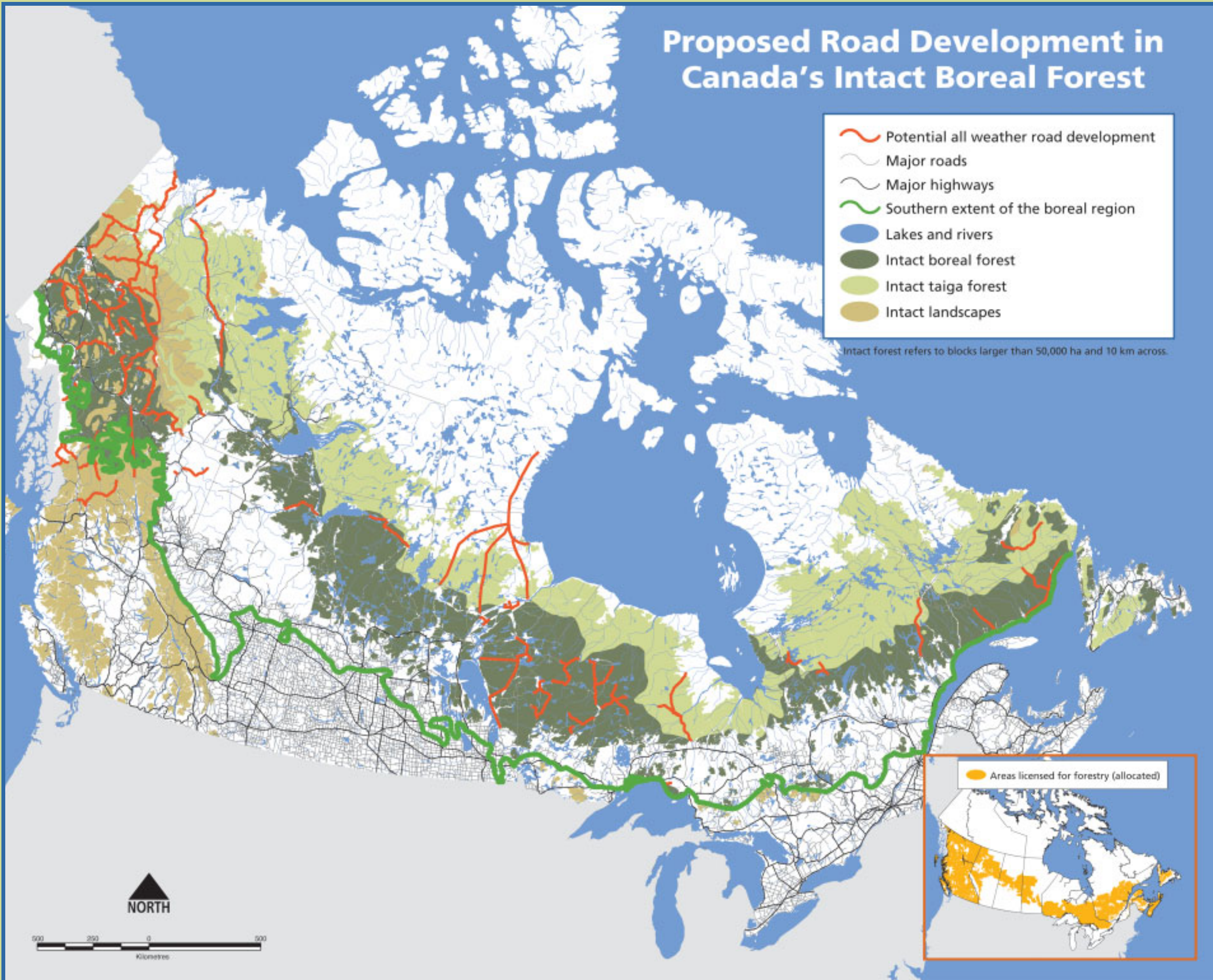


Proposed Road Development in Canada's Intact Boreal Forest

-  Potential all weather road development
-  Major roads
-  Major highways
-  Southern extent of the boreal region
-  Lakes and rivers
-  Intact boreal forest
-  Intact taiga forest
-  Intact landscapes

Intact forest refers to blocks larger than 50,000 ha and 10 km across.



Roads: More than lines on a map

Canada's boreal forest is one of the three largest remaining areas of intact wild forest left on the planet. If we want to protect the species, waters and ecosystems of this magnificent forest, we must quickly rethink the direction we are headed.

Roads act as triggers for development and major habitat changes. They open up wilderness and bring development activities like logging and oil exploration that eventually change the entire character of previously intact wild and remote areas.

There are now approximately 62,000 kilometres of logging roads with only a handful of large unroaded forest areas remaining in the southern boreal forests of Ontario. In Alberta, the impact of logging roads are multiplied by the additional oil and gas access roads and seismic lines – corridors cut through the forest as part of oil and gas exploration. The province's forests are now mostly a patchwork.

The case studies on the reverse look at what has happened or could happen in a number of key areas in Canada's globally important boreal forest. (For full versions of these case studies, please visit www.wildlandsleague.org).

The map to the left illustrates the growing threat posed by governments and industry to the world's last large intact forests through the construction of new road networks that further development. The roads and potential new road corridors shown on this map are only the primary access routes: Each of these primary roads brings with it an extensive and often expanding network of secondary roads and trails that further fragment and degrade forest habitat. In some areas, the impact of these roads is compounded by the clearing of thousands of kilometres of seismic lines, pipeline and utility corridors.

In order to reduce the impact of roads and other developments on our globally important boreal forests we must fully embrace the concept of conservation-first planning. A good framework for such planning is set out in the Boreal Forest Conservation Framework, a voluntary agreement between First Nations, conservation organizations and industry that seeks to set a new more positive direction for our work to protect this magnificent wild place.

For more on the impact of roads and how we can better protect our boreal forest, please visit www.wildlandsleague.org

Data Source: forestry tenure, intact forests, Global Forest Watch (2004); Boreal forest ecozone, Stan Rowe (1972); Road proposals are for illustrative purposes only. Special thanks to CPAWS chapters who provided regional information and Manitoba Wildlands and Protected Areas Association. Map produced by CPAWS Wildlands League, 2005.

Place: Yukon Territory
Road: 32 proposed access corridors throughout the Yukon

The Yukon Government's 2003 *Roads to Resources* report identifies 32 potential new access corridors throughout the Yukon. Rather than responding to any actual resource development proposals or access requirements, these corridors are purely speculative and are seen as a way for the government to drive increased resource development in the territory.

This approach essentially pre-empts options for the designation of roadless wilderness and large protected areas. The *Roads to Resources* report itself ignores ecological values and considers no type of economic development other than primary resource extraction. This plan would, if implemented, cause severe ecological impacts, pre-empt land use planning and expose the Yukon to significant economic risk.

It envisions a major access corridor constructed through virtually every major wilderness watershed in the Yukon as well as candidate protected areas and First Nations Special Management Areas. The Yukon Government's own Woodland Caribou Management Decision Guidelines (July 1996) state that: "Management experience in North America has shown that virtually any type of development activity that increases access for hunters results in a herd decline."

We must also consider the landscape-level effects of roads. The zone of impact of a standard gravel road can extend from 200 to 1,500 metres beyond the road's edge. In some valleys, traffic on roads cause species to abandon the entire area. A series of access corridors have been identified in one of North America's largest remaining unroaded mountain wilderness areas – the Peel Watershed. Two of the Yukon Government's proposed roads also bisect the biologically diverse and intact habitat of the southeast Yukon. Roads through both of these areas would destroy the wilderness character and quality of habitat for the array of intact, large predator-prey relationships they support. Of greater concern than any one road segment, however, is that the *Roads to Resources* concept will be considered an access plan and the conceptual access corridors could be enshrined in regional land-use plans and be used by companies to demand access. CPAWS Yukon is calling for reconsideration of the *Roads to Resources* report and for a more integrative ecosystem-based approach in all land-use planning processes. This approach should first consider all values of a landscape, determine which areas should be set aside for protection, identify specific projects with actual, economically recoverable resources, and consider all socio-economic criteria, before proposed access corridors are considered.

Place: Nahanni River Watershed
Road: Prairie Creek mine road

Mining is often seen as having a small landscape "footprint." However, the proposed Prairie Creek silver-lead-zinc mine on the edge of Nahanni National Park Reserve is an example of how the access required by mining activities can dramatically increase landscape impact.

In the early 1980s, construction began on a silver-lead-zinc mine immediately adjacent to Prairie Creek, 32 kilometres upstream from the Nahanni National Park Reserve. As part of the mine construction, a 165 kilometre winter road corridor was cleared to reach the mine site. However, shortly after the mine owners went bankrupt and the winter road was left unused for 20 years. Now the Canadian Zinc Corporation (CZN) is attempting to bring the mine into production and has applied for a permit to re-construct the winter road.

The Prairie Creek mine site is located in an area of globally significant wilderness and natural features, which are recognized and protected by several national and international conservation designations.

The proposed winter road would cross lands within the South Nahanni watershed that were recently granted interim protection from industrial development by the federal government as part of the Deh Cho Process (a land and self-governance negotiating process) because of their significant cultural and ecological values. The lands are also currently under consideration for inclusion in an expanded Nahanni National Park Reserve.

The Deh Cho Process is underway, in part, to clarify control over land-use in the Deh Cho region of the NWT. The federal government currently manages the land, while the Deh Cho First Nations assert that they are the keepers of the lands and waters of their ancestral homeland. Recently, CZN went to court and won their appeal to exempt the road from an environmental assessment.

Unless the South Nahanni Watershed is fully protected applications for development around the current park reserve will continue to be submitted and, over time, the area will become increasingly fragmented. Additionally, as long as the Prairie Creek mine remains in the watershed, it will retain the ability to apply for and receive permits for developments that may put the natural values and water quality of the Nahanni at risk.

Place: Northeastern Alberta
Road: Logging, oil-and-gas roads and seismic lines in Alpac FMP area

Using a computer program (ALCES – Alberta Landscape Cumulative Effects Simulator) to simulate the cumulative landscape impacts of the many overlapping resource uses in northern Alberta, biologists from the University of Alberta are painting a bleak picture of the potential future condition of the region's boreal forests if the province continues with a business-as-usual approach to resource planning.

The area used in the study was the 59,054 square kilometre Forest Management Agreement Area controlled by Alberta-Pacific Forest Industries (Alpac). This area, which lies south of Wood Buffalo National Park, is one of the more intact boreal forest areas in a province.

Using conservative estimates of growth in industry activity, the simulation found that the degree of forest fragmentation in the area would rapidly increase over the next 20-30 years, mostly due to road building and seismic line clearing.

The study found that forest "edge" created by industrial activities would increase from 1.8 km/km² to a maximum of 8.0 km/km². This finding points to a major increase in the fragmentation of the forest into smaller habitat blocks that are more accessible to hunters and predators and more prone to disturbance. The study found that habitat availability for woodland caribou in the area would decline from 43% to 6% under a business-as-usual scenario.

The study also found that there will be significant socio-economic impacts from a business-as-usual approach. The most obvious of these would be a major shortage of softwood available to the forestry industry within 60 years

However, the study concluded that some relatively modest changes could dramatically lessen the fragmentation impact of roads and seismic lines on the region. Changes such as increasing the overlap between petroleum and forestry road networks from 10% to 50%, narrowing seismic lines to one metre, using existing corridors for pipelines and reducing roads and landing areas within forestry operations, could increase the retention of old-growth forests and reduce forest fragmentation significantly.

As the area within the oil and gas-rich Western Canadian Sedimentary Basin (WCSB) where industrial development is the most advanced, Alberta serves as an example – and a warning – of what the future may hold for the other provinces and territories that include portions of the WCSB.

Place: East Side Forest (east side of Lake Winnipeg)
Road: Possible all season road network linking more than 20 remote East Side communities.

The Manitoba government undertook a preliminary study to assess the need for and possible design of an all-weather road network for the East Side forest region in 2000. This region, which runs along the east side of Lake Winnipeg and into the province's northeast, includes 20 million hectares of boreal forest lands and waters. Most communities in the region lack year-round road access.

The huge costs associated with transporting a larger proportion of goods by air due to poor winter road conditions in recent years, have heightened concerns about access. An all-weather road network would also open this remote area to forest harvesting and other resource exploration activities as well as hydro corridors, with associated potential benefits and impacts for communities in the region.

There are several perspectives on the costs and benefits of all-weather roads in the region. For some First Nations and Aboriginal communities, roads are equated with economic opportunities and are viewed as necessary for community economic development. Other communities approach the issue with more caution, citing some of the documented socio-economic and environmental impacts of roads.

Control over access is a fundamental concern for some communities. Issues such as decision-making control over the routing of a road, control over secondary access routes, and how and by whom the road is used have been identified as important community concerns. Some communities also recognize the need for extensive planning in advance of all-weather roads to control and mitigate some of the negative impacts that can result from access.

One of the largest questions is whether the road network will be assessed as a single project or in piecemeal segments. The latter approach is likely to obscure or divert attention away from cumulative impacts, such as the impact of opening a previously inaccessible area to industrial resource harvesting.

Land-use planning for a portion of this region was announced in 2000 and initiated in 2002 following two decades of discussion. After two-and-a-half years of meetings, the East Side Planning Initiative (ESPI) submitted a status report to the Minister of Conservation in November 2004.

The East Side network is an excellent example of the potential cascading impacts of road networks. The rationale of creating easier access to remote communities may be quickly supplanted in actuality by use of the network to reach previously inaccessible forests and other resources.

Place: Central and southern Labrador
Road: Phase III of Trans Labrador Highway

The Government of Newfoundland and Labrador began constructing the Trans Labrador Highway (or TLH) in the late 1980s. The TLH, an all season two-lane gravel surface highway, has proceeded in three phases. Phase III will provide the final linkage connecting central Labrador to the coast.

The original route promoted for Phase III, known as the northern route, posed a number of threats to the intact forests of Central Labrador, including increased access to sensitive lakes and wetlands, increased disturbance of woodland caribou, increased access to areas that are important hunting and fishing areas of local Aboriginal groups and outfitters, and the bisecting of the proposed Mealy Mountains National Park. A more southern route that reduced these impacts was eventually selected as the preferred route with construction beginning in the summer of 2004.

But even with the selection of the less damaging southern route, there is still a need to carefully consider the impacts of this road. The Phase III section will cross a mosaic of habitats in a completely undeveloped and remote region of Labrador and will still run along the southern edge of the national park study area. Concerns include over harvesting of wildlife populations as a result of increased access, disturbance to calving caribou and nesting birds; animal-vehicle collisions; increased use of and habitat destruction by ATVs; improper culvert placements at stream crossings; increased siltation of streams and rivers and garbage dumping along the road.

As well, there is some concern that the TLH is being built primarily to provide access to forest resources, particularly on the south side of the Churchill River.

It is hoped that the lessons learned from the first two stages of this project will be remembered with phase III. For example, following construction of phase I, locals observed that fish populations in waterbodies adjacent to the road were severely depleted. A joint study done by the Labrador Metis Nation and Coasts Under Stress (Memorial University) on the TLH-Phase II found that greater than 50% of culverts were installed improperly.

The TLH could become a classic example of the cascading impacts of providing access to previously remote areas if activities along the road are not managed carefully. Plunging through a remote and intact forest area for over 280 kilometres, the road provides ready access to areas that were previously difficult to reach and makes the economics of resource exploration and exploitation much more attractive.



References:

These maps were prepared using over 20 government, industry data and media sources. For a full listing of resources visit www.wildlandsleague.org

Criteria

The criteria for inclusion as a potential road corridor on this map were the following:

- The project has been publicly discussed by government or industry in the media, in official reports or in other similar proposals (e.g. environmental assessment, land use or forestry plan or engineering study)
- There is a strong possibility in the view of CPAWS chapter staff and/or other knowledgeable observers of the project proceeding in the next 10 years.

Acknowledgements

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The Roads Project

The Roads Project is a project of CPAWS Wildlands League. There are three products: a Canada-wide roads map, five case studies and a public information document on the problem of roads called *Roads: More than lines on a map*. We are responsible for the content and any errors that may have appeared in the project.

The Roads Project Team responsible for the overall design and vision are Anna Baggio and Janet Sumner of CPAWS Wildlands League, and Tim Gray of CPAWS.

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