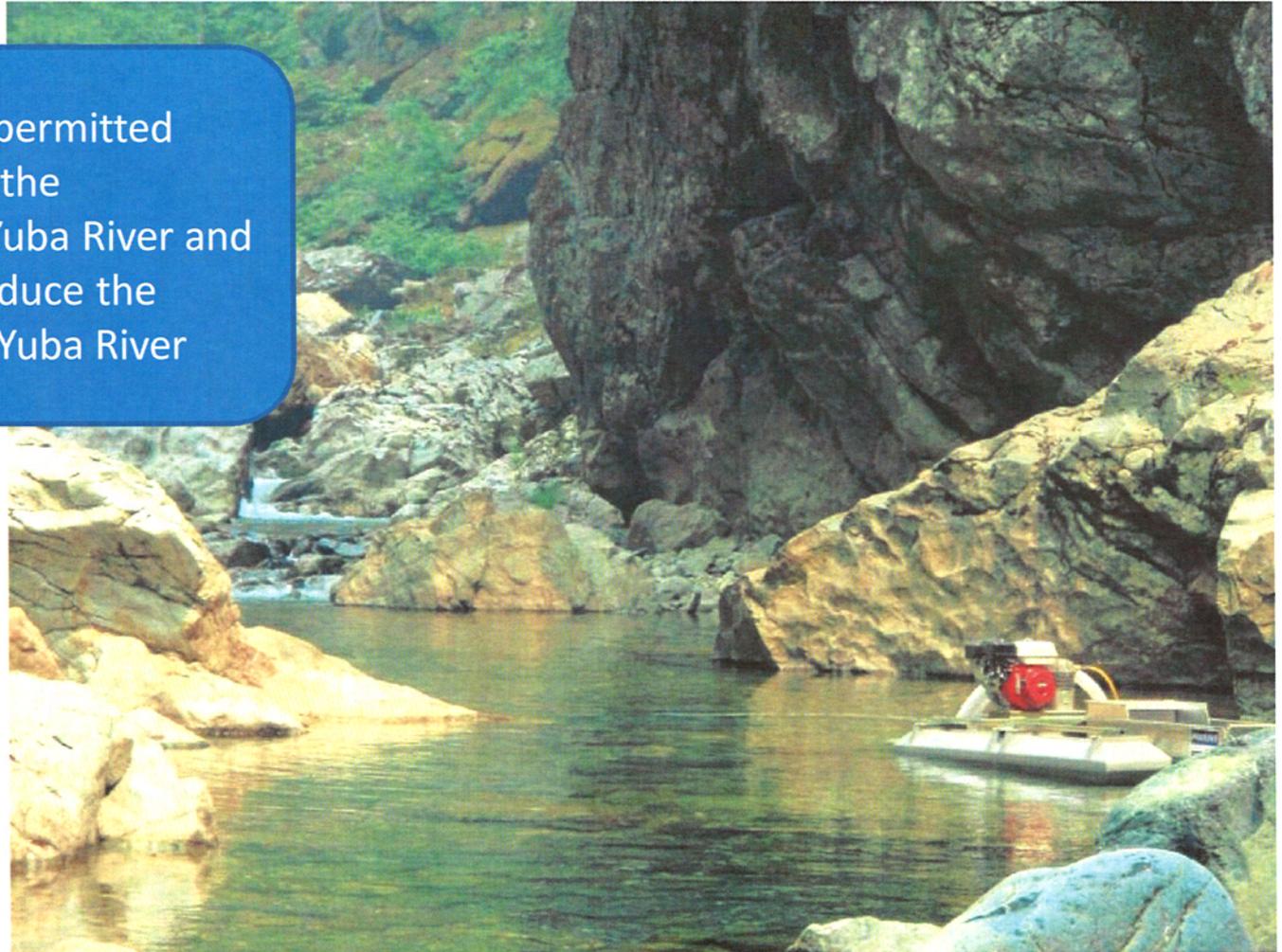
14,800 dredgers on the S. Yuba River would be required to reach this load

Hours Required to Reach Natural Load of Watershed



1 Dredge or 14,800?

It would take 14,800 permitted dredgers, all working the confluence of the S. Yuba River and Humbug creek to produce the annual load of the S. Yuba River



Summary

DSEIR Claim: 298mg/hr

Fleck Measured Amount - Only 8 mg of Hg in tailings (not released) in 2 hours

DSEIR Based on TSS rate of 340mg/l

Fleck actual measurement – 3 mg/l

DSEIR Assumes 100% of time in the <.063 particle layer

Actual tests – **2%** of total material moved – less than 5 minutes of time out of 19 hours

Conclusions

1. Mercury is floured both prior to and after dredging [Humphreys]
2. US Government studies prove that a standard suction dredge captures 98% of floured mercury [Fleck & Humphreys]
3. Study found no detectable amounts of MeHG in discharge from the real 3" dredge [Fleck]
4. Study found no significant detectable amounts of Hg in discharge from the dredge [Fleck]
5. Study found a reduction in Hg(II)r levels from source material to tailings material [Fleck]

Criteria 3

*Increase levels of any bio-accumulative pollutant in a water body by frequency and magnitude such that body burdens in populations of aquatic organisms **would be expected to measurably increase***

- DSEIR evaluates against Fleck study and MeHg levels
- Can we attribute increased MeHg levels to suction dredging?
- The DSEIR concludes they do. BUT, what do the studies show?

Fleck Study

Measured larva of various species in 2007 and 2008 – found differences between the two years and concluded the only variable that changed was dredging was banned in the area in 2008 – therefore the DSEIR concludes it must have been dredging.

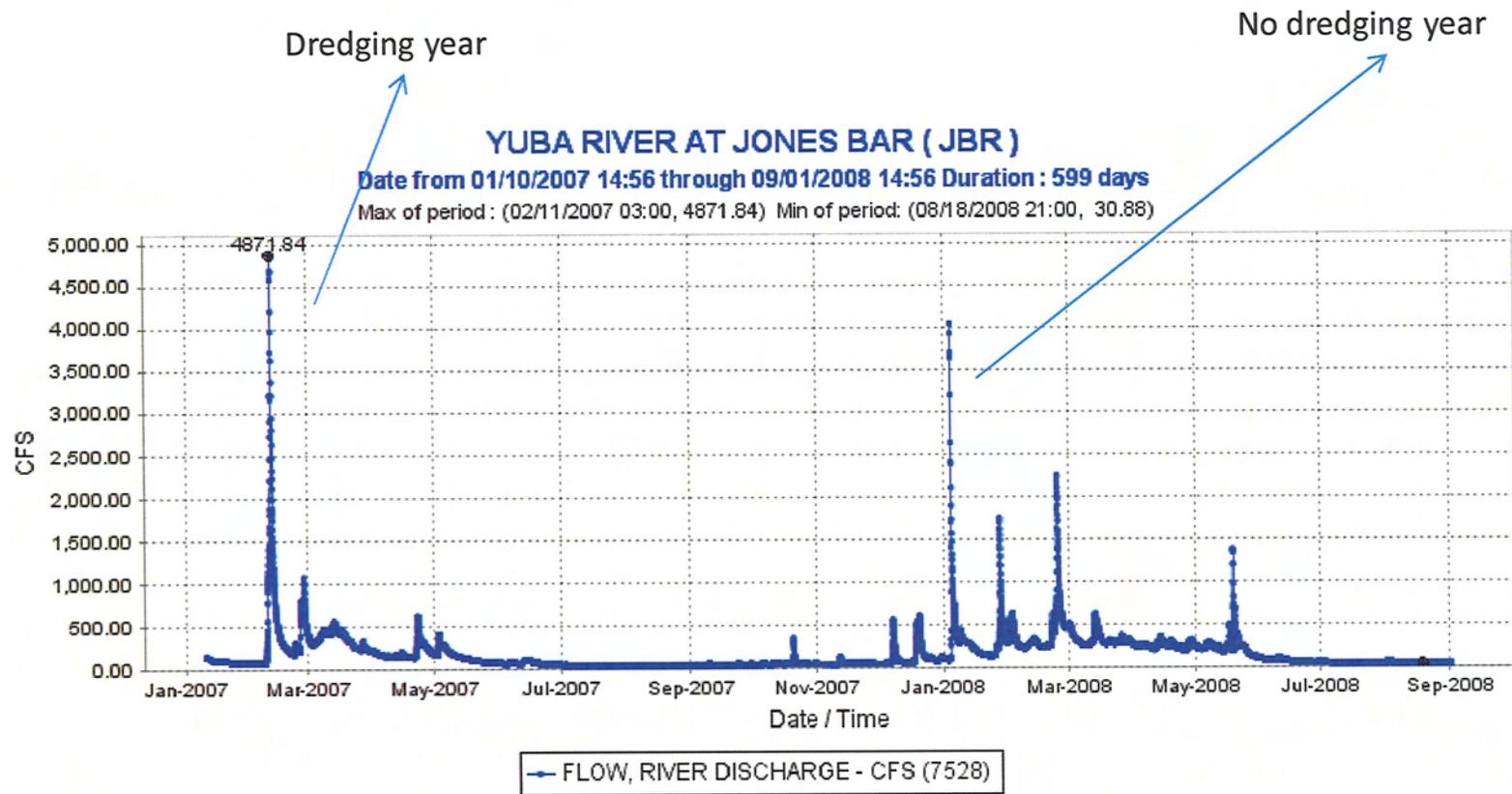
Is this finding substantiated?

Measurements from 2007 to 2008 of MeHg in Biota					
	Average 2007	DEVSQ	Average 2008	DEVSQ	% Difference in MeHg yr to yr
Water Strider	148.6	18017.0	85.7	3919.0	0.42
Dragonfly	61.5	4219.0	30.3	886.0	0.51
Cadissfly	27.6	435.0	20.0	294.0	0.28
Stonefly	68.2	2179.0	48.9	2486.0	0.28
River Flood (cms)	4871		4000		0.18

Deviations markedly different

Water Years 2007 to 2008

Fleck Study: Qualitatively observed the two years were “about the same.”

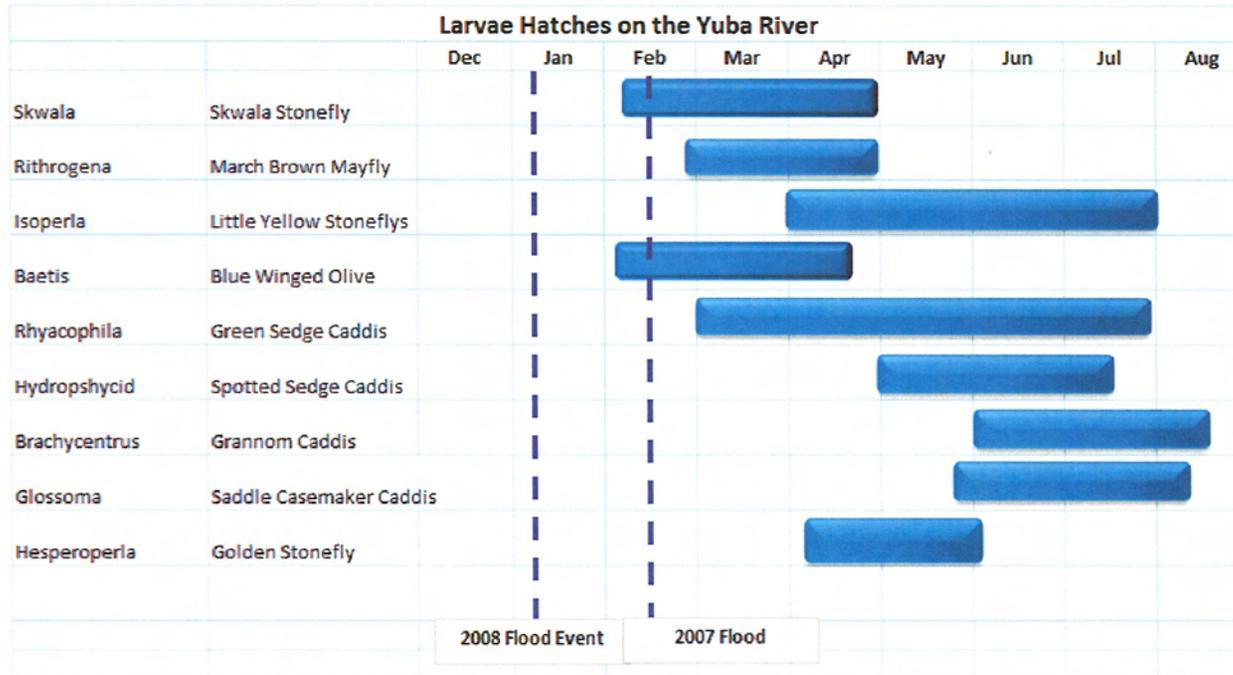


Almost the Same

With the exception of...

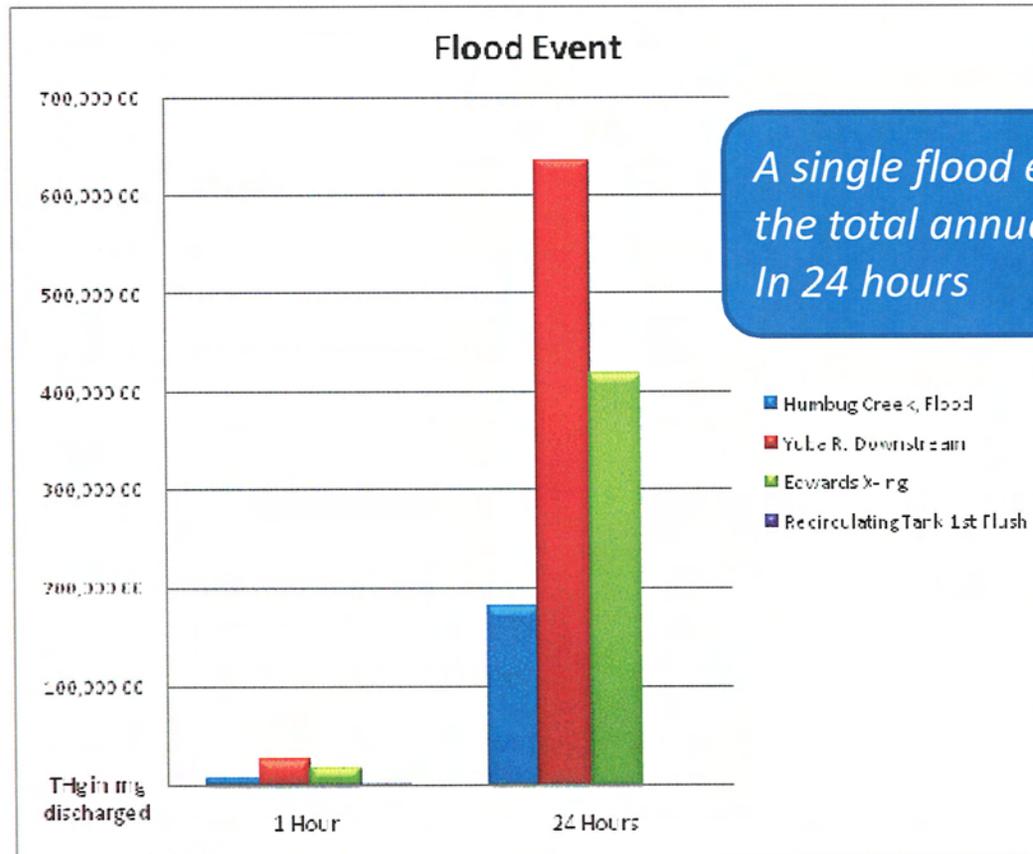
- 2007: Flood occurred on 11 February
- 2008: Flood occurred on 4 January
- 2007: Flood exceeded 2008 by 1,000 cfs

If you're measuring MeHg it would be helpful to know how the hatches being measured coincide with recent flood events



How much Hg in a Flood?

Fleck took point samples during a May 5th, 2009 flood event



Results

- A flood event contributes far more Hg to the river than suction dredgers EVER could
- *Natural load achieved in 24 hour period*
- The timing of flood events will have significant impact on measured MeHg levels
- The analysis of MeHg must take into account more than 1 variable

***DSEIR Conclusions are not supported
by the actual data in the cited studies***

How much Hg in Fish?

TABLE 4.2-3. WATER BODIES IN CALIFORNIA WHERE OEHHA CONSUMPTION ADVISORIES HAVE BEEN ISSUED FOR MERCURY IN ASSOCIATION WITH HISTORIC GOLD MINING

Water Body	Species with Highest Mean Tissue Concentration (n ≥ 6)	Highest Species Mean Tissue Concentration (mg/kg. wet weight) ¹	N ²	Region
Lower Feather River	Striped Bass	1.27	6	5
Englebright Lake	Bass	0.45	56	5
Camp Far West Reservoir	Largemouth and Spotted Bass	0.85	38	5
Lake Combie	Largemouth Bass	0.9	19	5
Rollins Reservoir	Channel Catfish	0.36	13	5
Lower American River	Largemouth Bass	0.81	48	5
Lake Natoma	Channel Catfish			
Lake Folsom	Spotted Bass			
Cosumnes River	Crappie			
Lower Mokelumne River	Pikeminnow			
Lower Sacramento River and North Delta	Smallmouth Bass			
Central and South Delta	Largemouth Bass			
Trinity River Watershed	Largemouth Bass			

Highest – not average
Distorts the data

At Lower end of average ranges

**Table 2-1
Range of Average Mercury Concentrations (ppm) for Major Fish Species in the U.S. in 36 States and DC, 1990-1995**

Carp	0.061 - 0.250	White sucker	0.042 - 0.456
Channel catfish	0.010 - 0.890	Largemouth bass	0.101 - 1.369
Smallmouth bass	0.094 - 0.766	Walleye	0.040 - 1.383
Brown trout	0.037 - 0.418	Northern pike	0.084 - 0.531

The ranges of MeHg values are well within national averages

Conclusions

The DSEIR is incorrectly using the study data to draw speculative conclusions not based on the actual study data.

The DSEIR provides no evidence that suction dredging is in any way harmful to the environment – under the 1994 program rules or the proposed new rules

There are 40 years of suction dredging history – where is the actual harm?

The DSEIR incorrectly classifies ‘mercury re-suspension and its cumulative impacts’ as Significant and Unavoidable.

This analysis of the offered data clearly supports no such conclusion, and the Final SEIR needs to reflect the true facts about Mercury and suction dredging.

Suction Dredging removes mercury from the environment and studies show that