

## **Appendix D - Wildlife Monitoring Plan Workshop Presentations**

# **WMP Workshop Meeting Materials and Notes**

**September 18, 2012**

# Draft Workshop Agenda

<b>MEETING</b>	Gahcho Kué Project Wildlife Monitoring Plan	<b>DATE:</b> Sept 18, 2012
<b>INVITED</b>	De Beers Canada Inc. Environmental Impact Review Parties	
<b>LOCATION</b>	Explorer Hotel Yellowknife, Northwest Territories	

## Workshop goal:

- Incorporate good science, Traditional Knowledge and EA practice in wildlife management and monitoring for the proposed Gahcho Kué Project






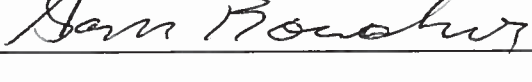

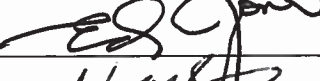

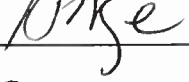





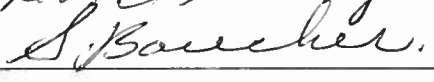


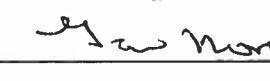
## Workshop objectives:

- Facilitate communication between science and Traditional Knowledge holders;
- Sharing information and lessons learned to inform on the scientific approach for monitoring wildlife; and
- Sharing Traditional Knowledge and community values on wildlife to inform wildlife monitoring.

<b>Agenda Item/Discussion</b>	<b>Timing</b>
<b>Opening prayer</b>	8:30
<b>Welcome and Introductions</b>	8:40
<b>Workshop context</b> <ul style="list-style-type: none"><li>• Why and what we monitor</li><li>• Successes of technical and Traditional Knowledge</li></ul>	9:00
<b>Caribou monitoring objectives</b>	9:30
<b>Break</b>	10:00
<b>Caribou break out groups</b>	10:15
<b>Lunch</b>	11:45
<b>Caribou break out groups reporting back with Q&amp;A period</b>	1:00
<b>Carnivores and bird monitoring presentations</b>	2:00
<b>Break</b>	2:45
<b>Break out groups</b>	3:00
<b>Break out groups reporting back with Q&amp;A period</b>	4:00
<b>Workshop wrap up with key learnings and next steps</b>	5:00

**Gahcho Kué Project – Wildlife Monitoring Plan Workshop**  
**Tuesday, September 18, 2012**  
**The Explorer Hotel, Yellowknife, NT**

**Attendance Sign-In**

Name	Community/Agency	Signature
Patrick Simon	Deninu Kué First Nation	
Frank V. Laffery	Deninu Kué First Nation	
Robert Sayine	Deninu Kué First Nation	
Angie Lantz	Lutsel K'e Dene First Nation	
Florence Catholique	Lutsel K'e Dene First Nation	
Sam Boucher	Lutsel K'e Dene First Nation	
Chris Heron	NWT Métis Nation	NOT IN ATTENDANCE
Violet Mandeville	NWT Métis Nation	SIGNED IN NEXT PAGE
Earl Evans	NWT Métis Nation	
Ed Jones	North Slave Métis Alliance	
<del>Susan Enge</del> HUGH MCSWAIN	North Slave Métis Alliance	
<del>Eric Binon</del> SUSAN ENGE	North Slave Métis Alliance	
<del>Albertine Eyalfo</del>	Tlicho Government	SEE ALTERNATE NEXT PG.
Joe Champlain	Tlicho Government	NOT IN ATTENDANCE
<del>Noel Drybones</del>	Tlicho Government	SEE ALTERNATE NEXT PG.
Randy Freeman	Yellowknives Dene First Nation	
Todd Slack	Yellowknives Dene First Nation	
Shannon Gault	Yellowknives Dene First Nation	
Margaret Mackenzie	Interpreter	
Mary Rose Sundberg	Interpreter	
Ann Biscaye	Interpreter	
Sarazine Boucher (Basil)	Interpreter	
Jennie Rausch	Environment Canada	
James Hodson	Environment Canada	
Lisa Lowman	Environment Canada	
Boyan Tracz	AANDC	
Robert Mulders	GNWT - ENR	
Gavin More	GNWT - ENR	
Dean Cluff	GNWT - ENR	SIGNED IN NEXT PG.



**Gahcho Kué Project – Wildlife Monitoring Plan Workshop**  
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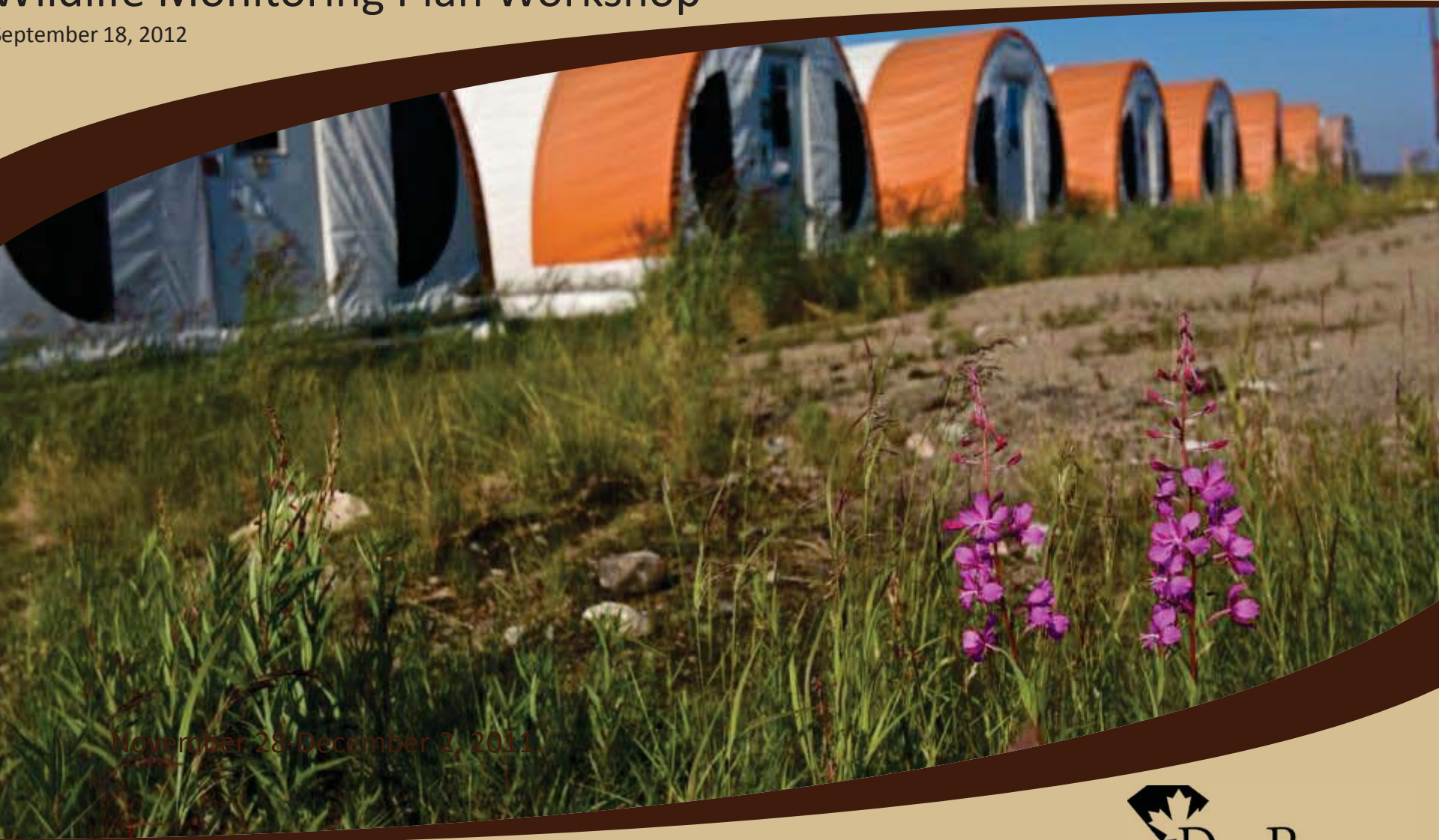
## Attendance Sign-In

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# Gahcho Kué Project

## Wildlife Monitoring Plan Workshop

September 18, 2012



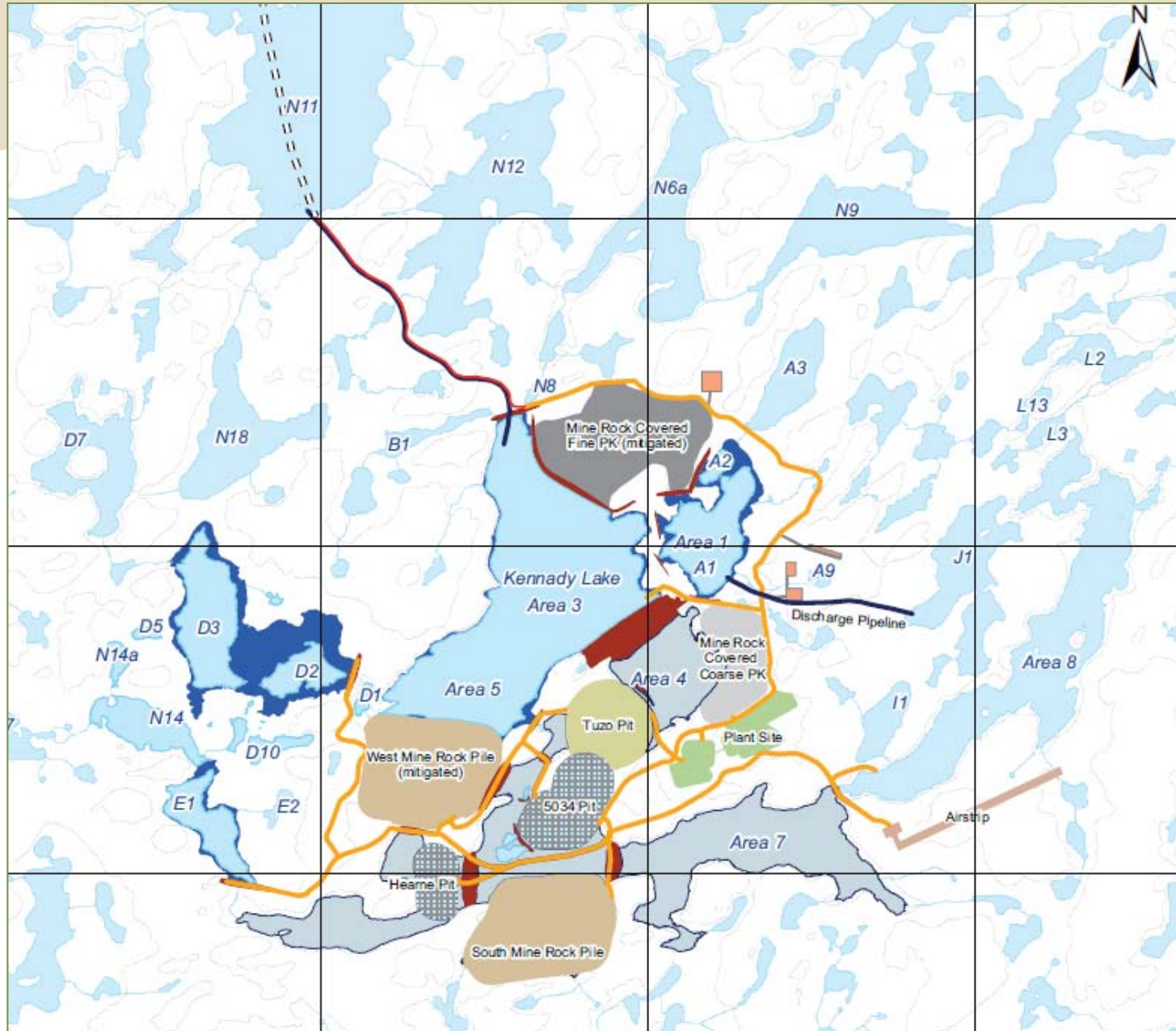
November 28-December 2, 2011



# Project location



# Project Overview



# Path to a wildlife monitoring plan for the Project

- The Project was referred to the Panel Review in 2006
- The Panel held scoping session in 2006
- De Beers submitted the EIS in December 2010
- Technical session May 2012 Monitoring Framework
  - De Beers commitment to coordinate a working group for the WMP
  - De Beers commitment to hold a workshop for the WMP
- De Beers will submit a draft WMP to the Panel
  - Community visits in the fall 2012
- Public hearings schedule for Dec 2012
- Water Licence process to follow in 2013
- The WMP is a flexible document that changes over time

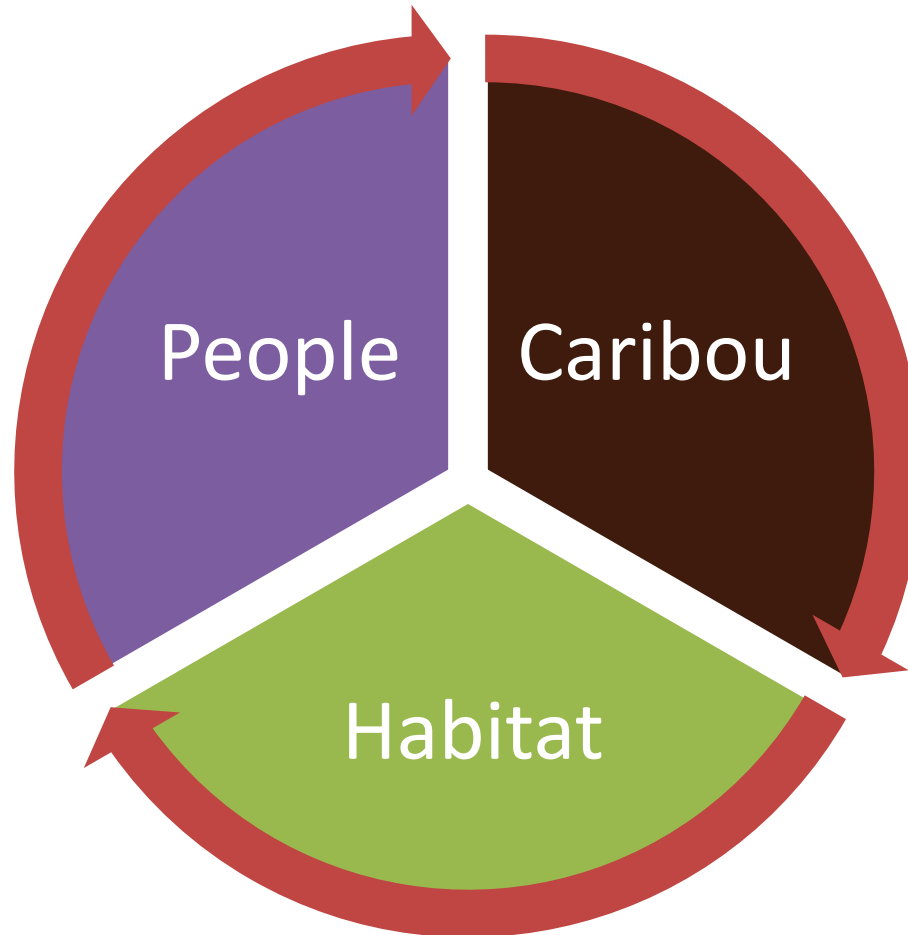
# Working group approach to develop a monitoring plan

- Understand why we monitor
- What are the components of monitoring
- Define monitoring objectives
- Develop study designs

# Why monitor wildlife?

- To follow-up on the key concerns
- To test impact predictions
- To test the mitigation measures
- To guide adaptive management of projects
- To inform cumulative effects management

# What to monitor - Components of caribou monitoring





# What to monitor about caribou



# Traditional Knowledge

The following provides some examples of knowledge shared to date and how De Beers plans to follow-up with monitoring

## **Input**

- Quality and quantity of berries tells us how healthy the land is for wildlife and people

## **Monitoring**

- Berry picking with elders and youth around the site will be included as part of future monitoring

## **Input**

Dust from mines may affect caribou movement

## **Monitoring**

- Monitor dust within and outside mine; apply mitigation
- Vegetation and soils will also be monitored

# Traditional Knowledge

## Input

- Pipeline to N11 – cover with gravel and build ramps in places to allow for animal crossing

## Monitoring

- Site Surveillance Monitoring along pipeline to evaluate crossings/use of ramps

## Input

- Caribou crossing location was pointed out at the location of Dyke A

## Monitoring

- Area will be monitored as part of the site surveillance monitoring and caribou sightings recorded
- This area would also be considered for a site specific closure objective – restore crossing

# Traditional Knowledge

## Input

- Site noise (helicopters and planes) will cause the caribou to change their movements

## Monitoring

- Background noise was monitored and there will be noise monitoring undertaken around site

## Input

- Monitoring grizzly bears and wolverine in the regions (all mines) is a good idea but must report back to the communities

## Monitoring

- Monitoring will be reported back to the communities through both the adaptive management committee meetings/workshops as well as community meetings

# Technical knowledge

- Over ten years of wildlife monitoring by industry
- New application of technology
  - DNA technology
  - Remote cameras
  - Improved satellite collars
- Robust methods
- Development of regional programs
  - More collaboration with between mines
  - More collaboration with government
- Involvement of community members in technical studies

# Caribou monitoring objectives

- To identify instances where the Project presents direct physical hazards to caribou
- To identify risks and to the health of caribou that spend time foraging around the mine site
- To determine if caribou behaviour changes with distance from the mine (Handley 2010)
- To confirm that the total direct habitat loss does not exceed predictions.

# Caribou monitoring objectives

- To determine whether the Zone of Influence changes in relation to mine activity (Handley 2010).
- To determine the amount and type of public use of the Project Winter Access Road.
- Contribute to the Bathurst Caribou Management Plan to support government and communities to understand and track the status of caribou in the region.

# Caribou break out groups

- Discuss lessons learned with wildlife and monitoring
  - What is being done well?
  - What can be done better?
- Are we looking at the right things (objectives)?
- How do the communities view caribou monitoring and what's important?
- Share your experiences





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# Program for Regional and International Shorebird Monitoring – Arctic monitoring and the PRISM approach



**Jennie Rausch**  
**Canadian Wildlife Service**  
**Environment Canada**

*at Gahcho Kué Project*  
*Wildlife Monitoring Plan Workshop*  
*Sept. 18, 2012*

# What is a shorebird?

- Long pointed wings
- Long legs and toes
- Long bill
- Smaller than goose
- Larger than snow bunting
- Camouflaged feathers



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# So why the interest in shorebirds?

- ~ 75% of N. American shorebirds in decline
- Variety of causes for declines
- One species, variety in response across range
- Pinpoint areas of decline, follow up with research and conservation action – how?
- Program for Regional and International Shorebird Monitoring.....aka PRISM!



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# The PRISM Approach

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- Breeding surveys
  - arctic,
  - boreal,
  - temperate
- Staging and migration surveys
- Wintering surveys



*CWS shorebird program (based in Yellowknife) runs the Arctic component of PRISM for Canada*



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# PRISM Objectives

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- Estimate population size
- Monitor trends in population size
- Monitor shorebirds at stopover locations
- Determine distribution, abundance, and habitats utilized throughout the year
- Assist local managers in meeting shorebird conservation goals



# Arctic PRISM – a three tiered approach

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Tier 1: Arctic-wide surveys every 10+ years

Tier 2: Permanent sites surveyed regularly

Tier 3: Annual checklist program



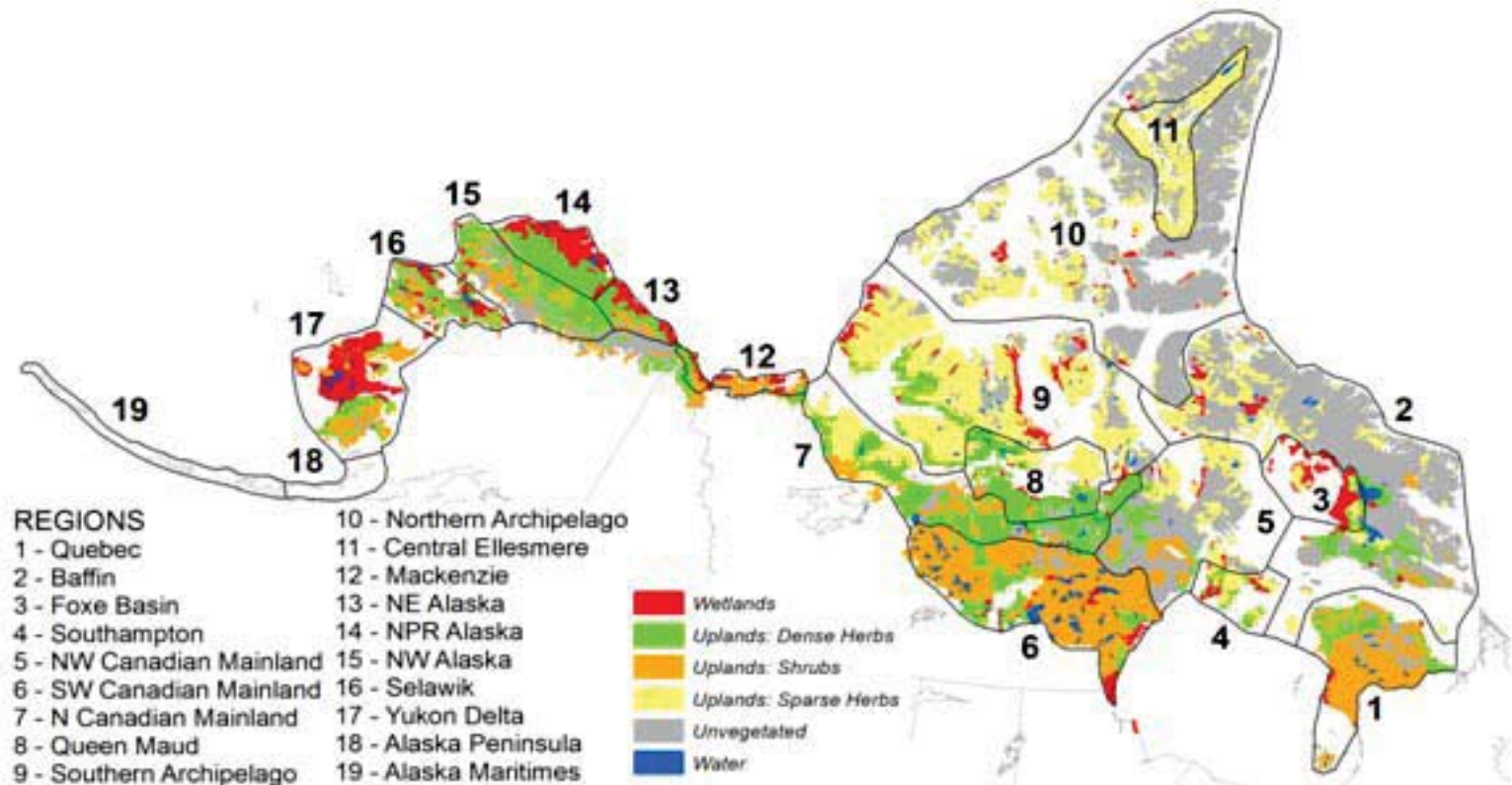
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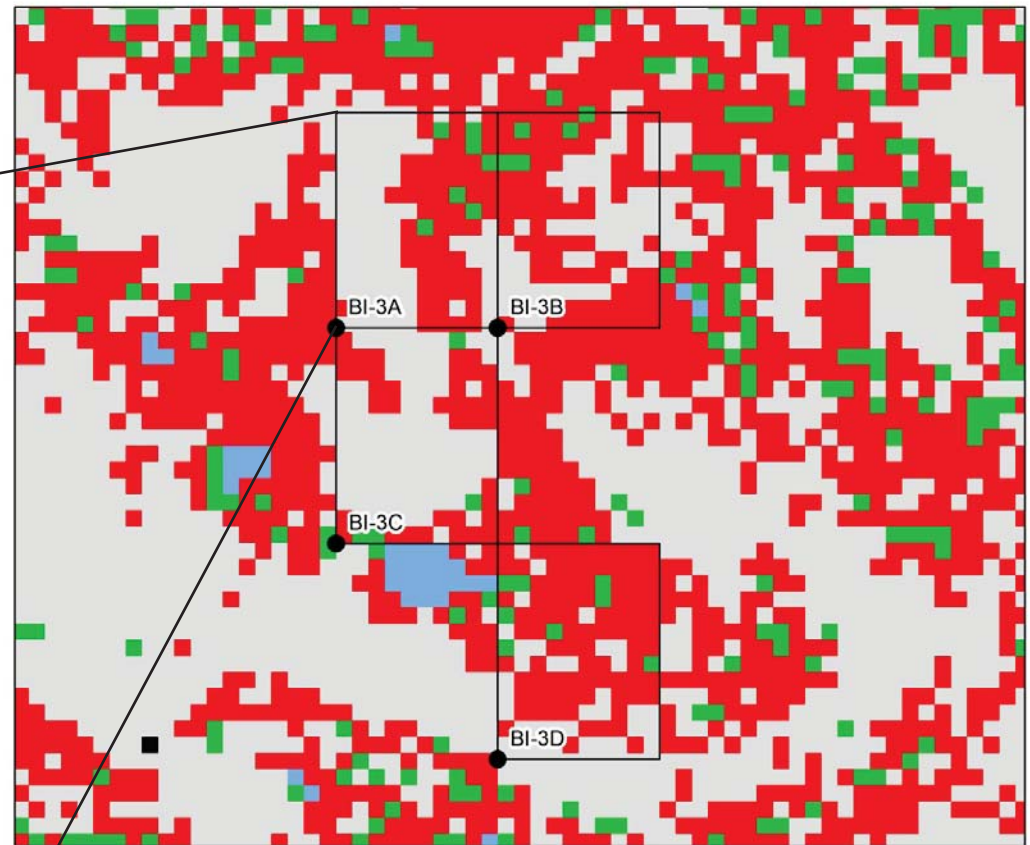
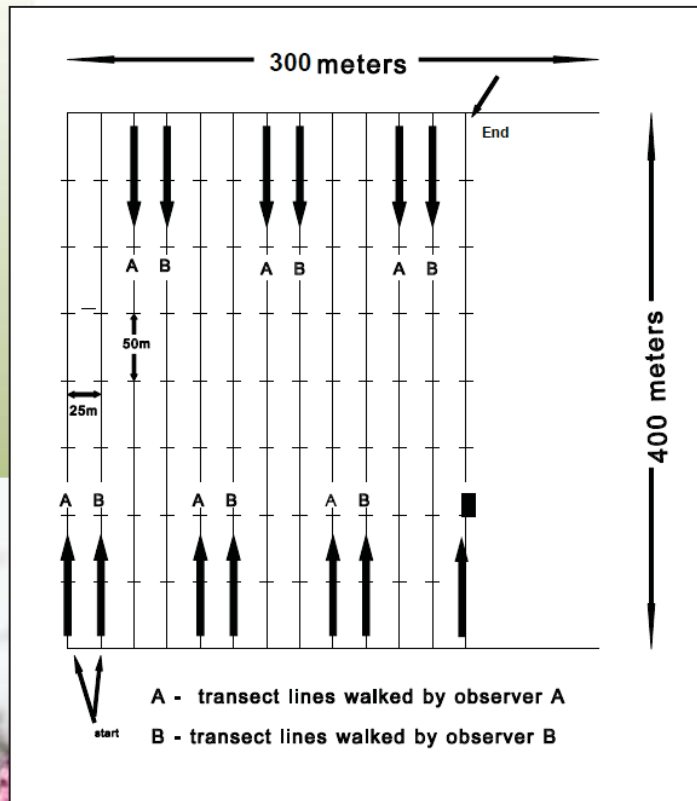
# Arctic PRISM - how it works

- Arctic divided into 19 regions (12 in Canada) based on coarse habitat classification





# PRISM Objecti



BI-3A, BI-3B, BI-3C, BI-3D

2012

COORDINATES OF  
SW PLOT CORNER

UTM ZONE 10

Plot	UTM_E	UTM_N	DD_LAT	DD_LONG	DM_LAT	DM_LONG
BI-3A	482275.259	8215696.661	74.03202	-123.57723	74 01.92144N	123 34.63392W
BI-3B	482545.329	8215813.837	74.0331	-123.56847	74 01.98588N	123 34.10838W
BI-3C	482431.494	8215336.563	74.02881	-123.57203	74 01.72860N	123 34.32186W
BI-3D	482857.814	8215093.644	74.02667	-123.55808	74 01.60014N	123 33.48462W

Rapid Survey Plots –  
12 ha foot survey,  
all birds recorded,  
2 crews, 1-2 hrs/plot



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# PRISM Objectives

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## Monitor trends in population size

### Tier 1 - Arctic Wide Surveys

- won't identify trends for some time

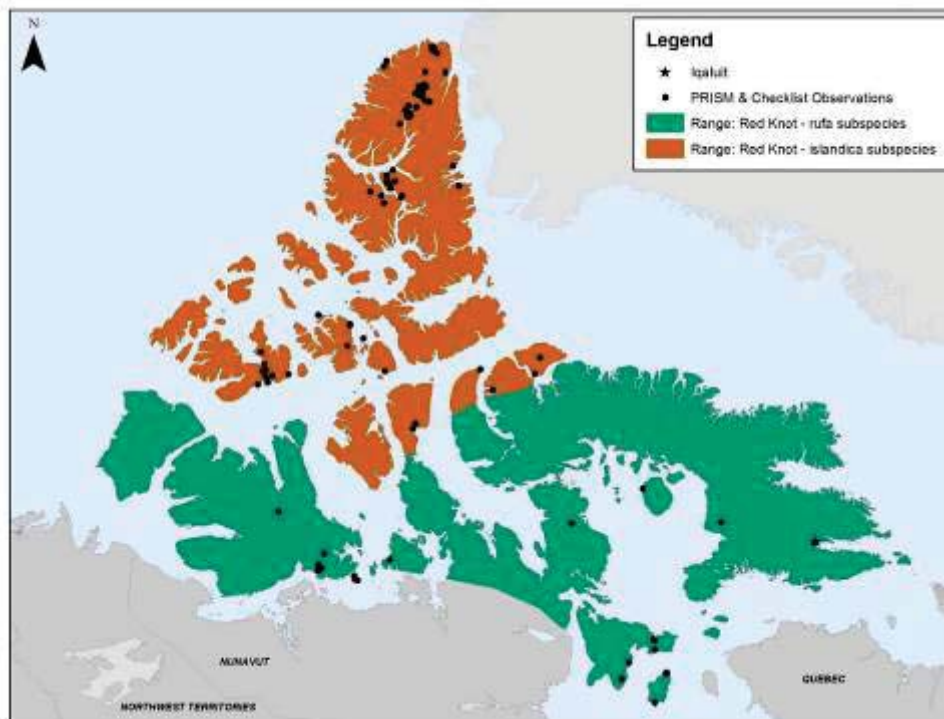
### Tier 2 - Permanent Sites

- East Bay Bird Sanctuary (Nunavut)
- Kendall Island Bird Sanctuary (NWT)



# PRISM Objectives

Determine distribution, abundance, and habitats utilized throughout the year



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# PRISM Objectives



## Assist local managers with their conservation goals

- Environmental Assessment
  - Determine distribution, habitat requirements and populations of birds in areas of proposed development
  - Evaluate the potential impact development will have on birds
- Land Use Planning
  - Identify areas which are important for birds
- Species at Risk



# Arctic PRISM provides all bird data

- While designed originally for shorebirds, the method works for all species and all breeding birds are included in the dataset
- Information is collected on all species in and between survey plots
- Information on habitat type is collected for each survey plot



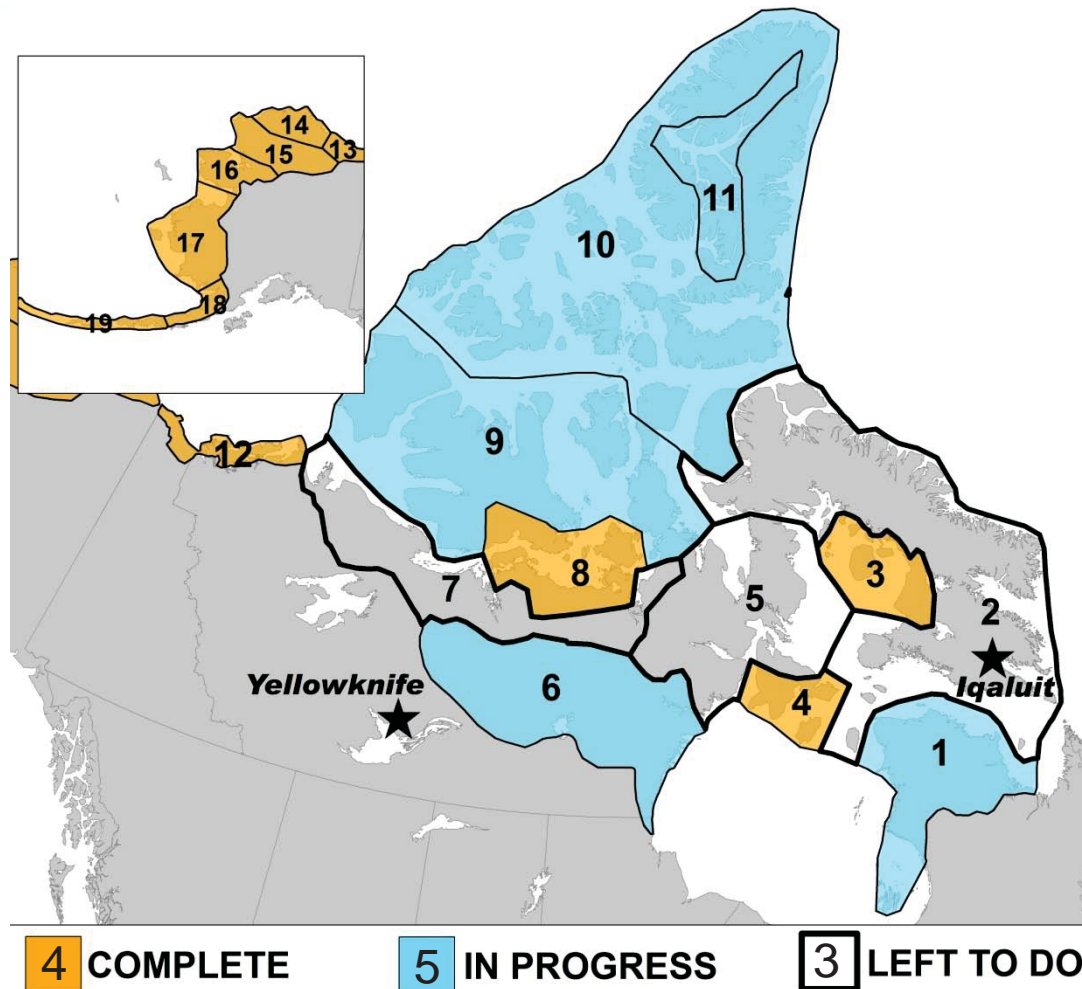
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# Progress on Arctic surveys



# Arctic PRISM achievements

- Data available for areas of the arctic that have never been surveyed for birds or haven't been surveyed in decades
- Information used for COSEWIC, land use planning, proposals for new Key Habitat Sites and NWAs
- Data provide only bird information for many northern environmental assessments
- Many aboriginal student and community field assistants



# Key messages

- Surveys provide previously unknown information on population size and distribution
- Initially designed for shorebirds but works for all bird groups and habitat
- Provides knowledge of bird distribution and abundance in areas not previously surveyed and provides baseline bird and habitat data to inform environmental assessments and method for baseline monitoring
- Method allows for community participation in the surveys



# Advantages over other methods

- For species with low detection rates, the PRISM method has proven more effective than point count methods
- Provides density estimates and nesting information for all birds
- Analytical details and considerations already worked out
- Contributes to regional population monitoring and arctic-wide cumulative impacts monitoring



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# Examples from other mines

## *Existing participants*

- Meadowbank (since 2005): Before/After-Control/Impact design
- Hope Bay/Doris North (4 years of surveys): Control/Impact design

## *Future participants*

- Baffinland Iron Mine
- MMG High Lake / Izok Lake
- Kiggavik Uranium  
(used PRISM for baseline surveys)



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# Potential study design and considerations

- Depends on the goal
- Population trend data may be more useful than trying to detect mine effect
- CWS can assist with study design and plot selection



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# Thank you for your time

- For more information about Arctic PRISM contact **Jennie Rausch** at **867-669-4709** or **[jennie.rausch@ec.gc.ca](mailto:jennie.rausch@ec.gc.ca)**



- Check out our website at:  
<http://ec.gc.ca/reom-mbs/default.asp?lang=En&n=FC881C1B-1>



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# PEREGRINE FALCON

## BIOLOGY STATUS SURVEYS



© G Court

Wildlife Division, ENR



**COSEWIC**

Committee on the Status of  
Endangered Wildlife in Canada

**COSEPAC**

Comité sur la situation des  
espèces en péril au Canada

Reintroduction south of  
60<sup>th</sup> started in 1960-70s

Ban on DDT– 1972 in  
North America but not  
everywhere

Population increasing -  
apparent since 1985.

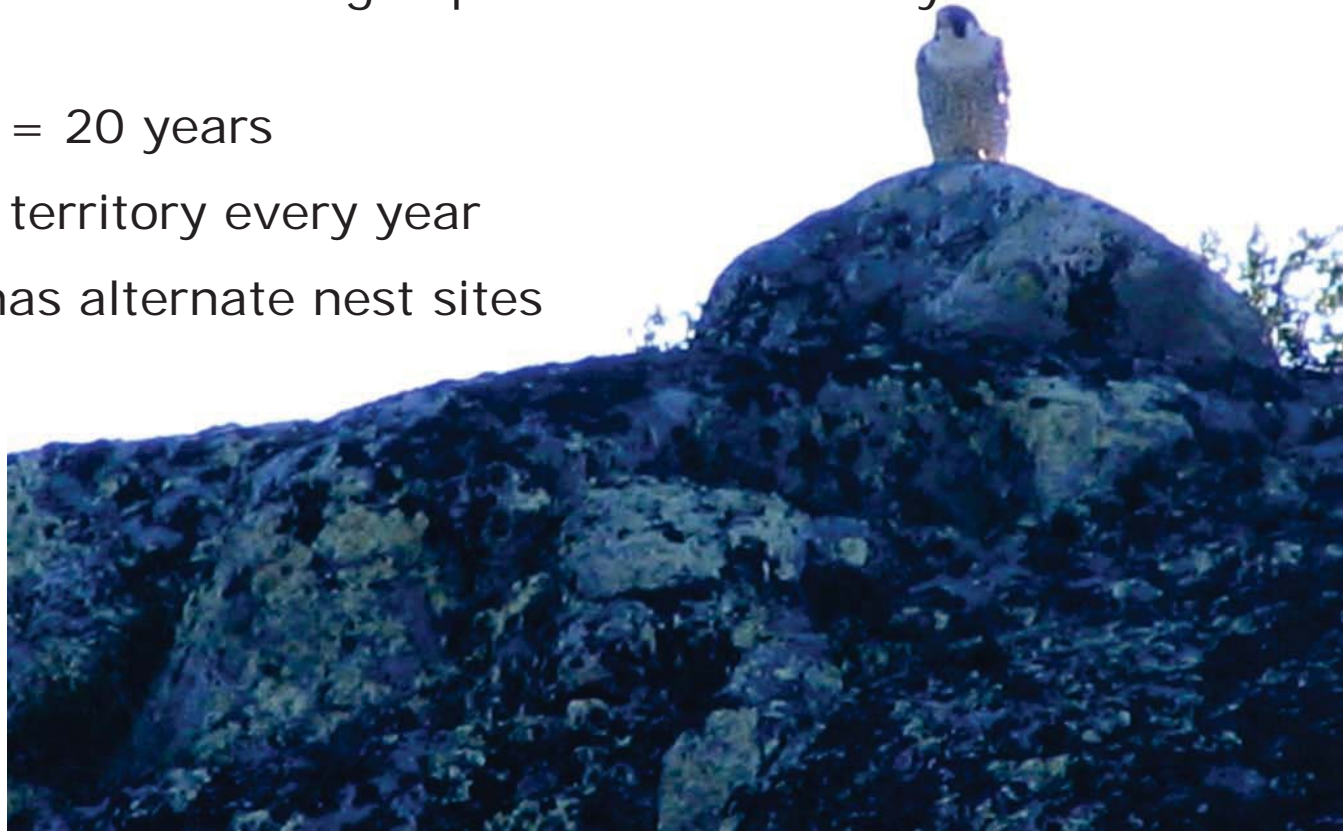
Re-assessed

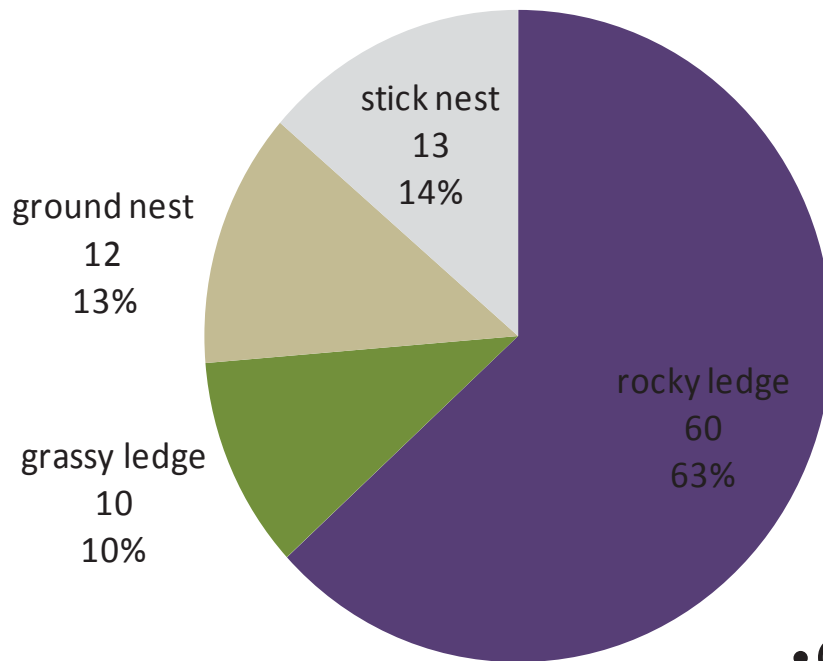
## **ANATUM-TUNDRIUS complex**

- Special Concern (2007)
- SARA-listed as Special Concern (2012)

# Biology Background

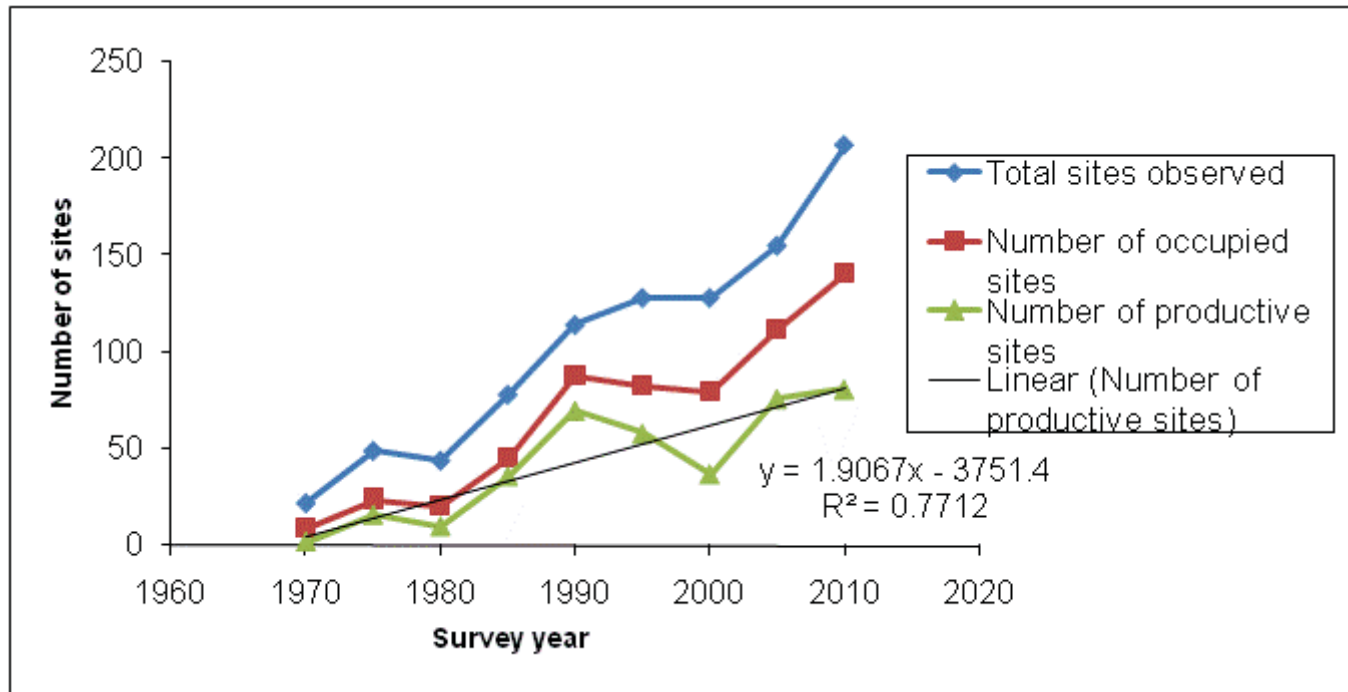
- Females are larger than males
- Territorial – first breeding depends on availability of a territory
- Longevity = 20 years
- Use same territory every year
- Territory has alternate nest sites





- Nests simply scraping on the substrate
- Nest sites are “waterfront properties”
- cliff ledges
- mud banks
- rock outcrops
- top of pingos
- stick nests built by other raptors
- buildings and other man-made structures.
- Clutch Size: 1 to 4

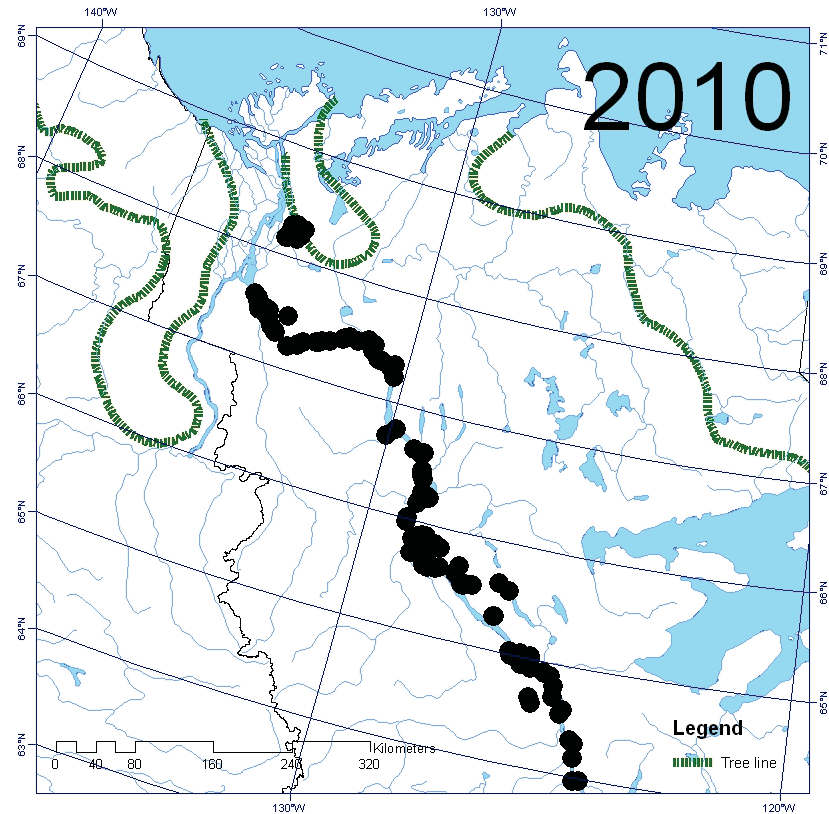
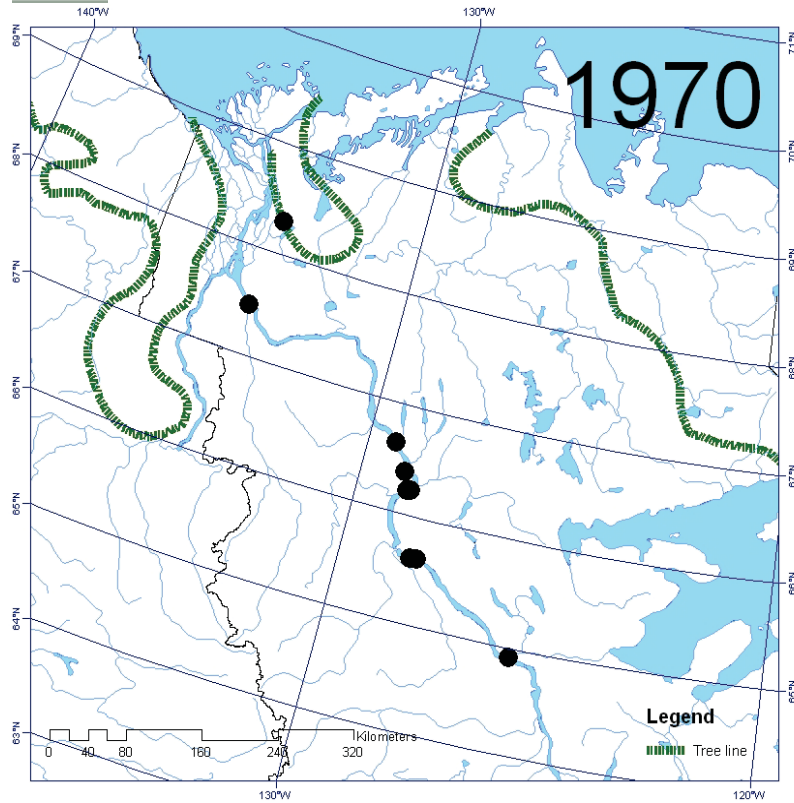
# Productivity



Mackenzie River

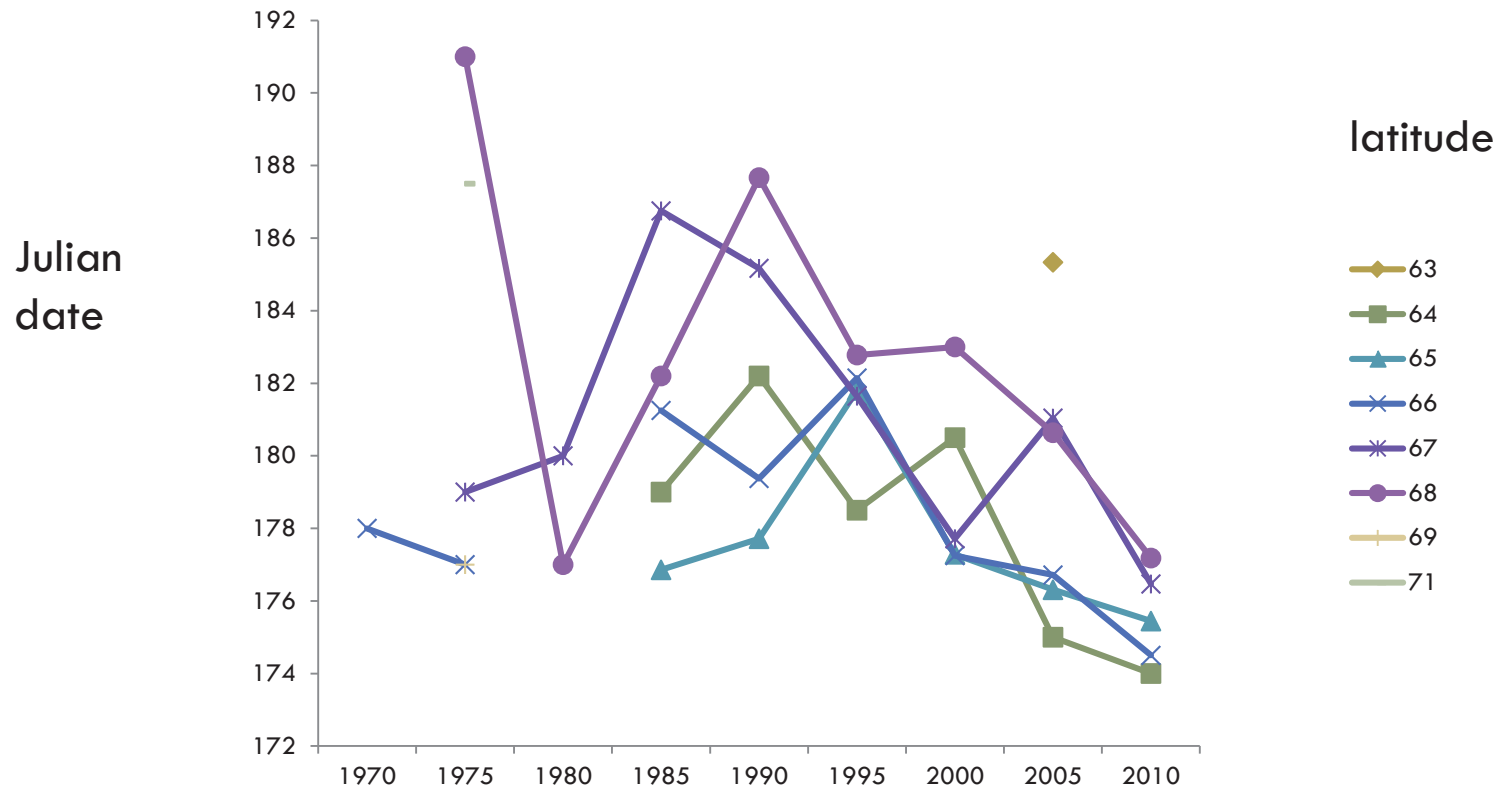


# Nearest Neighbour distance



Mackenzie River

# Hatch dates



Mackenzie River

# Survey History

## National Peregrine Falcon Surveys

- Part of International Recovery Plans
- Performed across North America at key areas

### In NWT

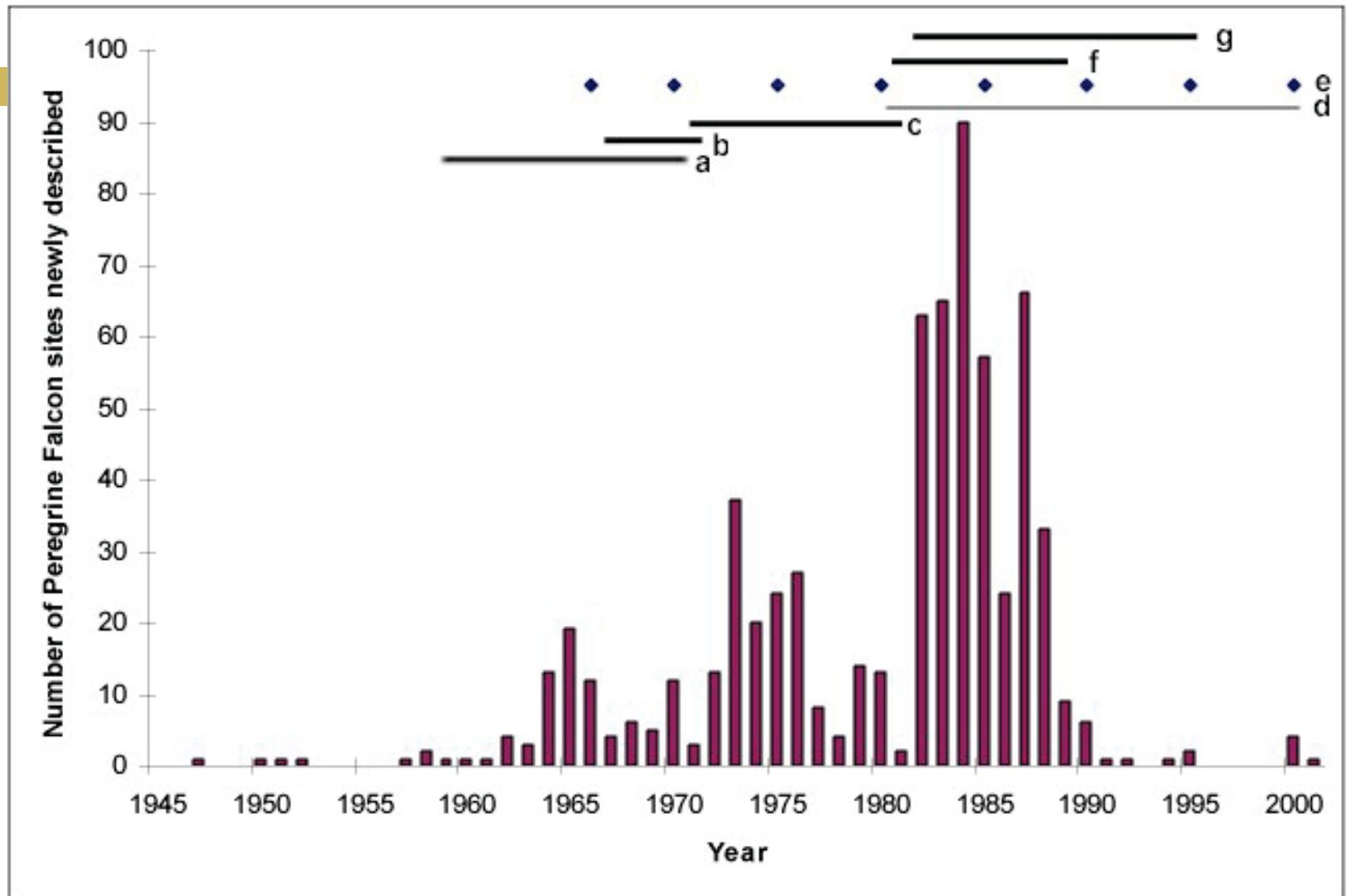
- Mackenzie Valley
- Other areas have been surveyed
  - Tuktu Nogait (Hornaday River) by Parks Canada

GOAL: Give a broad picture of population trend across North America

NOT enough to track effects of development on specific populations.

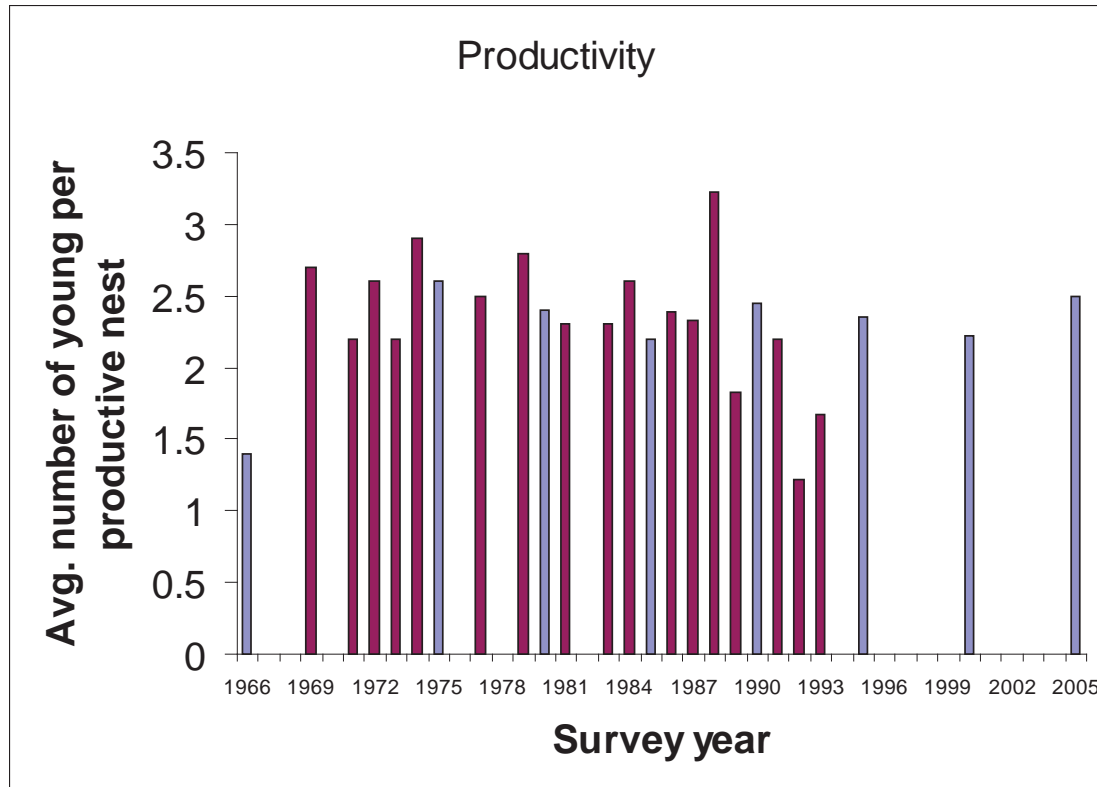
All records stored in the NWTNU Raptor Database then in **WMIS**

# Survey History in NWT



# Biology Background

Productivity is quite variable due to weather and thus  
food



Generally, <50% of breeders produce  
>70% of young in local populations

# Implications for Industry



- Perform EA under SARA
- Nests and cliffs-are protected under SARA as "Residences"
- Nests and birds are protected under NWT Wildlife Act
- Zero disturbance causing abandonment
- Monitoring requirements
- Data-Information sharing



# Further Reading and References

- White, C. M., N. J. Clum, T. J. Cade, and W. G. Hunt. (2002). In The Birds of North America Online

## **Results of surveys**

- Rowell, P., G.L. Holroyd, and U. Banasch. 2003. The 2000 Canadian Peregrine Falcon Survey. Journal of Raptor Research Volume 37 No. 2.

## **Raw data on Raptors in the NWT** (Data-sharing agreements)

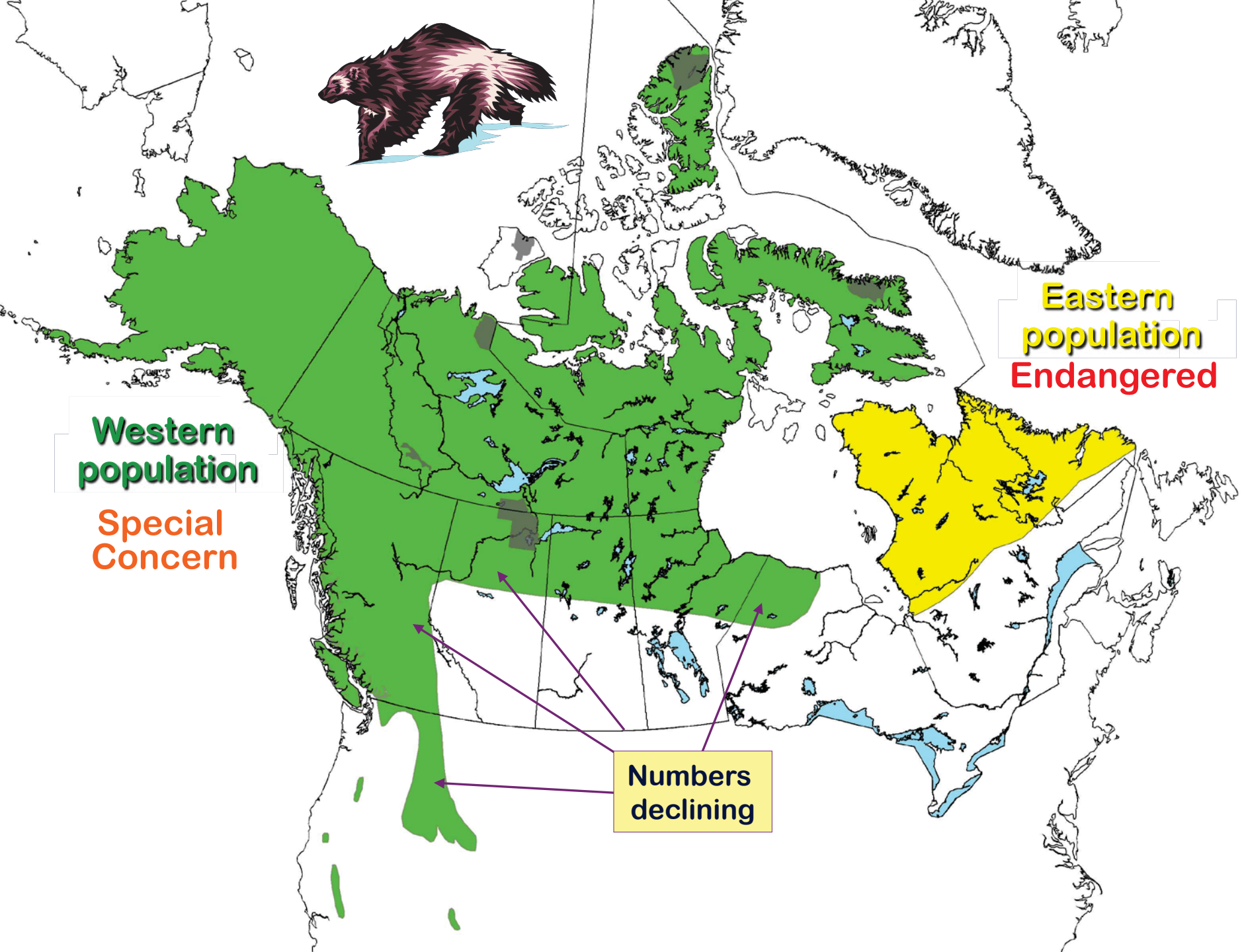
- Contact

Suzanne\_Carriere@gov.nt.ca or steven\_matthews@gov.nt.ca





## Estimating Wolverine Population Density and Trend using DNA-Based Mark-Recapture Methods



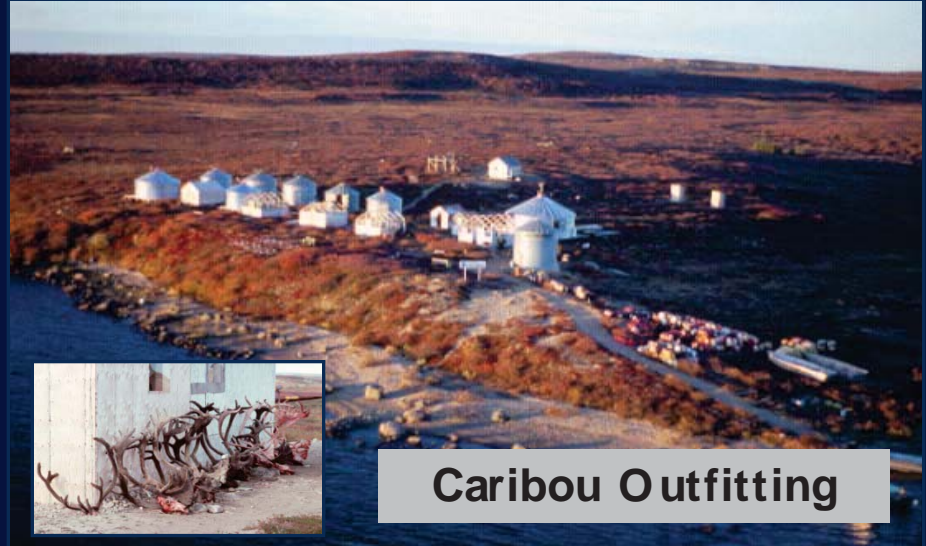


# Wolverines face increasing levels of disturbance and mortality on the barrens

Harvest by  
northern residents



Caribou Outfitting



Mines and exploration



Increasing road access

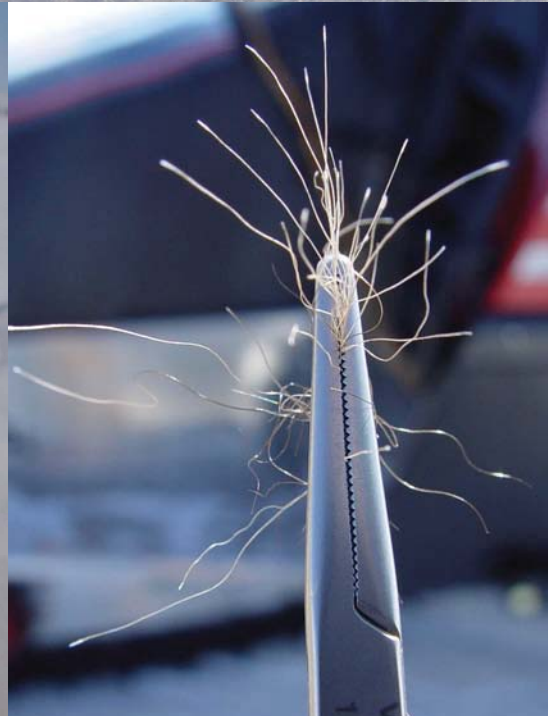


## Individual identification with DNA provides an opportunity to:

- Index abundance
- Compare density estimates
- Sex determination
- Document mortalities
- Document change in distribution
- Document dispersal patterns
- Improved data for modeling Cumulative Effects











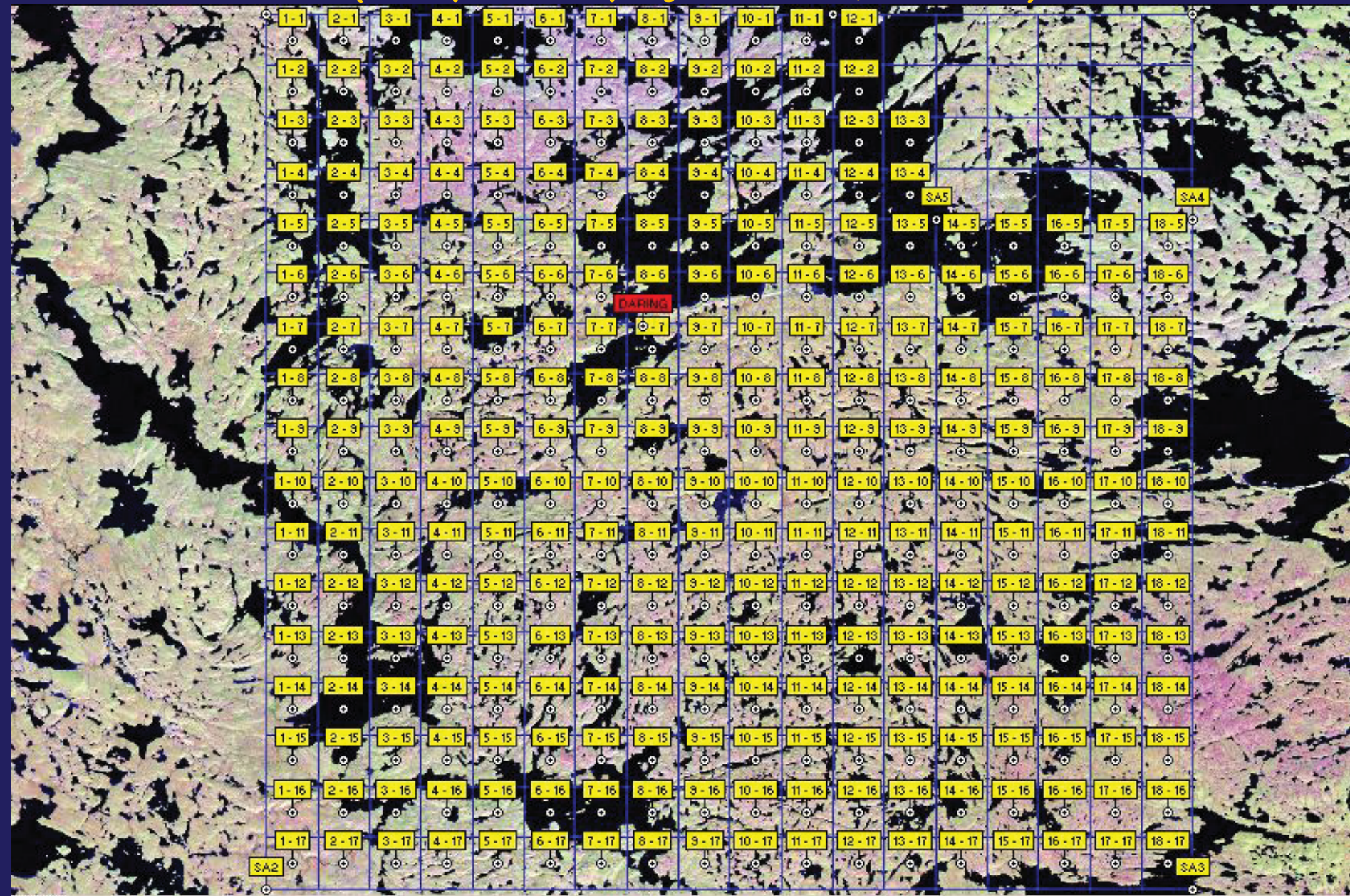






# Sampling design in 2004 at Daring Lake

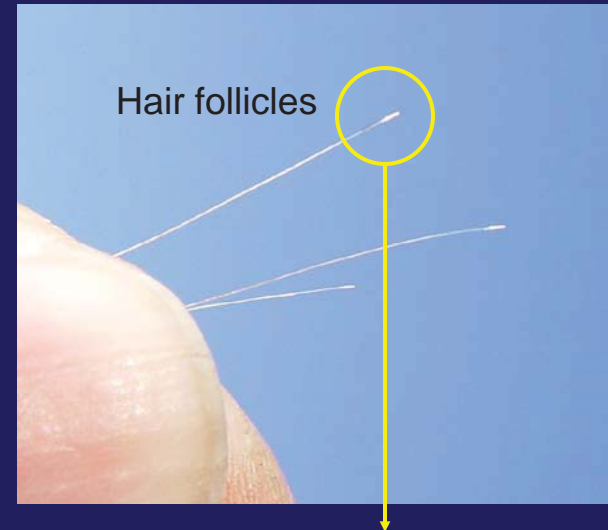
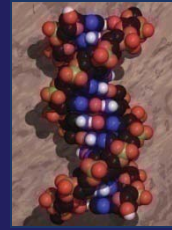
( 284 posts deployed over 2,500 km<sup>2</sup> )





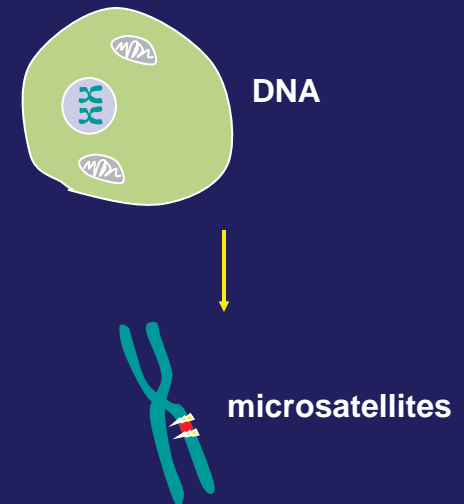
# Genetic Analysis

Dr. David Paetkau  
Wildlife Genetics International  
Nelson, B.C.



## Hair Samples

- ❖ DNA extraction
- ❖ Universal species test
- ❖ Gender analysis
- ❖ Microsatellite Genotyping
  - 13 microsatellite markers



## 2004 Results

Session	Posts with hair	%
1	210	75
2	251	89
3	268	95
4	265	94

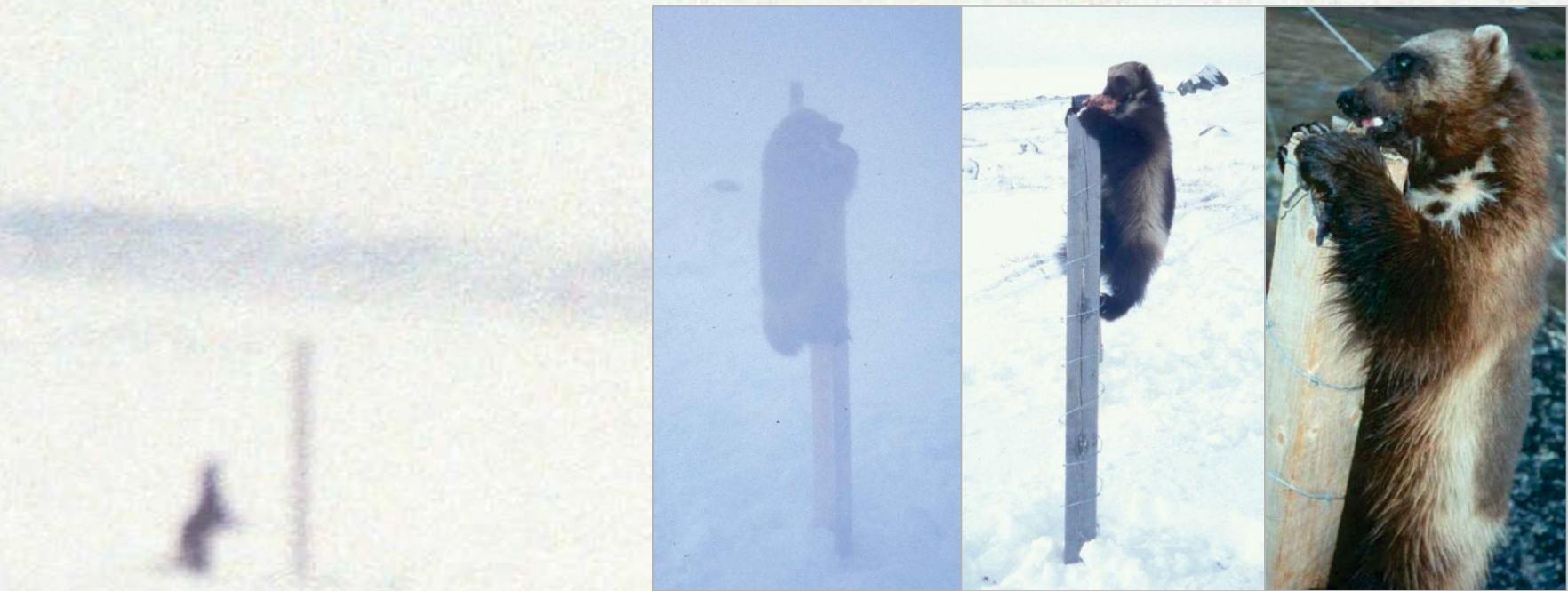
5,477 samples collected  
(11,360 trap-nights)

Analyzed 1 sample/ post /session

802 samples genotyped







# Estimating Wolverine Population Density and Trend using DNA-Based Mark-Recapture Methods

Robert Mulders & John Boulanger



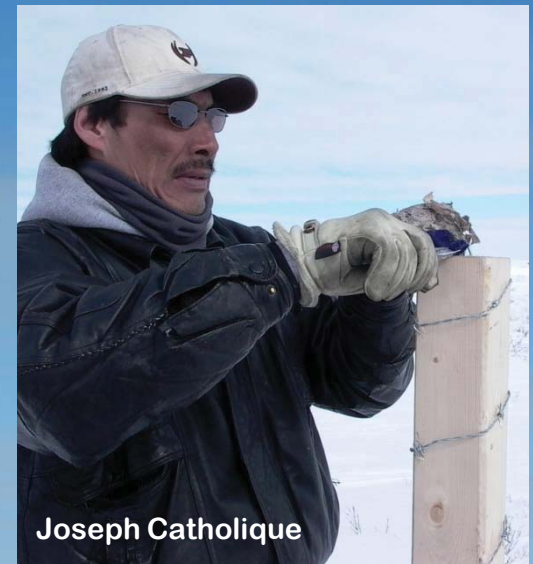




**BHPB, Diavik and DeBeers collaborated with ENR in 2005 and 2006; All used same DNA hair snagging technique.**



# Kennedy Lake wolverine surveys 2005 & 2006



Joseph Catholique

Photos by Chris Godwin-Sheppard (AMEC)

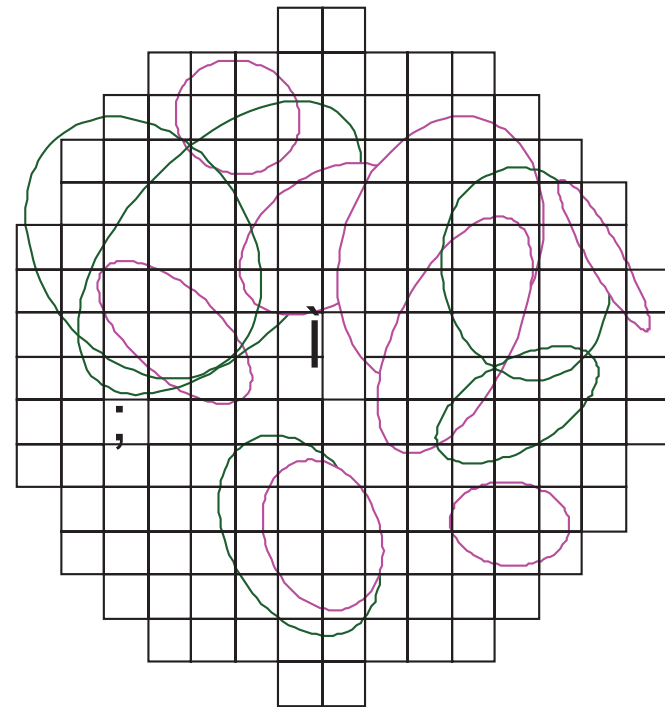
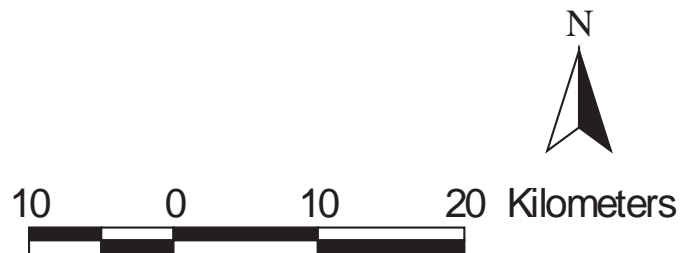
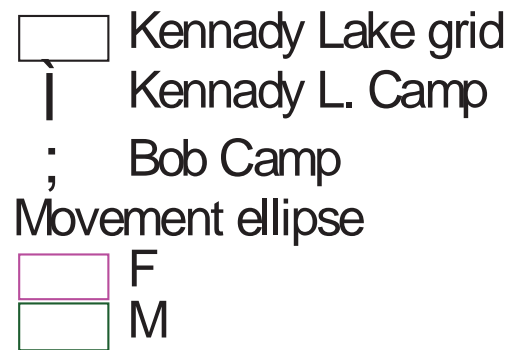
Raymond Marlowe

## Number of individual wolverines identified

Study Area	Sex	2005 Individuals	2006 Individuals
<b>Daring Lake</b> (2,500 km <sup>2</sup> )	F	17	16
	M	<u>21</u>	<u>17</u>
		<b>38</b>	<b>33</b>
<b>Diavik</b> (1,260 km <sup>2</sup> )	F	13	14
	M	<u>11</u>	<u>8</u>
		<b>24</b>	<b>22</b>
<b>Ekati</b> (1,300 km <sup>2</sup> )	F	9	9
	M	<u>12</u>	<u>4</u>
		<b>21</b>	<b>13</b>
<b>Gahcho Kue</b> (1,600 km <sup>2</sup> )	F	9	11
	M	<u>8</u>	<u>6</u>
		<b>17</b>	<b>17</b>
Totals		<b>100</b>	<b>85</b>



# Gahcho Kue



**Estimate of wolverine spatial distribution in 2005.  
Each ellipse was reduced to 50% so that size of ellipse is roughly  
equal to spread of repeated captures of each individual.**

## Documented mortalities (harvested)

Project	2005-6	After 2006 <sup>A</sup>	Grand Total
Daring	3 (1)	0 (2)	6
Diavik	1	0	1
Ekati	1	1	2
Kennady	3	0	3
Grand Total	9	3	12

<sup>A</sup> Wolverines were harvested after 2006 DNA sampling occurred

**Summary of wolverines identified in post samples that were subsequently harvested (and carcass sample genotyped). All wolverines were male except those noted in parenthesis that were female.**



# Acknowledgements



Northwest Territories Environment and Natural Resources

**Wildlife Division**

**INTEGRATED ECOLOGICAL RESEARCH**  
Field Biology & Statistical Applications

**Wildlife Genetics International**

WEST KITIKMEOT / SLAVE STUDY SOCIETY



**DE BEERS**  
A DIAMOND IS FOREVER

**amec**



**bhpbilliton**



Renewable Resources & Environment  
Indian and Northern Affairs Canada

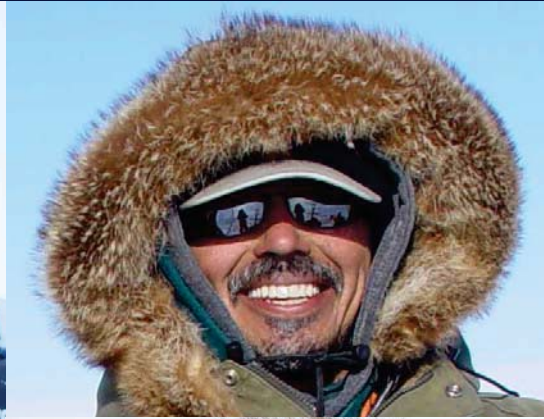


Experienced northern hunters &  
trappers have participated  
in these surveys

Angus Martin



Paul Mackenzie



James Sangris



Allan Niptanatiak



## Recent Publications & Reports

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Mulders, R., Boulanger, J. and Paetkau, D. 2007. Estimation of population size for wolverines *Gulo gulo* at Daring Lake, Northwest Territories, using DNA based mark-recapture methods. *Wildlife Biology* 13: Suppl. 2 pp 38-51.

Boulanger, J., and Mulders, R. 2007. Analysis of 2005 and 2006 Wolverine DNA Mark-Recapture Sampling at Daring Lake, Ekati, Diavik, and Kennady Lake, Northwest Territories. 30pgs.



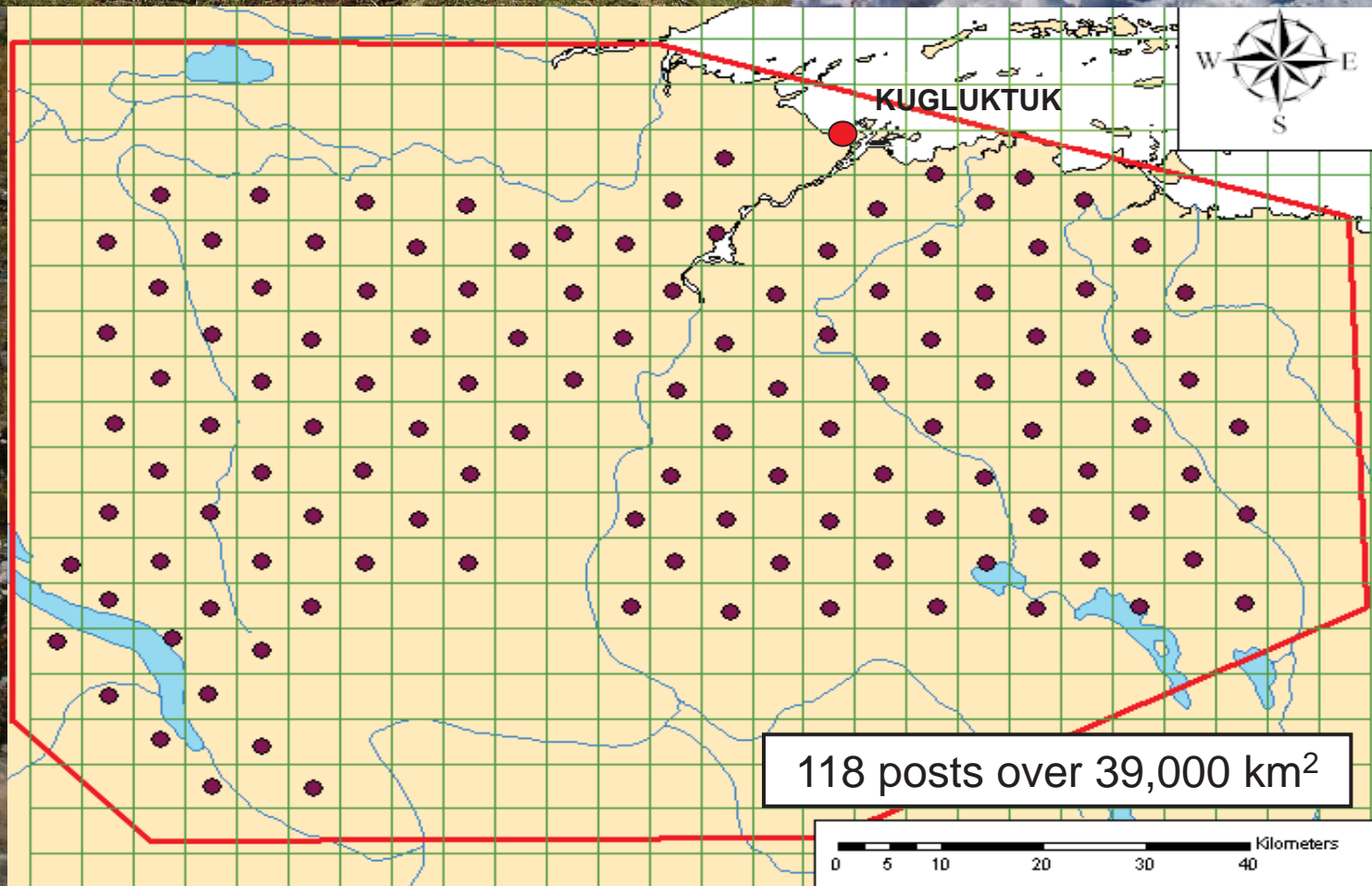


# Grizzly Bear Technical Workshop

Hosted by ENR - Nov 2, 2011

- Reviewed existing grizzly bear monitoring programs conducted at the mines and in Nunavut
- Discussed possible study design options for the future





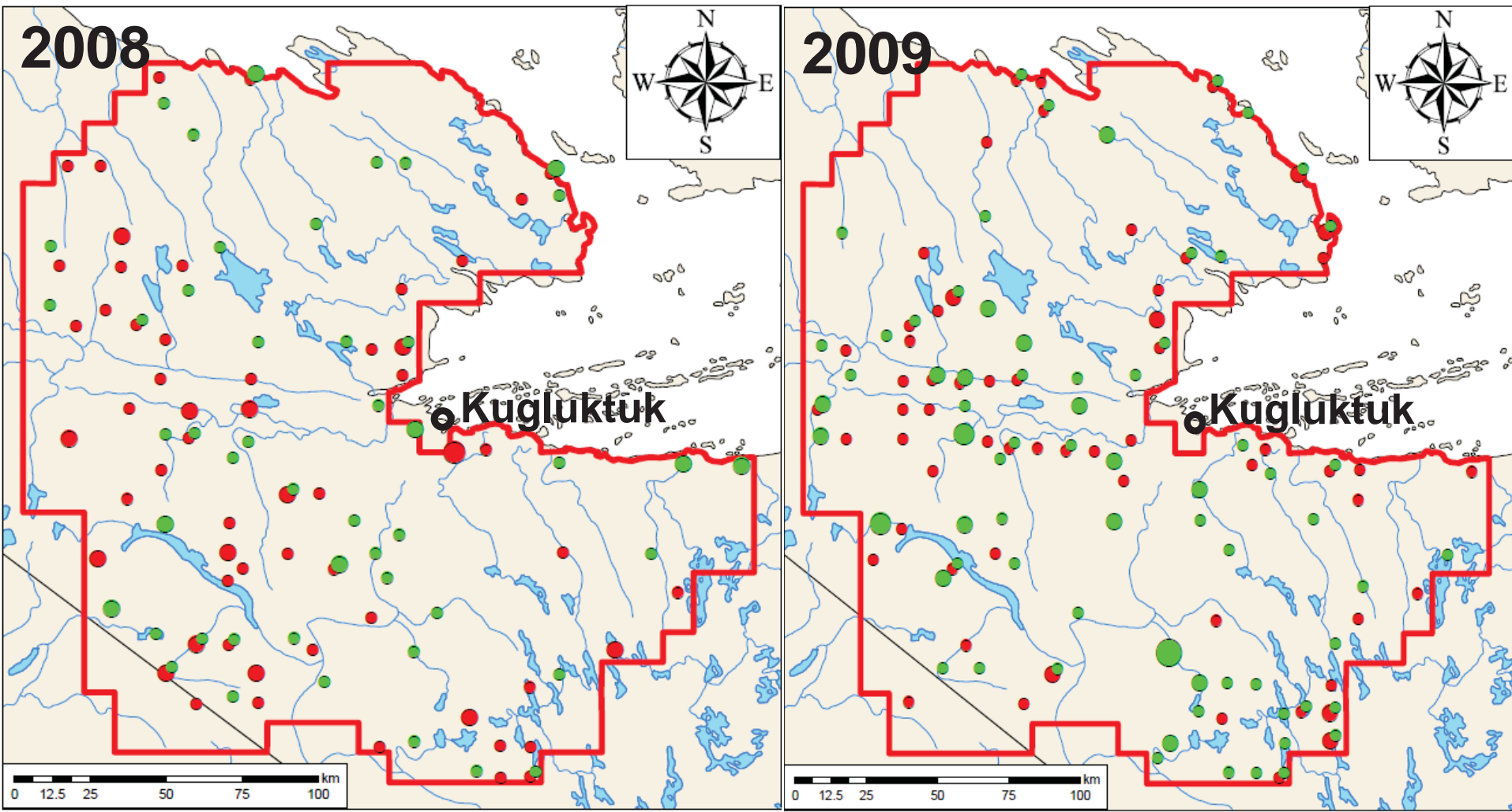
# Kitikmeot Results



Year	Session	#Posts hit	# of Bears ID
2008	1	57 (14.5%)	72
2008	2	47 (12.0%)	55
2009	1	60 (15.3%)	68
2009	2	68 (17.3%)	91
All captures	NA	209 (53.2%)	117F, 111M
Capture	1= 61F/66M	2= 33F/28M	≥3=23F/17M



Grizzly Bear genetic capture distribution in 2008 and 2009 during sampling sessions 1 (red) and 2 (green). Proportional symbols (1 to 4 individuals)



# Doris North - Grizzly Bear survey







2010 and 2011

## Grizzly Bear Monitoring at Snap Lake and Kennady Lake



# 2010 and 2011





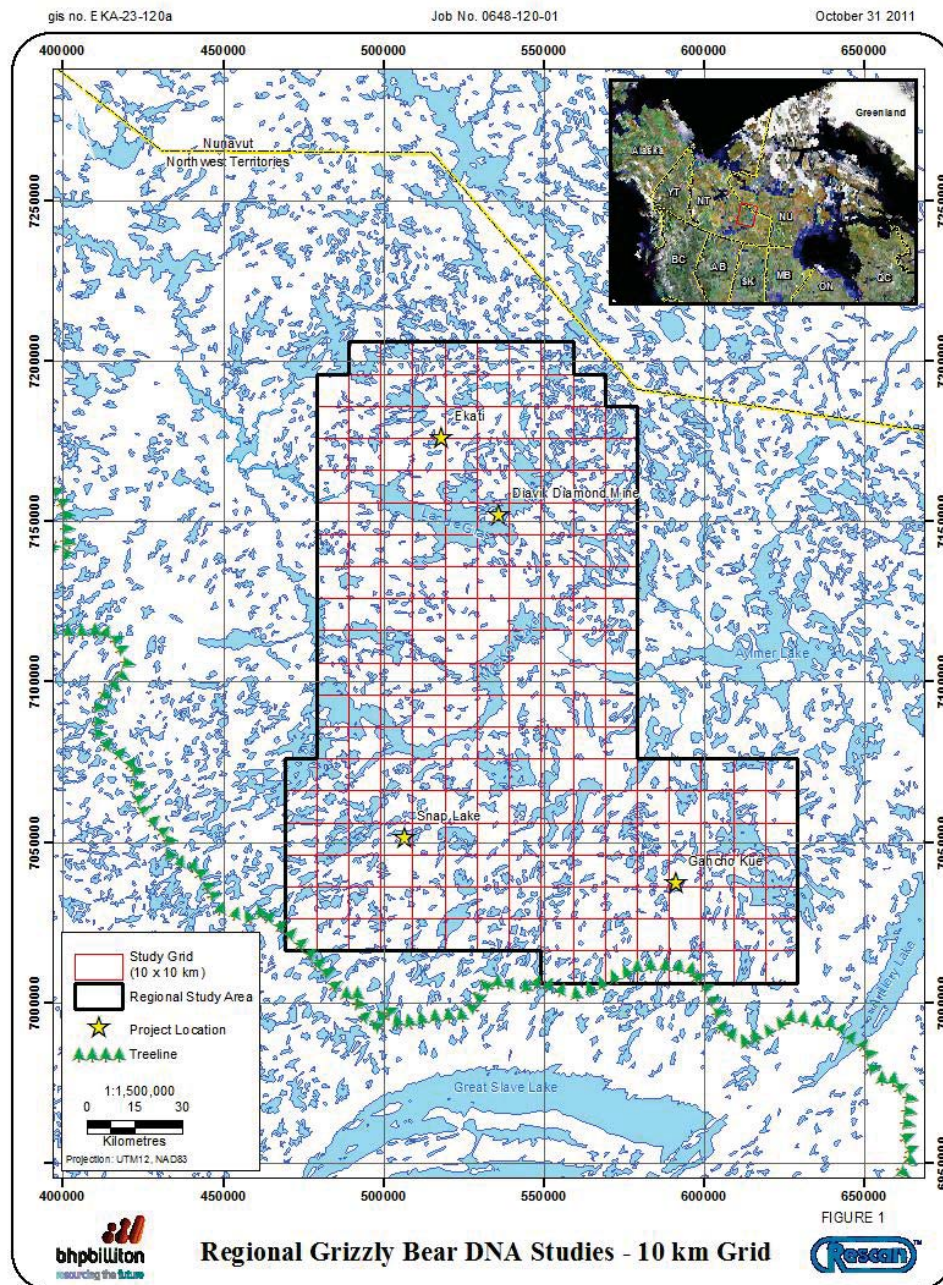
All mines agreed to adopt a single monitoring objective:

To determine if mine-related activities influence the relative abundance and distribution of grizzly bears in the study area over time.

BHP together with Rescan submitted a proposal to conduct a regional collaborative study, using DNA sampling, over an area of 25,000 km<sup>2</sup>, which would include: Ekati, Diavik, Snap Lake and Gahcho Kue.

# Potential Study Areas

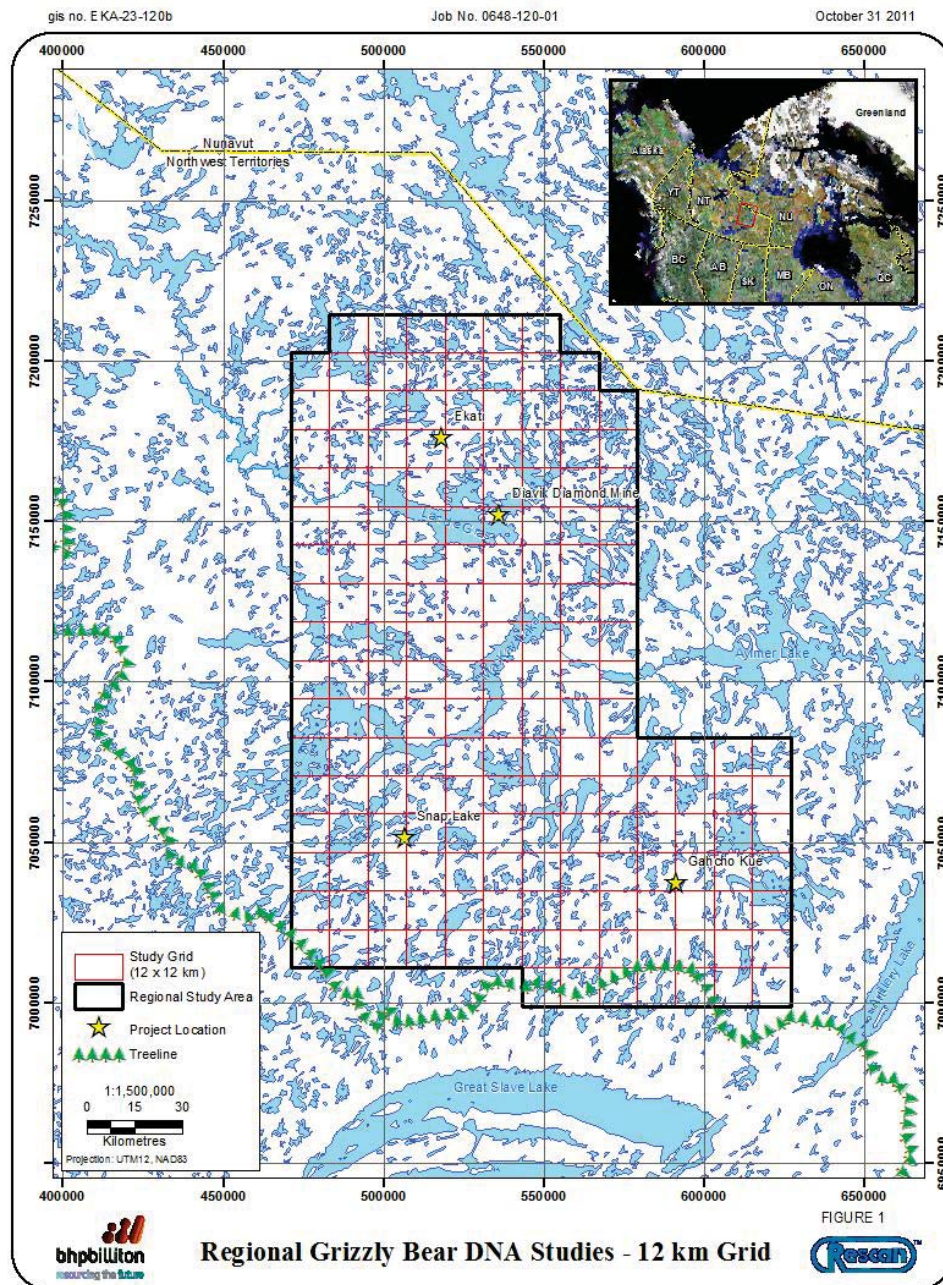
10x10 km grid  
230 cells





# Potential Study Areas

12x12 km grid  
180 cells





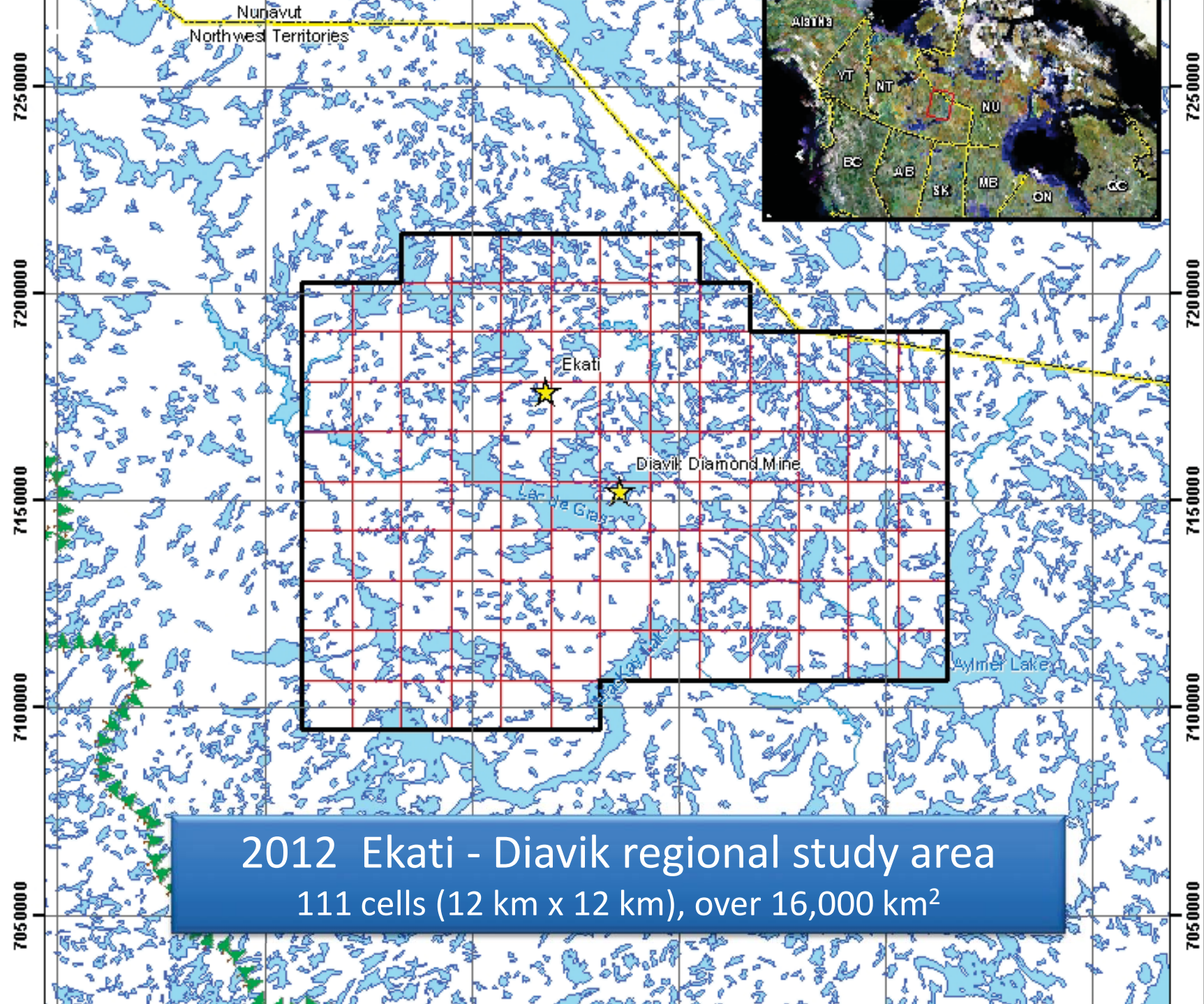
# Joint Regional Grizzly Bear DNA - Proposal

Collaborative regional study, using DNA sampling, over an area of 25,000 km<sup>2</sup>, which could include: Ekati, Diavik, Snap Lake and Gahcho Kue.



**RioTinto**





## BHP and Diavik - Northern study area (began in 2012)

Traditional Knowledge and community input will continue to be considered in the design and implementation of the grizzly bear program.

- Community elders will be directly involved in the field selection of sampling locations for all the posts.
- Elders will also be asked to provide a set of guidelines or criteria for locating posts.
- Community members will also be hired to participate in the deployment of posts and collection of hair samples, where their observations will be recorded.

- Possible University involvement (graduate student)
- 2012 and 2013; repeated every 4<sup>th</sup> year (next 2017-2018)
- June through August; 6 sessions; 2 week intervals
- Sampling locations selected by community elders, as well as youth for knowledge sharing
- Community members involved in hair collections, as well as other monitoring programs
- Lures: Cured blood (1L per station), fish oil, castor oil, bear slop, sweet oils
- Folding tripod design simplifies deployment, and works well



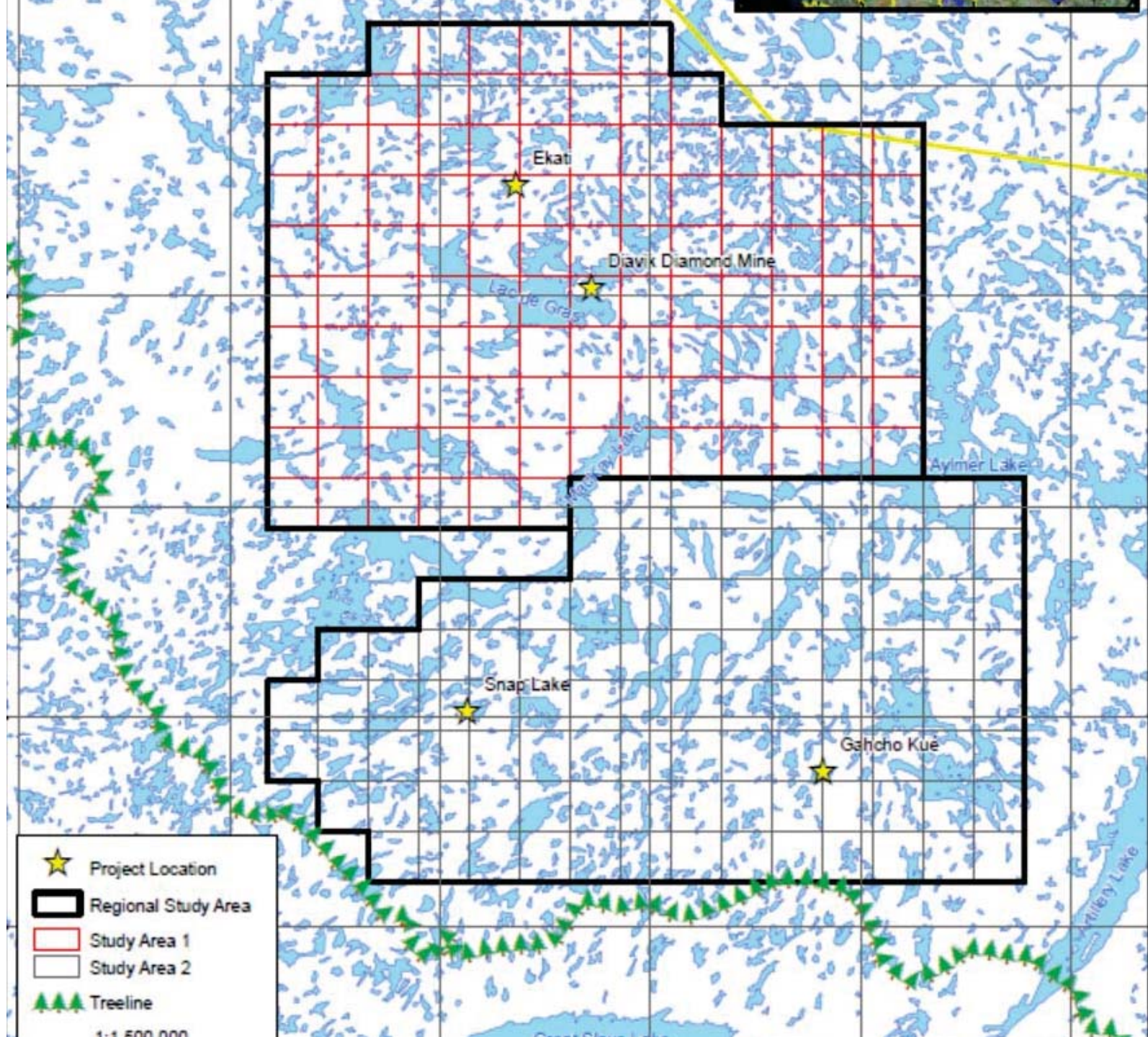
ENR is encouraged by:

- Collaborative approach taken by the mines
- Participation of communities in monitoring
- Adoption of standardized survey protocols
- Broad regional sampling is a more appropriate scale for wide ranging species
- Data will be more robust for detecting changes in abundance and distribution

Monitoring data is more useful to mines, and larger scale study will be useful for ENR and other agencies to address cumulative impacts of human activities, and in developing a management plan for grizzly bears.

ENR would like to provide technical input into finalizing the study design, boundaries of the study area, and review study results.

ENR is prepared to house the data in its central data warehouse (i.e. Wildlife Management Information System (WMIS)).



DeBeers is seeking input into how is should  
proceed with grizzly bear monitoring

# Summary Report

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Wildlife Monitoring Plan Workshop  
De Beers Gahcho Kué Project  
September 18, 2012

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Prepared by



11/1/2012



## Table of Contents

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Overview .....	3
Agenda.....	4
Workshop Context.....	4
Caribou Monitoring Objectives Break-Out Groups .....	5
Context .....	5
Method.....	6
Break-Out Group Findings.....	6
Carnivore Monitoring Presentations .....	7
Carnivore Monitoring – Grizzly Bears .....	7
Carnivore Monitoring - Wolverines.....	8
Bird Monitoring Presentations .....	8
Peregrine Falcons.....	8
Program for Regional and International Shorebird Monitoring.....	9
Next Steps.....	10

## Overview

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### *Wildlife Monitoring Plan Workshop De Beers Gahcho Kué Project September 18, 2012*

At the Technical Sessions in May 2012, De Beers committed to support Traditional Knowledge (TK) monitoring for the Gahcho Kué Project and implement a collaborative approach with communities and regulators in developing the Wildlife Monitoring Plan (WMP). The Panel's technical advisor on wildlife suggested that De Beers Canada Inc. (De Beers) could coordinate a WMP working group to help develop the WMP in collaboration with community representatives and regulators. The Tłı́chô Government further suggested that De Beers could hold a WMP workshop to obtain input from a broader audience. De Beers committed to both initiatives, which were carried out prior to the submission of the WMP to inform its content. The WMP working group meetings were held on August 7, 2012 and September 5, 2012 with a workshop on September 18, 2012.

De Beers hosted the workshop at the Explorer Hotel in Yellowknife, NT with the intention to incorporate good science, TK and Environmental Assessment (EA) practice in wildlife management and monitoring for the proposed Gahcho Kué Project.

Attendees included aboriginal community representatives from the Deninu Kué First Nation, Lutsel K'e First Nation, NWT Métis Nation and North Slave Métis Alliance, Tłı́chô Government, and Yellowknives Dene First Nation as well as representatives from De Beers , Environment and Natural Resources (ENR), Environment Canada, Aboriginal Affairs and Northern Development Canada, and Mackenzie Valley Environmental Impact Review Board (MVEIRB),.

The Workshop included a combination of information-sharing presentations as well as an opportunity for all participants to form break-out groups to discuss further opportunities to strengthen the proposed WMP for the Gahcho Kué Project.

## Agenda

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The three main objectives of the workshop included facilitating communication between science and TK holders; sharing information and lessons learned to inform on the scientific approach for monitoring wildlife; and sharing TK and community values on wildlife to inform wildlife monitoring.

The Agenda addressed the following items:

1. Workshop Context
2. Caribou Monitoring Objectives Break-Out Groups
3. Carnivore Monitoring Presentations
4. Bird Monitoring Presentations
5. Next Steps

## Workshop Context - Stephen Lines, De Beers Canada

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Following the opening prayer, review of the agenda, and sharing of participant expectations, the facilitator invited Stephen Lines from De Beers to present the context of the workshop to the participants.

Mr. Lines (De Beers) began his presentation by highlighting the location of the proposed Gahcho Kué Project and followed with a brief explanation of the work done to date to develop the WMP including the Panel scoping in 2006, the EIS review, the technical sessions, the upcoming WMP draft to be submitted at the end of September 2012, the approaching public hearings and Water License process to follow.

Mr. Lines emphasized to the participants that the WMP is a flexible document and will change over time as needed.

## Caribou Monitoring Objectives Break-Out Groups

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### Context

During the two working group meetings that were held prior to this workshop, participants discussed potential caribou monitoring themes leading into objectives. Draft objectives were presented to the workshop participants who were then asked to review in smaller break-out groups, revise as they saw fit and present their findings to all workshop attendees at the end of the day.

The potential caribou monitoring objectives discussed were as follows:

- To identify instances where the Project presents direct physical hazards to caribou
- To identify risks to the health of caribou that spend time foraging around the mine site
- To determine if caribou behavior changes with distance from the mine (Handley 2010)
- To confirm that the total direct habitat loss does not exceed predictions
- To determine whether the Zone of Influence changes in relation to mine activity (Handley 2010)
- To determine the amount and type of public use of the Project Winter Access Road
- Contribute to the Bathurst Management Plan



## Method

The break-out groups were organized to ensure a balance of participants from the past two working group meetings as well as De Beers representatives/consultants to scribe and capture the main discussion points of the participants of each break-out group on flip-chart paper to later present back to all workshop attendees.

After spending approximately two hours discussing the potential caribou monitoring objectives and consideration of local and traditional knowledge, one participant from each break-out group presented the main findings of their group to all workshop participants.

## Break-Out Group Findings

The main findings were as follows:

- Employ Aboriginal Environmental Monitors for site duties, carry out monitoring programs with scientists, and monitor the use of the Project Winter Access Road in conjunction with Project protective services;
- Employ a senior level TK Position at De Beers;
- Provide a cabin at Kirk Lake for community monitoring use and TK cultural events;
- If caribou are present near the Project Winter Access Road while the winter road is active, then initiate a survey by community-based monitors;
- Coordinate site visits at key times of the year;
- Facilitate better communication to the communities;
- Develop public education materials and signage on conservation and hunting from the Project Winter Access Road; and
- Include a new objective in the WMP: To facilitate the sharing of TK and science, and to include local knowledge in environmental monitoring.

## Carnivore Monitoring Presentations

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Robert Mulders from ENR shared two carnivore monitoring presentations with the participants - one addressed grizzly bears in the surrounding area of the Project and the other addressed wolverines.

### Carnivore Monitoring - Grizzly Bears

The purpose of this presentation was to review existing grizzly bear monitoring programs undertaken at the mines and in Nunavut and to discuss possible study design options for the future.

Traditional Knowledge and community input will continue to be considered in the design and implementation of the grizzly bear program.

- Community land users will be directly involved in the field selection of sampling locations for all the posts.
- Community members will also be hired to participate in the deployment of posts and collection of hair samples, where their observations will be recorded.
- Elders could also be asked to provide a set of guidelines or criteria for locating posts.

ENR is encouraged by:

- Collaborative approach taken by the mines
- Participation of communities in monitoring
- Adoption of standardized survey protocols
- Broad regional sampling as a more appropriate scale for wide ranging species
- Data will be more robust for detecting changes in abundance and distribution

## Carnivore Monitoring - Wolverines

This presentation focused primarily on the value of wolverine hair snagging and the DNA data that it provides to better understand wolverine populations and distribution across habitat in the north.

During 2005 and 2006, BHPB, Diavik and DeBeers collaborated with ENR to use the same DNA hair snagging technique. Experienced northern hunters and trappers participated in these surveys.

This allowed for estimating wolverine population density and trend using DNA-based mark-recapture methods. Similar initiatives would be incredibly beneficial through the life of the Gahcho Kué Project.

## Bird Monitoring Presentations

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### Peregrine Falcons

Suzanne Carriere from the Wildlife Division of ENR presented the Biology Status Surveys of Peregrine Falcons which are currently of special concern on the Species at Risk Act (SARA) due to their low number in overall population.

The presentation focused on the overall implications for industry, which included:

- Nests and cliffs-are protected under SARA as “Residences”
- Nests and birds are protected under NWT Wildlife Act
- Zero disturbance causing abandonment
- Monitoring requirements
- Data-Information sharing

### Program for Regional and International Shorebird Monitoring

Jennie Rausch with the Canadian Wildlife Service of Environment Canada addressed the topic of Arctic monitoring and the Program for Regional and International Shorebird Monitoring (PRISM) approach with the workshop participants.

PRISM objectives include:

- Estimate population size
- Monitor trends in population size
- Monitor shorebirds at stopover locations
- Determine distribution, abundance, and habitats utilized throughout the year
- Assist local managers in meeting shorebird conservation goals

There is an opportunity for De Beers to incorporate a shoreline bird monitoring program such as PRISM in the WMP for the Gahcho Kué Project. Surveys could provide previously unknown information on population size and distribution as well as knowledge of migratory bird distribution and abundance in areas not previously surveyed. Surveys also provide baseline bird and habitat data to inform environmental assessments and method for baseline monitoring. The suggested PRISM method allows for community participation in the surveys and is an excellent opportunity to encourage further TK in the WMP.



## Next Steps

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De Beers is planning to travel back to the communities to continue the Project planning discussions. Engagement activities such as this workshop are part of an ongoing dialogue between De Beers and parties (i.e., Government and Aboriginal groups) that will be undertaken annually as part of the Adaptive Management Committee or similar entity. De Beers values the opportunity to work collaboratively with Aboriginal groups and government on the evolution of management and monitoring programs.

A goal of the WMP and adaptive management will be to facilitate on-going sharing of traditional and local knowledge and science in environmental monitoring to improve communication with communities and regulators. This approach will facilitate De Beers' commitment to support TK for the life of the Project.