



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: VT661

Title: Identification of Candidate Parcels for Riparian Buffers: Reducing Fecal Contamination of Vermont Surface Waters

Focus Categories: Non Point Pollution, Agriculture

Keywords: water quality, fecal contamination, nonpoint source pollution, GIS, remote sensing, agriculture, surface water

Start Date: 03/01/2001

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Federal Funds: \$25,000

Non-Federal Matching Funds: \$17,932

Congressional District: First

Principal Investigator:

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Abstract

Fecal contamination of surface waters in both agricultural and urban watersheds is a major environmental concern in the state of Vermont. Conservation practices are needed that will significantly reduce bacterial contamination of Vermont's surface waters. One effective approach to reduce contamination in runoff from adjacent agricultural fields to streams and rivers involves the construction of buffer zones and filter strips along streams and rivers. With limited resources, identification and prioritization of land parcels for riparian buffer zone implementation constitute a critical need for water quality programs. The research proposed here focuses on the development of a suitability model to identify and prioritize candidate land parcels for riparian buffer zone implementation utilizing Geographic Information Systems (GIS) and state-of-the-art remote sensing technologies. Suitability modeling will incorporate environmental parameters that are readily available, can be derived from available data, or can be mapped using soon-to-be-available high-resolution (1m) satellite data. The proposed study is focused on the Mad River watershed in northern Vermont and, if successful, this methodology could be extended to watersheds throughout the Northeast U.S.