

Northwest Species at Risk Committee: Agenda

**Town of High Level Office
High Level, AB**

Thursday, October 18, 2018 at 3:30 p.m.

AGENDA

1. Call to Order
2. Adoption of the Agenda
3. Acronyms Reference Page: For Information Page 2
4. Adoption of the Minutes Page 5
5. October 4th NWSAR Minutes: Meeting Debrief and Actions Page 11
6. 17th North American Caribou Workshop Page 17
 - a. Poster Presentation
7. NW Pilot Project Update
8. Industry Caribou Range Plan Initiative Update *Handout*
9. RFD: ESRI ArcGIS Software License Page 27
- 10.
- 11.
- 12.
13. Committee Member Updates: (Short) Round Table Discussion
14. Terms of Reference: For Information Page 29
15. Next Meetings Date(s)
16. Meeting Adjournment

Acronyms Reference Page

ABMI: Alberta Biodiversity Monitoring Institute

ACA: Alberta Conservation Association

AFPA: Alberta Forest Products Association

ALSA: Alberta Land Stewardship Act

AL-Pac: Alberta-Pacific Forest Industries Inc.

ATA: Alberta Trappers Association

AUMA: Alberta Urban Municipalities Association

CAPP: Canadian Association of Petroleum Producers

CBD: Convention on Biological Diversity

CPCA: Canadian Petroleum Contractors Association

COSEWIC: Committee on the Status of Endangered Wildlife in Canada

DMI: Daishowa-Marubeni International Ltd.

DUC: Ducks Unlimited Canada

ECCC: Environment and Climate Change Canada

FCM: Federation of Canadian Municipalities

FMU: Forestry Management Unit

FPAC: Forest Products Association of Canada

fRI: Foothills Research Institute

GOA: Government of Alberta

GOC: Government of Canada

IUCN: International Union for Conservation of Nature

LiDAR: Light Detection and Ranging

Northwest Species at Risk Committee
Administration Lead: Byron Peters, Mackenzie County

LuSEE: The Land-use Social, Environmental, and Economic Decision Support System

NRCan: Ministry of Natural Resources Canada

NCC: Nature Conservancy of Canada

NAEL: Northern Alberta Elected Leaders

NACW: North American Caribou Workshop

NWSAR: Northwest Species at Risk Committee

OECMs: Other Effective Area-Based Conservation Measures

PSAC: Petroleum Services Association of Canada

RMA: Rural Municipalities of Alberta

SMC: Southern Mountain Caribou

SARA: Species at Risk Act

SFI: Sustainable Forestry Initiative

WBNP: Wood Buffalo National Park

Northwest Species at Risk Committee
Administration Lead: Byron Peters, Mackenzie County

Northwest Species at Risk Committee: Minutes

**Town of High Level Office
High Level, AB**

Tuesday, September 18, 2018 at 11:00 a.m.

PRESENT:	Lisa Wardley Crystal McAteer Eric Jorgensen Terry Ungarian Linda Halabisky Jacquie Bateman Jessica Juneau Sunni-Jeanne Walker Amber Bean	Chair, Deputy Reeve, Mackenzie County Vice Chair, Mayor, Town of High Level Councillor, Mackenzie County Reeve, County of Northern Lights Councillor, County of Northern Lights Councillor, Mackenzie County Councillor, Town of Rainbow Lake Councillor, Town of Manning Councillor, Clear Hills County
REGRETS:	Miron Croy Mike Morgan Michelle Farris Chris Mitchell Jason Ruecker Keith Hutchinson	Councillor, Clear Hills County Councillor, Town of High Level Mayor, Town of Rainbow Lake Councillor, Town of Rainbow Lake Reeve, Clear Hills County Councillor, Town of Manning
ADMINISTRATION:	Byron Peters Dan Fletcher Hayley Gavin	Deputy CAO, Mackenzie County CAO, Town of High Level Regional Land Use and Environmental Project Manager/Recording Secretary, Town of High Level
ALSO PRESENT:	Diana McQueen Brendan Powell Maarten Braat	DMC Consulting (via teleconference) Councillor, M.D. of Opportunity Alberta Beef Producers

MOTION

1. Call to Order

Lisa Wardley called the meeting to order at 11:10 a.m.

Eric Jorgenson joined the meeting via teleconference at 11:10 a.m.

2. Adoption of the Agenda

18-09-001

MOVED by Linda Halabisky

That the agenda be adopted with the following additions:

9.c. Wood Bison

13.a. Global Restoration

CARRIED

3. Acronyms Reference Page

Received for information purposes.

4. Adoption of the Minutes

18-09-002

MOVED by Sunni-Jeanne Walker

That the minutes from the August 1, 2018 NWSAR Committee meeting be adopted as presented.

CARRIED

5. 17th North American Caribou Workshop

Meetings in Ottawa – NWSAR administration will contact:

- Minister Sohi – Natural Resources Canada
- Joe Crocker – Environment and Climate Change Canada
- Matt Gemel – Federation of Canadian Municipalities
- MPs Chris Warkentin, Randy Boissonnault, Arnold Viersen
- Deputy Minister Lucas – Environment and Climate Change Canada
- Minister Wilkinson – Fisheries, Oceans and Canadian Coast Guard
- Laurie Wien – Parks Canada Agency

6. Nature Conservancy of Canada and Ducks Unlimited Canada

Received for information purposes.

7. NWSAR Minister Sohi and ADM Evans' Letters

Received for information purposes.

8. Review of Section 11 Conservation Agreements and SARA

18-09-003

MOVED by Linda Halabisky

That administration review the options for entering into a Section 11 conservation agreement with the Federal government for the recovery of Boreal Woodland Caribou, in Northwest Alberta.

CARRIED

9. NW Pilot Project Update

Eric Jorgensen left the meeting via teleconference and joined the meeting at 12:06 p.m.

a. ABMI Quote for NW Pilot Project Services

Lisa Wardley called a meeting recess at 12:57 p.m.

Maarten Braat joined the meeting at 1:27 p.m.

b. fRI Research Quote for NW Pilot Project Services

Lisa Wardley reconvened the meeting at 1:32 p.m.

Administration received an email from fRI Research explaining why they cannot provide a methodology and cost estimate at this time.

c. Wood Bison

NWSAR agrees to circulate the letter via email next week, and to conduct a *Motion via email*, regarding whether NWSAR can support the letter or not.

10. NW Pilot Project Funding and Partners/Project Support Discussion

18-09-004

MOVED by Lisa Wardley

That NWSAR participate in a Caribou Range Plan initiative with Tolko and Alberta Environment and Parks, for a Northwest Alberta caribou herd.

CARRIED UNANIMOUSLY

11. NWSAR Budget Report

18-09-005

MOVED by Lisa Wardley

That administration sends letters to NWSAR municipalities requesting summaries of all contributions towards, and expenses incurred for NWSAR activities.

CARRIED

18-09-006 **MOVED** by Amber Bean

That Mackenzie County provides the Town of High Level with in-kind receipting; evidence of NWSAR contributions via payment of NWSAR consulting fees.

CARRIED

18-09-007 **MOVED** by Jessica Juneau

That administration sends letters to each NWSAR municipality to contribute a minimum of \$50,000 in their 2019 budget for NWSAR.

CARRIED

12. ESRI ArcMap Software License Quotes

TABLED until the next NWSAR meeting.

13. Research Paper: Request for Permission to use NWSAR Data

18-09-008 **MOVED** by Sunni-Jeanne Walker

That administration develop a data release agreement between NWSAR and Hayley Gavin, for NWSAR's stakeholder engagement data.

CARRIED

a. Global Restoration

Amber Bean left the meeting at 3:07 p.m.

18-09-009 **MOVED** by Crystal McAteer

That administration sends a letter thanking Global Restoration for their interest in working with NWSAR; declining to participate at this time.

CARRIED

14. Committee Member Updates

Short round-table discussion.

Amber Bean returned to the meeting at 3:10 p.m.

15. Terms of Reference

Received for information purposes.

16. Next Meeting Date(s)

18-09-010

MOVED by Lisa Wardley

That the next NWSAR meeting dates will be:

- ❖ Thursday October 18th @ 3:30 p.m. at Town of High Level
- ❖ Tuesday December 4th @ 11:00 a.m. at Town of High Level

CARRIED

17. Adjournment

18-09-008

MOVED by Crystal McAteer

That Northwest Species at Risk Committee meeting be adjourned at 3.36 p.m.

CARRIED

These minutes were adopted this ___ day of _____ 2018

Lisa Wardley, Chair

Northwest Species at Risk Committee
Administration Lead: Byron Peters, Mackenzie County

Northwest Species at Risk Committee: Minutes Discussion Notes

**Northern Sunrise County Office
Peace River, AB**

Thursday, October 4, 2018 at 2:00 p.m.

NWSAR PRESENT:	Lisa Wardley Crystal McAteer Eric Jorgensen Terry Ungarian Linda Halabisky Sunni-Jeanne Walker Amber Bean Miron Croy	Chair, Deputy Reeve, Mackenzie County Vice Chair, Mayor, Town of High Level Councillor, Mackenzie County Reeve, County of Northern Lights Councillor, County of Northern Lights Councillor, Town of Manning Councillor, Clear Hills County Councillor, Clear Hills County
ADMINISTRATION:	Hayley Gavin	Regional Land Use and Environmental Project Manager/ Recording Secretary, Town of High Level
ALSO PRESENT:	Carolyn Kolebaba Karine Pigeon Jim Herbers Jim Witiw Jahan Kariyeva Melanie Dickie Kris Kennedy Steve Blanton Gord Whitmore Laura Trout Tim Gauthier	Reeve, Northern Sunrise County Wildlife Biologist, fRI Research Application Centre Co-Director, Alberta Biodiversity Monitoring Institute Forest Resource Coordinator – Biodiversity Stewardship, Daishowa-Marubeni Intl. Ltd. Geospatial Centre Director, Alberta Biodiversity Monitoring Institute Caribou Coordinator, Alberta Biodiversity Monitoring Institute Woodlands Manager, Boucher Bros. Lumber Ltd. Woodlands Manager, Manning Forest Products Ltd. (West Fraser) Land Management Superintendent, Daishowa-Marubeni Intl. Ltd. Habitat/Wildlife Biologist, West Fraser (via teleconference) Planning and Sustainability Manager, Tolko Industries Ltd. (via teleconference)

1. Call to Order

Lisa Wardley called the meeting to order at 2:04 p.m.

Round table introductions.

Steve Blanton joined the meeting at 2:09 p.m.

Eric Jorgenson joined the meeting at 2:13 p.m.

2. Adoption of the Agenda

Acceptance of the agenda.

3. NWSAR Committee Welcome

Lisa Wardley and Crystal McAteer welcomed all participants to the meeting.

4. Alberta Biodiversity Monitoring Institute (ABMI) Presentation

Points of discussion:

- Who is ABMI (non-Government Research Institute)
- The structure of ABMI
- Board members (currently one vacancy – a GOA representative)
- ABMI field team is based out of Vegreville, Alberta
- Ecosystem Health Sites (1,600 provincially – 100 checked per year)
- Scientific input on provincial Biodiversity Management Frameworks (developed to support Regional Land-use Plans)
- ABMI's Human Footprint Layer
- ABMI's Land Cover Dataset
- ABMI's mandate is biodiversity monitoring (availability of data is key here) – monitoring and measuring the influence/impact of climate changes vs. land-use changes on biodiversity
- ABMI's Caribou Branch mandate: basic research; setting habitat restoration goals, Oilsands habitat restoration; and monitoring of habitat restoration activities.
- Test recovery options: deterring animal use; slowing animal travel; monitoring maternity penning activities; and looking to establish "safe havens" for caribou – habitat restoration activities away from active leaseholder boundaries.
- Permanence of caribou habitat restoration
- Prioritizing caribou habitat restoration at the township level – an iterative process primarily focusing on density of seismic lines per township and economic value, exclusive of biology values for caribou, qualitative values and stakeholder input.
- ABMI camera programs in Northeast Alberta and Saskatchewan

- Latitudinal gradient is an important factor of camera placement for additional programs (less wildlife presence in northern parts of the caribou ranges).

See the attached ABMI slides for more information.

Gord Whitmore joined the meeting at 3.42 p.m.

a. NWSAR NW Pilot Development Presentation and Discussion

Points of discussion:

- Research questions:
 1. Are the habitat disturbance percentages accurate for anthropogenic and natural disturbances in NW caribou ranges?
 2. Which disturbances have naturally revegetated and could be removed from the habitat disturbance percentages, in NW caribou ranges?
 3. Which disturbances could be good candidates for habitat restoration activities?
 4. What are the estimated densities of ungulate populations (caribou, elk, deer, moose and bison) in NW caribou ranges?
 5. What are the estimated densities of predators (wolves, black bears and grizzly bears) within NW caribou ranges?
- Pilot project goals:
 1. Baseline Disturbance
 2. Vegetation Inventory Phase 1 (Chinchaga)
 3. Wildlife Densities and Monitoring
 4. Vegetation Inventory Phase 2 (Bistcho, Yates, Caribou Mountains, Red Earth)
 5. Identifying Candidate Habitat Restoration Areas
- Research Methods:
 1. Sample sizes (20 townships) new aerial imagery and video footage to ground-truth habitat disturbance and verify spatial accuracy of datasets (ABMI Human Footprint Layer).
 2. Complete Chinchaga vegetation height and vegetation species type estimates from existing LiDAR and Land Cover datasets for the entire range, ground-truth sample size (4 townships) in the field.
 3. Deploy 75 cameras per NW caribou range (25 in north; 25 in mid, and 25 in south parts of the ranges – latitudinal gradient) maintenance every 6 months. Audio devices could also be deployed for 2 caribou ranges to capture the vocal biotic community.
 4. Complete vegetation height and vegetation species type estimates from existing and/or new LiDAR and Land Cover datasets for the remaining 4 caribou ranges (blanket coverage), ground-truth sample sizes (16 townships) in the field.

5. Prioritization modeling for caribou habitat restoration – economic value (gain in undisturbed habitat for the least cost) at the township level.
- NWSAR is looking for input on this proposed pilot project (see the attached 4-pager for more information).
- Funding for this project (**without** the LiDAR component) estimated at \$400,000
- Funding for the project (**with** the LiDAR component) estimated at \$1.5 – 2.2 million)
- AEP Planning and Policy Branch has not provided support to this NW pilot project
- AEP Planning and Policy Branch suggested NWSAR could contribute funding to FRIAA for wildlife and vegetation monitoring activities

5. Round Table Discussion: Opportunities for NW Collaboration/Data Sharing

Points of discussion:

- Some of the ranges within the NW pilot project have hosted remote camera programs for other species. Program methodologies and images captured during these studies could be shared with ABMI/NWSAR – camera programs in these areas may not be necessary as research goals could be accomplished with existing data.
- Prioritizing habitat restoration using the Resource Valuation Layer only includes one perspective (oil), other industry layers could be added to the analysis and stakeholder engagement could have to be completed on linear/township selection for habitat restoration
- Blanket coverage of high resolution (8-10 pulses per sq/km) LiDAR across the province of Alberta is of significant importance to several stakeholders. Investment in this approach would be cheaper (bulk) and of higher value than (dated/lower resolution), NW caribou range LiDAR blanket coverage.
- Northwestern forestry companies and municipalities have not yet been contacted by Nicholls Applied Management for GOA's socio-economic impact assessment RE caribou range planning. NWSAR are best placed to advocate for an update on these proceedings for the Northwest.
- It would be great to see northwestern projects for positive caribou outcomes being reported in provincial and federal caribou progress reporting.
- NWSAR's critical role in ensuring the caribou range planning socio-economic impact assessments be completed to a high standard, and stakeholders to receive updates on progress made by GOA/Nicholls Applied Management.

6. LuSEE Project: NWSAR Access to Model Outcomes? Municipal Input?

Points of discussion:

- LuSEE is a tool to measure conflicts of land-use from several entities, it is not specific to caribou, but caribou values can be included in modeling and scenario analysis.
- LuSEE could be used for optimizing Integrated Land Management or Regional Access Management Planning.
- LuSEE outputs could be input into DMI's "Modeling Framework to Support Scenario-based Recovery Planning."

Northwest Species at Risk Committee
Administration Lead: Byron Peters, Mackenzie County

See www.lusee.ca for more information.

7. Meeting Summary: Go Forward Actions and Goals

All meeting participants are encouraged to further discuss:

1. Opportunities for northwestern collaborative working on projects
2. Access to existing data and ability to share this data for northwestern projects
3. Willingness to participate in northwestern projects on caribou research/recovery with NWSAR

All meeting participants should provide information on the above 3 items to Hayley Gavin, Regional Land-use and Environmental Project Manager at the Town of High Level.

hgavin@highlevel.ca

780 – 821 – 4003 (Office – Direct)

780 – 502 – 0778 (Mobile)

8. Meeting Adjournment

Lisa Wardley adjourned the meeting at 5:36 p.m.

Northwest Species at Risk Committee
Administration Lead: Byron Peters, Mackenzie County

17th North American Caribou Workshop Schedule

Monday October 29			
08:30 – 16:30	Pre-Conference Workshops <ul style="list-style-type: none"> • Climate Change 101 • Indigenous Talking Circle 		
18:00 – 21:00	Poster Session + Opening Reception Includes drum and dance performance by Nunavut Sivuniksanut		
Tuesday October 30			
09:00 – 09:30	Opening Prayer Welcoming Remarks Daily Announcements		
09:30 – 10:00	Break		
10:00 – 12:00	Plenary Session Armchair panel moderated by Amanda Sheedy (MetaLab) with invited speakers: Adamie Delisle-Alaku , Makivik Corporation & Ungava Peninsula Caribou Aboriginal Roundtable Dave Hervieux , Government of Alberta & National Boreal Caribou Technical Committee Rachel Plotkin , David Suzuki Foundation Amit Saxena , Devon Canada Corp. & Regional Industry Caribou Collaboration Federal representative - pending		
12:00 – 13:00	Lunch		
13:00 – 14:45	Population Monitoring and Modelling I	Ecological Footprint of Disturbance	Indigenous Leadership in Conservation
	Conserving caribou through a multi-species approach to density estimation using camera traps and spatial count models (Presenter: <u>Joanna Burgar</u>)	Noise measurement and propagation to help refine the zone of influence of mining activities on caribou (Presenter: <u>Sylvain Leblanc</u>)	The challenges and rewards with implementing a community-based caribou conservation plan (Presenter: <u>Walter Bezha</u> on behalf of <u>Sjoerd van der Wielen</u>)
	156 -Temporal patterns in boreal caribou mortality: factors limiting caribou survival in an	Implementation of a terrestrial advisory group at the Agnico Eagle Meadowbank Mine, Nunavut	Trails of the Mountain Caribou: Renewing Indigenous Relationships in Conservation

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	intact environment (Presenter: <u>Alicia Kelly</u>)	(Presenter: <u>Ryan Vanengen</u>)	(Presenter: <u>Leon Andrew</u>)
	Potential for competition between eastern migratory caribou and muskoxen in Nunavut (Presenter: <u>Alexis Brodeur</u>)	Death and disturbance? Predators and landscape features associated with central mountain caribou mortalities (Presenter: <u>Tracy McKay</u>)	34 years of caribou co-management: an Inuvialuit retrospective (Presenter: <u>Vernon Amos</u> on behalf of Inuvialuit Game Council)
	Genetic influences on male and female variance in reproductive success and implications on the recovery of severely endangered mountain caribou (Presenter: <u>Samantha McFarlane</u>)	Historical exposure to wildfires shapes the response of boreal caribou to timber harvesting: reliable cues and maladaptation (Presenter: <u>Martin-Hugues St-Laurent</u>)	Co-management of Cape Bathurst, Bluenose-West, and Bluenose-East caribou herds: 17 communities, 2 territories and 6 land claim areas working together (Presenter: <u>Edouard Belanger</u> , Aimee Guile, and <u>Laura Meinert</u>)
	An integrated population model to assess population status and population augmentation scenarios (Presenter: <u>Anna Moeller</u>)	Variation in habitat selection strategies of woodland caribou in burns (Presenter: <u>Kelsey Russell</u>)	Cold Lake First Nations is Making Key Contributions to Boreal Woodland Caribou Range Planning in Alberta (Presenter: <u>Findlay MacDermid</u> - pending)
	Non-invasive monitoring of caribou: embracing new technologies (Presenter: <u>Micheline Manseau</u>)	Losing sight of the forest for the caribou? Why we need to know more about species-habitat interactions when managing for woodland caribou (Presenter: <u>Philip McLoughlin</u>)	Fort Nelson First Nation's MAP: How UNDRIP and governments *CAN* work together to protect caribou. We hope. (Presenter: <u>Katherine Capot-Blanc</u>)
14:45 – 15:15	Break		
15:15 – 17:00	Population Monitoring and Modelling II	Habitat Restoration	Indigenous Knowledge Inform Policies
	Large-scale synchrony and climate drivers of barren-ground caribou migration across North America	Sharing the landscape: how the Regional Industry Caribou Collaboration are working together (Presenter: <u>Michael Cody</u> or alternate)	Unique modelling approach engages local stakeholders in management of their herd (Presenter: <u>Christine Cuyler</u>)

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	(Presenter: <u>Eliezer Gurarie</u>)		
	Cape Churchill caribou seasonal habitat use and seasonal migrations within the Wapusk National Park MB (Presenter: <u>Derek Leask</u>)	Seismic line restoration influences large mammal line use in short-term: implications for caribou conservation in northern Alberta (Presenter: <u>Erin Tattersall</u>)	Taking care of caribou: weaving Traditional Knowledge in the Bathurst Caribou Management Plan (Presenter: <u>Natasha Thorpe</u>)
	Analysis of environmental, temporal, and spatial factors affecting demography of the Bathurst caribou herd (Presenter: <u>John Boulanger</u>)	Building a Centre of Excellence in Restoration Practice (Presenter: <u>Katalijn MacAfee</u>)	Integrating traditional indigenous knowledge and involvement into resource management and Saskatchewan woodland caribou range planning (Presenter: <u>Michael McLaughlan</u>)
	Monitoring caribou - road interactions in Nahanni and Nááts'ihch'oh National Park Reserves using remote cameras (Presenter: <u>Sarah Arnold</u>)	Working together to implement caribou habitat restoration: a case study (Presenter: <u>Paula Bentham</u>)	Meaningful community participation in woodland caribou research and recovery in Northern Saskatchewan (Presenter: <u>Sarah Schmid</u>)
	Effects of capture and collaring on barren-ground caribou movement rates (Presenter: <u>Xavier Giroux-Bougard</u>)	Linear features and caribou declines: understanding the mechanisms and predicting restoration efficiency (Presenter: <u>Melanie Dickie</u>)	Honouring the spirit and intent of Land Claims co-management in the Canadian North (Presenter: <u>Paul Irngaut</u>)
	Landscape/range level indicator for self-sustaining boreal caribou populations (Presenter: <u>Arthur Rodgers</u>)	Innovation, incentives, and a path to more efficient and effective restoration (Presenter: <u>Matthew Pyper</u>)	Development of the Bathurst Caribou Range Plan (Presenter: <u>Dan Ohlson</u>)
17:30 – 18:30	Youth Caucus Meeting Indigenous Walks <i>Each guided walking tour of Indigenous history and traditions in Ottawa is 30 minutes long. Participation is free but spots are limited. Registration is on-site only.</i>		
18:30 – 20:30	Networking Event		

	<i>Includes chatting stations with representatives from various caribou career paths, as well as an informal lounge space.</i>		
Wednesday October 31			
09:00 – 10:00	Invited Storytelling Presentation <i>How Caribou Saved Me</i> , by David Serkoak Daily Announcements		
10:00 – 10:30	Break		
10:30 – 12:00	Structure of Caribou Populations	Modelling Tools to Support Decision-Making	Indigenous Knowledge Informs Management
	All caribou in Canada are currently at risk of extinction (Presenter: <u>Justina Ray</u>)	Prioritizing restoration of fragmented boreal landscapes for caribou protection: a graph-theoretic approach (Presenter: <u>Denys Yemshanov</u>)	Innu and Atiku (Presenter: caribou): a community-driven cumulative impact assessment of caribou decline (Presenters: <u>Damian Castro et al.</u>)
	Ecological genomics: a new interdisciplinary tool for the management and conservation of caribou in western North America (Presenter: <u>Maria Cavedon</u>)	Towards a long-term strategy for boreal caribou habitat stewardship: Quebec's approach (Presenter: <u>Frédéric Bujold</u>)	When the Caribou do Not Come: Indigenous Knowledge and Adaptive Management in the Western Arctic (Presenter: <u>Brenda Parlee</u>)
	A genomic refinement of A. W. F. Banfield's 1961 "A Revision of the Reindeer and Caribou, Genus Rangifer" for North American caribou (Presenter: <u>Paul Wilson</u>)	Cycle stratified harvest policies for a sub-population of barren-ground caribou (Presenter: <u>Eric Bongelli</u>)	Eh then' (Presenter: <u>Jean L'Hommecourt</u>)
	CSI caribou: ecotype assignment in a wildlife forensics context (Presenter: <u>Vincent Bourret</u>)	Linking climate to vital rates for migratory tundra caribou: Carryover effects and regional patterns across North America (Presenter: <u>Don Russell</u>)	Sayisi Dene and Caribou - Working in Partnership to Conserve the Seal River Watershed - Winter Habitat of the Qaminuriak Caribou Herd (Presenter: <u>Ernie Bussidor</u> - pending)
	An inter-jurisdictional scan of spatial structure of caribou	Web-based application for threatened woodland caribou population	Porcupine Caribou Management Board's role in co-management

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	populations (Presenter: <u>Steve Wilson</u>)	modelling (Presenter: <u>Mark Hebblewhite</u>)	(Presenter: <u>Joe Tetlich</u>)
12:00 – 13:00	Lunch		
13:00 – 14:45	Caribou Ecology I	Decision-Making: Ideas and Opportunities	Indigenous Values in Conservation
	Moose interactions with natural and human-mediated disturbances: implications for quantifying habitat conditions within caribou range (Presenter: <u>Craig DeMars</u>)	Where caribou is only a memory (Presenter: <u>Jeff Wells</u>)	Tributaries of the land (Presenter: <u>Melissa Mollen Dupuis</u>)
	A simulation model to predict caribou abundance from movement patterns at landscape scale (Presenter: <u>Fabian Cid Yanez</u>)	Extirpation despite regulation? How environmental assessment is failing caribou (Presenter: <u>Rosemary Collard</u>)	On the naturalness of being unnatural: reestablishing the foundations of wildlife management (Presenter: <u>Leo Lepiano</u>)
	Caribou on the menu: diet reconstruction of wolves and black bears across the ranges of migratory caribou in northern Québec-Labrador (Presenter: <u>Michaël Bonin</u>)	Cumulative Effects on Barren-ground Caribou – Overestimating the Effects and Ignoring the Evidence (Presenter: <u>Michael Setterington</u>)	Inuit approaches to naming and distinguishing caribou: considering language, place, and homeland towards improved co-management (Presenter: <u>Gita Ljubicic</u>)
	Are caribou on the menu for black bears? An analysis of predator-prey resource selection in Saskatchewan's Boreal Shield (Presenter: <u>Patricia Tomchuk</u>)	New opportunities for leveraging boreal caribou conservation and other policy needs across Canada (Presenter: <u>Courtenay Lewis</u>)	Coming together for caribou: Using community-led audio-visual methods to explore relationships among Inuit and caribou in Labrador (Presenter: <u>David Borish</u>)
	Classifying caribou migratory behaviour to identify and preserve intraspecies diversity (Presenter: <u>Jessica Theoret</u>)	Seeing the forest for the caribou: fostering new science to improve management in Canada's boreal forest (Presenter: <u>Darren Sleep</u>)	A "Millennial's" perspective on caribou: Inuit knowledge, societal values, and social media (Presenter: <u>Innujaq Leslie Fredlund</u>)

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	The relative importance of human disturbances and environmental factors on migratory caribou survival (Presenter: <u>Sabrina Plante</u>)	Conservation through co-occurrence: woodland caribou as a focal species for boreal biodiversity (Presenter: <u>Ronnie Drever</u>)	Discussion period
14:45 – 15:15	Break		
15:15 – 17:00	Caribou Ecology II	Population Management Interventions	Community-Based Monitoring
	A burning question: How woodland caribou use burned landscapes in Alberta? (Presenter: <u>Sean Konkolics</u>)	Collaboration in action – averting extirpation of the Klinse-Za caribou herd and the hope for full recovery (Presenter: <u>Roland Willson</u>)	Summary of National Indigenous Guardians Network (Presenter: <u>Valerie Courtois</u>)
	Resource selection by threatened woodland caribou in a high fire, low human disturbance system (Presenter: <u>Clara Superbie</u>)	Importance of Indigenous engagement for advancing the innovative concept of a large predator enclosure for caribou recovery (Presenter: <u>Amit Saxena on behalf of Lisa Schaldemose</u>)	Athabasca Denesuline Barren-ground caribou community monitoring project (Presenter: <u>Tina Giroux</u>)
	Examining the effects of disturbance on site fidelity behaviour at multiple scales by caribou boreal population in Ontario (Presenter: <u>Megan Hornseth</u>)	Learning from the near extirpation of the Lake Superior caribou (Presenter: <u>Gordon Eason</u>)	Barren-ground caribou traditional mapping and analysis (Presenter: pending)
	Analysis of calving locations highlights fidelity to core area for migratory caribou herd (Presenter: <u>Matthew Cameron</u>)	Exploring conservation breeding options for boreal caribou: an IUCN-endorsed multi-stakeholder workshop approach (Presenter: <u>Amit Saxena</u>)	Etthen Hat'ni - Monitoring the Bathurst caribou herd in their winter range (Presenter: <u>Joseph Catholique</u>)
	Quantifying snow characteristics of the winter range of the Central Arctic Herd in northern Alaska	Population response of Central Mountain caribou herds to wolf reduction in British Columbia (Presenter: <u>Dale Seip</u>)	Population management of Arctic tundra caribou based on Inuit Qaujimajatuqangit: an opportunity lost

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	(Presenter: <u>Stine Højlund Pedersen</u>)		(Presenter: <u>Michael Ferguson</u>)
	Lost in translation? Insights into caribou habitat selection from forest inventory data (Presenter: <u>Douglas MacNearney</u>)	Using adaptive management to save woodland caribou (Presenter: <u>Stan Boutin</u>)	Boots on the Ground: traditional knowledge Bathurst caribou monitoring program (Presenter: <u>Tyanna Steinward</u>)
17:30 <i>First Shuttle</i> 22:30 <i>Last Shuttle</i>	Conference Banquet <i>Canadian Museum of Nature</i> <i>Includes storytelling presentation: Caribou Across North America: Stories from the Land, by Susan Morse</i>		
Thursday November 1			
09:00 – 10:00	Invited Storytelling Presentation, by Anne-Marie Andre Daily Announcements		
10:00 – 10:30	Break		
10:30 – 12:00	Forecasting Future Landscapes I	Innovative Mitigation Techniques	Indigenous Talking Circle
	Assessing the importance of climate on the distribution of boreal caribou (Presenter: <u>Rangifer tarandus caribou</u>) (Presenter: <u>Eric Neilson</u>)	Zero Footprint Seismic: PinPoint eliminates seismic lines and dramatically reduces the exploration footprint (Presenter: <u>Jesse Tigner</u>)	
	Caribou migration behaviour reveals potential resilience to climate change (Presenter: <u>Michel Laforge</u>)	Caribou monitoring and mitigation on Inuit Owned Lands at mining developments in the Kivalliq Region (Presenter: <u>Jeff Tulugak</u>)	
	Potential impacts of climate change on the habitat of boreal woodland caribou (Presenter: <u>Marc-André Parisien</u>)	Terrestrial forage lichen response to harvesting and tree mortality caused by mountain pine beetle (Presenter: MPB) in west-central British Columbia (Presenter: <u>Michaela Waterhouse</u>)	
	A climate-sensitive simulation ensemble of future boreal caribou habitat in central Quebec, Canada	New operational approach to forest harvesting and road network deployment in woodland caribou habitat in Quebec	

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	(Presenter: <u>Yan Boulanger</u>)	(Presenter: <u>Jérôme Rioux</u>)	
	Regional-level cumulative effects assessment in Ontario's far north: scenario analysis of development and climate change impacts on caribou (Presenter: <u>Rob Rempel</u>)	Wild forest reindeer returns to its historical range - reintroductions are conducted in nationwide cooperation project in Finland (Presenter: <u>Milla Niemi</u>)	
12:00 – 13:00	Lunch		
13:00 – 14:45	Forecasting Future Landscapes II	Range Co-Management and Planning	Film
	How alternative spatial patterns of rehabilitation in the boreal forest impact caribou using a model of animal movement, perception and memory (Presenter: <u>Brianna Collis</u>)	Deninu Kue First Nation Traditional Use Study - Boreal Caribou Habitat and Habitat Use (Presenter: <u>Marc d'Entremont</u>)	Camera Trap (Contributed by: <u>Kelly Milner</u>)
	Evaluating potential implications of caribou-centric forestry plans on other species of conservation concern (Presenter: <u>Lionel Leston</u>)	An indirect approach for integrating Indigenous Traditional Knowledge with caribou science (Presenter: <u>Christine Robichaud</u>)	
	Alberta's woodland caribou ranges: Building a shared understanding of the costs, benefits, and trade-offs of management strategies using spatiotemporal modelling (Presenter: <u>Joshua Killeen</u>)	The wicked problem of caribou conservation: a tale of the Telkwa caribou herd (Presenter: <u>Laura Grant</u>)	We are bringing them back (Contributed by: <u>Roland Willson</u>)
	Ontario woodland caribou range assessment based on spatially-explicit	Co-management boards and barren-ground caribou conservation: a review of the Nunavut	

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	movement and population viability models (Presenter: <u>John Fryxell</u>)	Wildlife Management Board actions and decisions aimed at conserving caribou and its habitat (Presenter: <u>Denis Ndeloh</u>)	
	Caribou Webtools: an interactive web-based GIS application for caribou recovery (Presenter: <u>Laura Finnegan</u>)	Collaborative management of the Bathurst caribou herd 2009-2018 (Presenter: <u>Jan Adamczewski</u>)	
	Putting models in the hands of decision-makers: the Caribou Cumulative Effects modelling framework (Presenter: <u>Colin Daniel</u>)	Effective integration and application of knowledge (Presenter: <u>Gord Vaadeland</u>)	
14:45 – 15:15	Break		
15:15 – 16:30	Closing Event <i>Details to follow</i>		
17:00 – 22:00	Open Night at Museum of Nature <i>Includes 1 hour of caribou programming – Details to follow</i>		
Friday November 2			
Times Vary	Post-Conference Activities <ul style="list-style-type: none"> • Eastern Ontario Model Forest Tour (Full Day) • Field Trip to Kitigan Zibi (Full Day: Sold Out) • Collections Tour at the Canadian Museum of History (Half Day) • Hike at Gatineau Park (Half Day) • Gatineau Satellite Station Tour (NEW! Half Day) 		

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Request for Decision: ESRI ArcGIS Software License

Overview:

Under Alberta Community Partnership (ACP), NWSAR is developing a collaborative inter-municipal Cumulative Effects Assessment for Northwest Alberta. The nature of this project is data centric; large quantities of overlapping spatial data will be mapped and several of their attributes could be selected for scenario analysis and mapping outputs. The deadline for this ACP deliverable is October 2019.

Financial:

Costs for each license type are provided below:

NWSAR (TOHL) License Options					
Product: Perpetual	QTY	Year 1	Year 2/MTC	Year 3/MTC	3yr Cost
ArcGIS Desktop Basic Single Use License	1	\$2,075.00	\$1,020.00	\$1,020.00	\$4,115.00
ArcGIS Spatial Analyst for Desktop Single Use License	1	\$4,153.00	\$1,200.00	\$1,200.00	\$6,553.00
Total		\$6,228.00	\$2,220.00	\$2,220.00	\$10,668.00
Product: 1yr Term	QTY	Annual Fee	Annual Fee	Annual Fee	3yr Cost
ArcGIS Desktop Basic Single Use 1yr Term License	1	\$1,170.00	\$1,170.00	\$1,170.00	\$3,510.00
ArcGIS Spatial Analyst for Desktop Single Use 1yr Term License	1	\$1,200.00	\$1,200.00	\$1,200.00	\$3,600.00
Total		\$2,370.00	\$2,370.00	\$2,370.00	\$7,110.00

These prices do not consider any price increase that may occur post April 2019.

Benefits:

Purchasing a license for this software will offer NWSAR administration the opportunity to provide direct support on mapping and spatial analyses of existing data for Northwest Alberta, for external use on the delivery of the ACP deliverable. The license would also enable NWSAR administration to map spatial stakeholder input on the NW pilot project

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outputs from ABMI, produce miscellaneous mapping for other NWSAR deliverables and communication products, as directed by the committee.

Other Comments:

Only difference between the two licenses (besides the cost):

Perpetual License: If you do not renew the maintenance (MTC) after Year 1, you can continue to use ArcGIS Desktop and Spatial Analyst for as long as you wish, at its last current version (i.e. when new updates are available the software cannot be updated).

1yr Term License: If you do not renew the annual term, the license will expire and you can no longer use the ArcGIS Desktop or Spatial Analyst, unless you renew your term license.

Both licenses provide access to full technical support, all software upgrades or updates, a Level 2 Named Licence with credits for ArcGIS Online platform, access to data on the ArcGIS Online platform.

Recommended Action: Requires Consensus

That Northwest Species at Risk Committee direct administration to purchase an ArcGIS Desktop Basic Single Use 1-year Term License and an ArcGIS Spatial Analyst for Desktop Single Use 1-year Term License, for a total of **\$2,370.00** (Two-thousand, Three-hundred and Seventy dollars).

Alternative Action: Requires Consensus

That Northwest Species at Risk Committee accepts for information.

TERMS OF REFERENCE

NORTHWEST SPECIES AT RISK COMMITTEE

Background:

The northwest region of Alberta encompasses high economic development value in a variety of natural resource sectors. Notwithstanding this, the region is requested to carry the highest burden of environmental protection of any other region within Alberta.

Current and proposed Provincial policy and strategies requires the Lower Peace Region to subsidize economic activity in other regions; to allow, both, the Federal and Provincial governments to achieve conservation targets for the natural environment. Cumulatively, multiple conservation initiatives and species at risk recovery strategies have the ability to negatively impact the rural communities of northwest Alberta.

We, the local tenants of this region have collaborated; in an attempt to secure smart economic growth, a sustained quality of life, and well-balanced environmental protection for our future generations. Through the use of optimal adaptive management, transparent stakeholder engagement, and effective environmental stewardship; we endeavour to achieve this purpose.

Purpose:

To collectively provide and share information, ideas and resources; relating to the continued and future prosperity of northwest Alberta. Instill effective regional adaptive management and transparency which allows all stakeholders to play a vital role in shaping our collective future. Develop tangible solutions founded upon an evidence-based approach, to ensure a balance of smart economic growth, a sustained quality of life, and an enhanced natural environment; for all of our businesses, communities and wildlife.

Responsibilities:

To ensure that any impending species recovery or conservation initiative, that has the ability to affect the smart growth of northwest Alberta; is prefaced with a thorough regional socio-economic impact analysis.

To proactively work with all other levels of government, including the First Nations; to create well-balanced working groups; with all key stakeholders relevant to impending conservation areas and species recovery.

Emphasizing that, northwest Alberta currently encompasses a vast amount of protected lands. Impending species recovery and conservation initiatives should aim to enhance the value of these areas for species at risk recovery and biodiversity, rather than seeking to protect unjustifiable additional areas of land.

Northwest Species at Risk Committee
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Structure:

Two councillors and an alternate appointed by each of the founding municipalities.

Alternates may attend all meetings.

Founding municipalities consist of:

- County of Northern Lights
- Mackenzie County
- Town of High Level
- Town of Rainbow Lake
- Clear Hills County
- Town of Manning

Associate membership is available to other municipalities. Associate members shall not have voting rights.

Mackenzie County is the administrative lead for the committee, with administrative support from each of the founding municipalities.

The administrative lead will prepare and provide the agenda for all meetings.

Meetings are open to the public as per Section 197 and Section 198 of the Municipal Government Act.

Meetings may, in part, be closed to the public if matters to be addressed are recognized under; Section 197(2) of the Municipal Government Act, and/or Division 2 – Part 1 of the Freedom of Information and Protection of Privacy Act.

The committee shall pursue grant opportunities to fund any larger projects, with Mackenzie County as the grant sponsor and/or lead.

Quorum and Costs:

Decisions shall be reached by consensus, consisting of two appointed members from each of the founding municipalities. Alternates shall not be considered for consensus unless standing in for an appointed member.

Meetings shall be hosted by the Town of High Level, at the Town of High Level Office, and meeting costs will be shared by the founding municipalities.

Each Municipality and other delegates are expected to cover the costs of their members. Additional costs, such as those derived from committee motions, will be subject to additional discussion and approval from each of the founding municipalities.

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All decisions reached by consensus; which are within the scope of the Terms of Reference, are binding upon all municipalities.

Associate members shall pay a \$1000 annual Associate Membership fee.

Communication:

An electronic data sharing forum will be created and maintained, with access for all of the committee members, and meetings will be scheduled quarterly, or as required by the Chair.

FINANCIAL TERMS OF REFERENCE

NORTHWEST SPECIES AT RISK COMMITTEE

Financial Responsibility:

The Town of High Level shall be the party responsible for administration and management of all financial matters relating to the Northwest Species at Risk Committee.

Funds held in trust by the Town of High Level will only be used to further the goals of the Northwest Species at Risk Committee. No funds will be released by the Town of High Level without approval by consensus of the Northwest Species at Risk Committee.

The Town of High Level will develop and maintain a budget report for the Northwest Species at Risk Committee which will provide all known revenues and expenses. At no time will the Town of High Level reimburse expenses incurred by the Northwest Species at Risk Committee that will exceed those funds held in trust for the Northwest Species at Risk Committee as described in the budget report.

In the event of dissolution of the Northwest Species at Risk Committee, any remaining funds held by the Town of High Level after all expenses due have been paid, will be returned to the funding partners as a proportional share of the amounts originally invested.