



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2002NV1B

Title: Identification of Nutrient Rich Groundwater Inflows to Lake Tahoe

Project Type: Research

Focus Categories: Groundwater, Nitrate Contamination, Non Point Pollution

Keywords: surface water quality, turbidity, chlorophyll, nutrient info, groundwater

Start Date: 03/01/2002

End Date: 02/28/2003

Federal Funds: \$20,304

Non-Federal Matching Funds: \$41,277

Congressional District: Nevada 02

Principal Investigator:

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Abstract

The Lake Tahoe basin provides the scenic attraction that supports a tourist-based economy and also provides a watershed and water storage that is used by municipal and agricultural users. The water quality at Lake Tahoe has been declining for at least the last 20 years and it is expected that nearly one billion dollars will be spent on restoration efforts during the next 10 years. To gain the most benefit from these restoration efforts management agencies must know where the biggest sources of undesirable inflows to the lake are located. The investigator of this project has developed a system to efficiently map water quality from a moving boat making it possible to rapidly identify areas with poor water quality. The system uses a shallow draft jet boat to map turbidity, water temperature, and chlorophyll concentration. Initial results suggest that a few small areas are responsible for most of the poor water quality and groundwater inflows from developed areas may be a significant source of nutrients. This project will provide funding so that these hypotheses can be confirmed and the location of undesirable inflows can be identified. This information is of great interest to management agencies that are tasked with prioritizing restoration efforts. This project will also develop baseline data so that the effectiveness of the planned restoration efforts can be determined in the future.