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PHJV Update for NAWMP Plan Committee

February 12-13, 2020





Presentation Outline

- *About the PHJV*
- *Western Boreal Forest*
- *Prairie Parkland*
- *PHJV Progress in Relation to Previous PC Recommendations*



PHJV Vision and Mission

Vision

Healthy prairie, parkland and boreal landscapes that support sustainable bird populations and provide ecological and economic benefits to society.

Mission

Provide leadership to achieve healthy and diverse waterfowl and other bird populations through conservation partnerships. These partnerships strive for sustainable and responsible management of the landscape taking into account social, economic and environmental factors.

About the PHJV

PHJV Goals align with NAWMP

2013-2020 Bird Population Goal

Duck populations are maintained at average levels recorded during 1955-2014, recognizing that abundance and species composition will fluctuate in response to variable pond and upland habitat conditions.

Goals for other bird species are aligned with those specified in Bird Conservation region Plans and Recovery Plans for Species at Risk

2013-2020 Habitat Goal

The Prairie Parkland Region and Western Boreal Forest are capable of sustaining duck populations at levels recorded during 1955-2014, including populations in years of peak abundances, by maintaining the PHJV's carrying capacity (wetlands support breeding pairs; reproductive and survival rates allow population growth). Identify and pursue opportunities to retain and restore key habitats for non-waterfowl species.

2013-2020 People Goal

Programs and policies are delivered and advocated that favour both conservation and the long-term sustainability of rural communities. Enhanced opportunities enable people to hunt and view waterfowl, while building support for wetland conservation among a wider community including the general public.

About the PHJV Governance

- **Environment & Climate Change Canada (CWS)**
- **Alberta Environment and Parks**
- **Alberta NAWMP Partnership**
- **Saskatchewan Ministry of Environment**
- **Saskatchewan Water Security Agency**
- **Manitoba Conservation**
- **Manitoba Habitat Heritage Corporation**
- **Ducks Unlimited Canada**
- **Nature Conservancy of Canada**
- **Wildlife Habitat Canada**
- **Bird Studies Canada**

About the PHJV PHJV Organization

PHJV Board

- **Vanessa Charwood** Environment & Climate Change Canada (CWS)
- **Travis Ripley** Alberta Environment & Parks and Alberta NAWMP
- **Brant Kirychuk** Saskatchewan Environment
- **Glen McMaster** Saskatchewan Water Security Agency
- **Stephen Carlyle** Manitoba Habitat Heritage Corporation
- **Scott Stephens** Ducks Unlimited Canada
- **Kevin Teneycke** Nature Conservancy of Canada
- **Cameron Mack** Wildlife Habitat Canada

PHJV Coordinator: deanna.dixon@canada.ca

www.PHJV.CA



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About the PHJV PHJV Organization

PHJV Advisory Board

PHJV Coordinator

Science
Committee

Policy
Committee

Human Dimensions
Committee

Communications
Committee

NAWMP - PHJV Provincial Steering Committees

Alberta NAWMP Partnership

Saskatchewan NAWMP Partnership

Manitoba NAWMP Partnership



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About the PHJV - Operating Resources

PHJV Advisory Board & Associates

PHJV Coordinator (ECCC)– ½ time FTE plus approx. \$15-20K budget for Board & committee meetings

Science Committee

Science Contributed by DUC, ECCC, AB NAWMP, WSA, SKENV, MHHC, NCC, Birds Cda

Human Resource commitments by DUC, ECCC, AB NAWMP, WSA, SKENV, MHHC, NCC, Birds Cda, WHC

Policy Committee

Annual Budget ~ \$75-80K contributed by DUC, ECCC, AB NAWMP, MHHC, NCC, WSA, SKENV

Human Resource commitments by DUC, ECCC, AB NAWMP, WSA, SKENV, MHHC

Human Dimensions Committee

Annual Budget ~ \$20K contributed by DUC, ECCC, AB NAWMP, NCC, WSA

Human Resource commitments by DUC, ECCC, AB NAWMP, WSA, MHHC, UofA-Harshaw, AFWA-Dsmith, Policy Coord.

Communications Committee

Annual Budget ~ \$20K contributed by DUC, ECCC, AB NAWMP, WSA, SKENV, NCC, MHHC

Human Resource commitments by DUC, ECCC, with input from all committees & agencies



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About the PHJV - Map





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PHJV Prairie Parklands:

- Alberta
- Saskatchewan
- Manitoba
- Peace Parkland of BC

- 11M Ducks
- 158M acres of land of which 100M acres is cultivated
- 82% of Canada's Ag lands
- 4.6M acres of wetlands in target areas
- Private lands

- From 2001-2011:
 - 3.0 % wetland loss
 - 4.0 % native grassland loss

PLANNING FOR THE FUTURE



PRAIRIE HABITAT JOINT VENTURE: THE PRAIRIE PARKLANDS

IMPLEMENTATION PLAN 2013-2020





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Western Boreal Forest

- At least 10 M ducks, but 4-5x the area
- 100 M acres open water + 150 M acres peatlands (bogs, fens & other wetlands)
- Crown lands

Hydrologic interconnectedness = sensitive to landscape changes



PLANNING FOR THE FUTURE

PRAIRIE HABITAT JOINT VENTURE: THE WESTERN BOREAL FOREST

IMPLEMENTATION PLAN 2013-2020

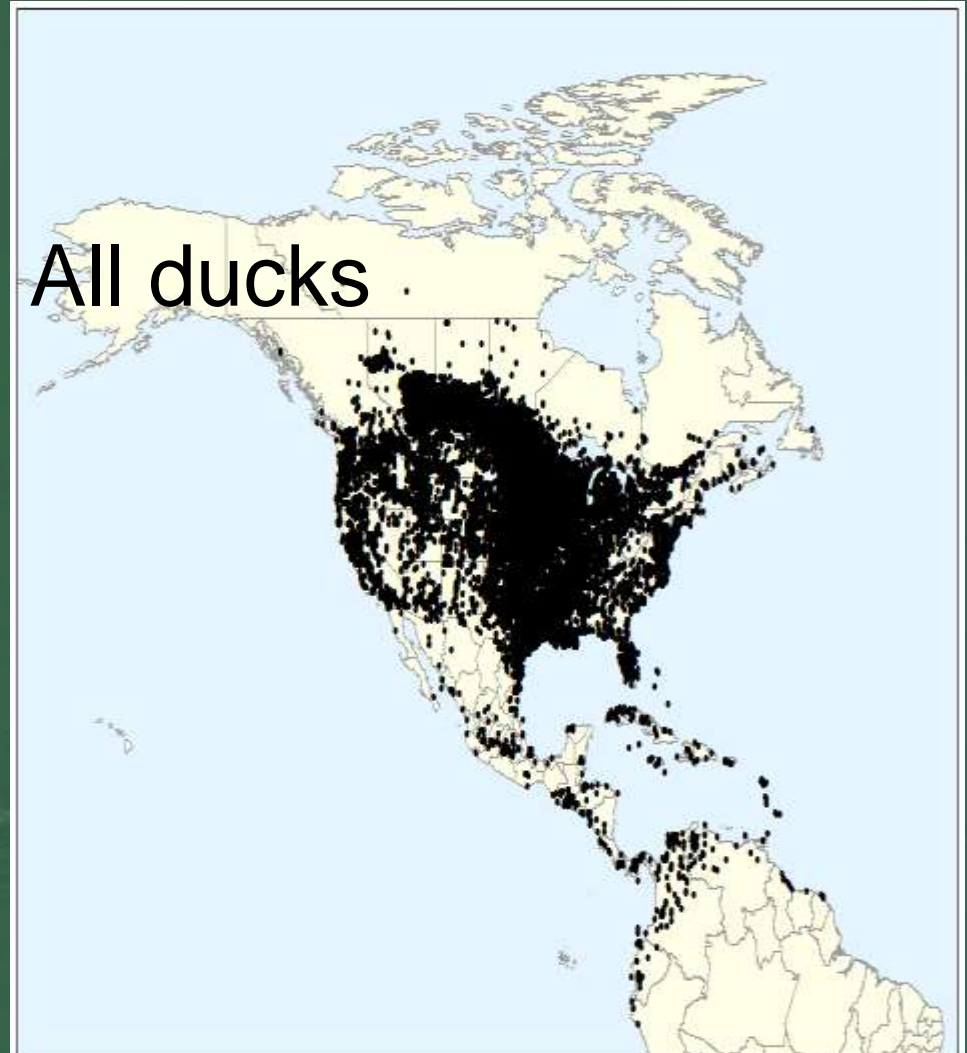


About the PHJV

Direct recoveries of mallards and all ducks banded in the Prairie-Parkland area

70% of total ducks
annually surveyed are
recorded in the Prairie-
Parkland Region and
Western Boreal Forest
area of Canada

Some of best waterfowl
habitat in NA



About the PHJV

PHJV Current Issues

Issue: Habitats lost to agriculture intensification

- Wetland and grassland loss primarily driven by agriculture intensification and health of the cattle industry
- Conversion of grasslands and loss of wetlands further reduce carrying capacity for ducks and many other bird species.

Issue: Wetland restoration program uptake challenge

- Current mechanisms inadequate to address wetland restoration significantly. Current restoration rates are not keeping up with current loss rates.

Issue: Industrial expansion and climate change in the WBF

About the PHJV

PHJV Current Issues

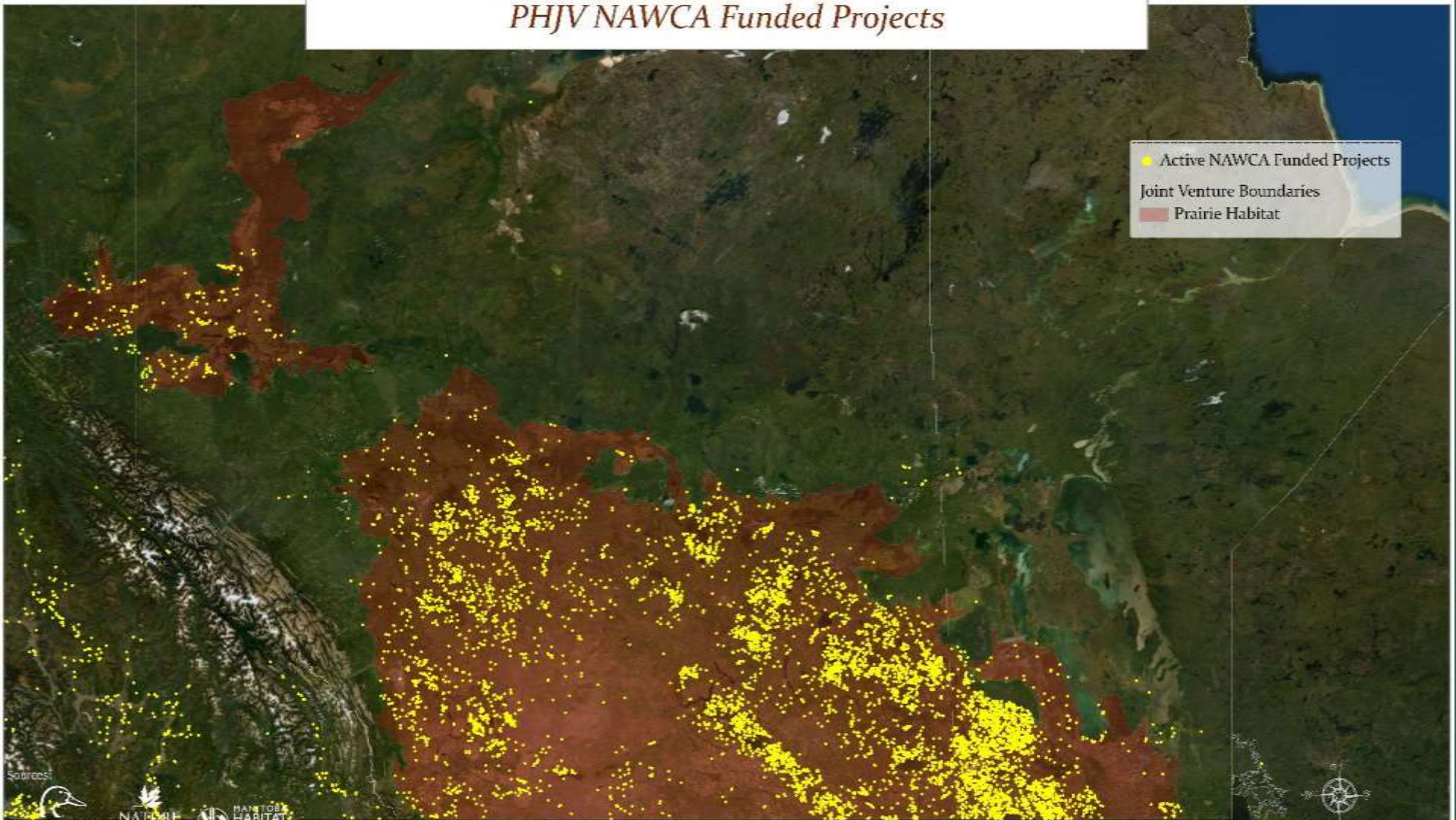
- **But, on the positive side:**
 - Wetland policy implementation (AB, MB) or planning (SK) are advancing.
 - Increasing pressure to sustain grasslands as a resilient multifunctional grazing resource (i.e., beef industry) and for Species at Risk
 - Generally continued interest in conservation easements across prairie Canada. Effective mechanism for protecting important habitats.
 - All provinces investing in waterfowl/bird conservation.
 - Increased CDN federal investment
 - US Federal (NAWCA) and state investments growing



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North American Wetlands Conservation Act
NAWCA

30 Years of Conservation

PHJV NAWCA Funded Projects



Sources:



*Project geometry has been generalized to 1.5 km for Provincial display

Source: Esri, DigitalGlobe, GeoEye, Earthstar/Earthstar, CNES/Airbus DS, USDA, AeroGRID, IGN, the GIS User Community



About the PHJV Acknowledgements

Our Major Partners

- U.S. Fish and Wildlife Service
- North American Wetlands Conservation Council - NAWCA
- Canadian Federal departments
- State, Provincial, Territorial, 1st Nations Governments
- International Boreal Conservation Campaign
- PEW Charitable Trust
- Ducks Unlimited Inc. and DU Canada
- The Nature Conservancy
- National Wildlife Federation
- US Forest Service
- Other United States NGOs & Corporate Agencies
- NAWMP Plan Committee (1986 endorsement; ongoing support)
- >17,000 landowners



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Western Boreal

**Scott Stephens &
Stuart Slattery**



PLANNING FOR THE FUTURE

**PRAIRIE HABITAT JOINT VENTURE:
THE WESTERN BOREAL FOREST**

IMPLEMENTATION PLAN 2013-2020





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PHJV Region



Western
Boreal Forest



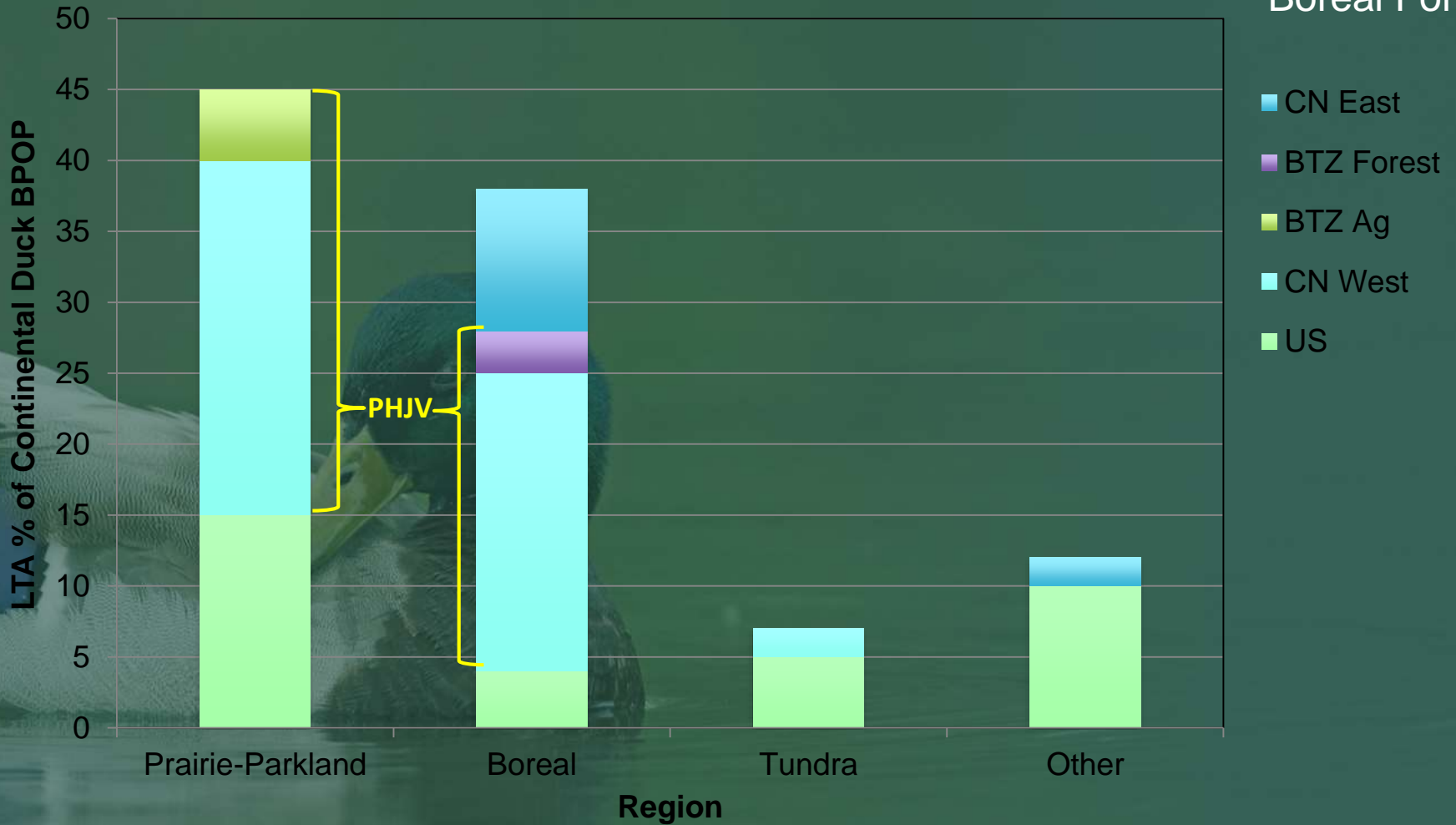


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“Continental” Duck Distribution



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Cumulative Impacts

Fire Scars



Cutblocks



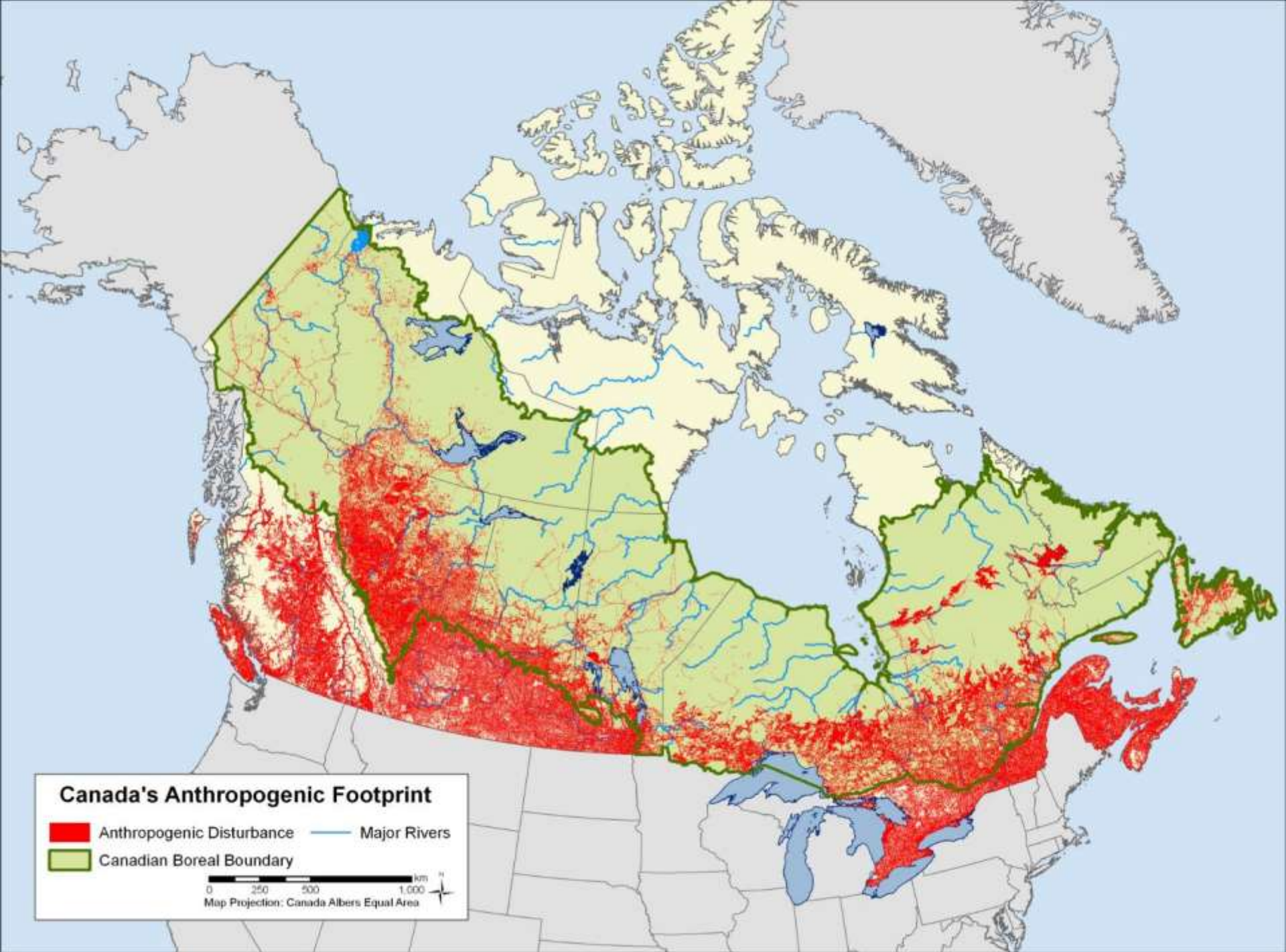
Oil/Gas Infrastructure



Roads



Boreal Forest Near Whitecourt, Alberta



Canada's Anthropogenic Footprint

- Anthropogenic Disturbance
- Major Rivers
- Canadian Boreal Boundary

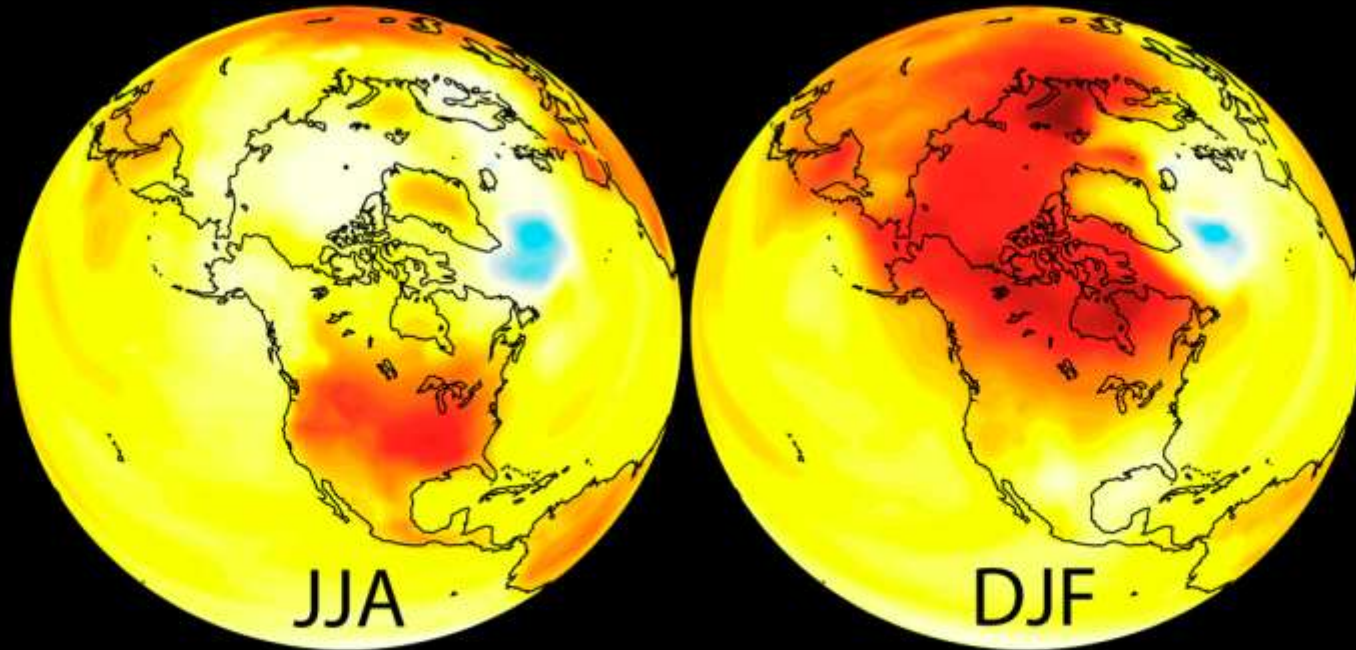
0 250 500 1,000 km
Map Projection: Canada Albers Equal Area

Climate Change



Western
Boreal Forest

NOAA GFDL CM2.1 Climate Model



-20 -16 -13 -11 -9 -7 -5 -3.6 -2.8 -2 -1.2 -0.4 0.4 1.2 2 2.8 3.6 5 7 9 11 13 16 20°F

Surface Air Temperature Change [°F]

(2050s average minus modeled 1971-2000 average)

SRES A1B scenario



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Western Boreal Forest Goals



Western
Boreal Forest

- **Bird Goals**

- Sustain waterfowl populations at 1955-2014 averages
- Sustain populations of other wetland-dependent birds

- **Habitat Goals**

- Retain current biological function of wetlands and associated uplands
- Set habitat objectives for priority species of waterfowl and other wetland-dependent birds

- **Human Dimension Goals**

- Work with northern communities, provincial and federal agencies, industry and other habitat beneficiaries to set and achieve shared conservation goals
- Grow support for boreal waterfowl and non-game bird conservation

Habitat Goals: Delivery



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Two primary themes of habitat delivery:

Protected Lands:

Places where development is generally not allowed

Sustainable Land Use Areas:

Development does not impact the habitat's ability to support ducks



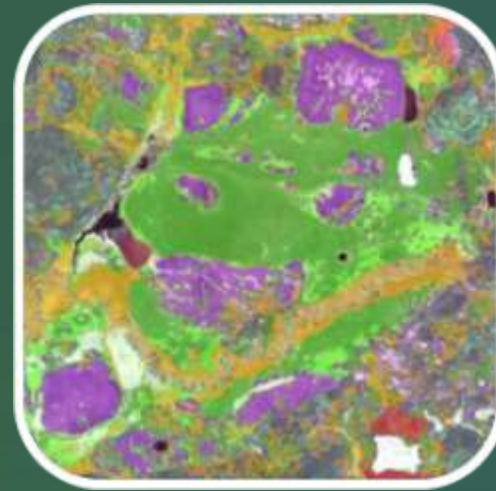
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Protected Areas
Support and prioritize establishment



Sustainable Land Use
Provide information and tools to support sustainable land use

Costs of Conservation (millions)



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	2001 – 2012	2013 – 2020
Communication and Education	\$12.0	\$3.0
Coordination	\$6.3	\$2.9
Enhancement	\$0.1	\$0
Evaluation	\$12.9	\$7.0
Management	\$0.1	\$5.5
Policy Support	\$9.9	\$4.3
Reconnaissance/Design	\$2.5	\$0.6
Securement	\$47.6	\$12.0
Stewardship	\$21.5	\$12.0
Total	\$113.2	\$47.4

Expect to leverage an additional \$52.8 million for minimum total of \$100.2 million from 2013-2020



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Habitat Goals: Objectives, 2013 – 2020

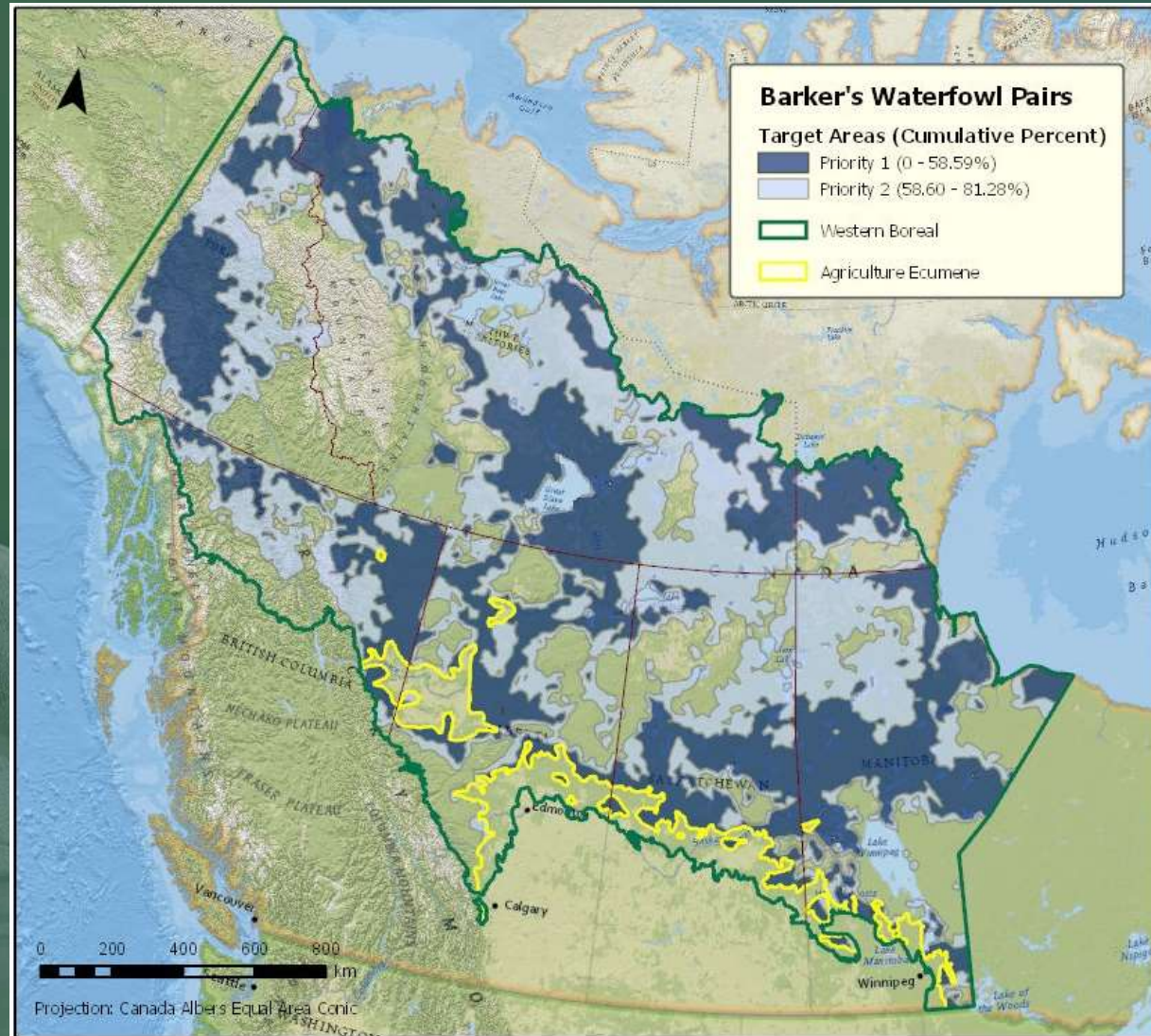
- 25 year goal- 286 million waterfowl acres
- 8 year goal – 30.7 million waterfowl acres

Jurisdiction	Protected Lands		Sustainable Land Use Areas	
	Total	Waterfowl	Total	Waterfowl
Yukon	3.8	1.0	4.1	0.8
NWT	15.6	9.5	16.8	4.9
British Columbia	0.4	0.2	0.8	0.2
Alberta	7.5 ¹	3.1	26.1	6.6
Saskatchewan	0.3	0.1	5.4	1.7
Manitoba	3.3 ¹	2.4	0.7	0.5
Total	30.8	16.1	53.7	14.6

Spatial Targeting Tools



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Human Dimension Goals



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Main Points

- Aboriginal people, governments, and industries play key roles in land use decisions
- Continentally and globally significant EGS values = many beneficiaries
- Iconic landscape - culturally significant

Objective:

- *Work with northern communities, provincial and federal agencies, industry and other habitat beneficiaries to set and achieve shared conservation goals*



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Protected Areas

Support and prioritize establishment



Indigenous Partnerships on Protected Areas/Land Use Planning

We work to conserve important cultural and ecological areas through Indigenous Protected and Conserved Areas

Community Engagement



Build trust by establishing community meetings with leaders/elders/youth.

Listen to their thoughts, concerns, insights, and discuss opportunities.

Establish partnerships on common goals, interests, and opportunities.

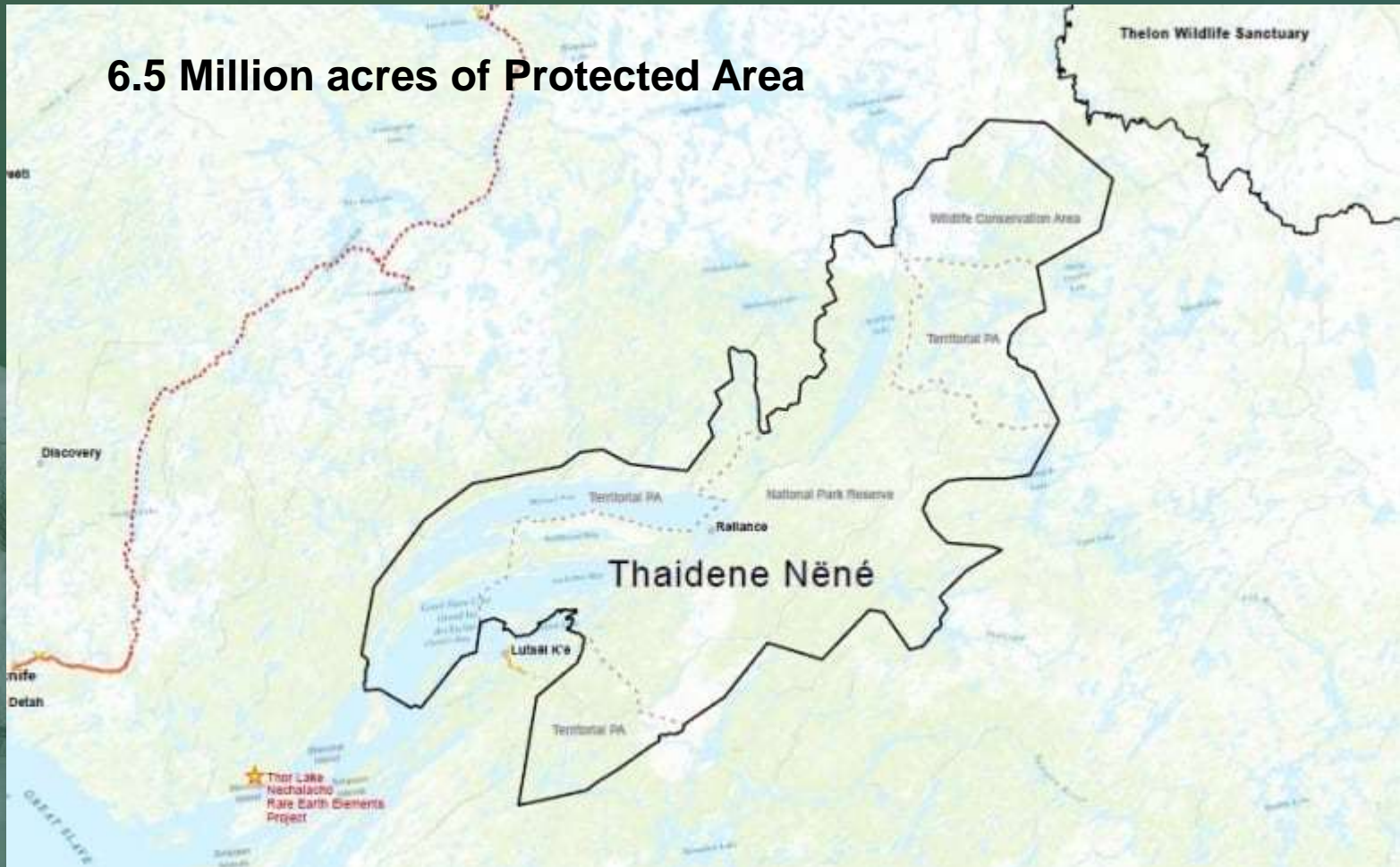
Gain respect by continued engagement and follow through on commitments.

Recent Success- Thaidene Nene National Park Reserve

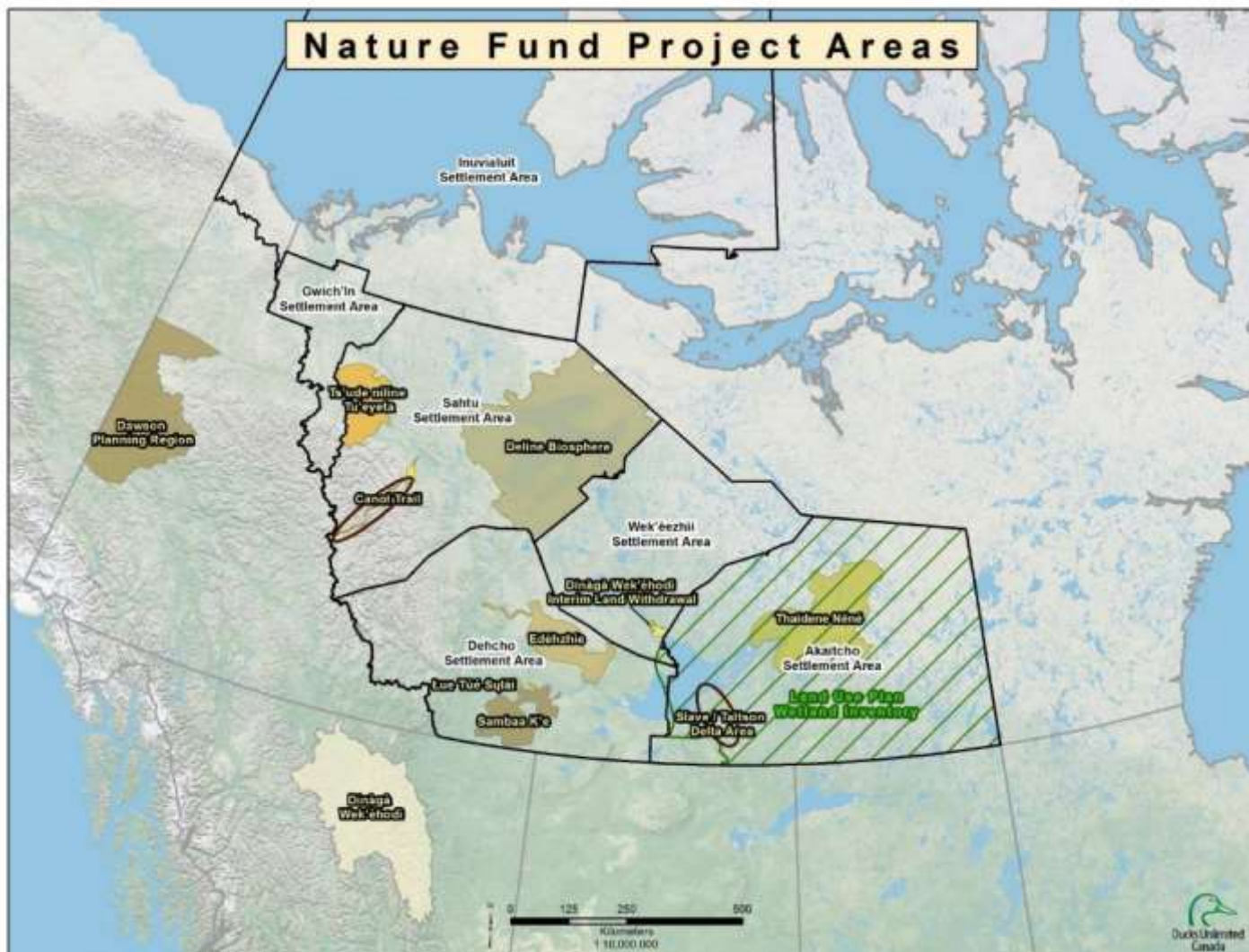


Recent Success- Thaidene Nene National Park Reserve

6.5 Million acres of Protected Area



DUC Projects

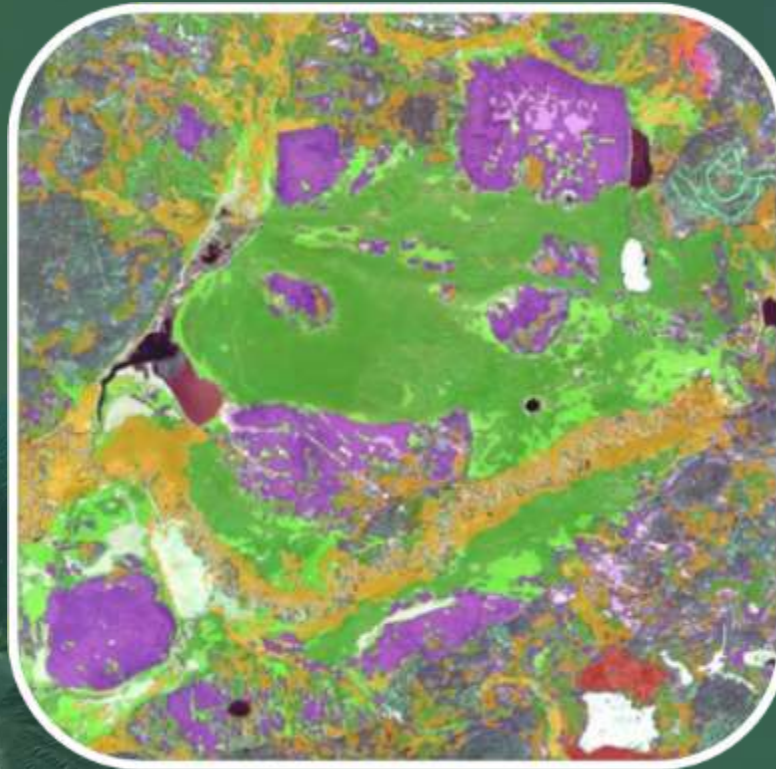




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Sustainable Land Use

Provide information and tools to support
sustainable land use

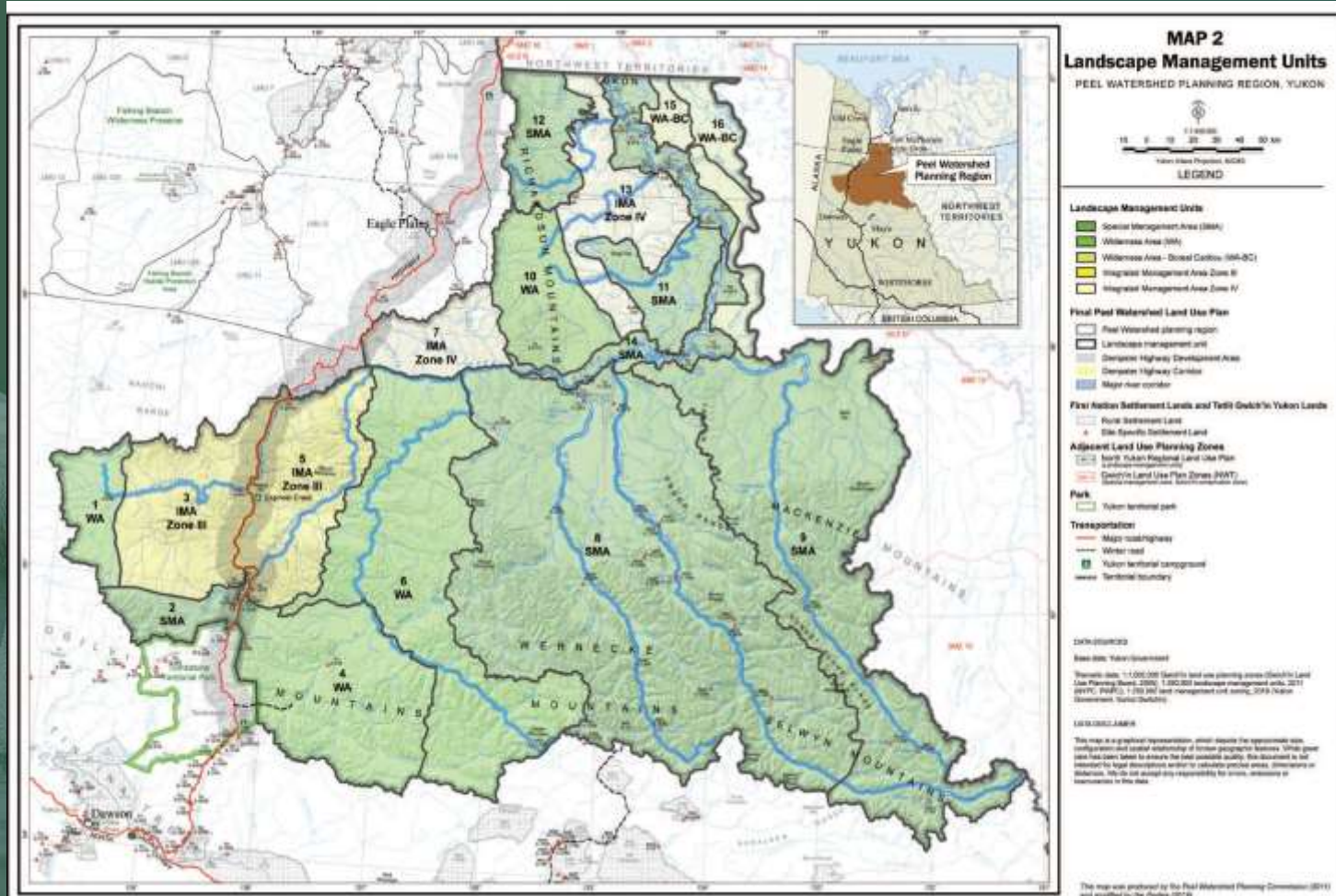


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Peel Land-Use Plan



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DUC and forestry

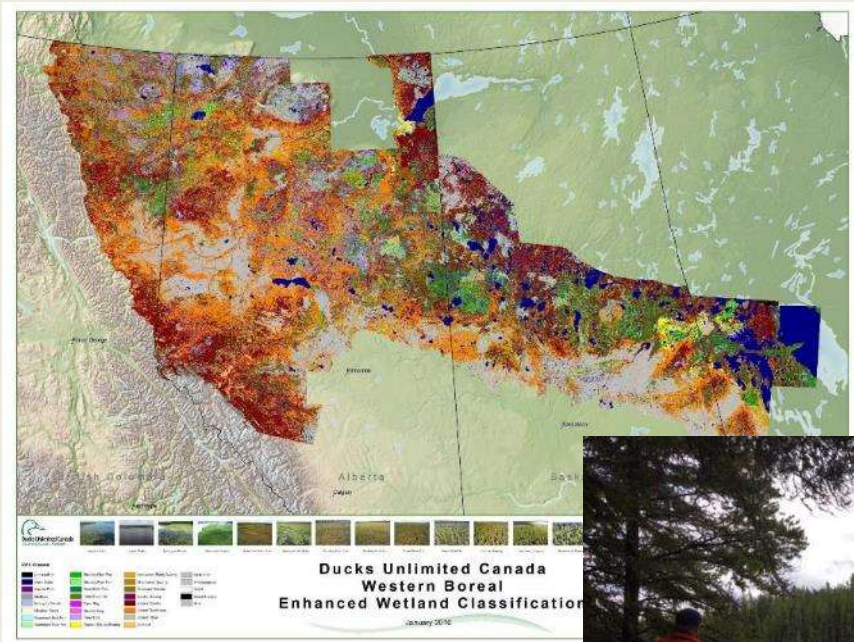
Over the past 20 years we have engaged with the forest industry:

- **Long-term partnerships with forest companies (e.g., Louisiana Pacific)**
- **Have partnered with 19 forest companies across Canada**
- **Input into all forest certification standards (CSA, FSC, SFI)**
- **SFI board of directors**
- **Collaborative multi-organization projects (e.g., FMWSI, SFI carbon project)**





Partnering to raise awareness & understanding of boreal wetlands and develop knowledge transfer products





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Forest Management and Wetland Stewardship Initiative

Launched October 2018



Forestry and
Waterfowl: Assessing
and Mitigating Risk

Launched November 2018



Guiding Principles for
Wetland Stewardship
and Forest Management

Launched June 2019



Wetland BMPs for Forest
Management Planning
and Operations

Wetland Best Management Practices Knowledge Exchange

- **Over 550 subscribers from across Canada - environmental practitioners, various levels of government, industry, Indigenous, academic, non-governmental, and other individuals and groups.**
- **Monthly newsletter since July 2016**
- **Monthly webinar since January 2017**
- **Website and Twitter accounts**





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Habitat Goals: Objectives, 2013 – 2020

- **Current accomplishments 79% of Total Acres and 67% of Waterfowl Acres**

Jurisdiction	Protected Lands		Sustainable Land Use Areas	
	Total	Waterfowl	Total	Waterfowl
Yukon	3.8	1.0	4.1	0.8
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Total	30.8	16.1	53.7	14.6



Science Priorities

Evaluation Objectives	Waterfowl	Non-Game Birds
Set Population Objectives	.	Long
Population Inventories	.	Short
Identify Limiting Factors/Mechanisms	Short ✓	Short
Identify Habitat Associations	Short ✓	Short
Distribution Maps	Long ✓	Long
Habitat Trends and Risk Assessment	Short	Short
Develop Planning Models	Long	Long
Develop SLU Practices	Short	.
Link to EGS	Short ✓	Short
Climate Change vs. PHJV Investment	Long	Long
Evaluate PHJV Programs	Long	Long

Identifying Limiting Factors





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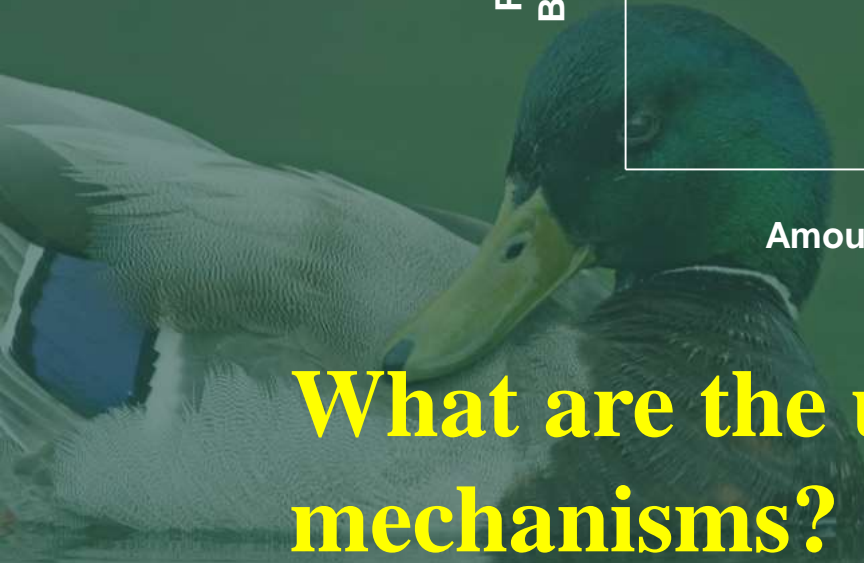
Pair Numbers or
Breeding Success

Which landscape changes??



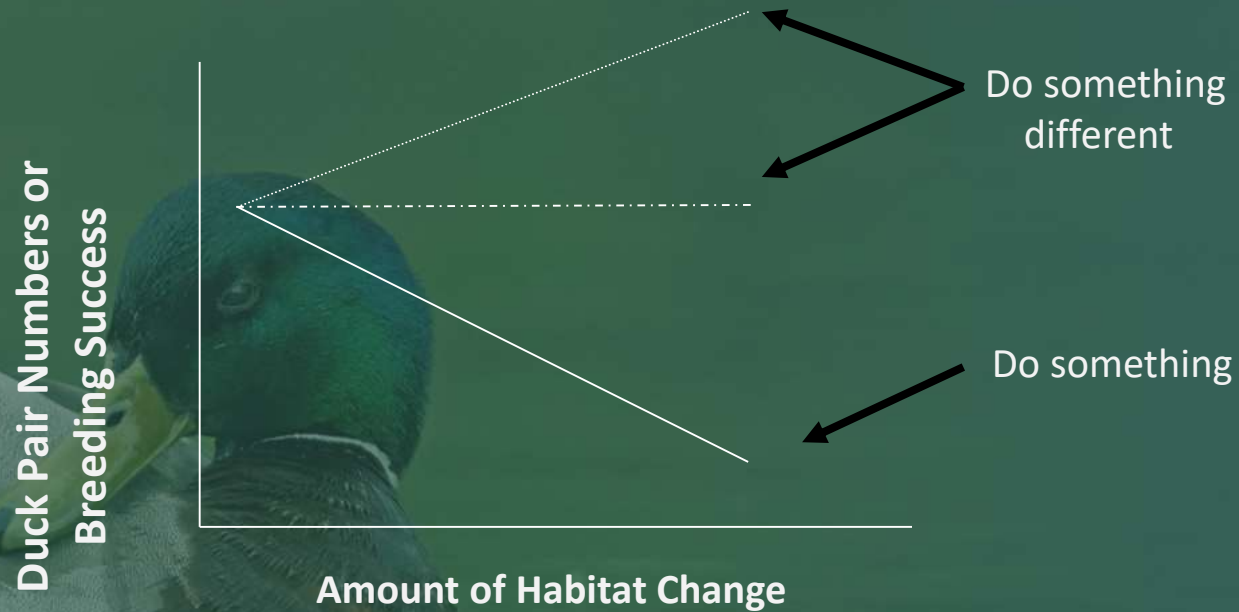
Amount of Habitat Change

What are the underlying biological mechanisms?





Habitat change and ducks





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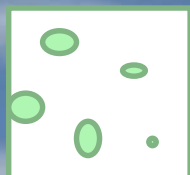


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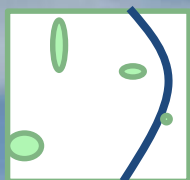
Limiting Factors Projects

- Do forestry practices emulate fire from a duck's perspective? (Alberta, DUC & ECCC)
- Duck population trends and industry in the Boreal Plains (DUC)
- Spatio-temporal correlation of duck populations and industrial development (Alberta, DUC)
- Do roads, pipelines and seismic lines influence setting and productivity of ducks (Alberta, DUC, ECCC, "JOSM")

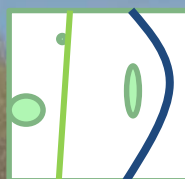
Study Design: Dose-Response...Space for Time



None

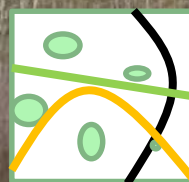


Low



Moderate

Roads
Pipelines
Seismic Lines



High



General Patterns

Habitat Change	# of Studies	Settling	Productivity ¹
Fire	3		
Green Tree Harvest	3		
Salvage Tree Harvest	1		
Roads	5		
Pipelines	2		
Seismic Lines	2		
Wells	1		
Cumulative Area	1		
Cumulative Edge	1		
Buildings/Settlements	2		
Mines	1		

■ Negative relationship

■ Non - negative relationship

¹ n = 1 where shaded



General Patterns

Habitat Change	# of Studies	Settling	Productivity ¹
Fire	3	■	■
Green Tree Harvest	3	■ ?	■
Salvage Tree Harvest	1	■	■
Roads	5	■	■
Pipelines	2	■	■
Seismic Lines	2	■	■
Wells	1	■	·
Cumulative Area	1	■ v. small effect	·
Cumulative Edge	1	■	·
Buildings/Settlements	2	■	■
Mines	1	■	·

■ Negative relationship

■ Non - negative relationship

¹ n = 1 where shaded

Ongoing Research



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1. Nest survival
2. Identifying nest predators
3. Predator occupancy
4. Habitat use by hens





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What *might* this mean for conservation PHJV program adaptation?

- Protected areas and wetland policy efforts likely no regrets solutions
- Thinking about ways to adapt Sustainable Land Use program
- Need to develop strategies for driving conservation accomplishments into Priority 1 target areas

Questions about the Western Boreal Forest?



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Prairie Parklands

Jim Devries

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**PRAIRIE HABITAT JOINT VENTURE:
THE PRAIRIE PARKLANDS**

IMPLEMENTATION PLAN 2013-2020





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Prairie/Parkland Goals, 2013-2020



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Parklands

- **Bird Goals**

- Sustain waterfowl populations at 1955-2014 averages
- Adopted Goals of *BCR 11 Bird Conservation Strategy* for other birds

- **Habitat Goals**

- Uplands and wetlands sufficient to maintain LTA waterfowl production
- Habitat goals in progress for other birds

- **Human Dimension Goals**

- Programs and policies are delivered and advocated that favour both conservation and the long-term sustainability of agricultural communities.
- Citizens understand and value the benefits of wetland and waterfowl habitat and take action to support conservation initiatives.



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Step-down Population Objectives

- apportioned from Strata 26-40 May Waterfowl
Survey segments



Prairie
Parklands

Prairie/Parkland Population Objectives

Species	Long-term average (1955-2014)	Long-term 80th percentile	2009-2019 Average
Dabbling ducks	9,483,000	12,584,000	
Diving ducks	1,233,000	1,543,000	
All ducks	10,717,000	13,747,000	~13,000,000
Ponds	2,762,000	3,643,000	~3,170,000

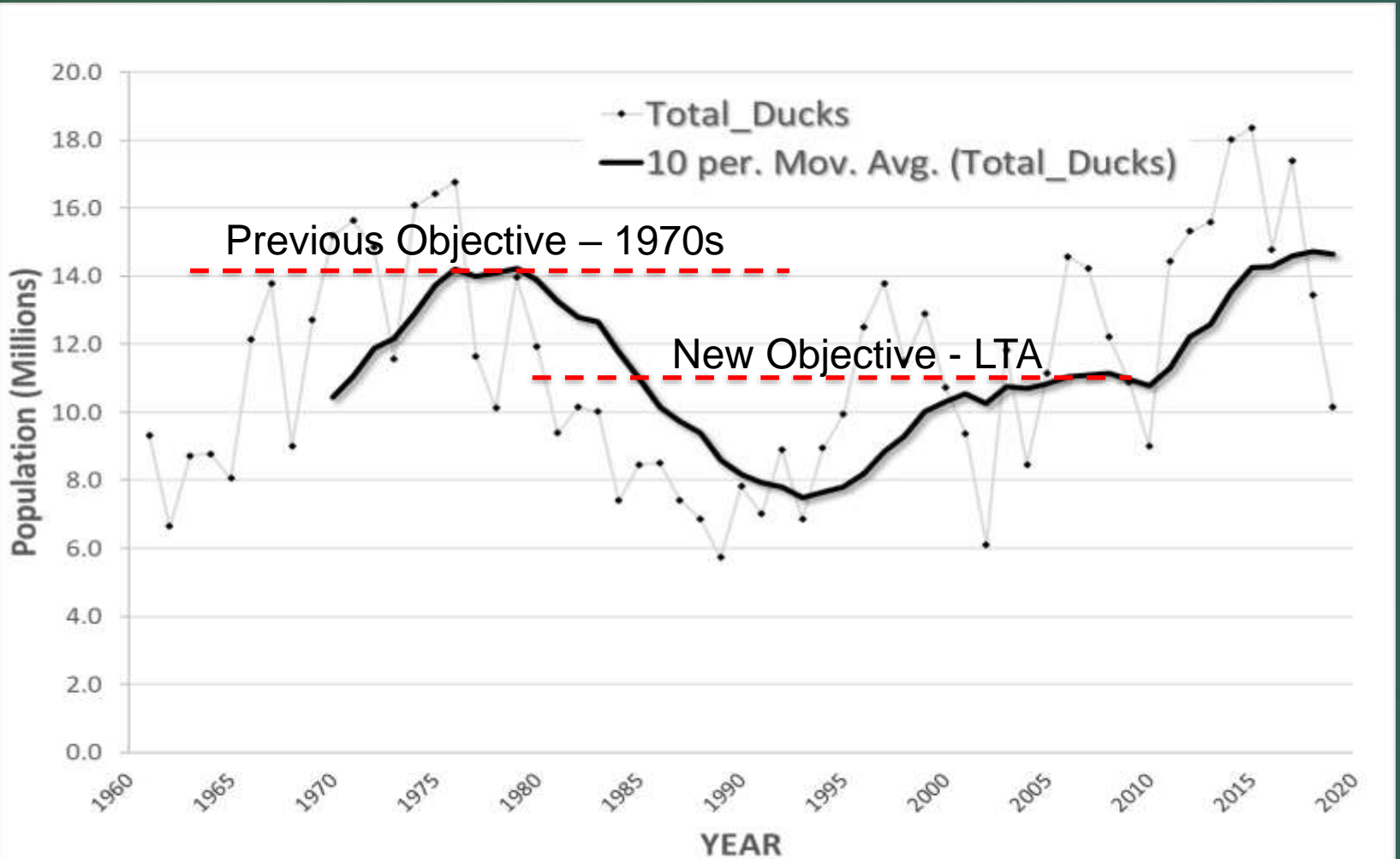


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Population Objectives



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Parklands



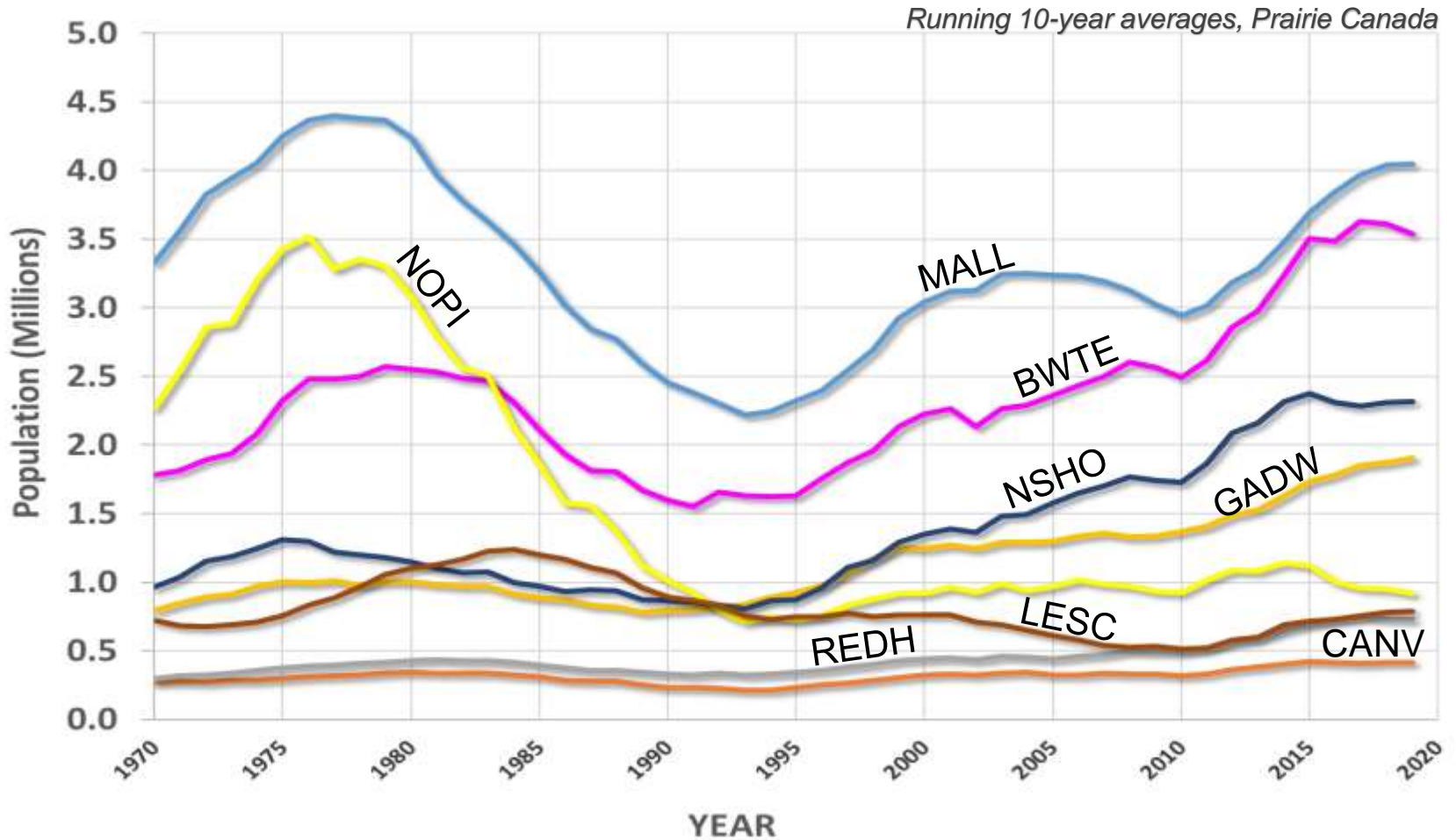


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Relevant Trends – Prairie Ducks



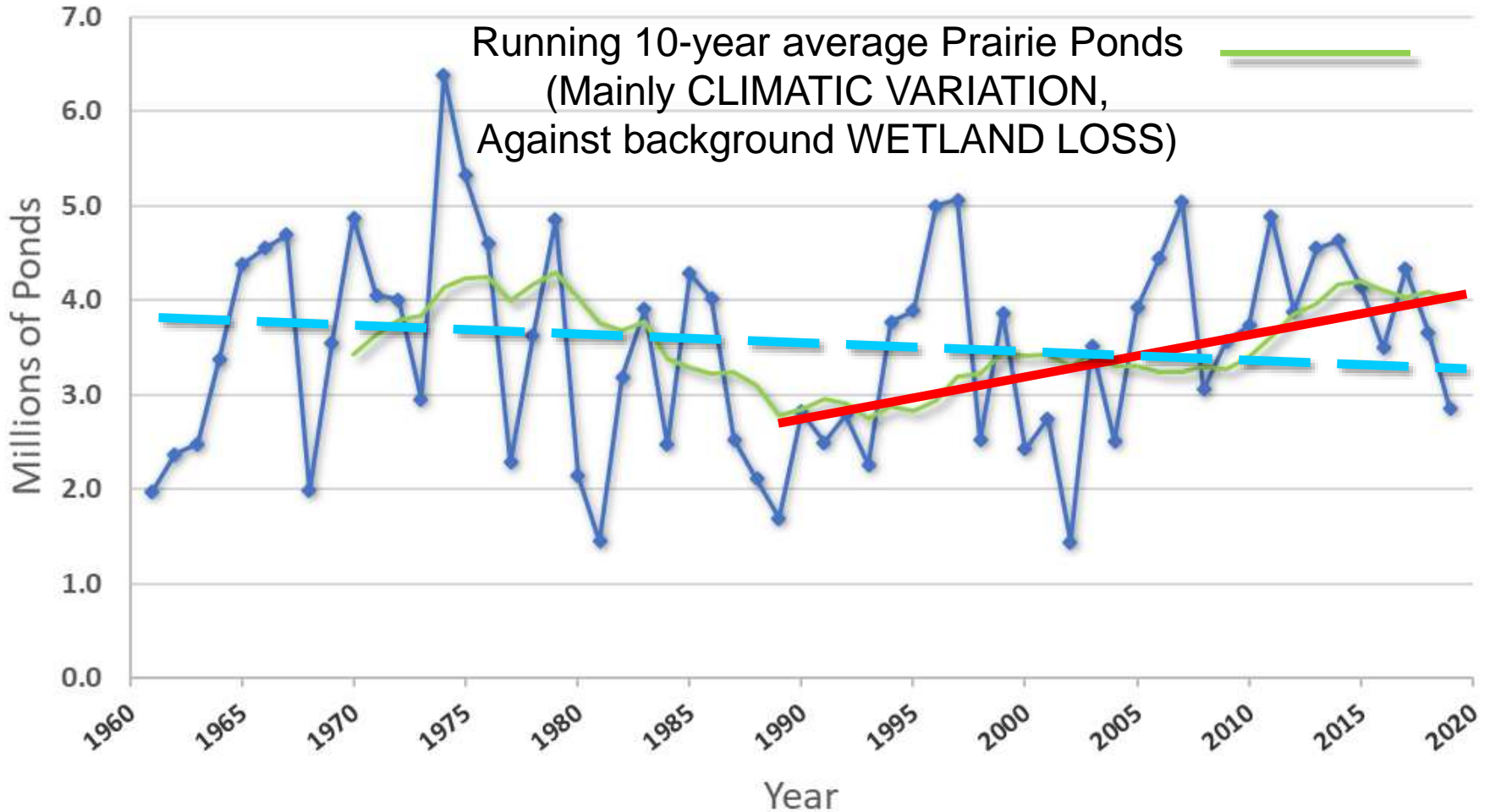
Prairie
Parklands



Relevant Trends –Prairie Ponds



Prairie
Parklands

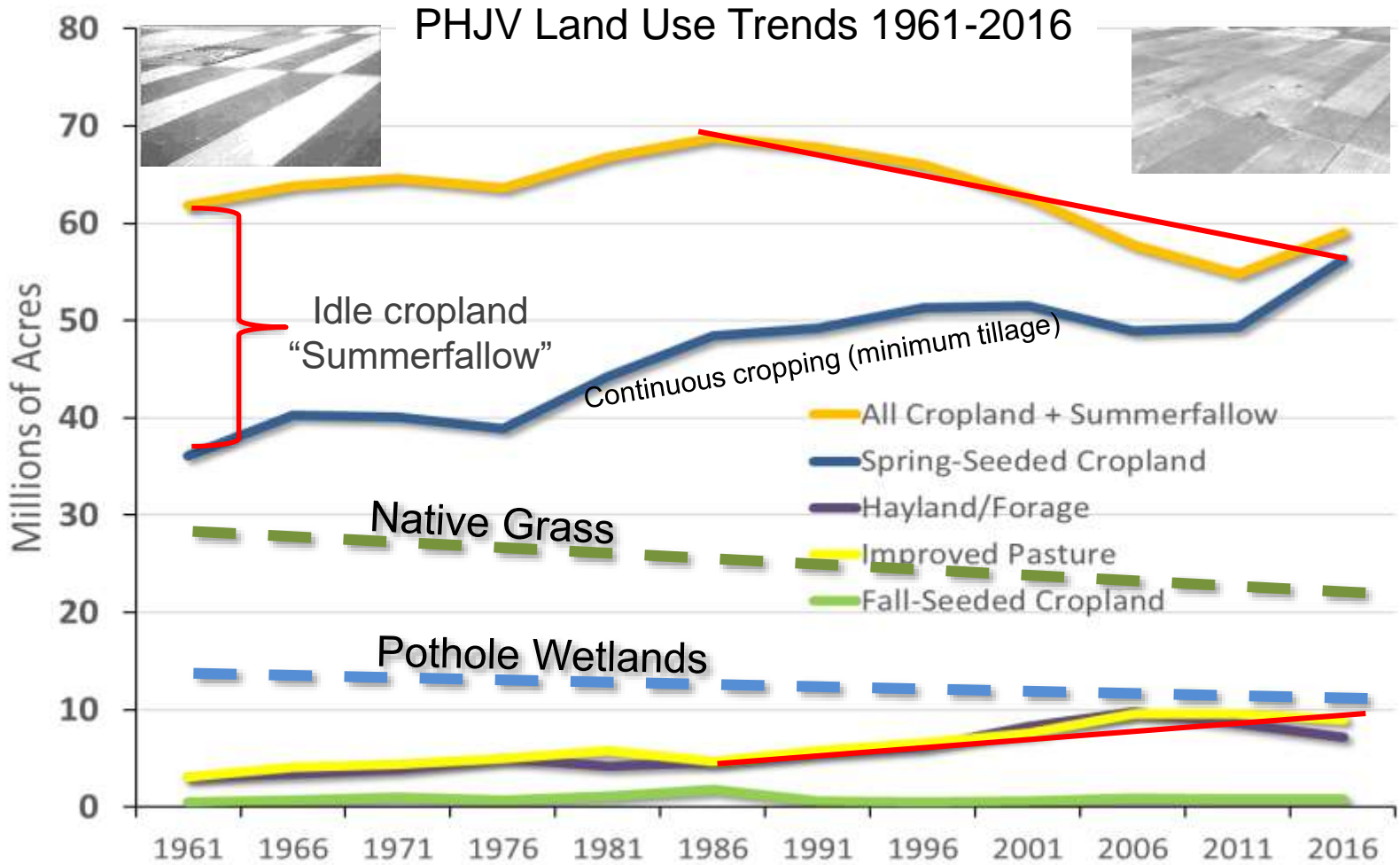




Relevant Trends – Land use (Habitat)



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Source: Statistics Canada Census of Agriculture 1961-2016



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Integration



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Parklands

Populations ↔ *Habitat*

PHJV waterfowl habitat objectives target factors limiting waterfowl production

- Threats to carrying capacity (e.g., wetland drainage)
- Threats to reproductive success (e.g., grassland loss)

Answer the question – How much habitat is needed to maintain waterfowl production at objective levels?



PHJV Conservation Planning



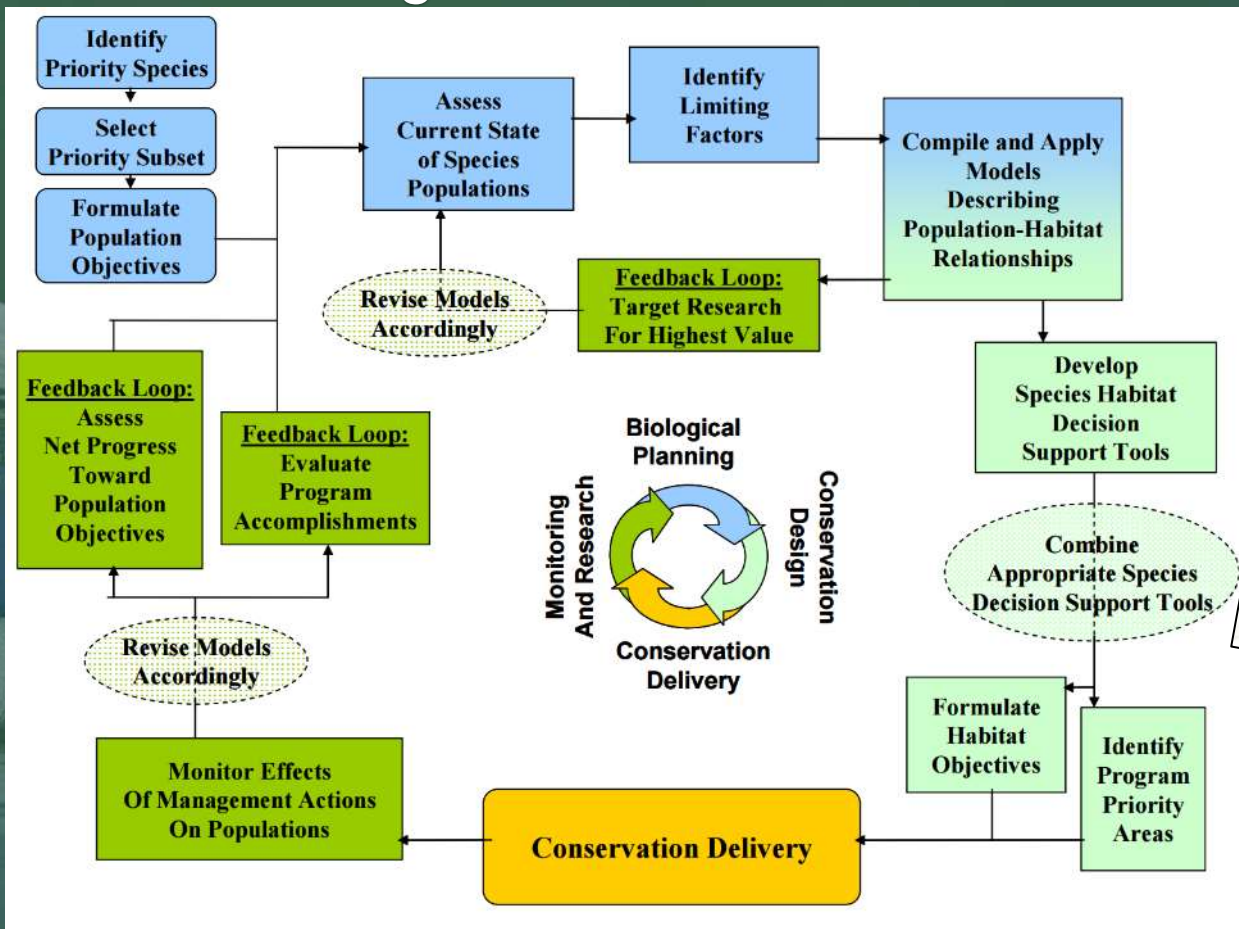
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Parklands

Primary Updates

- 2021-2025 Implementation Plan in Progress
- Currently adapting Habitat Objectives to sync with new NAWMP Goals (LTA population)
- Addition of Habitat Objectives for other birds
- Further development of Human Dimensions Objectives and strategies



Strategic Habitat Conservation





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PHJV Conservation Planning

– Habitat/Population Integration

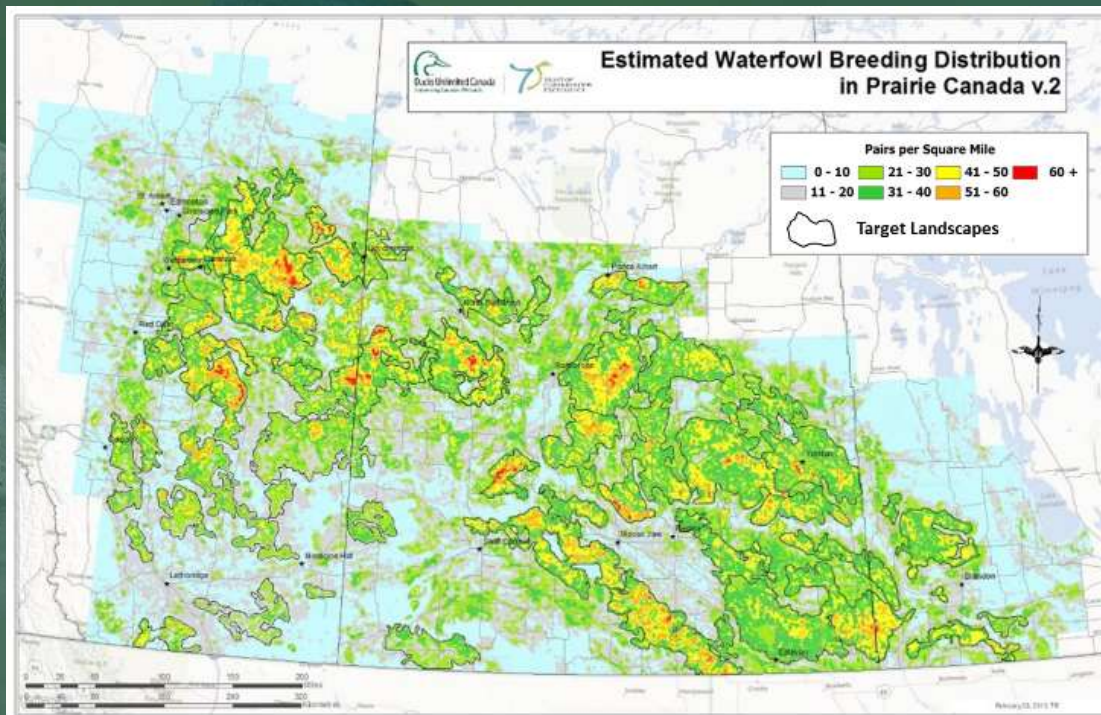


Prairie
Parklands

Decision Support Tools (Mapping Products):

Species Distribution Models (SDM) –

- Depict the spatial distribution of species of interest.
- Supports habitat objective setting/targeting for maximal effect.



PHJV Conservation Planning

– Habitat/Population Integration

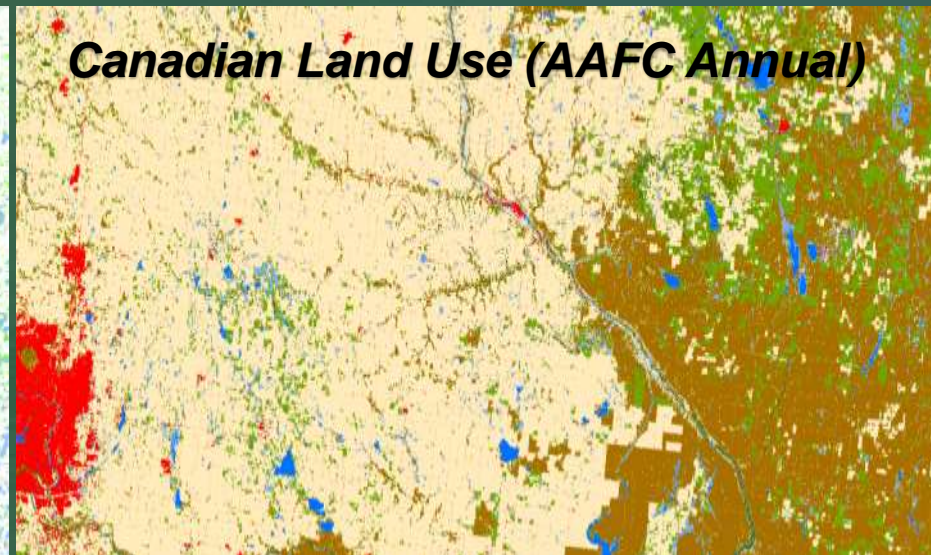
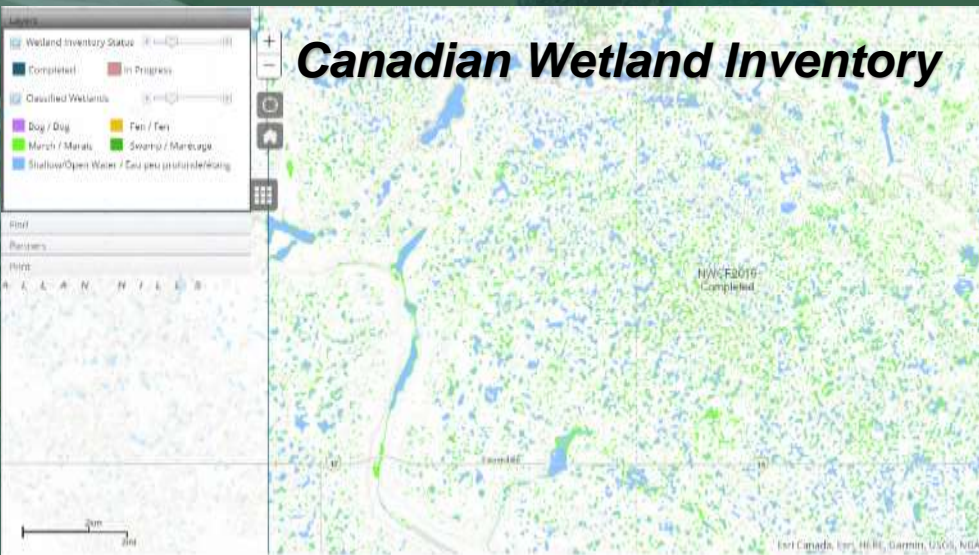


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Parklands

Decision Support Tools (Mapping Products):

Spatial distribution of important habitats or features –

- Habitats associated with the presence, suitability, or reproductive success/survival of species of interest (wetlands, grasslands)





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PHJV Conservation Planning

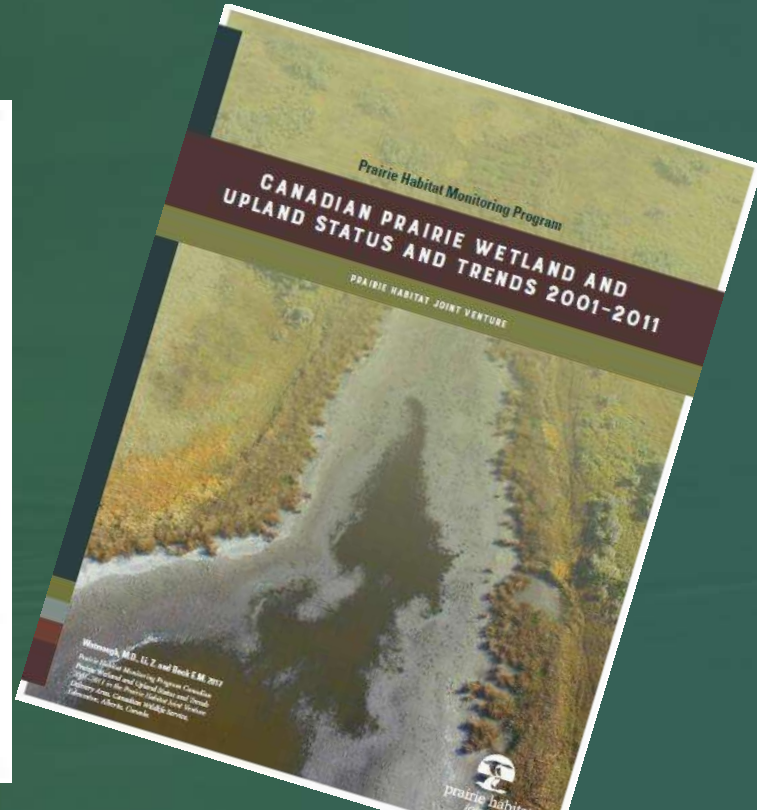
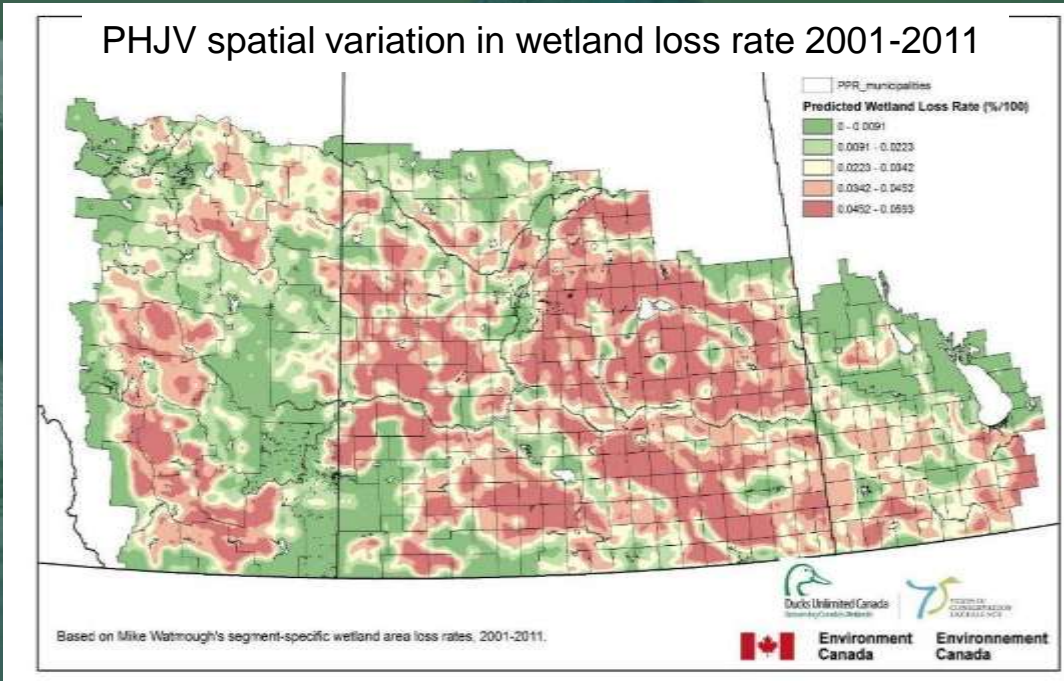
– Habitat/Population Integration



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Decision Support Tools (Habitat Trends): **Habitat trend monitoring.**

- Land use data (e.g., Ag Census) but also sample-based habitat monitoring





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PHJV Conservation Planning

– Habitat/Population Integration



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Parklands

Summary:

- Losing base population carrying capacity (pothole wetlands)
- Populations/productivity maintained by favorable land use trends and a wet period, 1986-2011
- We need new Habitat Objectives to meet new Population Objectives – LTA productivity
- Will explore new Habitat Objectives using the **PHJV Waterfowl Productivity Model** – estimate habitat required to meet LTA productivity objective

PHJV Waterfowl Productivity Model



Estimate Potential Nests Initiated by species

Nesting/renesting propensity



Application of nest habitat preference given habitat availability

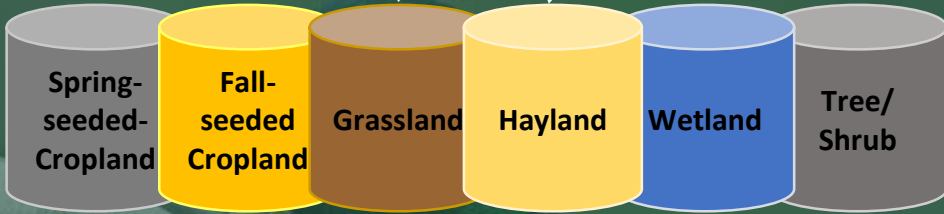
Dependent on:

Species
Date (E,M,L)
% Grassland
Latitude

Extract Duck Pairs (MALL, BWTE, NOSH, GADW, NOPI)



Distribution of nests among habitats



NS NS NS NS NS NS

Estimated Hatched Nests

Dependent on:

Species
Date (E,M,L)
% Grassland
Latitude
Longitude

Application of nest survival rates by habitat



Integration – Linking Habitat Change to Duck Production

Spatial/Temporal Landscape Data

Waterfowl Productivity Model

Spatial/Temporal Duck Data

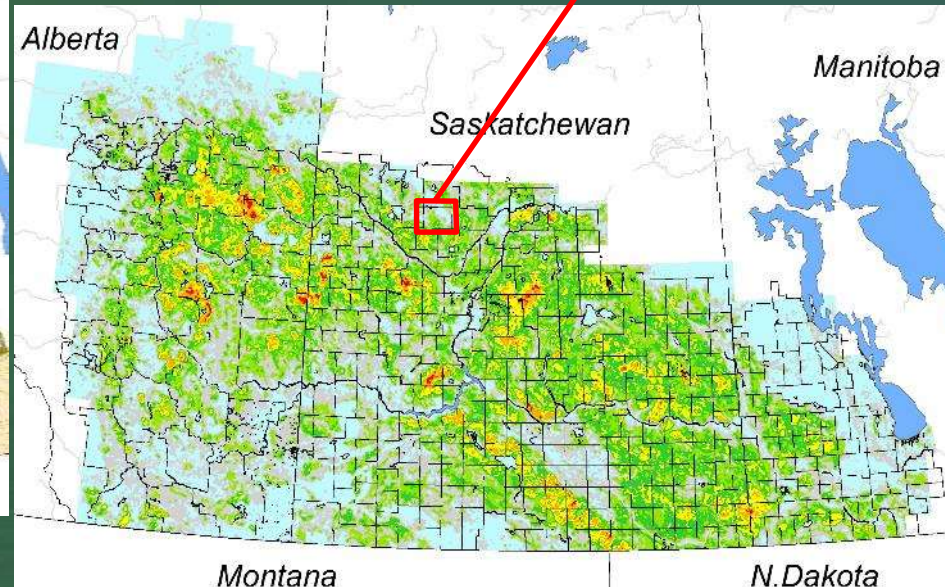
Percent of CCS unit	1961	2016
Cropland	45	50
Fall crop	1	2
Hayland	5	7
Natural Grazed	20	17
Natural Idle	18	15
Woodland Grazed	5	4
Woodland Idle	6	5

Hatched Nests	1961	2016	Diff
Cropland	183	270	
Fall crop	95	230	
Hayland	182	114	
Natural Grazed	609	494	
Natural Idle	950	735	
Woodland Grazed	232	200	
Woodland Idle	341	330	
Total	2592	2373	-219

Est. Population	1961	2016
Mallard	2880	2630
B.W. Teal	2304	2150
N. Shoveler	1152	1090
Gadwall	1100	920
N. Pintail	300	265

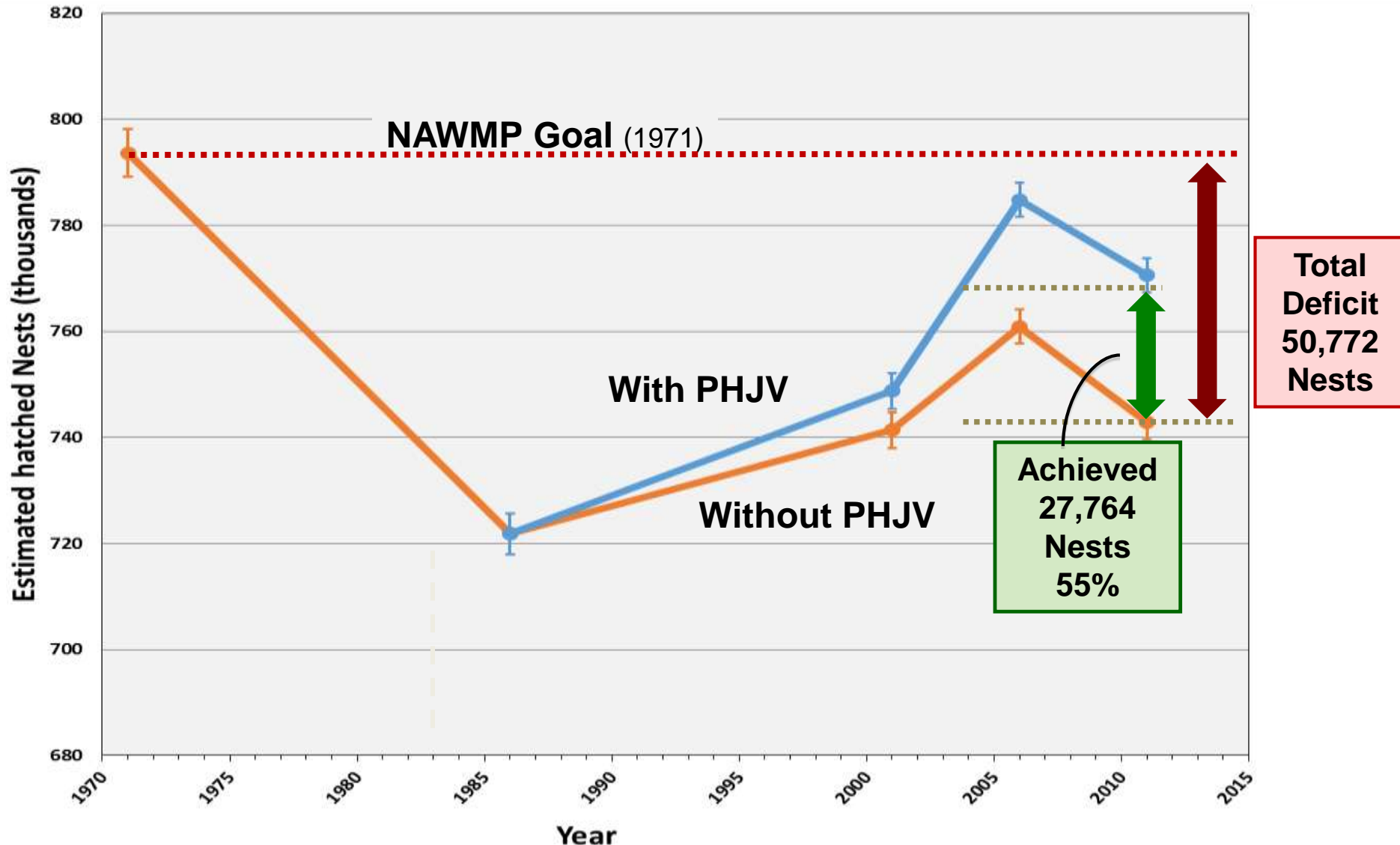


Census of Agriculture CCS Units –
Upland Landscape 1961, ..., 2016
(Habitat Availability)



LTA Waterfowl Population Adjusted for
Wetland Loss 1961, ..., 2016

Integration - Habitat Objectives set to achieve productivity objective





Habitat *Restoration* Objectives, 2020 & 2030



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	By 2020, 8-Year Objectives (Acres)			
	Direct	Stewardship	Total	Year 2030 Habitat Objective
Habitat Restoration	NAWMP	NAWMP		
Winter Wheat	-	-	15-20% of all wheat acres	15-20% of all wheat acres
Tame Pasture	274,165	316,530	590,695	1,476,738
Tame Hay	73,828	324,758	398,586	996,461
Planted Cover	26,439	-	26,439	66,096
Wetlands	7,900	-	7,900	77,864
Nesting tunnels	1,360	-	1,360	3,400
Sub-total	383,692	641,288	1,024,980	2,620,559



Habitat *Retention* Objectives, 2020 & 2030



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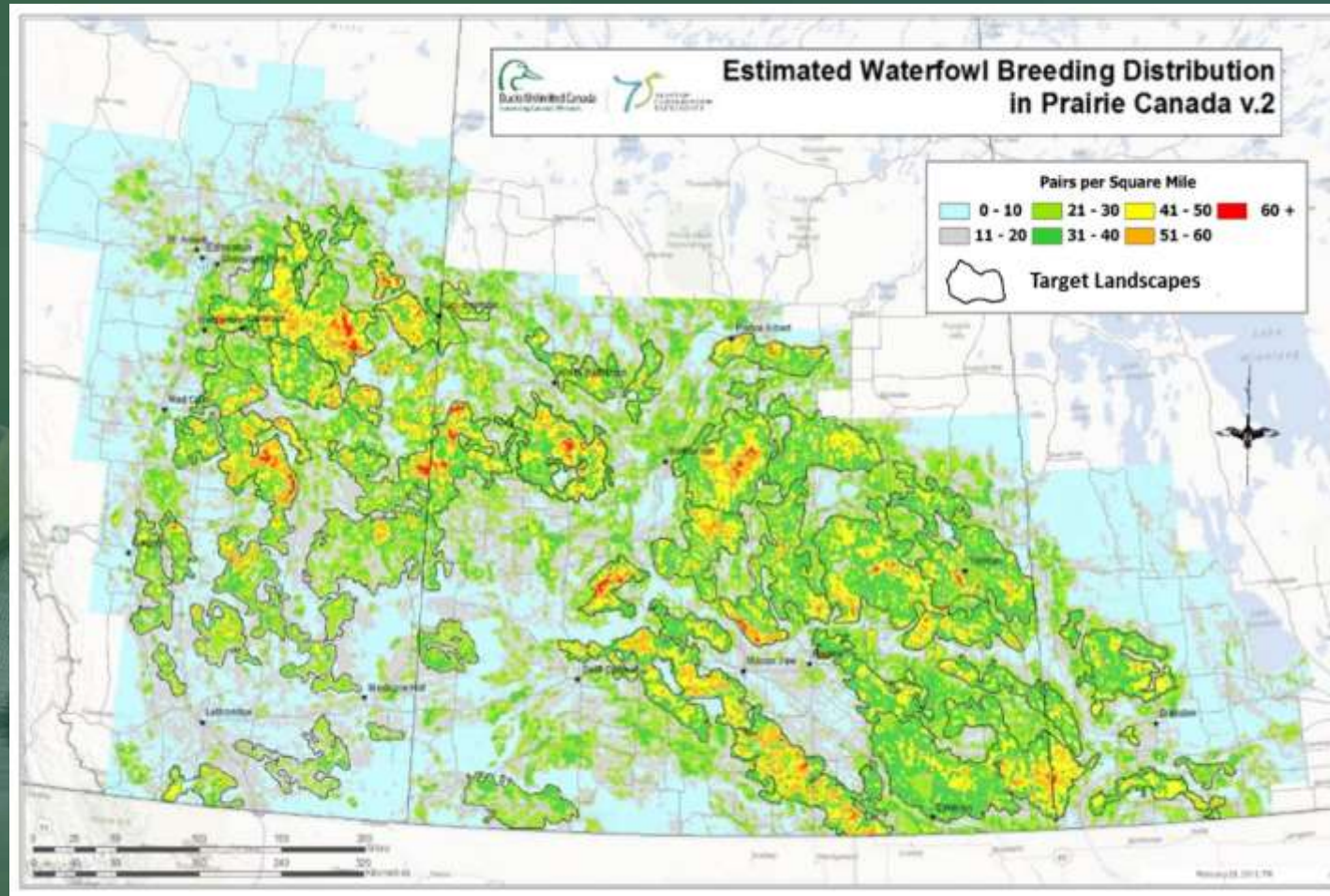
Habitat Retention	By 2020, 8-Year Objectives (Acres)			Year 2030
	Direct	Stewardship	Total	Habitat Objective
Wetland	343,402	-	343,402	847,630
Upland	340,724	-	340,724	829,684
Sub-total	684,126	-	684,126	1,677,314

Habitat Objectives



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Habitat
Objectives
focused on
Target
Landscapes





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Habitat Objectives



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Conservation Easements

Lease – Idle grassland

Forage Conversion

Winter Wheat

Wetland Restoration Lease

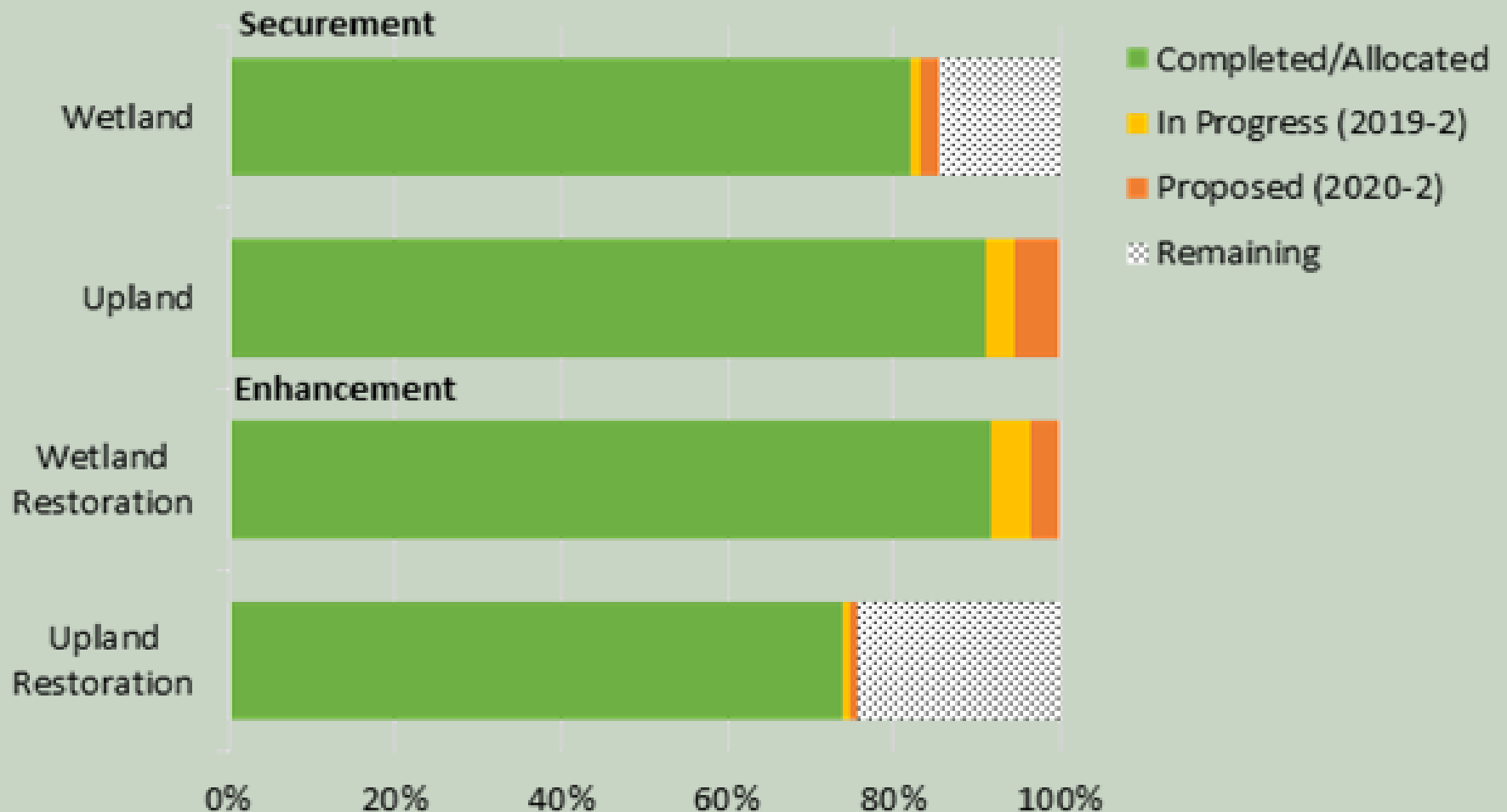
Purchase

Revolving Conservation Lands Program

Current IP Accomplishments



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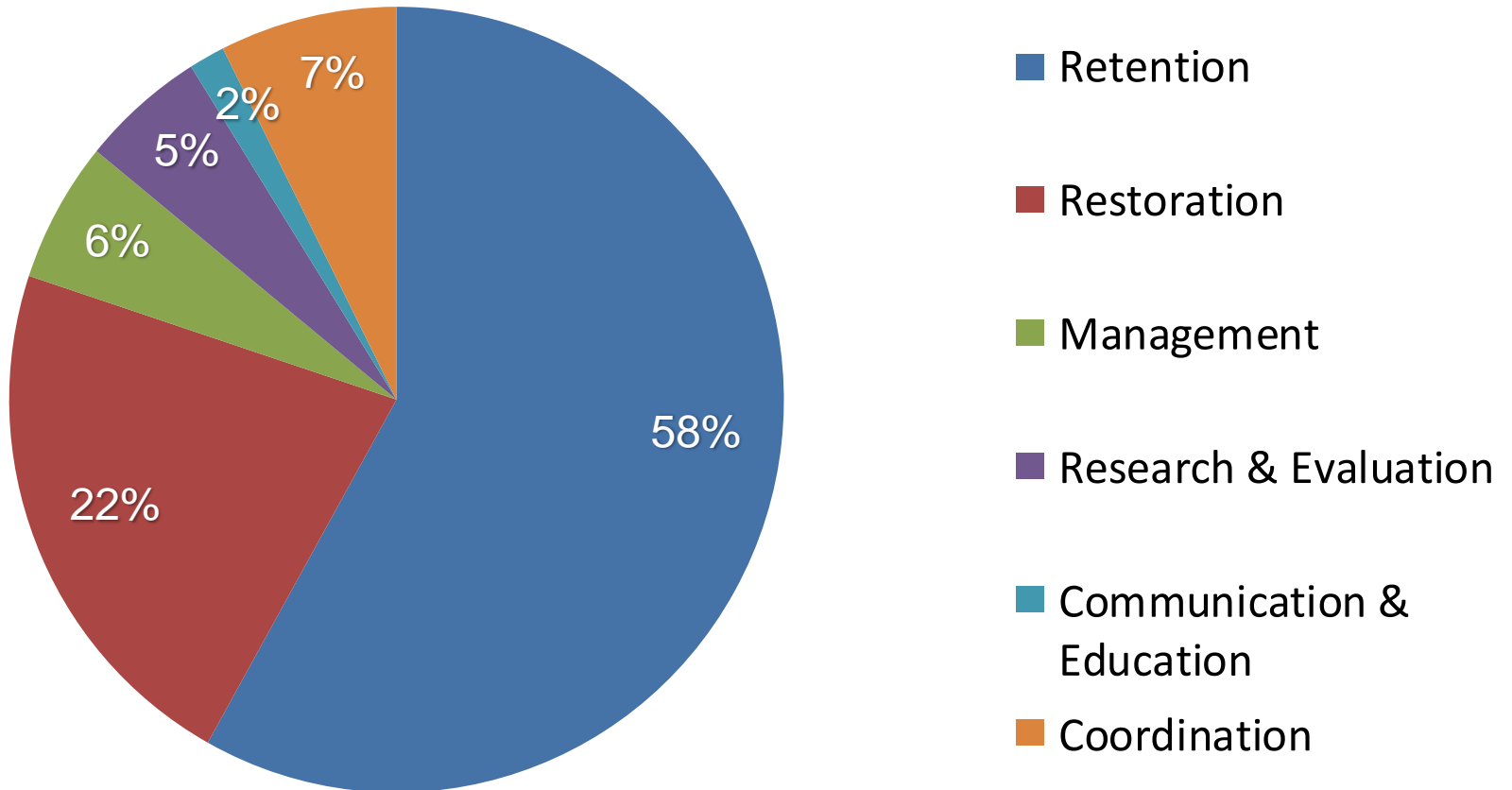


Program Costs 2013-2020



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% allocation (\$470 million est.)



PHJV Conservation Planning



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Primary Updates

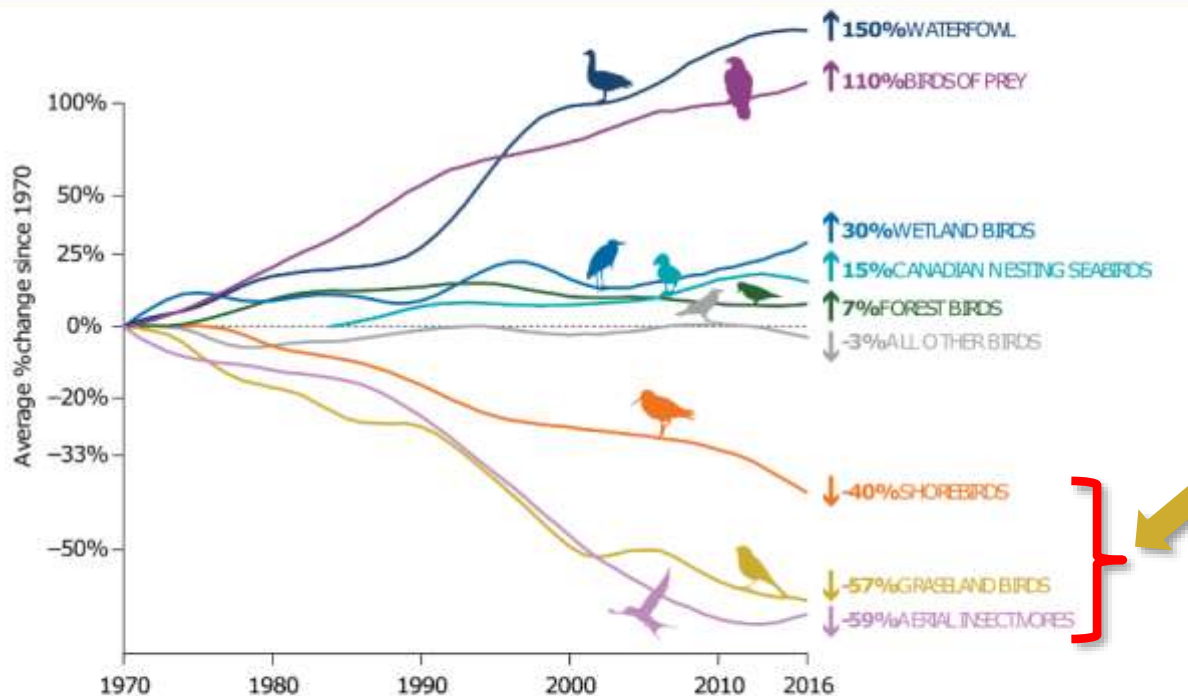
- 2021-2025 Implementation Plan in Progress
- Currently adapting Habitat Objectives to sync with new NAWMP Goals (LTA population)
- *Addition of Habitat Objectives for other birds*
- Further development of Human Dimensions Objectives and strategies



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THE STATE OF CANADA'S BIRDS

2019



Major declines since 1970



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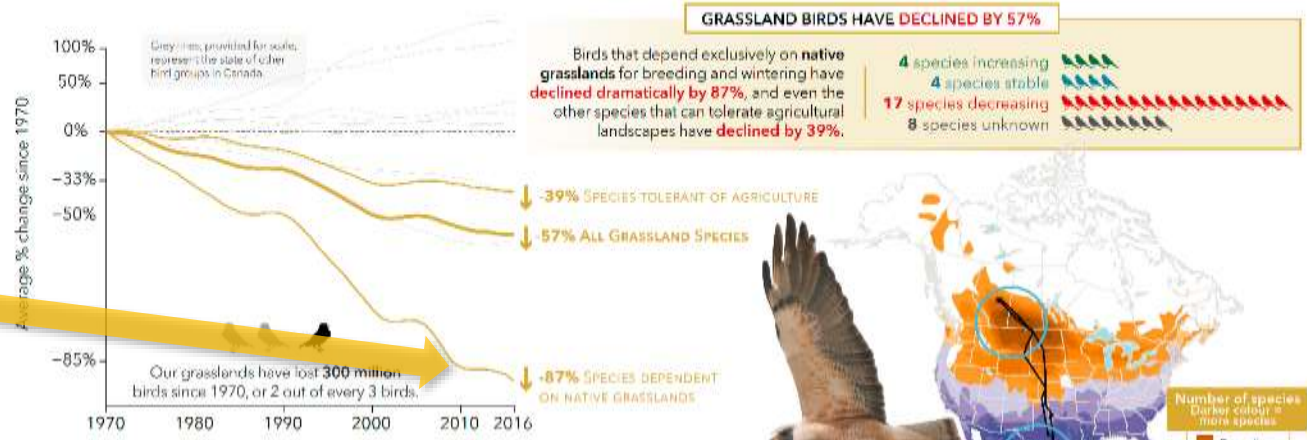
Other Birds



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Species
dependent
on native
grassland:
Down 87%

GRASSLAND BIRDS ARE RUNNING OUT OF TIME



Threats



Protect the few remaining grasslands, including grazed public lands, from crop agriculture and restore native grasslands to provide habitat and increase carbon storage.



Support sustainable range-fed beef, which includes beneficial hay and pasture management.



Protect the water and land by seeking innovative alternatives to broad-scale pesticide use.



Demand action to address the causes of climate change and its effects on grasslands, such as increasing erosion, frequency and severity of drought and flooding, and risk of wildfire.

Conservation Actions

Each year, **Swainson's Hawks** like this one breed in Alberta's **Prairies** and then fly south, often passing through key grassland wintering regions in Mexico, such as the **Chihuahuan grasslands**, and eventually to Argentina's **Pampas grasslands**. **International partnerships are key** to protecting these three areas from being converted to irrigated crops, as they are critically important to grassland birds that depend on intact native grasslands.



Beneficial grazing on public and private lands is critical for the creation and maintenance of grassland bird habitat.

Baird's Sparrow
Chestnut-collared Longspur
Lark Bunting
McCown's Longspur
Sprague's Pipit
Greater Sage-Grouse (no data)

Movement data courtesy of Kochert et al., 2011, <http://dx.doi.org/10.1525/cond.2011.092241>; Coulson, 113: 89-106 and Fuller et al., 1998, DOI: 10.2307/3627162. *J. Avian Biol.* 29:433-440. Photo credit: Swainson's Hawk by the Mezuzy Library at the Cornell Lab of Ornithology.



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Other Birds



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Background

- Currently have adopted population goals for landbirds, shorebirds, marsh/waterbirds from BCR 11 Bird Conservation Strategy
- Need to understand the overlap of current habitat conservation delivery for waterfowl and critical habitats for other birds.

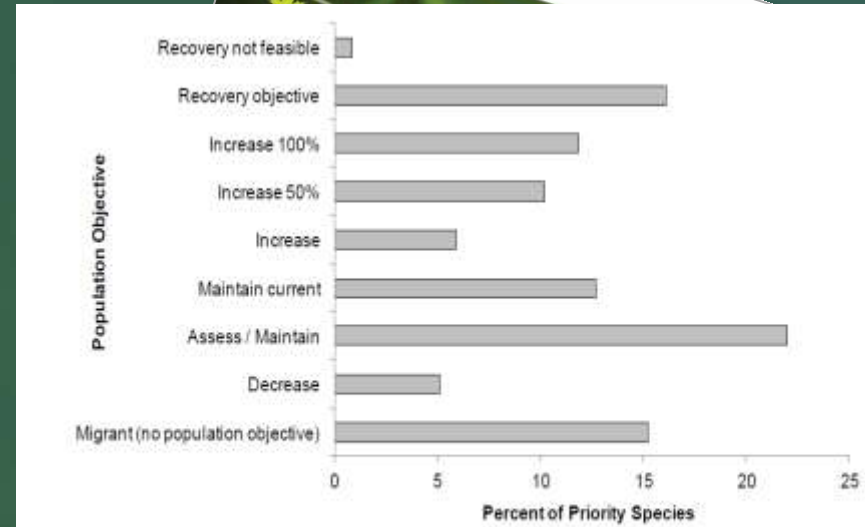


Figure 4. Percent of priority species that are associated with each population objective category in BCR 11 PNR.



Canada



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Other Birds



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Objectives

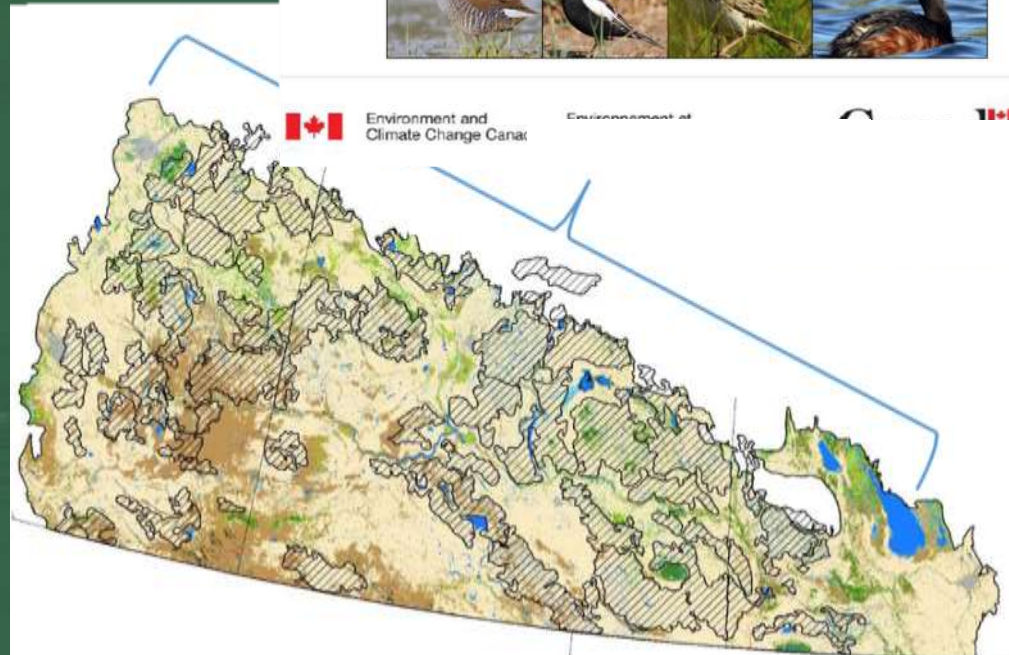
1. Expand priority areas analysis to include other bird groups
2. Do priority areas overlap?
 - a) Are non-waterfowl benefiting?
 - b) Where are additional conservation efforts most needed?
3. Focus land securement and acquisitions by PHJV partners

Waterfowl
Priority
Landscapes



Identifying Priority Areas for Breeding Birds in the Prairie Habitat Joint Venture

Matt Carlson, Integral Ecology Group
Barry Robinson and Jeff Ball, ECCC





Species included

Waterfowl (7)

Species	Priority
Blue-winged Teal	Low
Canvasback	Moderate
Gadwall	Low
Mallard	Low
Northern Pintail	High
Northern Shovler	Low
Redhead	Low

Marshbirds (10)

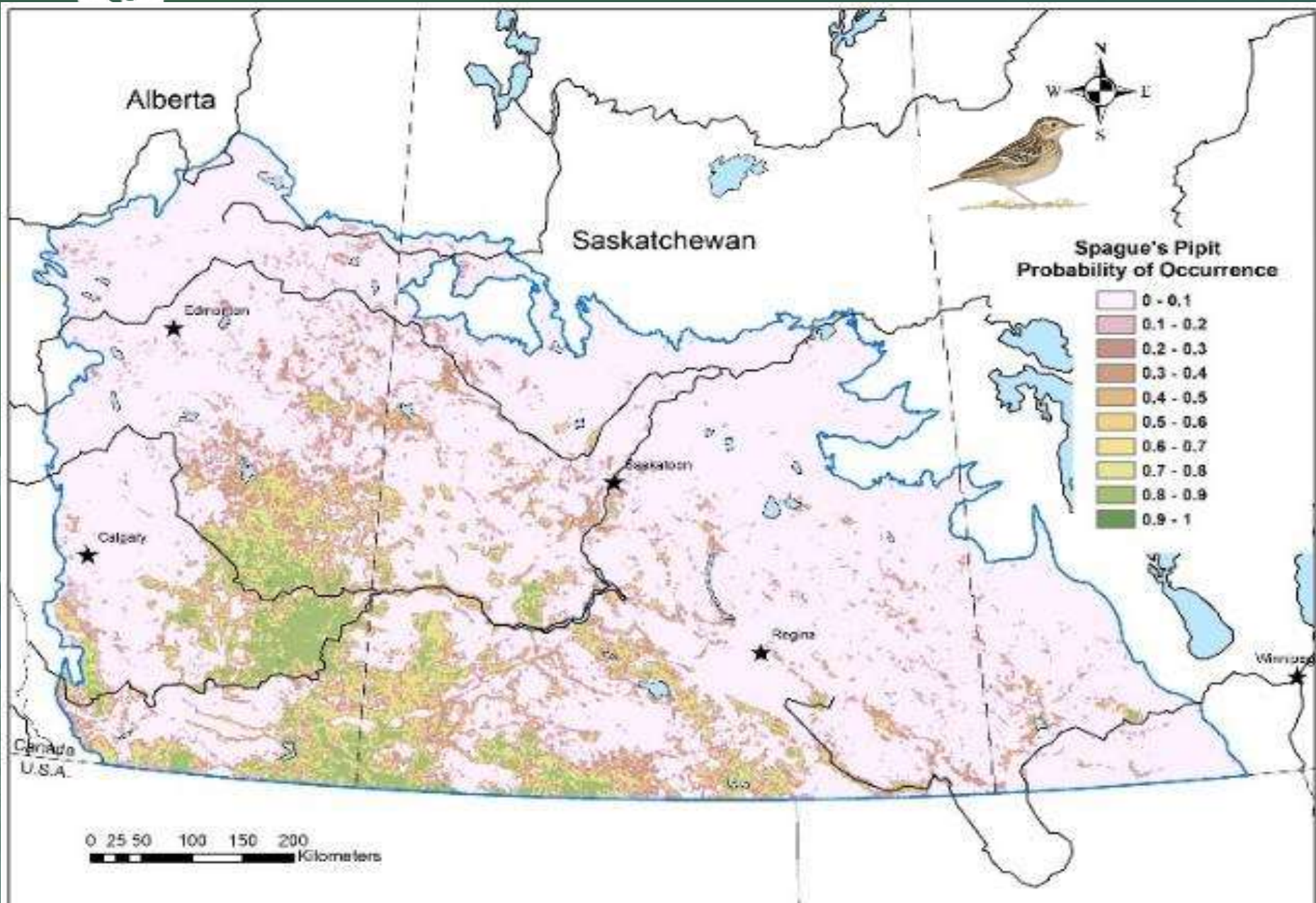
Species	Priority
American Bittern	Moderate
American Coot	Low
Eared Grebe	Moderate
Horned Grebe	High
Nelson's Sparrow	Low
Pied-billed Grebe	Low
Red-necked Grebe	Moderate
Sora	Low
Virginia Rail	Low
Wilson's Snipe	Low

Landbirds (12)

Species	Priority
Baird's Sparrow	Species at Risk
Bobolink	Species at Risk
Chestnut-collard Longspur	Species at Risk
Clay-coloured Sparrow	Low
Grasshopper Sparrow	High
Horned Lark	Moderate
Lark Bunting	Species at Risk
LeConte's Sparrow	High
Savannah Sparrow	Low
Sprague's Pipit	Species at Risk
Vesper Sparrow	Low
Western Meadowlark	Low

Shorebirds in progress:

Long-billed Curlew, Marbled Godwit, Willet, Upland Sandpiper





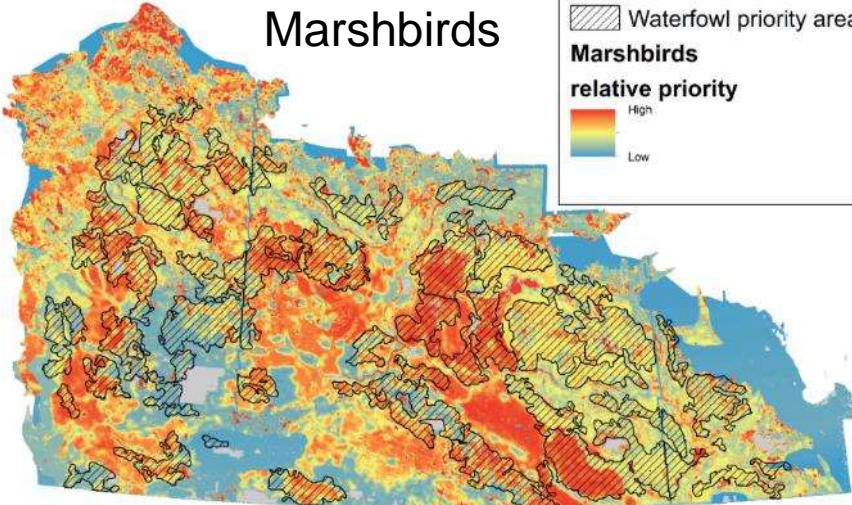
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Other Birds

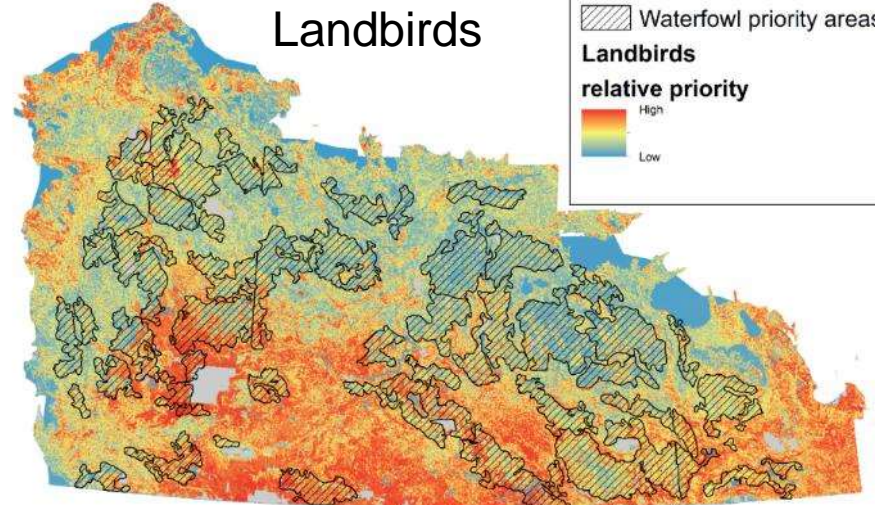


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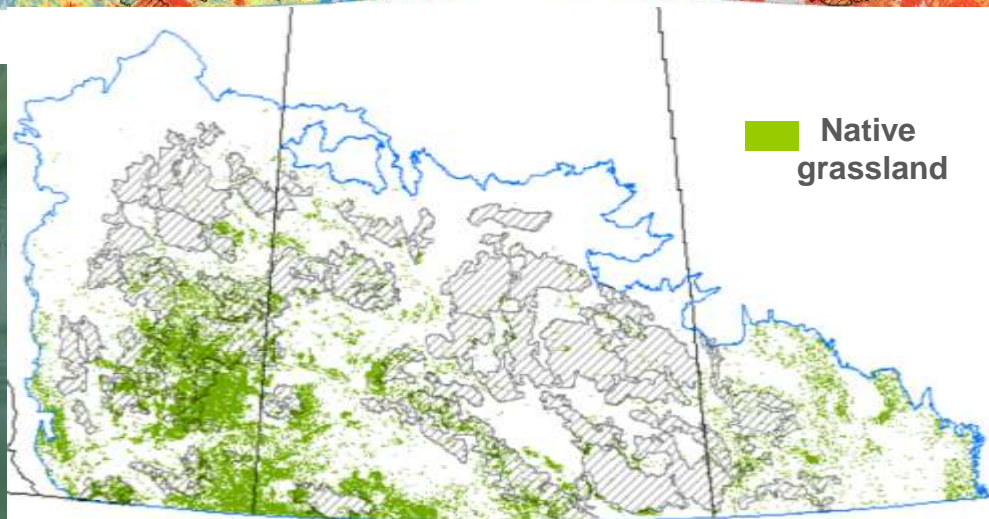
Marshbirds



Landbirds



Native
grassland





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Other Birds



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Summary:

- Some overlap across bird groups – can focus waterfowl conservation resources for better overlap with other birds
- Landbirds require additional focused conservation effort aimed at native grassland outside of waterfowl priority landscapes
- Models allow a first attempt at setting native grassland securement objectives



Waterfowl



Marshbirds



Landbirds



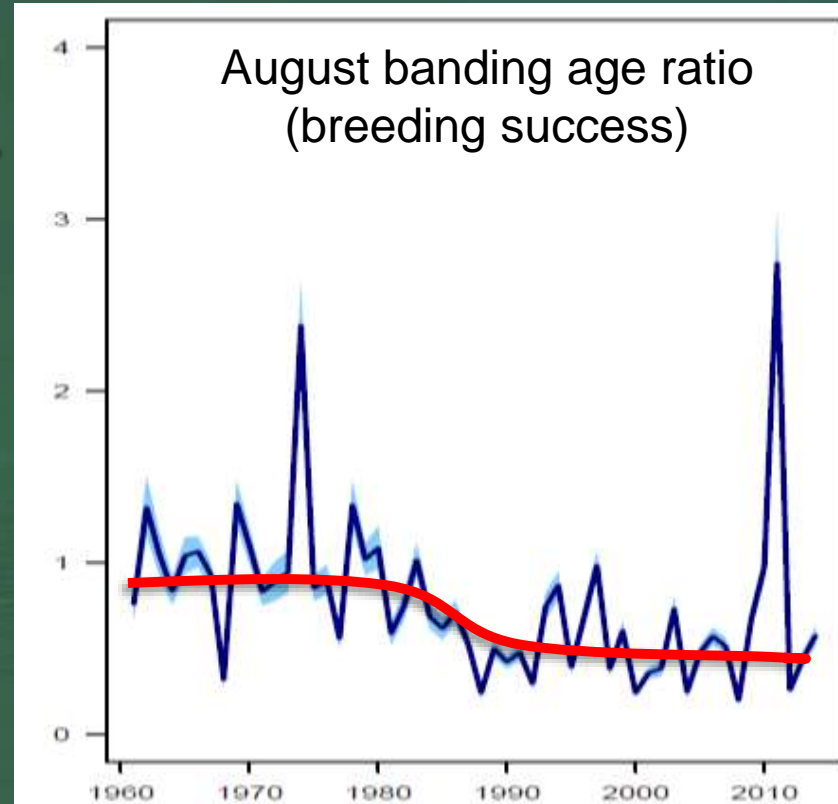
Science Initiatives



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Integrated Pintail Population Modeling (IPM)

- Examining land use change effect on population trajectory (U of Missouri, U of Minnesota, ECCC, DUC) – published in *J. Animal Ecology*
- Currently examining the impact of habitat and harvest management together in a continental model





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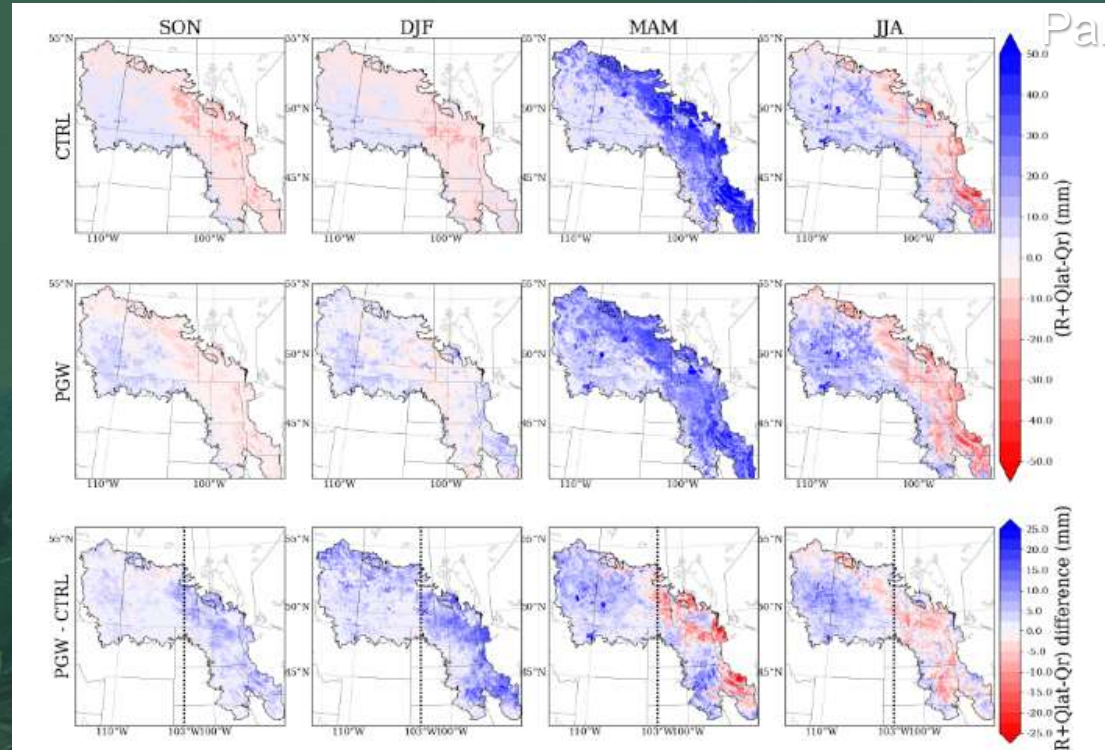
Science Initiatives



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Climate Change

Dr. Yanping Li,
Univ. of Saskatchewan
School of Environment
and Sustainability,
Global Institute for Water
Security



- Impact of climate change on PPR wetland area and abundance and consequent impacts on waterfowl distribution and productivity (2000-2013 versus 2086-2099)

Human Dimensions Integration



Prairie
Parklands

The Prairie Parklands Approach



- a combination of policy and public
engagement initiatives

Direction from 2018 NAWMP Update

- **NAWMP's Third Goal**

Increase #s of waterfowl hunters, other conservationists and citizens who support waterfowl and wetland conservation

- **NAWMP Objectives**

Increase waterfowl conservation support among various constituencies to at least the levels experienced during the last two decades through three constituent groups

- *Active waterfowl hunters*
- *Citizens who appreciate and take action to support wetlands and waterfowl conservation*
- *Landowners participating in habitat conservation programs*



2021-2025 Goals

- ***Programs and policies are delivered and advocated that favour both conservation and the long-term sustainability of agricultural communities.***
- ***Citizens understand and value the benefits of wetland and waterfowl habitat and take action to support conservation initiatives.***

Target Audiences:

- Agricultural Community
- Citizenry
- Recreational Users



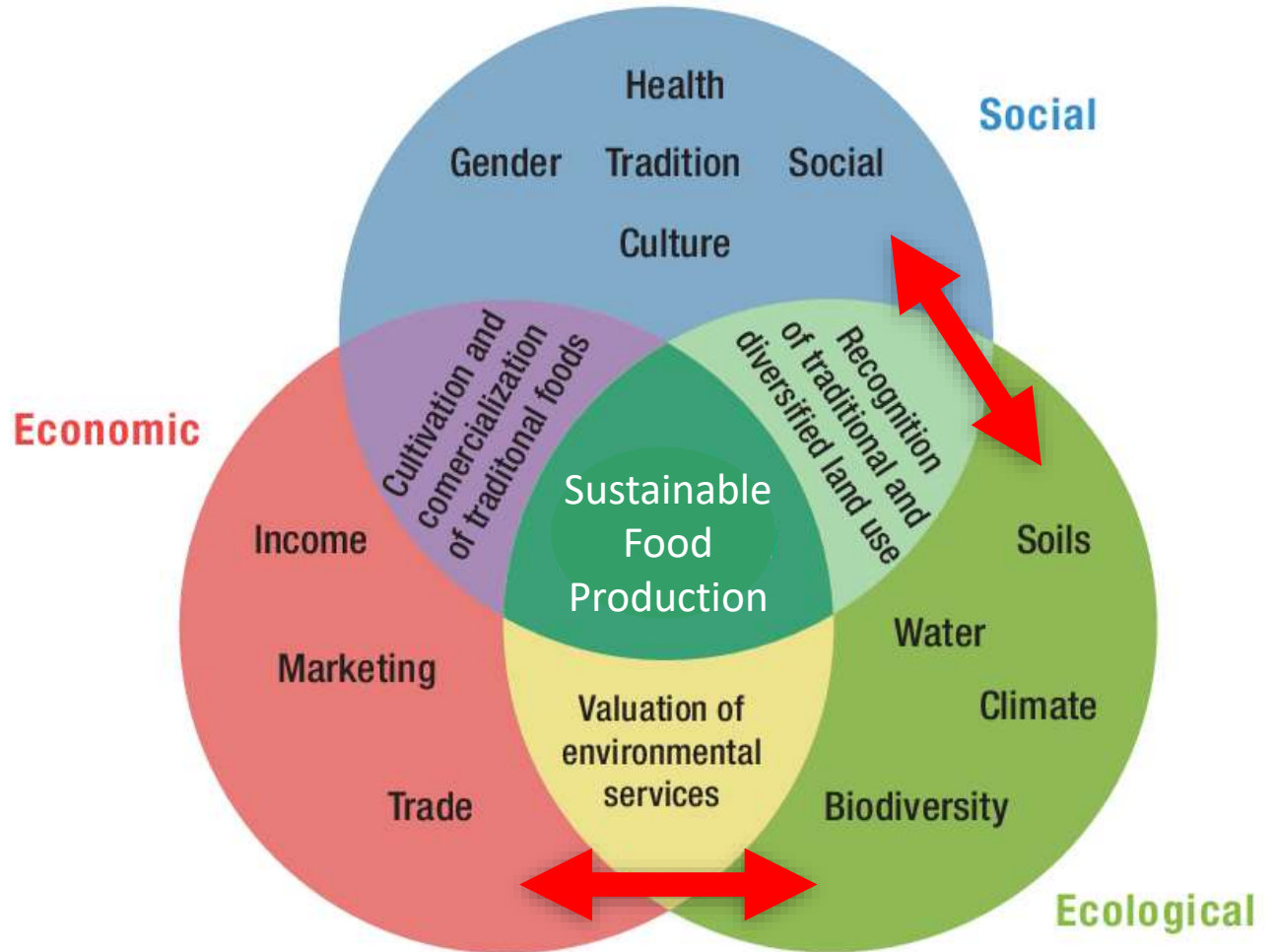
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People ↔ Habitat Integration



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Focus on the
three
Dimensions of
Sustainability





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People ↔ *Habitat* **Integration**



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Developing Objectives

PHJV People Objectives are meant to link landowner and public engagement with progress toward habitat objectives

Means Objectives

- Landowner enrollment in conservation, behaviour change
- Habitat policies (wetlands, native grassland)
- Quantification of Ecosystem Services provided by natural infrastructure and conservation investments
- Recreational opportunities



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People ↔ *Habitat* **Integration**



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Policy Support Research Projects:

- Sustainability Standards, Market Access and Prairie Wetland Conservation
- Economics of Grassland Conservation
- Manitoba Wetland Policy Support - Wetland Permanence Modeling
- Saskatchewan Policy Support – Saskatchewan Agricultural Survey and Focus Groups
- Further analysis of NAWMP Hunter and Birder, and General Public, Surveys



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People ↔ Habitat Integration



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**A Genuine Return on Investment:
The Economic and Societal Well-being
Value of Land Conservation in Canada**

Prepared by Mark Anielski, John Thompson and Sara Wilson | FEBRUARY 2014



Understanding the Ecosystem Service value of NAWMP conservation activities – direct links to Human Dimensions!



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People ↔ Habitat Integration



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Ecosystem Services Research Projects:

- *Understanding wetland carbon and phosphorus sequestration potential in agricultural landscapes (NSERC/UofS/McGill/UofM/DUC) [2018-2021]*
- *Wetlands, Flood Control and Ecosystem Services in the Smith Creek Drainage Basin: A Case Study in Saskatchewan, Canada (UofA/UofS/DUC/SWA)*
- *Nutrient Export from the Camrose Creek: A Moderately Drained Watershed in Alberta (DUC/NWCF-ECCC/ABNAWMP)*
- *Phosphorus Retention in Intact and Drained Prairie Wetland Basins: Implications for Nutrient Export (DUC/MRAC)*
- *Comparison of Nutrient and Contaminant Export from a Moderately and Intensively Drained Watershed (DUC/MRAC/LWBSF-ECCC/RCB/BHP)*
- *Value of wetlands in cropland to pollinating and beneficial insects (DUC/ABNAWMP/UofC/UofS)*



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People ↔ *Habitat* **Integration**



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Policy Objectives:

1. Stop Wetland Loss and Restore Wetlands through...

- Provincial policies protecting wetlands
- Consistent mitigation frameworks

2. Stop Further Loss of Native Grassland through...

- Provincial policies protecting grasslands
- initiatives to increase economic viability of perennial cover and native habitats



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Recent Success in Wetland Policy

Manitoba Wetland Policy

- **New wetland protection legislation (2019)**
- **Provides protection for Class 3- Class 5 wetlands**
 - IF license is approved, mitigation will be required
- **Class 1 and Class 2 wetlands are at an increased threat of loss**
- **Specifically designed with private landowners (i.e. farmers) in mind, not just large industry**
- **Conservation Trust and GROW Funds**

Watershed Governance and Implementation

Incentive
Programming

Legislation/
Regulation

Growing Outcomes in Watersheds (GROW)
A home-grown ecological goods and services program for Manitoba

PUBLIC CONSULTATION DOCUMENT
MAY 2017



Manitoba

GROW

MODERNIZING MANITOBA'S CONSERVATION DISTRICTS PROGRAM
A roadmap to true watershed-based governance

PUBLIC CONSULTATION DOCUMENT
AUGUST 2017



Watershed
Districts

Watershed-Based Drainage and Water Resource Management
A sustainable and balanced approach for Manitoba

PUBLIC CONSULTATION DOCUMENT
MAY 2017



Manitoba

Water Rights
Authorizations



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People ↔ *Habitat* **Integration**



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HD Workshop Feb. 4-5, 2020

Integrating Human Dimensions into the PHJV

Purpose: *Advance the development of a PHJV Human Dimensions Strategy.*

Workshop will guide development of:

- Measurable objectives that are relevant to HD in the PHJV
- Develop strategies and actions to achieve the ‘people’ goals



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Response to Previous Plan Committee Recommendations





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Responses to PC



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Follow Up with plans for a more detailed analysis of species-specific waterfowl trends (spatially and temporally) in the Canadian PPR. This is relevant to the translation of continental NAWMP objectives to JV objectives.

- **Response:** *Some research has occurred for mallards across PPR – led by U.S. researchers (Janke et al. 2017). This remains a need.*





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Responses to PC



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Given the challenges embodied in continued habitat loss (or loss of habitat function), we encourage the PHJV to continue to pursue ways to ensure adequate monitoring of net wetland and grassland changes over time to continue evaluating the need for additional waterfowl breeding habitat. This will mean grappling with issues such as addressing the impacts of climate change across priority waterfowl landscapes.

- **PHJV Response:** We are 1) expanding wetland sample-based monitoring, 2) exploring native grassland monitoring, and 3) nearing completion of impact of climate change study (~first products March 2020)



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Responses to PC



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Continue building efforts to integrate bird population, habitat and social elements into decision making for Joint Venture habitat delivery as such efficiency may attract the interest of political leaders for more inclusive landscape-scale planning efforts and these will be critical to assess strategies toward sustained funding & partnership capacity. Strong and timely leadership will be required to leverage opportunities to advance waterfowl program needs. In the long term, human dimension elements should be expanded to better reflect constituencies.

- **PHJV Response:** *We are making good progress on formally incorporating habitat goals for other birds as described above.*

Responses to PC



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Continue efforts to contain native grassland loss through provincial policies protecting grasslands and increasing economic viability of perennial cover and native habitats.

- **PHJV Response:** *With the formal addition of habitat objectives for other birds – many priority species being native grassland obligates and Species at Risk – we anticipate greater emphasis on policy efforts to curb the loss of native grasslands. Further, we see opportunity to advance relationships with the beef industry and cattle producers given the natural fit of grass and wetlands.*



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Responses to PC



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Develop wetland and landscape change inventories and monitoring essential for policy/program guidance.

- **PHJV Response:** *We have had a sample-based monitoring program in place since 1985 (10-year updates). Annual AAFC crop mapping and Ag Census (5 year interval) provide additional trend data. Acceleration of Canadian Wetland Inventory coverage is a priority. Better mapping of native grassland is in development.*



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2018 NAWMP Update Recommendations

We believe efforts described above demonstrate our JV is addressing the recommendations of the 2018 NAWMP Update

Of note: #7 – “Bolster training programs for future waterfowl management professionals”

- *2020 Establishment of the Ducks Unlimited Canada Endowed Chair in Wetland and Waterfowl Conservation at the University of Saskatchewan – currently recruiting*

