

ANALYSIS OF THE CANADIAN LARGE FIRE DATABASE, 1959–1997

Erin M. Bosch and John A. Mason

Canadian Forest Service, Great Lakes Forestry Centre, 1219 Queen Street East, Sault Ste. Marie, ON P6A 5M7, Canada

Bernie Todd

Canadian Forest Service, Northern Forestry Centre, 5320-122 Street, Edmonton, AB T6H 3S5, Canada

Brian J. Stocks

Canadian Forest Service, Great Lakes Forestry Centre, 1219 Queen Street East, Sault Ste. Marie, ON P6A 5M7, Canada

ABSTRACT

Since the last Ice Age, fire has been a dominant disturbance regime vital to the preservation of species biodiversity in Canadian forests. A Large Fire Database (LFDB) has been developed for all fires larger than 200 ha in area for Canada for the 1959–1997 period. The LFDB represents only 3.5% of the total number of Canadian fires during this period, yet accounts for approximately 97% of the total area burned, allowing a spatial and temporal analysis of recent Canadian landscape-scale fire impacts. On average approximately 2 million ha burned annually in these large fires, although more than 7 million ha burned in some years. Summaries from the period 1959–1997 are presented showing 1) spatial distribution of large fires across Canada, 2) annual area burned and number of fires, 3) percent area burned by ecoregion, 4) area burned and fire occurrence by size class for each ecozone, 5) decadal patterns of lightning- and human-caused fires, and 6) distribution of actioned and non-actioned fires across the country. The LFDB is updated annually and is being expanded back in time to permit a more thorough analysis of long-term trends, and thus be used to develop predictive models of area burned and fire activity in Canada. In addition, the Canadian Forest Service, in cooperation with fire management agencies across the country, is constructing a polygon database of these fires.

Citation: Bosch, E.M., J.A. Mason, B. Todd, and B.J. Stocks. 2004. Analysis of the Canadian Large Fire Database, 1959–1997 [abstract]. Page 236 in R.T. Engstrom, K.E.M. Galley, and W.J. de Groot (eds.). Proceedings of the 22nd Tall Timbers Fire Ecology Conference: Fire in Temperate, Boreal, and Montane Ecosystems. Tall Timbers Research Station, Tallahassee, FL.