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Bill would put brake on bay's copper pollution



(06-06-2010) 19:37 PDT SAN FRANCISCO -- Every time Bay Area drivers tap their car brakes, they pollute San Francisco Bay and harm one of Northern California's most threatened fish - salmon.

Brake pads, which can contain up to 15 percent copper, slowly break down each time they're used, releasing tiny amounts of the metal into the environment. Millions of cars add up to a lot of copper.

Studies have shown that about 190,000 pounds of brake-pad copper end up in the bay's watershed every year, and about 28,000 pounds make it into the bay itself. That makes the pads the bay's No. 1 source of the metal, which can disrupt a salmon's natural ability to sniff out and avoid predators.

This month, the Assembly will hear SB346, a bill that would force manufacturers to drastically reduce the amount of copper in the pads, cutting it to 5 percent by 2021. By 2032, the pads could contain only 0.5 percent of copper.

Supporters of the measure by state Sen. Christine Kehoe, D-San Diego, say it would go a long way to solving one of the region's most intractable water problems. It's virtually impossible to get copper out of the bay, where it poses a threat to a fishery already devastated by low water flows and habitat destruction.

Washington law

In March, state leaders in Washington passed the nation's first law phasing out copper in brake pads. Unlike California's bill, it doesn't set a deadline for a 0.5 percent reduction. New York and Rhode Island recently introduced similar bills.

But auto-parts manufacturers believe it won't be feasible to meet California's proposed 0.5 percent mandate without compromising consumer costs, safety and brake noise.

"The 0.5 percent reduction is putting an excessive burden on manufacturers to meet safety standards," said Ann Wilson, a senior vice president for the Motor & Equipment Manufacturers Association, an organization that represents 650 automotive parts manufacturers.

Brake pad makers say there is no other material that can easily substitute for copper and a replacement would likely require a combination of components.

"We are worried that we won't be able to provide reduced copper pads by the proposed deadline," said Bob Peters, chief engineer at Akebono Brake Corp., which supplies brake pads to Ford, Chevrolet and GM. Akebono has been studying other materials that could be used in their pads.

There are two major types of brake pads. "Organic" ones include copper; the expensive semi-metallic pads do not contain copper and are usually only used in high-performance cars such as Porsches. About 85 percent of cars have brake pads made with copper, which prevents brakes from overheating and reduces squeaking.

Per-axle fee dropped

The legislation originally called for a \$1-per-axle fee, which would pay for monitoring the program's effectiveness. Kehoe said the fee proposal has been dropped as part of negotiations with auto industry officials, who complained that it was unclear how the fee would be collected and who would have to pay for it.

As the Assembly prepares to vote on the bill, many counties and cities have been told by state water regulators that they must reduce the amount of copper in storm water. Local governments face \$10,000-a-day fines for failing to comply.

"Unless we address the source, there is no way to meet requirements," said Justin Malan, CEO of Ecoconsult, an environmental consulting group. "Copper is very difficult to remove and treat out of the water."

Malan, who helped draft the bill, thinks even cutting brake-pad copper to about half current levels by 2021 might not be enough to meet the requirements set by the state Water Resources Control Board.

The pollution is particularly acute in the south bay, scientists said.

"The south bay doesn't flush itself very well, and it ends up with very high copper levels," said Geoff Brosseau, executive director of the Bay Area Stormwater Management Agencies Association.

The bay averages about 3 to 4 parts per billion of copper. A 2007 Oregon State University study showed that levels as low as 2 parts per billion adversely impact salmon.

Copper masks smell

When attacked, salmon release a chemical alerting other salmon of the predator's proximity, prompting them to stop swimming, sink to the bottom and remain motionless. High copper concentrations block a salmon's ability to discern the smell, making them an easier prey. It may also make it harder for the fish to find their native spawning grounds, experts say.

"Olfaction is very important to behavior," said Jeff Jenkins, a professor at Oregon State's Department of Environmental and Molecular Toxicology. In addition to smelling prey and avoiding predators, "they use it to navigate and find their spawning grounds."

Even though commercial salmon fishing was banned in California in 2008 and 2009, last year saw only 39,500 returning salmon, the lowest number in 40 years, according to the Pacific Fishery Management Council. Just seven years ago, more than 870,000 salmon returned to Central Valley rivers. This year the commercial season was severely shortened.

"There seems to be a black hole in the bay now. Guys used to make seven figures in '03 and '04, this year we'll be lucky if we make \$5,000," said Duncan McLean, a commercial salmon fisherman based in Half Moon Bay.

This story has been corrected from the earlier version that ran in The Chronicle.

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