



May 10, 2011

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

Re: The Sierra Fund Comments on the draft Supplemental
Environmental Impact Report for Suction Dredge Mining

Dear Mr. Stopher:

Thank you for this opportunity to comment on the draft Supplemental Environmental Impact Report (DSEIR, or the Document) on suction dredge mining and the draft proposed regulations for suction dredge mining. As you know, we served as members of the Public Advisory Committee and have provided comments to your agency regarding the scope of this review in the past.

This letter includes observations and recommendations from Dr. Carrie Monohan who earned a Ph.D. in Forest Engineering and Hydrology in 2004 from the University of Washington, Seattle. Dr. Monohan is The Sierra Fund's Mining Project Science Director and has worked with city, state and federal agencies as a consulting scientist with special expertise in the impacts of legacy mercury in Sierra watersheds. My credentials include serving on the Nevada County Planning Commission for two terms and one term on the Nevada County Board of Supervisors. In this capacity I have analyzed and voted on the adequacy of both project and program environmental impact reports.

The Sierra Fund agrees in whole with the collaborative letter submitted by the Karuk Tribe. In addition, we are providing these comments reflecting our expertise with mercury and legacy mining issues.

Our comments focus on several issues where we believe the document is not adequate for decision making and provide numerous suggestions on how to improve the quality of the document in order to increase protection for California's natural resources. For convenience we have numbered our comments, as follow:

Comment #1: The Document does not explain why the Proposed Program is chosen as the preferred alternative over the Environmentally Superior Alternative. This is the document's most significant flaw because it fails to meet the requirements of the California Environmental Quality Act (CEQA) for a sufficient Environmental Impact Report. The DSEIR does present alternatives for review, however, it chooses as its Proposed Program an entirely different alternative. The Proposed Program is presented as a list of regulations. A more common presentation is for all alternatives to be presented, described and evaluated and then a choice among those proposed programs is made, and a reason for that choice is carefully described.

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Instead, the DSEIR provides a summary evaluation of the four named alternatives (No Project, 1994 Regulations Alternative, Water Quality Alternative and Reduced Intensity Alternative) for their feasibility to achieve the program objectives while avoiding or minimizing impacts identified in the Proposed Program. The DSEIR evaluates these four alternatives and determines that the environmentally superior alternative is the "Reduced Intensity Alternative." The DSEIR identifies this alternative as viable and able to significantly reduce impacts of the Proposed Program – and then is silent on why this alternative is rejected in favor of the Proposed Program regulations with its many known and significant unmitigable impacts.

Without a careful discussion of why the viable and environmentally superior alternative program was not chosen, this document does not meet the test of sufficiency under CEQA.

Recommended Action: The document needs to be rewritten to make the alternatives discussion more coherent, with more qualitative and quantitative data on the comparison between the alternatives. The document needs to select the most environmentally protective alternative if it is found to be viable.

Comment #2: 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 DSEIR. The DFG asserts that its authority to regulate suction dredging is limited entirely to its mandate under Fish and Game Code Section 5653 and that DFG must allow the activity if it determines that suction dredging is not "deleterious to fish," even if it causes significant and unmitigable impacts to vital California resources other than fish.

DFG defines an impact deleterious to Fish, for purposes of section 5653, as "one which manifests at the community or population level and persists for longer than one reproductive or migration cycle." This assertion is in direct contradiction to both the common dictionary use of the word "deleterious" and the legal definitions used by the legislature in 1961 when the first California statute regulating suction dredge mining, Fish and Game Code Section 5653, AB 1459 (Arnold) was enacted.

In his letter to the governor requesting a signature on the bill, Assemblyman Arnold stated that dredging should be done so to cause only "minimal damage" to fish, from which he specifically excluded disturbing eggs, disturbing fish food organisms and stirring up silt to cause an "aesthetic problem" and cover eggs. The Legislative Analyst's Office analysis of AB 1459 in 1961 noted "the department must then determine whether the operation will be safe for fish life and if so it will issue a permit to the applicant." In a letter to the Governor requesting his signature on AB 1459 DFG stated, "The department shall issue a permit if it is judged that no damage will occur to *fish, aquatic life, and the aquatic environment.*" So in information on which the Governor based his decision to sign AB 1459 into law, "not deleterious to fish" meant "no damage" to "fish, aquatic life and the aquatic environment." In the handful of bills since 1961 affecting this section, no legislation

has ever used a term other than "deleterious to fish" nor offered any other interpretation of its meaning.

Further, the definition used throughout the DSEIR of "deleterious" is in direct conflict with the requirement of the DSEIR laid out in the Executive Summary, which states the document's purpose is "to fulfill the CDFG's mission of managing California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public." This contradictory objective makes the definition of "deleterious" even more inappropriate.

The document fails to meet clearly stated legislative intent to protect fish and other natural resources as part of the suction dredge mining program by using a definition of "deleterious" that is inappropriate, inconsistent and unlawful. This renders the document insufficient as a decision-making tool under CEQA.

Recommended Action: The document needs to be re-drafted using a common sense and legislatively consistent definition for "deleterious."

Comment #3: The proposed program fails to ensure that California's laws relating to water quality, historical and cultural sites, aquatic creatures and toxics are obeyed, claiming that the department does not have the jurisdictional authority in these areas. Instead, the program proposes to provide miners with a pamphlet outlining "Best Management Practices" for suction dredgers that are voluntary, even though obeying California water, health and toxic laws is not voluntary – it is required.

Most state and local government agencies that approve projects or programs must include conditions in their DSEIR's to mitigate project impacts that are outside the jurisdiction of the lead agency. In these cases the lead agency routinely requires that as part of the project implementation, the project proponent must apply for and receive whatever permits are required by the responsible agency prior to proceeding. For example, before approving a shopping mall a county can require a developer to obtain permits such as road encroachment permits from CalTrans, Army Corps permits for culverts or streambed alteration permits from CA Department of Fish and Game.

This DSEIR documents numerous, significant and unmitigable impacts of the proposed program, but fails to require either the individual miner or the Department to obtain necessary permits for the Proposed Program. For example, 56% of the miners surveyed reported that they encounter legacy mercury as a routine part of their mining operation. Mercury is a highly regulated toxic material that generally requires specialized equipment and training prior to use, handling, storing or transporting. It is not clear how a pamphlet outlining voluntary "Best Management Practices" is in any way mitigation for routinely handling such a dangerous material. It is not even clear that mercury handling protocols would be included in the proposed "Best Management Practices" pamphlet.

And, these “Best Management Practices” pamphlets are supposed to mitigate to below significance a whole host of potential impacts: from wildfires to toxic materials to human waste to endangered species to state and federal park rules. This “pamphlet” will likely be both large and unread.

The Proposed Program and DSEIR is not a sufficient document because it fails to require the Proposed Program to adopt viable measures to obey California and local laws regarding water quality, environmental health, protection of historic and cultural resources and other laws. Requiring distribution of a pamphlet on “Best Management Practices” to be adopted voluntarily is not a sufficient mitigation measure. This alone should render the Proposed Program and DSEIR an insufficient document.

Recommended Action: The regulatory program needs to require that all rules and regulations to protect water quality, ecosystems and historical and cultural sites are obeyed. A brochure suggesting voluntary actions to protect California’s resources cannot be used as a mitigation measure. Instead, the Department needs to specifically outline all the protocols and regulations that suction dredge miners must obey as part of the rule-making process. These regulations must be clearly defined and the consequences for breaking the rules must be defined as well. This includes new regulations addressing:

- Safe handling, storage, transport and disposal of mercury encountered while suction dredge mining as directed by Prop 65 and consistent with CA Department of Toxic Substances Control and State Water Resources Control Board regulations;
- Appropriate precautions to protect cultural and historical sites, including the requirements of the Native American Heritage Commission for identifying and reporting cultural sites and activities; and
- Requirements of the Clean Water Act that mandate no degradation of water quality or contamination of the state’s water.

Comment #4: This document proposes a program with significant and unavoidable impacts to water quality, specifically from mercury (*Impact WQ-4*).

The Fish and Game DSEIR chapter on Water Quality and Toxicology (Chapter 4.2) describing why there are significant and unavoidable impacts to water quality from suction dredging is one of the best summaries of data on the subject and we commend these efforts. However, the document falls down after carefully describing the impacts of mercury by ignoring these significant impacts and adopting a program that does nothing to mitigate these impacts.

The proposed program allows suction dredge mining in areas known or likely to be contaminated with mercury: Millions of pounds of mercury were released into Sierra Nevada rivers and streams during Gold Rush mining activities, one of the most environmentally destructive periods in California’s history. Today, dozens of streams and rivers in the state are listed as impaired for mercury by the

SWRCB and are included on the 303d list, many of which would have active suction dredging mining allowed on them under the proposed program. Miners admit to encountering liquid mercury in the course of suction dredge mining.

Table A included at the end of this document lists the mercury-impaired streams and rivers in the Sierra Nevada and the proposed use classification under Fish and Games Recreational Suction Dredge Mining program.

Mercury from historic mining activities likely presents a hazard in more streams than are currently 303(d) listed. Because the 303(d) listing process is data driven, it should be noted that the 303(d) listing process (described on page 4.2-11, lines 37-44) does not necessarily completely represent the actual number of impaired water bodies. In particular, water bodies in rural or remote areas where there is not an active data collection program may not be represented in the listing process as noted on page 4.2-12, lines 2-3 of the DSEIR.

As more data is collected, additional water bodies are being added to the 303(d) list. The state has completed compilation of the recommended 2010 update of the Section 303(d) list, which identifies an additional 1,464 listings that will require TMDL development, and 195 recommended delistings (SWRCB, 2010). EPA approval of the list is pending, at which point the state will have a fully adopted 2010 Section 303(d) list.

Many streams that were actively mined during the Gold Rush and have a very high likelihood of being impaired due to mercury contamination have not been tested and therefore are not listed as mercury-impaired. For the streams for which there is no information, it is reckless to propose suction dredging mining. For streams for which there is known mercury contamination it is reckless and irresponsible and illegal to propose suction dredge mining resume at these locations, and yet that is exactly what this program does.

Suction dredgers target areas with the most mercury: Suction dredge miners may target deep sediments (i.e., those too deep to be available to scour under winter flows), and thus mobilize sediment that may not be mobilized by typical winter high-flow events. Sediments in the historic gold-bearing and gold-mining areas of California that would be targeted by suction dredgers also may be elevated in mercury, compared to sediments in other non-mining areas. (page 4.2-52 line 9-12)

A handful of suction dredge miners mobilize as much mercury as an entire season of winter storms: Within areas of highly elevated sediment mercury concentrations, a single suction dredge operator using an average size (4 inch) dredge could discharge approximately 10% of the entire watershed mercury loading during a dry year over an average suction dredging time of 160 hours. By inference, the analysis indicates that larger capacity dredges or multiple dredges operating in similar sediments with highly elevated sediment mercury concentrations could potentially contribute a much larger proportion of the watershed load than 10%. (page 4.2-52 lines 23-29)

Suction dredging activities likely mobilize mercury that is highly reactive, therefore most dangerous to human health and wildlife:

Suction dredging discharge and transport of total mercury occurs primarily in the summer rather than the winter, while winter is when most background mercury is transported to reservoirs. Although the precise implications of this are not known, it is known that methylation is generally more pronounced at higher temperatures and lower oxygen environments, both of which are more likely under summer conditions than winter conditions. (page 4.2-52 lines 41-45) The increased surface area of mercury and increased potential for downstream transport will likely enhance reactivity and transport to areas favorable to methylation (i.e., downstream reservoirs and wetlands). Moreover, resuspension of sediments containing Mercury in oxygenated environments has been shown to increase levels of Mercury (II) R, which has been shown to be directly related to methylation rate. (page 4.2-52 lines 1-6)

The Proposed Program and DSEIR fail to protect the waters of the state from contamination by mercury and fail to explain why there is any public good in accepting the deterioration of California's water quality. The Department states that it has no responsibility for ensuring that laws protecting health and safety are obeyed as part of this program, and does not even explore reasonable mitigation measures to ensure such protection. This renders the document insufficient for decision making.

Recommended Action: The DSEIR needs to be re-drafted with restrictions in place forbidding any suction dredge mining in a water body that is 303(d) listed as impaired for mercury or other toxic metals, or that is otherwise known or suspected to be contaminated by naturally occurring or introduced mercury. This would include almost any water body in the historic gold country where mercury was commonly used in the 19th century. All areas that are suspected to be contaminated by mercury should be closed to suction dredging and remain closed until testing has confirmed that no mercury is present in the sediments of that stretch of water.

Comment #5: The DSEIR fails to require common sense mitigation measures to reduce problems associated with mobilizing mercury. Potential mitigation measures to reduce the impact would necessarily involve actions to avoid or limit total mercury discharge from suction dredging activities in areas containing elevated sediment mercury and/or elemental mercury. .

Recommended Action: The DSEIR and regulations need to be redrafted to limit mercury discharge by requiring the following actions:

- **Stay out of areas where there is mercury:** Identify river watersheds or sub-watersheds where sediment mercury levels are elevated above regional background levels or where elemental mercury deposits exist and establish closure areas to avoid suction dredging within these areas. No such data currently exist to comprehensively identify mercury "hot-spots"; however,

data, especially from Sierra Nevada watersheds impacted by mining, suggest that sediment mercury levels at these sites are all elevated above background levels. This action could involve a phased study to identify the presence of such areas based on intrinsic properties including proximity to mines, hydraulic and channel features, and other factors.

- **Make the nozzle small:** Limit the allowable suction dredge nozzle size and/or allowable seasonal duration of dredging activity within water bodies known to contain sediment elevated in mercury or that contain elemental mercury deposits. Although smaller nozzle sizes would still cause mercury releases when dredging mercury-enriched sediment, the amount of mercury discharged would be lower than dredging with larger nozzle sizes.
- **Special permit in hot spot areas:** Implement a special individual permit system for suction dredge operators in areas where mercury “hot-spots” exist. The permit system would be designed to require assessment of the area prior to initiation of dredging activity and issuance of terms and conditions to ensure that mercury hot-spots are identified and avoided or other provisions are implemented to ensure that the dredging activity does not result in substantial discharge of mercury downstream from the site.
- Implementation of such mitigation actions, implementation procedures, monitoring, and enforcement may reduce potential impacts. However, because not all locations of elemental mercury deposits are known, it is uncertain how feasible it would be to identify sites containing elemental mercury at a level of certainty that is sufficient to develop appropriate closure areas or other restrictions for allowable dredging activities. (page 4.2-53 and 54)

The program recommended by Fish and Game incorporates none of the above recommendations, and dredging is allowed on well-documented mercury impacted waters with an 8 inch nozzle (see table below).

Comment #6: The DSEIR presents scientific evidence to establish that suction dredge mining in waters impaired with mercury is deleterious to fish, and then makes the inconsistent finding that suction dredge mining is not deleterious to fish. As discussed below, Chapter 4.2 Water Quality and Toxicology does describe the significant and unavoidable impacts from suction dredge mining to the water quality and aquatic resources of the State of California’s streams and rivers including on fish health and the health of other aquatic organisms.

The DSEIR states that suction dredge mining where mercury is known to be present is deleterious to fish because of the effects of mercury on fish reproduction. The DSEIR finds, on page 4.2-55 lines 3-4, that aquatic life beneficial uses are the most sensitive beneficial uses to ambient water body concentrations of most trace metals.

Mercury (Hg) is the constituent that poses the greatest toxicological risk to humans and fish and wildlife in areas where suction dredging activity might occur. Potential impacts of mercury and other heavy metals on fish and aquatic organisms are also discussed in Chapter 4. *Biological Resources*, page 4.2-14 lines 31-34. In addition, as noted in the Literature Review (Appendix D), suction dredging activities typically target the known gold-bearing streams and rivers of California where much of the historic mining activity took place after the California Gold Rush of 1849. (page 4.2-14 lines 35-38)

Elemental (i.e., liquid) mercury was used extensively in gold mining processes and much of the mercury was discharged or wasted directly to streams and river channels, resulting in extensive areas of mercury-enriched channel sediments and watershed-wide contamination with elemental mercury. (page 4.2-14 lines 38-40)

Mercury is a toxic constituent that bioaccumulates in the food chain of aquatic organisms and terrestrial wildlife, and is ultimately a human health concern, primarily through the consumption of mercury-contaminated fish. Methylmercury (MeHg) is a more bioavailable form of mercury that is produced from inorganic mercury by specific types of aquatic bacteria in rivers and reservoirs. (pages 4.2-14-15)

The major pathway for human and wildlife exposure to methylmercury (MeHg) is consumption of mercury-contaminated fish. Dietary MeHg is almost completely absorbed into the blood and is distributed to all tissues including the brain. In pregnant women, it also readily passes through the placenta to the fetus and fetal brain. MeHg is a highly toxic substance with a number of adverse health effects associated with its exposure in humans and animals. High-dose human exposure results in mental retardation, cerebral palsy, deafness, blindness, and dysarthria in utero and in sensory and motor impairment in adults. Although developmental neurotoxicity is currently considered the most sensitive health endpoint, data on cardiovascular and immunological effects are beginning to be reported and provide more evidence for toxicity from low-dose MeHg exposure (U.S. EPA, 2001). In birds and mammalian wildlife, high levels of MeHg can result in death, reduced reproduction, slower growth and development, and abnormal behavior (U.S. EPA, 2010). (page 4.2-15 lines 8-18)

Mercury Hurts Fish and People too: The Sierra Fund's recent study on sport fish consumption at mercury impacted water ways describes the potential for a serious public health threat. The Gold Country Angler Survey quantifies the methylmercury exposure of more than 150 anglers at mercury-impacted waterways in the Yuba, Bear, and American and Deer Creek watersheds. Findings of the Gold Country Angler Survey include people that are exposed to more than three times the recommended safe level of mercury through sport fish consumption in the American River watershed. The significant and unavoidable impacts of recreational dredging activities in mercury-impaired water bodies would only worsen this public health issue, by propagating mercury dispersal and incorporation into the aquatic food chain, increasing the mercury levels in fish, and increasing mercury exposure to people that eat sport fish in the Sierra Nevada.

Recommended action: The Sierra Fund recommends that DFG redraft their program to not allow suction dredging in known or suspected mercury impaired water bodies as it is clear that suction dredge mining in water bodies contaminated with mercury is in fact deleterious to fish

Comment # 7: The DDSEIR proposes a program that the Department does not have the resources to monitor or enforce. These regulations add more rules to the program, but no additional enforcement funds or resources are included in the program. The Department asserts that it cannot spend any additional funds on monitoring compliance with its own regulations, and relies on compliance with voluntary actions outlined in the “brochure” to mitigate all impacts on fish. Other regulations protecting water quality, historical sites, aesthetics and more are not even mentioned, much less a strategy for enforcing regulations to abate the known, significant and unavoidable impacts of their proposed program.

In effect the DSEIR and proposed regulations outline a program that has the potential to encourage more damage to water quality, historic sites, noise, wildlife and more – with absolutely no plan or even acknowledged responsibility for enforcing any rules to mitigate this damage.

The Department has had real trouble getting compliance by suction dredge miners with the regulations enacted in 1994. Requiring compliance with suction dredge regulations has been nearly impossible. As part of our work to understand the impacts of suction dredge mining, The Sierra Fund conducted a survey of how suction dredge regulations are enforced on federal lands held by the Bureau of Land Management (BLM) and the United States Forest Service (USFS). Our report, which was included in the literature review conducted as part of the DSEIR process, found that suction dredge regulations are already nearly impossible to enforce. The result of our survey showed that even suction dredge miners with egregious violations of suction dredge regulations faced almost no consequences in the past – and no additional consequences are contemplated by this document.

Currently, a DFG warden that finds violations of suction dredge mining must rely on local enforcement agencies to prosecute the violation or shut down the operation. This means that the warden will issue a notice of violation to the miner and ask that the violations cease. If the miner chooses to not to shut down their operation, the case is turned over the local district attorney who decides whether or not to pursue the case. In the rare cases where the district attorney has taken on the case it takes time, effort and substantial resources by local government to try the case and implement the enforcement action. The rural counties most impacted by suction dredge mining rarely find that this kind of enforcement action is viable on their tiny budgets.

Recommended Action: Compliance with the laws of the state of California needs to be a top priority of this program. Many of the serious impacts of suction dredge mining could be avoided if all of the rules protective of the environment were enforced. The DSEIR needs to be redrafted to require:

- All water quality, environmental health, noise, aesthetics, historic and cultural regulations must be described and miners must be held accountable for upholding these laws. The laws must be clear and a strategy for enforcing them needs to be described.
- Fish and Game wardens that find violations of suction dredge mining regulations need to be empowered to take direct action to shut the operation down rather than relying on local government for this activity. This could take the form of a much larger “fine” that is levied on the suction dredge miner. The fine could be based on the cost it takes to identify, document and shut down illegal suction dredge mining operations.
- A realistic approach to enforcement requires more funding for Fish and Game wardens to regularly monitor suction dredge operations. These funds must be generated as part of the permit fee. This means that suction dredge mining permit fees must be raised in order to cover these expenses. This requirement needs to be added to the document, including an outline of the procedures necessary to increase fees and a timeline for pursuing this fee increase.
- If the Department of Fish and Game cannot afford to enforce the regulations around suction dredge mining they should not allow the program to continue.

Comment #8: The document has inconsistent or confusing language, and is hard to understand. The alternatives section is especially confusing. These problems have been pointed out throughout this process and are documented in some detail in other comments being submitted to the Department. Perhaps the most outlandish one is the regulation that forbids suction dredging along one reach of the Feather River on one bank, while allowing it on the other side of the same reach.

Recommended Action: Redraft the document to clarify the alternatives discussion and to bring coherence to the description of river stretches closed by the new regulations.

Comment #9: The chosen program is not consistent with California law. The DSEIR clearly outlines the numerous significant and unavoidable impacts of suction dredge mining under the regulations proposed by the Department of Fish and Game. The Department has chosen as its preferred Program regulations that are clearly not consistent with California law.

Recommended Action: The Department should reconsider its decision about which alternative to choose. It should instead choose either the “no project” alternative, or a combination of the “reduce intensity” alternative and the “water quality” alternative. These alternatives are much more consistent with California laws.

Conclusion: The proposed program and accompanying Environmental Impact Report fail to meet the most basic requirements of CEQA. Impacts from the proposed program are not documented in a rigorously scientific way, especially in contrast with the environmentally superior alternative of "Reduce Intensity" or the even more conservative "No Project" alternative. No reason for rejecting the environmentally superior alternative is given. Impacts of suction dredge mining on fish are documented in the report but dismissed without discussion in the Proposed Project choice. Numerous significant and unmitigable impacts are documented but no attempt to mitigate these impacts is required in the proposed program.

This DSEIR needs to be redrafted with an eye toward protecting all of California's fish and wildlife and other natural resources and conforming to legislative intent. 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.

There are significant changes needed to bring this document into compliance. A redrafted set of regulations and a new DSEIR need to be developed and re-circulated for public comment prior to any further decision making on suction dredge regulations.

Thank you again for this opportunity to comment.



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CEO



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Table A: Mercury-impacted streams and rivers in the Sierra Nevada and proposed suction dredge use classification

Proposed Use Classification Code	Proposed Use Classification	Location	303(d) listed as impaired for mercury
C	Open to dredging from June 1 through September 30	Bear River Mainstem and all tributaries from Camp Far West upstream to Lake Combie	Bear River, Camp Far West and Lake Combie
A	No dredging permitted at any time	Deer Creek Mainstem and all tributaries from Nevada-Yuba County Line upstream to Lake Wildwood	Deer Creek, tributary Little Deer Creek, Lake Wild wood
A	No dredging permitted at any time	Yuba River Mainstem downstream of Englebright Reservoir	Englebright Lake, Lower Yuba
C	Open to dredging from June 1 through September 30	Yuba River Mainstem and all tributaries from Englebright Reservoir upstream to South Yuba River	Englebright Lake
D	Open to dredging from July 1 through January 31	Yuba River, South Fork (Mainstem) Mainstem from Yuba River upstream to Lake Spaulding	South Yuba River, Spaulding to Englebright
E	Open to dredging from September 1 through January 31	Yuba River, South Fork (Tributaries) All tributaries from Yuba River upstream to Lake Spaulding	South Yuba River, Spaulding to Englebright
E	Open to dredging from September 1 through January 31	Yuba River, Middle Mainstem and all tributaries from Yuba River upstream to Yuba-Sierra County Line	Middle Fork of the Yuba, Bear Creek to the North Yuba
D	Open to dredging from July 1 through January 31	Yuba River, North Fork Mainstem Mainstem from New Bullards Bar Reservoir upstream to Yuba-Sierra County Line	North Fork of the Yuba New Bullards Bar to Lake Englebright
E	Open to dredging from September 1 through January 31	Yuba River, North Fork (Tributaries) All tributaries from New Bullards Bar Reservoir upstream to Yuba-Sierra County Line	North Fork of the Yuba New Bullards Bar to Lake Englebright
D	Open to dredging from July 1 through January 31	American River, Middle Fork Mainstem upstream of Oxbow Dam	Oxbow Reservoir
E	Open to dredging from September 1 through January 31	American River, Middle Fork (Tributaries) All tributaries upstream of Oxbow Dam	Oxbow Reservoir
G	Open to dredging from September 1 through September 30	American River, North Fork Mainstem and all tributaries from Lake Clementine Dam to Big Valley Canyon	Folsom Lake
G	Open to dredging from September 1 through September 30	Lake Tahoe (Tributaries) All waters draining to Lake Tahoe	
D	Open to dredging from July 1 through January 31	Sacramento River Lake Shasta to Siskiyou County	Sacramento River Knights Landing to the Delta
G	Open to dredging from September 1 through September 30	Truckee River Mainstem and all tributaries	
D	Open to dredging from July 1 through January 31	Feather River, Middle Fork (Mainstem)	
E	Open to dredging from September 1 through January 31	Feather River, Middle Fork (Tributaries) All tributaries, unless otherwise noted	
D	Open to dredging from July 1 through January 31	Feather River, North Fork (Mainstem) Mainstem from Plumas-Butte County Line to East Branch of North Fork Feather River	Feather River Lower lake Oroville to Sacramento
E	Open to dredging from September 1 through January 31	Feather River, North Fork (Tributaries) All tributaries, unless otherwise noted	Feather River North Fork
D	Open to dredging from July 1 through January 31	Feather River, South Fork Mainstem	
E	Open to dredging from September 1 through January 31	Feather River, South Fork All tributaries, unless otherwise noted	