

COMPLETE COPY IN MASTER FILE

AN ABSTRACT OF THE THESIS OF

RANDALL BARBER BROWN for the degree MASTER OF SCIENCE
(Name of student)

in SOIL SCIENCE presented on _____
(Major department) (Date)

Title: GENESIS OF SOME SOILS IN THE CENTRAL
WESTERN CASCADES OF OREGON

Abstract approved: _____
Dr. Chester T. Youngberg

Soils representative of several landscape units in the H. J. Andrews Experimental Forest, Western Cascade Range, were sampled, analyzed, and tentatively classified. Genetic inferences were drawn relating soils to landscape position and other factors of soil formation. Descriptive information and nutrient capital data were provided to support ecosystem modelling efforts by the Coniferous Forest Biome study group of the U. S./International Biological Program (IBP).

To meet the "nutrient capital" requirements of IBP, and to gain insight particularly into the effects of coarse fragments on soil genesis, a volumetric approach was used. Soil organic matter, total N, extractable P, exchangeable cations, free Fe oxides, and cation exchange capacity were expressed in terms of weight or equivalents per unit volume of "whole soil," defined as organic and