



Grizzly-PAW: Grizzly Population
Assessment in yellowhead: Integrated
Approaches Toward Conserving Grizzly
Bears On A Human-Dominated Landscape
Of Western Alberta.

Annual General Meeting – 2

Nicholas Coops

October 18th 2018

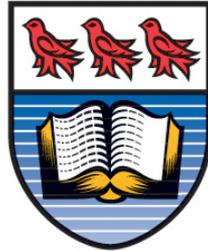
Thank You for Attending

- Many thanks to all attendees for travelling long distances and taking time from their busy schedules
- Special thanks to industrial sponsors for attending, both today and tomorrow
- FRI Research (hosting, leadership, guidance and organization)
- University faculty, graduate students and postdocs

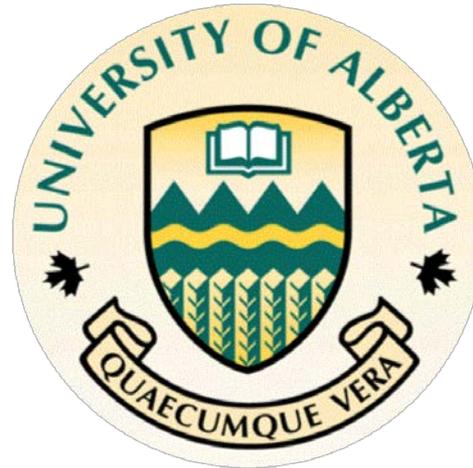


a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA



**University
of Victoria**



**UNIVERSITY OF
SASKATCHEWAN**





Teck

ConocoPhillips
Canada 



SEVEN GENERATIONS
ENERGY LTD



West Fraser



WESTMORELAND
COAL COMPANY



FOREST RESOURCE
IMPROVEMENT
ASSOCIATION OF ALBERTA



Weyerhaeuser



fRI Research
Informing Land & Resource Management

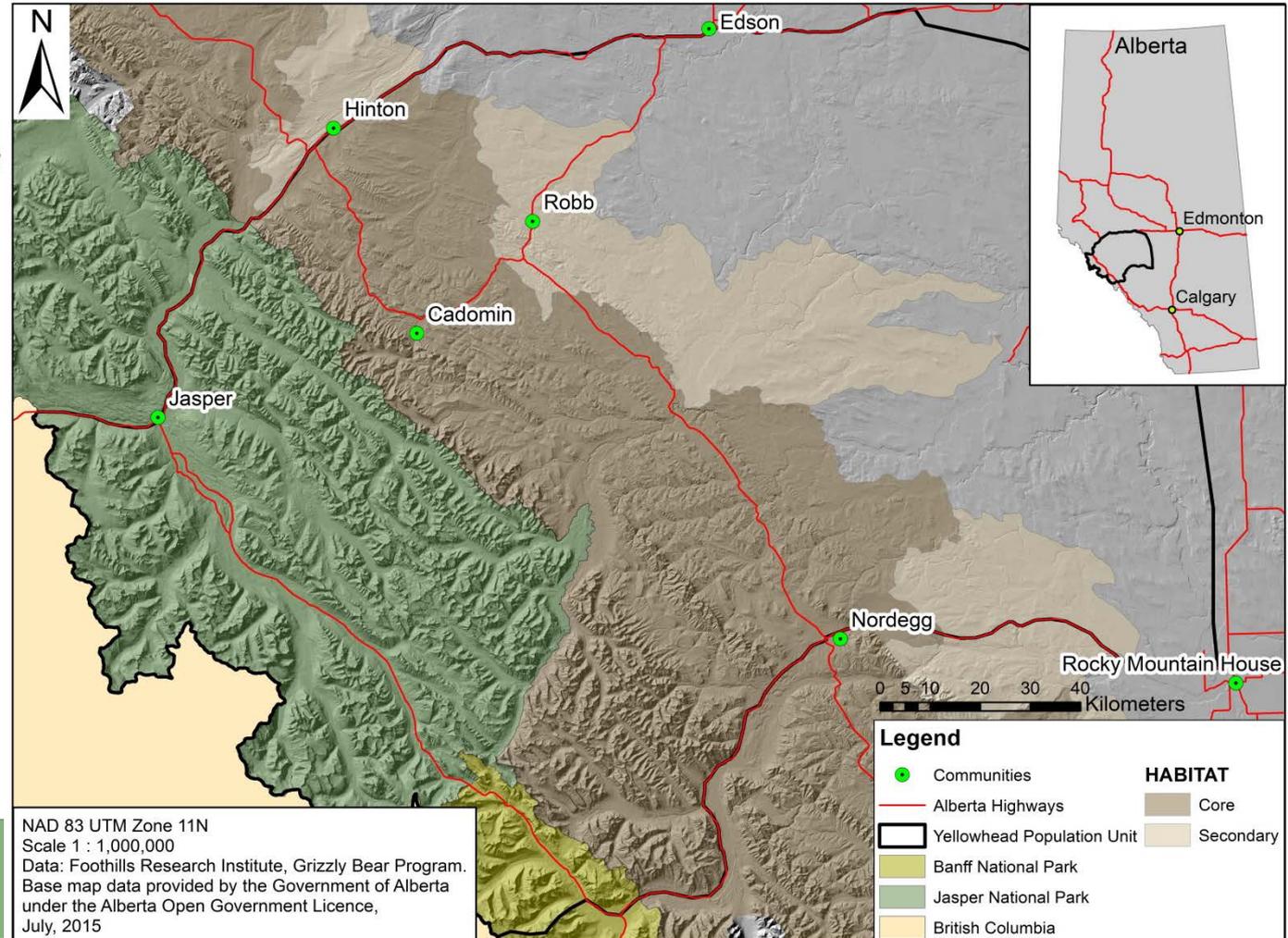
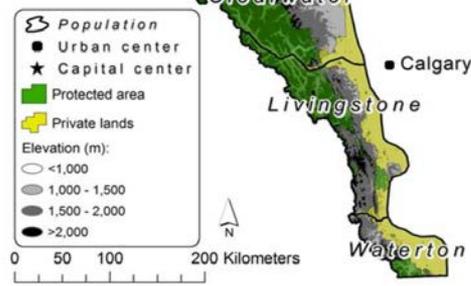
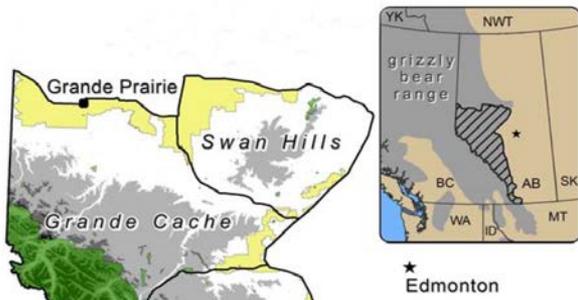
Context for the Proposal

Conservation of Grizzly Bears in Western Alberta

- Grizzly bears are considered a threatened species in Alberta from 2010
- From a management perspective there is uncertainty about current population levels and how anthropogenic landscape change and human activities have affected grizzly bears in Alberta in the past and into the future.

- Within Yellowhead Bear Management Area, the first grizzly bear population unit inventory was in 2004 with the population estimated (based on DNA sampling) was 36 bears
- A decadal survey was completed by FRI Research (Stenhouse) in 2014, which spurred this proposal.
- The 2014 inventory estimated 71 using DNA in Yellowhead BMA indicating a 7% annual population rate increase
- This is very encouraging given
the significant resource extraction
and human activity in the area



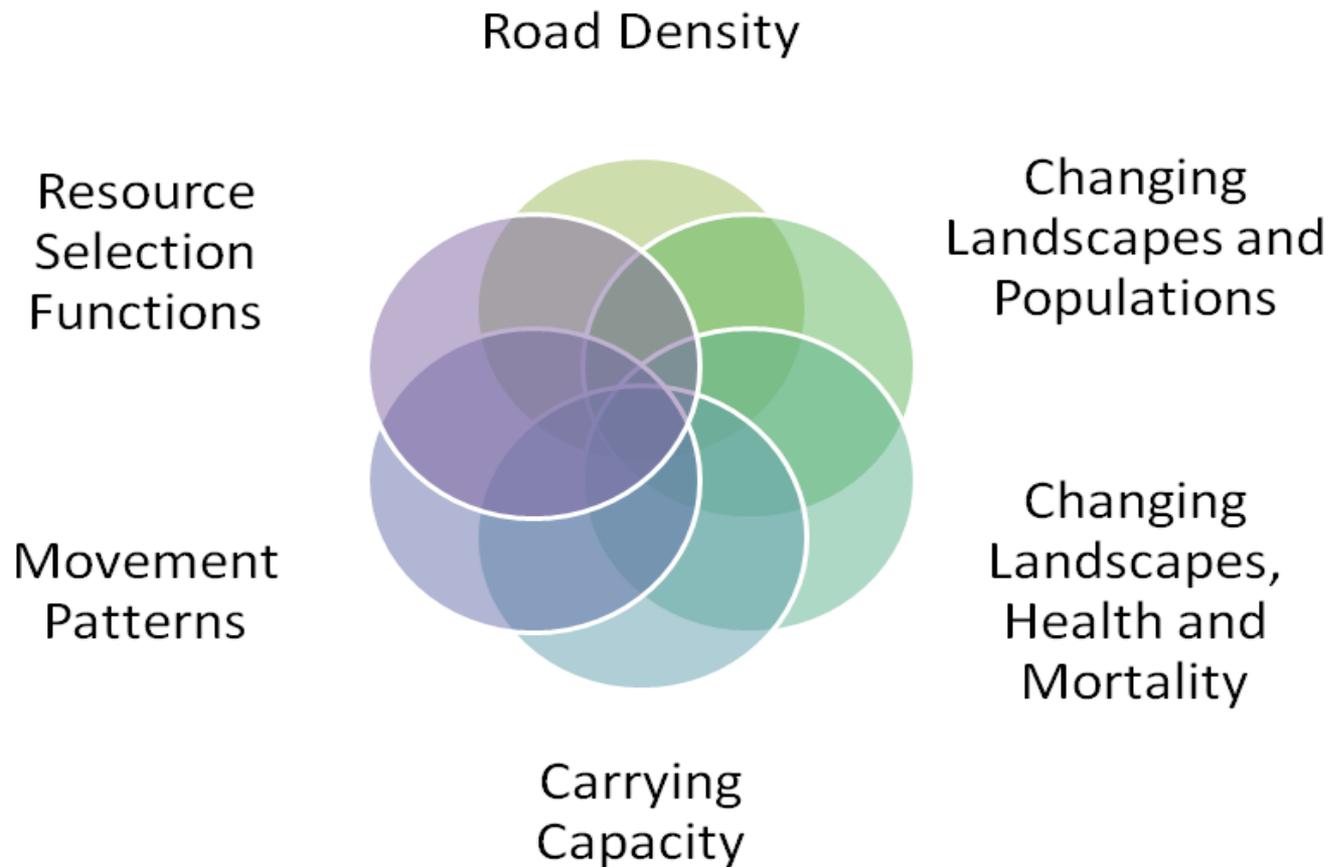


NAD 83 UTM Zone 11N
 Scale 1 : 1,000,000
 Data: Foothills Research Institute, Grizzly Bear Program.
 Base map data provided by the Government of Alberta
 under the Alberta Open Government Licence,
 July, 2015



- Report concludes that reasons behind the increases are unclear and additional research is needed.
- How has (and could) ongoing industrial and human activity impact habitat selection, health and mortality of grizzly bears in the region ?

Industry Needs



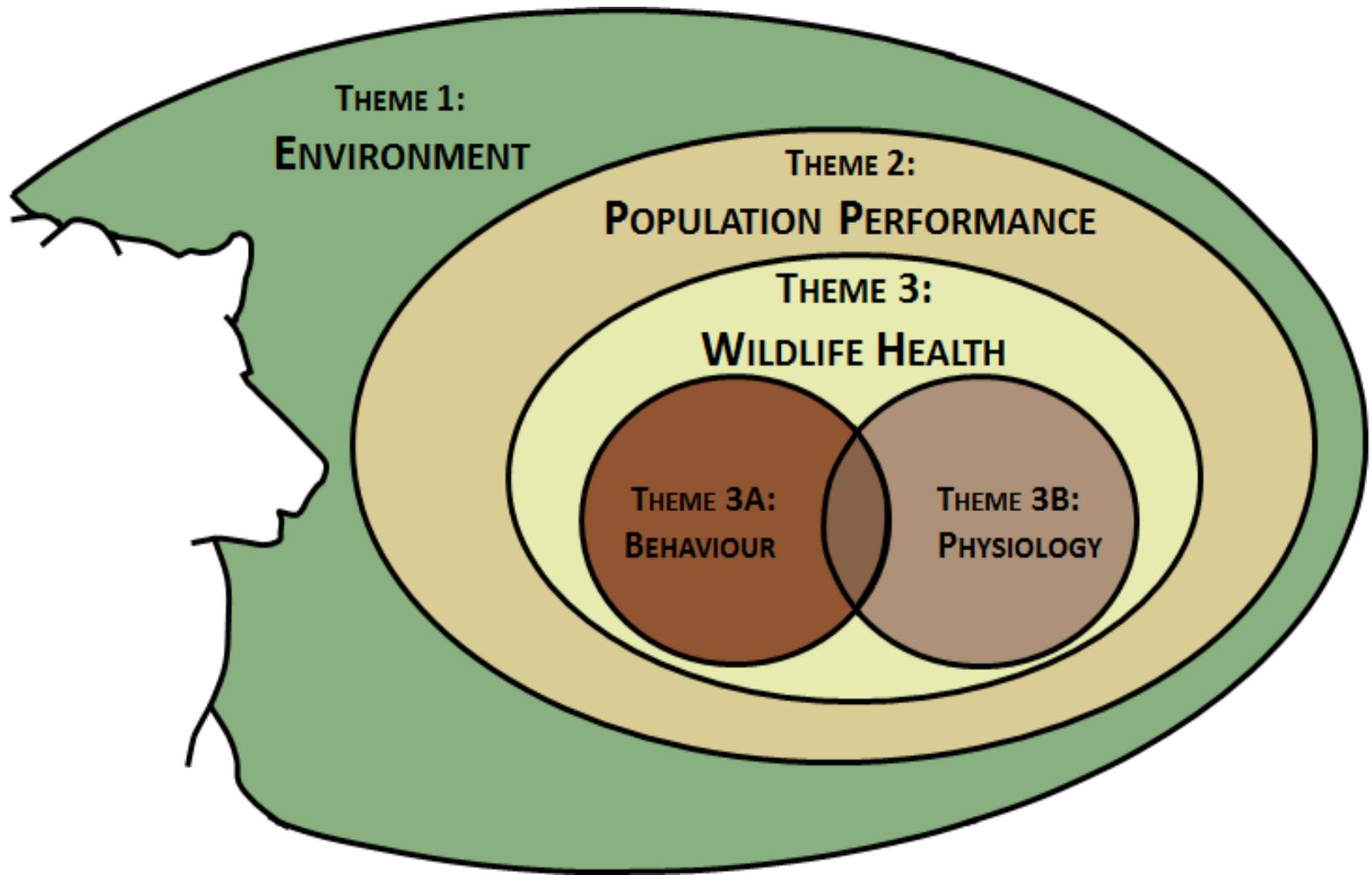
8 key questions asked by Industry which this proposal aims to address

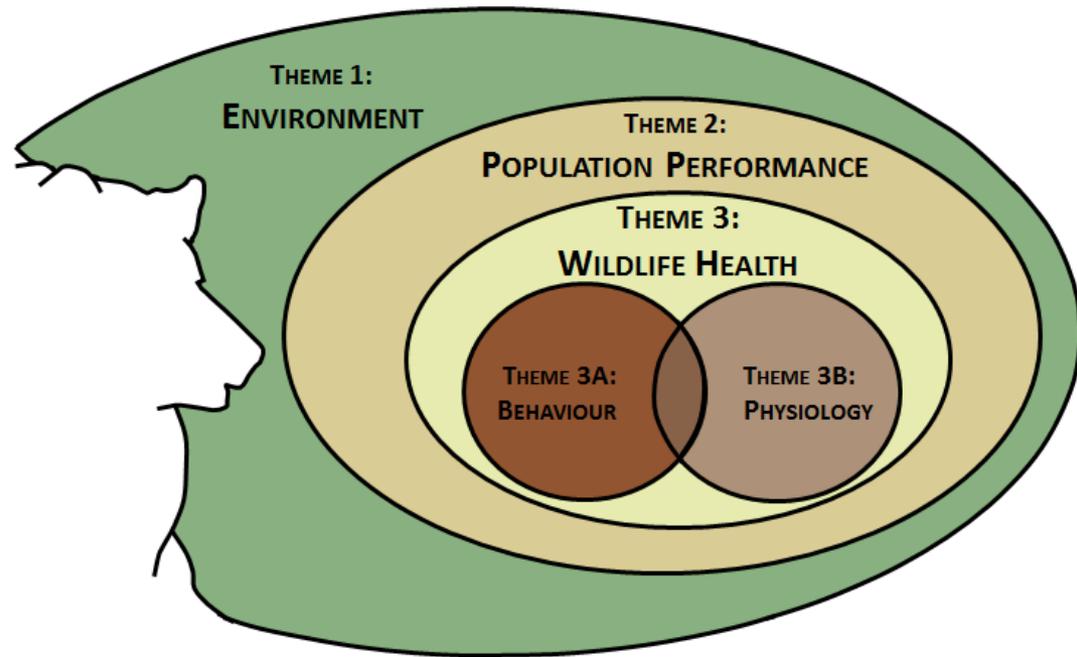
- NSERC Collaborative and Development Project (CRD)
 - Three years
 - Approved for funding in July 2016
 - October 2016 all agreements in place
 - Second year nearing the end
 - All Students and PDF's are now in place

In-kind Support

- In addition to the generous financial report from each company NSERC doubles that contribution on the assumption that there is an equivalent in-kind.
- We have a session later today on calculating inkind

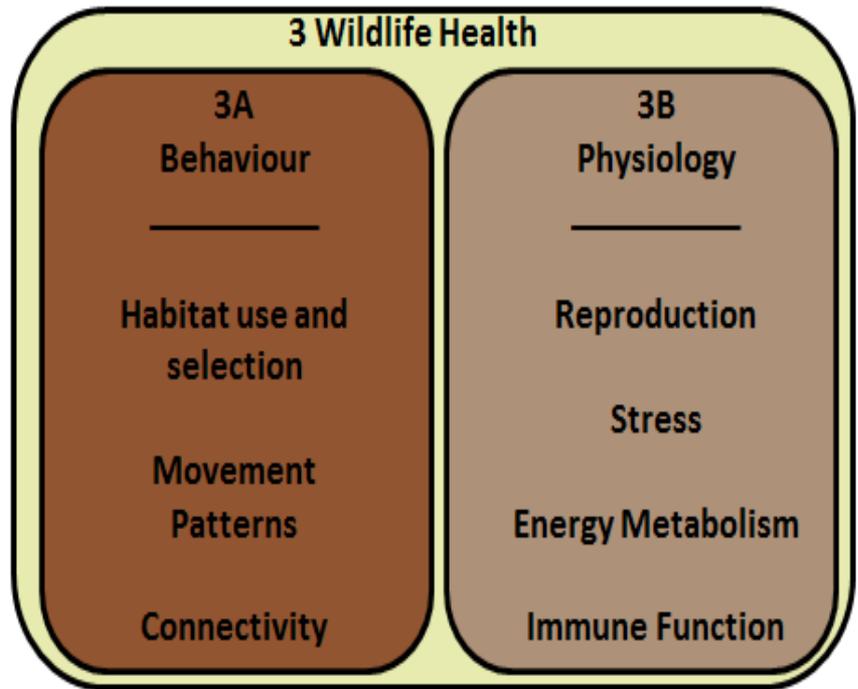
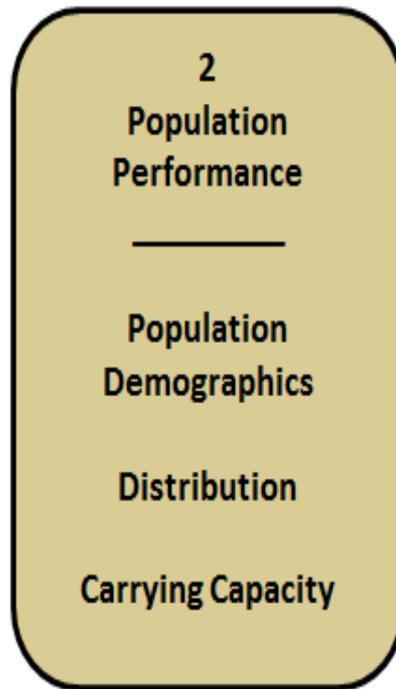
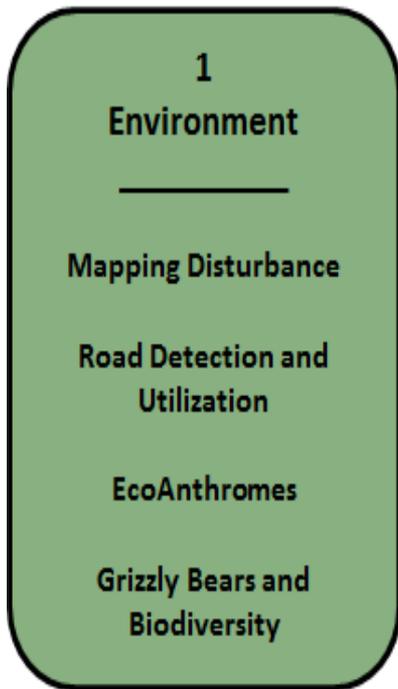
- In early 2018 NSERC contacted us about potential for lack of inkind and suggested we:
 - Revise the budget request given lower inkind
 - Extend project over 4 years rather than 3 (no extra cash from industry or NSERC but more opportunity for collaboration and inkind)
 - Package of revisions sent to NSERC in July.





Three thematic areas of research and scales:

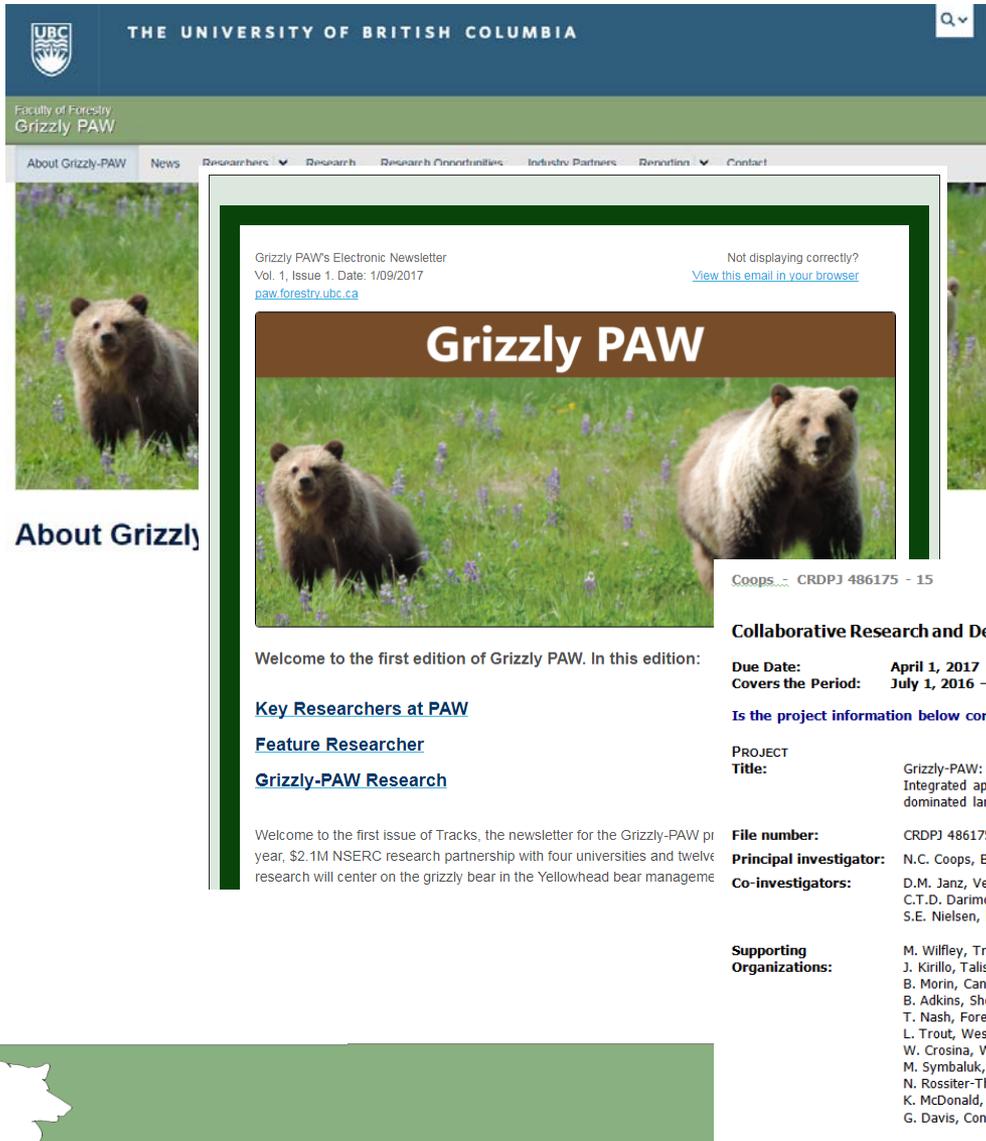
- (1) the environment that sets the broader landscape and environmental context of the Yellowhead bear management unit;
- (2) demographic responses relating to population status, size and change; and
- (3) wildlife health which involves individual-animal responses relating to their (a) behaviour and (b) physiology



Today

- AGM is planned as a series of presentations on the research to date under each theme
- Update from Gord Stenhouse on the FRI Research Capture Program
- Perspectives from industry and Government
- Short presentations by industry on their planning processes and constraints
- A field day tomorrow morning to see monitoring approach and typical capture site

Ongoing Communication



The screenshot shows the website for the University of British Columbia's Faculty of Forestry, Grizzly PAW. The header includes the UBC logo and the text 'THE UNIVERSITY OF BRITISH COLUMBIA'. Below the header is a navigation menu with links for 'About Grizzly-PAW', 'News', 'Researchers', 'Research', 'Research Opportunities', 'Industry Partners', 'Benefits', and 'Contact'. The main content area features a large image of two grizzly bears in a field of purple flowers. Below the image is the title 'Grizzly PAW' and a subtitle 'Grizzly PAW's Electronic Newsletter Vol. 1, Issue 1. Date: 1/09/2017'. A link 'paw.forestry.ubc.ca' is provided. The main article is titled 'Collaborative Research and Development (CRD) Grants Progress Report' and includes details about the project, principal investigator, and supporting organizations.

Grizzly PAW's Electronic Newsletter
Vol. 1, Issue 1. Date: 1/09/2017
paw.forestry.ubc.ca

Not displaying correctly?
[View this email in your browser](#)

Grizzly PAW

Coops... CRDPJ 486175 - 15

Collaborative Research and Development (CRD) Grants Progress Report

Welcome to the first edition of Grizzly PAW. In this edition:

- [Key Researchers at PAW](#)
- [Feature Researcher](#)
- [Grizzly-PAW Research](#)

Welcome to the first issue of Tracks, the newsletter for the Grizzly-PAW project. \$2.1M NSERC research partnership with four universities and twelve research will center on the grizzly bear in the Yellowhead bear management

Due Date: April 1, 2017
Covers the Period: July 1, 2016 – April 1, 2017

[Is the project information below correct?](#)

PROJECT Title: Grizzly-PAW: Grizzly Population Assessment in yellowHead: Integrated approaches toward conserving Grizzly Bears on A human-dominated landscape of Western Alberta.

File number: CRDPJ 486175 - 15

Principal investigator: N.C. Coops, British Columbia

Co-investigators: D.M. Janz, Veterinary Biomedical Sciences, Saskatchewan
C.T.D. Darimont, Geography, Victoria
S.E. Nielsen, Renewable Resources, Alberta

Supporting Organizations: M. Wilfley, TransCanada PipeLines Limited
J. Kirillo, Talisman Energy Inc.
B. Morin, Canadian Forest Products Ltd
B. Adkins, Shell Canada Ltd
T. Nash, Forest Res Improvement Assn of Alberta
L. Trout, West Fraser Mills Ltd
W. Crosina, Weyerhaeuser Company Ltd
M. Symbaluk, Teck Coal Limited
N. Rossiter-Thornton, Seven Generations Energy Ltd
K. McDonald, Westmoreland Coal Company Canada
G. Davis, ConocoPhillips Canada

Website:

Paw.forestry.ubc.ca

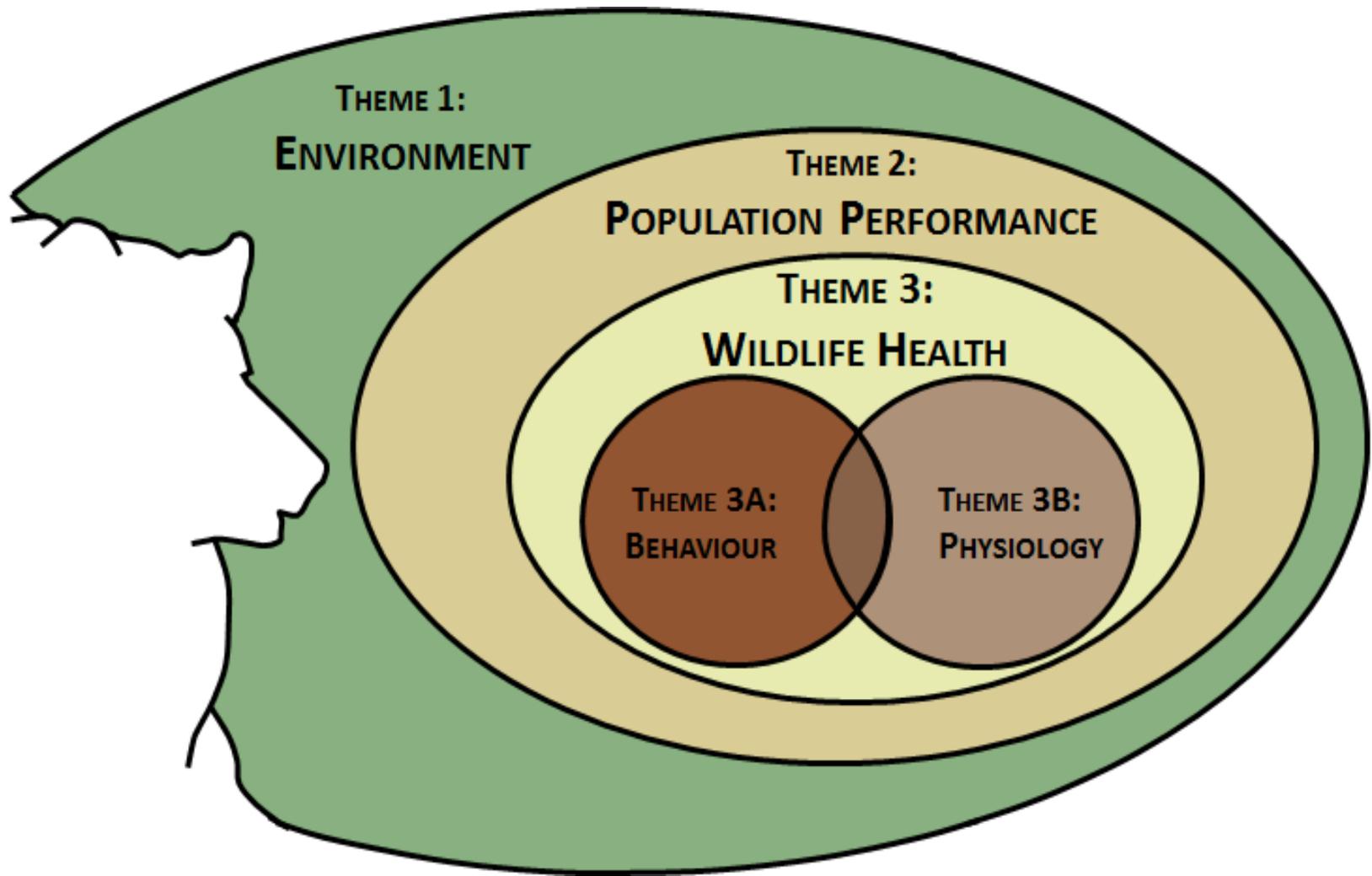
Pass: Grizzly!PawInfo

Newsletter

NSERC reporting

- Thankyou.
 - Please interact with each other and the graduate students.

- Curtis Marr (Project Manager)
 - Curtis.marr@ubc.ca



Theme 1

- What are the temporal and spatial dynamics of fine-scale anthropogenic and non-anthropogenic disturbances and can they be characterized across the region?
- What are the temporal and spatial dynamics of snow melt and spring flush and how do these interact to affect den emergence and spring habitat use and selection?
- Do grizzly bears provide umbrella effects to other species, supporting their inclusion in a broader biodiversity management framework ?



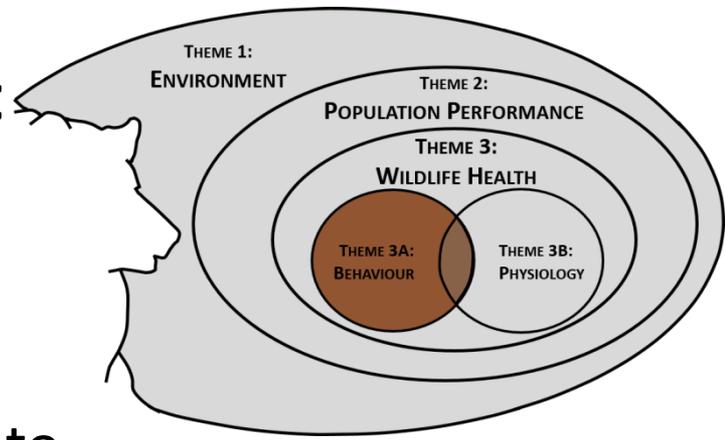
Theme 1

- Mapping and Monitoring Disturbance and Roads
- Snow Dynamics
- Avian species as a indicator of other species for a broader biodiversity management framework ?



Theme 3A – Behavior and Movement

Finer scale analysis focused on individual bear movements



Can we characterize grizzly bear movement to better understand their response to future changes in the landscape ?

Is there a link between bear movement and changes in forest structure due to harvesting, fire and other resource extraction ?

What is the link between bear movements, landscape pattern and use, and mortality ?

How do the timing of phenology impact bear food, savaging and mortality ?

What thresholds exist between bear movement and road processes ?

Theme 3A

- Can grizzly bear responses to movement and health, be modeled to allow probabilistic prediction of future movement due to disturbance?
- Can grizzly bear movements be related to fine scale changes in forest structure, such as openings, gaps, and vegetation patterns?
- Can changes in understory phenology, and forest structure at very fine spatial scales be linked to bear movement patterns?
- What are the fine scale movement, health and survival responses to cumulative effects that are dynamic in space and time?
- Have road density thresholds been effective, and are there improved approaches to understanding the links between road density and bear mortality across the Yellowhead ecosystem?



Theme 3A

- Movement and Health
- Movement and Forest structure and Edges
- Movement and Vegetation Phenology / Berries
- Movement and Perception
- Movement, Roads and Mortality (Start Dec 1st)

