

# Spring Research and Monitoring Update Northern Continental Divide Ecosystem 2023 Annual Results



**Cecily Costello, Lori Roberts, Milan Vinks, Kyle Yorke, Payton, Adams,  
Brad Balis, Jamie Jonkel, Eli Hampson, Brandon Kittson, Bruce Montgomery  
Wesley Sarmiento, Justine Vallieres, John Waller, Erik Wenum, Chad White**

# Topics

Field Data Collection

Conservation Strategy Demographic Objectives

Management Summary

# 2023 Field Data Collection

## Capture

- Trend research: 11 (5F, 6M)
- Management or other research: 28 (16F, 12M)
- Research in Bitterroot area: 1 (M)

## Radio-monitoring

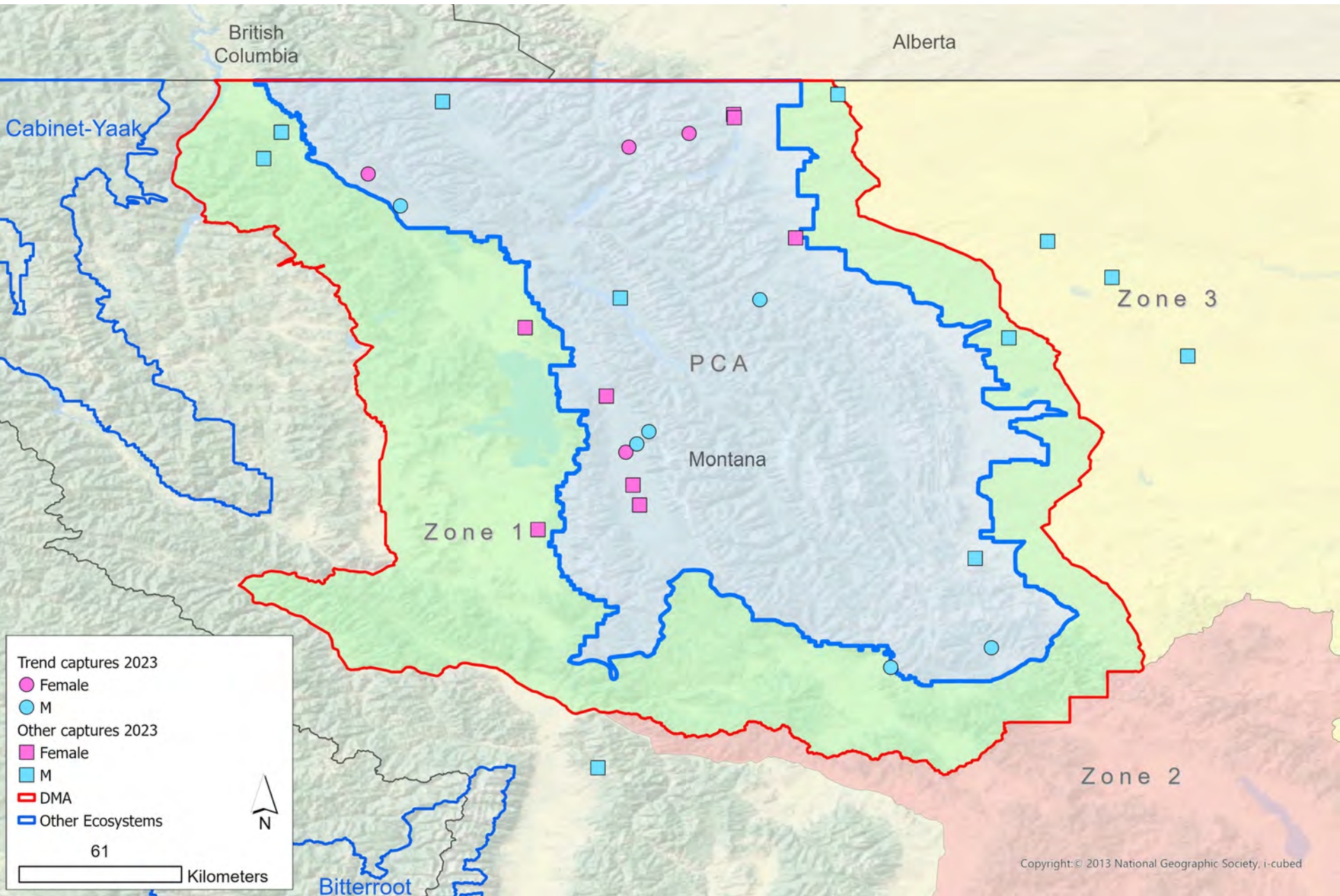
- Trend research: 31 (26F, 5M)
- Management or other: 35 (23F, 12M)

## Independent survival monitoring

- Trend research: 3 radioed deaths (3F)
- Management or other: 5 radioed deaths (2F, 3M)

## Reproductive monitoring with telemetry

- Reproductive status: 38 females (12 CB, 9 YR, 1 2YO, 17 None)
- Cub survival: 12 litters, 29 cubs (13 presumed dead)
- Yearling survival: 5 litters, 10 yearlings (3 presumed dead)



\*preliminary data, do not cite

# Documented Mortalities

## All zones, all age classes

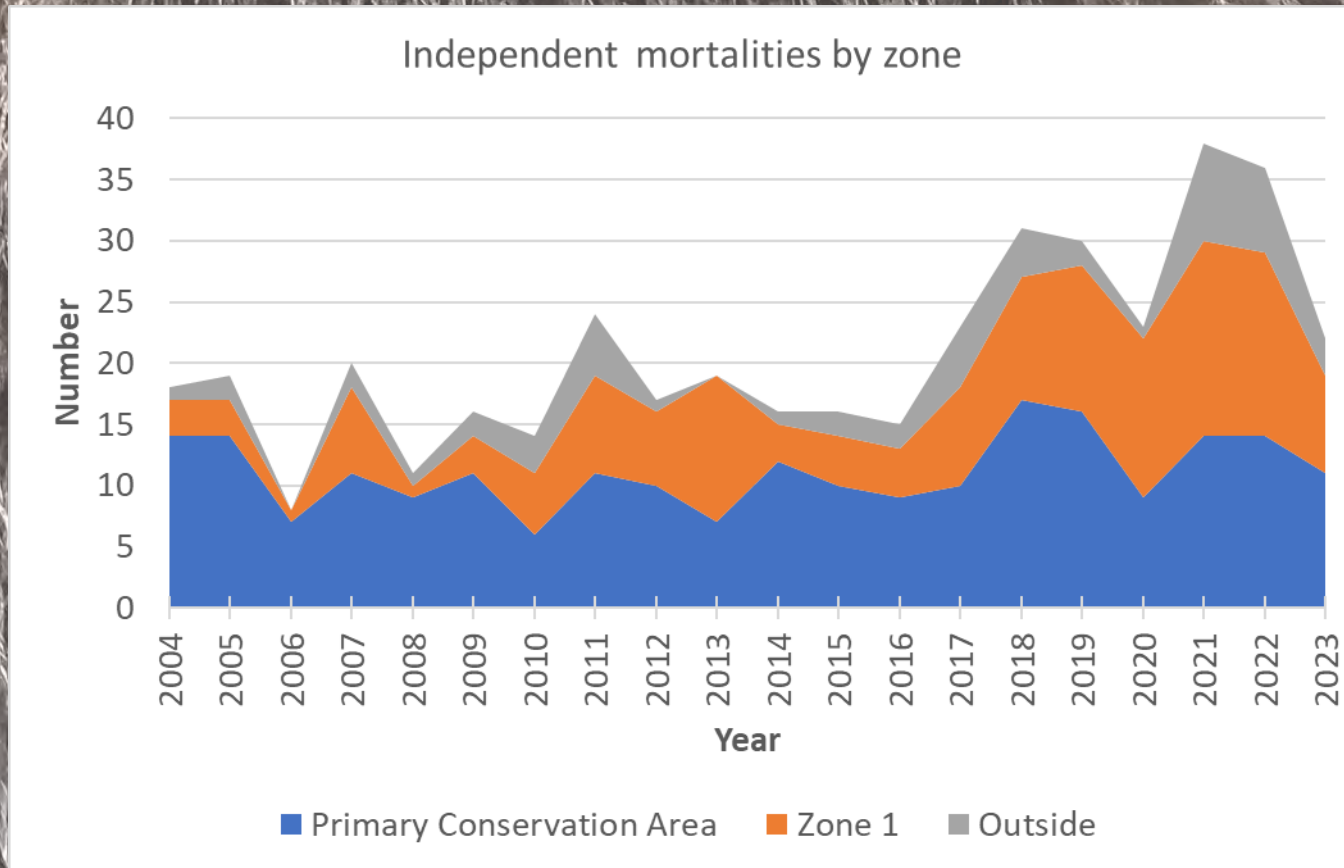
### Documented mortalities 2023

	Ageclass	Female	Male	Unknown sex	Total
Inside DMA	Dependent	4	6	7	17
	Independent	8	12	0	20
	Total	12	18	7	37
Outside DMA	Dependent	2	2	3	7
	Independent	3	0	0	3
	Total	5	2	3	10

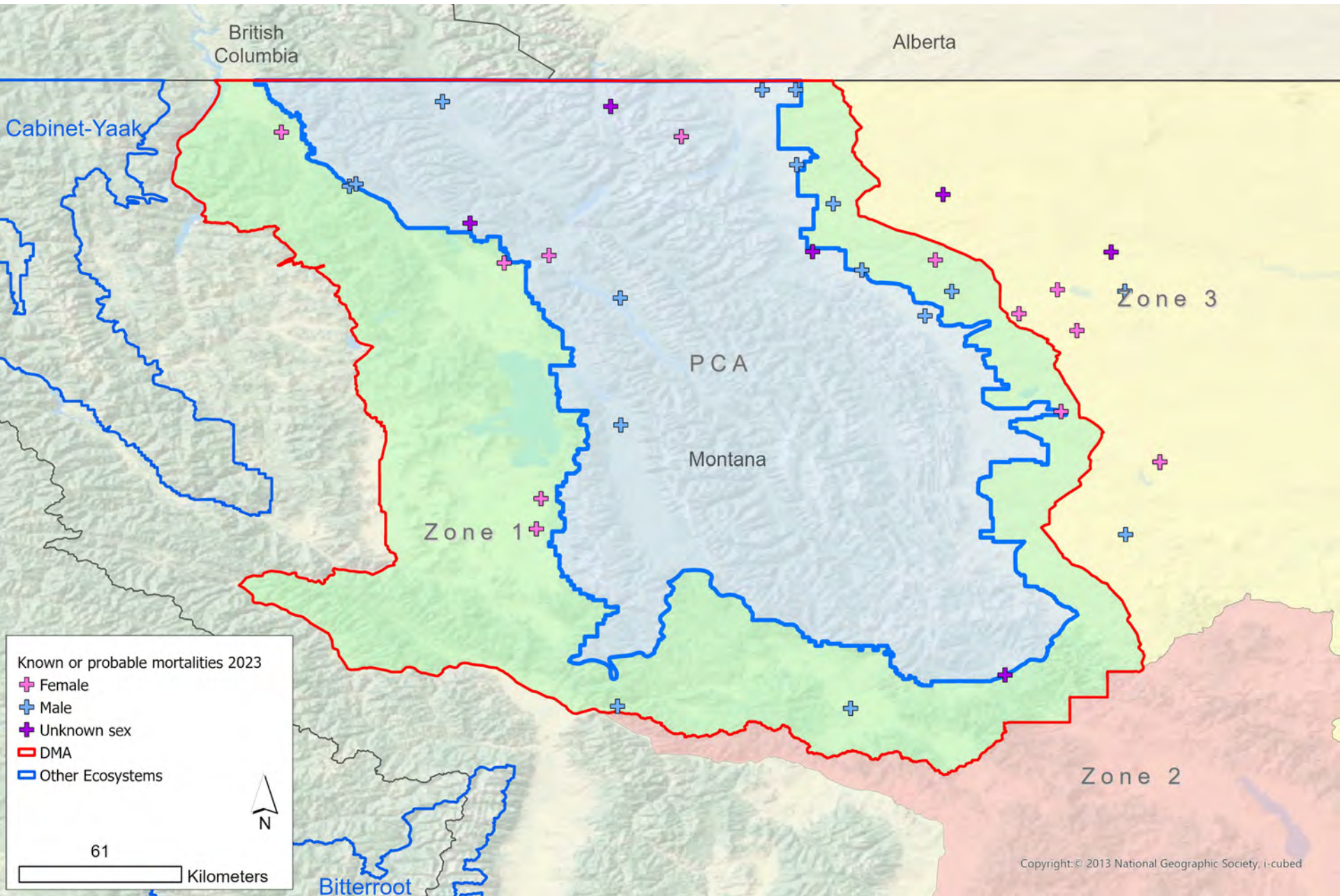
\*preliminary data, do not cite

# Conservation Strategy Zone

## Independent bears only



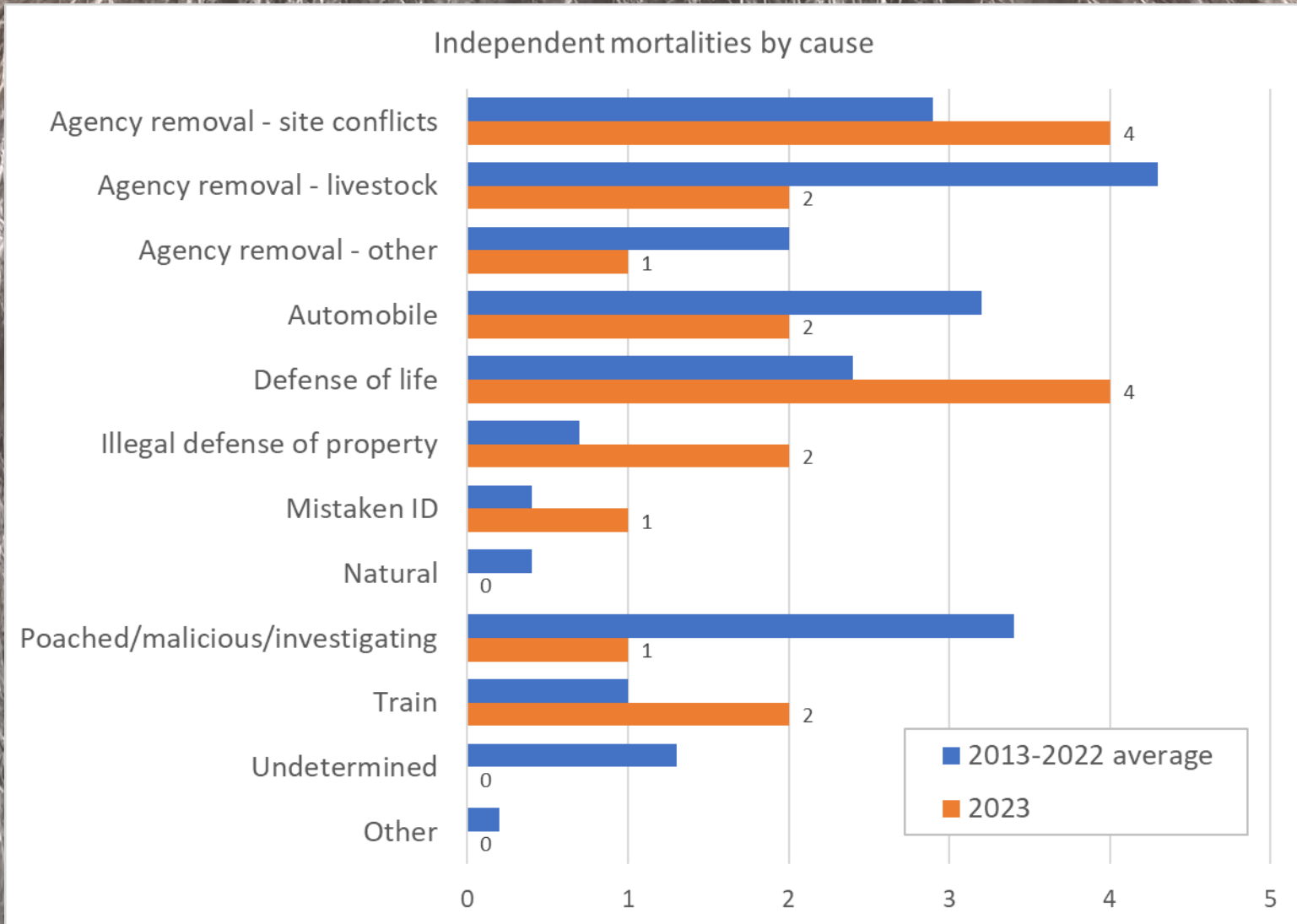
\*preliminary data, do not cite



\*preliminary data, do not cite

# Cause of Death

## Independent bears inside DMA



\*preliminary data, do not cite



# Conservation Strategy Demographic Objectives

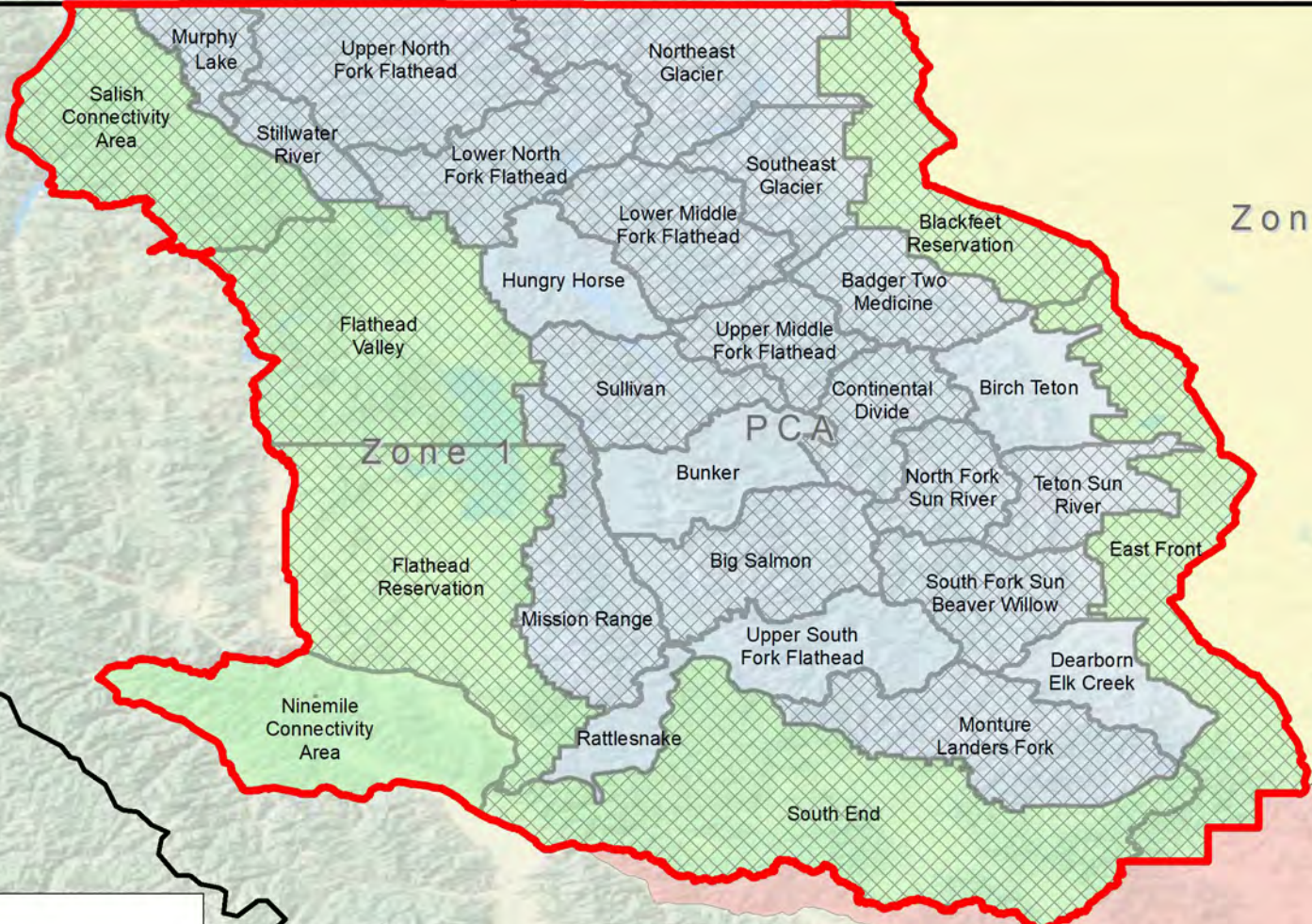
Occupancy thresholds - Maintain the documented presence of females with dependent offspring, at least every 6 years, in at least:

≥21 of 23 Bear Management Units of the PCA/Recovery Zone

≥6 of 7 Occupancy Units of Zone 1

British Columbia

Alberta



Zone 3

Zone 1

Zone 2

PCA



DMA

Known occupied in 2022



Yes

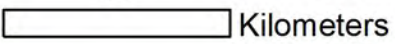


No

60



N



Kilometers

\*preliminary data, do not cite

# Occupancy thresholds

Bear Management Unit (PCA)	2018	2019	2020	2021	2022	2023
Murphy Lake			x		x	x
Upper North Fork Flathead		x	x	x	x	x
Northeast Glacier	x	x	x	x	x	x
Stillwater River	x	x	x	x	x	x
Lower North Fork Flathead	x	x	x	x	x	x
Hungry Horse	x	x	x	x		
Lower Middle Fork Flathead	x	x	x	x	x	x
Southeast Glacier	x	x	x	x	x	x
Sullivan	x	x	x	x	x	x
Upper Middle Fork Flathead	x				x	x
Badger Two Medicine	x	x	x		x	x
Mission Range	x	x	x	x	x	x
Bunker	x	x	x	x		x
Continental Divide			x		x	
Birch Teton	x	x	x	x		x
Big Salmon	x	x	x	x	x	x
North Fork Sun River	x	x	x		x	x
Teton Sun River		x	x	x	x	x
Rattlesnake				x		
Upper South Fork Flathead				x		
South Fork Sun Beaver Willow	x	x	x	x	x	x
Monture Landers Fork		x	x	x	x	x
Dearborn Elk Creek		x	x	x	x <sup>1</sup>	x

\*preliminary data, do not cite

# Occupancy thresholds

Occupancy Unit (Zone 1)	2018	2019	2020	2021	2022	2023
Salish Connectivity Area	x	x	x	x	x	x
Flathead Valley	x	x	x	x	x	x
Flathead Reservation	x	x	x	x	x	x
Ninemile Connectivity Area	x	x	x			
South End	x	x	x	x	x	x
East Front	x	x	x	x	x	x
Blackfeet Reservation	x	x	x	x	x	x

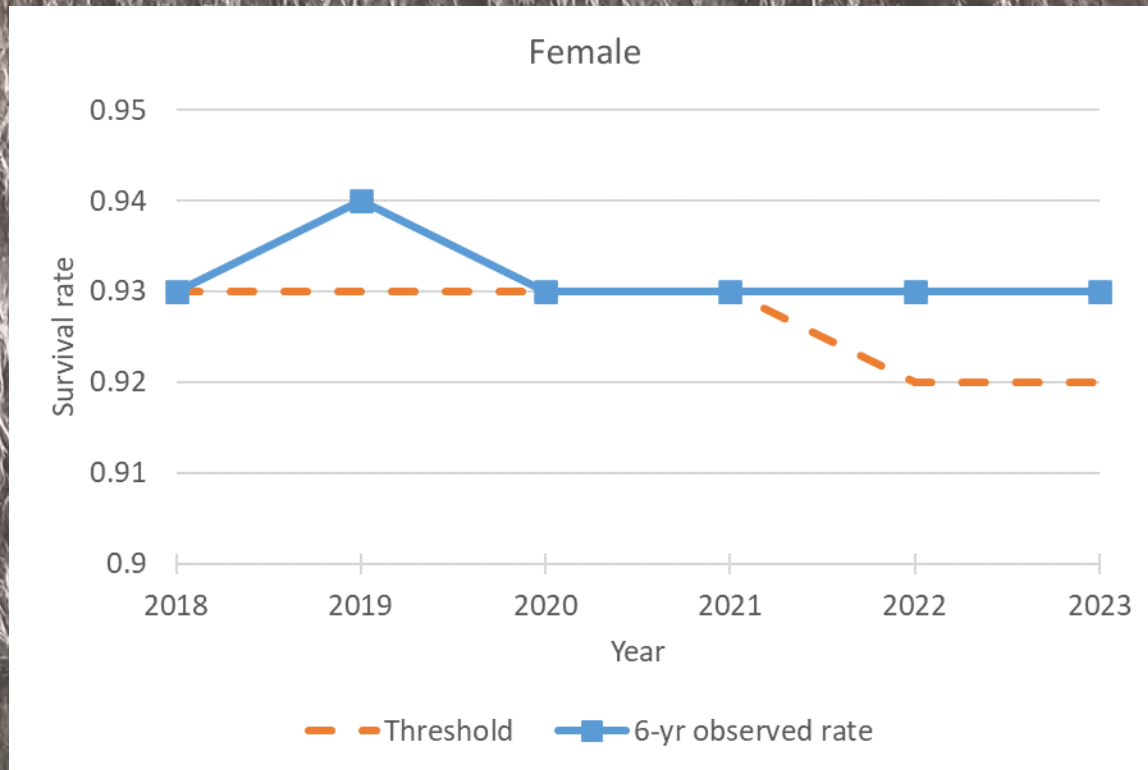
\*preliminary data, do not cite

# Conservation Strategy Demographic Objectives

Independent female survival threshold - Using a six-year running average, maintain estimated annual survival of independent females of:

$\geq 0.92$  = the 2023 threshold rate consistent with a projected 90% probability that the population within the DMA will remain above 800 bears

# Independent female survival threshold



# Conservation Strategy Demographic Objectives

Independent mortality thresholds Using a 6-year running average, limit annual estimated number of total reported and unreported mortalities (TRU mortalities) to:

## Females

$\leq 26$  = the 2023 threshold number consistent with a projected 90% probability that the population within the DMA will remain above 800 bears

## Males

$\leq 31$  = the 2023 threshold number consistent with a projected 90% probability that the population within the DMA will remain above 800 bears

# Independent mortality thresholds

## Documented mortalities 2023

	Ageclass	Female	Male	Unknown sex	Total
Inside DMA	Independent	8	12	0	20



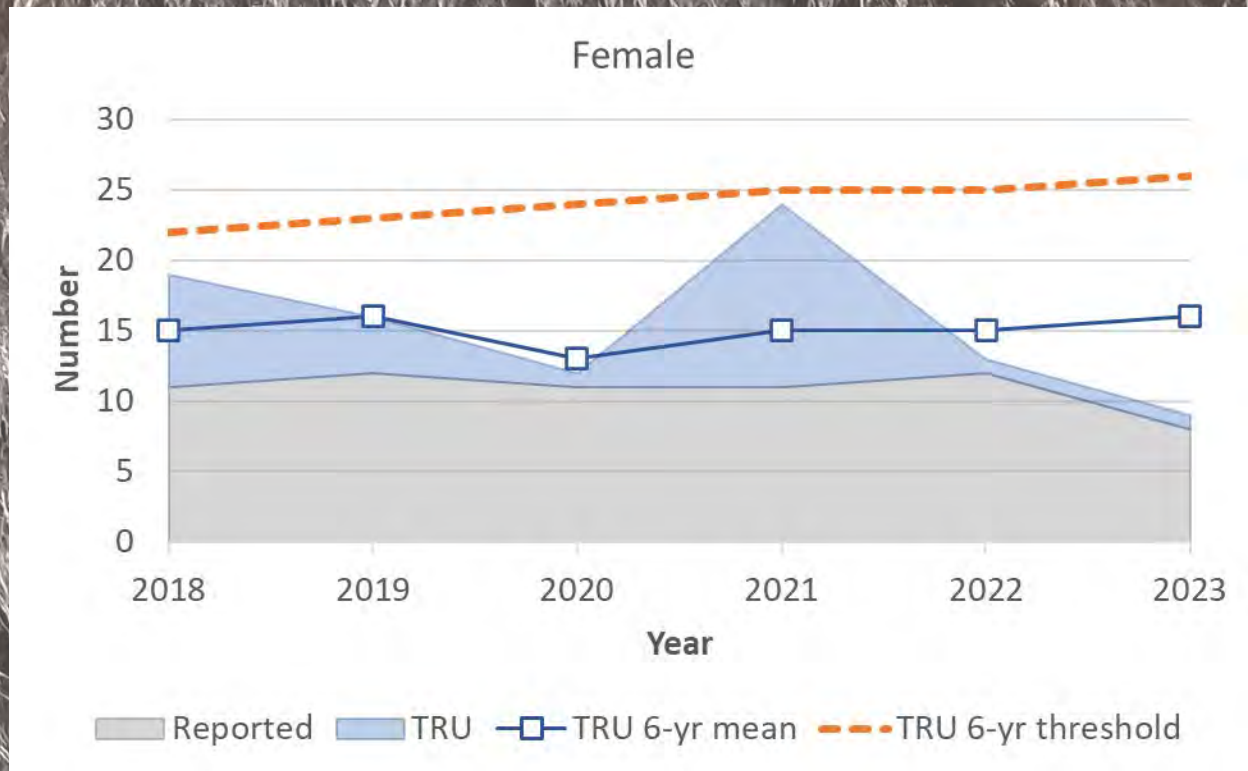
## Estimated total reported & unreported (TRU) mortality 2022

Sex	Agency removal (A)	Telemetry (B)	Reported (high)	Reported (low)	Estimated reported and unreported (C)	Estimated total mortality (A+B+C)
Female	3	2	3	0	4	9
Male	4	0	7	1	12	16

\*preliminary data, do not cite

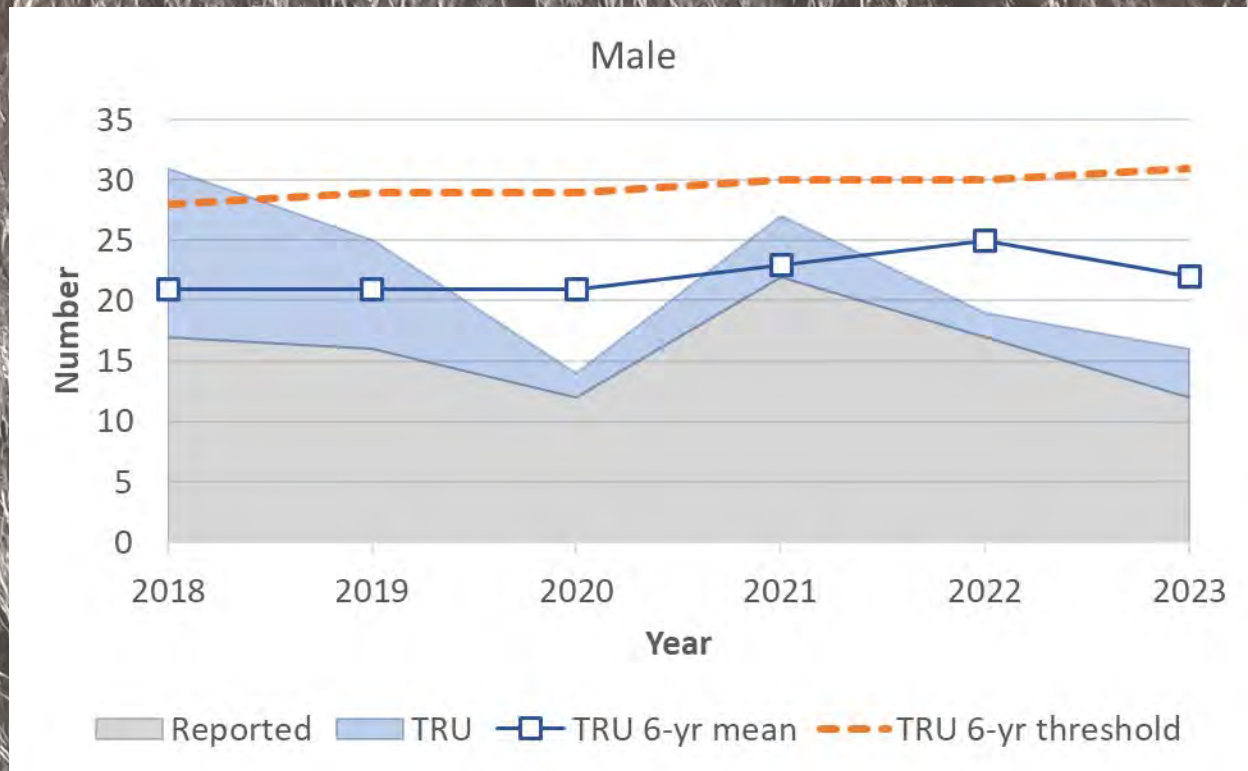


# Independent mortality thresholds



\*preliminary data, do not cite

# Independent mortality thresholds

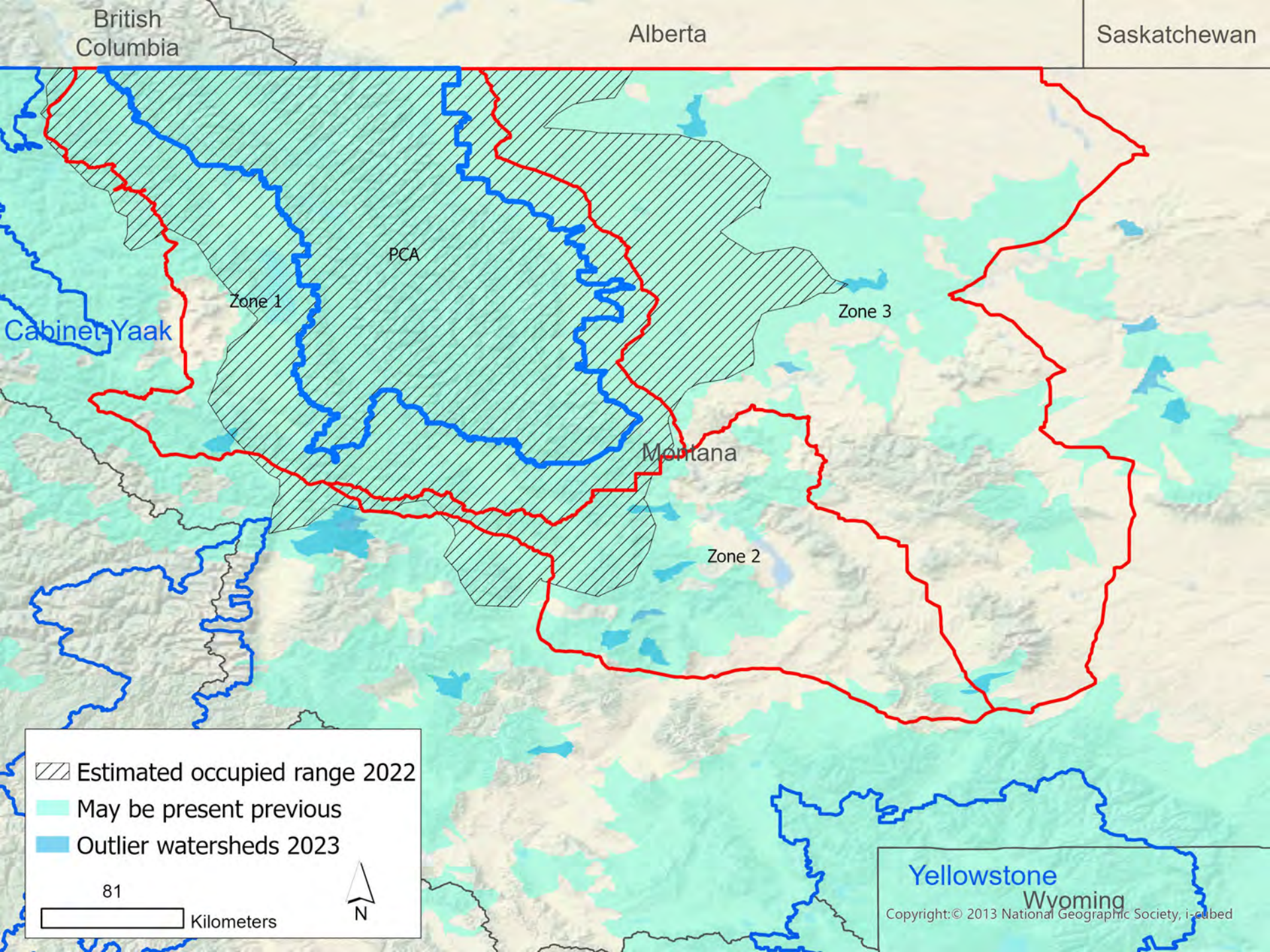


\*preliminary data, do not cite

# Monitor genetic and demographic connectivity

Estimate spatial distribution of the population  
biennially

Identify population of origin for individuals sampled  
inside and outside of the DMA



ENVIRONMENT GOVERNMENT & POLITICS

## Grizzly spotted in Missouri River Breaks on American Prairie land

BY: KEILA SZPALLER - NOVEMBER 17, 2023 3:48 PM



A grizzly bear was spotted in fall 2023 on American Prairie land. (Provided by American Prairie)



British Columbia

Alberta

Saskatchewan

PCA

Zone 3

Zone 1

Montana

Zone 2

Cabinet-Yaak

Yellowstone

Wyoming

Mother



Offspring



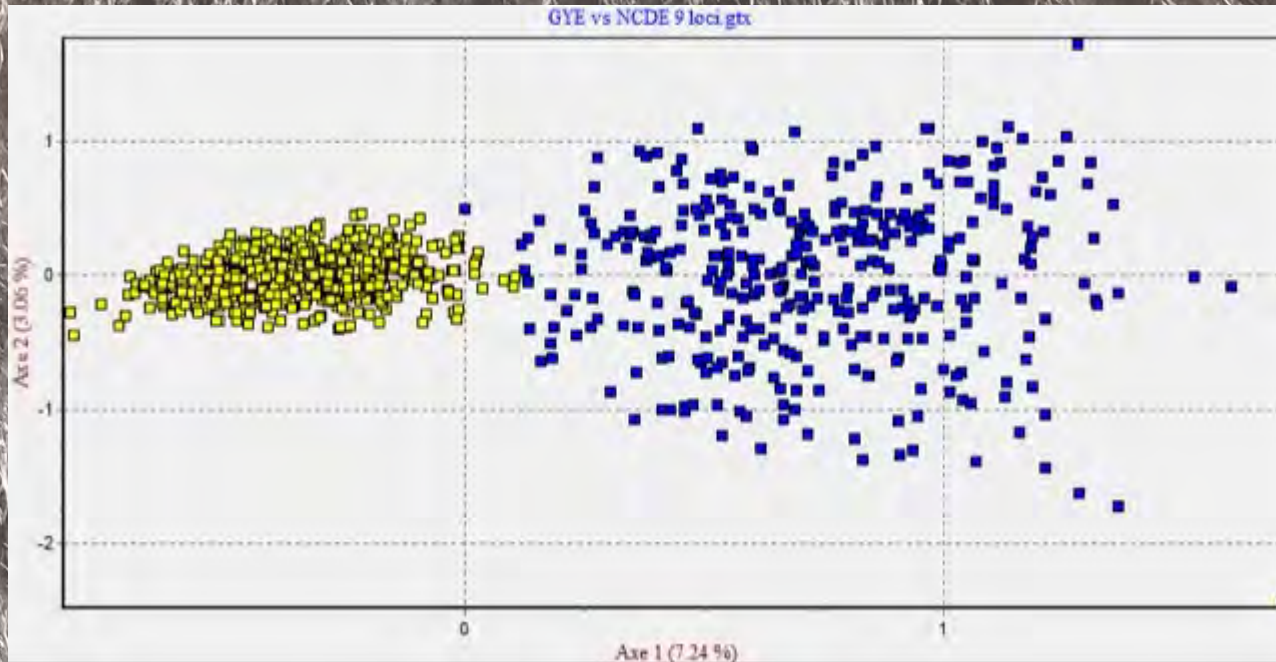
81

Kilometers



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# Movements between ecosystems



- No evidence of movements of individuals between the NCDE and GYE from DNA data through 2022
- No documented interbreeding with CYE bears

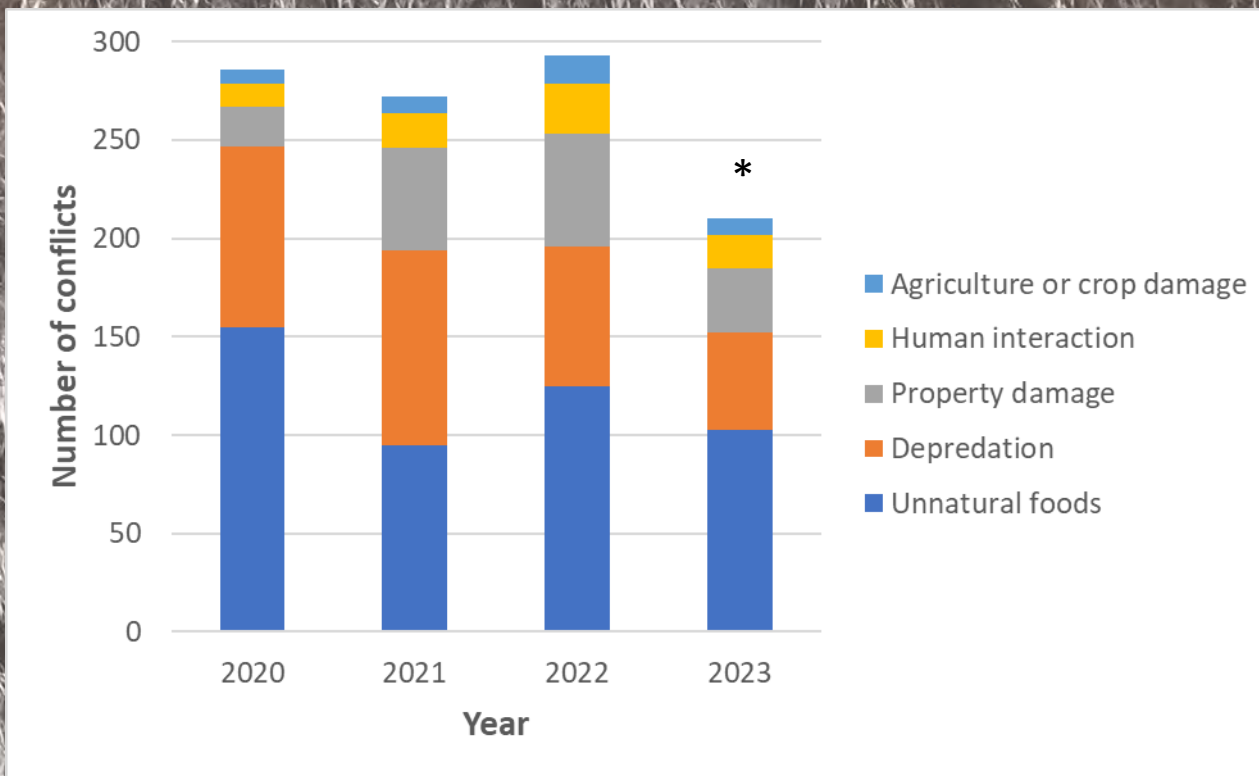
# Management Summary

Interagency management database, started in 2020

- Record human-grizzly bear conflicts
- Record preventative actions
- Records observations, including females with offspring and outliers
- Record opportunistic DNA samples obtained

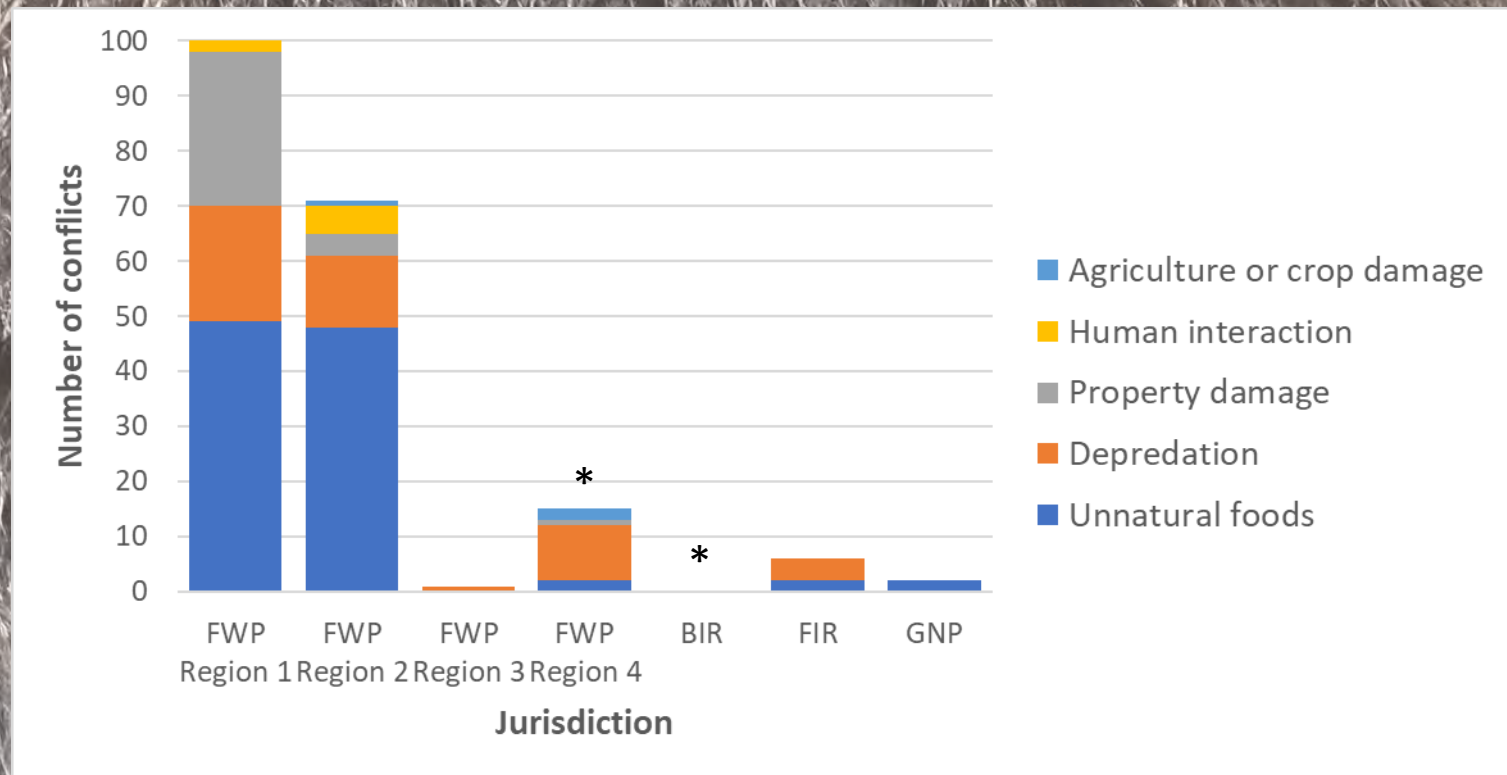


# Human-Grizzly Bear Conflicts 2020-2023

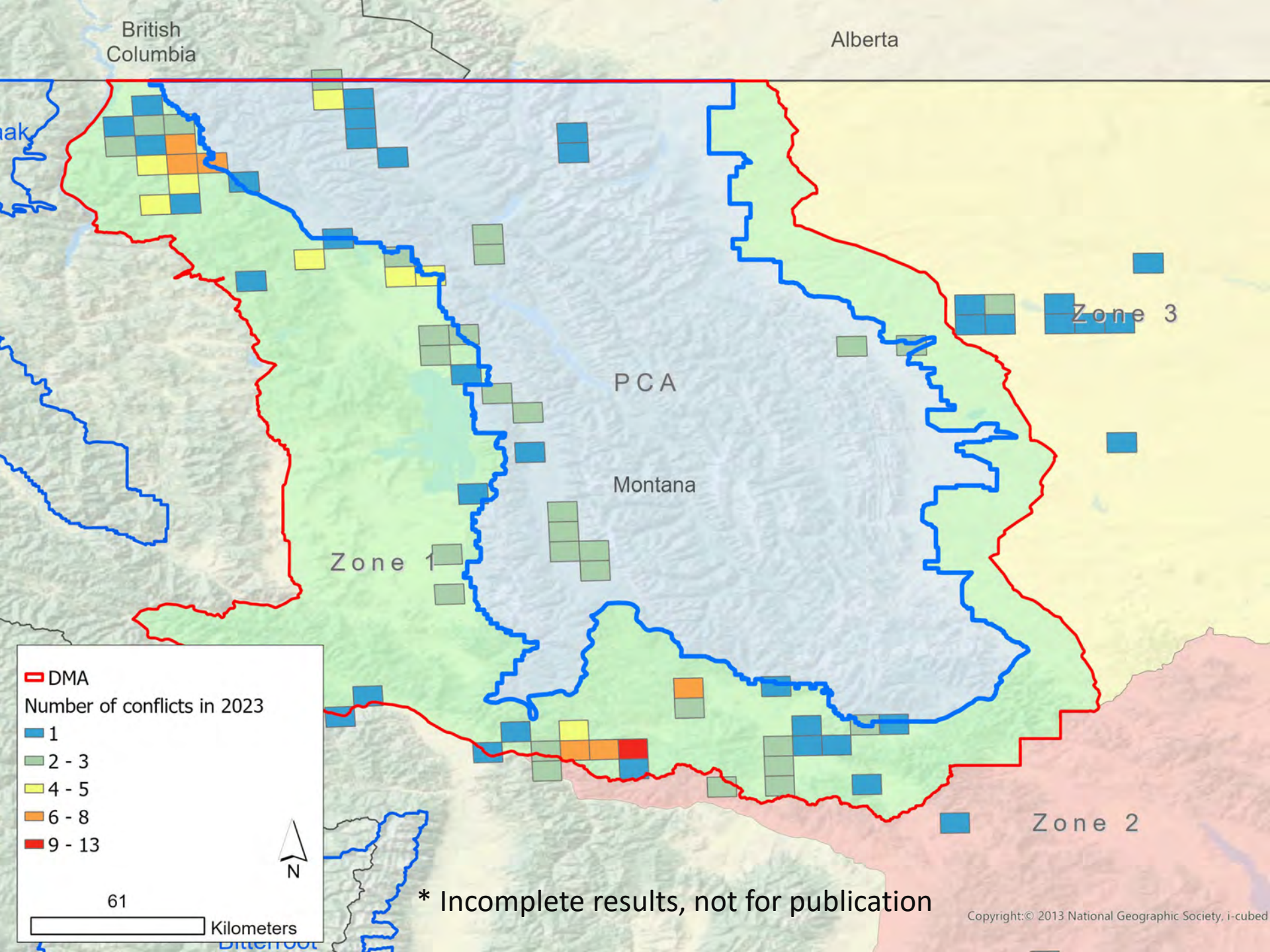


\* Incomplete results, not for publication

# Human-Grizzly Bear Conflicts



\* Incomplete results, not for publication



British Columbia

Alberta

PCA

Montana

Zone 1

Zone 3

Zone 2

**DMA**

Number of conflicts in 2023

- 1
- 2 - 3
- 4 - 5
- 6 - 8
- 9 - 13

61  
Kilometers

N

\* Incomplete results, not for publication

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