

Overview of native prairie communities & function in a restoration context

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Nature Conservancy of Canada – Manitoba Region

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NATURE
CONSERVANCY
CANADA



Overview

- Status of native prairie
- Major grassland types
- Restoration objectives/conservation planning

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The world's most endangered ecosystem

By **Dan Kraus**

Published: December 1, 2016

Opinion
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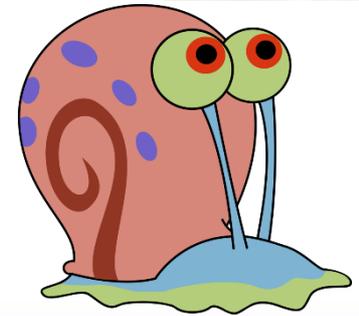
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- 
- *Temperate grasslands are the most converted, least protected terrestrial habitat on earth*
 - *In prairie Canada, only 5% of the remaining native grassland is protected*
 - *2.5 million acres of the Great Plains were ploughed in 2015-2016.*
 - TNC (undated), WWF 2017 plowprint report, NCC



• *3.3% native prairie loss in Southwestern Mixed-grass Prairie IBA 2011-2015*

• Hamel & Neufeld in prep





• *Half of the species listed under Manitoba's Endangered Species Act are grassland or dune-endemics.*

• NCC

Generalized Extent of Ecological Units Supporting Prairie



Key to Features

— Provincial and State Boundaries

Major Lakes

Ecological Unit

Northern Tallgrass Prairie (supporting remnant tallgrass prairie)

Aspen Parkland (supporting remnant mixed-grass prairie)

Western Uplands (supporting remnant fescue prairie and mixed-grass prairie)

Prairie Sand Dunes (supporting sandhill prairie)

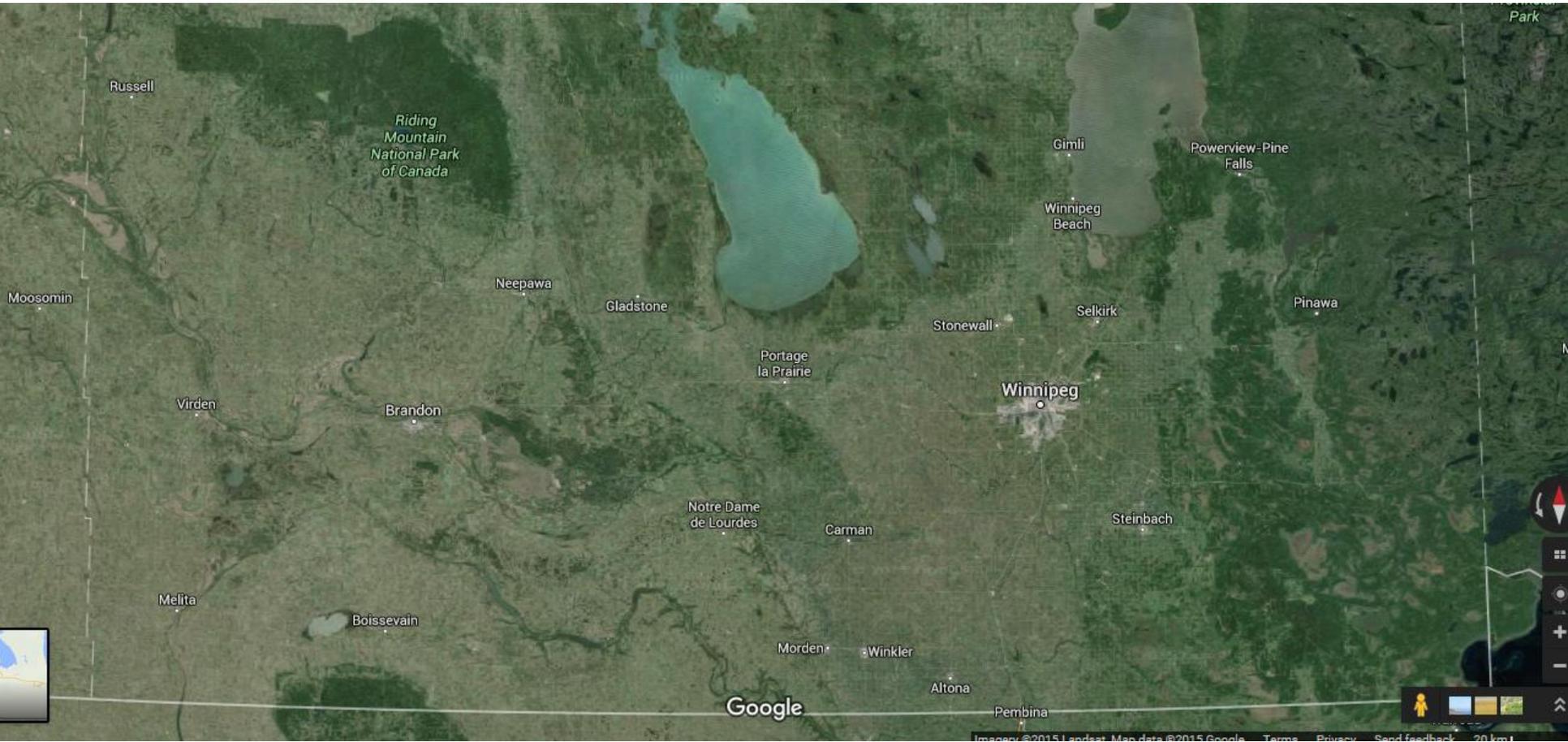


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Map Sources: Natural Resources Canada, Canadian Geographic Information System (CGIS), Natural Resources Canada, The Nature Conservancy of Canada, The Nature Conservancy of Canada, The Nature Conservancy of Canada.

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- *37% of the Manitoba tall-grass prairie patches surveyed in 1987 or 1988 had changed to other habitat types by 2006*

- Koper et al 2010







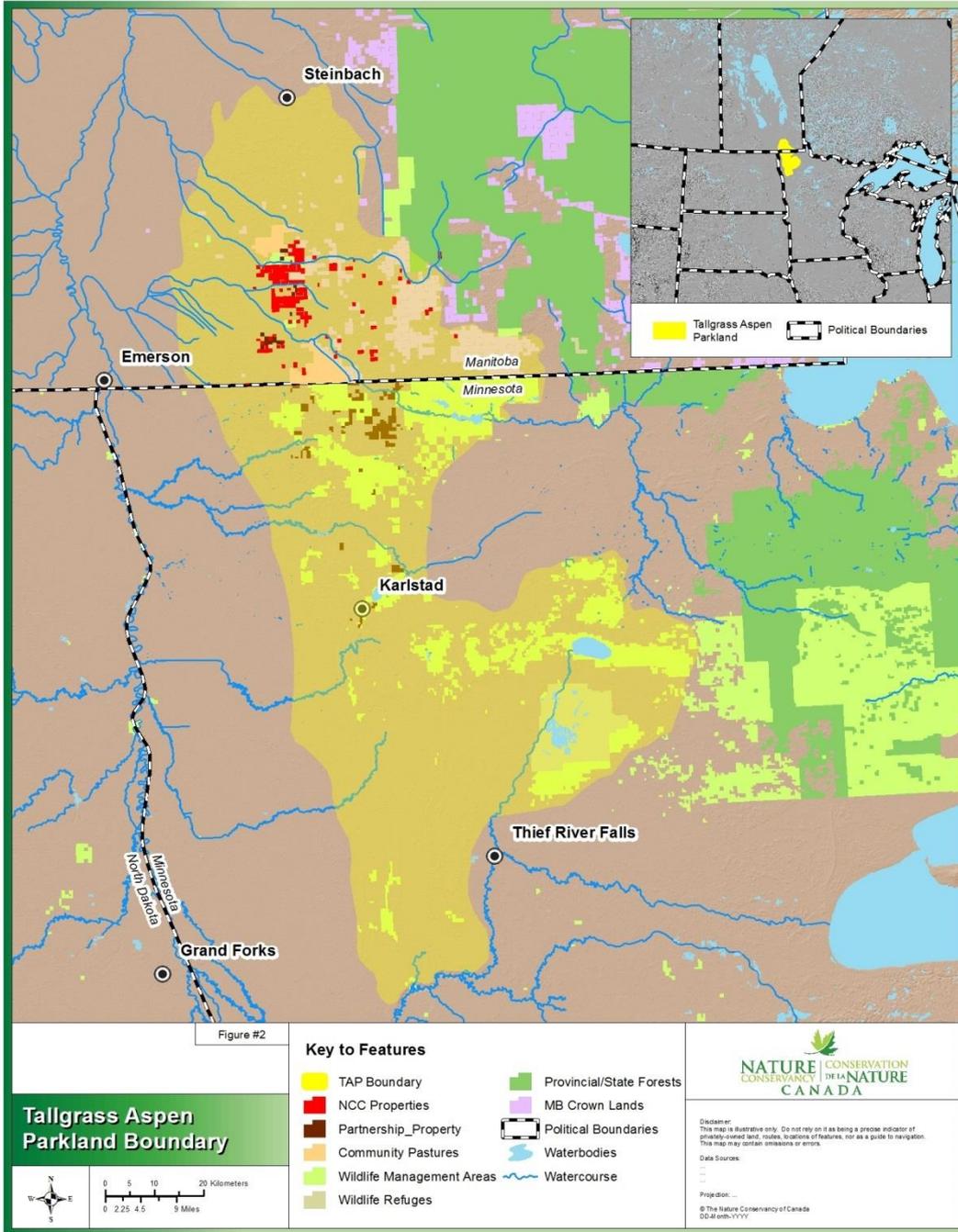
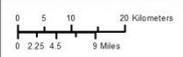


Figure #2

Tallgrass Aspen Parkland Boundary



Key to Features

- TAP Boundary
- NCC Properties
- Partnership_Property
- Community Pastures
- Wildlife Management Areas
- Wildlife Refuges
- Provincial/State Forests
- MB Crown Lands
- Political Boundaries
- Waterbodies
- Watercourse



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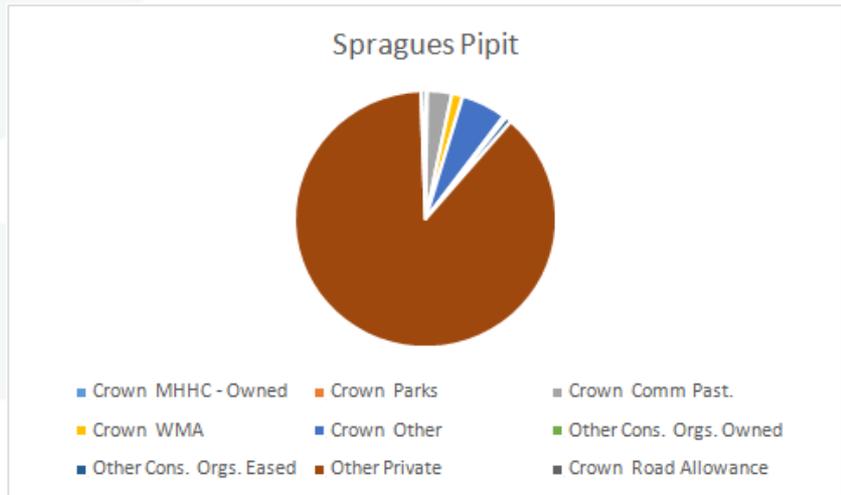
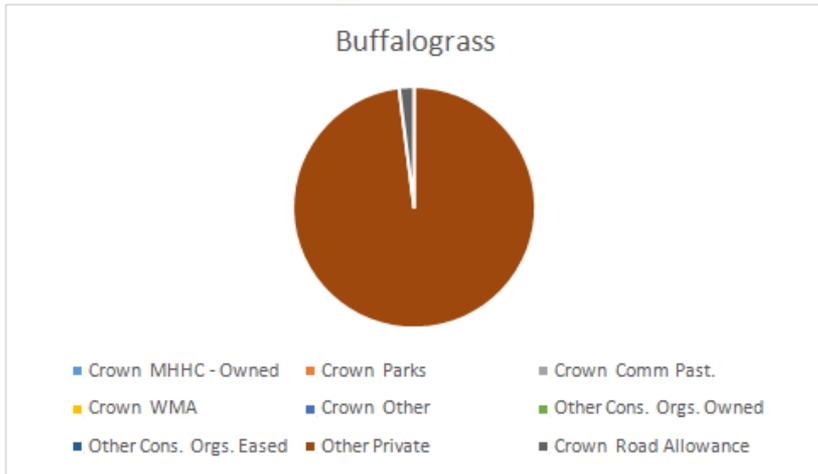












Source: NCC analysis of Manitoba Conservation Data Centre data.













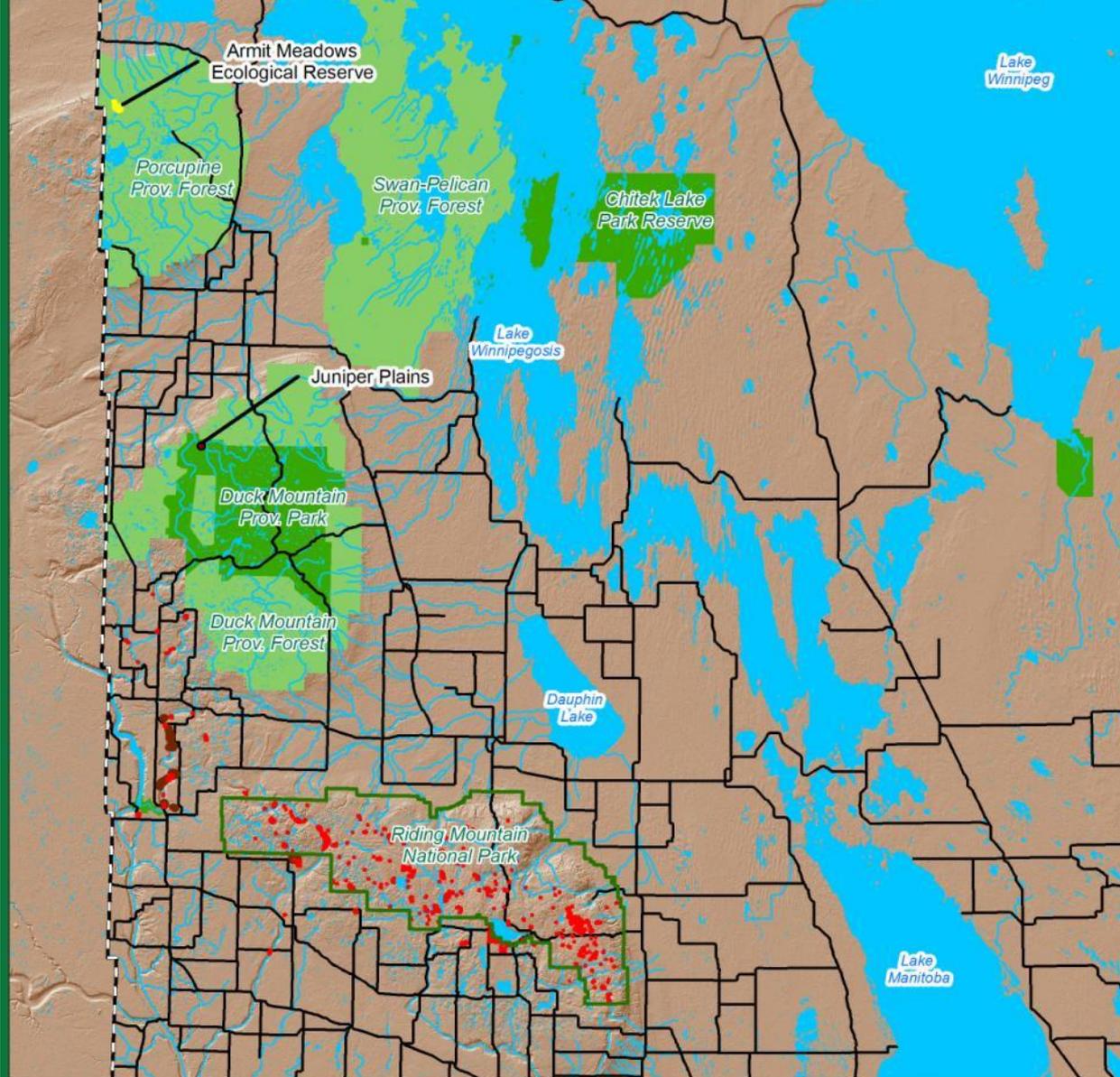


Figure A

**Riding Mountain
Natural Area**

**Oak Savannah and
Native Prairie**

Key to Features

-  Oak Savannah
-  Native Prairie
-  Watercourse
-  Waterbody
-  Highway



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Date Sources:
Nature Conservancy of Canada, 2013.
ESRI, 2005.
M.L., 2010.
PWP, 2010.

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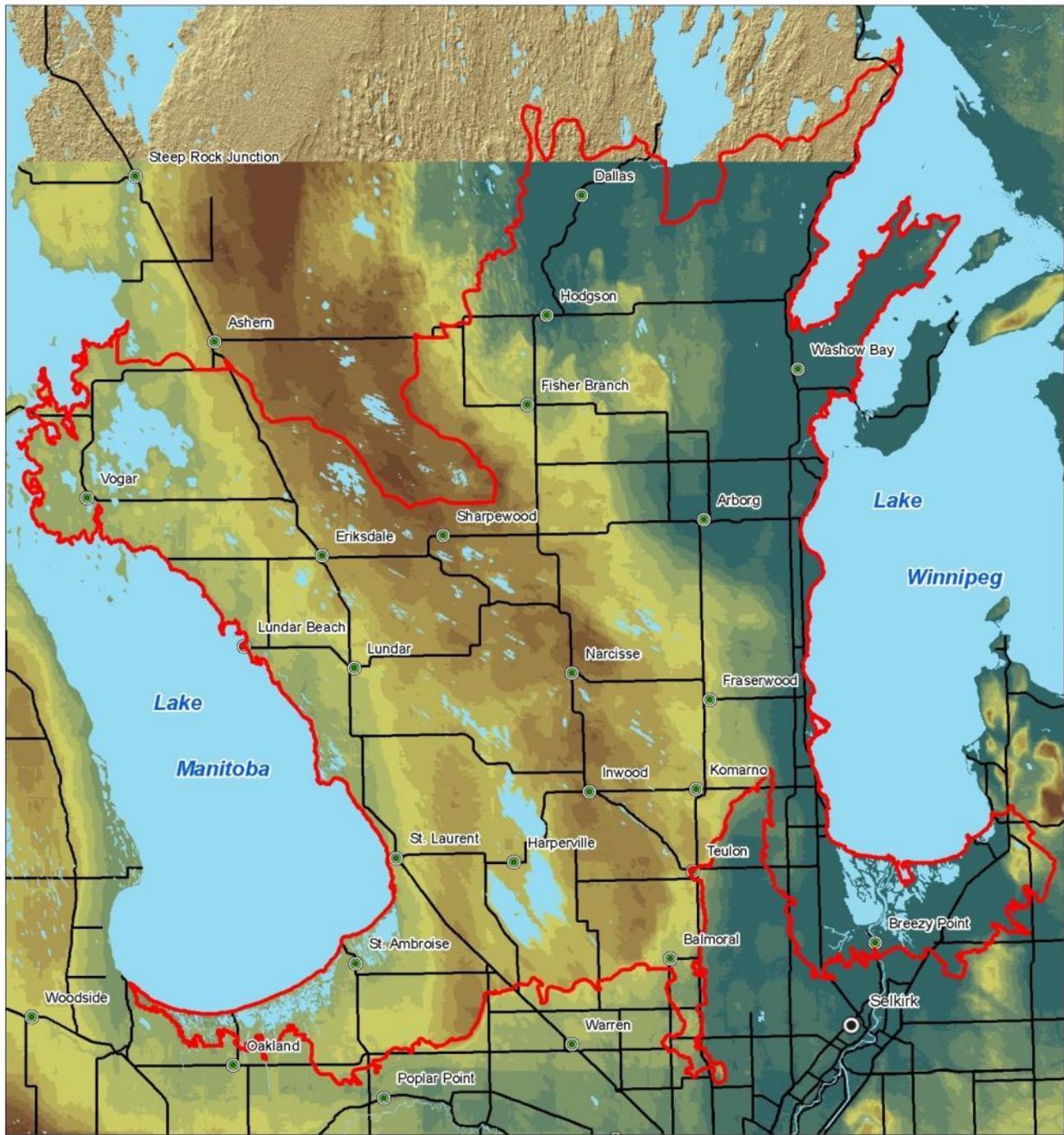












Interlake

Key to Features

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Restoration to Meet Conservation Objectives

- Connectivity/Size
- Ecological processes
- Buffer high quality sites
- Pollinators
- Species recovery
- Similarity to reference sites
- Ecological Goods & Services
- Public engagement/connection
- Aesthetics

When does grassland = prairie?

What is a 'high quality' prairie

 **Grassland & Savanna Condition Assessment - Field Worksheet** 
Nature Conservancy of Canada - Manitoba Region

Site and Assessment Information

Property Name: _____ Surveyor: _____
Date: _____ GPS Coordinates/Site Label: _____
Grassland/Savanna Type: _____
Photos & Names: _____

Conservation Context

a. Does pre-field inventory grassland polygons accurately represent current and potential grassland and type? (yes/no/NA)
If no, has shape and type been corrected in regional GIS files? (yes/no/NA)

b. What are the grassland-linked biodiversity targets or nested targets for this property/grassland patch?

c. If this property/patch has a grassland management plan and/or associated FMP vision, what is the desired future biodiversity condition?

Ecological Summary

d. Prepare general ecological description and identify species composition (top 10 dominant species, openness, edge effects, successional comments, etc.)

Nature Conservancy of Canada - Manitoba Region (2013)
Index: English, French, Spanish, Swedish, Swedish, Dutch, French



When is a restoration 'good enough'

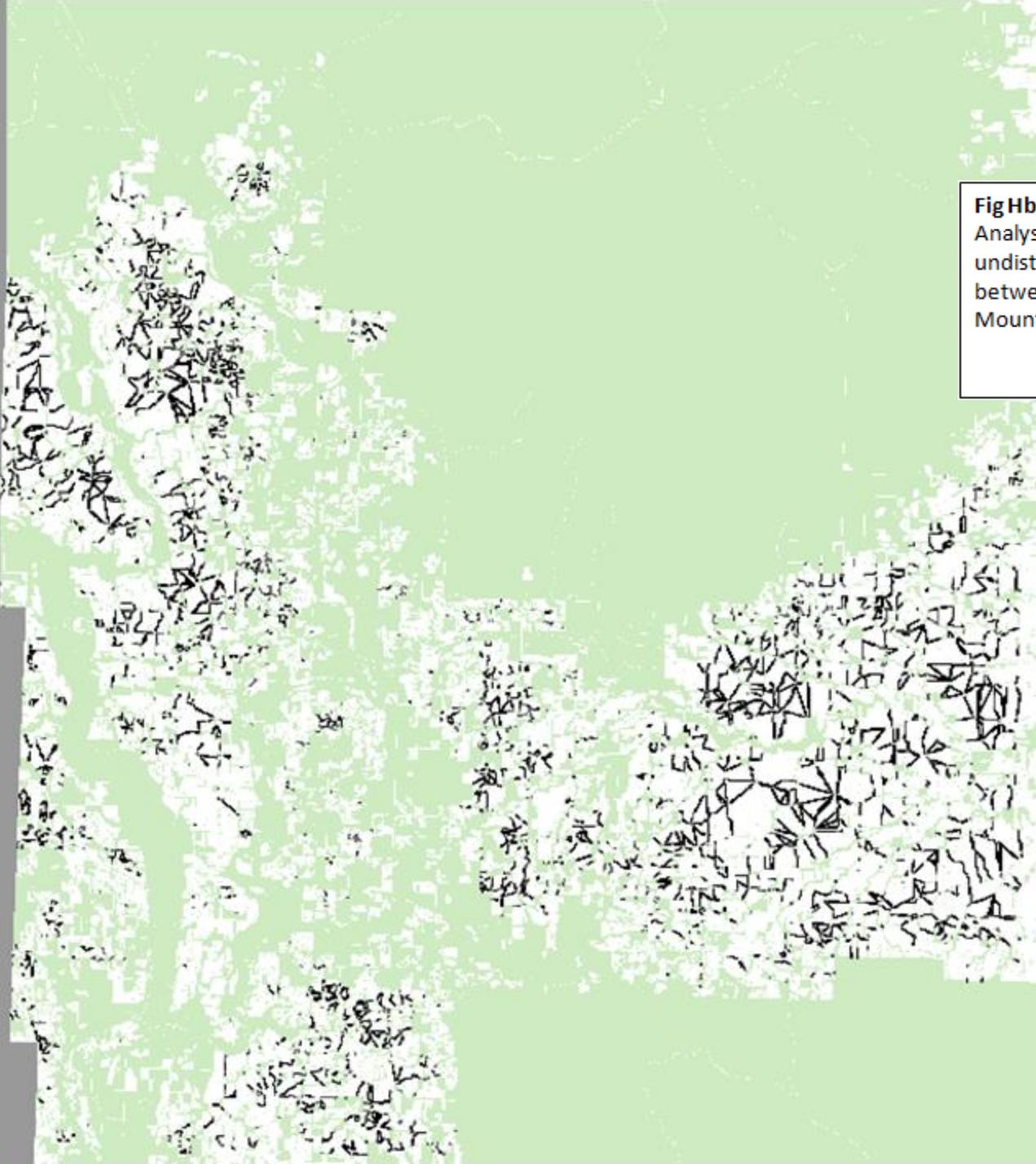


Fig Hb: Draft results of a Spatial Graph Analysis (connectivity amongst undisturbed habitat patches situated between Duck Mountain & Riding Mountain) (from Chan 2011)



Christian Artuso









Phil Gerla, UND

Species At Risk Recovery

Monarch

-Conservation measure: 2.3 Support programs that prevent or mitigate the conversion of native grasslands, in addition to **increasing this habitat type through restoration**, compensation and enhancement activities. Apply integrated land management to minimize loss of native vegetation.

Sprague's Pipit

-Recommended approach: Identify priority areas to target restoration activities. **Develop, promote, and implement appropriate restoration** and management tools to improve and maintain the quality of breeding habitat.

Riddell's Goldenrod

-Conservation measure: 2.3 **Encourage inclusion of native-sourced Riddell's Goldenrod in seed mixes for prairie restoration plantings**, where appropriate²² and feasible, within the species' native range; Encourage coordination of restoration activities (e.g., plantings, prescribed burns) among Conservation Authorities/ municipalities/ landowners/ First Nations.

Chestnut-collared Longspur

-Research and management approach: **Develop, promote and implement appropriate restoration/management tools** to enhance and maintain breeding habitat quality for the Chestnut-collared Longspur.



EMBRACE THE PRAIRIE

The tall grass prairie is one of the most ecologically diverse and productive ecosystems in the world. Prairie plants and animals have evolved to live in the open field. One of the most important characteristics of prairie is its ability to store carbon in the soil.

Learn more about the tall grass prairie in the Prairie Center's *Practical Ecology* book. www.prairiecenter.org



DÉCOUVREZ LA PRAIRIE

Le tall grass prairie est l'un des écosystèmes les plus diversifiés et les plus productifs au monde. Les plantes et les animaux de la prairie ont évolué pour vivre dans le champ ouvert. L'une des caractéristiques les plus importantes de la prairie est sa capacité à stocker du carbone dans le sol.

En savoir plus sur la prairie dans le livre *Practical Ecology* de la Prairie Center. www.prairiecenter.org

ZAAKSTROOK MARSHVOEDING

Deen grommetige marshvoeding is een van de meest diverse en productieve ecosystemen ter wereld. De planten en dieren van de marshvoeding hebben zich ontwikkeld om te leven in het open veld. Een van de belangrijkste kenmerken van de marshvoeding is zijn vermogen om koolstof op te slaan in de bodem.

Lees meer over de marshvoeding in het boek *Practical Ecology* van de Prairie Center. www.prairiecenter.org

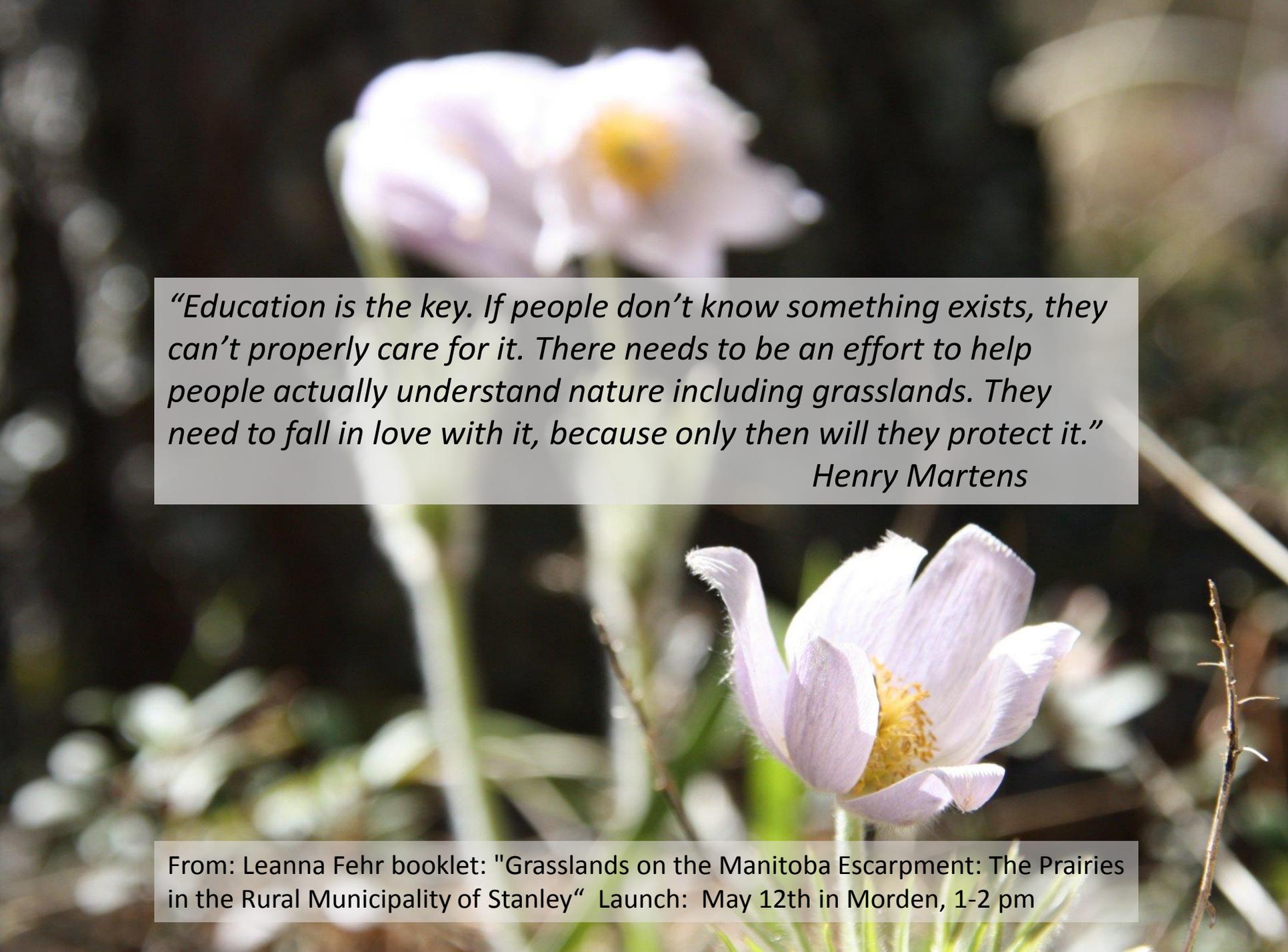


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“Education is the key. If people don’t know something exists, they can’t properly care for it. There needs to be an effort to help people actually understand nature including grasslands. They need to fall in love with it, because only then will they protect it.”

Henry Martens

From: Leanna Fehr booklet: "Grasslands on the Manitoba Escarpment: The Prairies in the Rural Municipality of Stanley" Launch: May 12th in Morden, 1-2 pm