Spatial forest fire risk mapping is of interest to fire management, especially for large fire events. Kernel Density Estimation is used to estimate a risk map in Ontario, Canada, using historical records on 1420 large forest fires that occurred between 1959 and 1999. The Hall, Sheather, Jones and Marron plug-in method is used to select the optimal bandwidth. The resulting density shows strong spatial heterogeneity with Northwestern Ontario having the highest risk.