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UNH Scientist Finds Widespread Air Pollution From Snowmobiles in Yellowstone National

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DURHAM, N.H. -- A team of scientists led by Barkley Sive of the University of New Hampshire has finalized a study of air pollutants in Yellowstone National Park.

The study confirmed that new, four-stroke snowmobiles and snowcoaches produce far fewer levels of emissions relative to conventional two-stroke snowmobiles, which are the primary source of volatile organic compounds (VOCs) and carbon monoxide pollution in Yellowstone National Park during winter.

“This study provided us with clear, park-wide snapshots of air quality,” said Sive, an atmospheric chemist with the Climate Change Research Center at UNH’s Institute for the Study of Earth, Oceans, and Space (EOS). Sive added, “We saw large increases of various gases associated with two-stroke snowmobiles. In some cases the air was much dirtier than the conditions one would expect for such a remote area.”

The study collected more than 200 air samples from 21 sites throughout Yellowstone from Feb. 12 to 16, 2003, using well-recognized methods accepted by the Environmental Protection Agency. Scientists at UNH measured approximately 85 different VOCs including benzene and toluene, as well as carbon monoxide and methane.

Even in remote park locations, levels of pollutants were substantial and carried the “fingerprint” of emissions from two-stroke snowmobiles, which substantially out-numbered the cleaner-burning four-stroke snowmobiles.

The scientists recommended in their final report to the park that discontinuing the use of two-stroke snowmobiles “will improve the air quality by reducing VOCs and carbon monoxide pollutants.”

Yellowstone National Park funded the study as part of the park’s ongoing efforts to monitor air quality and other park resources to assess the impacts of winter use. The study is available on Yellowstone National Park’s website at: www.nps.gov/yell/technical/planning/winteruse/plan/.

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