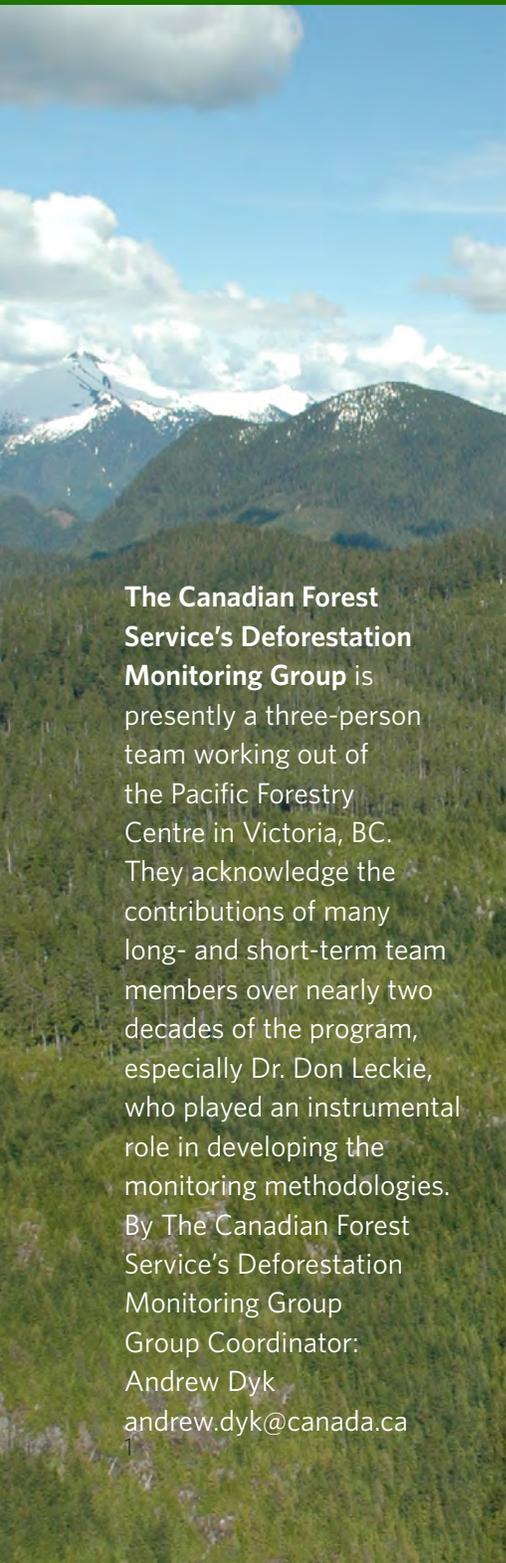
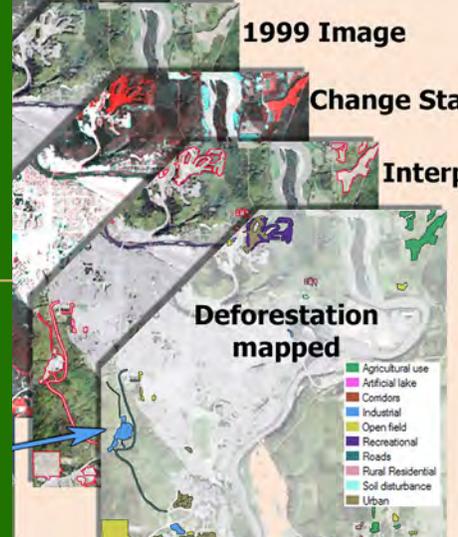


February 2019

Keeping an Eye on Canada's Deforestation



The Canadian Forest Service's Deforestation Monitoring Group is presently a three-person team working out of the Pacific Forestry Centre in Victoria, BC. They acknowledge the contributions of many long- and short-term team members over nearly two decades of the program, especially Dr. Don Leckie, who played an instrumental role in developing the monitoring methodologies. By The Canadian Forest Service's Deforestation Monitoring Group Group Coordinator:
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Canada considers it important to track deforestation in order to report internationally on human-induced changes to our forests. Deforestation is an issue of global importance. While human pressures call for more land for living space, food production and resource extraction, the conversion of forests to non-forest land uses contributes to the acceleration of climate change and biodiversity loss.

The term "deforestation" is used to mean different things in different contexts. Sometimes, it is mistakenly used to refer to all forest cover losses. The internationally agreed definition¹ of deforestation is the direct human-induced conversion of forest to non-forest land. This means deforestation does not include temporary forest cover changes such as those caused by wildfire, insect damage or forest harvest, where the forest will regrow. Deforestation specifically refers to forest land-use conversion, such as for residential development, agriculture, mining, transportation or hydroelectric use, among others.



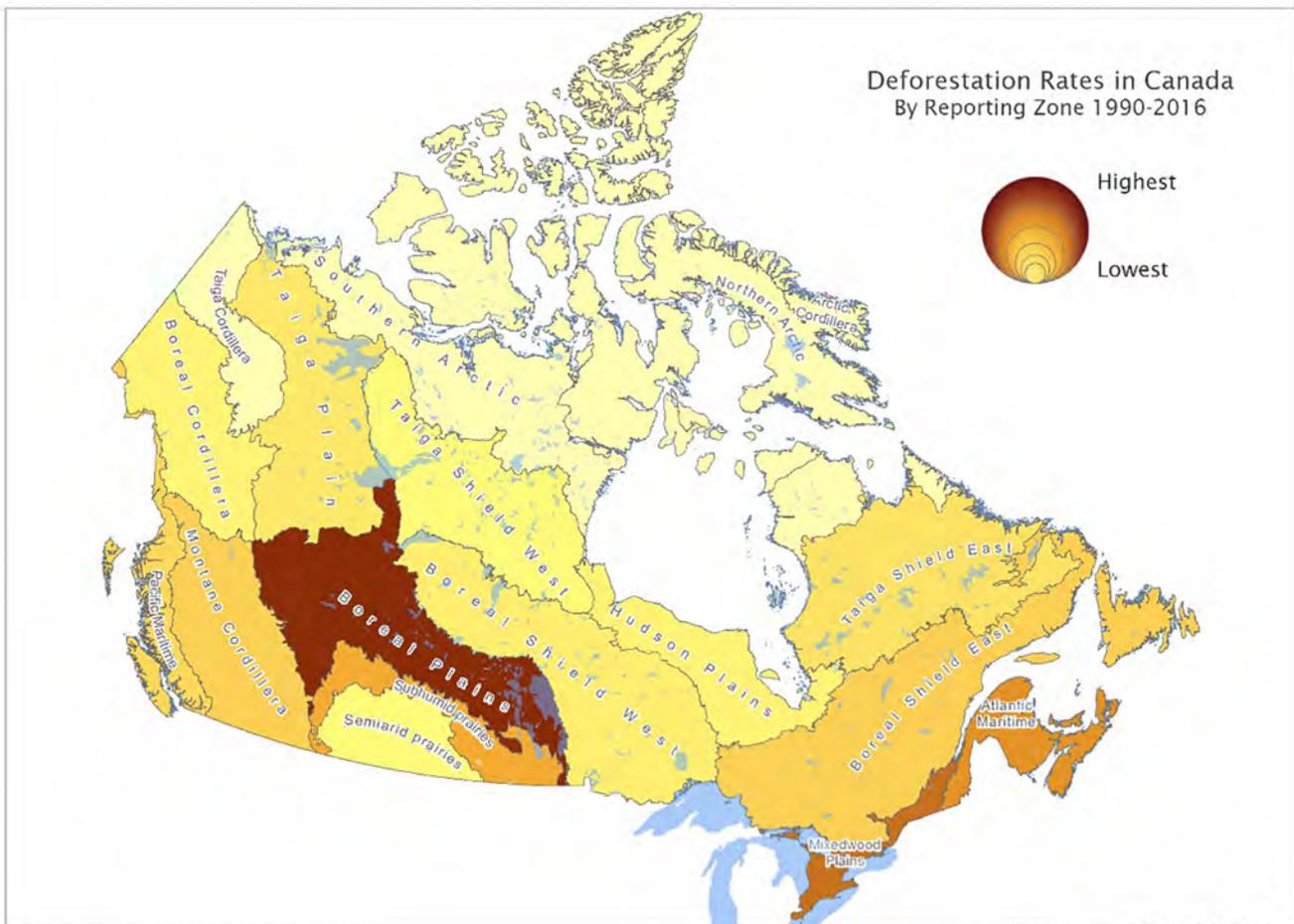
Why do we track deforestation?

Canada has legal commitments to report on the state of our forests, greenhouse gas emissions and sustainable development. Natural Resources Canada's (NRCan) Canadian Forest Service (CFS) monitors deforestation and reports national and regional trends from the 1970s to the present. These data are used to meet Canada's national and international reporting obligations, including:

- the annual State of Canada's Forests report²
- the annual National Inventory Report on Greenhouse Gas Sources and Sinks in Canada³, a requirement under the United Nations Framework Convention on Climate Change
- the Montreal Process⁴ (Criterion 3.b)
- UN Sustainable Development Goal 15⁵ (Indicator 15.2.1)

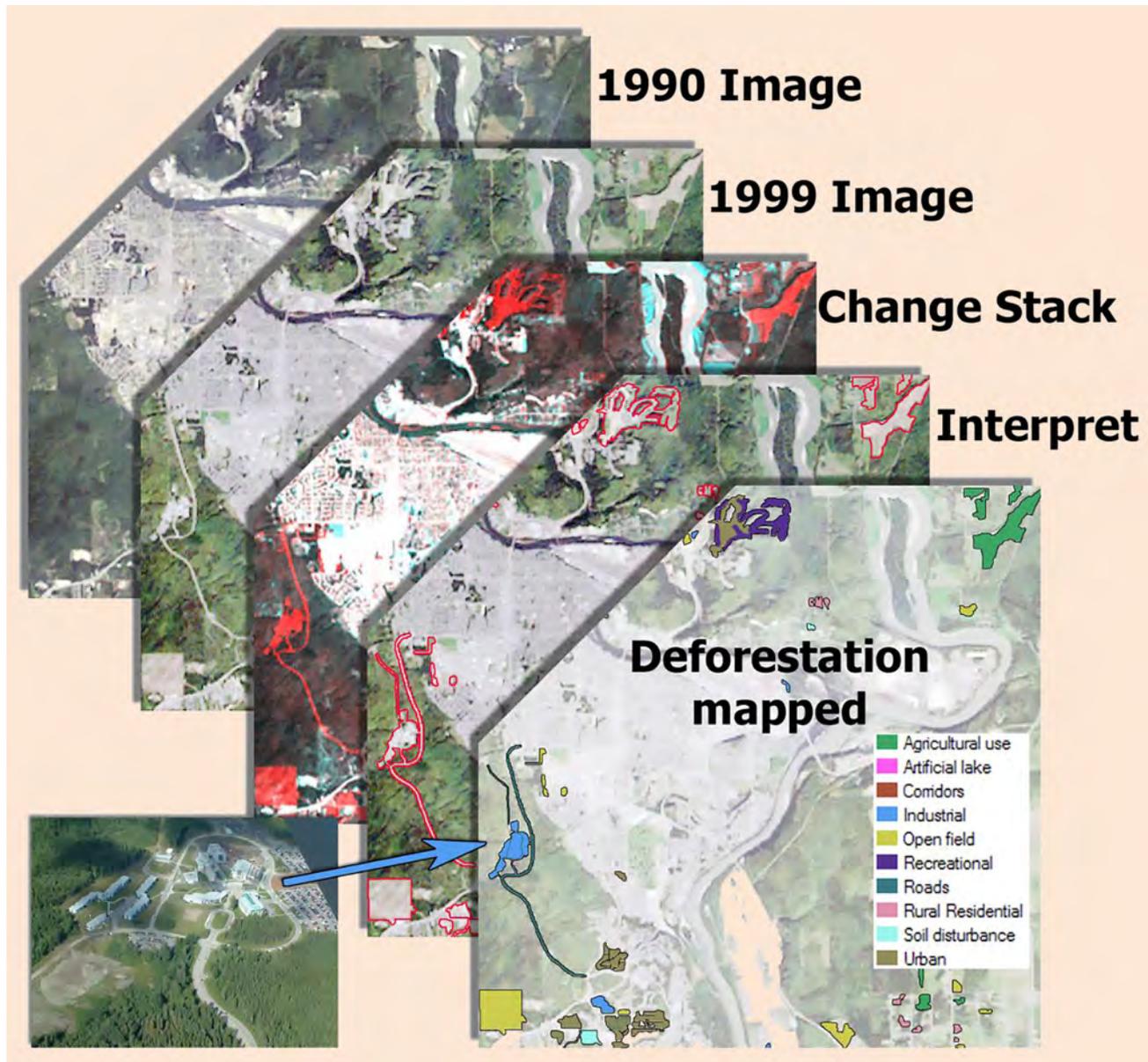
Deforestation monitoring data are reported to the public through the deforestation indicator of the State of Canada's Forests Report, while provincial and territorial governments receive provincial-level summary reports. Collaborative projects involving provincial agencies, NGOs, and regional administrations including municipalities and First Nations have been conducted to produce customized datasets. For example, B.C.'s Community Energy & Emissions Inventory includes deforestation data from a special study conducted by the CFS in partnership with the BC Ministry of Environment.

Deforestation in Canada 1990-2016 by reporting zone.



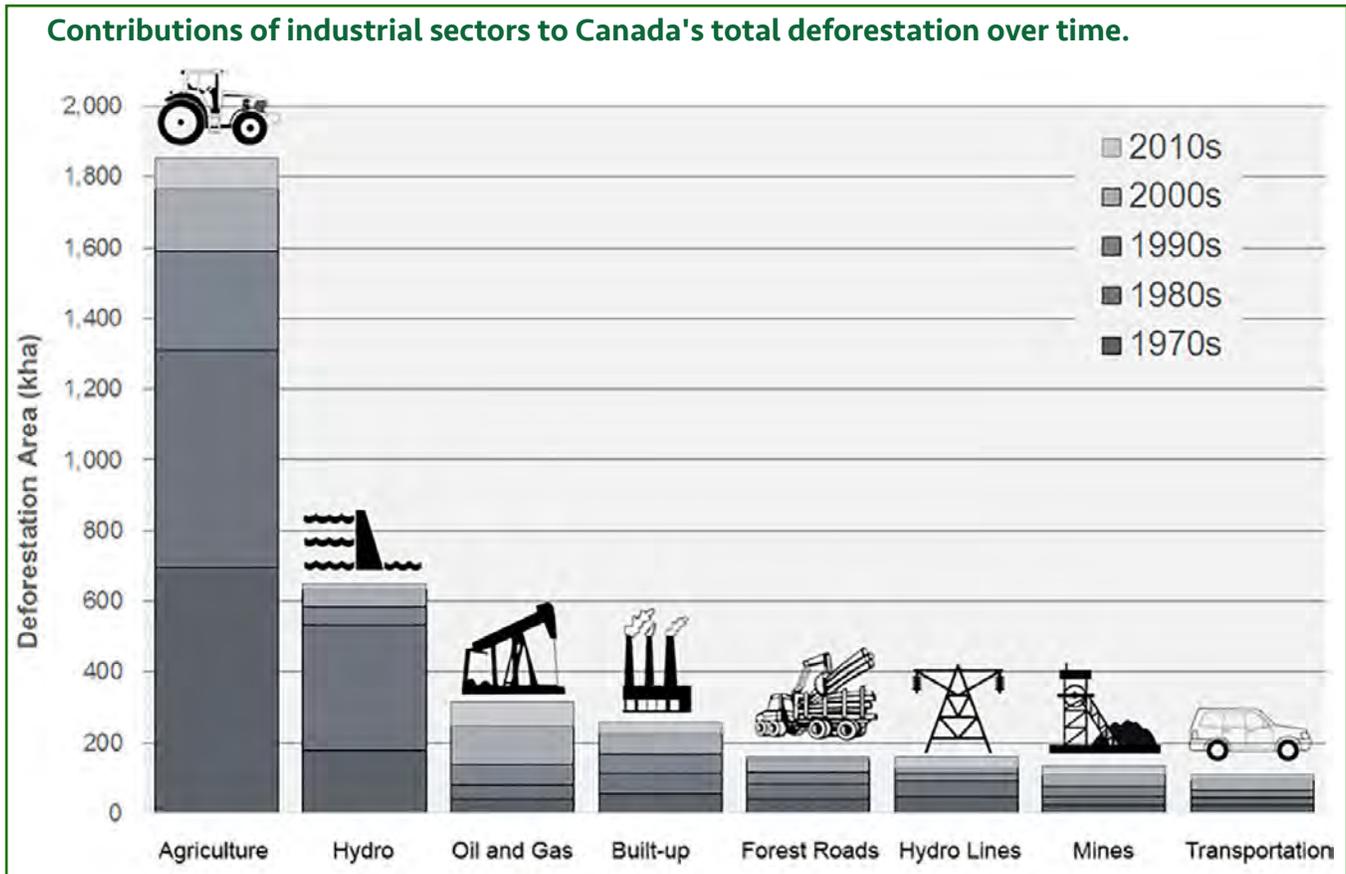
How we measure deforestation

Canada's National Deforestation Monitoring System detects areas of forest cover loss using satellite images acquired years apart. Expert satellite image interpreters then use a variety of data sources to determine if an observed forest change is deforestation, and assign attributes based on the interpreted land use type and context. The figure below shows an overview of the mapping process.



Differences between satellite images of Prince George, BC, are highlighted for inspection. Where change is confirmed as deforestation, analysts digitize it and add attributes describing the new land use and the type of forest removed.

A sampling approach is used to survey the country for deforestation because full mapping of all deforestation across Canada would be too expensive. Deforestation survey mapping results can be reported spatially, temporally, or by industrial category, as in the figure below. The method for producing the annual deforestation estimates is described in our System Description report⁸.



Key points

- NRCan's Canadian Forest Service tracks deforestation throughout Canada.
- Forestry operations such as timber harvesting or other tree removals where forest is expected to grow back are not deforestation. The impacts of these events on the forest are different from events causing permanent forest area loss.
- Much of Canada's deforestation is associated with conversion of forested land to agriculture, hydro operations, and oil and gas resource development activities.
- Since the 1970s, the rate of deforestation has decreased from an average of 1,110 km²/year to 400 km²/year.
- Deforestation rates have declined in almost all industrial categories.

More information from Natural Resources Canada

- [Deforestation in Canada: Key myths and facts](#)
- [Seven facts on disturbances and deforestation](#)
- [Deforestation in Canada: What are the facts?](#)

Notes:

- 1 **United Nations Framework Convention on Climate Change.** 2002. Conference of the Parties- Report of the Conference of the Parties on its seventh session, held at Marrakesh from 29 October to 10 November 2001. United Nations Office, Geneva, Switzerland. <http://unfccc.int/resource/docs/cop7/13.pdf>, available from <https://unfccc.int/documents/2515>
- 2 The State of Canada's Forests 2018
<https://www.nrcan.gc.ca/forests/report/16496>
- 3 Canada's Greenhouse Gas Inventory
<https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/inventory.html>
- 4 The Montreal Process - Criteria and Indicators
https://www.montrealprocess.org/The_Montreal_Process/Criteria_and_Indicators/index.shtml
- 5 Sustainable Development Goal 15
<https://sustainabledevelopment.un.org/sdg15>
- 6 NRCan: Indicator: Deforestation and Afforestation
<https://www.nrcan.gc.ca/forests/report/area/16546>
- 7 Government of BC: Community Energy & Emissions Inventory
<https://www2.gov.bc.ca/gov/content/environment/climate-change/data/ceei>
- 8 NRCan: Canadian Forest Service Publications
<https://cfs.nrcan.gc.ca/publications?id=36042>

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