





Monday, May 14, 2007

### Dear Canadian Government Leaders:

North America's Boreal region is one of the most intact forest and wetland ecosystems left in the world. Canada alone is home to an estimated one-quarter of the world's intact forests, most of this in the Boreal region<sup>i</sup>. North America's Boreal is a major part of the Boreal region that encircles the northern part of the globe. The global Boreal region stores more freshwater in wetlands and lakes<sup>ii</sup> and more carbon in trees, soil, and peat<sup>iii</sup> than anywhere else on the planet.

Canada's Boreal region supports three billion migratory songbirds<sup>iv</sup>, the world's largest caribou herds<sup>v</sup>, millions of waterfowl and shorebirds, large populations of bears, wolves, and lynx, and native fish in abundance. Large scale ecological processes such as predator-prey, fire and hydrologic cycles still shape the region—natural processes that have become rare in much of the world. Ecological services provided by the region, including water filtration and carbon storage, are estimated to be worth 2.5 times the value of natural resources extracted each year<sup>vi</sup>. Hundreds of Aboriginal communities depend on the region's ecosystems and wildlife. Clearly, there is a globally-significant responsibility to protect Canada's rich Boreal natural and cultural values, a responsibility embodied by the IUCN World Conservation Union's recommendation that Canada and Russia do more to ensure the conservation of Boreal forest regions<sup>vii</sup>.

A wide range of threats face the Boreal, and recent reports by the National Round Table on the Environment and the Economy concluded that development pressure on Canada's Boreal is increasing<sup>viii</sup>. The vast majority of commercially productive forest in the region has been allocated to timber companies<sup>ix</sup>. In addition, significant mining, oil and gas, and hydropower development occurs across the Boreal. Development pressure is greatest in the more productive southern Boreal where species diversity is also greatest. The cumulative effect of the wide range of threats prompted a Senate Committee to conclude the region to be "under siege"<sup>x</sup>. In response to these threats, degradation of the region's ecological integrity is predicted<sup>xi</sup>.

The relatively intact state of Canada's northern Boreal region<sup>xii</sup> provides an opportunity to implement conservation strategies to protect the region's ecological integrity. The field of conservation biology identifies four objectives that must be achieved to ensure the long-term viability of an ecosystem<sup>xiii</sup>: 1) all native ecosystem types must be represented in protected areas; 2) populations of all native species must be maintained in natural patterns of abundance and distribution; 3) ecological processes such as hydrological processes must be maintained; and 4) the resilience to short-term and long-term environmental change must be maintained. Achieving these objectives requires an extensive interconnected network of protected areas and sustainable management of the surrounding areas. Reviews of previous conservation planning initiatives provide further direction by indicating that protected areas should cover in the range of half of the landscape to achieve the objectives listed above<sup>xiv</sup>.

Adequate conservation strategies will be challenging to implement in the southern Boreal region<sup>xv</sup> where approximately two-thirds of the forest land has been allocated to resource developmentxvi. Almost two million square kilometres of the southern Boreal region remains undevelopedxvii, however, and ecological integrity can be maintained if industrial use is reduced to increase protection, and the remaining allocated lands are managed using practices that are ecologically sustainable. In the northern Boreal region, most areas remain unallocated to industrial development and proactive land use planning with Aboriginal communities is possible to increase protection prior to industrial allocation and identify sustainable resource development options while flexibility remains.

We are concerned that current conservation planning efforts are insufficient to sustain the ecological integrity of Canada's Boreal region, one of the most intact ecosystems left in the world. Specifically, the amount of land in protected status within the Canadian Boreal, now at under 10 percent<sup>xviii</sup>, is inadequate and must be markedly increased. The Boreal Forest Conservation Framework, developed by leading resource companies, First Nations, and conservation organizations, promotes an equal treatment of conservation and development across Canada's Boreal regionxix. As scientists, we urge federal, provincial, territorial and Aboriginal governments, companies, communities and others to support implementation of the Framework's Boreal conservation vision.

## Sincerely,

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forest.")

- iv Blancher, P. 2003. Importance of Canada's Boreal Forest to Landbirds. Canadian Boreal Initiative and Boreal Songbird Initiative. For more information see www.borealbirds.org.
- The George River herd in Labrador and Quebec is the largest in the world with approximately 800,000 individuals.
- vi M. Anielski and S. Wilson. 2005. Counting Canada's Natural Capital: Assessing the Real Value of Canada's Boreal Ecosystems. Canadian Boreal Initiative and The Pembina Institute. Available online at: http://www.borealcanada.ca/reports e.cfm.
- vii See <a href="http://www.iucn.org/congress/2004/members/submitted\_motions.htm">http://www.iucn.org/congress/2004/members/submitted\_motions.htm</a> for full text of IUCN recommendation RECWCC3.101 "Advancing Boreal Forest Conservation".

  viii National Round Table on the Environment and the Economy. 2005. Boreal Futures: Governance, Conservation and Development in Canada's Boreal. Available online at <a href="http://www.nrtee-trnee.ca/eng/programs/Current\_Programs/Nature/Boreal-Forest/Documents/Boreal-Futures/Boreal-Futures/Boreal-Futures/Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-Boreal-Futures-
- Lee, P. 2004. Boreal Canada: State of the Ecosystem, State of Industry, Emerging Issues and Projections. Report to the National Round Table on the Environment and the Economy. Global Forest Watch Canada. Edmonton. 85 pp.
- ix Approximately 95% of the Commercial Forest Land (as reported by the Atlas of Canada see below) is within the Commercial Forest Tenures (as identified by Global Forest Watch Canada see below):

Atlas of Canada. Map of Protected Areas and Commercial Forest Land. Available at: <a href="http://atlas.gc.ca/site/english/learningresources/theme\_modules/">http://atlas.gc.ca/site/english/learningresources/theme\_modules/</a>
<a href="Borealforest/protcomm.jpg/image\_view">Borealforest/protcomm.jpg/image\_view</a> (Commercial Forest Land is defined by the Atlas of Canada as "accessed, timber-productive and on-reserved land within the Boreal</a>

Lee P, Z Stanojevic, JD Gysbers. 2004. Canada's Commercial Forest Tenures,2003: Background and Summary Report. Edmonton, Alberta: Global Forest Watch Canada. 59 pp.

<sup>x</sup> Sub-Committee on Boreal Forest of the Standing Senate Committee on Agriculture and Forestry. 1999. Competing Realities: The Boreal Forest at Risk. Government of Canada, Ottawa, Canada. Available from the Internet, URL: http://www.parl.gc.ca/36/1/parlbus/commbus/senate/com-e/bore-e/rep-e/rep09jun99-e.htm.

<sup>&</sup>lt;sup>1</sup> Bryant, D., et al.1997. *The Last Frontier Forests: Ecosystems and Economies on the Edge*. Washington D.C.: World Resources Institute.

ii Softwater Boreal lakes may contain 80% or more of the world's fresh, unfrozen water (Schindler, D.W. 1998. Sustaining aquatic ecosystems in Boreal regions. Conservation Ecology [online] **2**(2): 18. Available from the Internet. URL: <a href="http://www.consecol.org/vol2/iss2/art18">http://www.consecol.org/vol2/iss2/art18</a>).

iii The Boreal region has been estimated to store 703 Pg of carbon, more than tropical and temperate forests combined (http://www.whrc.org/Borealnamerica/#overview\_storage).

xi Examples of research predicting the degradation of Boreal ecosystems include: Schindler (1998, Sustaining aquatic ecosystems in Boreal regions, Conservation Ecology 2: 18. Available from the Internet. URL: <a href="http://www.consecol.org/vol2/iss2/art18/">http://www.consecol.org/vol2/iss2/art18/</a>) predicted continued declines in Boreal fisheries and water quality due to unsustainable management of Boreal aquatic systems. Weclaw and Hudson (2004, Simulation of conservation and management of woodland caribou, Ecological Modelling 177:75-94) concluded that woodland caribou have a high probability of disappearing within 40 years from a region in Boreal Alberta if industrial development continues at its current rate.

xii 78% of Canada's Boreal forest lacks access by roads (Smith, W., and P. Lee (editors). 2000. Canada's Forests at a Crossroads: An Assessment in the Year 2000. World Resources Institute, Washington, DC.) 63% of Canada's Boreal forest remains in blocks of intact forest at least 120,000 acres in size (Lee, Peter, Dmitry Aksenov, Lars Laestadius, Ruth Nogueron, and Wynet Smite. 2003. Canada's Large Intact Forest Landscapes. Global Forest Watch Canada, Edmonton, Alberta.).

xiii Noss and Cooperrider. 1994. Saving Nature's Legacy: Protecting and Restoring Biodiversity. Island Press, Washington, D.C.

siv Noss and Cooperrider's (Saving Nature's Legacy: Protecting and Restoring Biodiversity (Island Press, Washington, D.C., 1994)) review of conservation planning initiatives determined that between 25 and 75% protection was necessary to maintain ecological integrity. A more recent review of conservation planning initiatives (F. K. A. Schmiegelow, S. G. Cumming, S. Harrison, S. Leroux, K. Lisgo, R. Noss, and B. Olsen, Conservation Beyond Crisis Management: A Conservation-Matrix Model, BEACONs Discussion Paper No. 1, 2006. Available online at <a href="http://www.rr.ualberta.ca/research/beacons/resources.htm">http://www.rr.ualberta.ca/research/beacons/resources.htm</a>.) determined that the median protected area recommendation to achieve ecological objectives lay above 50%. Recent conservation planning exercises in the Canadian Boreal region are consistent with the findings of these reviews. In Labrador, for example, the inclusion of conservation biology principles during land-use planning of a largely intact Boreal region resulted in greater than 50% of the region being afforded protected designation, with the remainder designated for sustainable use (Innu Nation and Silva Ecosystem Consultants, Peer review summary: Multiple Spatial Scale Reserve Design for FMD 19).

<sup>&</sup>lt;sup>xv</sup> The southern Boreal region is here defined as the Boreal-specific ecozones (as opposed to Taiga-specific ecozones) as defined by the boundaries of the Terrestrial Ecozones of Canada.

xvi Approximately two-thirds of the Boreal-specific ecozones have been allocated to logging companies: as calculated by over-laying the commercial forest tenures (GFWC).

xvii Calculated by the amount of remaining forest landscape fragments over 10,000 ha in size, as determined by Landsat satellites (see below), that lie within the sourthern Boreal region (defined as the Boreal-specific ecozones, as opposed to Taiga-specific ecozones) as defined by the boundaries of the Terrestrial Ecozones of Canada).

Lee P, JD Gysbers, and Stanojevic Z. 2006. Canada's Forest Landscape Fragments: A First Approximation (A Global Forest Watch Canada Report). Edmonton, Alberta: Global Forest Watch Canada. 97 pp.

xviii Canadian Boreal Initiative. 2005. The Boreal in the Balance: Securing the Future of Canada's Boreal Region. A Status Report. Available online at: <a href="http://www.borealcanada.ca/reports\_e.cfm">http://www.borealcanada.ca/reports\_e.cfm</a>.

xix The Boreal Forest Conservation Framework can be viewed at http://www.borealcanada.ca/framework e.cfm.