

RESEARCH ABSTRACT

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Study Title: Limnological monitoring of some lakes of the Mount St. Helens National Volcanic Monument.

Key Words: phytoplankton zooplankton nutrients fish water quality
biological limnological lakes blowdown zone debris avalanche archives

Abstract: The monitoring program will sample the phytoplankton and zooplankton communities of Castle and Coldwater Lake. The sampling program will also include water samples which will be analyzed for soluble reactive phosphorus, total phosphorus, nitrate, major ions, dissolved oxygen, and conductivity. Temperature and water transparency will also be observed. The data will be analyzed to determine the structure of phytoplankton and zooplankton communities in these two lakes and the possible impacts of fish introduced into Coldwater Lake.

Type of Measurement(s): phytoplankton (species and number/ml), zooplankton (species and number/ml) soluble reactive phosphorus (micrograms/liter), total phosphorus (micrograms/liter) nitrate (micrograms/liter), dissolved oxygen (milligrams/liter), chlorophyll (micrograms/liter), temperature ($^{\circ}$ C), water transparency (meters).

Frequency of Measurement(s): In 1988-1990 Castle and Coldwater Lakes were sampled approximately seven times each. In 1988 Spirit Lake was sampled once. In 1991 Castle and Coldwater were sampled four times each; in addition, eleven lakes in the vicinity of Mount St. Helens were sampled once each in 1991.

Data Storage: Data are stored on floppy disk using Quattro on an IBM compatible microcomputer.

Long-term plans: Data available for collaborative efforts: We plan to continue the lake sampling program for a number of years.

Petersen and this data are available for future collaborative efforts. He is particularly interested in collaborating with someone on chemical analyses.