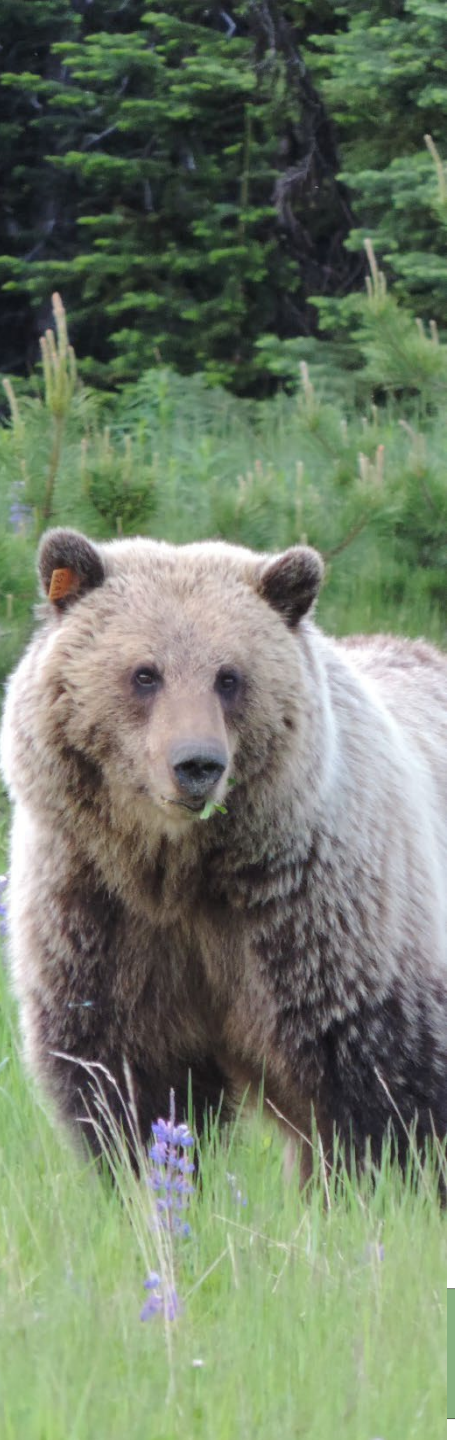


Grizzly-PAW: Grizzly Population Assessment in yelloWhead: Integrated Approaches Toward Conserving Grizzly Bears On A Human-Dominated Landscape Of Western Alberta.

Annual General Meeting – 3

Nicholas Coops

October 18th 2019

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 this morning and this afternoon
- FRI Research
- TransCanada for hosting us in Calgary
- University faculty, graduate students and postdocs – some of whom now have jobs and taken time off to attend

a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

University of Victoria

UNIVERSITY OF SASKATCHEWAN

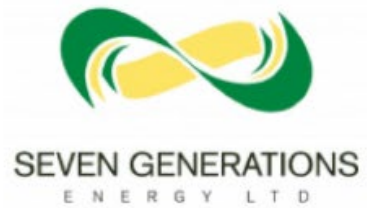

CANFOR


Teck


ConocoPhillips
Canada

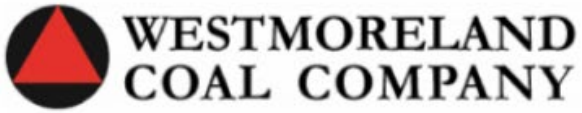

TransCanada


Shell


SEVEN GENERATIONS
ENERGY LTD


REPSOL


West Fraser


WESTMORELAND
COAL COMPANY


FOREST RESOURCE IMPROVEMENT ASSOCIATION OF ALBERTA (FRIAA)


Forest Resource
Improvement
Association of Alberta


Alberta
Newsprint
Company


Weyerhaeuser


fRI


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

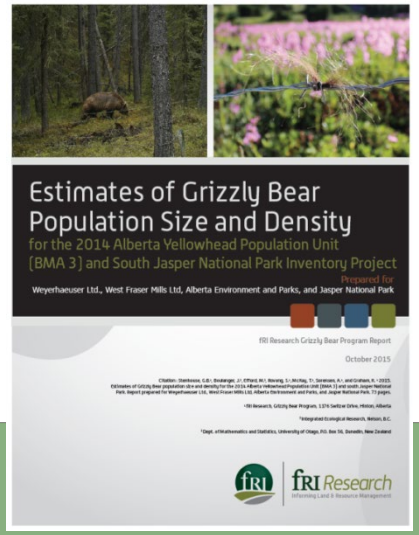
- A decadal survey was completed by FRI Research (Stenhouse) in 2014, which spurred this proposal.

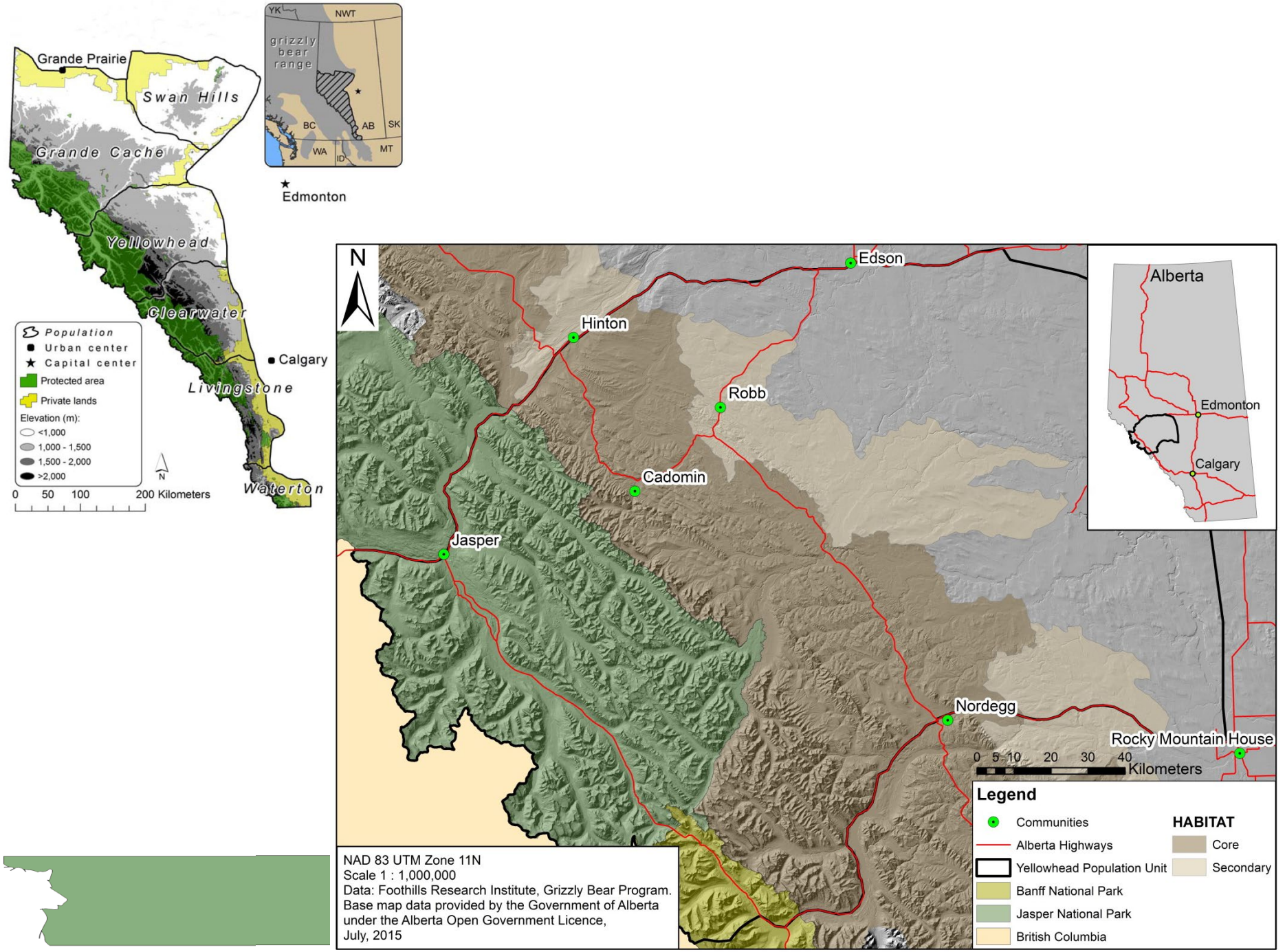
- The 2014 inventory estimated 71 using DNA in Yellowhead BMA indicating a 7% annual population rate increase

- This is very encouraging given

  the significant resource extraction

  and human activity in the area

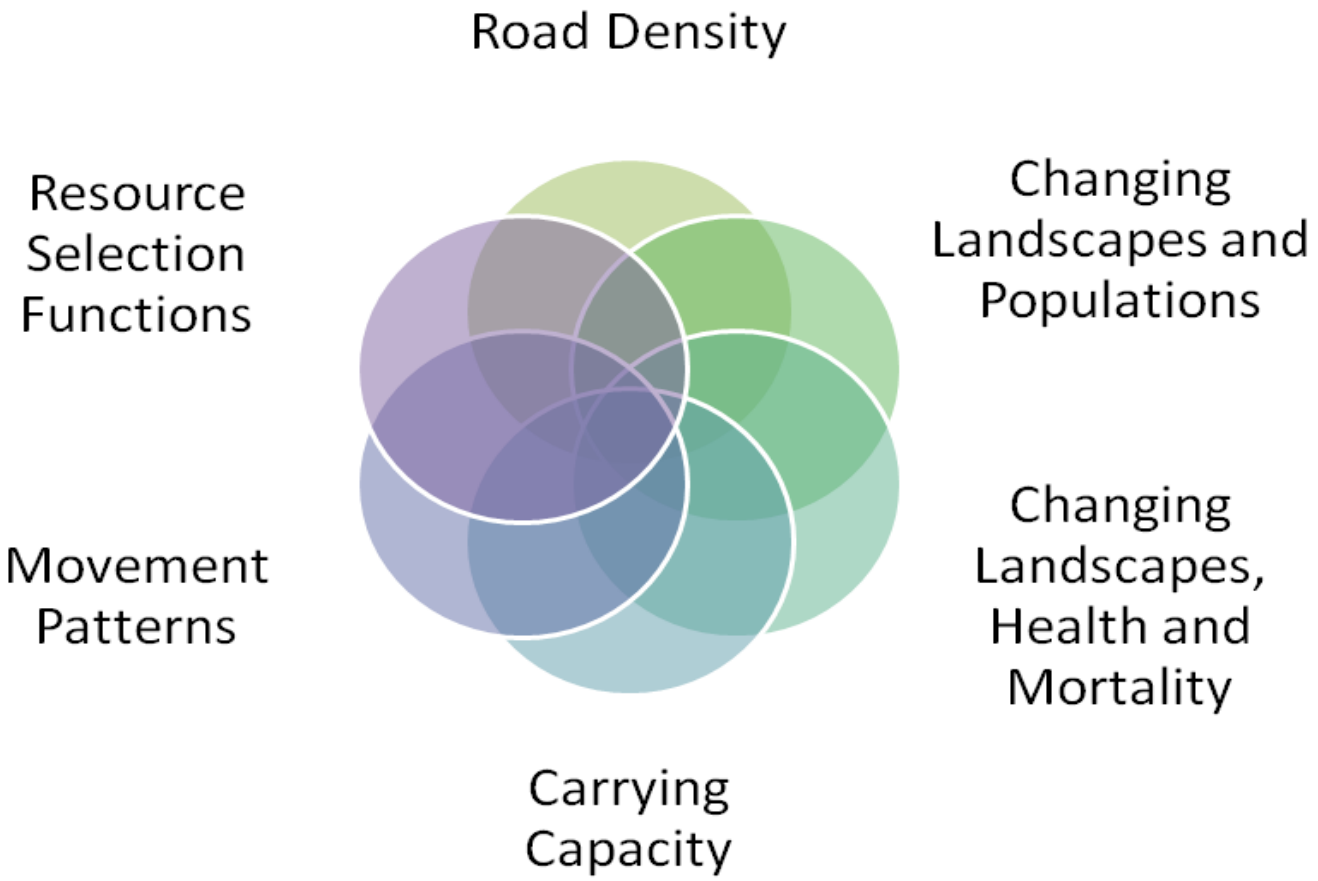



Grande Prairie
Swan Hills
Grande Cache
Yellowhead
Clearwater
Calgary
Livingstone
Waterton
Edmonton
YK
NWT
grizzly bear range
BC
AB
SK
WA
ID
MT
Population
Urban center
Capital center
Protected area
Private lands
Elevation (m):
<1,000
1,000 - 1,500
1,500 - 2,000
>2,000
0 50 100 200 Kilometers
N
Edson
Hinton
Robb
Cadomin
Jasper
Nordegg
Rocky Mountain House
0 5 10 20 30 40 Kilometers
Alberta
Edmonton
Calgary
Legend
Communities
Alberta Highways
Yellowhead Population Unit
Banff National Park
Jasper National Park
British Columbia
HABITAT
Core
Secondary
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 ?

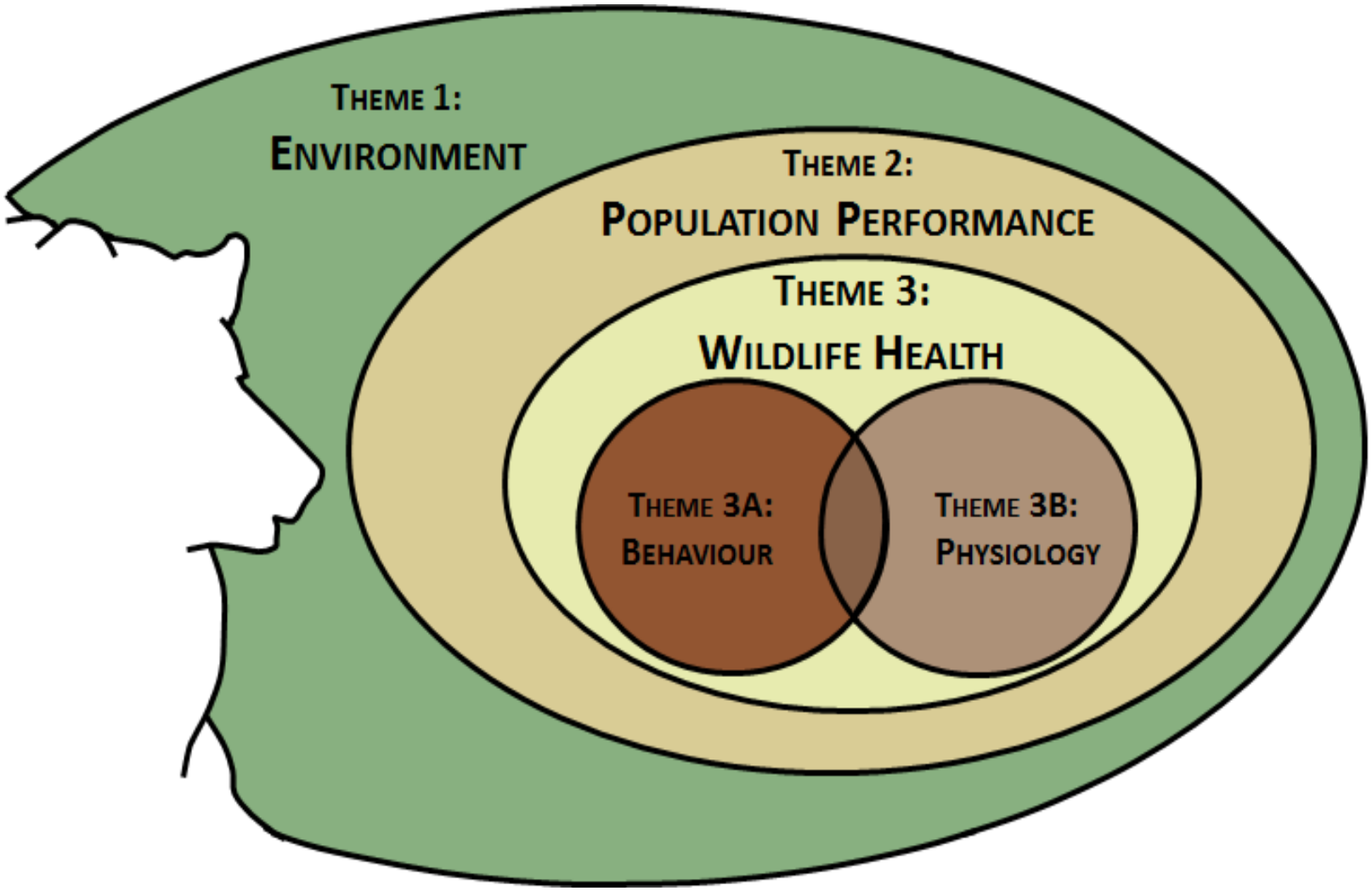
Industry Needs

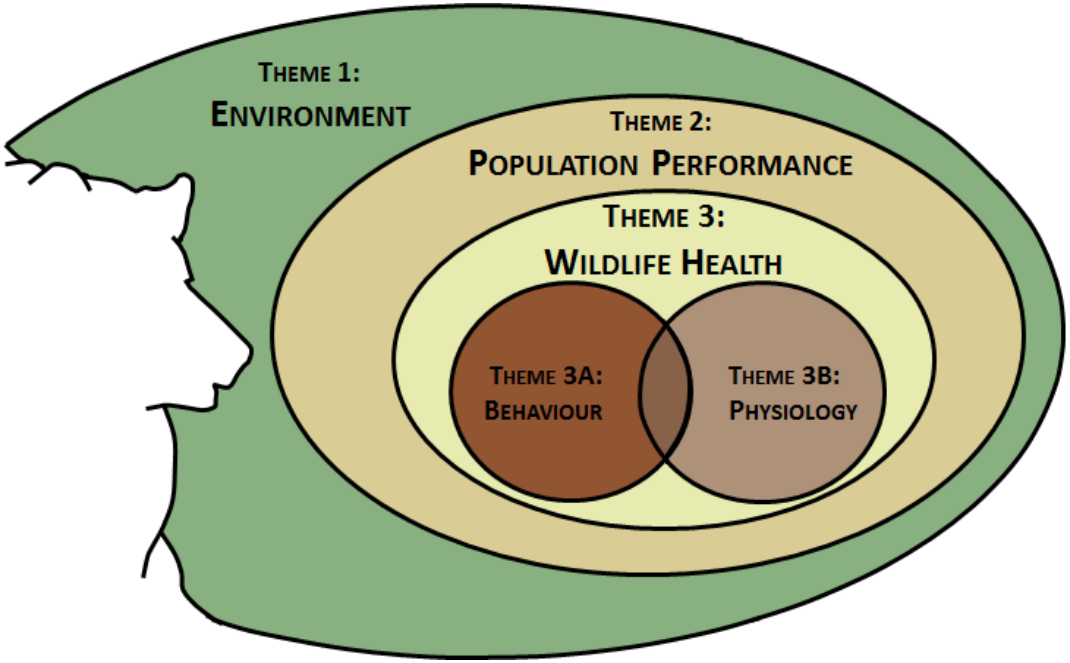


8 key questions asked by Industry which this proposal aims to address

- NSERC Collaborative and Development Project (CRD)
  - 4 year project (3 years of funding)
  - Approved for funding in July 2016
  - End in June 2020

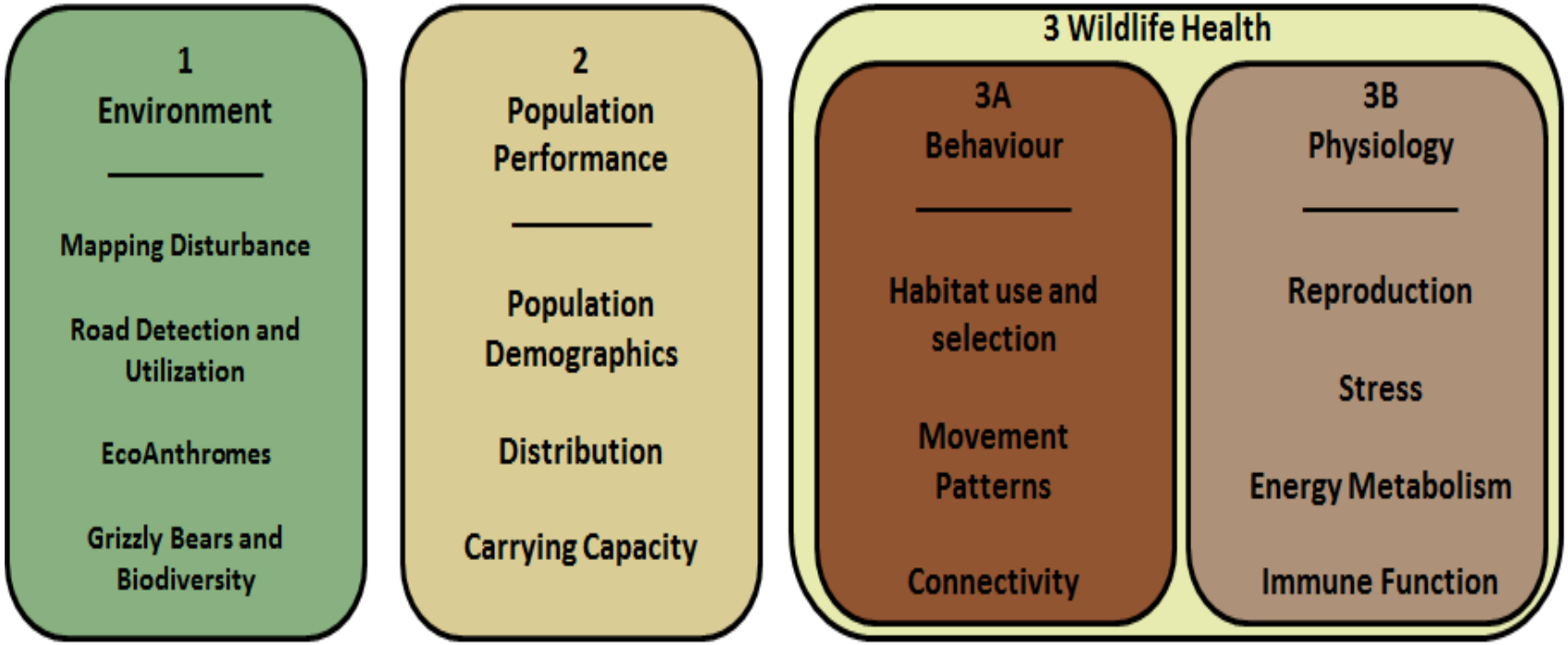
- As most projects are coming to an end an opportunity to see research outcomes and share internally within the project and with wider community


THEME 1:
ENVIRONMENT
THEME 2:
POPULATION PERFORMANCE
THEME 3:
WILDLIFE HEALTH
THEME 3A:
BEHAVIOUR
THEME 3B:
PHYSIOLOGY



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


1
Environment
Mapping Disturbance
Road Detection and Utilization
EcoAnthromes
Grizzly Bears and Biodiversity
2
Population Performance
Population Demographics
Distribution
Carrying Capacity
3 Wildlife Health
3A
Behaviour
Habitat use and selection
Movement Patterns
Connectivity
3B
Physiology
Reproduction
Stress
Energy Metabolism
Immune Function

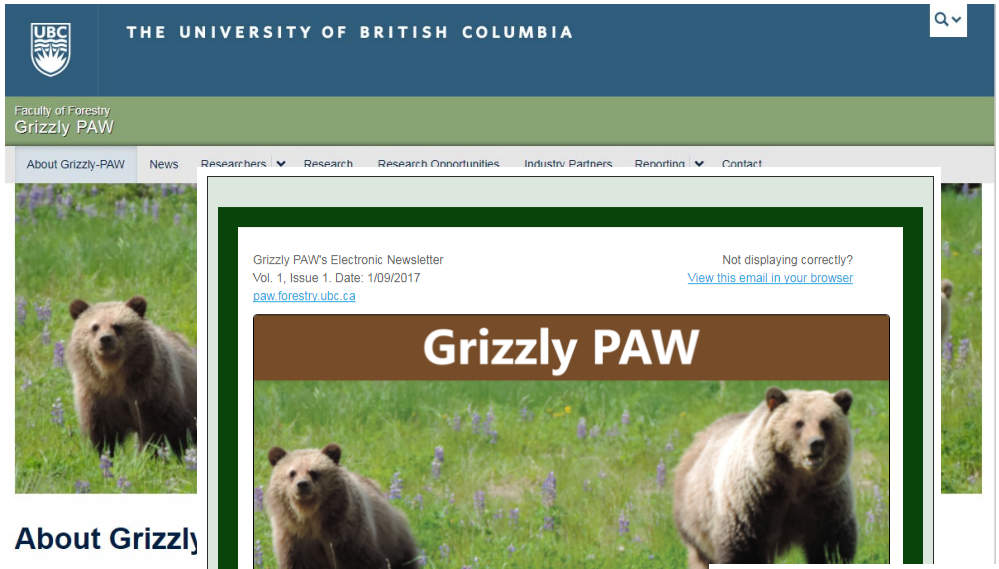
Today

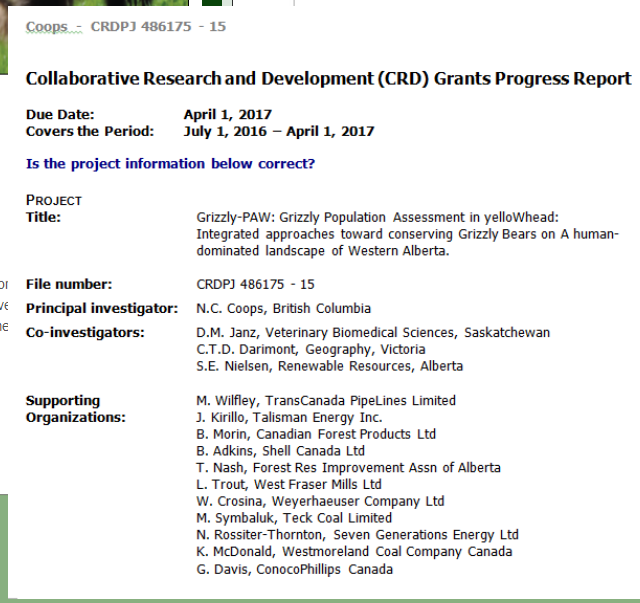
- *In the Morning:*
- Just researchers and companies who supported the research

- Series of presentations on the research undertaken under each theme
- Update from Gord Stenhouse on the FRI Research Capture Program

- *In the Afternoon:*
- Open to other interested researchers / industries
- Summary talks by the lead faculty members
- Posters on each project for further discussion
- Chance to discuss future research opportunities / ideas

Ongoing Communication




Coops - CRDPJ 486175 - 15

Collaborative Research and Development (CRD) Grants Progress Report

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

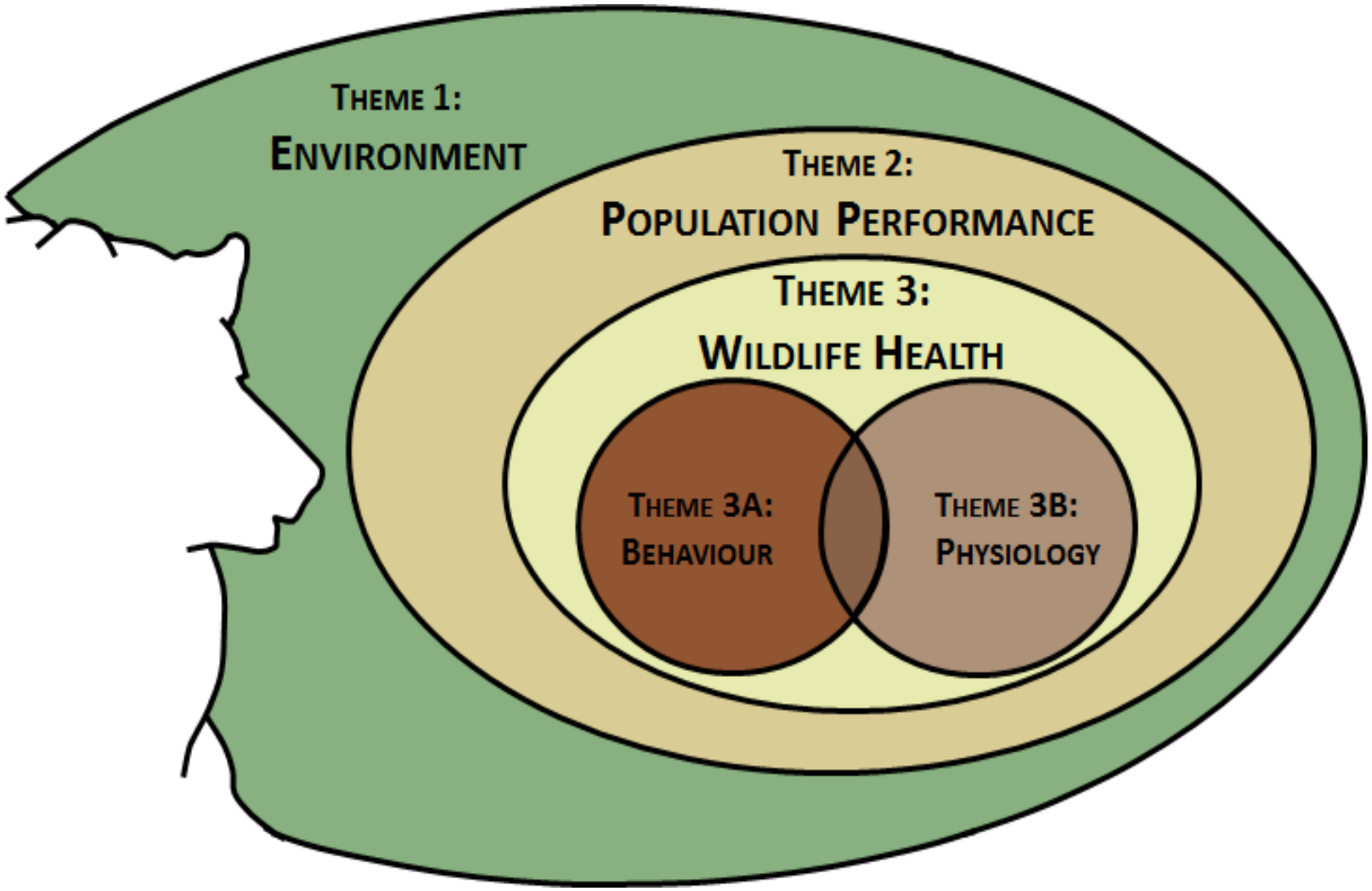
Newsletter

NSERC reporting

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

- Gladys Tecson (Project Manager)
  - Gladys.Tecson@ubc.ca

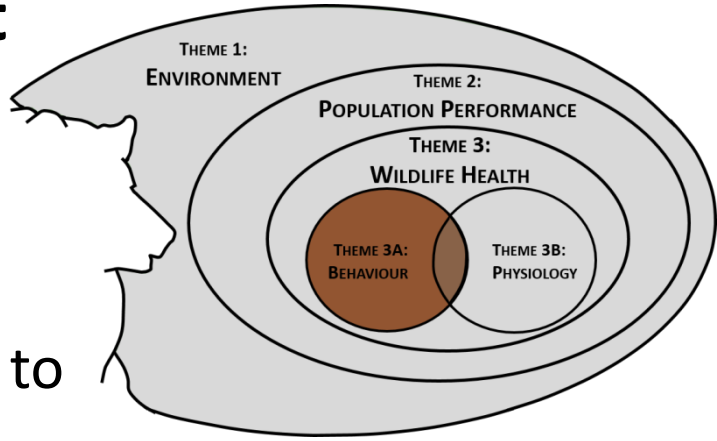
NSERC
CRSNG


THEME 1:
ENVIRONMENT
THEME 2:
POPULATION PERFORMANCE
THEME 3:
WILDLIFE HEALTH
THEME 3A:
BEHAVIOUR
THEME 3B:
PHYSIOLOGY

Theme 1

- Temporal and spatial dynamics of fine-scale anthropogenic and non-anthropogenic disturbances
- Temporal and spatial dynamics of snow melt and spring flush
- Do bears provide umbrella effects to other species, supporting their inclusion in 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 ?

How does the timing of phenology impact bear food movement and behaviour?

How does the timing of snow melt impact bear den emergence ?

How does vegetation recovery from fire and harvest impact bear movement ?

What thresholds exist between bear movement and road perception?

Theme 3A

- Grizzly responses to movement and health due to disturbance?
- Grizzly movements and fine scale changes in forest structure, such as openings, and gaps
- Changes in understory phenology and bear movement patterns?
- Snow Dynamics and Den Emergence
- Road type and Density relationships to bear movement
- Bear Visual and Audio Perception of Road Networks