

# Suction Dredging for Gold

*The modern suction gold dredge is the most environmentally friendly method of 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?*

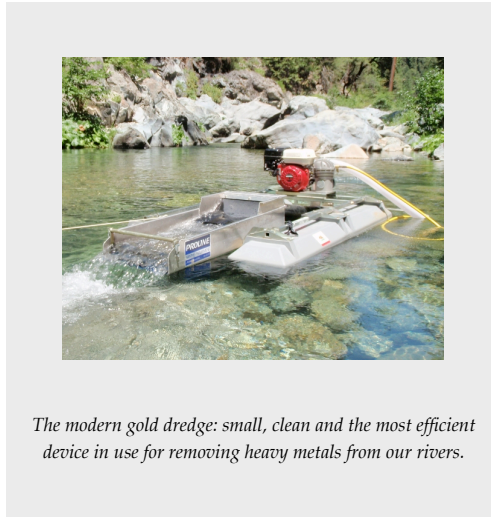
The truth about suction gold dredging is far different than environmental groups would lead you to believe. The US EPA says "...the impacts by small scale dredging activity are primarily contained within the mined areas and persist for about a month after mining season."

### A Floating Sluice Box

If you look closely at the picture to the right you will see a running suction dredge. While some turbidity is created it is short lived and water clarity returns to normal within 100 meters of the dredge site. A gold dredge is nothing more than a floating sluice box that uses an engine and pump to create a vacuum and send gravel, and hopefully gold, into the metal box suspended between the two pontoons. This sluice box filters out all heavy metals, including mercury, and returns the clean gravel 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 modern gold dredge: small, clean and the most efficient device in use for removing heavy metals from our rivers.*

The average size of a dredge engine is 5 horsepower. The same size that powers your lawnmower. Modern gold dredging uses dredges similar to the picture to the left. Nothing is added to the water, but heavy metals are captured by the sluice box and removed.

### Removing Toxic Metals

Gold dredges do not add mercury to the water. Environmentalists would like you to believe that suction gold dredges are "stirring up" old mercury but did you

know that in the forty years these small devices have been in operation they have removed over 2.5 tons of mercury left over from the gold rush. The amount of mercury recovered is dwarfed by the amount of lead, iron and other heavy metals removed by suction gold miners. A suction dredge engine is air cooled it adds nothing to the water and is in fact an order of magnitude cleaner than your average motor boat.

### Doing No Environmental Harm

There is broad scientific evidence that suction dredging effects are both temporary and localized. [Ref. 22] For every study cited that claims dredging harms the environment there are studies that refute that. Some of the most credible, detailed and in-depth studies of suction dredging were ignored in the Environmental Impact Report (US EPA Similkameen and US EPA Forty Mile studies). Still, the SEIR found no documented cases of environmental damage from gold suction dredges.

Speculation and assumptions about effects that may occur in the future completely disregard the real world of hard evidence. The California SEIR disregarded the current state of the environment while acknowledging that assuming a state where suction dredging had never taken place was "hypothetical" and did not reflect the real world. Despite this acknowledgment the State of California pushed ahead with a study that ignored the real world, used experiments that were so flawed that results couldn't be used and relied on speculation instead of facts.

## The Truth about Suction Dredging

### Mercury

Dredges do not add mercury to rivers - they remove it. A California Department of Water Resources Study of lakes in historical gold mining areas found no statistical relationship between mercury levels and historical gold mining areas [Ref. 11]. The California Department of Health Website states no case of mercury poisoning has ever been recorded in California due to eating fish [Ref. 17].

A US EPA study on mercury trends [Ref. 1] found that mercury levels in the two analyzed California Rivers, the Sacramento and Klamath dropped in mercury levels by over 3% in a study period of 30 years. The drop in mercury in the Sacramento River was over 7% during the same study period. Yet environmentalists claim the mercury problem is getting worse. This begs the question of which EPA study are they citing that shows this?

### Wildlife

Claims that suction dredging harms wildlife are not backed up by science, facts or documented cases. In 1,388 pages of the environmental impact report not a single case of documented harm was recorded [Ref. 8]

A 2011 study by the US Park Service observed a 10,000% increase in frog populations following removal of non-native trout. [Ref. 19] Similar studies have proven the same results [Ref. 4]. Speculation that dredging harms salmon is not backed up by evidence. In the 1994 EIR the State of California states "On rivers where dams have been constructed...suction dredges can actually improve spawning riffles." [Ref. 21]

In the 1994 California EIR the State concluded that "impacts to benthic invertebrate communities...are transitory and localized." The science and the data did not change from one study to the next, but the State's conclusions did.



### Turbidity

Turbidity is simply the temporary clouding of the water by silt disturbed while moving gravel. A US EPA study on a 10" suction dredge operation in Alaska found that turbidity levels returned to normal within 160 meters of the dredge [Ref. 24]

The 1994 California Environmental Impact Report [Ref. 21] found the effects from turbidity are "localized and temporary." While acknowledging that the local effects can be significant the report goes on to state that these effects dissipate rapidly and are gone once the dredge shuts down. Turbidity is simply the muddying of the water. Muddy water clears rapidly downstream.

### Trace Metals

The California Environmental Impact Report states that the effects from trace metals in suction dredging operations is a "Significant and Unavoidable Impact" without science or facts to back up the claim.

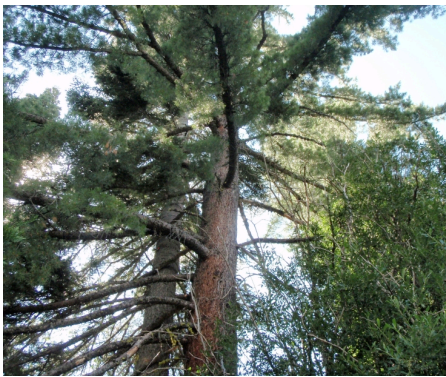
The truth is no data supports this claim while the best researched and documented government study provided just the opposite conclusion. [Ref. 20] "Results showed that metals concentrations discharged from small scale gold dredges are not a significant concern for aquatic life in the Similkameen River." [Ref. 20] The study went on to conclude "...water quality concerns were probably negligible for metals..."

This study was discarded by the California Department of Fish and Game as not being relevant to California Rivers based on an assumption that Washington Rivers were somehow different than California waters.



# Suction Dredge Facts

*There are over 55,000 mining claims in California*



## Mining Claims Protect the Environment

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 counties, are proof that suction dredging and the environment coexist, while at the same time creating jobs and tourism and create a significant economic base.

Suction dredgers operate on Federal mining claims. A mining claim is real property in every sense of the word as held by courts. A mining claim, and mining is a right granted by Congress in the 1872 Mining Law. As opposed to all other outdoor activities miners hold a right to mine. This right may not be prohibited or preempted and this right has been upheld in Federal courts.

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.

The indiscriminate movement of river bottom is economically not feasible. This self regulating effect is motivated by time and money it is not the result of government regulations.



## Dredging and Wildlife

Environmentalists lawsuits to halt suction dredging are not based in fact. The lawsuits to halt suction dredging began with claims that suction dredging harmed endangered salmon. There is not a shred of evidence to support this claim. In recent government studies on endangered salmon population counts have continued to drop. Even with a complete halt in suction dredging salmon counts are not recovering. [Ref. 24]

The continued decline of salmon has nothing to do with suction dredging but suction dredges do provide the loose gravel spawning grounds they require [Ref. 21]. Additionally, under existing regulations suction dredging in salmon spawning rivers is not allowed during spawning season.

Claims that suction dredging destroys invertebrate populations, thus harming fish are unfounded. The opposite is true. In an EPA study of large dredges operating on the Forty Mile River of Alaska they found that invertebrate populations had recovered to normal following major dredging operations "Our results suggest that all measures except macroinvertebrate density appear to fully recover within 10 days since dredging." [Ref. 22].

Further claims that a suction dredge may entrain (suck up) insects and fish and kill them is again not supported by government testing. "Those organisms that are entrained by the dredge will not necessarily be killed. For example, Griffith and Andrews (1981) examined 3,600 organisms and reported less than 1% mortality for macroinvertebrates entrained through a 3 inch suction dredge." [Ref. 22]



## Did you Know?

Despite the shrill cry of environmentalists here are the facts:

- In the California SEIR suction dredge study conducted on the S. Fork of the Yuba River - while working in one of the acknowledged mercury hotspots of California more gold was found than mercury.
- In a 2005 study by the Regional Water Quality Board that investigated whether a unmodified suction dredge could be used to clean the river of mercury the study found that a normal suction dredge was 98% efficient at mercury recovery. [Ref. 7]
- Not one person has ever been sickened by mercury from eating fish caught from California waters [Ref. 17]
- Environmentalists have proposed using a suction dredge built in Canada to recover mercury using taxpayer funds even though the environmentalist dredge operates at best in the 93% efficiency range and worse for fine mercury. [Ref. 6]
- The 1994 California SEIR found that suction dredging on dammed rivers (almost all rivers in California) improves salmon spawning grounds. [Ref. 21]
- Despite a two year ban on suction dredging salmon counts on California rivers in 2011 were the lowest numbers in over twenty years. [Ref. 24]
- The decimation of endangered amphibians is the result of the CDFG fish stocking program. [Ref. 4]
- The 1994 and the 2012 Environmental Impact reports found a 96% compliance rate by suction dredgers with regulations. [Ref. 21]



# 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*

## The Economics of Dredging

*Radical environmental groups like to claim that suction gold dredging is merely recreational.*

### The Facts

Mining is a right guaranteed by Congress and this right has been upheld by numerous court decisions. Mining, as opposed to fishing or other outdoor activities, is guaranteed by law. There is no definition in the 1872 mining law of a recreational miner. Mining is hard work and despite the method of mining all miners are seeking to recover valuable minerals including suction dredging for gold.

Gold, even in very small quantities, is extremely valuable and it would be the rare person that would not recover a paying deposit of gold. The “recreational” miner becomes professional very rapidly when a paying streak of gold is found.

According to the US Geological Survey the combined gold production from suction dredging in California would qualify as the second largest producer of gold in the State. With over 14,000 ounces of the precious metal produced by independent suction dredgers the annual value of gold recovered is \$22 million in real value.

### Tax Dollars

Mining claims produce tax revenue for local governments. All mining claim holders pay property taxes. No other outdoor user group pays property taxes on land they do not own. There are 55,000 mining claims in California [Ref. 23]. Mining claims are real property and can be bought and sold as real property. These transactions, like real estate are taxed. The Western Mining Alliance estimates, based on researching the BLM mining claim database, that 20% of mining claims change hands each year resulting in \$30 million in taxable real estate transactions. Despite wide variances in how individual counties assess mining claims the minimum property tax on a small mining claim is approximately \$50 per year. Some claims command much higher property taxes based on their sale price, but a conservative estimate of tax revenue would be \$2.7 million annually. Importantly, that’s almost \$3 million in revenue each and every year that goes into the local tax base.



Without a mining claim that same Federal land is not taxable. Mining claims are an important source of tax revenue for rural counties.

### The Flip Side

During the forty years suction dredging was continuously ongoing and producing jobs, tax revenue and creating small businesses the cost to the State of California was zero. According to testimony provided by the California Department of Fish and Game in the court case Karuks vs. Fish and Game the Department stated that the costs of running the dredging program was entirely covered by revenues from permitting.

The radical environmental groups who would shut suction dredging down have cost the State over \$5 million to date while completely eliminating the \$22 million in gold produced by miners. To date the environmentalists have cost the State:

1. Legal reimbursement to the environmental groups and Karuk tribe for Karuks vs. CDFG
2. \$2 million in program costs to produce the Subsequent Environmental Impact Report
3. Legal reimbursement in Hillman vs. CDFG
4. Current lawsuit costs in PLP vs. State of California challenging the legality of AB 120 / SB 670
5. Current lawsuits costs in PLP vs. CDFG challenging the Subsequent EIR and the resultant regulations

In a cost/benefit analysis it’s clear that the State has lost nearly \$30 million a year as a result of extremist environmental groups seeking to ban mining in California.

What was gained? During the thirty year period dredging was ongoing the US EPA reported a 3% to 7% drop in mercury levels in California. Did the mining ban reduce mercury levels further? No. The fact is mercury is not a threat to human health in the levels found in California waters. In their zeal to find a fund raising banner the environmentalists have picked mercury. Ironically, at the same time these groups are seeking grant money to use suction dredges to “remediate mercury.” [Ref. 6]

### Miners Produce Jobs

Environmentalists do not create jobs with the sole exception of creating an industry of litigation. Miners create jobs and the gold recovered from mining produces the phones, computers, Ipads and electronic systems that make the world work.

The 1994 Environmental Impact Report conducted surveys of small towns; miners and businesses to determine the economic impact of mining and estimated that \$24 million was spent annually conducting suction dredge mining during the four month mining season [Ref. 22]. Added to the value of gold recovered, tax revenue and sales taxes the value of the suction dredge industry is approximately \$50 million per year. It should be noted this money is currently not in the economy. When added to the costs to the State, the current lost revenue for California is \$60 million per year to maintain the suction dredge ban. The benefit of the ban is speculative at best.



# The SEIR and Regulations are Opposed By

*Environmental extremism destroys jobs and the lives of working Americans. Suction gold dredging creates business; removes toxins from the waterways and puts real money in the pockets of working people and local governments. 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

Siskiyou County

## Organizations

Public Lands for the People  
The Western Mining Alliance  
The New 49ers  
Shasta Prospectors  
Rural Liberty Alliance  
Wise Use Movement  
Defend Rural America  
North American Miners Association  
Shasta Miners and Prospectors Association  
Northwest Mineral Prospectors  
Millennium Diggers  
Plumas County Economic Recovery Committee  
Nevada County Libertarian Party  
Shasta Miners and Prospectors Assoc.  
Mariposa Gold Grubbers  
Pacific Crest Alliance

## Businesses

Audio On Hold  
Trillium Research  
Cold Canyon Mining  
Rosewind Enterprises

ICMJ Mining and Prospecting Journal  
WeGo Mining  
Eclipse LED, LLC  
Prospectors Depot  
The Mine Shaft  
49er Buckle Company  
Waukeshaw Mine  
Natural Gold Jewelry  
Shasta Gold Corp  
Elk Creek Campground and RV Park  
Golden Caribou Mining Association  
RCM Enterprises  
Big Mountain Mining  
Proline Mining  
Southern California Skate and Surf  
Rusty's Gold and Treasure Hunting Supply  
Action Mining Supply  
Lost Sierra Mining Company  
Gold Rush Trading Post  
Heckler Fabrication  
Placerworks  
Jobe Wholesale  
Gold Fever Prospecting  
Wind Power Generations  
Levine Plumbing  
Miners Cache  
Goldminers Outpost  
Old Hawaii Coffee Company  
Alaska Mining and Diving Supply  
49er Mining and Supply  
AAA Precious Metals

Adventures in Prospecting  
Brainn Manufacturing  
Bucket Digger  
Fossickers  
Mad Mining  
Make Your Own Gold Bars  
Millenium Diggers  
Miners Creek Prospectors Innovation  
Nuggetville Supply Company  
Olde West Gun and Loan  
Pioneer Mining  
ProGold Prospecting  
Roaring Camp Mining  
Royal Manufacturing Industries  
Summit Mining and Equipment  
Vac Pac  
Precision Dredge and Savannah Engineering  
China Placer Mine

## Individuals

Congressman Tom McLintock, US Congress  
Senator Ted Gaines, California 1st District  
Bill Connelley, Butte County Supervisor  
Lee Adams, Sierra County Supervisor  
District One  
John D'Agolstini, Sheriff El Dorado County  
Rick Dozier, miner, Vacaville

Ron Kliewer, journalist  
Kim Yanaguchi, Dist 5 Butte County  
Jon A. Becker, President NWMP  
Oly and Robbie Collum, Owners Elk Creek Campground  
Assemblyman Dan Logue  
Marcia Armstrong, Dist 5 Supervisor,  
Siskiyou County

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