



DISTURBANCES

Where do forest fires and insect outbreaks affect Canada's forests?

Just about everywhere.

Forest fires and insect outbreaks are called “natural disturbances” by foresters. Disturbances have been shaping and changing Canada's forests for millennia. Some disturbances are public safety or forest management concerns, but many are not. Disturbances are an important force of renewal in Canada's forests.

Wild fires

Boreal forests literally rise from their own ashes after a fire. Black spruce, aspen, birch and jack pine dominate huge areas in Canada because they can quickly recolonize an area after it has been burned. In fact, jack pine cones only release their seeds when they are exposed to a very hot fire. In this way, fires are a source of renewal.



Areas burned since 1990

Areas affected by major insect outbreaks:

Mountain pine beetle

Forest tent caterpillar

Spruce budworm

Mountain pine beetle and forest tent caterpillar

Forest tent caterpillar and spruce budworm

Defoliators

The spruce budworm and forest tent caterpillar are examples of defoliators – insects that eat leaves or needles. Outbreaks of defoliators have occurred periodically in Canada's forests for centuries. Spruce budworm and forest tent caterpillar outbreaks are typically very large. Millions of trees can be damaged during an outbreak, but most recover or regenerate. Evidence of past outbreaks can be found in the growth rings of old trees.



Spruce budworm



Forest tent caterpillar



Bark beetles

Bark beetles usually kill only the oldest and weakest trees, which creates space for young trees to grow while building a more diverse forest. But some, like the mountain pine beetle, occasionally become so numerous that they kill even the healthiest trees.

When this happens, the people and communities who rely on the forest can be negatively affected.

The mountain pine beetle is native to western North America, but now it is spreading north and east into the boreal forest.



Mountain pine beetle

Insect information from the Pest Strategy Information System can be found online at <https://afc-fr.cfsnet.nfis.org/NFPS-SNLRF/>. Fire information is available from the Canadian Wildland Fire Information System at <http://cwfis.cfs.nrcan.gc.ca/home>.