

[JEM On-line](#) | [About JEM](#) | [Submissions](#) | [Subscriptions](#) | [Feedback](#)

BC Journal of Ecosystems and Management

Volume 5 - Issue 2

Published by FORREX Forum for Research and Extension in Natural Resources

Abstract

Litter decomposition in British Columbia forests: Controlling factors and influences of forestry activities

Cindy E. Prescott, Leandra L. Blevins, Candis Staley

Four commonly held beliefs about litter decomposition rates were tested in a suite of field experiments in British Columbia forests: (1) decomposition is slower in cold (northern and high-elevation) forests, (2) decomposition is faster in clearcuts than in forests, (3) broadleaf litter decomposes faster than needle litter, and (4) decomposition is faster in N-fertilized forests. Litter decomposition was slowest in dry biogeoclimatic zones and fastest in wet zones. Overall, it appears that moisture is more limiting than temperature for litter decomposition across British Columbia. The effect of clearcutting on litter decomposition rates varied among forest types. Province-wide, mass loss of pine needle litter was significantly slower in clearcuts than in adjacent forests, but this difference disappeared after 3 years. Aspen leaves and forest floor material decomposed at similar rates in forests and clearcuts. Decomposition of broadleaf litter was slightly faster than needle litter during the first 2 years, but slowed in subsequent years. After 3 years there was no significant difference between the mass remaining for broadleaf and conifer litter. In N-fertilized plots, higher N concentrations did not affect the rate of decay in litter or in forest floors. Many of our beliefs about litter decomposition and influences of forestry practices thereon should be revised in light of new empirical evidence.

Download Full [PDF](#) Article (626 KB)[print this page](#)  [email this page](#) [previous page](#)  [top of page](#) 