



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: MN3441

Title: Fluorochemicals in Minnesota Waters: An Emerging Environmental Issue

Focus Categories: Toxic Substances, None

Keywords: environmental levels and sources, water, PFOS, perfluorooctanesulfonate

Start Date: 03/01/2001

End Date: 02/28/2003

Federal Funds: \$17,000

Non-Federal Matching Funds: \$17,001

Congressional Districts: 4th, 5th

Principal Investigator:

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Abstract

Fluorochemicals are an emerging environmental concern. In particular perfluorooctanesulfonate has been found in high levels in human blood of production workers, and more surprisingly it has been found in air, water, and biota throughout the northern hemisphere. Therefore it is of global concern. To date no information is available on concentrations of fluorochemicals in water bodies of Minnesota. This study proposes to sample thirty-two sites from across the state of Minnesota and analyze them for fluorochemicals. Whole water, and some wastewater treatment effluent and sediments will be analyzed to investigate partitioning behavior and the importance of point sources. The sites will be representative of urban, suburban, rural and remote locations. Some sites will also be taken upstream and downstream of wastewater treatment facilities on select Minnesota rivers. The objectives of this study are to provide baseline information on the levels of fluorochemicals in Minnesota waters, determine the presence of spatial variability, investigate the relative importance of sediments versus water column transport, and determine the relative importance of atmospheric deposition, regional and point sources. All samples will be analyzed by both gas chromatography mass spectrometry and high performance liquid chromatography electrospray mass spectrometry. The study will employ and train one graduate student for two years to conduct the sampling, analysis, and interpretation of results and dissemination of results.