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Restoration of Working Landscapes (REWOL)

Nicolas Mansuy

Advancing Ecological Restoration in Canada: Setting the Agenda


May 30-31th, 2022

Canada

National Context: CFS National Priority Areas



Enhancing Forest Climate Change Adaptation and Mitigation Strategies



Addressing Cumulative Effects of Natural Resource Development



Enhancing Forest Pest Risk Management



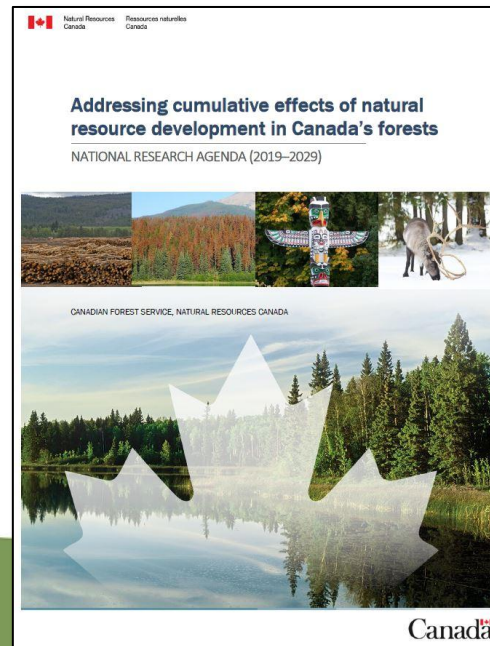
Enhancing Sustainable Forest Management Practices



Minimizing Risks and Impacts of Wildfire (Wildfire Risk Management)



ReWoL

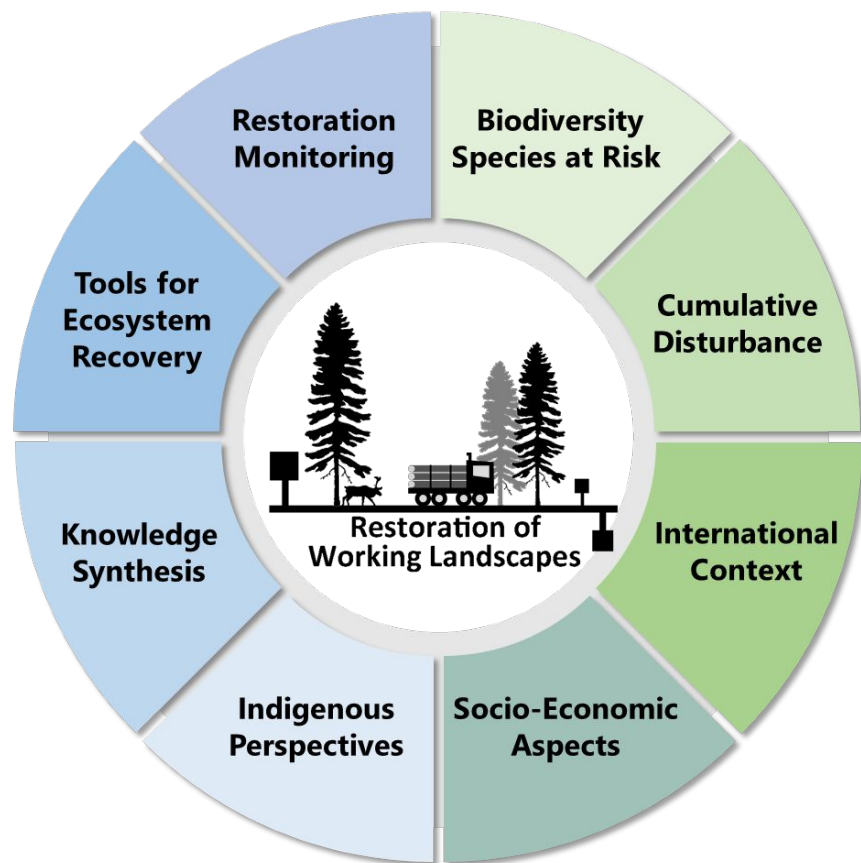


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Restoration of Working Landscapes (ReWoL)



Objectives

- Develop ecological baseline profile
- Provide socio-economic restoration strategies
- Engage with First Nations
- Evaluate cost-effective restoration practices & techniques
- Assess tools for monitoring ecosystem recovery
- Support policies & guidelines

Deliverables

- Successful restoration activities
- Integrated landscape planning
- Sustainable economic development
- Improved environmental performance of resource sectors
- Public confidence
- Canada's international commitments & reputation



ReWoL Team & Expertise

- ❑ 5 Regional CFS centres & National Capital Region
- ❑ 12 components, ~50 scientific and technical experts at CFS (2019)



Restoration & Monitoring



Dani Degenhardt



Guillermo Castilla



Eric Neilson



Baseline Biodiversity Assessment



David Langor



Jaime Pinzon



Marc-André Parisien



Socioeconomics



Solange Nadeau



Nicolas Mansuy



Denys Yemshanov



Seedling Establishment & Functional Recovery



Richard Krygier

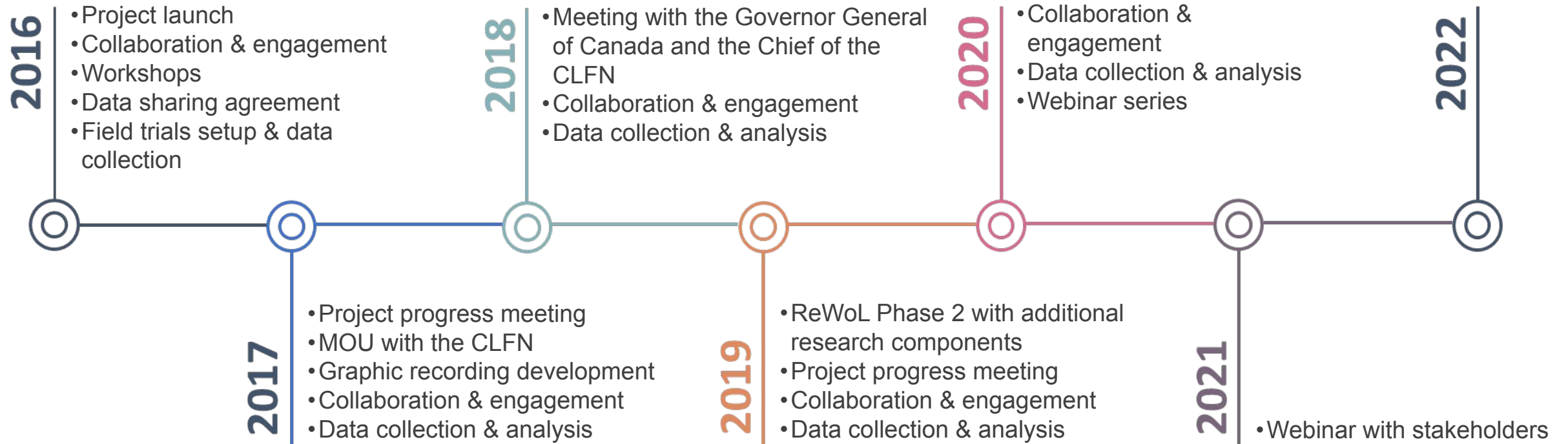


Joanne MacDonald



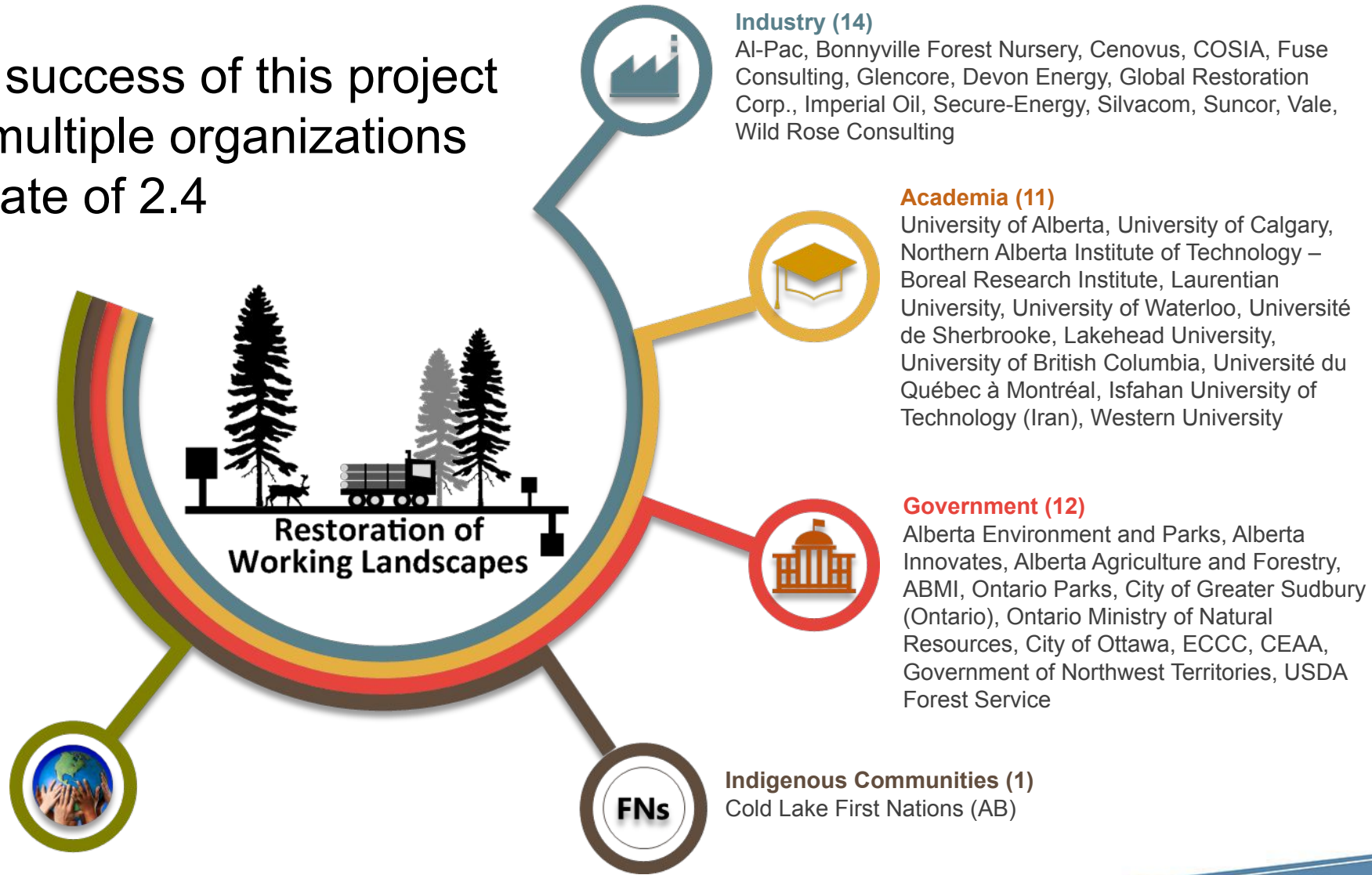
Isabelle Aubin

ReWoL Timeline (2016 ~)

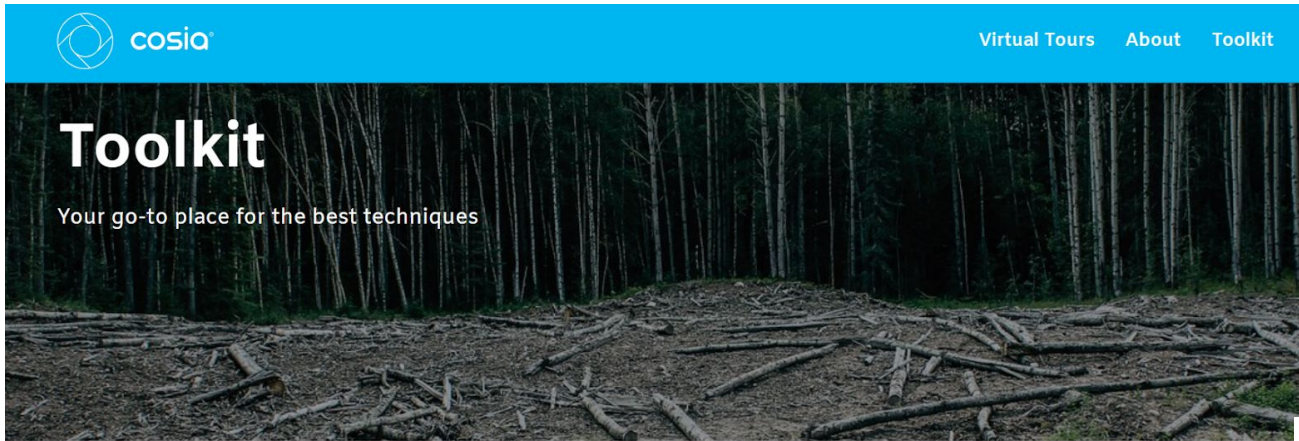


Collaboration

- ❑ Collaboration is key to success of this project
- ❑ 50 collaborators from multiple organizations
- ❑ Leveraged funds at a rate of 2.4



Highlights



□ Silvicultural toolkit and restoration guidelines for the Oil and Gas sector

<https://www.360tours.cosia.ca/toolkit/>

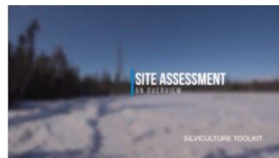
YOUR HOW-TO SILVICULTURAL TOOLKIT

Some of the ideas talked about on this site may be new to you, while others may represent small changes to current practices. Check out these videos, factsheets and guidebooks to see how you can improve outcomes on your sites using proven restoration approaches.

COSIA member companies are proud to host this Silvicultural Toolkit created in collaboration with Natural Resources Canada.

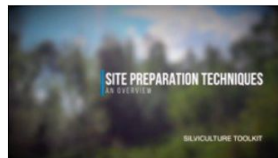
VIDEOS

See how restoration approaches are applied and things you need to keep in mind to have success.



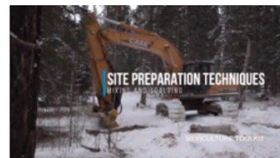
Site Assessment: An Overview

Restoration works better with a solid plan. This video outlines factors to consider before you start restoration, empowering you to choose the right techniques for your site.



Site Preparation Techniques: An Overview

During resource traction sites can be disturbed in a way that limits the re-growth of plants afterwards. Learn what mechanical techniques are available to help counteract these effects.



Site Preparation Techniques: Mixing and Scalping

Is your site nutrient-poor? If you need to increase the availability of nutrients at the surface of the soil, mixing or scalping can be helpful techniques.



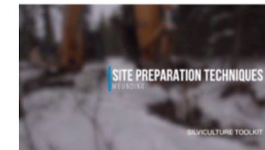
Site Preparation Techniques: Soil Decompaction

Heavy equipment can compress soils, making it difficult for plants to establish roots. Learn about three techniques to address this problem and how to choose among them.



Site Preparation Techniques: Soil Salvage

If stockpiling soils is a part of your reclamation plan, consider these tips to choose the right timing, tools and techniques to achieve your restoration goals.



Site Preparation Techniques: Mounding

Mounding is a versatile technique that can be used effectively on many types of challenging sites. This video outlines how to create and design mounds appropriately for your site.



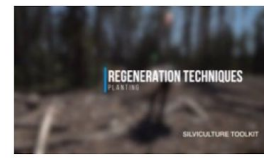
Regeneration Techniques: An Overview

Re-establishing plants on a site is a key restoration step that can often hit snags. Learn about the available options to help overcome these challenges.



Regeneration Techniques: Seeding & Natural Regeneration

Across a limited range of site conditions, seeding and natural regeneration can be an appropriate, low-cost solution to bring plants back.



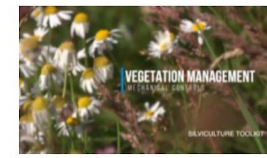
Regeneration Techniques: Planting

Planting is usually more reliable than natural regeneration, giving plants a "headstart" in life. Careful planning, planting techniques and follow-up monitoring are essential to this tried-and-true technique.



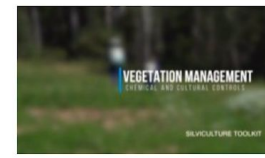
Vegetation Management: An Overview

How can you ensure regeneration succeeds in the long term? Watch an overview of how to monitor and manage weeds that can hinder the establishment of target plants.



Vegetation Management: Mechanical Control

Mowing, applying mulch, and prescribed burning are just some of the options available to help control competing vegetation. Consider using these techniques together or alongside a herbicide program.



Vegetation Management: Chemical & Cultural Controls

Learn about the pros and cons of herbicide application and new, innovative planting techniques ("cultural controls") that can help to reduce weeds.

Highlights

- 20+ scientific papers published

Resilient **Restoration** Guidelines Private Industries
Indigenous Peoples **Landscape** Seismic Lines Oil & Gas
Biodiversity protected areas Seeds Practitioners
Socio-economics Fire **Forest**
Reclamation Jobs Disturbances Supply chains Well-being
Climate Change Species at Risk Act Insect



Lessons Learned

- ❑ Collaboration is key
- ❑ Mobilize and connect local and provincial expertise to national and international environmental commitments Canada has made (climate change mitigation, biodiversity, protected areas, nature-based solutions)
- ❑ Restoration is business-driven - we need the full support of the private sector
- ❑ ~ 400,000 employees working in site assessments and reclamation related activities, 21% of the environmental workforce (ECO Canada 2017).
- ❑ Build capacity (Networking, data, expertise, training, funding...)
- ❑ The landscape is becoming more and more multifunctional with a complex dynamic - We need adaptive policies



Questions



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