RESEARCH ABSTRACT

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Study Title: Recovery of riparian vegetation at Mount St. Helens

Key Words: terrestrial, plant, riparian, stream, lake, watershed, revegetation, blowdown zone, archives

Abstract: This study documents rates and patterns of vegetation recovery at lakes and streams in the blast zone of the May 1980 eruption. Recovery of streamside vegetation was dominated by plants that resprouted from below ground parts that survived the blast. Depending upon frequencies and intensity of secondary disturbances, revegetation from seeds has become increasingly important. Flooding, battering, and deposition of reworked tephra have extremely important effects on streamside revegetation. Recovery rates are more rapid at greater distances from the volcano where blast effects were less devastating.

Vegetation at mid-elevation lakes and high-elevation lakes, were sampled also. Recovery has been faster at mid-elevation than at high-elevation lakes. Rate and pattern of recovery depend upon secondary disturbances such as flooding (due to seasonal depth of the water table) and deposition of reworked tephra.

Type of Measurement(s): Streams were sampled using line intercept transects of varying lengths (from above floodplain, across stream, to above flood plain). Measurements: % cover of geomorphic surfaces; % cover of each plant species. Also sampled were 1 m x 5 m plots on each of the various geomorphic surfaces along the transect.

Lakes were sampled with 30 meter transects of 30, 20 cm x 50 cm microplots 1 meter apart. Two or more transects were sampled at each lake; one transect was placed in the emergent zone and one in the scrub, shrub zone. Measurements: % cover for each species.

Photo points were established at endpoints of each transect.

Frequency of Measurement(s): Annually in 1980-1983, 1985, 1987, 1989, and Meta Lake in 1990.

Data Storage: All data stored in the Forest Science Data Bank at Oregon State University. Hard copies in personal possession.

Long-term plans: Data available for collaborative efforts: Future sampling depends upon funding. Investigator is available for future collaborative efforts.