

Suction Dredging for Gold

The modern suction gold dredge is the most environmentally friendly method of river mining ever devised. It cleans our rivers of toxic heavy metals and creates better habitat for our fisheries.

Support suction gold dredging and help rebuild our economy and preserve our western heritage

What is a Suction Dredge?

Is suction dredging really harmful to the environment?

To understand its minimal impact on the environment it's important to understand what a suction dredge is. In most people's minds a gold dredge is a huge earth eating machine the size of a house. But this is not what a suction gold dredge is.

A Floating Sluice Box

A suction dredge is technically an in stream filtration device. It uses a vacuum created by a water pump to lift sand, rocks and heavy materials, including gold, lead, steel and mercury and passes these materials over a specially designed trap known as a sluice box. The gravel is all returned directly to the stream bottom only feet away from where it was taken. Numerous studies have shown all evidence of dredging is erased by nature after the next big rain event.



The modern gold dredge: small, clean and the most efficient device in use for removing heavy metals from our rivers.

All material processed by a dredge comes from the river and returns to the river. Nothing is added to the river.

Powered by a Lawnmower Engine

The key to suction dredging is portability. This limits the size of a dredge. The bigger the dredge, the bigger the river or stream must be to operate it.

The average size of a dredge engine is 5 horsepower. The same size that powers your lawnmower. Suction dredges are cleaner than the boats on the water as a dredge engine doesn't discharge any chemicals into the water. The engine is air cooled and gasoline powered meeting all California emissions requirements.

Removing Toxic Metals

The modern suction dredge is the most efficient equipment in use today for removing heavy metals such as mercury, lead and iron from our streams and rivers. A suction dredge does not add anything to the water. Over the forty years dredging has been ongoing thousands of pounds of toxic metals have been removed from California waterways at no expense to taxpayers.

Doing No Environmental Harm

Multiple scientific studies prove dredging doesn't harm the environment. The previous EIR (CDFG) published in 1994 found less than significant impacts from suction dredging. The only change since 1994 is the introduction of smaller, more efficient dredges that are better at removing heavy metals from the rivers.

The Truth about Suction Dredging

Mercury

Suction dredges don't pollute rivers. Gold dredges have removed thousands of pounds of mercury, lead and iron over the past forty years based on a survey of suction dredge operations conducted by the California Department of Fish and Game. This toxic metal removal is done at no expense to taxpayers.

Removing dredges from the rivers leaves only the mercury behind.

Yellow Legged Frogs

CDFG alleges suction dredging harms Yellow Legged Frogs, yet not a single published report shows a real instance of harm. In fact, a lead scientist on these frogs attributes the CDFG fish stocking program for the frogs extinction.

Further, a recent study by the US Forest Service observed a staggering 10,000% increase in frog populations following removal of non-native trout.

Cumulative Effects

Claims that the effects of many dredges could create significant impact are not supported by scientific reports that show the effects from dredging are localized and the effects return to normal within minutes of the dredge stopping.



Effects on Wildlife

The broad, generalized swaths of the State scheduled for river closure are not based on research, science or fact and are not supported within the Endangered Species Act that allows for only specific habitat where the species actually occurs.

Historical Resources

CDFG's position that suction dredging impacts historical or cultural resources is not supported by the standards of CEQA.

A gold dredge operates below the water line where it is virtually impossible to find an object that would qualify under CEQA for historical importance.

Trash and debris from prior mining are not historical resources.

Turbidity

Turbidity is simply the clouding of the water. Research shows no level of turbidity is harmful to fish. Further, the turbidity created by a suction dredge is zero within 30 to 100 meters of the dredge and dissipates within minutes of stopping





Today's Miners are Pro Environment

Suction dredgers are removing the toxic legacy from historical mining days

Clean Water



A suction dredge introduces nothing to the water but removes heavy metals from the river.

Multiple studies, including Humphries (Ref 7) and Fleck (Ref 13) found suction dredges are extremely efficient at removing mercury from rivers. In fact, they are the most efficient device in existence at removing heavy metals including mercury. State and Federal testing proves a suction gold dredge is 98% efficient at removing mercury [Ref 7].

Compare that to the centrifugal dredge proposed by environmentalists that removes only 93% of mercury and will require millions in taxpayer funds [Ref 6].

Healthy Fish



The California Regional Water Quality Board, in a 2007 study of rivers and lakes where dredging takes place concluded that fish in these lakes were healthy and were well below safe threshold limits [Ref 11].

Yet State researchers claim that suction dredges introduce mercury into the waterways. Dredges do not introduce pollutants, they remove them. Without dredges mercury will continue to travel downriver to warmer water where it has the potential to methylate and harm fish.

US EPA reports [Ref 15] find that California fish are consistently below national averages for pollutants.

Clean Watersheds



Do you like clean rivers? So do we. We remove lead, trash and toxic metals from the waterways and we do it for free. We support clean rivers and we create clean watersheds.

Dredgers remove hundreds of pounds of trash each year left by thoughtless outdoor users. A single dredger in one summer removed over one hundred pounds of lead from the river (see pictures posted at www.thewma.org).

Mercury moves differently than gold. It can move during low water flow periods due to gravity [Ref 7]. If mercury is not recovered by dredges it simply is not recovered at all.

Trails



Virtually every river in gold country has a historic mining access trail. Some of these trails date back to the 1840's. These historic trails which would have been lost to time are preserved for future generations by the continual maintenance of miners.

Miners do not have a right to block access and the vast majority of miners welcome other outdoor enthusiasts to their mining claims.

Mining trails access some of the most remote and beautiful parts of the State and these trails are maintained for free by the miners.

Remove the miners and you will eventually lose the historic trails

History



To the point of being absurd the SEIR claims that suction dredges can harm historical resources. What are these historical resources? They are the trash and debris washed into the rivers from the old hydraulic mining days.

The CDFG wishes to ban current gold mining to preserve the nails used in sluice boxes from historic gold mining. We can't mine gold to preserve proof that at one time people were allowed to mine gold.

CEQA defines a historical resource as having sufficient significance to be placed on the historic register. [Ref 10] Trash from historic mining days would not be included.

The Lake Combie Experiment - Environmentalists, supported by requests for millions of taxpayer dollars conducted an experiment with a Canadian built centrifugal dredge to determine the efficiency of suction dredging Lake Combie to remove mercury. The results? In particle sizes larger than fine sediment the environmentalist dredge was 93% efficient. [Ref 6] This compares to the 98% efficiency of an unmodified suction gold dredge [Ref 7]. Good intentions don't mean a cleaner environment.

Mining Facts

There are over 55,000 mining claims in California

Claims Protect the Environment



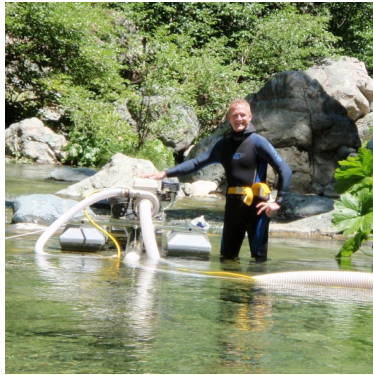
Suction dredgers operate on Federal mining claims. A typical claim averages 40 acres. From the Western Mining Alliance database of claim holders the average number of claims held is five. This equates to 200 acres of mining claims held by each miner. As most placer claims follow the river, the average length of river claim is a half mile.

This means on average there is one suction dredger per half mile of river. This extraordinarily low density of dredgers means there are fewer dredges on the Yuba River on a summer day than rafters. There are over 100,000 miles of waterways in California and in 2009 there were about 3,500 dredge permits issued.

Suction gold dredgers with lightweight, efficient equipment spend the summers cleaning the waterways of heavy metals at no cost to taxpayers. The suction dredge is designed to capture all heavy metals and remove them from the gravel. The clean gravel is then returned within feet of its source free from toxic metals.

If you support healthy rivers - keep dredgers in the water. Gold dredging stops mercury by removing it from the river and preventing its movement downriver. Mercury, unlike gold, can move during low summer water flows [Ref 7].

Mining Claims Cover California



There are over 55,000 Federal mining claims in California. [Ref BLM Mining Claim Database] Suction gold dredging and related activities occur throughout the State but are concentrated in the gold bearing areas of the State known as the Motherlode.

Almost 4% of the population of Sierra County own mining claims and an even larger percentage are miners. Yet, Sierra County is one of the most pristine and wild areas of the State. Sierra County, and many other beautiful Motherlode counties, are proof that suction dredging and the environment can coexist, while at the same time creating jobs and tourism and create a significant economic base.

In some rural counties mining claims outnumber residents providing an important source of property tax revenue [Ref BLM Mining Claim database]. Miners pay annual property taxes on Federally owned property that is otherwise not taxable.

According to the US Geologic Survey suction dredging is the second largest producer of gold in California. [Ref 2] Dredging is not recreational, many people across the west rely on gold dredging to supplement their income. This mining is environmentally friendly, low impact and provides both jobs and a tax base within the areas it occurs.

Did you Know?



Logging, including clear cutting is exempt from CEQA and the Environmental review process. While suction dredges are claimed to frighten birds apparently clear cutting their trees does not. [Ref 10]

The California Department of Fish and Game's fish stocking program is exempt from EIRs [Ref 10] even though leading researchers on the Yellow Legged Frog attribute the frog's near extinction to the stocking of non-native trout into their habitat [Ref 4]. CDFG wants to ban dredges from massive geographic areas of the State where the frog may not even exist. There is not a single documented case of a suction dredge harming the frogs, eggs or tadpoles and there are no research papers that have shown dredging harms frogs. To the contrary, research shows the frog eggs need a light layer of silt to hatch - which is what a suction dredge produces.

Across the State suction dredges can remove 4,000 ounces of mercury annually from the waterways making the suction dredge the leading mercury remediation program in the State at no cost to the taxpayers.

California fish, by virtually all standards rank among the cleanest fish in the country [Ref 11, 15]. In fact California trout are well below US averages even for states with no dredging.



Forty Years of Suction Gold Dredging Results in This

“Significant effect on the environment means a substantial adverse change in the environment.” California Environmental Quality Act Section 21068

Term/Word from SEIR	# of Occurrences
May	1,269
Might	30
Could	376
Is Possible	23
Is Proven	0
Is Shown	6
Has Been Shown	11

What was proven by the SEIR?

In 1,388 pages of text the term “Is Proven” is not once used. There are over forty years of suction dredging history yet the SEIR must speculate on what “may” occur if gold dredging resumes.

The Baseline

CEQA states that the existing conditions should be used when preparing an Environmental Impact Report. While we would all like to turn back the clock to the 1830’s - we can’t. We can’t pretend mining never occurred in California but the SEIR pretends suction dredging is a new activity. Aside from speculation what proof is in the SEIR?

In SEIR’s 1,388 pages the terms “may, might or could” occur over 1,600 times. The term “is proven” is not even used once in those 1,388 pages. [CDFG Draft SEIR 2011] Speculation is not required when you have forty years of evidence in front of you, so why weren’t the facts considered?

Mercury

The US EPA established the baseline for evaluating the health of rivers by measuring the mercury levels in fish. The SEIR based their findings on measuring mercury levels in insect larvae ignoring the impact of natural spring floods. Actual measured output of mercury from a real dredge were below threshold detection limits in parts per trillion [Ref 13]. Instead the researchers ignored these findings and used a



hand dug pit (on shore) where mercury was extracted, atomized and mixed with recycled dirty water. After testing they concluded a real dredge would create the same effects. It’s wrong and the real facts about suction dredges were ignored.

Biology

The SEIR speculates dredging may harm frogs and fish without providing any evidence it has occurred in over forty years of gold dredging. All research by accredited scientists points the smoking gun at the CDFG and their fish stocking program. [Ref 4]

The CDFG fish stocking program is decimating the frogs, not gold dredging.

Why you should care

It’s not about mining, it’s about the use of pseudo science and the CEQA process to accomplish social engineering

Virtually all credible research on actual suction dredging shows that suction dredging has a de minimus impact on the environment. So how did this SEIR conclude otherwise?

The risk of not challenging this SEIR opens the door to a continuation of this abuse of the environmental protection laws. Miners support appropriate environmental legislation and regulations. They ask

only that new laws and regulations be based on real science, not personal opinion or speculation.

Every user group needs to be concerned with the flagrant abuse of CEQA in the 2012 dredging SEIR and the resultant regulations.

If a suction dredge can disturb a songbird in a tree to the point it abandons any thoughts of reproducing, while clear cutting forests does not, then wouldn’t a fisherman, hunter, camper or even a hiker be also disturbing? Are we now entering a time where CEQA is used as an administrative tool to accomplish the social objectives of special interest groups?

What’s happening to gold dredging should be of deep concern to everyone who spends time outdoors. Flawed science, poor research and unsubstantiated conclusions can be used as weapons against anyone that doesn’t think the same as the special interest groups.

If a group that is actually pro-environment is regulated out of the rivers even when they are the only people in the State removing mercury from the rivers, then which group will be targeted next?

We must not allow the use of CEQA to accomplish the will of a vocal minority. Public lands are provided for the use of all Americans.

The SEIR and Regulations are Opposed By

We ask that you support legislation to reinstate suction dredging rights based on science and the facts and discard speculative opinions masquerading as science. The recently completed \$1.5m, 1,388 page SEIR is fatally flawed and will cause irreparable harm to hard working men and women - vote for dredging

County Governments

Individuals

Businesses

Audio On Hold
Trillium Research
Cold Canyon Mining
Rosewind Enterprises

Organizations

Public Lands for the People
The Western Mining Alliance
Shasta Prospectors
Rural Liberty Alliance
Wise Use Movement

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What You Can Do!

Support the Western Mining Alliance's fight to return dredging to California by visiting our website www.thewma.org.

Despite the proven absence of environmental harm from suction dredging over the past four decades there are those who would like to regulate it out existence.

It's time to reopen dredging. We ask that you contact your elected representatives at the local and state levels and inform them of the truth about suction dredging. We ask the legislators to reopen suction dredging, put the gold back in California and assist the miners in defending this historic activity.

It's time we demand regulations based on science. Not speculation or social engineering. A government's primary responsibility is to protect the people it serves and this includes the minority.

We ask that all miners, businesses and organizations oppose, protest and appeal the suction dredging SEIR and demand the representatives of the people protect the rights of the people from the misuse of the CEQA process to target and eliminate a safe, sustainable and environmentally friendly economic activity.

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