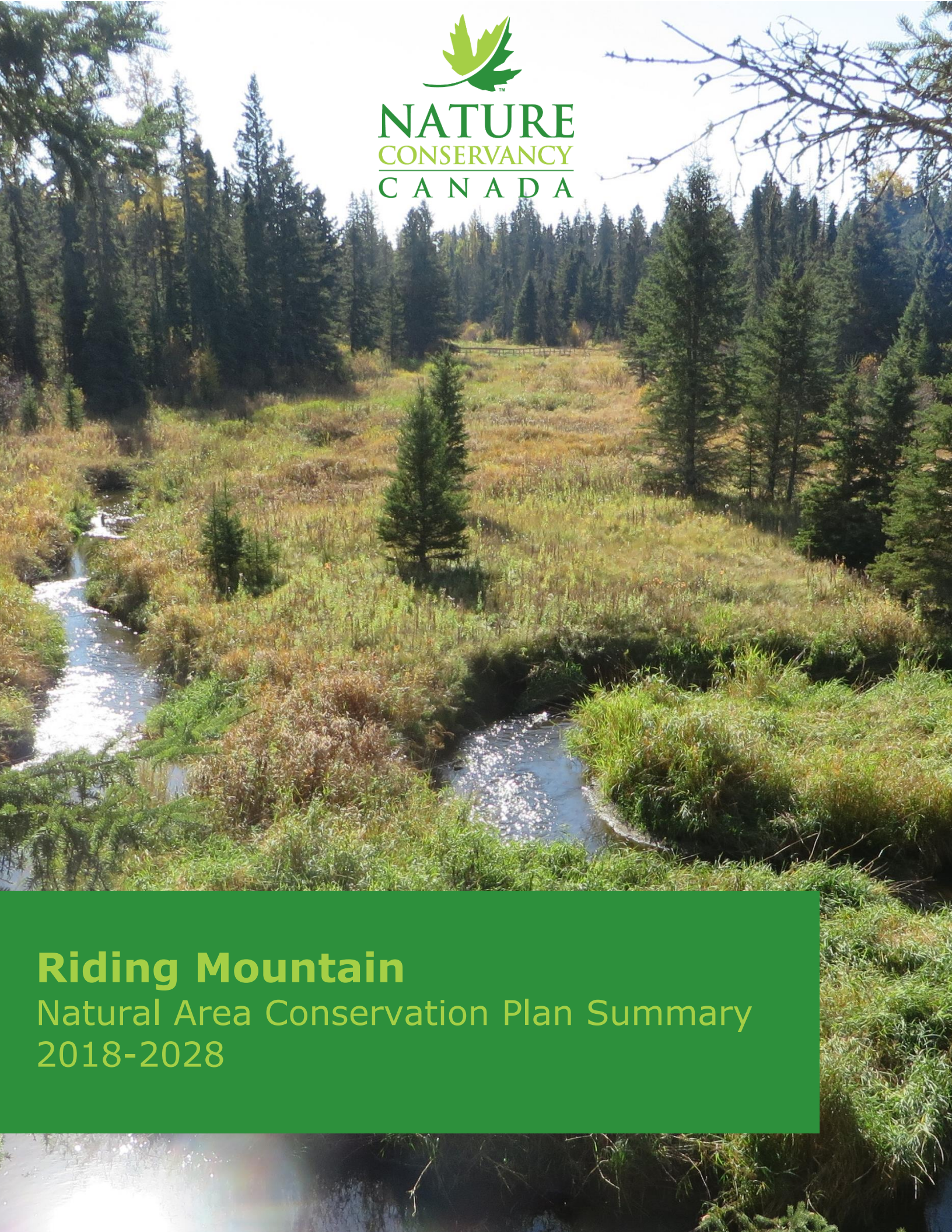


NATURE CONSERVANCY CANADA

Riding Mountain

Natural Area Conservation Plan Summary 2018-2028

Riding Mountain
Natural Area Conservation Plan
Summary

Table of Contents

The Nature Conservancy of Canada 2
Natural Area Conservation Planning 2
Natural Area Vision Statement 3
Implementation Period 3
Location 3
Conservation Context 5
Biodiversity Targets 7
Threats 9
Strategic Plan 9
Priority Areas for Biodiversity Conservation 17
Project Team 18
Ackowledgements 18
References 18
Appendix 19

Recommended citation: Neufeld, R & C. Hamel. 2018. Riding Mountain Natural Area Plan Summary. The Nature Conservancy of Canada, Winnipeg, MB. 19 pp.

Cover Photo: Riparian Area in the Riding Mountain Natural Area. Photo Credit: Rebekah Neufeld

The Nature Conservancy of Canada

The Nature Conservancy of Canada (NCC) is Canada's leading national land conservation organization. A private, non-profit organization, we partner with individuals, corporations, other non-profit organizations and governments at all levels to protect our most important natural treasures — the natural areas that sustain Canada's plants and wildlife. We conserve properties (through donation, purchase, conservation agreement and the relinquishment of other legal interests in land) and manage them for the long term.

Since 1962, NCC and our partners have helped to conserve more than 2.8 million acres (1.1 million hectares) of ecologically significant land from coast to coast. In Manitoba, we have conserved and protected over 65,000 acres (26,305 hectares) across nine natural areas critical to biodiversity across the province.

Our Mission Statement:
The Nature Conservancy of Canada leads and inspires others to join us in creating a legacy for future generations by conserving important natural areas and biological diversity across all regions of Canada.

Our Vision:
We envision a world in which Canadians conserve nature in all its diversity, and safeguard the lands and waters that sustain life.

Natural Area Conservation Planning

Guided by the best-available conservation science, NCC seeks to protect areas of natural diversity for their intrinsic value and for the benefit of future generations. We focus our work on specific landscapes throughout Canada that have been identified as important to biodiversity conservation, often through ecoregional-scale Conservation Blueprints and Ecoregional Assessments. Specific focal landscapes are referred to as Natural Areas (NA), and a Natural Area Conservation Plan (NACP) is developed for each. The purpose of these plans is to act as strategic plans for conservation implementation and support decision making at inception and throughout the implementation period, so that limited conservation resources are used most efficiently. Through these plans, we seek to identify desired conservation results, develop, prioritize, and implement activities that will lead to these results, track their progress, and adapt based on what we have learned. To this end, NCC has adopted the Open Standards for the Practice of Conservation adaptive planning framework. The scope of each NACP encompasses the long-term conservation of all biodiversity in each NA. Conservation planning requires recognition of the shifting nature of landscapes and our knowledge of them. This planning process is viewed as an iterative and ongoing, rather than a once-a-decade exercise and this document should be viewed in that context.

Natural Area Vision Statement

The Riding Mountain Natural Area represents one of the largest ecologically functional natural areas in southwestern Manitoba. Championed by local communities, the protection and enhancement of prairie, forest, wetland, and riparian habitat promotes a biodiverse, connected, and climate-resilient landscape. Recreational, ecotourism, agricultural, and resource extraction industries also support the ecological sustainability and natural beauty of the region.

Implementation Period

Start date: 06/01/2018
End date: 05/31/2028

Location

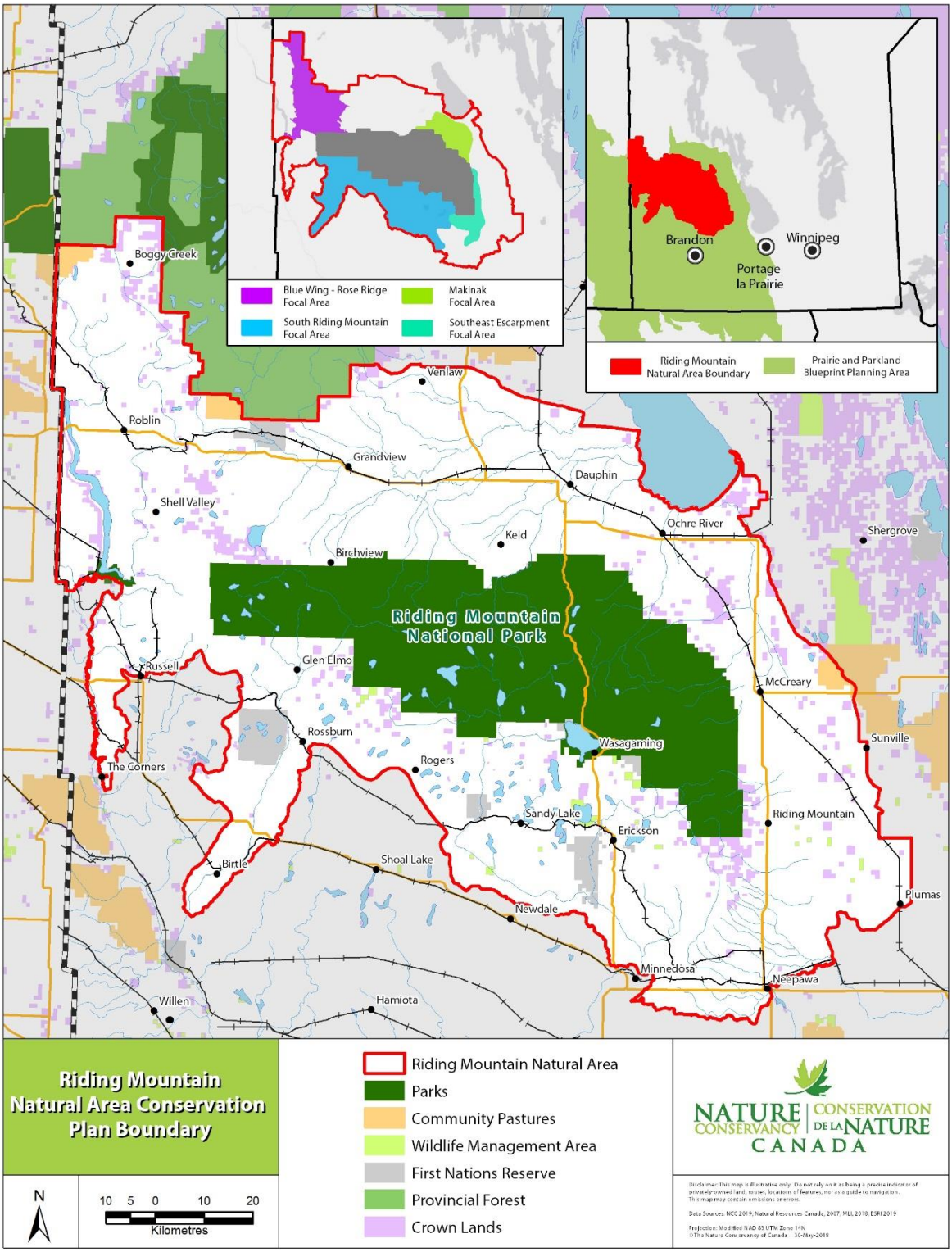
The Riding Mountain Natural Area (RMNA) is a 3,666,546 acre (1,483,799 ha /14,838 km2) landscape associated with the uplands of southwestern Manitoba (Map 1). Portions of 26 rural municipalities and 7 First Nations communities fall within the Natural Area (NA), as does all of Riding Mountain National Park (RMNP). Most of the NA lies within the Riding Mountain Biosphere Reserve.

The boundaries of the RMNA include all of the Riding Mountain upland portion of the Mid-Boreal Uplands Ecoregion, all portions of the Boreal Transition Ecoregion to the south and west and adjacent portions the Aspen Parklands and Manitoba Lake Plain Ecoregions. The NA boundary extends beyond RMNP to encompass remnant natural areas that provide cover and habitat connectivity for numerous species, including wide-ranging mammals that regularly move in and out of the park.

The boundary was further expanded, based on two principals: a) conservation of rivers and streams can only occur by working across entire watersheds, and b) conserving connections to other large complexes of natural habitat supporting high biodiversity in southwest Manitoba and southeast Saskatchewan is necessary to maintain the ecological integrity of the Riding Mountain upland. As such, boundaries include entire watersheds wherever feasible, and are contiguous with adjacent NCC Natural Areas.

The NA is large, so, to ensure targeted, effective conservation, four Focal Areas with habitat-based conservation and stewardship goals were delimited. The Blue Wing-Rose Ridge Corridors Focal Area supports somewhat connected natural habitat between Riding Mountain National Park and the Duck Mountains. The Makinak, and Southeast Escarpment Focal Areas encompass large blocks of intact forest and wetlands east and south of the escarpment. The South Riding Mountain Lakes & Wetlands Focal Area encompasses lakes and wetlands of the prairie pothole region, and remnant prairie located south of RMNP.

Map 1. Riding Mountain Natural Area Boundary



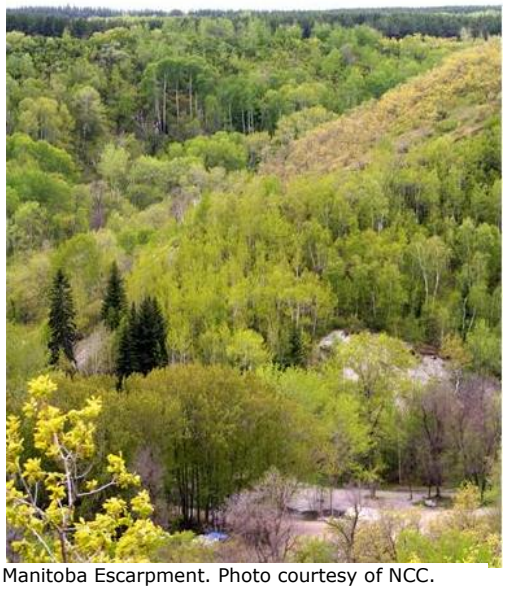
Conservation Context

NCC'S Elk Glen Property. Photo by NCC.

The Riding Mountain Natural Area represents one of the few remaining ecologically functional landscapes wholly contained within the agricultural matrix of prairie Canada. Elk, moose, American black bear, and cougar roam the area's rolling, forested hills, meadows, valleys, lakes, and wetlands.

Twenty-nine species found in the NA have been assessed as Endangered, Threatened, or Special Concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or are listed under the *Manitoba Endangered Species and Ecosystem Act*. Ninety species in the NA are considered provincially rare or uncommon, of which 12 are also nationally rare, and 2 are globally rare.

Four ecoregions come together in the Natural area: Aspen Parkland, Boreal Transition, Mid-boreal Uplands, and the Manitoba Lake Plain. Species and habitats of northern, western, and eastern Canada meet here; prairie wildflowers give way to deciduous parkland, which yields to highland evergreens, which in turn yield to lowland eastern hardwood forest. A conservation assessment for southern Canada conducted by NCC (2018) highlighted several regions around the park as priority areas of connectivity and genetic movement.


Manitoba Escarpment. Photo courtesy of NCC.

The RMNA encompasses the highlands of the Manitoba Escarpment, and supports an intricate network of waterways representing the headwaters for many rivers and streams. The unique characteristics of headwater streams provide habitat for diverse species, including headwater specialists, and act as refugia during critical life stages for some aquatic species.

The NA supports some of the last and best fescue prairie in Manitoba. Fescue prairie is among the rarest prairie types in the province (Manitoba Provincial Grass Campaign Committee 2008). Large expanses of mixed-grass prairie and tame grassland support populations of declining and at-risk grassland-obligate bird species such as bobolink and Sprague's pipit.

Straddling the boreal forest and prairie pothole wetland region, the RMNA represents an important and diverse habitat concentration for waterfowl.

Canada Goose. Photo by Rebekah Neueld

The Prairie Pothole Region of the Great Plains, which crosses through the southern and northwest portions of the NA, is considered the most important habitat for breeding waterfowl in the world (Ducks Unlimited 2005). The wetlands of the western boreal forest are also important for waterfowl, supporting millions of breeding waterfowl (Ducks Unlimited 2012). Eighty percent of North America's waterfowl use the boreal forest for moulting or migration (Bellrose 1980, cited in Ducks Unlimited 2012).

Riding Mountain is one of only 18 United Nations Biosphere Reserves in Canada (UNESCO undated). The Natural Area encompasses a number of regions identified as a priority for conservation, connectivity, and climate resilience (MacDonald et al. 2017); and includes woodlands, large wetlands, and small wetlands that scored among the 'top ten' in Manitoba's portion of the Prairies and Parklands Blueprint (Riley et al. 2007).

The majority (>70%) of the NA is privately-owned with RMNP occupying just over 20%. Crown lands pertinent to conservation, though not necessarily managed explicitly for conservation purposes (i.e. non-Wildlife Management Area, non-Community Pasture), occupy almost 5% of the RMNA. Twenty-one percent of the NA is considered formally Protected by the *Manitoba Protected Areas Initiative* (designated as Protected Areas Categories I-IV by the International Union for Conservation of Nature (IUCN)), with less than 0.5% occurring outside of RMNP.

Fescue Prairie. Photo by Diana Robson. © The Manitoba Museum

While the NA supports expanses of natural cover, several factors continue to place the area's biodiversity under an immediate and high degree of threat. RMNP is not large enough to support all the area's species in perpetuity (e.g., Vik Stronen 2007) and habitat fragmentation, forest encroachment into prairies, invasive species, continued loss of wetlands and riparian areas, and hydrological alterations remain significant threats. Partnership-driven and community-based conservation remains an urgent need in the area.

During the first two iterations of this conservation plan, NCC established itself as a conservation leader on the landscape through partnership building, its conservation science program, community engagement and the permanent protection of land. Since 2002 NCC has secured 9,525 hectares (23,537 acres) of habitat in priority areas and implemented critical land management and habitat restoration in partnership with local landowners, producers and partner conservation

organizations. Over the next 10 years, NCC will continue to build on these successes and partnerships, focusing on conservation and management of the last remaining fescue and mixed grass prairies, building and maintaining key areas of habitat connectivity across the landscape, and the protection of some of the most threatened lakes, wetlands and watercourses.

Biodiversity Targets

Target:	Eastern Deciduous Forests	Current status:	GOOD	Desired future status:	GOOD
Goals By 2028, the extent of Eastern Deciduous Forest within the Natural Area is maintained at greater than 70,011 hectares (173,000 acres).					
Target:	**Fire-dependent Matrix Upland Forest**	**Current status:**	**FAIR**	**Desired future status:**	**GOOD**
Goals By 2068 there is no annual net loss of matrix forest in the Natural Area By 2028, the extent of matrix forest in the Blue Wing Corridor has increased by 1%					
Target:	**Fire-dependent Native Prairie & Savanna**	**Current status:**	**POOR**	**Desired future status:**	**GOOD**
Goals By 2028, the extent of native prairie increases to 7,689 hectares (19,000 acres) or greater, with more than 50% occurring in patches greater than 65 hectares (160 acres). By 2028, 25% of prairie occurring outside of Riding Mountain National Park burns safely within a 10 year fire interval. By 2068 more than 75% of prairie within the Natural Area burns safely within 10 year fire return intervals. By 2068 the extent of native prairie is greater than 12,141 hectares (30,000 acres)					
Target:	**Grassland-obligate Birds**	**Current status:**	**FAIR**	**Desired future status:**	**GOOD**
Goals By 2028, at least half of the Breeding Bird Atlas squares in the Natural Area support a breeding record of grassland-obligate birds.					

Target:	Lakes & Associated Riparian Areas	Current status:	FAIR	Desired future status:	GOOD

Goals

- By 2028, less than 50% of lakes[1] occur within 60 m of cropland or residential development
- By 2028, the extent of Lakes is maintained[2] at 157827 hectares (390,000 acres).

Target:	Large Mammals	Current status:	GOOD	Desired future status:	GOOD

Goals

- By 2028, moose, elk and wolf populations occur within good thresholds[3] for population size.
- By 2028, there are two regions of connected habitat considered suitable[4] for large mammal movement between the Riding Mountain uplands and adjacent large tracts of habitat

Target:	Rivers, Streams & Riparian Areas	Current status:	GOOD	Desired future status:	GOOD

Goals

- By 2028, >75% of river and stream riparian zones have permanent vegetation cover within a 30 metre buffer from the banks

Target:	Wetlands & Associated Riparian Areas	Current status:	FAIR	Desired future status:	GOOD

Goals

- By 2028, there is no annual net loss of natural wetlands in the Natural Area

Overall target viability for the Natural Area:	Current status:	FAIR	Desired future status:	GOOD

[1]measured by area
[2]within the range of natural variation
[3]based on Parks Canada population indicators for Riding Mountain National park for Elk and wolves, and the Manitoba Sustainable development population density indicators for Moose populations.
[4]see Chan, 2011 for analysis of habitat distribution pattern for movement corridors

Threats

The table below includes only those threats assessed as medium or higher. This assessment is based the threat and their expected impact on the viability of the targets over the course of the NACP. See the Appendix for more information on how threats are identified and assessed.

IUCN Classification*	Threat	Overall magnitude
7.2 Dams & water Management/Use	Channelization of natural rivers or streams and creation or operation of drainage ditch network	High
1.3 Tourism & Recreation Areas	Incompatible development of recreational or residential dwellings	Medium
2.1 Annual & Perennial Non-Timber Crops	Conversion of natural habitat to annual or perennial cropland	Medium
2.1 Annual & Perennial Non-Timber Crops	Incompatible haying practices	Medium
2.3 Livestock Farming & Ranching	Incompatible livestock management practices	Medium
3.2 Mining & Quarrying	Mining and resource extraction	Medium
4.1 Roads & Railroads	Roads and railroads	Medium
5.3 Logging & Wood Harvesting	Incompatible forest harvest	Medium
7.1 Fire & Fire Suppression	Incompatible fire management	Medium
7.2 Dams & water Management/Use	Incompatible construction & maintenance of impoundments	Medium
8.1 Invasive Non-Native/Alien Species	Invasive alien species	Medium
8.2 Problematic Native Species	Woody vegetation encroachment	Medium
	Overall Threat Status for the Natural Area	Very High

*See Appendix for information on IUCN Classifications

Strategic Plan

1.1 Site/Area Protection
Permanent protection of key land parcels *Importance: Urgent* • Conserve Priority 1 habitat that supports prairie or builds on existing conservation projects in the South RM focal area. • Secure Priority 1 lands in the Makinak area with the priority given to securing upstream reaches and alluvial fans and building on existing block of conservation lands.

- Secure Priority 1 or 2 lands in the Blue Wing Corridor & Rose Ridge corridor that support prairie, riparian areas or wetlands; at least one parcel of prairie will be conserved.
- Opportunistically secure Priority 1 and 2 lands in the South Riding Mountain Lakes Focal Area that support headwaters or wetlands, and riparian areas of exceptional biodiversity.
- Consider the opportunistic securement of other ecologically significant Priority 1-2 lands, or Priority 3 lands that will increase block size, facilitate stewardship of NCC lands, or provide opportunities to restore connections between significant habitats through donation or purchase of land or easements.
- Annually submit list of newly acquired NCC lands to the Government of Manitoba's Protected Areas Initiative (PAI) for inclusion in Manitoba's Protected Areas Network. Encourage PAI and Lands Branch to consider protecting ecologically significant Crown lands in the Natural Area

Objectives:

- By 2028, 2.5% of the Makinak Focal Area is conserved
- By 2028, 3.5% of the Blue Wing Corridor Focal Area is conserved
- By 2028, increase the proportion of conserved acres of prairie to 65%
- By 2028, proportion of Natural Area that is protected (IUCN Categories IV or higher) has increased from 21.1% to 21.3%

1.3 Conservation Science and Planning

Address Key Knowledge Gaps

Importance: Necessary

- By January 2019, investigate expected impacts of Emerald Ash Borer on the ecological function and viability of Eastern Deciduous Forest. Incorporate findings into strategies related to conservation, management and restoration of Eastern Deciduous forest.
- By December 2018, investigate the role and distribution of non-native forage versus forested habitats for waterfowl within the context of the Riding Mountain Natural Area. Develop recommendations for management and restoration of NCC projects based on habitat needs in different areas and the requirements of different species or assemblages.
- By 2020, conduct ground surveys to identify new locations of native prairie at key sites identified through review of surficial geology, soil and landcover layers.
- Opportunistically address other knowledge gaps related to targets, threats and action effectiveness, as they arise within the NACP implementation period

Objectives:

- All priority knowledge gaps have been addressed by 2028

Conservation Planning

Importance: Necessary

- Complete progress reports for the NACP annually
- Meet with Conservation Districts to discuss priority areas, opportunities for partnership, and approaches to conservation

- Hold an Open Standards planning workshop with interested Parks Canada staff that includes a review of the Riding Mountain NACP and Riding Mountain National Park management plan with consideration of creating a shared collaborative plan or incorporating partner activities into the NACP.
- By December 2020, investigate the role of the Arden Ridge-South Escarpment region, between the Riding Mountain and Assiniboine Delta Natural Areas, in facilitating south-north connectivity and genetic movement. Consider potential to adjust the focal area, and revise strategies and prioritizations, if required, based on results of analysis.
- Review new models or research on potential impacts of climate change every two or three years and review/update the results chains and NACP as needed.
- Review and update the Riding Mountain NACP by June 2027

Objectives:

- Progress reports and all follow-up actions are completed annually. The NACP is updated with new information when identified as necessary by project team.

2.1 Site/Area Management

Conservation Agreement Administration

Importance: Necessary

- Annually monitor all Conservation Agreement properties following NCC's approved Procedures, Policies, Standards and Guidelines.
- In the event there is a compliance issue with a Conservation Agreement, follow NCC's Policies, Procedures, Standards, and Guidelines and obtain legal counsel where appropriate

Objectives:

- By 2028, all Conservation Agreements remain in compliance

Conservation Agreement Land Management Program

Importance: Necessary

- By December 2019, develop a programming framework to provide support to Conservation Agreement landowners to implement compatible management
- By December 2020, develop specific Conservation Agreement Land Management (CALM) program activities and establish funding sources for delivery of the program
- By April 2021 implement CALM Program pilot project
- By December 2021, report and evaluate on progress/findings of the CALM program
- By April 2022, implement programming to support compatible habitat management on Conservation Agreement projects

Objectives:

- By 2021, one CALM Program project is established with a Conservation Agreement landowner
- By 2025, NCC has provided support for priority invasive species control on two Conservation Agreement projects

- By 2027, the assessed condition of prairie on at least one Conservation Agreement project has improved
- By 2028, wetlands and/or hydrological function has been restored on at least one Conservation Agreement project

Fee-simple Property Stewardship
Importance: Necessary

- Prepare Baseline Inventories for fee-simple properties after closing and Property Management Plans (PMPs) following NCC's approved Policies, Procedures, Standards and Guidelines.
- Conduct stewardship actions on acquired properties as required. Annually satisfy taxation and other legal obligations for all fee-simple properties.

Objectives:

- All property management plans with agricultural management include a grazing or haying plan with biodiversity-linked objectives.
- At least 90% of documented patches of priority invasive species are controlled annually on NCC fee-simple lands
- By 2028, 202 hectares (500 acres) of prairie have been restored or are undergoing restoration
- By 2028, 364 hectares (900 acres) of matrix forest is under active restoration in the Blue Wing Corridor Focal Area
- By 2028, the extent of prairie has been increased by 40 hectares (100 acres) through woody management control

Status and effectiveness monitoring to inform action implementation and planning
Importance: Necessary

- Implement status and effectiveness monitoring protocols as scheduled in NACP monitoring plan
- By December 2019, develop measures of effectiveness for current and future easements at meeting biodiversity objectives.
- Meet with Riding Mountain National Park staff annually to share information, research and collaborate on shared monitoring activities.
- Monitor Conservation Agreement projects for effectiveness at achieving biodiversity objectives annually

Objectives:

- By 2028, NCC staff meet annually with Riding Mountain National Park staff.
- Status and effectiveness monitoring is implemented annually (as scheduled in the annual progress report meetings and regional effectiveness monitoring plan).

Work with the Government of Manitoba regarding conservation of ecologically significant crown lands
Importance: Necessary

- Provide ongoing support and information to Manitoba Sustainable Development and Manitoba Crown Lands Branch, regarding ecological significance of crown parcels in the NA and opportunities to partner on management or conservation

- Work with Government of Manitoba and Association of Manitoba Community Pastures regarding opportunities to partner on conservation or management activities on community pastures in the Natural Area.

Objectives:

- By 2028, partner with the Government of Manitoba on at least ten parcels of ecologically significant crown land

2.2 Invasive/Problematic Species Control

Monitoring and control of established invasive species

Importance: Beneficial

- Support partner efforts to monitor and prevent the spread or introduction of aquatic invasive species in the Natural Area through 2027
- Support partner efforts to monitor and prevent the spread or introduction of terrestrial invasive species in the Natural Area through 2027
- By December 2019, work with the Riding Mountain Biosphere Reserve and Invasive Species Council of Manitoba to verify and update documented occurrences of priority invasive species in the Early Detection and Distribution Mapping System (EDDMapS) database
- Annually work in partnership with Manitoba Sustainable Development Forestry Branch and Canadian Food Inspection Agency to monitor for and prevent the spread of Emerald Ash Borer on NCC projects
- Through 2028, monitor annually for the presence of Zebra Mussels in lakes and watercourses adjacent or on NCC lands that are considered under high risk of invasion. Update Property Management Plans as needed

Objectives:

- NCC participates in invasive species monitoring and prevention program activities annually.
- Through 2028, Invasive Phragmites and Zebra Mussels do not occur on NCC projects

2.3 Habitat & Natural Process Restoration

Establish Capacity for Prairie Restoration

Importance: Necessary

- By 2020, effectively engage with potential partners and interested landowners to discuss restoration programming
- By 2021, develop plan for establishing a local native fescue and mixed-grass prairie seed sources
- By January 2021, identify potential donors and apply for funding to support capacity-building for the establishment of a local seed source
- By Spring 2022 implement plan for establishing local native seed source

Objectives:

- By 2022, at least one prairie site has been identified as a source of seed for restoration or seed production plots
- By 2023, sufficient local native seed is available for implementing restoration of native prairie in the NA

Prescribed fire partnership

Importance: Necessary

- Develop & maintain fire-oriented coordination and communications with Office of Manitoba Fire Commissioner, Rural Municipal Fire Departments, Manitoba Sustainable Development, and other fire practitioners through to 2028
- Through 2028, annually renew the Partnering Agreement between Parks Canada Agency (Riding Mountain National Park) and the NCC relating to wildland fire management, which includes prescribed burns.
- Implement and/or support the implementation of prescribed fire within the Natural Area by October 2019

Objectives:

- By 2028, 202 hectares (500 acres) of native prairie or oak savanna outside of Riding Mountain National Park burns safely within a 10 year fire interval

Revegetation & Forest Restoration

Importance: Necessary

- By December 2020, determine potential approaches to, and feasibility of, eastern deciduous forest restoration and incorporate information into property management plans and other restoration strategies
- By December 2019, develop a revegetation and restoration plan for NCC-owned fee-simple properties in the Blue Wing and Rose Ridge Corridors and incorporate into Natural Area and property management plans

Objectives:

- By December 2019, information to guide restoration and revegetation activities in the Blue Wing Corridor is available to incorporate into property management planning, and information relevant to conservation activities has been incorporated into the NACP.
- By May 2021, information to guide restoration of Eastern deciduous forests has been incorporated into relevant Property Management Plans

3.2 Species Recovery

Multi-species and ecosystem at risk recovery, management and research

Importance: Necessary

- By December 2018, complete a gap-analysis of species at risk protection and conservation in the Natural Area to identify any species under-represented in current conservation areas, programming, or planning to help prioritize and focus conservation efforts
- Support ongoing surveys and development of recovery strategies for Species at Risk through to 2028
- Annually submit rare species & species at risk monitoring findings to the Manitoba Conservation Data Centre
- Confirm the presence or absence of Dakota Skipper in the Natural Area by 2020.

Objectives:

- By September 2018, Multi-SAR workbooks are informed by up to date data and are used by NCC land managers
- Species at Risk data collected by NCC on NCC or public lands is shared with the Manitoba Conservation Data Centre annually.

4.3 Awareness & Communications

Communications (Media Relations)

Importance: Beneficial

- Share key messaging related to priority targets, threats, and compatible management practices
- Once every two years, share information on new research, lessons learned, and success stories related to land management through local media and partners

Objectives:

- By 2023, at least one article or communications piece per year has been shared in local media, providing information on priority targets or threats
- By October 2018, all Natural Area communications by NCC staff are consistent with the Community Relations Plan

Engagement

Importance: Necessary

- By September 2018, implement community engagement programming with schools, local interest groups, and the general public.
- Engage with Conservation Agreement landowners annually and provide information on invasive species, land management practices, and opportunities. Meet with new landowners to review their Conservation Agreements and all restrictions.
- By April 2019, establish a trail and/or interpretive infrastructure with public access on NCC land.
- Work with local communities and tourism groups annually to identify opportunities for co-ordinating tourism related initiatives.
- Once every two years, hold a property tour or speaking event to share information on new research, lessons learned, and success stories related to land management with partners and local communities.
- Regularly hold community appreciation events to engage and build relationships with local communities and landowners.
- Develop and implement a fundraising strategy for engagement programming by April 2019.

Objectives:

- By 2020, NCC has engaged with local Indigenous communities and discussed potential to incorporate traditional ecological knowledge into at least one engagement program, as appropriate
- By 2020, the Elk Glen property hiking trail is promoted and includes interpretive materials that provide information on key targets and threats through signage or pamphlets
- By 2022, engagement opportunities are available in at least 4 communities within the Natural Area
- By 2028, 5 open houses or speaker event providing information on compatible land management or new research specific to priority targets, threats, and actions have been held in at least 3 different communities.
- By 2028, at least 4 schools or interest groups are involved in education and/or engagement programming

5.2 Policies & Regulations

Participation in water management related committees

Importance: Necessary

- Participate as a stakeholder on committees related to provincial/inter-provincial/international water management and regulation

Objectives:

- By 2028, NCC staff have provided input into at least two planning or regulation documents.

7.2 Alliance & Partnership Development

Work with partners on wetland restoration and water retention projects.

Importance: Necessary

- Partner with Conservation Districts on complementary planning actions identified in Integrated Watershed Management Plans
- Partner with a Conservation District, if interested to determine feasibility of alluvial fan restoration. If feasible, work with partners to implement a restoration project in the Whitemud and or Dauphin Lake Integrated Watershed Management Plan program areas
- Partner with Ducks Unlimited Canada & others on opportunities for wetland restoration on NCC and partner lands
- By December 2019, investigate options to work with partners on acquiring hydrological modelling data for the Makinak and Southeast Escarpment focal areas to inform restoration projects. If feasible, work with partners to collect hydrological modelling data by 2023
- By 2020, investigate potential impacts of water retention projects on biodiversity targets in headwaters/upstream regions of the east escarpment and evaluate options to influence compatible project design
- Work with Intermountain Conservation District & Turtle River Conservation District to develop best practices for development of retention projects that maintain biodiversity-target integrity

Objectives:

- By 2028, NCC has partnered on at least one wetland or riparian restoration project in the Makinak focal area, and two other initiatives.

*Strategies are ranked on their relative importance to achieving the biodiversity goals of the plan. These rankings are defined as follows.

Critical: Conservation strategies that, without implementation, would clearly result in the reduction of viability of a biodiversity target or the increase in magnitude of a critical threat within the next 5-10 years. Also includes information that requires research before important decisions can be made on the management of biodiversity targets.

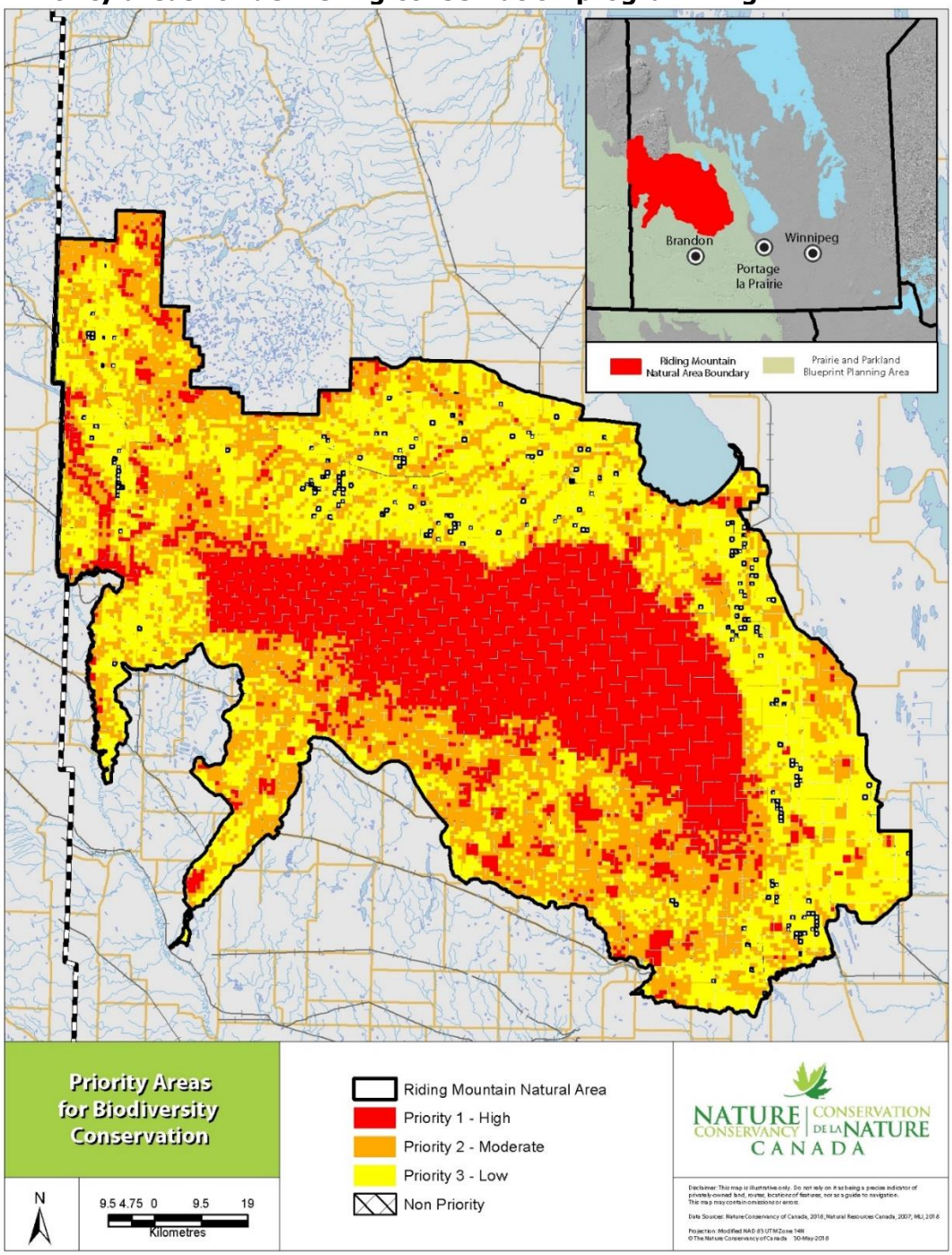
Necessary: Conservation strategies that are needed to maintain or enhance the viability of biodiversity targets or reduce critical threats. Also includes research that will inform decisions regarding management of biodiversity targets.

Beneficial: Conservation strategies that will assist in maintaining or enhancing viability of biodiversity targets and reducing threats.

Priority Areas for Biodiversity Conservation

In order to focus conservation efforts and ensure the most efficient and effective use of resources, NCC conducts an analysis to identify priority areas within the Natural Area landscape. This analysis considers the presence, distribution, and relative abundance of biodiversity targets, Species at Risk, and existing conservation lands within the Natural Area. By using this prioritization to guide the delivery of activities and programming, NCC strives to obtain the best possible impact on defined biodiversity targets while minimizing threats to those targets.

Map 2. Priority areas for delivering conservation programming



Project Team

Primary Authors: Rebekah Neufeld & Cary Hamel, Nature Conservancy of Canada

Planning Team:

Name	Organization	Role
Christine Chilton	Nature Conservancy of Canada	Team member
Julie Pelc	Nature Conservancy of Canada	Team member
Kevin Teneycke	Nature Conservancy of Canada	Team member
Rebekah Neufeld	Nature Conservancy of Canada	Team member
Stephen Gietz	Nature Conservancy of Canada	Team member
Steven Harper	Nature Conservancy of Canada	Team member
Tim Gompf	Nature Conservancy of Canada	Plan lead
Trevor Reid	Nature Conservancy of Canada	Project advisor

Ackowledgements

NACP development was supported by grants from the Government of Manitoba and the North American Waterfowl Conservation Act (NAWCA). Matching funds for the NAWCA grant were provided by the American Friends Canadian Nature. Development was also supported by the Government of Canada's Natural Areas Conservation Program, which is a unique public-private partnership to accelerate the pace of land conservation across southern Canada.

Many individuals and organizations provided expertise and information during the development of this and previous versions of this plan. Plan development benefited from a workshop held April 13, 2018 in Erickson, Manitoba with local Conservation Districts. Participants included Jeff Thiele (Intermountain Conservation District); John Towle (Intermountain Conservation District Board); Lee Onyschak (Intermountain Conservation district); Colleen Cuvelier (Little Saskatchewan River Conservation District); Jody Tucker (Turtle River Conservation District); Brittany Lynn (Turtle River Conservation District).

References

Bellrose, F.C. 1980. Ducks, Geese and Swans of North America. Third edition. Stackpole Books, Harrisburg, Pennsylvania.

Chan, G. 2011. A Geographic Information System Approach to Determine Connectivity Between Duck Mountain Provincial Park and Forest and Riding Mountain National Park, Manitoba. Thesis, Master of Natural Resources Management, Natural Resources Institute, University of Manitoba, Winnipeg, Manitoba. 105 pp.

Ducks Unlimited. 2005. Ducks Unlimited's International Conservation Plan. Ducks Unlimited, Inc. Memphis, Tennessee. 232 pp.

http://www.ducks.org/media/Conservation/Conservation%20Plan/_documents/a_ICP2004%20final%208.05.pdf

Ducks Unlimited. 2012. Waterfowl of the Boreal Forest. Ducks Unlimited. Memphis, Tennessee. 108 pp.

Macdonald, C, R. Greene, L. Notzl. 2017. Boreal Plains Conservation Atlas – Draft Report. Nature Conservancy of Canada unpublished report.

Manitoba Provincial Grass Campaign Committee. 2008. Manitoba's prairie grasslands. Accessed February 26, 2013 at: http://www.manitobagrass.ca/prairie.htm

Nature Conservancy of Canada (NCC). 2018. Conservation Assessment for Southern Canada. vii+137 pp.

Riley, J.L., S.E. Green and K.E. Brodribb. 2007. A Conservation Blueprint for Canada's Prairies and Parklands. Nature Conservancy of Canada, Toronto, Ontario. 226 pp. plus DVD-ROM

UNESCO. Undated. The World Network of Biosphere Reserves, United Nations Education, Scientific and Cultural Organization (webpage). http://www.unesco.org/mab/wnbrs.shtml (accessed August 9, 2019).

Vik Stronen, A. 2007. Wolf genetic structure in the Riding Mountain National Park – Duck Mountain Provincial Park and Forest region of Manitoba: summary and Recommendations. Unpublished summary of Ph.D. Research. University of New Brunswick, Moncton, New Brunswick.

Appendix

Conservation Planning Approach

NCC has committed to examining the effectiveness of conservation activities using an adaptive management approach. To do so, NCC adopted the Conservation Measure's Partnership (CMP)'s *Open Standards for the Practice of Conservation* as an adaptive and results-based planning method. For more information on this approach and the methods used in the development of this NACP visit: http://cmp-openstandards.org/

Threat and Conservation Actions Classifications

Threat and Conservation Action Class and Nomenclature are based on the International Union for Conservation of Nature (IUCN) Classification Schemes:

Classificartion Actions: http://www.iucnredlist.org/technical-documents/classification-schemes/conservation-actions-classification-scheme-ver2

Threats: http://www.iucnredlist.org/technical-documents/classification-schemes/threats-classification-scheme