



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

ADVANCING ECOLOGICAL RESTORATION IN CANADA GUIDANCE, BEST PRACTICES, LESSONS LEARNED: CANADIAN WILDLIFE SERVICE

For *UN Decade on Ecosystem Restoration 2021-2030*
May 30, 2022, Canadian Museum of Nature, Ottawa



Canada 

Ecosystem Restoration & ECCC

Three ways in which we influence:

1. Lands & waters administered

- National Wildlife Areas
- Migratory Bird Sanctuaries

2. Lands and waters regulated

- *Migratory Birds Convention Act*
- *Canada Wildlife Act*
- *Impact Assessment Act*
- *Canadian Environmental Protection Act*
- *Species at Risk Act*

3. Partner lands and waters we support with funding

- Environmental Damages Fund
- EcoAction Community Funding
- Habitat Stewardship Program for Species at Risk
- Aboriginal Fund for Species at Risk
- Critical Habitat Interdepartmental Program (federal lands)
- Community Nominated Priority Places for Species at Risk
- Target 1 Challenge Fund
- Nature-Smart Climate Solutions Fund



Alignment with Canada's International Commitments

1910

1920

1930

1940

1950

1960

1970

1980

1990

2000

2010

2020



North American Waterfowl
Management Plan
Plan nord-américain de
gestion de la sauvagine
Plan de Manejo de Aves
Acuáticas de Norteamérica



Convention on
Biological Diversity



UNITED NATIONS DECADE ON
ECOSYSTEM
RESTORATION
2021-2030



WCPA
WORLD COMMISSION
ON PROTECTED AREAS



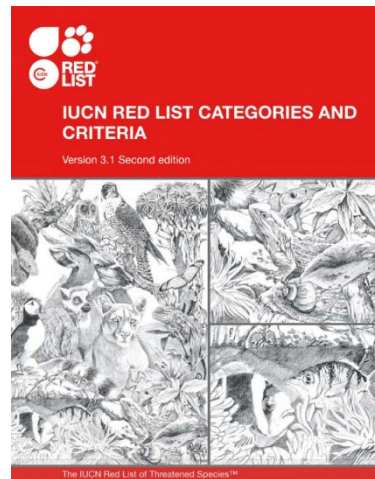
United Nations Framework
Convention on Climate Change



Applying common language in Ecosystem Restoration

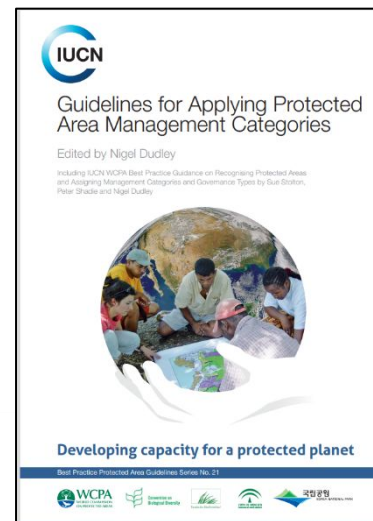
IUCN Threat Categories

- 1 Residential & commercial development
- 2 Agriculture & aquaculture
- 3 Energy production & mining
- 4 Transportation & service corridors
- 5 Biological resource use
- 6 Human intrusions & disturbance
- 7 Natural system modifications
- 8 Invasive & problematic species, genes, diseases
- 9 Pollution
- 10 Geological events
- 11 Climate change & severe weather



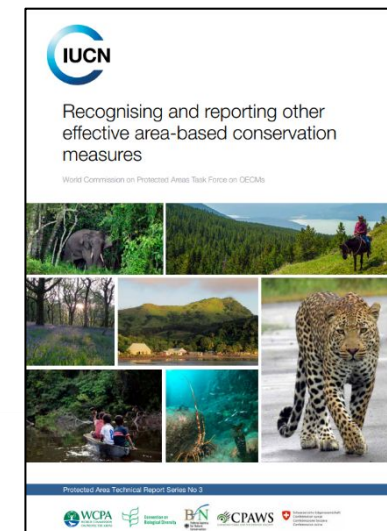
Conservation Actions

- 1 Land & water management
- 2 Species management
- 3 Awareness raising
- 4 Law enforcement & prosecution
- 5 Livelihood, economic & moral incentives
- 6 Conservation designation & planning
- 7 Legal & policy frameworks
- 8 Research & monitoring
- 9 Education & training
- 10 Institutional development

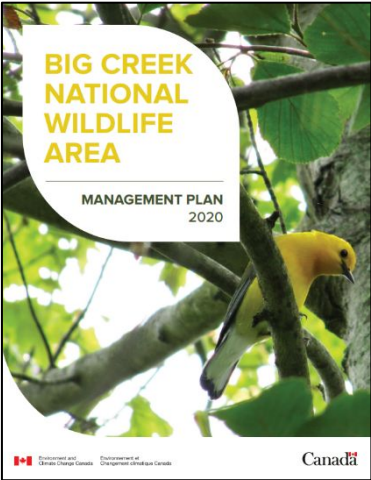
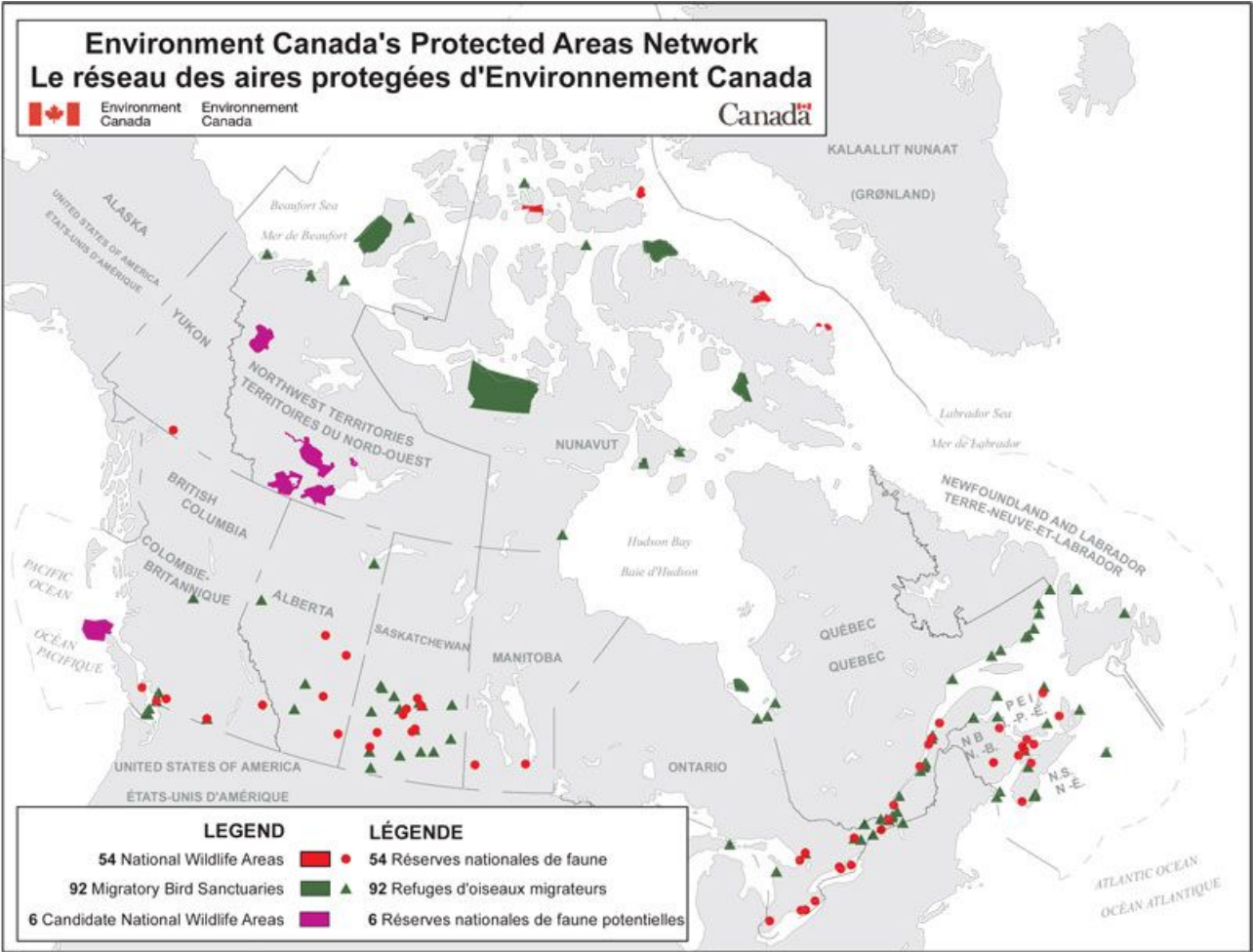


Protected Areas

- Ia Strict Nature Reserve
- Ib Wilderness Area
- II National Park
- III Natural Monument or Feature
- IV Habitat/Species Management Area
- V Protected Landscape/Seascape
- + Other Effective Area-based Conservation Measures (OECMs)



Restoring Lands & Waters ECCC Administers



Restoring Lands & Waters ECCC Administers (NWAs)



Active restoration of fire and flood regimes
Revegetation and invasive species control



Restoring Lands & Waters ECCC Administers

Guidelines are site-specific:

- Management plans for National Wildlife Areas & Migratory Bird Sanctuaries
- Compliant with ***Wildlife Area Regulations*** and ***Migratory Bird Sanctuary Regulations***
- Applies IUCN threat assessment, protected area, and conservation action categories
- Size and ecozone varies, and management challenges or threats very particular

Lessons learned:

- Actions and decisions on-going, out of synch with management planning & evaluation
- Multi-year financing necessary to plan and prepare sites, source plant material & skilled labour, and evaluate success/failure
- Native plant economy has a supply and demand problem: from cottage industry, to (*missing middle*), to multi-national seed corporation



Restoring Lands & Waters ECCC Regulates



Toronto Star May 15, 2020



Trans Mountain Expansion Project



Restoring Lands & Waters ECCEC Regulates

The screenshot shows the CCME (Canadian Council of Ministers of the Environment) website. A search filter is active, displaying a list of chemical groups on the left and a list of selected items on the right. The selected items include:

- Ammonia (total)
- Benzene
- Cadmium

Below the list, there are options to "print / download pdf", "download xls", and "download csv". At the bottom, there is a note: "Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline."

The screenshot shows the GOST (Guidance and Orientation for the Selection of Technologies) website. The page title is "Guidance and Orientation for the Selection of Technologies". The breadcrumb trail is: Home > Environment and natural resources > Pollution and waste management > Contaminated sites.

The main heading is "Guidance and Orientation for the Selection of Technologies". Below it, the text states: "From: Public Services and Procurement Canada".

The introductory text reads: "Guidance and Orientation for the Selection of Technologies (GOST) is a tool developed by Environmental Services team of Public Services and Procurement Canada (PSPC) in collaboration with the National Research Council (NRC) of Canada to help contaminated sites managers better manage their sites."

It further explains: "Being responsible for managing the environmental remediation of a site posing potential risks to human health and the environment, you can determine the applicable decontamination technology(ies) for your site, or, more generally, comparing key elements of the decontamination technology or various contaminants."

Additional information available includes: "the average cost for the analysis of a laboratory sample, a glossary of contaminants and decontamination technologies, as well as a range of resources related to decontamination and the environment."

Under the heading "On this page", there is a list of links:

- Find the technology appropriate for your site.
- Decontamination technologies
- Environmental contaminants
- Additional information on remediation
- Complementary tool
- More information

At the bottom, the text says: "Find the technology appropriate for your site. Complete the decontamination Technologies Selection Tool questionnaire by indicating the parameters of your contaminated site and generating a list of applicable decontamination technologies."



Restoring Lands & Waters ECCC Regulates

Guidelines are dispersed:

- Recovery strategies for species listed under the ***Species at Risk Act***
- CCME guidelines for substances regulated under ***Canadian Environmental Protection Act***
- Project-specific environmental protection plans under ***Impact Assessment Act***
- Permit conditions with project or activity specific guidelines and qualifications (P.Biol., P.Ag., R.P.F.).

Lessons learned:

- Offset criteria hard to achieve (ie. Federal policy on wetland conservation, biodiversity offsets)
- Permit review and decisions take time, people avoid applying following their own risk assessment
- Enforcement capacity limited, reliance on complaint-driven investigation moreso than inspection
- Layers of subcontracting in major projects confuses responsibility for failures or substitutions that ruin a well designed and authorized restoration



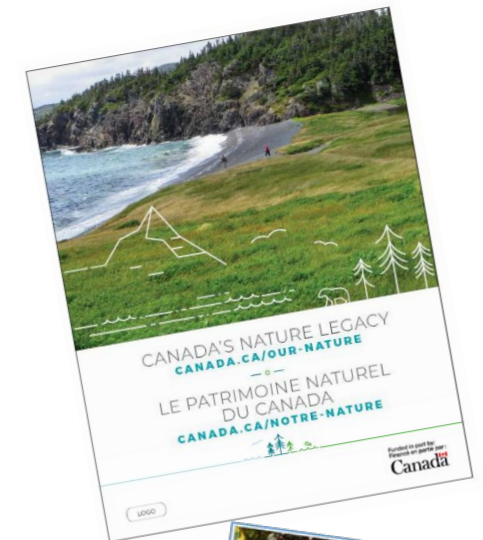
Restoration Partnership Funding

Budget 2021 includes **\$2.3B over five years for Enhanced Nature Legacy**

- Supports ECCC, Parks Canada Agency, Fisheries & Oceans Canada
- Species at Risk conservation
- Protected Area expansion (25% x 2025)
- Co-benefits to carbon and human well-being

Canada's Climate Plan 2020, **\$4B over ten years for Natural Climate Solutions**

- Supports ECCC, Natural Resources Canada, Agriculture & Agri-Food Canada
- Reduce greenhouse gas emissions 13-17 Mt CO₂e/year by 2030
- Conservation and restoration actions
- Co-benefits to biodiversity and human well-being
- Budget 2022 proposes a **further \$780M over five years** to expand ECCC's Nature Smart Climate Solutions Fund



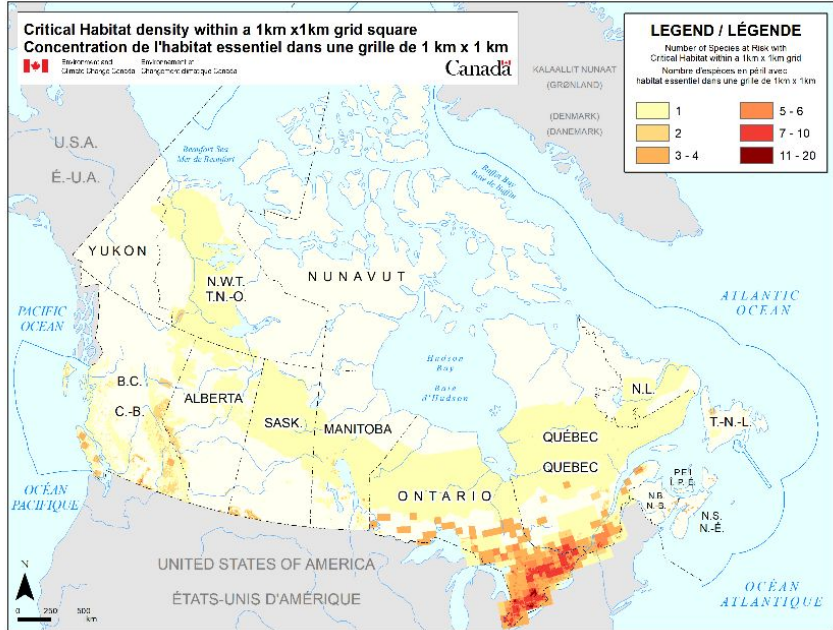
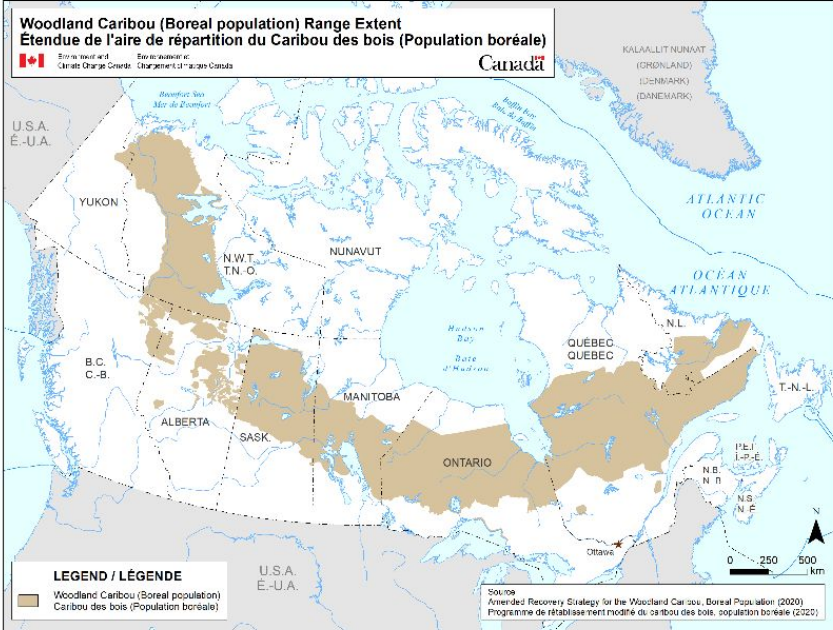
Restoration Partnership Funding

ECCEC collaborates with NRCAN on 2 Billion Trees fund to:

- Target 70,000 – 90,000 ha of forested habitat restoration for species at risk, of interest, and culturally significant
- Including activities in addition to tree planting, from recovery strategies, action plans and other ongoing conservation work

ECCEC’s science and policy contributions:

- CWS 2BT Habitat Restoration Working Group
- Guidelines in development to:
 - Prioritize areas for tree planting + biodiversity benefits
 - Provide species- and region-specific guidance
 - Informing where not to plant



Restoration Partnership Funding

Tonnes of Carbon Emissions Reduced



Hectares Protected 25% x 2025



Species at Risk, or Ha critical habitat benefitted

<u>Funding Program</u>	<u>Application?</u>	<u>Priorities</u>	<u>Restoration?</u>
NAWMP Habitat Joint Ventures	No	Yes	Yes
Habitat Stewardship Program	Yes		Yes
Aboriginal Fund for SAR	Yes	Yes	Yes
Indigenous Guardians Pilot	Yes		Yes
Indigenous Partnerships Initiative (SAR)	No		Yes
Natural Heritage Conservation Program	Yes		No
Target 1 Challenge & IPCAs	Yes		No
Biosphere Reserves	No	No	No
Other Effective Conservation Measures	No		No
Community-Nominated Priority Places	Yes		Yes
Priority Species	No	Yes	Yes
Federal-Provincial Priority Places	No	Yes	Yes
Nature-Smart Climate Solutions	Yes & No		Yes



Restoration Partnership Funding

Tonnes of Carbon Emissions Reduced

+

Hectares Protected 25% x 2025

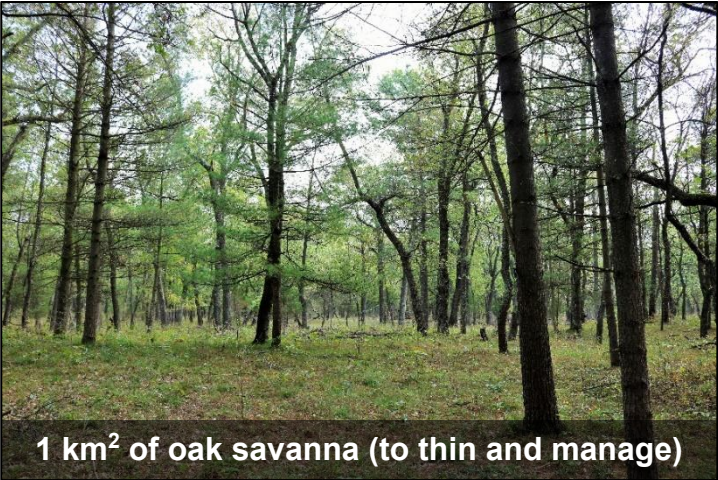
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Species at Risk, Hectares Critical Habitat

Ideal NSCSF or NAWMP project



Ideal Species at Risk project





Ideal Protected Areas project







Restoration Partnership Funding

Policy consideration - Will ecosystem restoration be effective?

Business As Usual (BAU): a baseline trend in land use change based on the past, projected into the future.

 **Permanence:** duration and strength of securement, likelihood and severity of future land use change under BAU? 

 **Additionality:** likelihood that spontaneous restoration would have happened anyway under BAU? 

 **Leakage:** likelihood restoration in one place will displace degradative land use and shift the activity to another place, with no net difference compared to BAU? 



Restoration Partnership Funding

Guidelines are particular to funding programs or initiatives:

- Growth in funding amount and variety over past decade = growing complexity
- Application guidelines can change year to year
- Guideline accessibility varies (on-line, on-request, hidden and password-protected, or only after financial approval and before work-plan negotiations)
- Directed funding may have no restoration-specific guidelines

Lessons learned:

- Larger and longer agreements increase administrative load on recipients
- Further disbursement through third-party agency more likely in future
- Government financing assumes environmental sector operates like business (competition, leveraging, consolidation for economy of scale, adaptation to changing government priorities)
- Environmental sector needs to advocate & explain what they are and why (place-based, volunteer-based, tracking changing funding priorities for the same unchanging project)



For Follow-up:

ECCC Protected Areas

<https://www.canada.ca/en/services/environment/conservation/protected-areas.html>

ECCC Contaminated Sites

<https://www.canada.ca/en/services/environment/pollution-waste-management/contaminated-sites.html>

ECCC Conservation Regulation

<https://www.canada.ca/en/services/environment/conservation/enforcement.html>

ECCC Funding Programs

<https://www.canada.ca/en/environment-climate-change/services/environmental-funding.html>

General inquiries: enviroinfo@ec.gc.ca

