

# Stakeholder involvement in participatory computer based planning in St. Albans, Vermont

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## Abstract

Natural resource managers face a set of complex challenges to address non-point source water pollution. In Vermont, these challenges include scientific uncertainty and stakeholder conflicts in the context of defining the causes and potential solutions to high levels of phosphorus in Lake Champlain. Researchers at the University of Vermont have proposed a computer modeling approach that incorporates stakeholders and scientists to generate local solutions to the problem. The computer model provides opportunities for participants in watershed planning processes to examine the sources of water pollution, and explore future policy and management options. This paper considers the question: How does participatory computer modeling help stakeholders address conflict and promote collaboration in watershed planning for the St. Albans Bay watershed?

This in-depth case study of watershed planning focuses on a participatory computer modeling project. Data were gathered from three sources: participant-observation of computer modeling, interviews with participants, and documents generated through the modeling process. The data are analyzed to assess dimensions of conflict as they relate to varying problem definitions and scientific uncertainty, and how participatory computer modeling aids in stakeholder collaboration. Initial results indicate that the modeling process provided a perceived neutral atmosphere for discussion of water pollution issues and participants gained a greater understanding of local environmental issues. Overall, this study highlights the importance of considering the dynamics of both social and technical factors in the use of modeling in natural resource planning processes.

**Key words:** watershed planning, conflict and collaboration, participatory modeling