

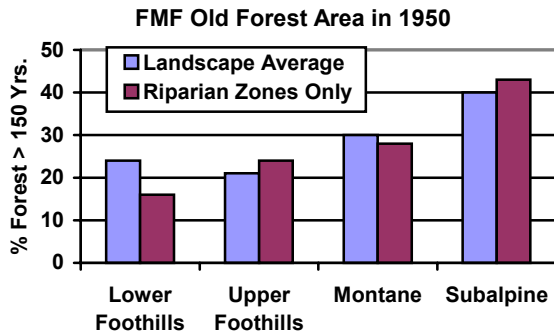
# FMF Natural Disturbance Program Research

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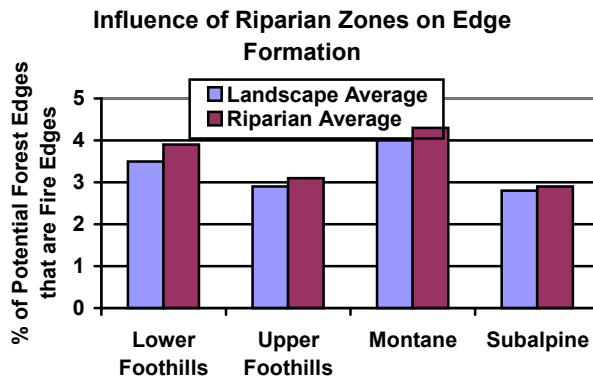
## Do Riparian Zones Influence Landscape Burning Patterns?

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Not really. While we know that fine-scale landscape features can and do influence fire behaviour at very coarse scales, the simple presence or absence of a riparian zone does not appear to be one of them. For example, the amount of older forest in each of the four major landscapes on the Foothills Model Forest in 1950 is not significantly greater in riparian zones compared to the rest of the landscape. If riparian zones are less likely to burn, we would expect to see greater percentages of old forest in riparian zones (relative to the upland part of the landscape) at any one point in time. As it is, there actually *less* old forest in riparian zones in two out of the four landscapes.



Similarly, if riparian zones are less likely to burn, they may simply stop a fire from advancing at that point. In other words, we would expect to see more fire edges associated with riparian zones. However, while the tendency of riparian zones to be associated with fire edges is marginally higher than that of the rest of the landscape, the differences are not significant.



Other, more complex tests are possible, but overall, we found no evidence to suggest that over very large areas, and many decades of burning, the presence or absence of a riparian zone affects fire patterns. However, this does mean that riparian zones do not influence local fire *event* burning patterns. There may be local-level fuel influences, or fire type or severity differences that landscape overviews averaged out. For example, perhaps riparian zones associated with steep banks and higher stream orders are highly associated with fire edges on smaller, low intensity fires.

Future Quicknotes and research reports will address these finer-scale riparian issues, but in the meantime, these findings represent some important lessons. First and foremost, it dispels the notion that riparian zones are commonly protected from fire. At landscape scales, they burn as often as upland forests in west-central Alberta. Second, it underlines the importance of looking at questions at several scales. Seldom is a single study of disturbance pattern, at a single scale, conclusive. Finally, it highlights the difficulty of using general-level rules to achieve natural pattern emulation goals. Solutions are more likely to be associated with local-level opportunities.