
Canada's Forests

Sustainability indicators

Ecosystem condition and productivity

Forests are continually exposed to and modified by natural disturbances such as fire, insects, and diseases. They are also disturbed by human pursuits such as logging, road construction, oil and gas ventures, and other activities.

Canada's forest ecosystems must be resilient to cope with and recover from natural and human disturbances and maintain their ecological functions and processes.

It is important to know how and why the forest resource fluctuates over time, especially when the causes of these fluctuations may produce more or less permanent additions or deletions to Canada's forest base.

Indicator: Additions and deletions of forest area

Forest managers need to understand both natural and human disturbances to gain a better understanding of how forest ecosystems change, and to ensure that their practices facilitate natural regeneration and recovery of ecosystem productivity following disturbance. (*Ecosystem productivity* is the ecosystem's ability to accumulate biomass, which depends on the degree to which nutrients, water and solar energy are absorbed and transferred within the ecosystem.)

Indicator: Area of forest disturbed by fire, insects, disease and harvesting

- [Forest fires](#)

Insects—invasive species

- [Asian longhorned beetle](#)
- [Brown spruce longhorn beetle](#)
- [Emerald ash borer](#)
- [European wood wasp](#)
- [Gypsy moth](#)

Insects—native species

- [Balsam fir sawfly](#)
- [Forest tent caterpillar](#)
- [Jack pine budworm](#)
- [Mountain pine beetle](#)
- [Spruce beetle](#)
- [Spruce budworm](#)
- [Western Spruce budworm](#)

Planting and seeding are a reliable means of regenerating forests disturbed by harvesting or other factors when advanced or natural regeneration are not options for a particular site.

Indicator: [Proportion of timber harvest area successfully regenerated](#)

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