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### Abstract

#### Harvest block spatial configuration as a function of logging road density: Do larger more aggregated blocks create less road?

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Logging roads are a large component of forest management and have been directly linked to a variety of negative ecological effects, including forest fragmentation. Much research exists that views logging roads as barriers to organism movement, and, from this standpoint, assumes roads are an element of fragmentation. However, little is known about the long-term relationship between logging-road densities and harvest patch spatial configuration—a major consideration for future trends in forest fragmentation. Using spatial landscape data from managed forest landscapes in southeast British Columbia, I tested a prediction that long-term logging road densities are correlated with harvest patch spatial configuration, which implies that logging road networks influence future forest spatial patterns. My study found that while road densities in 44 study landscapes were highly correlated with the total amount of harvesting, road densities were not correlated with spatial patch indices. I suggest that these findings are the result of road planning that is intended to access all available resources in a management area and is, therefore, independent of short-term harvest patch configuration. Furthermore, these results suggest that efforts spent on planning aggregates of larger harvest patches to achieve a goal of lower road densities may be ineffective in some cases.

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