



Testimony to the Senate Environment and Natural Resources Committee on Senate Bill 3

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Founded in 1968, the Oregon Environmental Council (OEC) is a nonprofit, nonpartisan, membership-based organization. We advance innovative, collaborative and equitable solutions to Oregon's environmental challenges for today and future generations.

Oregon Environmental Council supports Senate bill 3. Suction dredge mining has significant unavoidable effects. Those unavoidable effects include:

- Water quality effects from resuspension of mercury and other metals
- Water quality effects from increased turbidity and suspended sediment
- Effects on bird species that nest in riparian areas
- Public exposure to high noise levels
- Effects on historical and archaeological resources

Mercury can be found across streams in Oregon as a result of historic gold mining operations. Legacy mercury is typically buried in the streambed, but it can be vacuumed up and re-suspended in the water column by suction dredges. When mobilized from sediments in the streambed, mercury is more easily converted into methylmercury, a form of mercury that can accumulate in fish tissue and pass through the food chain.¹

Legacy mercury mobilized by suction dredge mining can:

- ▶ Contaminate slow moving areas, such as wetlands or slack water used by juvenile salmonids;²
- ▶ Increase the availability of methylmercury that accumulates over time in fish tissue;³ and
- ▶ Pose a risk to human health when people are exposed to methylmercury through fish and shellfish consumption.⁴

Efforts to contain or voluntarily retrieve re-suspended mercury from suction dredge mining activities have not been proven effective.⁵ Mercury particles attach to fine sediments which can pass through sluices and may be dispersed over a mile downstream. Suction dredge sites are more vulnerable to scour and erosion, further exacerbating the re-suspension of mercury and making stream beds more prone to releases of mercury during floods.^{6,7}

In addition, suction dredge mining harms the endangered salmon species that Oregon is spending millions of dollars to restore. We need to protect those investments by taking action to end suction dredge mining's harmful impacts.

¹ Oregon Chapter American Fisheries Society. 2015. Effects of Suction Dredge Mining on Oregon Fishes and Aquatic Habitats, Supplemental Information. <http://orafs.org/wp-content/uploads/2012/07/2015-ORAFS-Suction-Dredge-Mining-FINAL.pdf>.

² Oregon Chapter American Fisheries Society. 2013. Effects of Suction Dredge Mining on Oregon Fishes and Aquatic Habitats. <http://orafs.org/wp-content/uploads/2013/04/2013-ORAFS-Suction-Dredge-Mining-Impacts-FINAL1.pdf>.

³ Sandheinrich M. and J. Weiner. 2011. Methylmercury in freshwater fish: recent advances in assessing toxicity of environmentally relevant exposures. In: Beyer WN, Meador JP (eds) Environmental contaminants in biota: interpreting tissue concentrations, 2nd ed. Chapter 4: 169-190.

⁴ Oregon Chapter American Fisheries Society. 2011. White paper on heavy metals in the aquatic environment. http://orags.org/wp-content/uploads/2012/07/2011_ORAFS-hite-paper-heavy-metals-FINAL-3-29-11.pdf.

⁵ Marvin-DiPasquale, M., J. Agee, E. Kakouros, L.H. Kieu, J.A. Fleck, and C.N. Alpers. 2011. The Effects of Sediment and Mercury Mobilization in the South Yuba River and Humbug Creek Confluence Area, Nevada County, California: Concentrations, Speciation and Environmental Fate. Part 2: Laboratory Experiments. U.S. Geological Survey Open File Report 2010-1325B

⁶ Alpers, C.N. et al. 2000. Metals Transport in the Sacramento River, California, 1996-1997, Volume 2: Interpretation of Metal Loads. U.S. Geological Survey Water-Resources Investigations Report 00-4002.

⁷ Humphreys, R. 2005. Mercury Losses and Recovery. California Water Resources Control Board Decision of Water Quality.