FOREST LANDSCAPE RESTORATION IN CANADA. OPPORTUNITIES, CHALLENGES AND COLLABORATION IN THE INTERNATIONAL CONTEXT

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Global Forest Landscape Restoration opportunity

http://www.wri.org/resources/maps/atlas-forest-and-landscape-restoration-opportunities
Plan

- Forest Landscape Restoration (FLR):
  - Concepts
  - International organisations and programs
  - Benefits
  - Challenges

- Canadian governance supporting FLR

- Case Study: Collaborative FLR for caribou habitat
FLR: Concepts and Definitions

- **Ecological restoration**: Traditionally the act of returning ecosystem to an original state, based on a baseline scenario before the disturbance.

- **Evolving concept**: pre-disturbance baseline scenario vs novel ecosystems.

- **SER-ER**: The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed.

- **IUCN & GPFLR**: Long-term process to regain ecological integrity/functionality and enhance human well-being in deforested or degraded landscapes.
FLR: Working Landscape vs. Conflicted Landscape

Source: Modified from The Institute for Working Forest Landscapes
## FLR: International organisations and programs

*(Chazdon et al. 2017. *A Policy-Driven Knowledge Agenda for Global Forest and Landscape Restoration*)

<table>
<thead>
<tr>
<th>Organization/Network</th>
<th>Program</th>
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<tbody>
<tr>
<td>Global Partnership on Forest and Landscape Restoration (GPFLR) and International Union for the Conservation of Nature (IUCN)</td>
<td><strong>Bonn Challenge</strong> to restore 150 million ha of deforested and degraded land by 2020 and 350 million ha by 2030. Not a new commitment – a practical means to achieve existing international commitments!</td>
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<td>2010 Aichi Convention on Biological Diversity (CBD)</td>
<td>Target 15: to restore at least 15% of degraded ecosystems</td>
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<td>World Resources Institute (WRI)</td>
<td><strong>20×20 initiative (Latin America), AFR100 initiative (Africa)</strong></td>
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<td>People and Reforestation in the Tropics, a Network for Education, Research, and Synthesis (PARTNERS)</td>
<td>Synthetic research, policy outreach, educational outreach</td>
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<td>African Union</td>
<td>The Great Green Wall for the Sahara and the Sahel Initiative</td>
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<td>United Nations Environment Program (UNEP)</td>
<td>One Billion Tree Program</td>
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<td>The Nature Conservancy (TNC)</td>
<td>Plant a Billion Trees</td>
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<td>World Wildlife Fund (WWF)</td>
<td>Landscape restoration in 10 ecoregions</td>
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<td>Ecological Restoration Alliance of Botanical Gardens</td>
<td>100 restoration projects on several continents over next 20 years</td>
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FLR: International organisations and programs

- To date, 45 governments, private associations and companies have committed to restore over 160 million ha

- Following the 10 Principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses

http://www.forestlandscaperestoration.org
FLR: International organizations and programs

- **Goals are multiple**
  - Fire
  - Wildlife habitat
  - Grassland
  - Mangrove
  - Carbon
  - Water
  - Woodlands
  - Wide-scale / Mosaic

- **Tailored to local conditions**
  - Adapt restoration strategies to fit local social, economic and ecological contexts; there is no “one size fits all”

[http://www.forestlandscaperestoration.org](http://www.forestlandscaperestoration.org)
FLR: Benefits

- There are multiple benefits across many domains
- It is more than just tree planting
- Multifunctional landscape with multiple values

Multifunctional landscape (from Laursen 2013)
FLR: Benefits

- The goods and services of the ecosystem, such as biodiversity, carbon, habitat and water quality are taken into account.
- Industrial environmental performance are accounted for and improved.
- Scientific knowledge includes traditional Indigenous communities values and knowledge.
FLR: Benefits

- Green Economy: jobs and revenues are protected and created
  Benefits exceed costs
- USA: FLR directly supports 126,000 jobs and a budget of $9.5M USD per year
- Meeting the Bonn challenge target of 350Mha would globally generate between US$ 0.7 and US$ 9 trillion

Estimating the Size and Impact of the Ecological Restoration Economy
Todd BenCor, T. William Lester, Avery Livengood, Adam Davis, Logan Yonavjak
Published: June 17, 2015 • https://doi.org/10.1371/journal.pone.0126339

Roots of Prosperity: The Economics and Finance of Restoring Land
James Ling, Sohae Kang, Andrew Wie, Juan Carlos M. Rodas, Andrew Autry, Sabine Clara, Christiane Felder, Chauncey Miller, George Percival
Published: June 17, 2015 • https://doi.org/10.1371/journal.pone.0126339

The Department of the Interior’s Economic Contributions, FY 2011-2012 9/17/14. Available from:
FLR: Benefits

- Global Partnership on Forest Landscape Restoration (GPFLR). A proactive network composed of governments, organizations (national and international: USDA, IUCN, UNEP, FAO, CBD, SER) and practitioners

- An international community of practice: 30 governments and international and non-governmental organizations have joined

- An abundance of international scientific literature and Guidelines

- Guidelines for the FLR initiatives:
  - research and policy,
  - best practices,
  - tools and analysis methods
FLR: Benefits

- Elevate and connect already ongoing national and sub-national processes
- Reinforce domestic support for restoration objectives through international attention
- Facilitate reporting on international agreements, e.g. CBD, UNFCCC, UNSPF
- Join a community of practice that can provide technical support
- Strengthen environmental reputation – gain recognition as a leader in a global movement
- Mobilize additional resources by building the business case for restoration and learning about funding models from other jurisdictions
FLR: Challenges

- The FLR concept brings together key players who use, manage and have a stake in the forests
- How can we get everyone around the table?
FLR: Challenges

- Requires decisions to be collaborative, adaptive, and encompass a range of values and functions.
- How to find the **right balance**?
FLR: Challenges

- Living Landscape
- Landscapes are dynamic and change rapidly over time and space due to cumulative effects: CC, human footprint, natural disturbances (fire, insects), droughts...
  - Uncertainty
  - Changes capacity for resilience
Canadian governance supporting FLR

Governance: “The ways and institutions through which individuals and groups express their interests, exercise their rights and obligations and mediate their differences. It's thus a complex matter - The essence of which is trust and cooperation”
(Colfere et al. 2010. in Collaborative Governance of Tropical Landscapes)
Canadian governance supporting FLR

**Sustainable Forest Management**
Each jurisdiction develops laws and regulations focused on SFM including wildlife, biodiversity, soils, water, resource-dependent communities, and scenery.

**World leader in Forest Certification**
48% of the country's forests are certified. 37% of the global total.

**Deforestation** in Canada is among the lowest in the world: 0.02% of Canada's forests.

350,000 and 500,000 ha/y in artificial **Regeneration**
In accordance with the law, all logged forests must be regenerated successfully.

**Long term Monitoring and enforcement of Best practices**

**Species at Risk Act**
Federal laws that apply to all forestry operations.

**Trees planting initiatives**
Canada 150 Projects, Trees for Tomorrow.
Roadmap for the caribou recovery

- From political momentum to capacity building initiatives with various stakeholder
Collaborative FLR for caribou habitat

- Caribou Knowledge Exchange Consortium
- Socio-Economic Working Group
- National Technical Caribou Commitee
- Provinces and Territories
- COSIA (Caribou working group, RICC)
- FPAC

Integrated Approach

- Restoration Tools and Best Practices (e.g. Cenovus)
- Models and Decision Support Systems (e.g. DMI)
- Population management (e.g. Klinse-za)
Next Steps?

- Showcase the Canadian expertise in restoration at the International level
- Build a Community of Practice for FLR
- Share Models and Best Practices
- Capacity building for communities
Questions ?