The effect of forest land use on the cost of drinking water supply:

A spatial econometric analysis

Abstract

Forest land use is often associated with the protection of water resources from contamination and the reduced cost of drinking water supply. This study attempted to measure the value of the forest on the quality of water resources from a contingent market, namely drinking water supply, by estimating variations in drinking water costs as a function of variations in land uses. Spatial correlations were taken into account because of the use of different geographical scales (i.e., water service area and land uses) and the potential existence of organizational and technological spillovers between water services. We found a significant negative effect of forest land use on water costs. We found no evidence of spatial spillovers concerning the management regime but did find that factors related to the scarcity of resources in neighboring water services have an impact on water costs.

Keywords:

Water quality; land uses; forest; water supply service; spatial spillovers.