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Beaver ponds boost mercury levels downstream

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By [Emily DeMarco \(/author/emily-demarco\)](#) | 4 November 2015 2:45 pm | [0 Comments \(/chemistry/2015/11/beaver-ponds-boost-mercury-levels-downstream#disqus_thread\)](#)

Beaver dams transform landscapes, turning stretches of flowing streams into still ponds and flooding forests. Now, researchers have found the dams are transformative in more ways than one. Scientists in Sweden have shown that beaver ponds can cause levels of methylmercury—a particularly toxic form of mercury—to rise in downstream waters by as much as 3.5 times the background

levels during summer months. Although mercury, a neurotoxin, occurs naturally in the environment, it is also released into the atmosphere when humans burn coal and other fossil fuels. Once it finds its way back to land or water, bacteria in the soil can convert it into its more toxic cousin, methylmercury. As the researchers reported online last month in *Environmental Science & Technology*, this kind of bacteria thrives in the waterlogged sediments, rich with decaying vegetation, that pile up behind beaver dams. But the increase in methylmercury appears to be temporary. Surprisingly, it doesn't occur when beavers move back into old dams: [Methylmercury levels above and below recolonized dams were nearly identical in the study \(http://pubs.acs.org/doi/abs/10.1021/acs.est.5b03146\)](http://pubs.acs.org/doi/abs/10.1021/acs.est.5b03146). This could mean the submerged vegetation that was feeding the bacteria finally rotted away, leaving them with less food, scientists say. They add that their findings support the practice of leaving old dams in place in Europe and North America where beavers—whose numbers have plummeted over the last 150 years—[are making a comeback \(http://www.nytimes.com/2014/10/28/science/reversing-course-on-beavers.html?_r=0\)](http://www.nytimes.com/2014/10/28/science/reversing-course-on-beavers.html?_r=0). Next, the researchers hope to figure out how methylmercury works its way through the ecosystem and whether or not it's accumulating in fish and other organisms.

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