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Board of County Commissioners
Josephine County, Oregon

**RE: A REVIEW OF THE ECONOMIC EFFECTS
OF
SB 838 ON JOSEPHINE COUNTY, OREGON**

Enacted in 2013, SB 838 placed immediate, unnecessary, and unreasonable restrictions on all motorized in-stream small-scale placer mining in Oregon; added a \$150.00 annual surcharge to a \$25.00 permit; and calls for a five (5) year moratorium on all motorized small-scale placer mining operations "instream" and 100 yards to either side, beginning January 2, 2016.

The immediate effect from SB 838 is a 75-80% drop in the number of permitted suction dredge miners statewide.¹

NOTE: Although SB 838 applies to *all motorized placer mining* within 100 yards of a stream (or in-stream)², the initial driving purpose of SB 838 was to restrict or prohibit suction dredge mining; which is, by far, the most popular method of small-scale placer gold mining since 1980.³

Josephine County (JoCo) has, by far, the highest number of recorded placer mining claims in Oregon (with 900+ placer claims (as of March 2014)).⁴ JoCo also has the highest concentration of suction dredge mining in the state, due to the high number of gold bearing streams in the county.

*Josephine County will be, by far,
the hardest hit Oregon county
by the effects of SB 838.*

Because of the popularity of this method of mining, and the availability of at least some accurate number of permits issued, this review will focus primarily on the economic effects of SB 838 on suction dredge placer gold mining.

¹ According to figures obtained from DEQ, in 2004 DEQ issued 1,984 suction dredge permits (700J) or MAOs, statewide. In 2012 DEQ issued 1,941 (700PM) permits. In 2013, DEQ issued 1,831. In 2014 (post SB 838), DEQ issued *fewer than 400* permits for the 2014 mining season.

² Only much larger placer operations are exempted – i.e.; those operations requiring a DOGAMI permit – (move more than 5,000 cu/yrds or disturb more than 1 acre, per year).

³ Suction dredge mining is the most efficient, portable, cost effective, and environmentally friendly small-scale method yet devised to recover gold from underwater placer deposits.

⁴ Baker County came in 2nd with 530+. Baker Co. also has more dry-land mining and less in-stream than JoCo.

Due to the many factors involved, there is no way to accurately put a number on the economics of suction dredge mining. The best we can do is make a best guess conservative estimate based on the small amount of data available.

NUMBER OF SUCTION DREDGES: Prior to SB 838,⁵ DEQ issued approximately 1,900 permits annually for suction dredge mining in Oregon. According to DEQ estimates, of 1,900 suction dredges; 30% (570) of all dredges used are 2.5 inch or less, 65% (1,235) are 3-4 inch, and 5% (95) are 5-6 inch.

PART I – EXPENSES

A. COST OF EQUIPMENT

1. SUCTION DREDGES: The chart below shows the average (2011) price and estimated number of the dredges used (1,900) by size in Oregon annually (prior to SB 838), and the approximate value of the dredges:

DREDGE SIZE	AVERAGE PRICE	NO. OF DREDGES	TOTAL INVESTMENT
2.5" or less:	\$2,250.00	x 570 =	\$ 1,282,500
3-4":	\$3,200.00	x 1,235 =	\$ 3,952,000
5-6":	\$6,000.00	x 95 =	<u>\$ 570,000</u>

TOTAL VALUE OF DREDGES: \$ 5,804,000

(Average: \$3,050 per dredge)

2. OTHER: Most (75%), suction dredge miners also need wetsuits, air breathing system, weight belt(s), and other misc. gear:

\$1,000 (avg.) times 1,425 miners: **\$ 1,425,000**

3. OTHER: Most miners have a 4X4 vehicle for access to remote areas; and many have winching gear, ATV's, trailers, campers, tents, generators, tools, etc.; along with other major pieces of mining equipment such as metal detectors, hi-bankers (powered sluice), small trommels or wash plants, concentrating equipment, etc..

Assuming that some miners (25%) have a bare minimum of support gear (worth \$500), that most (50%) have some (\$1,000), that some (20%) – many of whom are not local - have invested at least another \$5,000, and the remaining few (5%) have invested \$20,000 (or more). (475 miners X \$500 = \$237,500; 950 X \$1,000 = \$950,000; 380 X \$5,000 = 1,900,000; and 95 X \$20,000 = \$1,900,000).

Miscellaneous gear averaged over 1,900

permitted suction dredge miners statewide: **\$ 2,275,000**

ESTIMATED TOTAL EQUIPMENT & GEAR: \$ 9,504,000 ⁶

(Average: \$5,000 per miner)

⁵ And excluding the period 2005 to 2010 when many miners refused to obtain the unlawful permit.

⁶ Based on 1,900 permitted suction dredge miners statewide. Note that this does not take into account the number of non-permitted miners, or those using other placer mining methods & equipment. If anything, the amount invested on equipment alone by small-scale placer miners in Oregon could easily exceed \$20-30M.

B. OPERATING COSTS

1. DEPRECIATION of \$5,000 worth of equipment over ten years equals \$500 per miner per year. By 1,900 miners . . . **\$ 950,000 per year**
2. MAINTENANCE of equipment, including oil, filters, and simple repairs: Est. at \$50 per miner by 1,900 miners . . . **\$ 95,000 per year**
3. FUEL for the dredge, estimated at 3+ gallons per day @\$4.00/gal.. (\$15 per day). Using an estimated average of each miner dredging 15 days per year (by 1,900 miners) . . . **\$ 427,500 per year**

ESTIMATED TOTAL OPERATING COSTS: **\$ 1,472,500 per year**
(Average: \$775 per miner)

C. OTHER EXPENSES

Very few suction dredge miners live (camp) on their mining claims except while actually operating. Many do not reside locally, but come from all corners of the state and beyond.⁷ And, unlike the typical tourist, the miners (many of whom bring the wife & kids) come to mine and their claim is their second home. The miners (many with friends & families) buy local food, fuel, and other supplies. They stay in motels, go to restaurants & bars, use the laundromats, get their vehicles repaired, go shopping, etc.; and stay an estimated average of 2-3 weeks per year.

Miners that live close to their claims still have to travel back & forth, or camp on the claim – and all still have daily living expenses.

It is almost impossible to estimate how much money is pumped into the local and state economy every year by suction dredge miners, their friends, and families. However, if we assume they spend on average \$100 per day (on food, supplies, entertainment, etc.), and stay on average 20 days, this amounts to \$2,000 spent locally (either in JoCo or whatever area their claim is in).

Applied to 1,900 miners this amounts to . . . **\$ 3,800,000 per year**

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TOTAL OPERATING COSTS & EXPENSES (B+C): **\$ 5,272,500 per year**
(Average: \$2,775 per miner)

For local economies, small-scale placer gold mining is large hidden money pump. Miners (who look like everyone else) pour thousands of dollars into equipment and labor every year with the hope that what they recover will be worth more than they put in. As most miners reside on their claims (or nearby) when mining, most daily operating, maintenance and living expenses are transferred to the local economy.

⁷ In 2010 DEQ issued permits to residents of 19 different states, mostly WA and CA, but some from as far away as Massachusetts, Florida, Alaska and Hawaii.

PART II – VALUE OF GOLD RECOVERED

No one knows how much gold is actually recovered by Oregon suction dredge miners, a low estimate would be 2 ounces per year, per miner. With 1,900 miners, this would equal some 3,800 ounces of gold; worth on average 75% of the day's spot price⁸ of gold (or more).⁹

Gold at 75% of:

PER YEAR TOTAL

\$1,200 spot = \$ 900/oz (X2 = \$1,800 -- X1,900 = \$	3,420,000
\$1,400 spot = \$1,050/oz (X2 = \$2,100 -- X1,900 = \$	3,990,000
\$1,600 spot = \$1,200/oz (X2 = \$2,400 -- X1,900 = \$	4,560,000
\$1,800 spot = \$1,350/oz (X2 = \$2,700 -- X1,900 = \$	5,130,000
\$2,000 spot = \$1,500/oz (X2 = \$3,000 -- X1,900 = \$	5,700,000

A medium estimate for the amount of gold recovered per miner would be 4 ounces per year, doubling the per year totals above.

A high estimate would be 6+ ounces per miner, tripling the above totals.

ESTIMATED ANNUAL VALUE OF GOLD PUMPED INTO THE ECONOMY BY 1,900 OREGON SUCTION DREDGE MINERS:

Anywhere from \$3.4M to \$17+M per year

PART III – SUMMARY

Based on the assumptions, and estimates above averaged over 1,900 permitted Oregon suction dredge miners, the average miner contributes to the economy annually:

A. Cost of dredge & equipment:	\$ 500 per year
B. Operating costs & expenses:	\$2,775
C. Value of gold recovered (@\$1,200 spot):	\$1,800 to \$5,400

TOTAL ANNUAL ECONOMIC CONTRIBUTION: **\$5,075 to \$8,675** per miner

MULTIPLIED BY 1,900 SUCTION DREDGE MINERS: **\$ 9.6M to \$ 16.5M** statewide

⁸ This is because raw placer gold is not pure. Most buyers pay 75-80% of spot.

⁹ Gold is sold for whatever someone is willing to pay. In general, larger pieces (nuggets) sell for 100-200% of spot (or more) depending on the weight, shape, and character of the nugget.

PART IV – THE ECONOMIC EFFECTS OF SB 838 ON JOSEPHINE COUNTY

Although it is unknown as to how many of the 1,900 permitted suction dredge miners operate in JoCo:

- A. If we assume all 900 placer claims in JoCo are used for suction dredge mining (one dredge per claim), this works out to: \$4.5M to \$7.8M pumped mostly into the JoCo economy annually.
- B. A more realistic estimate is that 75% of the 900 placer claims are being dredged pumping \$3.3M to \$5.8M into (mostly) the JoCo economy.

SB 838 has already, in one year (2014), caused a huge reduction in the number of permitted suction dredge operations statewide (from 1,900 down to <400).

ESTIMATED LOSS to the local economy in 2014: \$2.6M to \$4.6M

Unless the 2015 Oregon legislature enacts new legislation canceling the five year moratorium (scheduled to begin Jan. 2, 2016), the moratorium will effectively destroy an estimated 90+% of all placer mining in JoCo (the remaining 10% are those working by hand, or large-scale, or working without permits).¹⁰

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How SB 838 effects the economics of all other forms of motorized placer mining in JoCo is unknown – except that it will eliminate all but the larger-scale operations permitted by DOGAMI. (A loss of another \$2M to \$5M+ to the JoCo economy).

SB 838 applies to any form of motorized mining (in or within 100 yards of streams in JoCo), this includes motorized prospecting. Without prospecting, new discoveries cannot be made (many deposits require motorized methods just to expose or get to them).

CONCLUSION: SB 838 will, with its built-in 5-year moratorium, effectively destroy almost all of what's left of the placer gold mining industry in Josephine County – for at least 5 years (a loss of anywhere from \$50M to \$75M or more).

NOTE: The purpose of this review is to obtain at least a starting point estimate of the economic effects of SB 838 on placer mining. Except for the data provided by DEQ and BLM, all estimates are mine based on the limited data available and my personal knowledge from 30+ years mining.

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¹⁰ Violation of the moratorium is a Class A Misdemeanor.