

RESEARCH ABSTRACT

**Principal Investigator(s):** Ernest L. Karlstrom  
University of Puget Sound  
Department of Biology  
Tacoma, WA 98416  
(206) 756-3797, 756-3121(dept.)

**Study Title:** Observation of recolonization of amphibians and reptiles in North Fork Toutle River debris avalanche.

<b>Key Words:</b>	terrestrial	aquatic	animal	ponds	vertebrate
amphibian	reptile	survival	recolonization	migration	
debris avalanche	archives				

**Abstract:** Various reports indicate in situ survival of or early migration of some amphibians into regions of the blast zone following the major eruptions on May 1980. Investigators observed salamanders, frogs and toads as early as 1980 and 1981 in areas of heavy ashfall northeast of the crater. Survival at higher elevations likely was favored by snow and ice cover and the fact that many animals were in hibernacula.

This study has concentrated on a series of ponds located on the hummocky valley floor of the North Fork between Elk Rock and Spud Mountain, 14 km northwest of the crater. Here the major avalanche debris and lahar flows covered the valley to depths exceeding 75 meters and certainly wiped out existing and presumably active populations.

Continuing monitoring of study sites through 1990 has documented seven species of sixteen predicted for the area (one reptile species) present and breeding. Reproduction rates are low for most with some reproducing sporadically and others in greater numbers. Some interspecific competition is developing and will be further investigated. A lowland frog species has moved in that may not have previously coexisted with the other species present here.

**Type of Measurement(s):** Observations of species present and breeding; approximate numbers of adults; observations of eggs and juveniles.

**Frequency of Measurement(s):** Annually beginning in 1984 (excepting 1988), once per month March-September, more often in April and May.

**Data Storage:** Field notebooks in personal possession.

**Long-term plans:** Data available for collaborative efforts: Karlstrom plans an ongoing study for at least the next ten years. Long range goals of this study include monitoring of successional stages for amphibians and reptiles in this highly impacted habitat, as well as other aspects of their reproduction, physiology, and behavior.

Karlstrom and his data are available for future collaborative efforts.