

RESEARCH ABSTRACT

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**Study Title:** Reorganization of avian communities at Mount St. Helens

**Key Words:** terrestrial animal bird habitat recovery  
succession ecology ecosystem long term studies

**Abstract:** This study was initiated to document the reorganization of bird communities on lands disturbed by the cataclysmic eruption of Mount St Helens. Bird communities were surveyed along a disturbance gradient comprised of four structurally distinct volcanic impact zones and at undisturbed (reference) sites. Forty-two bird species were observed at the eight sites during the survey years. Species richness was inversely related to disturbance intensity. Richness values for the disturbance zones were; Reference (17), Ashfall (16), Blowdown (7) and Pyroclastic (2), respectively. Cluster analyses for community composition and foraging guilds indicate that our sites cluster into 3 groups: 1) sites that were volcanically undisturbed and those that received ashfall; 2) plots that experienced blowdown intensity force; 3) sites that were subjected to blast force intensity. The reorganization of bird communities is largely determined by the post eruptive habitat components available. As vegetation recovery increases across the landscape we expect to see recruitment of additional species and an eventual convergence of bird species composition among the sites.

**Type of Measurement(s):** Line transects (1 km long) were used to survey birds at our sites. Birds were identified to species. When a bird was located, the perpendicular distance from the line to the bird was estimated with the aid of a range finder. Other data recorded included; 1) an estimate of the bird's height above the ground; 2) the plant species on which the bird was located; 3) substrate type {ground, forb, shrub, tree, (bark, inner-canopy, outer-canopy)}; 4) activity (foraging, nesting, singing, flying, chasing, perching).

**Frequency of Measurement(s):** Three to five surveys per site during June, July or August from 1981-1984 and two surveys per site during July of 1987 and 1991.

**Data Storage:** Data sheets, summary forms and ASCII files located at Utah State University and at Mount St. Helens National Volcanic Monument Headquarters.

**Long-term plans:** Data available for collaborative efforts: This is an on-going study that will endure into the next century if funding and technical support continues. Collaborative efforts will be considered on a case specific basis.