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Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
P.O. Box 100
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Water Board staff:

Thank you for the opportunity to comment on the draft Statewide National Pollutant Discharge Elimination System (NPDES) Permit No. CAG370001 for Suction Dredge Mining Discharges to Waters of the United States.

Until recent legislative and court-ordered bans on the practice, suction dredge mining adversely impacted water quality and beneficial uses on waterways across the state. The citizens of California have been unequivocal in expressing their desire for clean water and their enjoyment of healthy rivers, streams, lakes, and estuaries. For these reasons, the people of California, via their legislature and courts, have curtailed and outright banned suction dredge mining as an activity that is incompatible with their interests and state water quality laws.

The legislature has provided clear requirements for the reinstatement of any suction dredge mining in the state and, as a representative of people who enjoy and recreate in the state's whitewater rivers, we believe that the primary objective must always be to protect water quality and the beneficial uses identified in basin plans for every waterway in California.

While we generally support much of the Water Board's approach to regulating discharges from future suction dredge mining operation, we are also concerned that there are significant and unintended gaps in proposed water quality protection that will diminish the enjoyment of the beneficial uses which the Water Board is charged with protecting.

We hope that our comments and analysis will aid the Water Board in improving its efforts to protect water quality.

About American Whitewater

American Whitewater is a national river conservation non-profit founded in 1954, and we have grown to become the primary advocate for the preservation and protection of the nation's whitewater rivers with approximately 50,000 supporters, 6,250 dues-paying members, and 100 locally based affiliate clubs. Our mission is to protect and restore America's whitewater rivers and to enhance opportunities to enjoy them safely.

Our work connects the interests of human-powered recreational river users with ecological and science-based data to achieve the goals within our mission. We envision that our nation's remaining wild and free-flowing rivers stay that way, that our developed rivers are restored to function and flourish, that the public has access to rivers for recreation, and that river enthusiasts are active and effective river advocates.

A significant percentage of our members participate in water-contact recreation activities in California's rivers, streams, and lakes and have a direct interest in protection of their water quality.

Whitewater Activities Are Water Contact Recreation Affected by this General Permit

Whitewater activities are, by definition, water contact recreation (REC-1), and the ingestion of water is not a potential or theoretical occurrence but rather it is a frequent and an intrinsic result of being on, in, and under the surface of the water. Ingestion occurs via the mouth, nose, ears, and skin and is particularly acute in instances when a whitewater boater is upside down (e.g., in a flipped canoe or kayak) or swimming. Because of this, water quality is of particular importance to whitewater recreators.

The same geologic and hydrologic features that make a river or stream attractive to a whitewater enthusiast also make the river desirable to suction dredge miners. Rapids are

formed where water drops with gradient, often over a resistant bedrock layer, and pools form where the stream has both scoured and deposited its bedload. These same circumstances, in a gold-bearing region, also form concentrated deposits of placer gold. The whitewater enthusiast comes for one reason, the suction dredge miner for another, and the two recreational activities take place in close proximity—if not side-by-side—in many locations (see Photos 1 & 2).

The difference is that whitewater activities result in little, if any, adverse impact to water quality whereas suction dredge mining impacts water quality in a variety of ways that are well-documented by scientific studies. It bears mention that suction dredge mining is also a water contact recreational activity and that dredge operators spend a significant period of time in the receiving waters of their discharge and that of other dredge operators.

Photo 1: Whitewater kayakers paddling in immediate proximity to a dual-engine, dual nozzle suction dredge discharging effluent into the Klamath River, July 2008. The dredge is placed such that kayakers must paddle through its effluent to reach the top of the eddy and access the river's current. Both dredge operators are operating the nozzles underwater.

Photo 2: Whitewater kayakers paddling in immediate proximity to a dual-engine, dual-nozzle suction dredge discharging effluent into the Klamath River, July 2008. The dredge is placed such that kayakers must paddle through its effluent to reach the top of the eddy and access the river's current. Both dredge operators are operating the nozzles underwater.

Comments

Comment #1: Suction dredge mining discharges are more appropriately controlled under individual NPDES permits than under a general permit.

The Water Board, in its attempt to develop a general NPDES permit that it may apply statewide, has created a complex and difficult-to-enforce system that overly generalizes the diverse conditions present in waterways and the variability of dredge operations, discharges, and the impacts posed to water quality and beneficial uses. There is no one-size-fits-all approach that can address every waterway in the state, every dredge and dredge operator's techniques as well as the cumulative operation of many mobile dredges by many different operators, and that can (even generally) characterize all waterways' unique sets of water quality conditions and the impacts to them caused by suction dredge mining discharges.

Suction dredge operations are variable according to the size, type, and manufacturer of each dredge as well as the manner in which the dredge is operated, both mechanistically and temporally. The types of discharges vary significantly according to the substrate dredged. It is difficult, if not impossible, to characterize suction dredge operations across the state as being the same or substantially similar to one another nor can the types of discharges be characterized as being of the same type across all dredge operations statewide. The draft general permit fails to demonstrate or provide rationale as to how the Water Board has determined that a general permit may be utilized for suction dredge discharges pursuant to 40 CFR § 122.28(a)(2)(i).

Further, the proposed general permit does not specifically address the unique set of designated beneficial uses of each waterway and instead attempts to use non-specific discharge requirements and best management practices to (hopefully) protect all beneficial uses across all waterways. This is a flawed approach.

In order to adequately protect water quality and ensure there are no adverse impacts to beneficial uses, the Water Board should instead utilize *individual* NPDES permits that are site-specific (not just waterway specific), issued for a specified set of equipment operated according to specified protocols, and that include standard sampling and lab analysis as part of its monitoring requirements. There is no permit system that will reliably protect water quality and beneficial uses absent individual, context-specific evaluation of every proposed suction dredge mining operation.

Comment #2: Although a general NPDES permit is not the appropriate permitting system, we support the proposed general permit's prohibition of suction dredge mining in areas where mercury is likely to be present and where otherwise prohibited by basin plans or the Department of Fish and Wildlife.

In order for a general permit to be applicable to suction dredge operations statewide, it must be limited so that covered discharges do not adversely impact water quality or beneficial uses across all waterways despite their diverse characteristics. The Water Board's proposed general permit addresses this via a set of discharge prohibitions (section 4) that also incorporate best

management practices (subsection 5.2). Additionally, narrative effluent limitations (subsection 5.1) apply to covered discharges.

The proposed discharge prohibitions largely (but not fully) address the critical issue of trace metal toxicity and mercury (including methylmercury) re-mobilization by prohibiting suction dredge operations in HUC 10 watersheds that contain waterbodies 1) listed for these pollutants (section 4.3), 2) in areas of historic gold mining (section 4.5; see Comment #3, below), and 3) where mercury is detected above fish tissue water quality objectives. Together, these prohibitions attempt to exclude suction dredge mining under the general permit in areas that are known to contain or are highly likely to contain these pollutants.

We concur that this approach is necessary to protect water quality and that it is also necessary for a general permit to even be applicable to statewide dredge operations pursuant to 40 CFR § 122.28 (requiring that all point sources discharge the same types of waste and require the same effluent limitations). However, the Water Board did not identify all historic mining sites where mercury may have been used.

Comment #3: The Water Board has not identified 8,149 historic mining sites statewide which can reasonably be assumed to have used mercury, and 143 of these sites occur in 58 different HUC 10 watersheds that are proposed to be open to suction dredging. These watersheds should be removed from general permit coverage.

The Water Board used geospatial analysis of the United States Geological Survey's (USGS) Mineral Resources Data System (MRDS) dataset to determine where mining activity has taken place in California. This geospatial analysis filtered the MRDS dataset on two criteria to determine which of the 42,749 sites in the dataset are historic gold mines:

1) Commodity = gold, and
2) Development status = past producer.[1]

[1] The Water Board's geospatial analysis criteria were provided to American Whitewater via email by Renan Jauregui, WRC Engineer NPDES Unit, on July 15, 2020.

This analysis identified 8,925 sites where gold was documented at a mine that is now closed.

Based on the well-documented prevalence of mercury use in historic gold mining operations, the Water Board has appropriately and reasonably assumed that, absent any specific evidence to the contrary, mercury was used at all historic gold mines.

Because the proposed general permit provides statewide coverage for suction dredge mining and does not require site-specific testing of mining substrate or any sampling and lab analysis of discharges, in order to protect water quality and beneficial uses, it prohibits discharges into HUC 10 watersheds with one or more water bodies located in areas of historic gold mining—and presumed mercury presence—as identified by the Water Board's geospatial analysis.

We agree with this general approach. However, the Water Board used too narrow of criteria in its geospatial analysis of the MRDS dataset and, in doing so, it failed to identify a significant number of additional mining sites where mercury was likely used.

We performed our own geospatial analysis of the same MRDS dataset[2] using refined criteria and identified 8,149 additional mining sites where mercury was likely used. Of these, 143 sites are located in 58 different HUC 10 watersheds that the Water Board proposes to open to suction dredging under the general permit. We detail our analysis and its rationale below.

First, mercury was used extensively in both placer and hard rock gold mining and processing, but it was also used just as extensively for silver mining and processing. Most historic gold mining operations also recovered silver as a secondary product; however, there were also dedicated silver mines in California that did not produce gold. Because the Water Board limited its analysis of the MRDS dataset to mines that produced gold, it failed to identify these dedicated silver mines.

[2] The full MRDS dataset for California is available in GIS format directly from the USGS at https://mrdata.usgs.gov/mrds/geo-inventory.php (containing 42,749 records). The Water Board provides only its filtered results of the MRDS dataset at https://ftp.waterboards.ca.gov/?u=GIS_Shared&p=GIS_Download (containing 8,925 records). For our analysis of historic mining activity in California, we used the full MRDS dataset so that we could assess all sites in the dataset and not only those which the Water Board had already filtered.

Second, the Water Board limited its geospatial analysis of the MRDS dataset to mines identified as "past producers." The MRDS defines a past producer as "a mine formerly operating that has closed, where the equipment or structures may have been removed or abandoned."[3] While past producer development status in the MRDS dataset indicates a closed production-scale mine, it is not indicative or inclusive of all sites of historic mining that may have utilized mercury.

It is well-documented that mercury was used not only at past production-scale mines but also extensively by prospectors using rockers, long toms, and other small-scale recovery methods that did not constitute a production-scale mine and, therefore, are not identified in the MRDS dataset as a past producer. Instead, these mining sites are identified as "prospects" and the Water Board failed to identify them in its analysis.

It is important to acknowledge that the MRDS dataset was created long after historic mining activities ceased, and it used a variety of sources of information to characterize and locate former mining sites.[4] It is an incomplete dataset both in the sense that nowhere near all historic mines are included and in the sense that there is incomplete information for many of the mines that are included.

One result of this is that the MRDS dataset does not contain any information on the development status of 4,862 gold or silver mines in California at all[5] (whereas others with information are classified as occurrences, prospects, producers, past producers, or plants). The fact that a mining operation has an unknown development status is not at all indicative that the operation did not use mercury to recover gold or silver. The Water Board failed to identify historic mines where mercury may have been used but that have an unknown development status.

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[3] *See* the data dictionary for the DEV_STAT field of the MRDS dataset, available at https://mrdata.usgs.gov/metadata/mrds.faq.html#what.7

[4] For a list of information sources used s*ee* https://mrdata.usgs.gov/metadata/mrds.faq.html#how.

[5] Determined by filtering the MRDS dataset with SQL definition query *dev_stat = 'Unknown' And (commod1 LIKE '%Silver%' Or commod1 LIKE '%Gold%' Or commod2 LIKE '%Silver%' Or commod3 LIKE '%Gold%' Or commod3 LIKE '%Silver%' Or commod2 LIKE '%Gold%')*

To correct for these deficiencies in the Water Board's geospatial analysis and to identify all mining sites where mercury is likely to have been used, we structured our query of the MRDS dataset to identify records where:

1. Commodity = gold **or silver**, and
2. Development status = past producer, **or prospect, or unknown**

   (Our additions to the Water Board's criteria are shown in **bold**)

Our analysis of the MRDS dataset with these criteria returned records for 17,074 sites statewide.[6] This represents 8,149 additional sites not identified in the Water Board's analysis. Absent any specific evidence to the contrary, it should be assumed that mercury was used in *all* of these historic gold and silver mining operations.

Of the additional 8,149 sites we identified, 143 of them are located in 58 different HUC 10 watersheds that are open to suction dredge mining under the proposed general permit. To be protective of water quality and beneficial uses, the general permit should exclude suction dredging in all 58 of these watersheds.

Table 1, below, provides a list of these HUC 10 watersheds, and Map 1 provides a visual depiction of them and the 143 mining sites that our analysis identified within them.

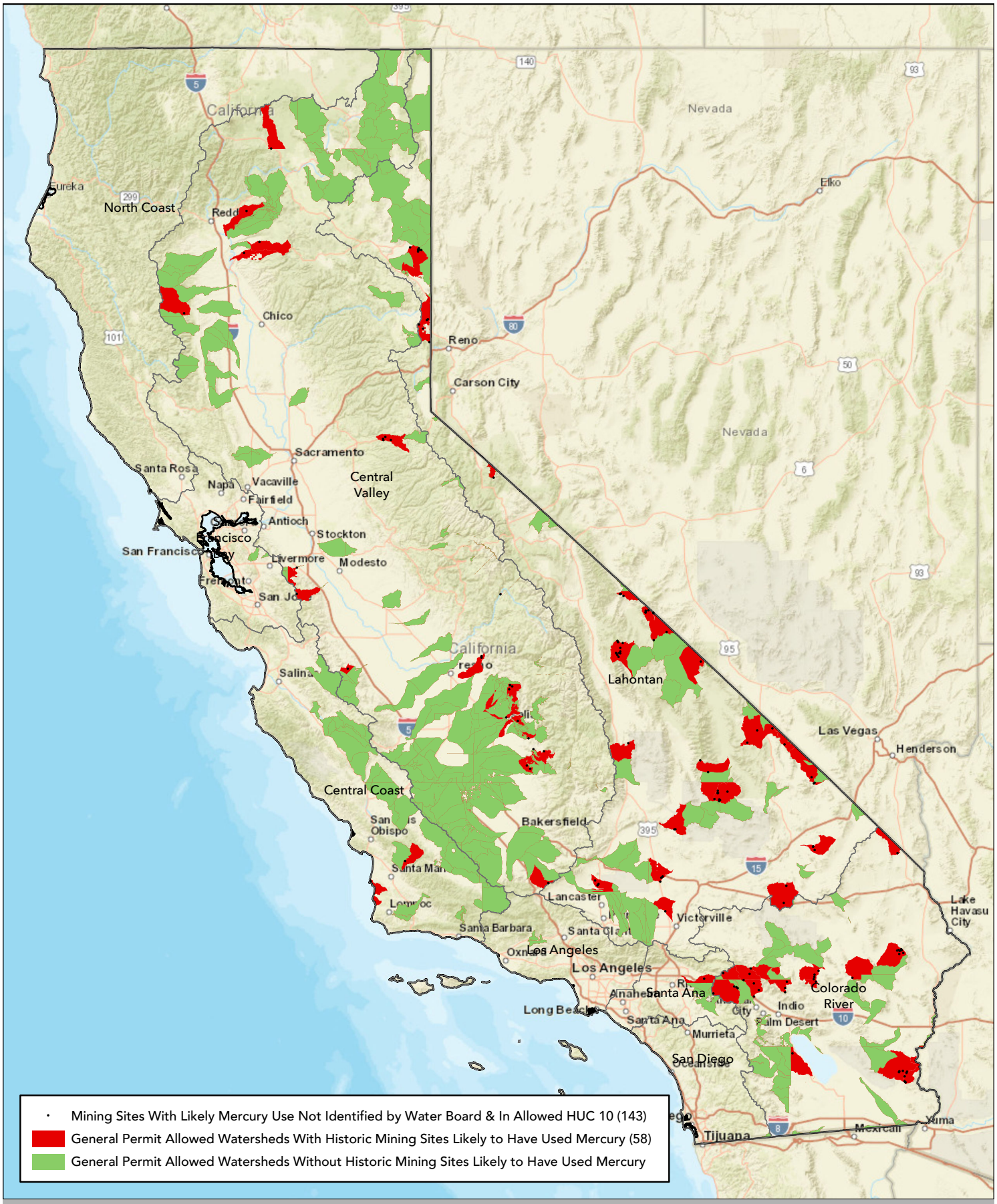
HUC 10	Waterway	County	Regional Board
1503010201	Upper Piute Wash	San Bernardino	Colorado River
1503010410	Lower Milpitas Wash	Imperial	Colorado River
1503010411	Gould Wash-Colorado River	Imperial	Colorado River
1605030203	Desert Creek	Mono	Lahontan
1606001010	Palmetto Wash-Frontal Fish Lake Valley	Inyo	Lahontan
1606001503	Stewart Valley	Inyo	Lahontan
1606001505	Pahrump Valley	Inyo	Lahontan
1606001507	Potosi Wash	San Bernardino	Lahontan
1802000304	Bear Creek	Siskiyou	Central Valley
1802012903	Upper South Fork American River	El Dorado	Central Valley

[6] Obtained by filtering the MRDS dataset with Structured Query Language (SQL) definition query *(dev_stat = 'Past Producer' Or dev_stat = 'Prospect' Or dev_stat = 'Unknown') And (commod1 LIKE '%Silver%' Or commod1 LIKE '%Gold%' Or commod2 LIKE '%Silver%' Or commod3 LIKE '%Gold%' Or commod3 LIKE '%Silver%' Or commod2 LIKE '%Gold%')*

1802015104	Cow Creek	Shasta	Central Valley
1802015302	South Fork Battle Creek	Tehama	Central Valley
1802015501	Paynes Creek	Tehama	Central Valley
1802015604	Upper Thomes Creek	Tehama	Central Valley
1803000309	Liveoak Canyon-Pastoria Creek	Kern	Central Valley
1803000504	Middle Deer Creek	Tulare	Central Valley
1803000603	South Fork Tule River	Tulare	Central Valley
1803000605	Lewis Creek	Tulare	Central Valley
1803000606	Foothill Ditch-Outside Creek	Tulare	Central Valley
1803000707	Upper Cottonwood Creek	Tulare	Central Valley
1803000711	Upper Cross Creek	Tulare	Central Valley
1803000903	Fancher Creek-Fancher Creek Canal	Fresno	Central Valley
1803000903	Fancher Creek-Fancher Creek Canal	Fresno	Central Valley
1804000104	Little Panoche Creek	Merced	Central Valley
1804000203	Del Puerto Creek	Stanislaus	Central Valley
1804000301	Corral Hollow Creek	San Joaquin	Central Valley
1804000606	Lower South Fork San Joaquin River	Madera	Central Valley
1806000704	Alamo Creek	San Luis Obispo	Central Coast
1806000902	Shuman Canyon-Frontal Pacific Ocean	Santa Barbara	Central Coast
1807020304	San Timoteo Wash	San Bernardino	Santa Ana
1808000312	Upper Long Valley Creek	Sierra	Lahontan
1808000312	Upper Long Valley Creek	Lassen	Lahontan
1808000315	Honey Lake Valley-Frontal Honey Lake	Lassen	Lahontan
1809020106	Waucoba Wash	Inyo	Lahontan
1809020216	Greenwater Canyon-Amargosa River	Inyo	Lahontan
1809020301	Upper Death Valley Wash	Inyo	Lahontan
1809020305	Mesquite Flat	Inyo	Lahontan
1809020318	Owl Lake	San Bernardino	Lahontan
1809020319	Wingate Wash	San Bernardino	Lahontan
1809020321	Anvil Spring Canyon	Inyo	Lahontan
1809020503	Rose Valley	Inyo	Lahontan
1809020509	Black Hills	San Bernardino	Lahontan
1809020624	Rosamond Lake	Kern	Lahontan
1809020707	Town of Kramer Junction-Town of Jimgrey	San Bernardino	Lahontan
1809020806	Lower Fremont Wash	San Bernardino	Lahontan
1809020816	Broadwell Lake	San Bernardino	Lahontan
1809020823	Willow Wash	San Bernardino	Lahontan
1810010015	Quail Wash	Riverside	Colorado River
1810010016	Black Rock Spring-Coyote Well	San Bernardino	Colorado River

1810010023	Town of Old Dale-Dog Wash	Riverside	Colorado River
1810010023	Town of Old Dale-Dog Wash	San Bernardino	Colorado River
1810010036	Cadiz Valley	San Bernardino	Colorado River
1810010042	Martins Well-Danby Lake	San Bernardino	Colorado River
1810020101	San Gorgonio River	Riverside	Colorado River
1810020103	Headwaters Whitewater River	San Bernardino	Colorado River
1810020104	Little Morongo Creek-Morongo Wash	Riverside	Colorado River
1810020104	Little Morongo Creek-Morongo Wash	San Bernardino	Colorado River
1810020415	Arroyo Salada-Frontal Salton Sea	Imperial	Colorado River

Table 1: The 58 HUC 10 watersheds that are proposed to be open to suction dredge mining under the general permit but that contain mining sites likely to have used mercury. See Map 1 for a visual depiction of these watersheds (shown in red).



General Permit Allowed HUC 10 Watersheds & Historic Mining Activities

AMERICAN WHITEWATER

Map 1: Using refined criteria to analyze the USGS MRDS dataset, we identified 8,149 mining sites where mercury was likely used but were not identified by the Water Board. Shown here are 143 of these sites that are within 58 HUC 10 watersheds that are open to suction dredging under the proposed general permit. The Water Board should remove these watersheds from general permit coverage.

Comment #3: Suction dredge mining operations frequently use metal cables and ropes in and across waterways and these pose a potentially deadly threats to whitewater paddlers and other river users. The use of such cables and ropes should be addressed in the permit's mandatory best management practices.

Anytime that a suction dredge is deployed in moving water, it needs to be tethered to a solid object on shore or attached to a cable or rope spanning the river or stream so that it does not float downstream. Unfortunately, the ropes and cables deployed by suction dredge operators often pose a severe hazard of entanglement to other river users and adversely impact the recreation-related beneficial uses of many waterways. It is not unusual to find high tension, thin-diameter metal cables at or near water level across rivers and streams in California, both while suction dredging is taking place and also long afterwards, left behind by miners until the next season or abandoned in perpetuity. Whether being actively used or if they are abandoned, these hard-to-see cables and ropes can entangle river users and quickly drown them.

Section 5.2.1 of the proposed general permit should be modified to include the provision, "All ropes or cables used to secure equipment in a waterway shall be placed at a height that permits safe passage beneath for all boaters, swimmers, and other river users. All ropes and cables shall be completely removed as soon as dredge operations are complete or whenever the dredge is removed from the waterway for any purpose other than refueling and immediate placement back in the waterway for continued operations."

Comment #4: The Water Board should require that applicants for coverage under the general permit submit their notice of intent electronically and this information, as well as notices of applicability and all other administrative records, should be made publicly available on the Water Board website.

As of December 21, 2025 (or an EPA-approved alternative date), all notices of intent submitted in compliance with 40 CFR § 122.28(b)(2)(i) must be submitted electronically. It would be most efficient and least disruptive on December 21, 2025 if the Water Board were to initiate its permit program with the requirement that each discharger submit their notice of intent electronically.

Additionally, in order to provide the public with necessary information about proposed and/or approved suction dredge mining operations under the general permit, all administrative records should be made publicly available on the Water Board's website, including a continually updated map of all locations of suction dredge discharges covered under the permit. This is necessary for the public to be able to determine where these discharges are located, whether particular dredge operations are authorized, and it will aid in the Water Board's challenging task of enforcing the provisions of the proposed general permit.

Conclusion

As frequent users of the state's waterways for water contact recreation, whitewater enthusiasts are directly and immediately affected by suction dredge discharges and their impacts to water quality and beneficial uses.

We believe that individual NPDES permits are best suited to controlling these discharges and protecting water quality. In order for the Water Board to utilize a general permit, the Board must re-evaluate its determination of areas that are closed to dredging due to past mining activity that involved the use of mercury. We detail a more comprehensive analysis of the same data used by the Water Board to identify these mining sites. The proposed best management practices need to address the risk posed by dredge cables, and information on proposed and approved dredge mining operations under a general permit should be made publicly available.

Thank you, again, for the opportunity to provide input on the proposed permit. Please feel free to contact Scott Harding at American Whitewater to discuss these comments and issues.

Sincerely,

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