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FIELD EVALUATION OF THE LAND APPLICATION OF PAPER MILL SECONDARY CLARIFIER SLUDGE

Thomas P. Ballestero
University of New Hampshire, tom.ballestero@unh.edu

James P. Malley
University of New Hampshire

George O. Estes
University of New Hampshire

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Principal Investigators: Dr. Thomas P. Ballestero, Dr. James P. Malley, Jr., Dr. George O. Estes, University of New Hampshire

Descriptors: Groundwater quality, heavy metals, industrial wastewater, infiltration, sludge

Research Objectives:

Monitor chemical fate and transport (soil, soil water, ground water and vegetation); characterize infiltration characteristics through time; evaluate vadose zone and ground water microbiology.

Principal Findings and Significance:

This was a continuing project. The permits were granted, wells were drilled, soil moisture equipment was installed. Over the previous 18 months, over 12 million gallons were spread over the area. The annual application rate was limited by the cadmium in the sludge. The source of the cadmium was boiler blow down water.

At the time of the writing, no adverse effects on the ground water were detected by measurements. Also, although the sludge had very high TKN, no nitrate increases were seen in soil water or ground water.