



Restoring Ecosystems for Climate Change and Biodiversity

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WWF-Canada

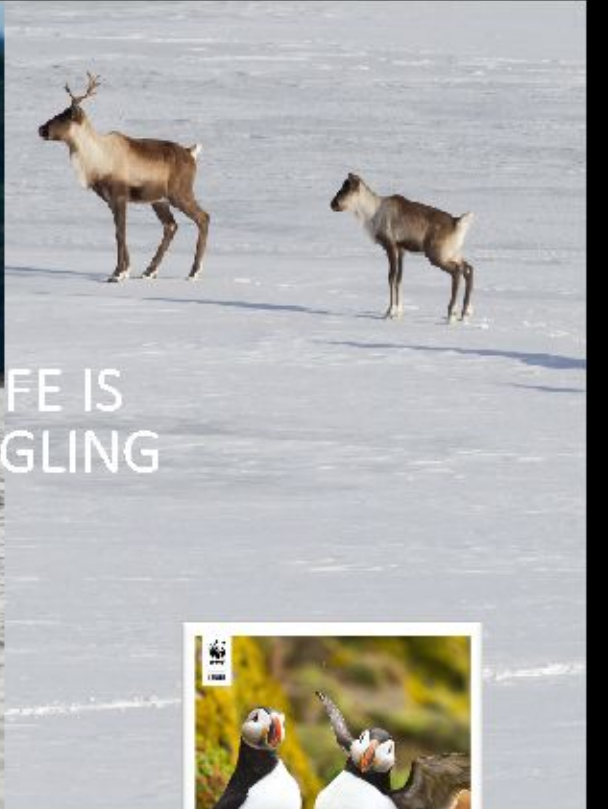
Risa Smith
IUCN/World Commission on Protected Areas



BIODIVERSITY LOSS &
CLIMATE CHANGE
DUAL CRISES



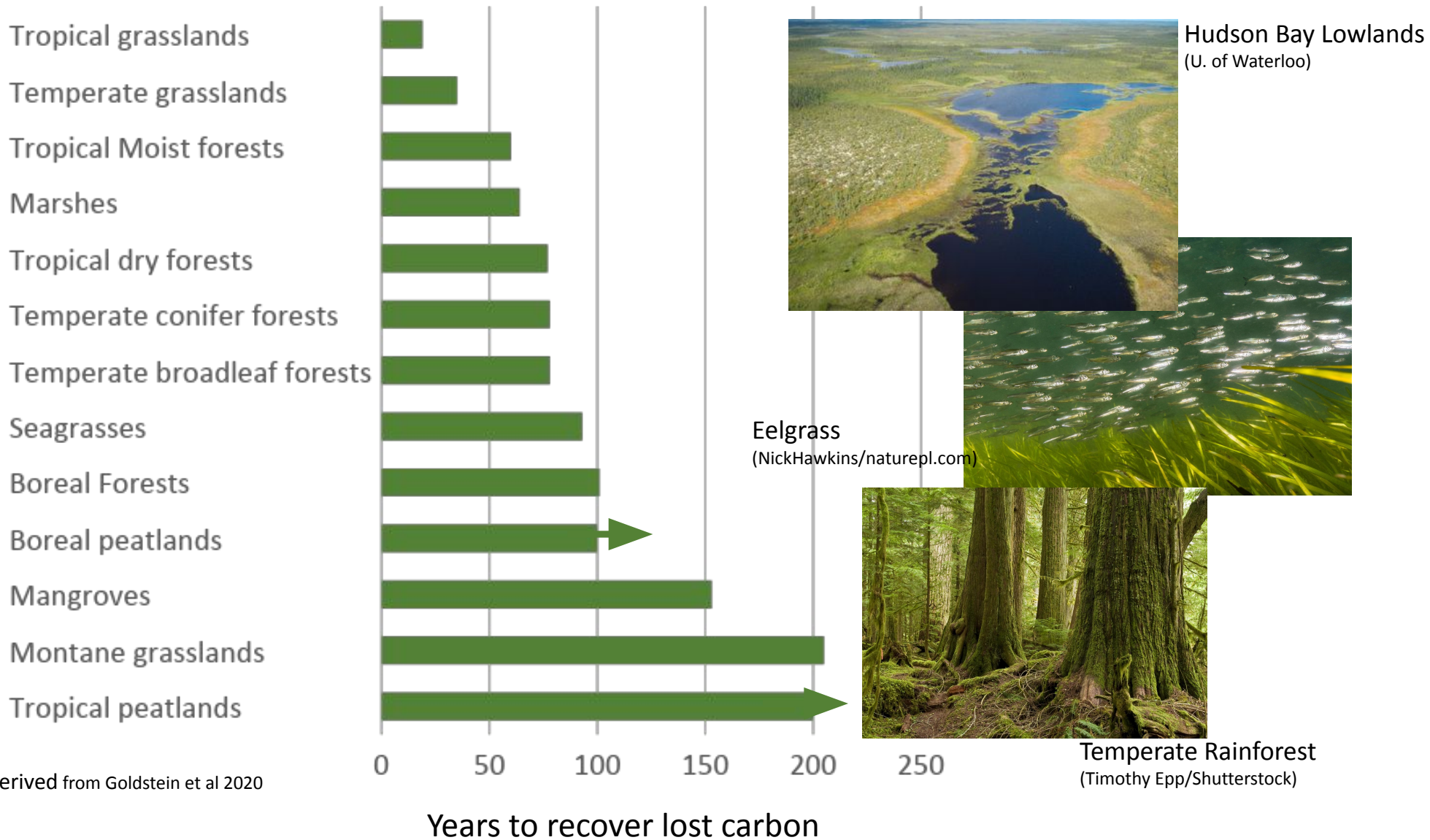
WILDLIFE IS
STRUGGLING



Permanency and Restoration

Long term protection of carbon sinks and stores is critical for restoration to have climate change benefits.

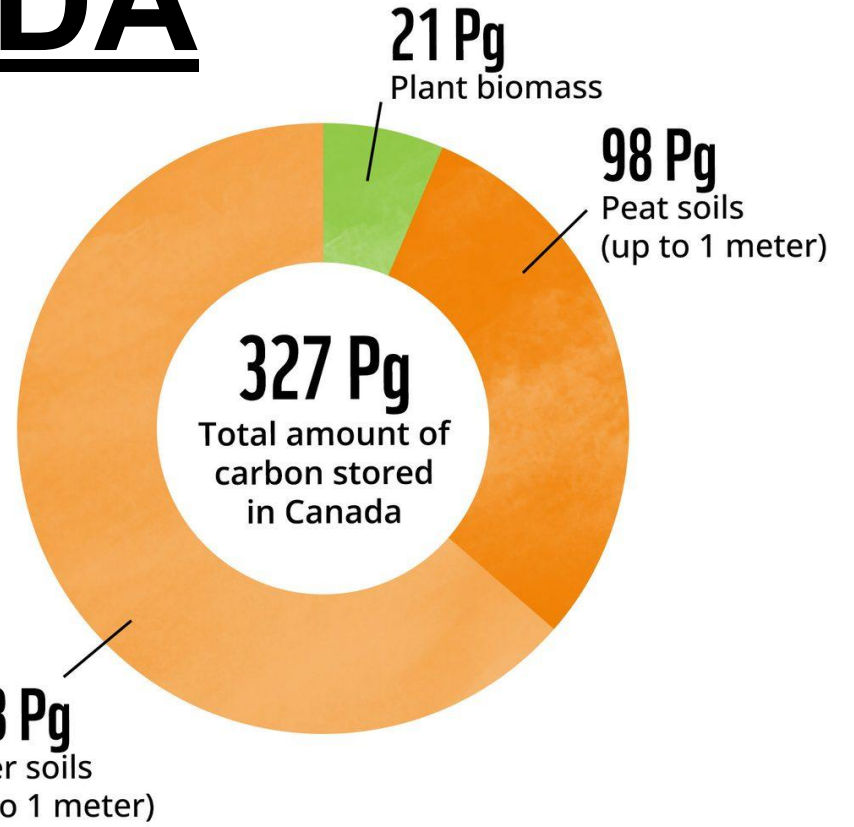
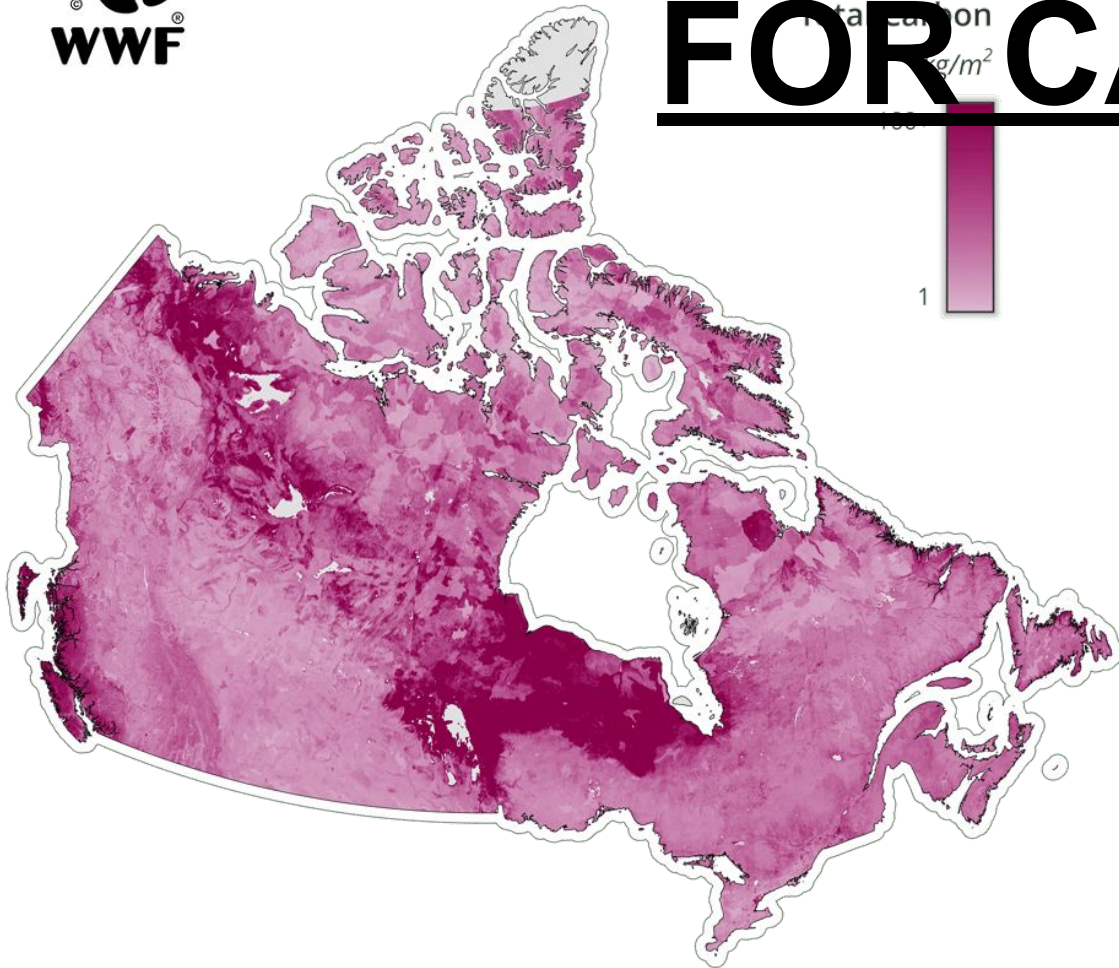
Permanence of Restoration Activities Matters



Derived from Goldstein et al 2020



CARBON MAP FOR CANADA



RESEARCH PARTNER

Working to understand Canada's carbon stores.

Remote Sensing Laboratory

McMaster University

FUNDING PARTNERS

MAPLE LEAF

METCALF FOUNDATION



AT-RISK SPECIES



CLIMATE REFUGES



SOIL CARBON



FOREST BIOMASS



LEGEND

- Very High
- High
- Fair
- Low
- Very Low
- None

Map produced by WWF-Canada, 2019

Data sources:
 Environment and Climate Change Canada (ECCC). 2017. Range map extents, species at risk, Canada. Retrieved in 2018
 Michalak, J. L., Lawler, J. J., Roberts, D. R. and Carroll, C. (2018), Distribution and protection of climatic refugia in North America. Conservation Biology, doi: 10.1111/cobi.13130
 Avitabile, V., Herold, M., Heuvelink, G. B. M., Lewis, S. L., Phillips, O. L., Asner, G. P., Armston, J., Ashton, P. S., Banin, L. et al., (2016). An integrated pan-tropical biomass map using multiple reference datasets. Global Change Biology, 22, pp. 1406-1418
 Santoro, M., Beaudoin, A., Beer, C., Cartus, O., Fransson, J.E.S., Hall, R.J., Pathe, C., Schmulilius, C., Schepaschenko, D., Shvidenko, A., Thurner, M. and Wegmüller, U. (2015). Forest growing stock volume of the northern hemisphere: Spatially explicit estimates for 2010 derived from Envisat ASAR. Remote Sensing of Environment, Vol. 168, pg. 316-334

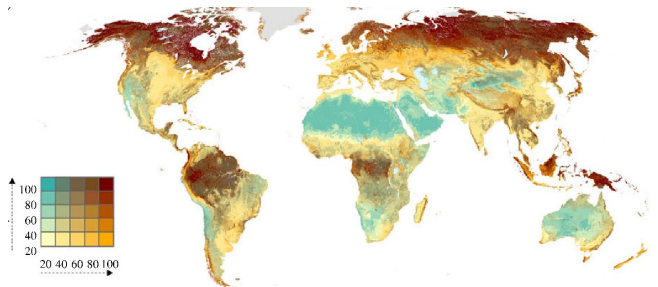
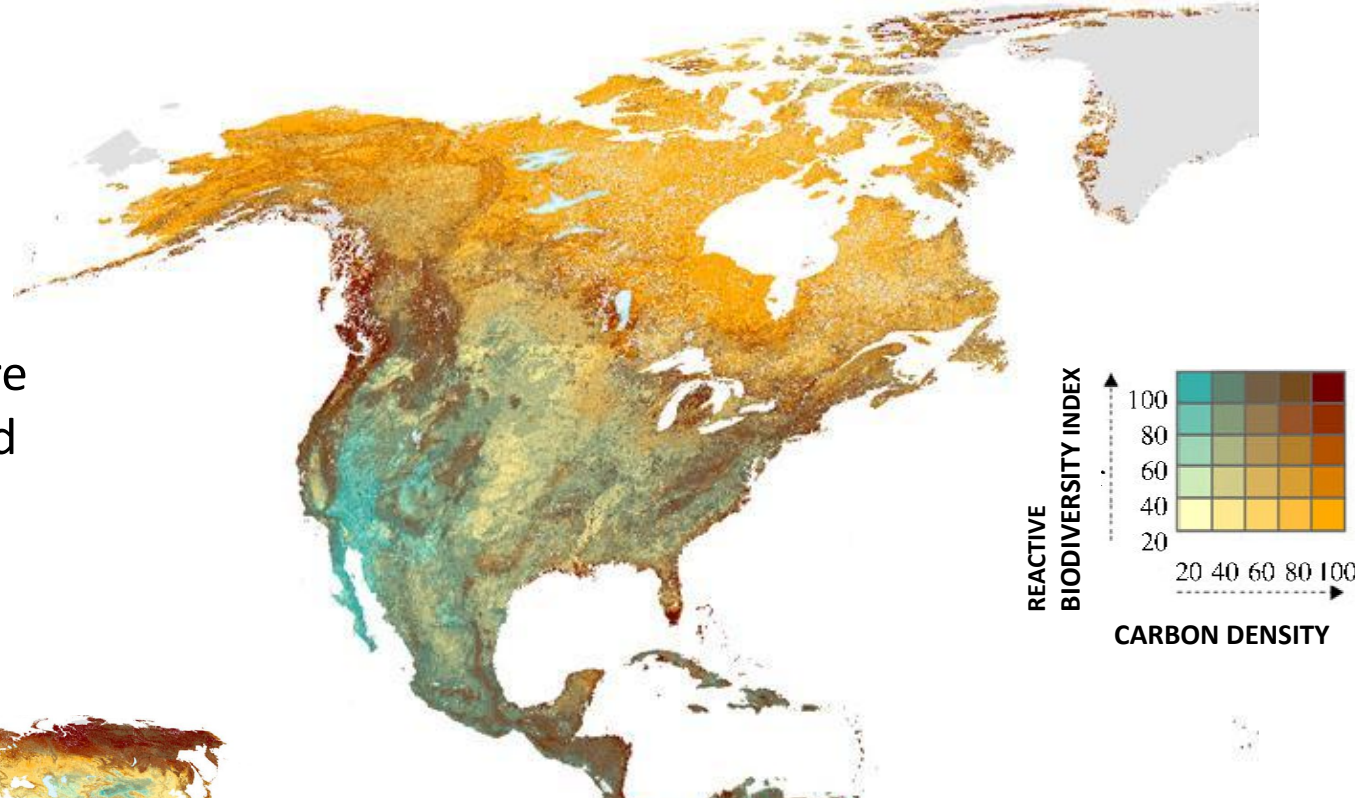
WILDLIFE PROTECTION ASSESSMENT

WWF-Canada's nation-wide assessment finds gaps in ecological representation and opportunities to protect biodiversity and slow climate change.

Carbon-Dense/High Biodiversity Areas

(Reactive Biodiversity is high threat and high irreplaceability)

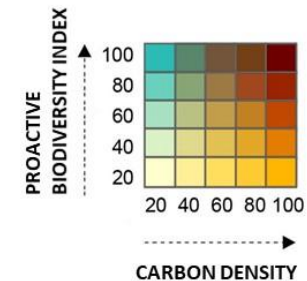
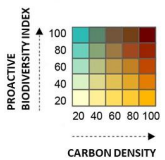
- Globally ~ 21% of the hot spots for Reactive Biodiversity and Carbon Density are formally protected



Carbon-Dense/High Biodiversity Areas

(Proactive Biodiversity is low threat, high irreplaceability, intact, with good habitat condition and natural assemblages of species)

- Globally, ~ 12% of the hot spots for Proactive Biodiversity and Carbon Density are currently protected



WWF-CANADA'S RESTORATION POTENTIAL ANALYSIS



Restoration Potential: Evaluate the potential for ecosystems that have been converted by human use via models informed by human footprint.



Carbon Storage Capacity: In order to help mitigate climate change, restoration must consider the ability of lands to sequester carbon to maximize effect.



Biodiversity Benefit: Mitigating biodiversity loss through habitat recovery will be another essential component considered when targeting restoration.



Optimization: An optimization framework will be needed to incorporate the three elements of the analysis into a map of restoration prioritization for Canada.

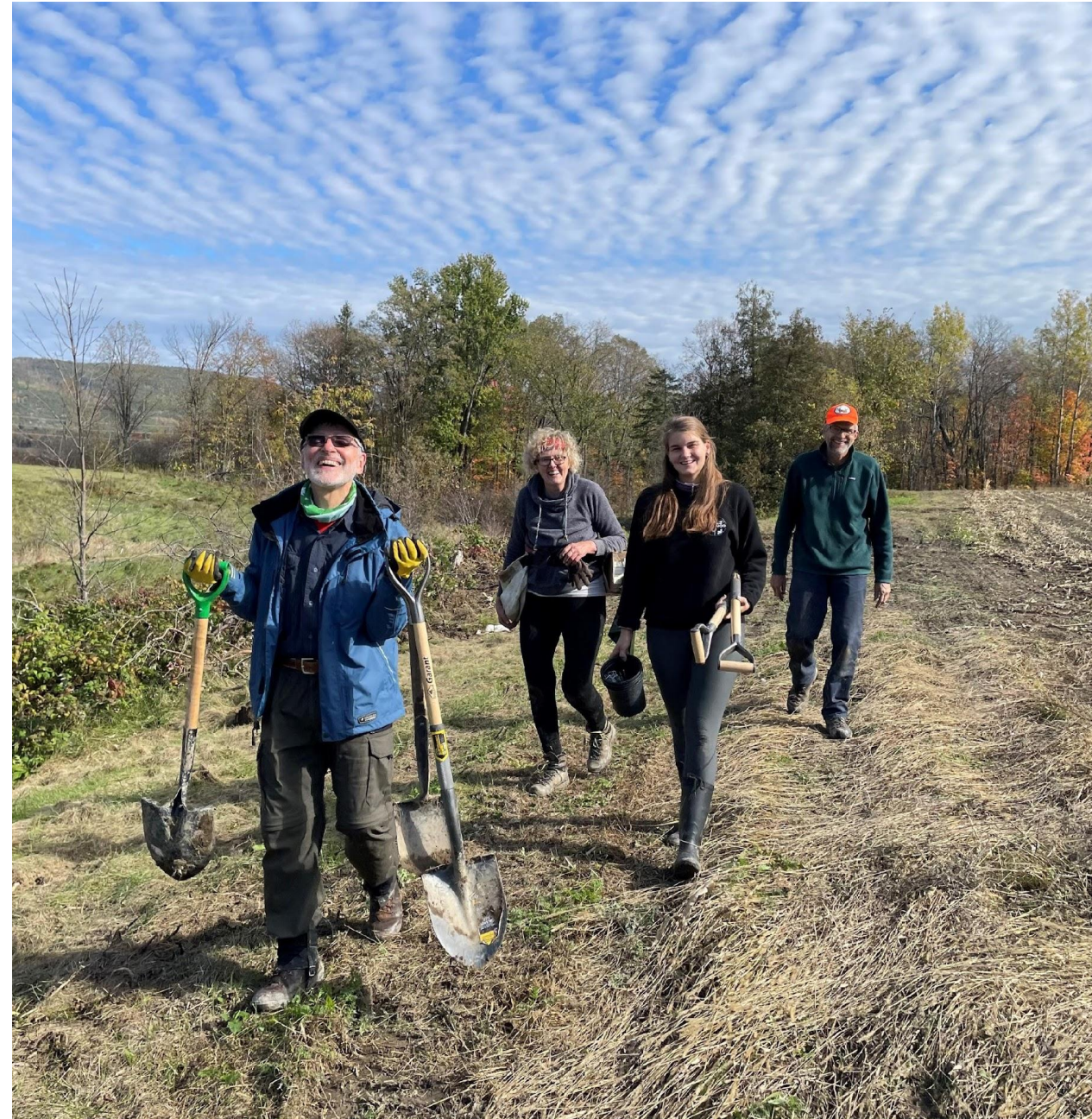
Aviva x WWF Partnership in Canada

Nature and Climate Grant Program:

Provide grants that enable communities and Indigenous organizations restore degraded lands and shorelines in order to improve habitats and capture carbon.

3-Year Impact goals:

1. 1,000 hectares restored
2. Multi-Million Dollar Investment



Progress towards 3-year goals

Grant Program – Year 1 projects (2021 field season)

- Over 160 hectares of wetland, grassland, shoreline, agricultural, brownfield sites restored
- 89,000+ trees and shrubs planted
- Almost 1,900 people engaged in the restoration projects despite challenges with COVID
- High level estimates suggest this work will translate to over 4800 tonnes of carbon sequestered by 2030.
- Over 100,000 people directly made more resilient to climate change
- Over 1,900 people attended events
- 25 jobs created or supported
- Over 70 species at risk populations benefiting from restoration



WWF-CANADA'S NATURE X CARBON TECH CHALLENGE



Challenge innovators, engineers and scientists to develop a carbon monitoring technologies that can scale up into a national monitoring network

WWF-Canada is seeking cost-effective, innovative and user-friendly technologies (hardware and/or software) to support community-led carbon measurement of nature-based climate solutions in Canada.

Awards

- Up to 5 finalists will be eligible to receive:
 - \$25,000 grant to support their participation in the validation phase
 - Opportunity in Microsoft's Global Entrepreneurship Program
- Up to three selected projects will receive:
 - Contract totaling up to \$100,000 to work alongside WWF-Canada and our conservation partners to implement their technology



Supported by:



Foundation





To be effective, we must prioritize areas for **protection, restoration, and stewardship** that will yield the greatest benefits for climate change *and* biodiversity





THANK YOU



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