

Soil Nutrients and Organic Matter Under Disturbance

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Theme: [Soils and Nutrient Cycling](#)

Status: Continuing

Start: 1998

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Background

Changes in soil nutrient availability following disturbance may affect long-term site productivity. Nutrient availability is controlled by both nutrient capital (the amount of nutrients on the site) and the rate of nutrient turnover. We are also determining changes in soil carbon and organic matter pools under disturbance and their role in controlling nutrient availability.

Objectives

- 1) To determine long-term changes in soil nutrient and organic matter capital under harvesting and burning.
- 2) To determine relationships between soil nutrient and organic matter capital and long-term productivity.

Key Results

- Soil properties such as forest floor depth, mineral soil pH, and soil carbon content vary under different stand types under undisturbed conditions, and the effects of disturbance will likely vary with stand type

(Figures 1, 2, and 3). - First-year results from variable retention harvesting treatments indicate that properties such as forest floor depth and extractable N are altered with increasing canopy removal within a stand type (Figures 4 and 5). - Results from burned treatments are under evaluation. Harvesting and burning effects on nutrient dynamics, interactions between disturbance and stand type, and long-term effects of disturbance continue to be monitored.