

fire history

[All forest fire photos courtesy of DIAND.]



Although there have been significant efforts made to control them, wildfires have a long history as integral components of the boreal forest ecosystem. The boreal forest of the Yukon is classified as a fire dependent or fire-driven ecosystem. This means that wildfires are essential for maintaining the character, diversity and vigor of the plant and animal communities (Beaver, 2001).

A natural fire regime is the pattern of fires that is considered characteristic of a given area (Merrill & Alexander, 1987). When classifying fires, the following factors are usually taken into account (Heinselman, 1978):

- how they were started (ignitions);
- intensity and behaviour (e.g. how the flames develop and spread);
- average area;
- recurrence intervals; and
- general ecological effects on the ecosystem.

Much of the Peel River Watershed is classified as having a Fire Regime #4. Characteristics of this fire regime include (Beaver, 2001):

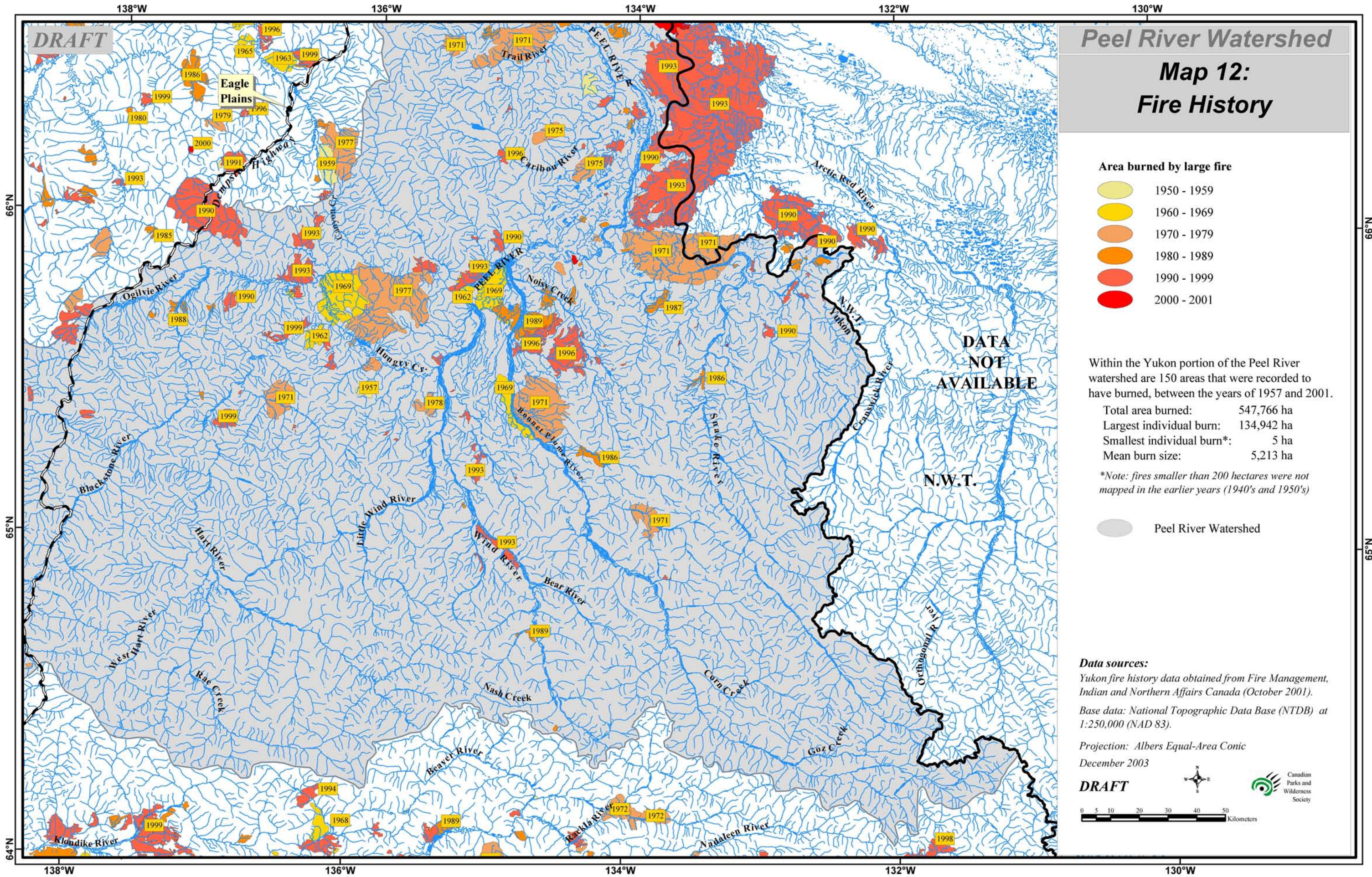
- short to medium-length return interval (on average an area will burn once every 25 to 100 years);
- crown fires and severe surface fires;
- most stand elements are killed over large areas
- fire size ranging from 1,000 to 20,000 hectares

Our knowledge of fires in the Peel River watershed is limited to the last 50 years. Map 12 shows the concentration of fire activity in the upper Peel watershed on the main stem of the Peel River, between the Hart and Wind Rivers; around the lower reaches of the Wind and Bonnet Plume Rivers; and on the east side of the Peel River north of the confluence with the Snake River and into the Northwest Territories. The latter area represents the largest concentration of fires in the area. Although it covers over 200,000 hectares, it is actually the

combination of several smaller fires over a period of about thirty years.

This type of fire mosaic characterizes the landscape of fire-dependent ecosystems. As these burned areas regenerate, older forest stands around them will burn, and they too will be replaced with young stands. In this way the fire cycle continues.





Peel River Watershed
Map 12:
Fire History

- Area burned by large fire**
- 1950 - 1959
 - 1960 - 1969
 - 1970 - 1979
 - 1980 - 1989
 - 1990 - 1999
 - 2000 - 2001

DATA NOT AVAILABLE

Within the Yukon portion of the Peel River watershed are 150 areas that were recorded to have burned, between the years of 1957 and 2001.

Total area burned:	547,766 ha
Largest individual burn:	134,942 ha
Smallest individual burn*:	5 ha
Mean burn size:	5,213 ha

**Note: fires smaller than 200 hectares were not mapped in the earlier years (1940's and 1950's)*

Peel River Watershed

Data sources:
 Yukon fire history data obtained from Fire Management, Indian and Northern Affairs Canada (October 2001).
 Base data: National Topographic Data Base (NTDB) at 1:250,000 (NAD 83).

Projection: Albers Equal-Area Conic
 December 2003

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