



# Ungulate Information Gaps:

## Manitoba Hydro's Bipole III Transmission Project

*Presentation*

*November 2012*

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# Topics: overview

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The suitability of Manitoba Hydro's baseline data for use in follow-up and monitoring programs.

The decline of moose populations in the Project Study Area.

The predicted Project impact on moose.

Determining the effectiveness of any measures taken to mitigate the adverse environmental effects.

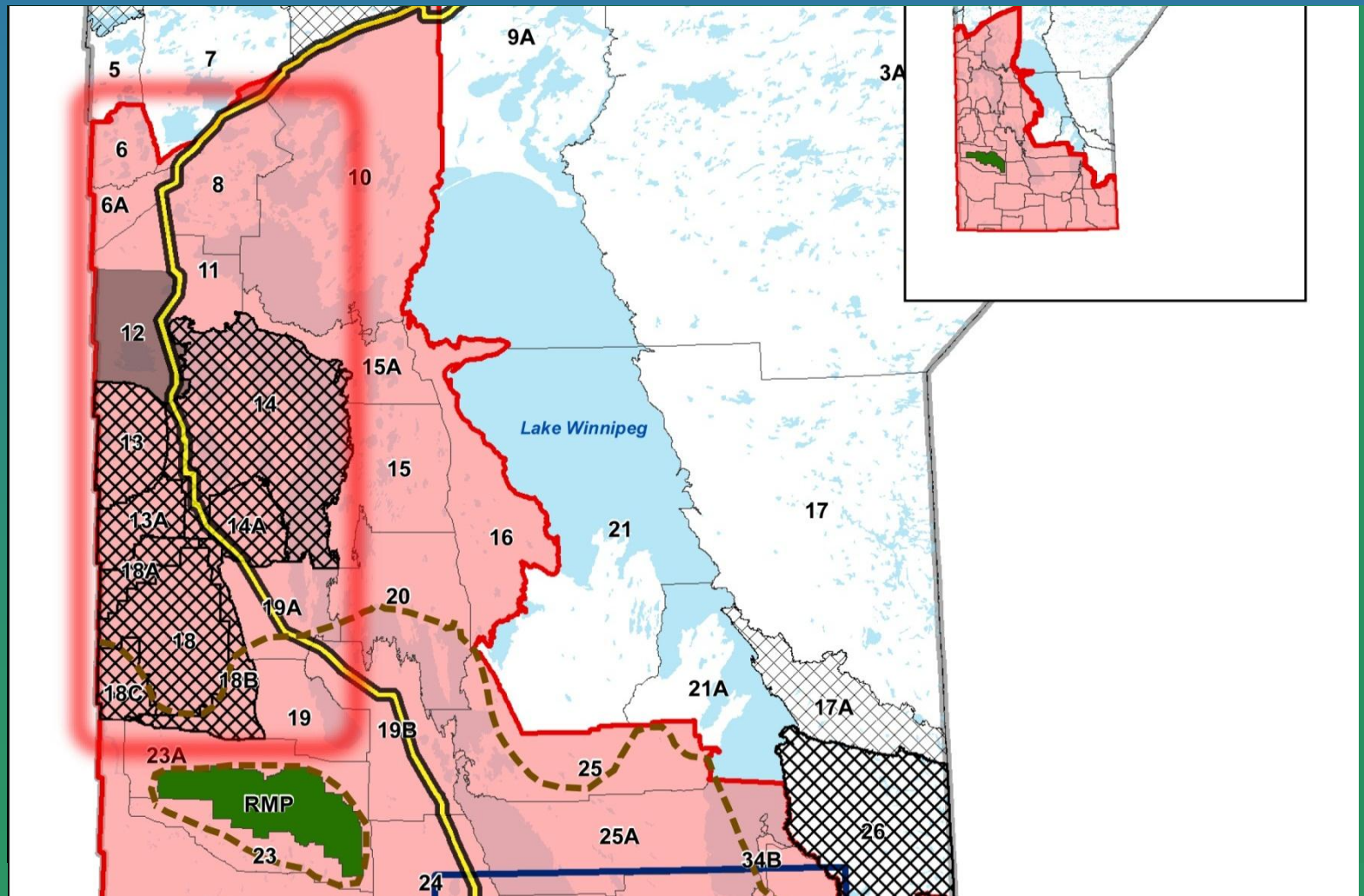
Moose response to management.

Alternative Routes.



# Topic: Overview

## Focal Area:



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# Topic: Baseline Data

## *Key Findings:*

Data collected in the Metis area of concern are not adequate

- Aerial surveys qualitative.
- Surveys not in area of concern.
- Sample size too low.

Cannot quantitatively compare alternative route options.

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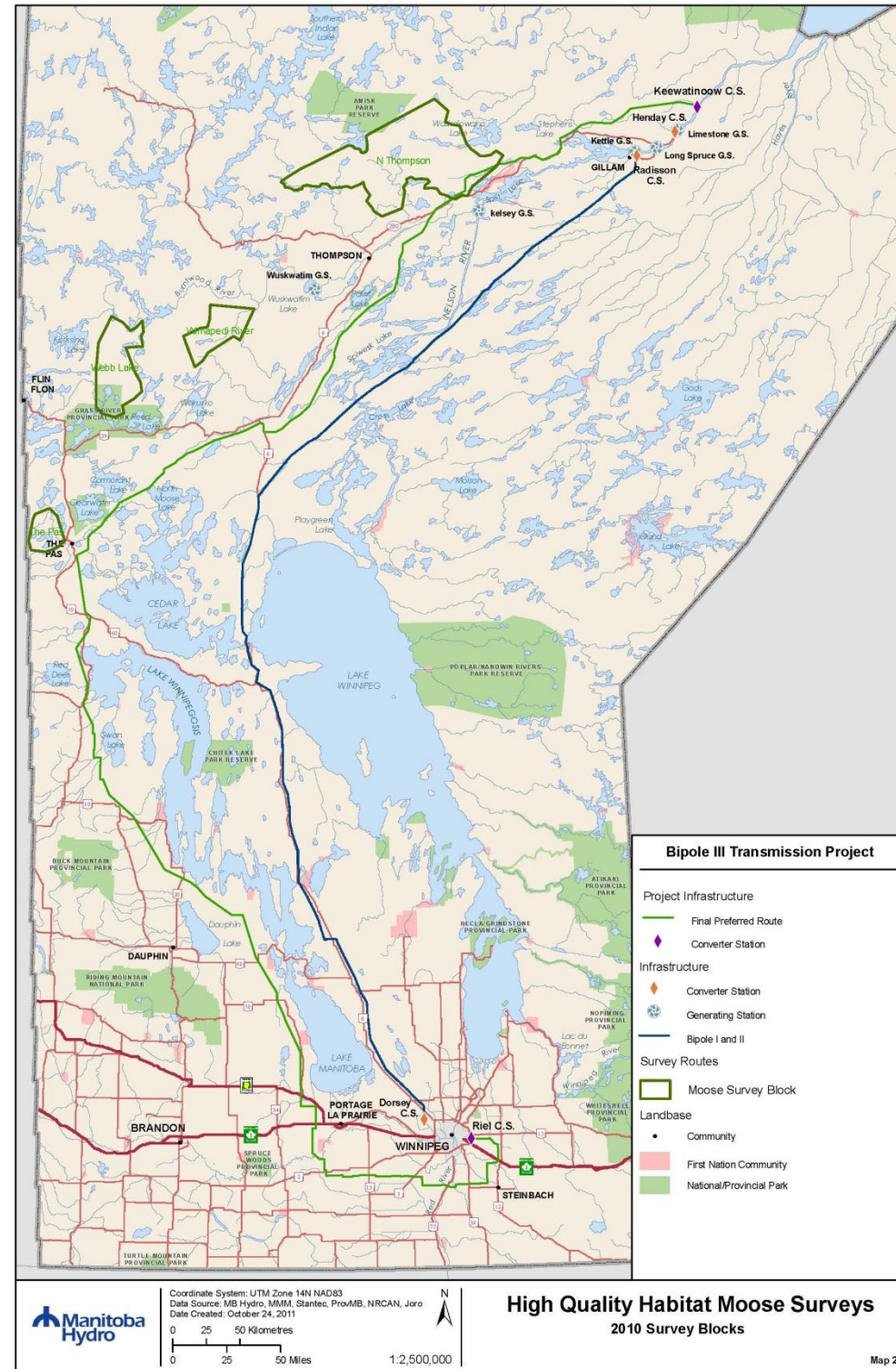
# Topic: Baseline Data

## Key Findings:

No High Quality  
Habitat Moose  
Surveys South of  
The Pas.

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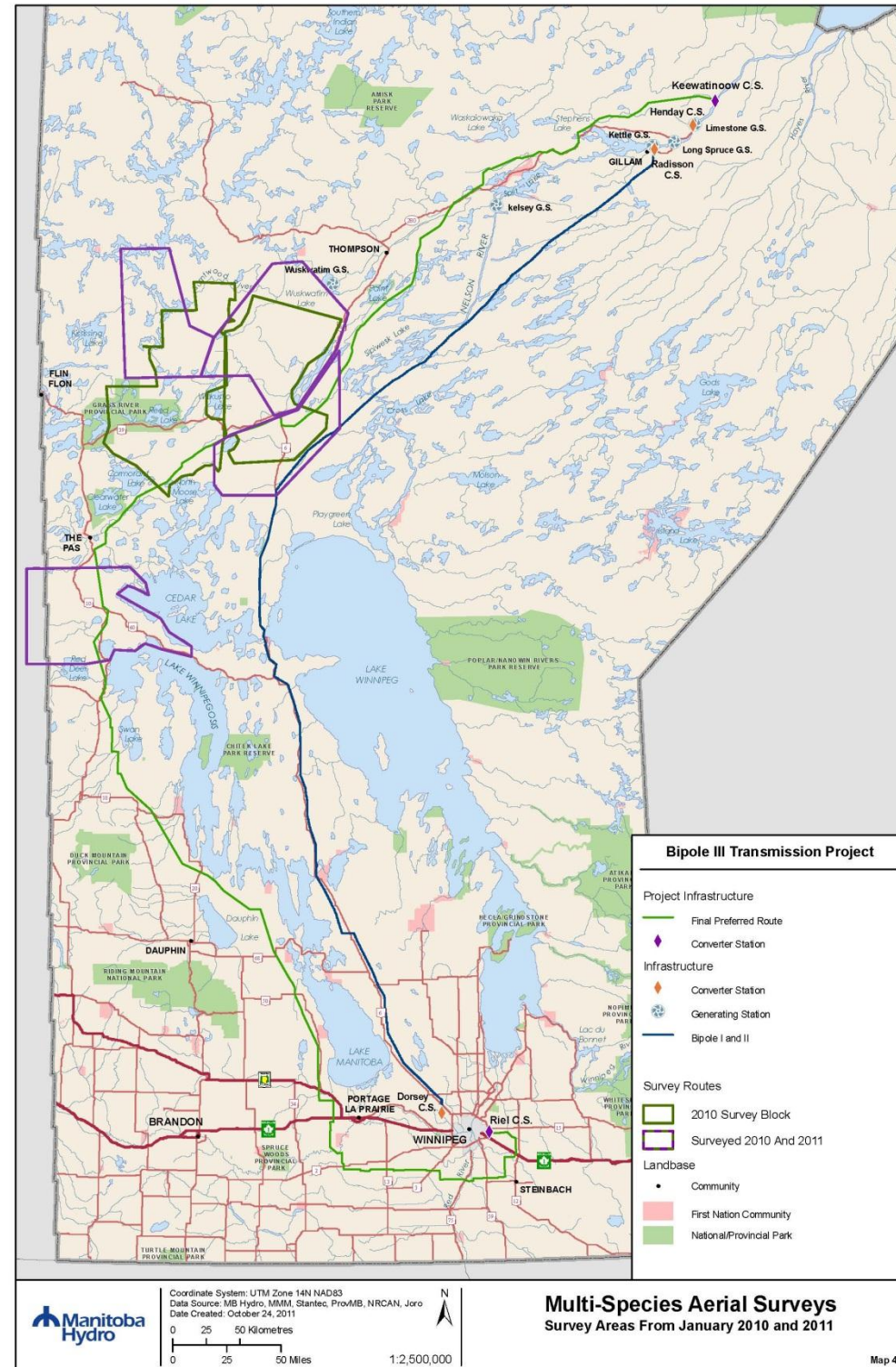
# Topic: Baseline Data

## Key Findings:

No Multi-Species  
Aerial Surveys  
South of Red  
Deer Lake.

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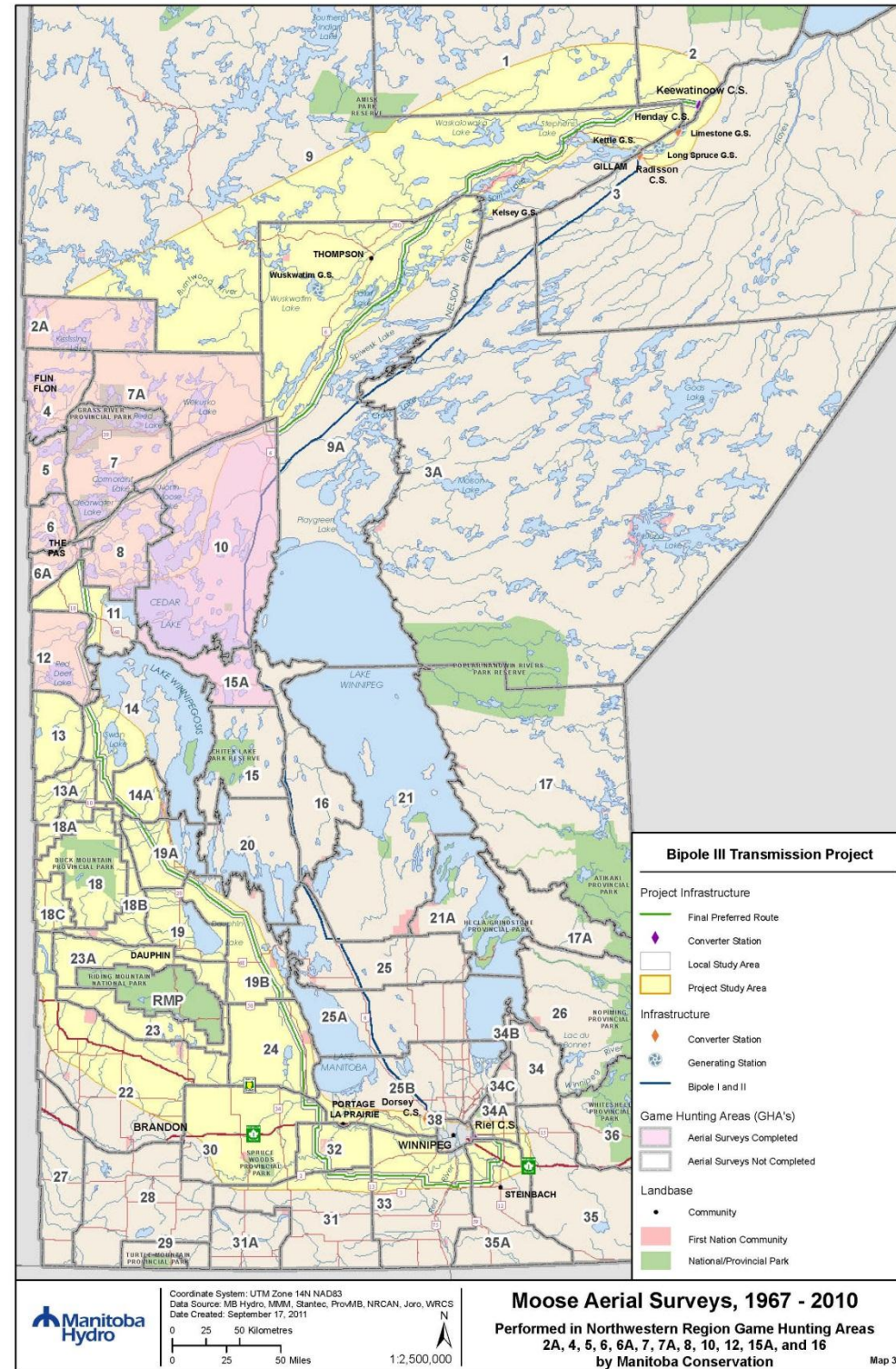
# Topic: Baseline Data

## Key Findings:

No Manitoba Conservation Aerial Survey data presented for South of Red Deer Lake.

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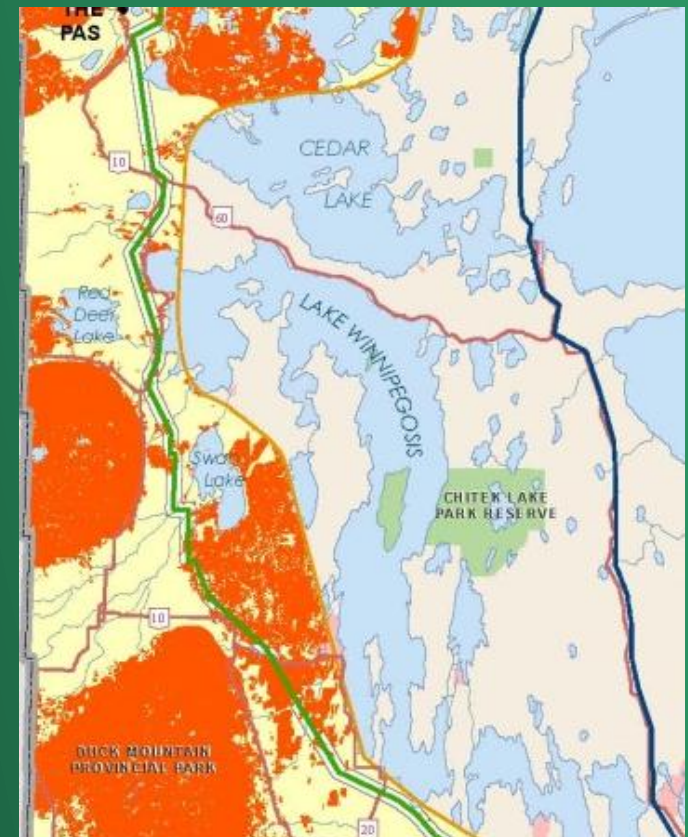
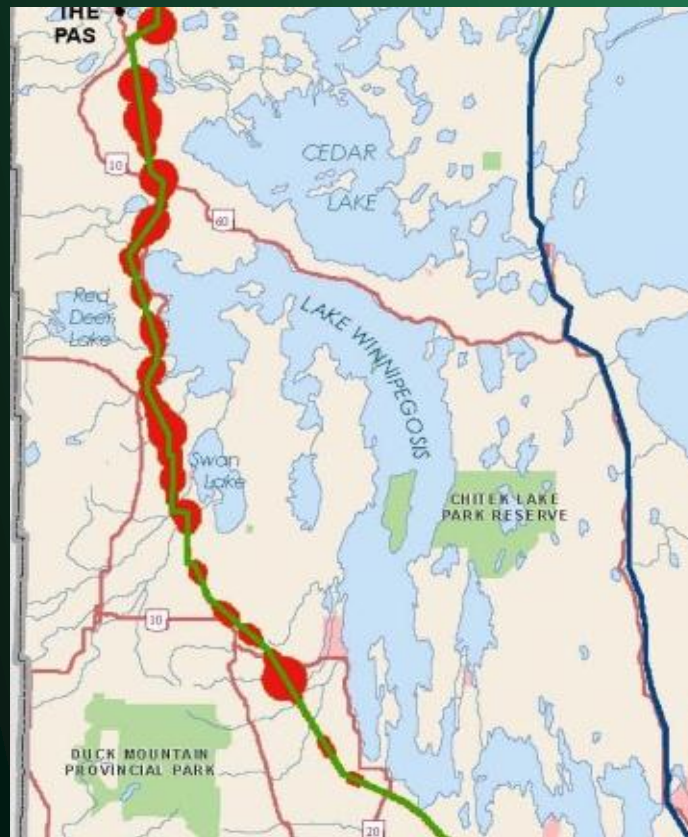
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# Topic: Baseline Data

## Key Findings:

Moose habitat model not validated.



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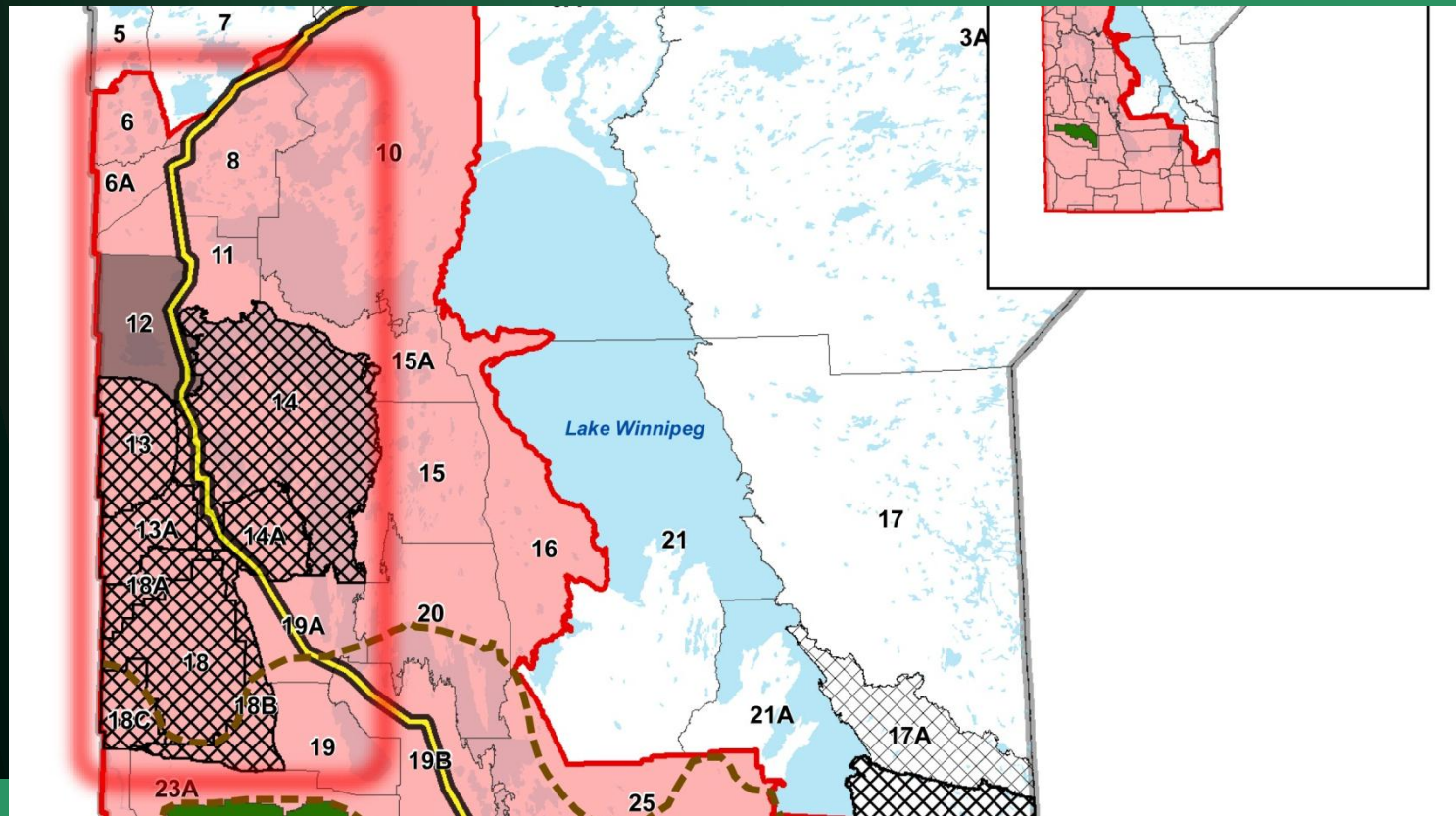
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# Topic: Decline of Moose Populations

## Key Findings:

Manitoba Metis moose harvesting areas (TLUKS) include several GHA's



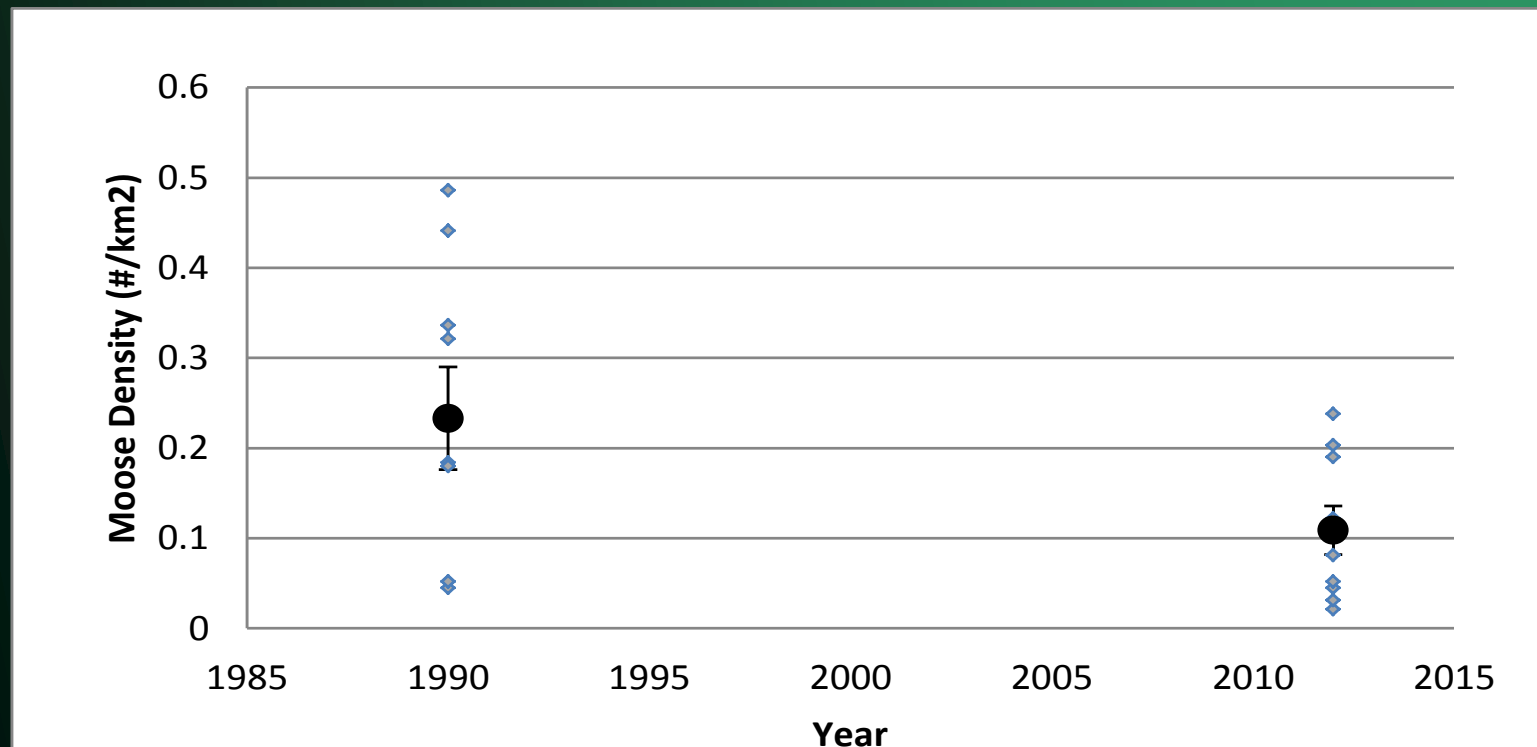
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# Topic: Decline of Moose Populations

## Key Findings:

Significant decrease in moose populations over last ~20 years (~53% decrease)



(paired t-test,  $p=0.037$ ,  $t=2.50$ ,  $df=8$ ), data source: Manitoba Conservation

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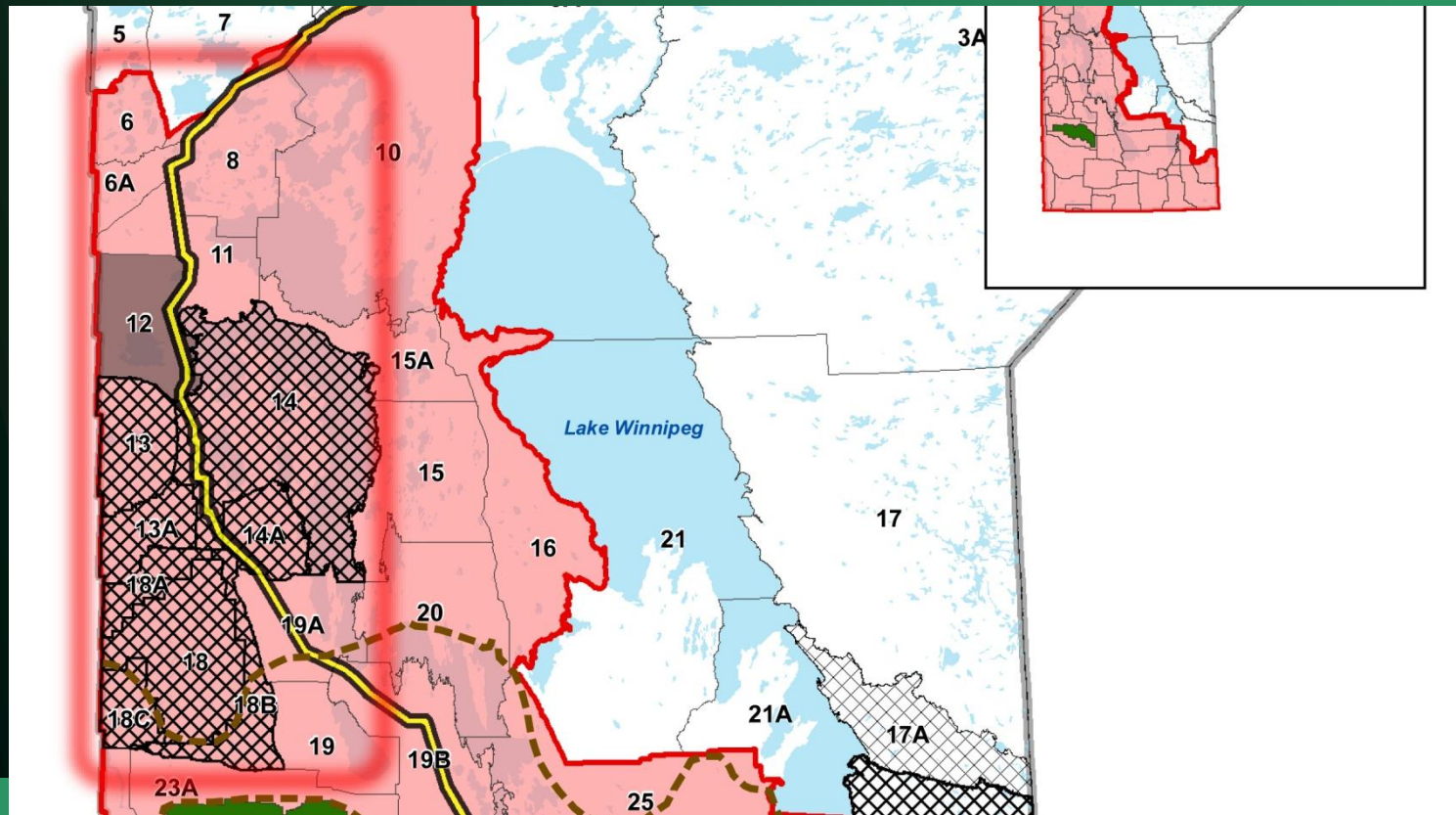
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# Topic: Decline of Moose Populations

## Key Findings:

GHA's closed for moose hunting: 13, 13A, 14, 14A (2012), and 18-18C (2010).



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# Topic: Magnitude of Impact

## *Key Findings:*

Large Magnitude: *“Effects that are ...outside normal range of variation, or exceeds established threshold of acceptable change”*

Manitoba Hydro does not have sufficient data to outline the natural range of variability.

Thresholds for moose populations not established in the EIS.

Acceptable to whom?

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# Topic: Magnitude of Impact

## *Key Findings:*

Acceptable to Metis? MCWS?

Moose populations already under stress.

Management action implemented.

Project and cumulative effects assessments are not informed by quantitative data or evidence to support conclusions.

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# Topic: Follow-up and Monitoring

## *Key Findings:*

Mitigation and monitoring strategies still undetermined.

No targets or definitions of mitigation success provided.

No evidence that proposed mitigation will be successful.

Detailed follow-up program information should be available prior to Project construction (CEAA 2011).

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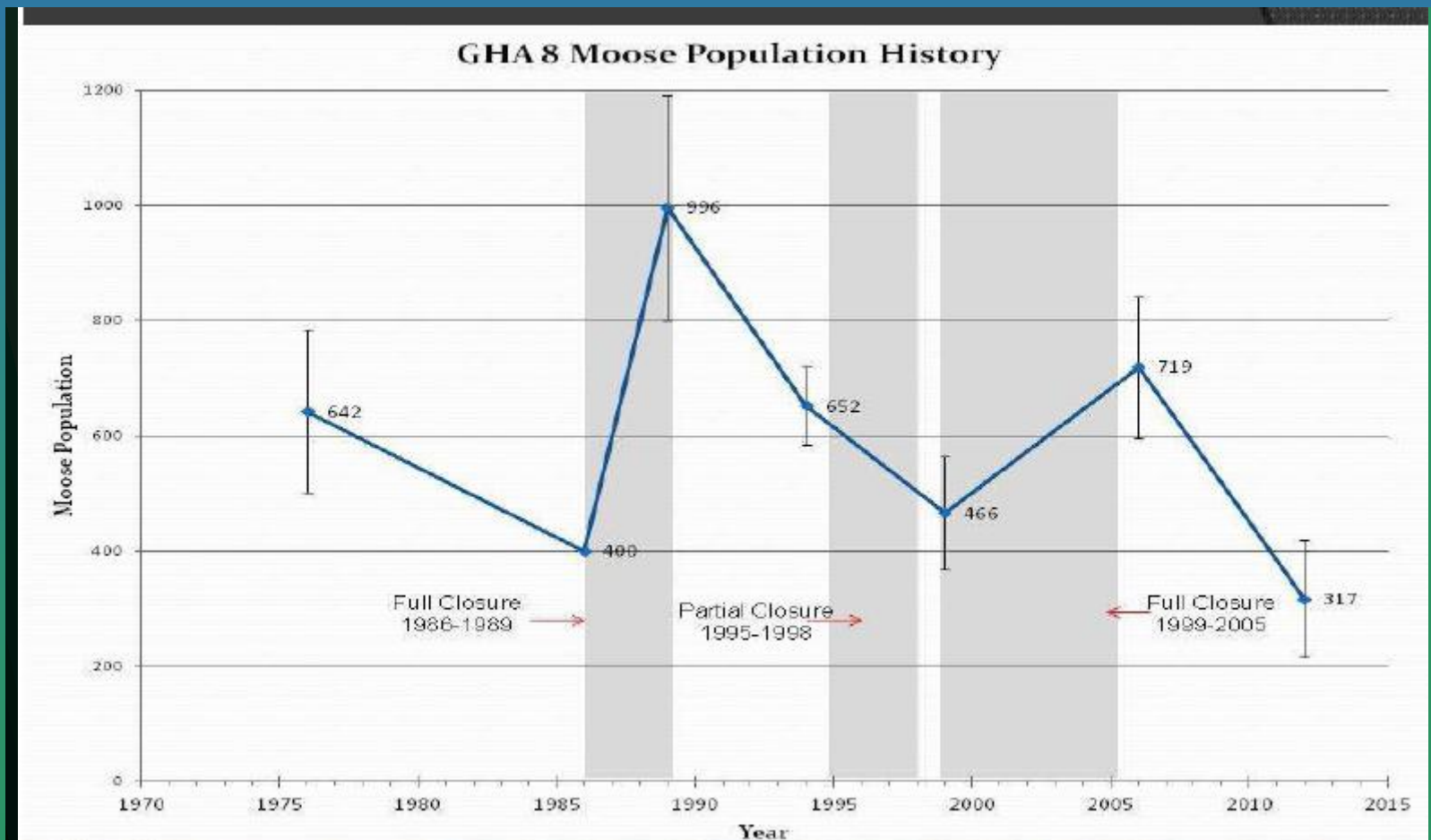
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# Topic: Moose Response to Management

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# Topic: Moose Response to Management

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Multiple factors at play:

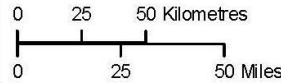
- Hunting control
- Predator control
- Fire and vegetation
- Additional linear disturbance

Need baseline data to measure against.  
Need to demonstrate that management will be successful.

# Topic: Moose Response to Management



Coordinate System: UTM Zone 14N NAD83  
Data Source: MB Hydro, MMM, Stantec, ProvMB, NRCAN, Joro  
Date Created: October 24, 2011

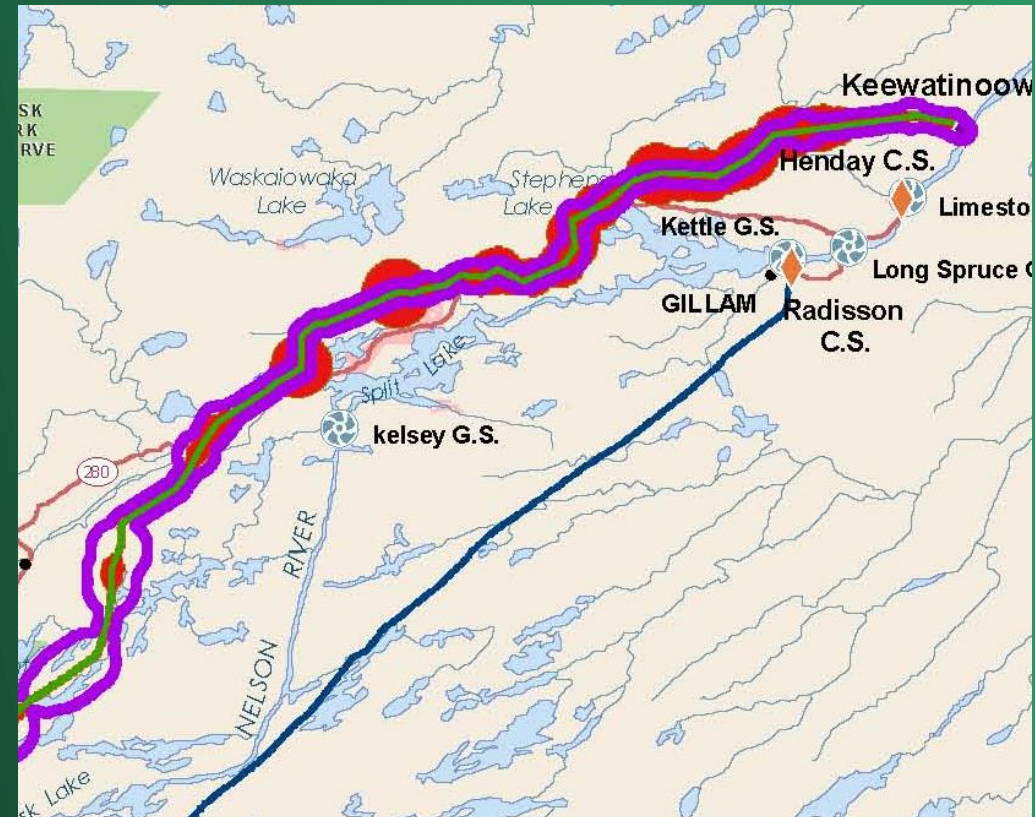
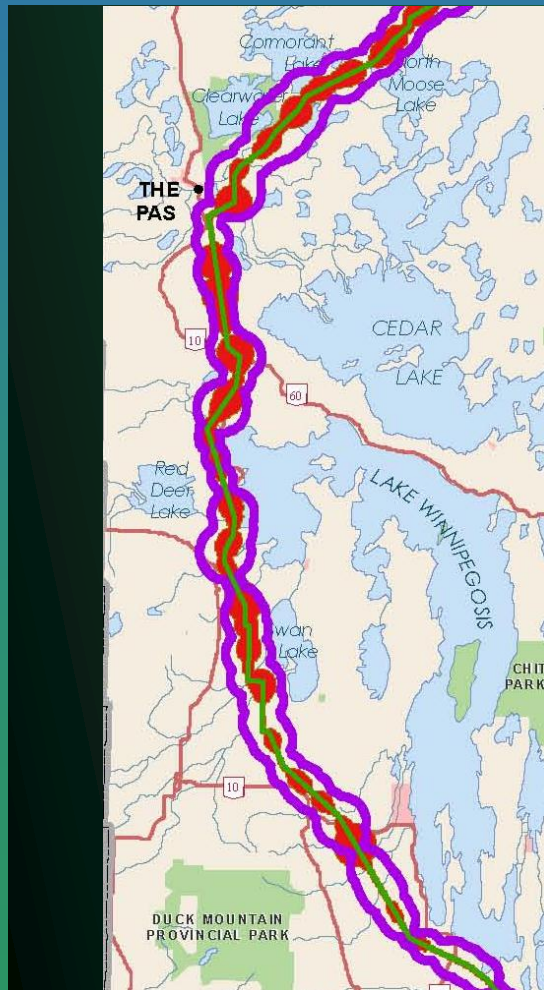


1:2,500,000

## Moose Density Relative To Access Density Along The Final Preferred Route

Map 6

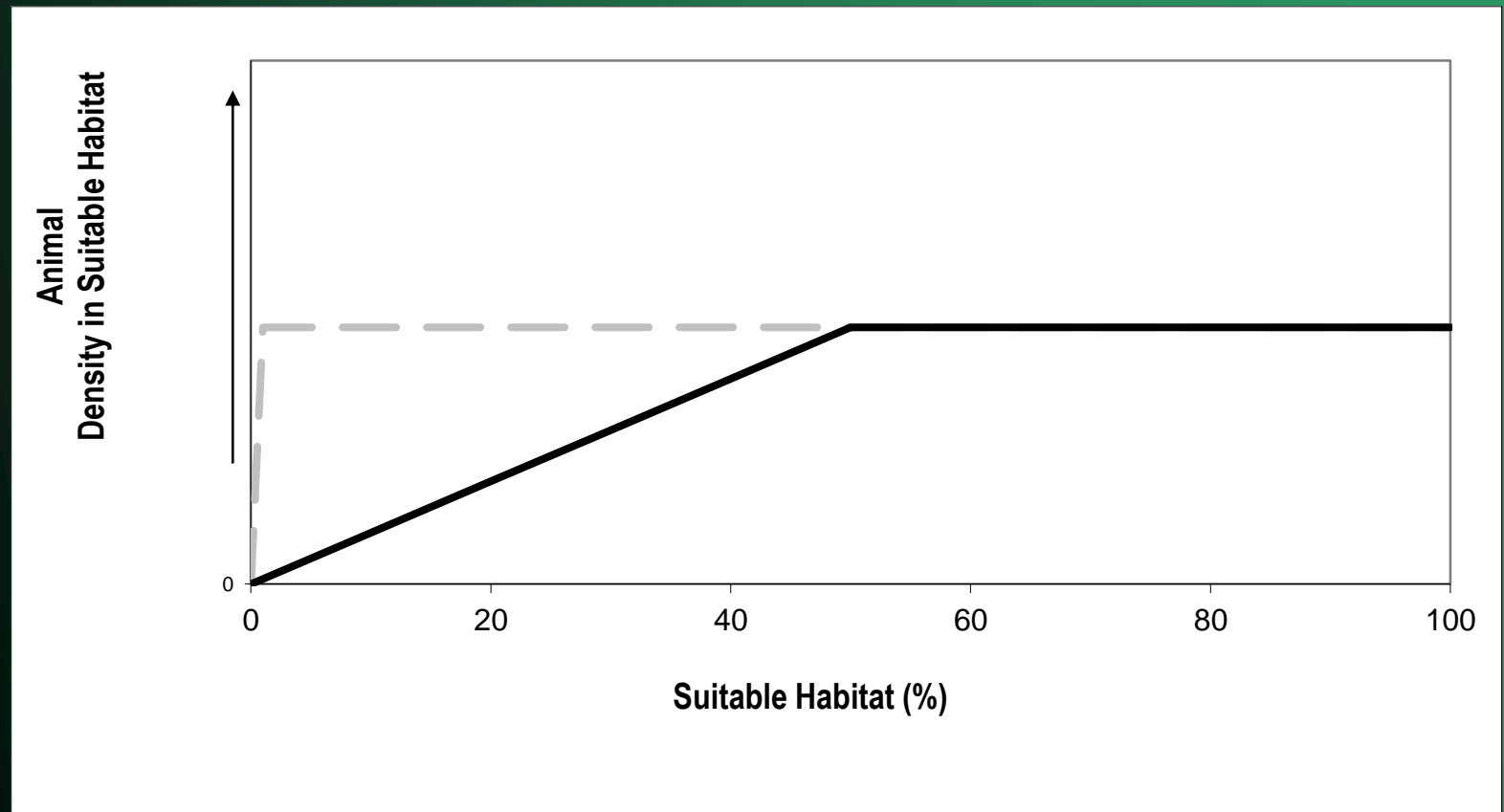
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# Topic: Moose Response to Management

## Research Result:

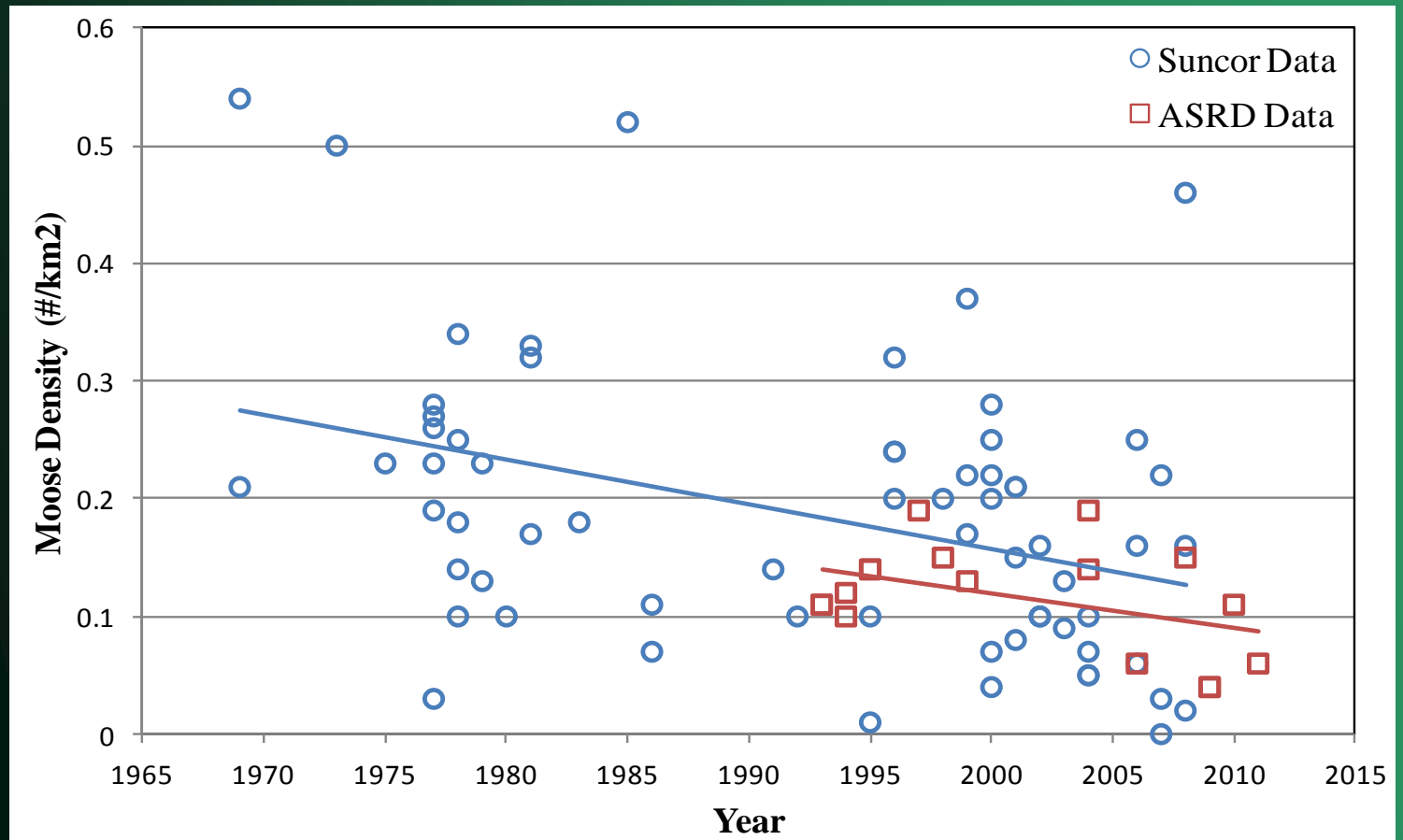


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# Topic: Moose Response to Management

## Oilsands Result:



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# Topic: Re-route Option

## *Key Findings:*

Route changed in Section 7:

- Alternate route in Section 7 still does not follow existing linear disturbance.
- Map 22 of MTR shows high moose track densities in Section 7.
- Moose habitat model missed important area.
- Route should follow existing linear disturbance.

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Thank-you.