

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

## BC Journal of Ecosystems and Management

Volume 10 - Issue 1

Published by FORREX Forum for Research and Extension in Natural Resources

### Abstract

#### An overview of the effects of forest management on groundwater hydrology

Brian D. Smerdon, Todd E. Redding, and Jos Beckers

This paper provides an introduction to the role of groundwater in watersheds, presents an overview of groundwater resources in British Columbia, and reviews the potential effects of forest management activities (e.g., harvest operations, road building, reforestation, management of mountain pine beetle infestation) on groundwater hydrology. A regional-scale classification of hydrogeologic landscapes for British Columbia is outlined, integrating major physiographic, biogeoclimatic, and groundwater regions. The classification considers characteristics of climate, geology, aquifer type, and interaction with surface water in a generalized way, and summarizes broad-scale expectations about the groundwater hydrology in each hydrogeologic landscape category. In all of the landscapes, a rise in the water table can be expected to follow forest harvesting, though the magnitude and duration of this increase vary according to the area抯 geology and topography. In wet, steep watersheds, for example, shallow groundwater flow is likely to increase, in turn leading to the potential for increased runoff and decreased slope stability. Local-scale water table changes are often more apparent than those at the regional scale.

Download Full [PDF](#) Article (652 KB)[print this page](#)  [email this page](#) [previous page](#)  [top of page](#) 