Greene Environmental Services
33180 Dorset Lane
Philomath, Oregon, USA 97370-9555

April 1, 2013

Subject: **Senate Bill 838**

Dear Senator

I am writing to ask for your vote of **NO on SB838**.

This Bill is an unreasonable and emotional attack on the Oregon small-scale gold suction dredge mining Industry.

The genesis for these bills is concern for, and protection against, environmental harm. I have included information that demonstrates that all of the anti-suction dredge mining furor you are seeing and hearing is a solution looking for a problem.

The information I have supplied is data taken from the $1.2 million dollar California Department of Fish and Game Final Environmental Impact Report (2012) and numerous scientific environmental studies. The consensus of all this scientific literature is that the act of performing small-scale gold suction dredging has a **Less-than significant** impact on the environment.

In 1994 the California Department of Fish and Game produced an Environmental Impact Report with the same conclusion (**Less-than-significant**). Furthermore, in January 2000 the US EPA Alaska office confirmed results from a study on the 40-mile river which showed that the environmental effect of large 8- and 10-inch dredges was **Less-than-significant.** Consequentially, the results of all 3 major research programs arrived at the same conclusion - "The effects upon the environment from the operation of Small-scale gold suction dredges is **LESS-THAN-SIGNIFICANT**".

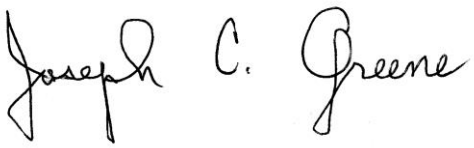
I hope you will pay reasonable attention to this information and my request for your **NO** vote on all of these ill conceived Senate Bills that are directly or indirectly attacking the industry of small-scale gold suction dredging.

I might add there are no emergencies that these Bills are addressing.

Will you please include this information in the official record?

Sincerely,

Joseph C. Greene



Research Biologist
U.S. EPA (Retired)

(1). Bullets Regarding the Environmental Impacts of Small-scale Gold Suction Dredging

I. **The Effects of Small-Scale Suction Dredging on Fish, Fish Eggs, and Sensitive Early Life Stages**

No effects because Small-scale suction dredges are not allowed to operate in Oregon streams and rivers for about 9-months out of each year, to protect spawning salmonids, fish redds, and early life stages. **Less-than-significant**

II. **The effects of suction dredging on invertebrates**

Fish and invertebrates were not highly sensitive to dredging in general (Harvey, B.C., 1986). **Less-than-significant.**

III. **Stream Bed Movement and Habitat Disturbances from Small-Scale Suction Dredging**

Cross-sectional profiles indicated that the impact of the dredge piles relative to the stream width of the river is small. The operation of multiple dredges do not result in cumulative effects. Gravels are dispersed by the high stream flows, which included dredge tailings, compose a portion of the suitable spawning gravels each year. **Less-than-significant.**

IV. **Turbidity, Siltation, Sediment Effects from Small-Scale Suction Dredging**

Water quality is typically temporally and spatially restricted to the time and immediate vicinity of the dredge. Sediment rates from suction dredging are only a minor fraction of natural rates in mountainous streams. Inter-gravel permeability is not significantly changed by dredging. **Less-than-significant.**

V. **The Effect of Small-Scale Suction Dredging on Water Chemistry**

Water quality is impacted only during the actual operation of the suction dredge, which was generally 2 to 4 hours of actual operation. The primary effects of suction dredging on water chemistry could be increased turbidity, total filterable solids, and copper and zinc concentrations downstream of the dredge. These variables will return to upstream levels within 50- 100 downstream of the dredge. **Less-than-significant.**

VI. **Recreation**

A California DF&G Viewer Response survey to Suction Dredging Activities at the Suction Dredge Site were not negative. Also, there were no Safety Hazards to Dredgers and Others from Suction Dredge Operations, Equipment, and/or Geomorphic Changes. **Less-than-significant.**

VII. ***Economy***

Greater than **$9.2 million dollars** will be lost from the Oregon economy, from mining operating costs, if the small-scale gold suction dredging industry is destroyed. Furthermore, if each of the 1200 miners were to collect just 3.4 ounce of gold (*average for California dredgers*) that would be a loss of income of approximately **$6.9** million dollars ($1680/oz*1200 miners*3.4 oz/miner). **Significant and avoidable**

VIII. **Small-Scale Dredging Efficiency and Rates**

Studies to date have not shown any actual effect on the environment by suction dredging, except for those that are short-term and localized in nature (USACE, 1994). **Less-than-significant.**

(2). Results from the California Department of Fish & Game $1.2 Million Dollar Subsequent Environmental Impact Report that Support Information in the Bullets

IX. **The Effects of Small-Scale Suction Dredging on Fish, Fish Eggs, and Sensitive Early Life Stages**

(Small-scale suction dredges are not allowed to operate in Oregon streams and rivers for about 9-months out of each year, to protect spawning salmonids and fish redds and early life stages of the same).

1) ***Direct Effects on Spawning Fish and their Habitat (Less than Significant).*** Small-scale suction dredging does not occur during spawning season or when sensitive early life stages are present (California Final Subsequent Environmental Impact Report, March 2012);
2) ***Direct Entrainment, Displacement or Burial of Eggs, Larvae and Mollusks (Less than Significant).*** Small-scale suction dredging does not occur during spawning season or when sensitive early life stages are present (California Final Subsequent Environmental Impact Report, March 2012);
3) ***Effects on Early Life Stage Development (Less than Significant).*** Small-scale suction dredging does not occur during spawning season or when sensitive early life stages are present (California Final Subsequent Environmental Impact Report, March 2012).

X. **The effects of suction dredging on invertebrates**

1) ***Effects on the Benthic Community/Prey Base (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
2) ***A Fundamental Change to the Structure of a Community or Stream Ecosystem, Including Substantial Reductions in Biodiversity or Resiliency to Disturbance (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)**.**

XI. **Stream Bed Movement and Habitat Disturbances from Small-Scale Suction Dredging**

1) ***Creation and Alteration of Pools and other Thermal Refugia (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)**.**

   It is generally accepted that most of the pools made by small scale suction dredges last only until the following winter high water flows arrive. In the meantime they serve the fish as resting areas and safe locations from predation. The pools may or may not intersect cold ground water or hyporheic subsurface flows. This fact does not negate or makes the pools less beneficial to the survival of salmonids. The pools still serve as resting and protective locations between thermal refugia, that are generally located at the mouths of confluent streams that could be located some miles away;
2) ***Destabilization/Removal of In-stream Habitat Elements (e.g., Coarse Woody Debris, Boulders, Riffles) (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
3) ***Destabilization of the Stream bank (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
4) ***Effects on Habitat and Flow Rates Through Dewatering, Damming or Diversions (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012);
5) ***Effects on Federal and State Protected Wetlands (Less than Significant).*** (California Final Subsequent Environmental Impact Report, March 2012)***;***

6) ***Direct Disturbance to Riparian and Aquatic Habitats, and Other Sensitive Natural Communities (Less than Significant).*** (California Final Subsequent Environmental Impact Report, March 2012);
7) ***Destabilization of Channel Bed Forms such as Riffle and Bars (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
8) ***Destabilization of Channel Profile (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
9) ***Stream flow Channelization, Diversion, or Obstruction (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
10) ***Alteration or Destabilization of Lake Bed or Shoreline (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012).

XII. Turbidity, Siltation, Sediment Effects from Small-Scale Suction Dredging

1) ***Effects of Turbidity/TSS Discharges from Suction Dredging (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
2) ***Erosion, Transport, and Deposition of Alluvial Material in Rivers and Streams Resulting in Dredge Potholes, Tailings Piles, and Other Suspension/Depositional Features (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012).

XIII. The Effect of Small-Scale Suction Dredging on Water Chemistry

1) ***Effects of Contaminant Discharges from Dredge Site Development and Use (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
2) ***Effects of Contaminant Discharges of Oil or Gasoline Used in Suction Dredges (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
3) ***Effects of Trace Organic Compounds Discharged from Suction Dredging (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
4) ***Use, Handling, Storage, Transport, Disposal and/or Accidental Release of Oil or Gasoline Used in Suction Dredges (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
5) ***Use, Handling, Storage, Transport, Disposal, and/or Accidental Release of Materials Used to Process Suction Dredge Concentrates (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012).

XIV. Recreation

1) ***Viewer Response to Suction Dredging Activities at the Suction Dredge Site (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
2) ***Safety Hazards to Dredgers and Others from Suction Dredge Operations, Equipment, and/or Geomorphic Changes (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
3) ***Temporary Degradation of Visual Character from Turbidity Plumes Generated by Suction Dredging (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
4) ***Alteration of Visual Character or Quality, or Scenic Resources, Following Completion of Suction Dredging Activities (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
5) ***Alteration of Visual Character or Quality from Upland Activities Related to Suction Dredging (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***;***
6) ***Effects on the Quality of Recreational Resources or Experience (Less than Significant)*** (California Final Subsequent Environmental Impact Report, March 2012)***.d***

XV. *Economy (Greater than $9.2 million dollars lost)*

The following is some of the data regarding economics of small scale suction dredging taken from a California Department of Fish and Wildlife report. I have taken the information from a survey of potential economic damage caused to the mining community in California if the industry of small-scale gold suction dredging is destroyed. I recalculated the data to reflect removing the 1200 miners, that would be 1115 Oregon miners and 85 California miners that have purchased permits to work in Oregon Rivers and streams.

- 1200 suction dredge permit holders would spend approximately **$5,954,088** for groceries, restaurants, camp fees and other living expenses;

- 1200 suction dredge permit holders would spend approximately **$2,857.856** on gas, oil, equipment maintenance and repairs;

- 1200 suction dredge permit holders would spend approximately **$357,232** on suction dredge and related equipment every 4-years; and,

- The State of Oregon collected **$30,000** in dredge permit fees.

These activities represent approximately **$9.2** million dollars lost to the Oregon economy if the small-scale gold suction dredging industry is destroyed. These calculations are based on information collected in California for the year 2008 so the loss of jobs and capital in 2013 would be somewhat larger. *Furthermore, if each of the 1200 miners were to collect just 3.4 ounce of gold (reported average for California) that would be a loss of income of approximately* ***$6,854,400*** million dollars *($1680 per troy ounce of gold * 1200 miners * 3.4 ounces).* **Significant and avoidable.**

Greene Environmental Services
33180 Dorset Lane
Philomath, Oregon, USA 97370-9555

I am Joe Greene, a retired U.S. EPA Research Biologist. I am a concerned citizen and I am not sponsored by any organization.

I have over 30 years of national and international professional experience in research, and teaching. This includes a 7-year courtesy faculty appointment at Oregon State University in the Department of Civil, Construction and Environmental Engineering where I was an adjunct professor working on environmental research projects in the Western Region Hazardous Substance Research Center.

My association with problems of mining and surface water contamination began as early as 1974 in the Coeur d' Alene mining district with an investigation of the Kellogg, ID Sunshine silver mine and Bunker Hill smelter.

I am also very familiar with small-scale gold suction dredge mining. I have, over the past 25 years or more, observed and participated in suction dredge mining operations.

I was an invited member of the California Department of Fish and Wildlife Environmental Impact Report Public Advisory Committee for small-scale gold suction dredging.

There have been a number of important studies of small-scale gold suction dredging that have concluded that these operations have an impact on the environment that is less than significant.

In 1994 the California Department of Fish and Game reached the conclusion that this form of mining had a **less than significant** effect on the environment.

In 2012 the California Department of Fish and Wildlife completed a $1.2 million dollar Final Environmental Impact Report on small-scale gold suction dredging which, had the same conclusion as the 1994 report, that the environmental impact from operation of these dredges was **less-than-significant**.

In 2000 the U.S. Environmental Protection Agency reported the results of a study evaluating the performance of 10- 8- and 4-inch gold dredges and concluded environmental impacts from these operations were **less than significant**.

One must not ignore the effect of scale. Two thousand, or less, suction dredge miners operating on thousands of miles of Oregon's rivers would have a minor impact.

A calculation by the Siskiyou National Forest concluded that the amount of sediment moved by suction dredges was equal to about **0.2-percent** of the winter movement of sediments.

I conducted a study on measurements of suction dredge impacts in the Salmon River, CA and calculated the linear impact to the river covered much less than **0.26-percent** of the water way.

A data from the Oregon Watershed Enhancement Board and an assumption that there were 2000 suction dredge miners operating in Oregon waters, during the in-water-work-period, resulted in an estimated **<0.0064-percent** of Oregon waterways being impacted by small-scale gold suction dredging. To further refine these data it was assumed that all 2000 small-scale gold suction dredge miners moved into the upper Rogue River Basin to work. This calculation estimated that **<0.67-percent** of the linear area of waterway would be impacted by small-scale gold suction dredging. This is a clear example of the effect of scale that is always ignored by these "not-in-my-backyard" opponents to anything not within their own personal interests.

There are no scientific conclusions that support this interference with mining activities that are described in Senate Bill 838.

Small-scale gold suction dredge miners expect the right to be regulated fairly when operating on the public domain. Federal law reinforces that expectation.

This bill adds nothing to the fair and reasonable oversight to this process by State Agencies.

Please, with a NO vote, let this Bill die right here in the Senate Environment and Natural Resources Committee.

Greene Environmental Services
33180 Dorset Lane
Philomath, Oregon, USA 97370-9555

April 2, 2013

Subject: **Senate Bill 838**

Dear Senator

I have read through this re-packaging of SB115 into SB838. The same flawed thinking remains that tainted SB115. On line 9, page one it states, "*Whereas the number of conflicts resulting from mining using motorized equipment in the beds and banks of the rivers of Oregon has increased*". A calculation I reported in my previous testimony illustrated that 2,000 small-scale gold suction dredge miners could only impact a linear area of <0.0067-percent of all waters in the state of Oregon. The miners are hardly in the way of all other users of the States waterways. This attack is merely reflection of the selfish "**not-in-my-backyard**" (NIMBY) attitude. The waterways of Oregon belong to all the citizens not just a select few that have the financial resources to attack and deny a small group of honest hardworking Oregon citizens.

I have clearly defined, in my previous communications regarding SB115, that the effects of small-scale gold suction dredging on the environment are **less-than-significant**. These are not my words. This statement comes from the California Department of Fish and Game's 1994 and 2012 Final Environmental Impact Reports and the 2000 Forty-Mile River study financed by Region 10, Seattle, WA of the US Environmental Protection Agency. There is no lack of information of the effects of this industry on its working environment.

This bill contains statements, that are ridiculous on their face, such as: Page 1, lines 6 & 7, "*Whereas mining using motorized equipment in the beds and banks of the rivers of Oregon can pose significant risks to Oregon's natural resources, including fish and other wildlife*". The science is clear. This statement is just not true.

Page 2 SECTION 3d proposes a revised regulatory framework for "*Operating conditions and restrictions, based on the best available science and pre-cautionary principles, designed to protect and recover in-stream and riparian habitat important to achieve water quality standards and the conservation and recovery of indigenous anadromous salmonid, as defined in ORS 196.810, and naturally reproducing populations of bull trout*". Am I then to believe that the $1.2 million dollars that the California Department of Fish and Game just spent for the 2012 Final Environmental Impact Report on Small-Scale Gold Suction Dredging is inadequate for the Oregon legislators to not comprehend the conclusions that the effects of this industry on the environment are **Less-than-significant**? Must the citizens of Oregon spend more scarce funds to re-study this issue?

Small-scale gold suction dredging does not impact salmonid spawning or the survival of the early sensitive life stages. The miners are only allowed to work in the rivers and streams of Oregon for about 3-months each year. That is because the Oregon Department of Fish and Wildlife publish a list of in-water-work-periods which define when these sensitive life stages are NOT present and mining is safe to resume.

When one reads this bill one would be led to believe that a bunch of un-regulated small-scale gold suction dredgers are running amok throughout Oregon's waterways. Regulations

and oversight for this industry are provided by the Oregon Department of Environmental Quality, The Oregon Department of State lands, and the Oregon Department of Fish and Wildlife.

ORS 517.123 States "The legislative Assembly finds that prospecting, small scale mining and recreational mining:

1) Are important parts of the heritage of the State of Oregon;
2) Provide economic benefits to the state and local communities; and,
3) **Can be conducted in a manner that is not harmful and may be beneficial to fish habitat and fish propagation**.

Result based upon the preponderance of scientific evidence are clear the effects of small-scale gold suction dredging are **less-than-significant**. So, what is the true goal of SB838? It is clearly written with only one goal in mind…to destroy the industry. When one writes that they want a 4-year moratorium (kill the industry for 4-years) it is very clear where this is all headed.

I have again attached some bullet points from the California Department of Fish and Game Suction Dredge Environmental Impact Report that are representative of the conclusion that this industry's impact on the environment is **less-than-significant**. However, since I have previously supplied these data, I also can make available Chapter 4 Environmental Impacts and Sections 4.1 through 4.3. These sections cover geomorphology and hydrology, water quality and toxicology, and biological resources. These are the principle chapters regarding the effects of this industry in the aquatic environment. I would be happy to provide this information on request as they are large multi-page chapters. There are many hundreds of additional pages in this Environmental Impact Report that I have not downloaded.

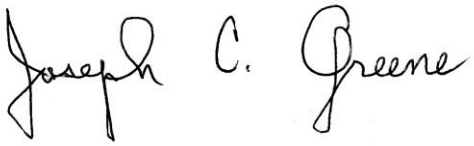
I hope we have a majority of clear thinking, compassionate, informed legislators in this 2013 legislative session that will vote against this egregious bill that will destroy this small industry and the many additional small businesses that depend on financial support from these small-scale gold suction dredge miners.

In closing I ask you to think about this. The small-scale gold suction dredge has been describes as a vacuum cleaner that sucks material from the stream bottom. What has not been clearly stated is that this machine is a highly efficient filtration system that removes valuable minerals along with environmental waste contaminants thereby increasing the quality of the environment in which it is operating.

Please consider adding this information to the public record.

Sincerely,

Joseph C. Greene



Research Biologist
U.S. EPA (Retired)

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