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AS 16.05.255 (Intensive Management law)

- 5 AAC 92.108 IM population and harvest objectives
- 5 AAC 92.111(2) IM plan for Mulchatna caribou herd

Intensive Management Protocol (2011)

- Feasibility assessments
- Operational plans
- Annual reports to Alaska Board of Game

<https://www.adfg.alaska.gov/index.cfm?adfg=intensivemanagement.programs>

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OPERATIONAL PLAN FOR INTENSIVE MANAGEMENT OF CARIBOU (*RANGIFER TARANDUS*) IN GAME MANAGEMENT UNITS 9B, 17, 18, 19A & 19B DURING REGULATORY YEARS 2022–2028



Prepared by:
DIVISION OF WILDLIFE CONSERVATION
Version 2.1, February 2023

Wildlife Management Report ADF&G/DWC/WMR–2024–1

Review of factors in public and agency predator control for Mulchatna caribou, 2012–2023

Thomas F. Paragi
John H. Landsiedel

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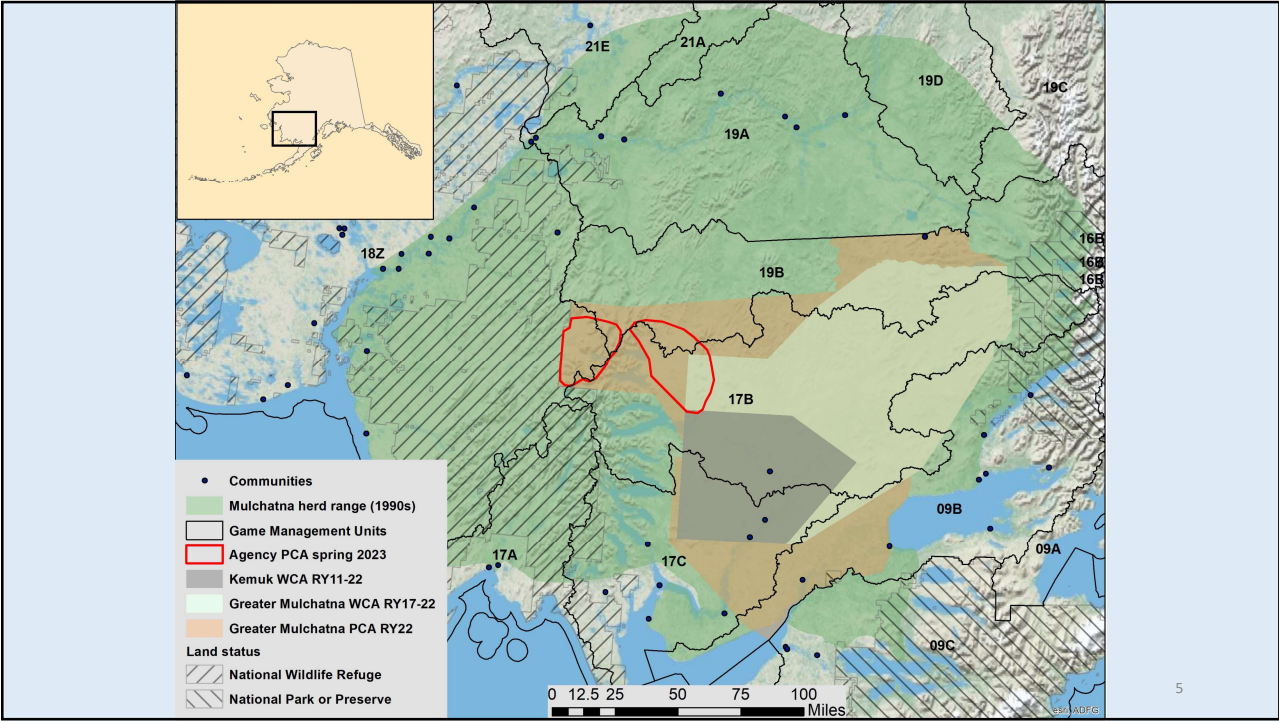
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Outline of presentation

- **Changes in calving locations and cause-specific calf mortality**
- **Distribution and degree of wolf harvest & wolf control**
- **Summary of factors for decision on 2023 predator control**
- **Distribution and degree of brown bear harvest & control**

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Background: MCH wolf control & calf mortality study

Modeling: large calf cohorts late 1990s, declining adult females until ~2011

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Southern Alaska Peninsula (SAP) caribou herd:

- **Mostly wolf predation on calving grounds despite high brown bear densities**
- **Removed wolves 3 years from calving area, increase calf summer survival, herd growth**

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Valkenburg et al. (2016):

- **Predation more important on small / nonmigratory herds than large / migratory herds**
- **Depending on herd, brown bears as important as wolves for calf predation**
- **Predator reduction for caribou to date only with wolves: Delta, Fortymile, & SAP herds**

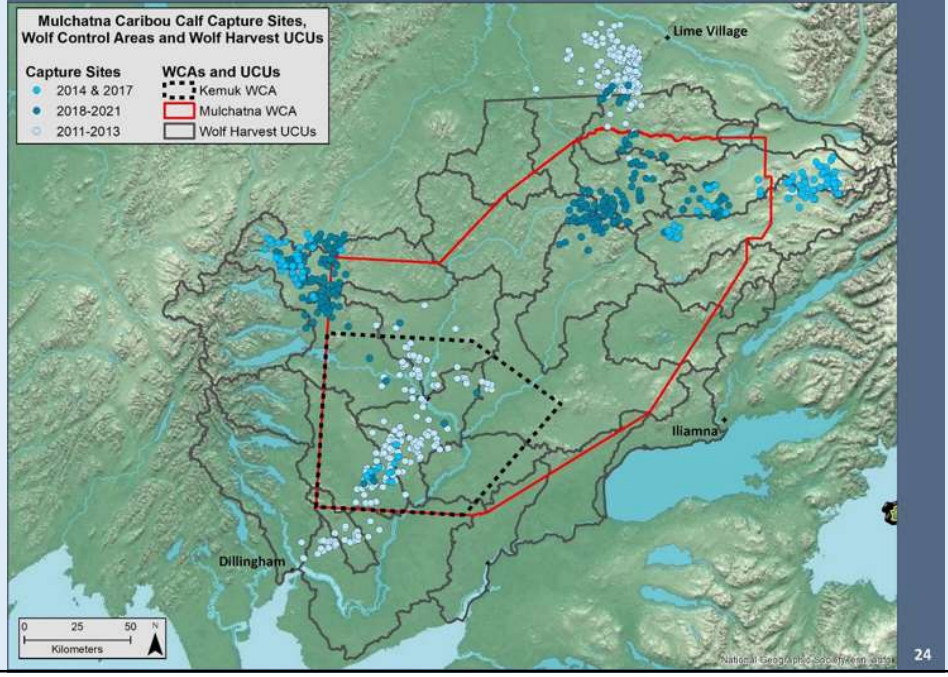
Different ecology MCH; calf mortality research 2011 (before wolf control)

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Changes in calving area use and cause-specific calf mortality

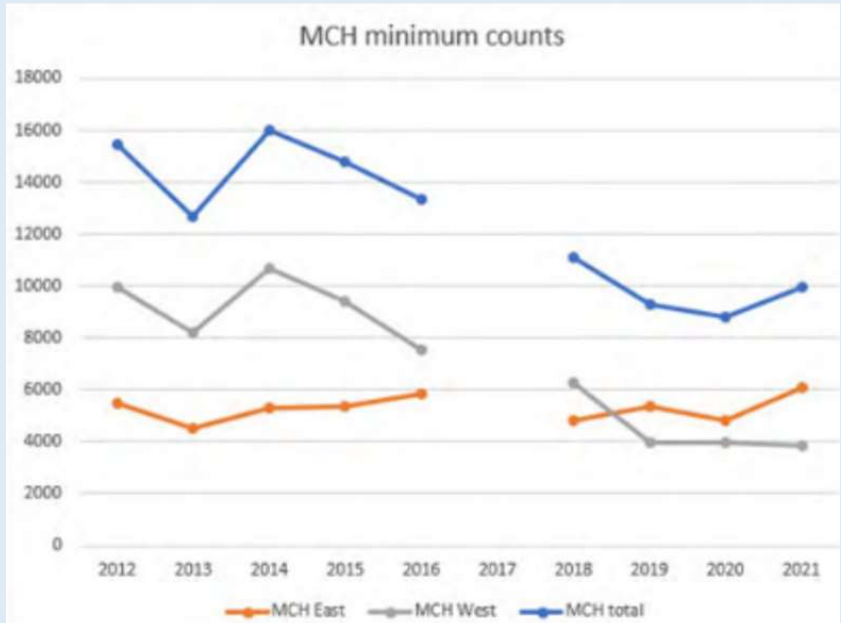
Slide presented
January 2022
C&SW BOG
(RC4, Tab 1.4)



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Herd decline starting 2014 driven by western group

Slide presented
January 2022
C&SW BOG
(RC020, Unit 17
additional info)



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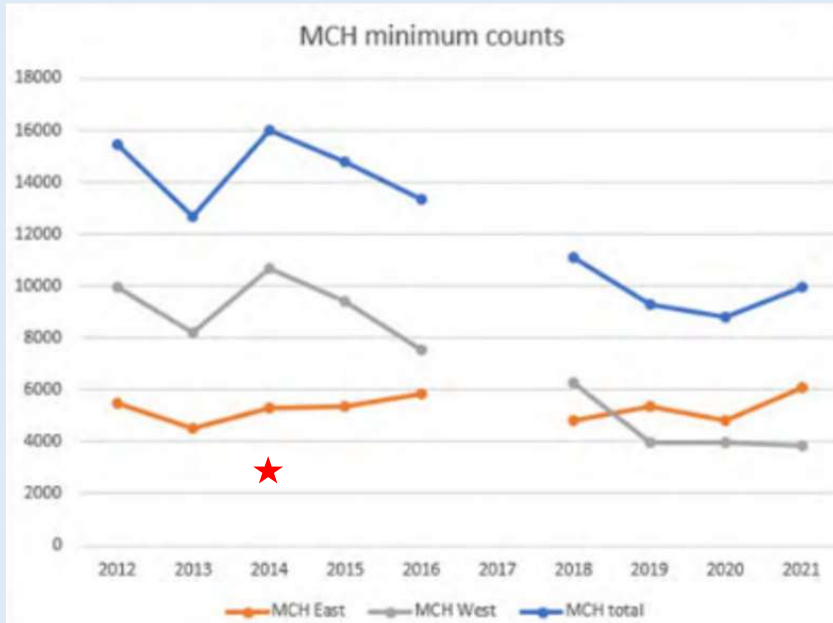
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First clinical
observation of
brucellosis 2014

Brucella suis
biovar 4 isolated
in a harvested
caribou 2015



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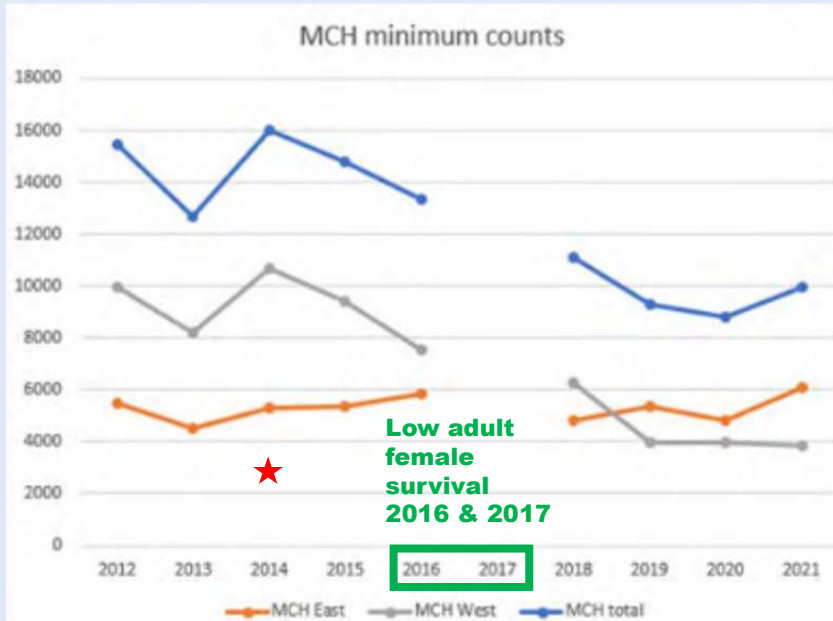
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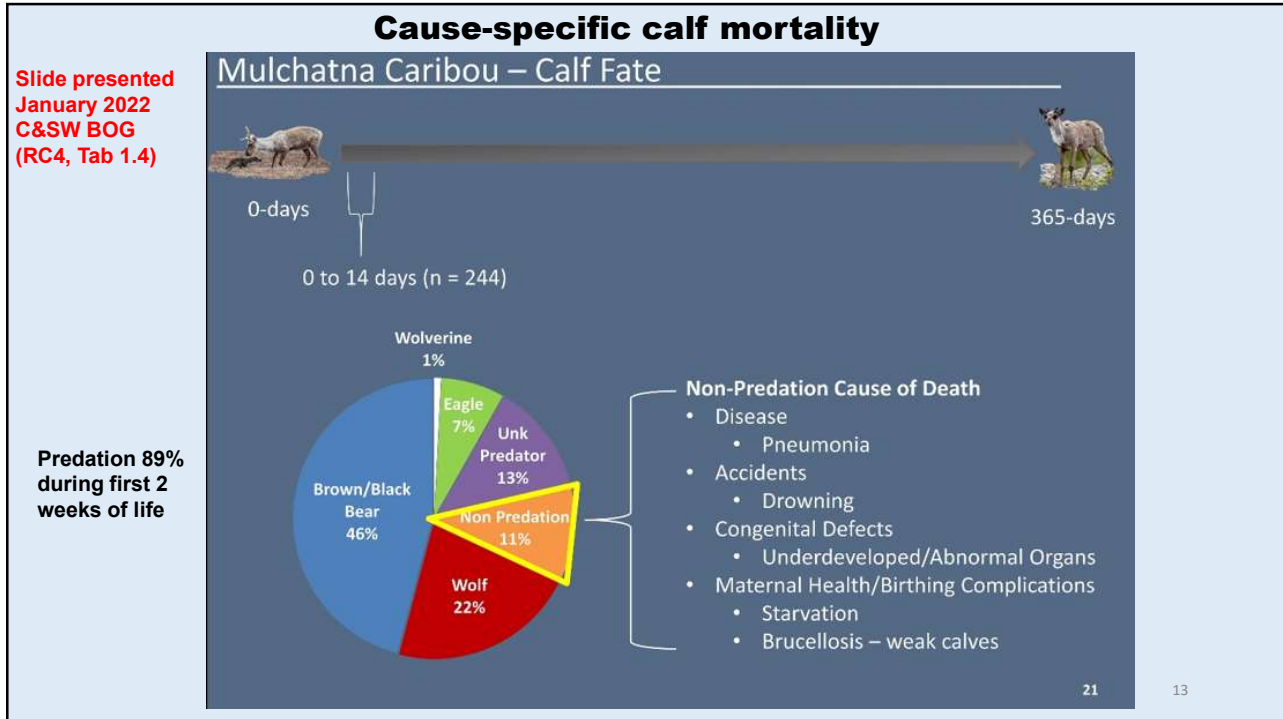
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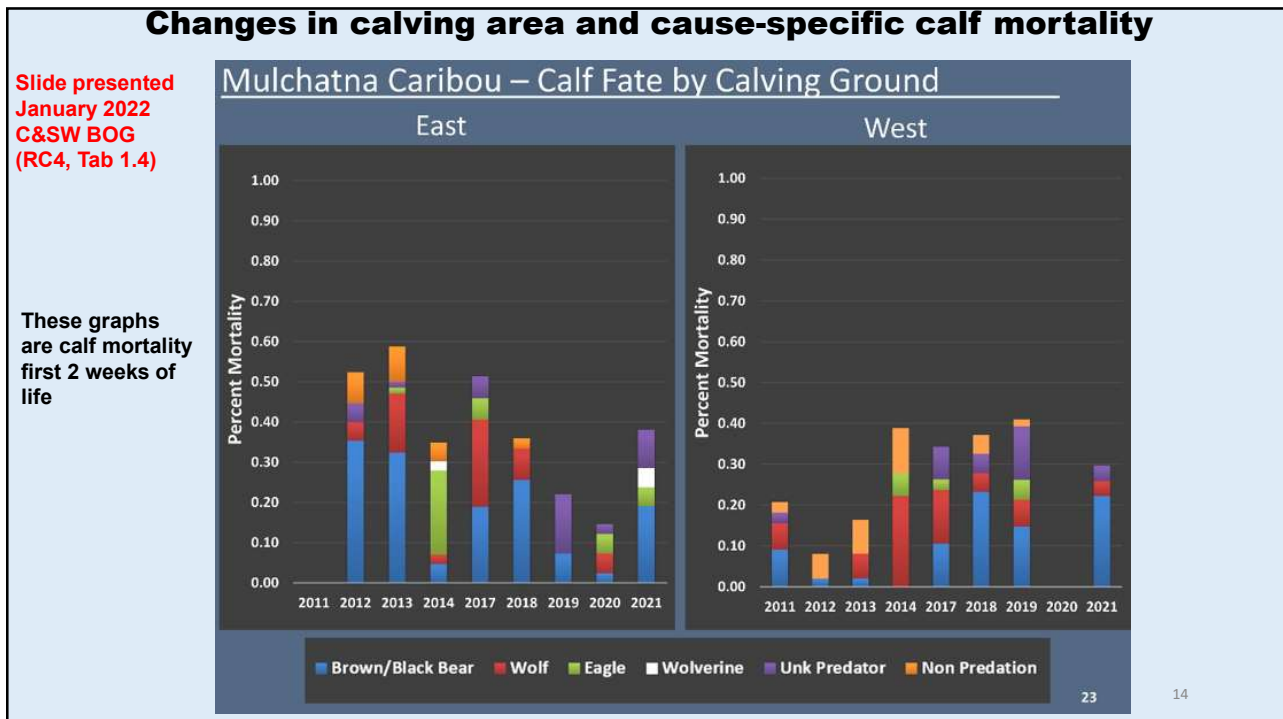


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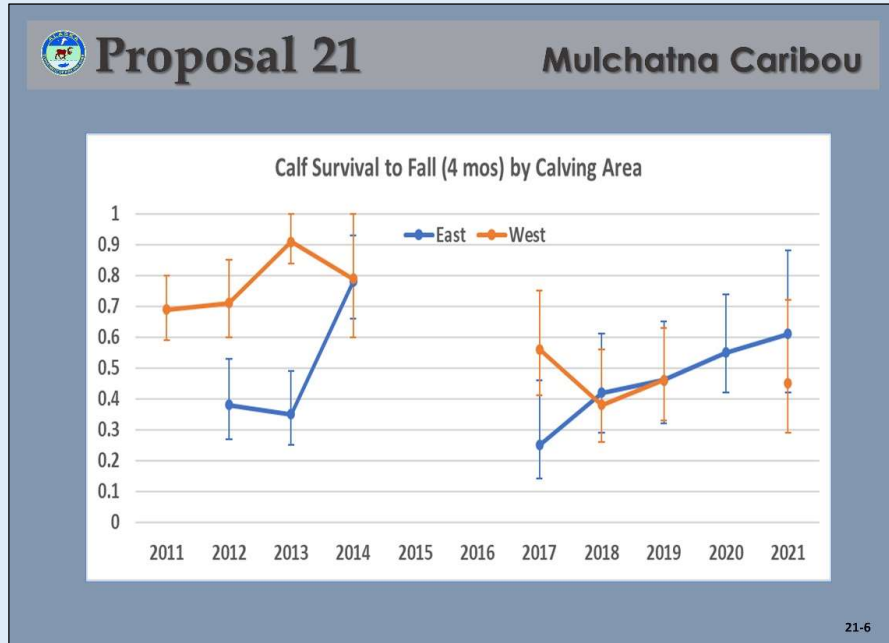


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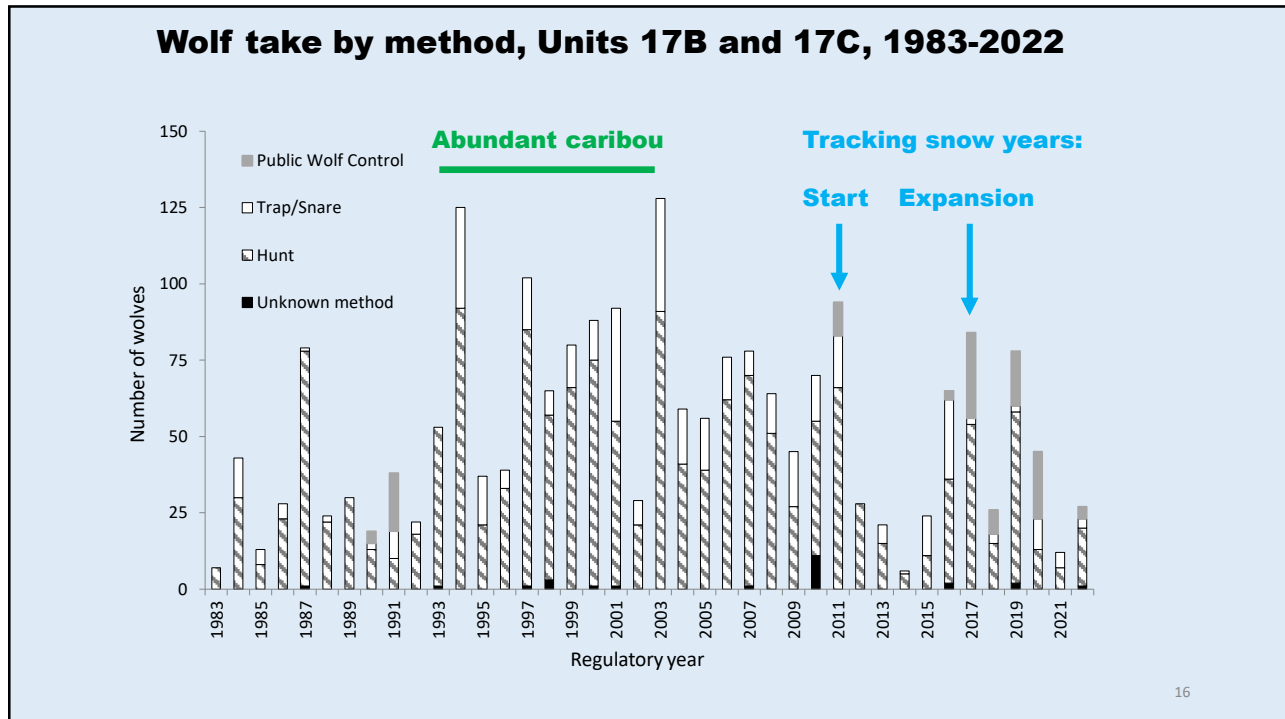


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Slide presented
January 2022
C&SW BOG
(RC4, Tab 3.2)



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How much were wolves reduced in Units 17B & 17C?

RY07 extrapolated fall density: 25–34 wolves/1000 mi²

- **Harvest 77 wolves: 20-29 wolves/1000 mi² in spring 2008**
- **No data on natural overwinter mortality or net migration**

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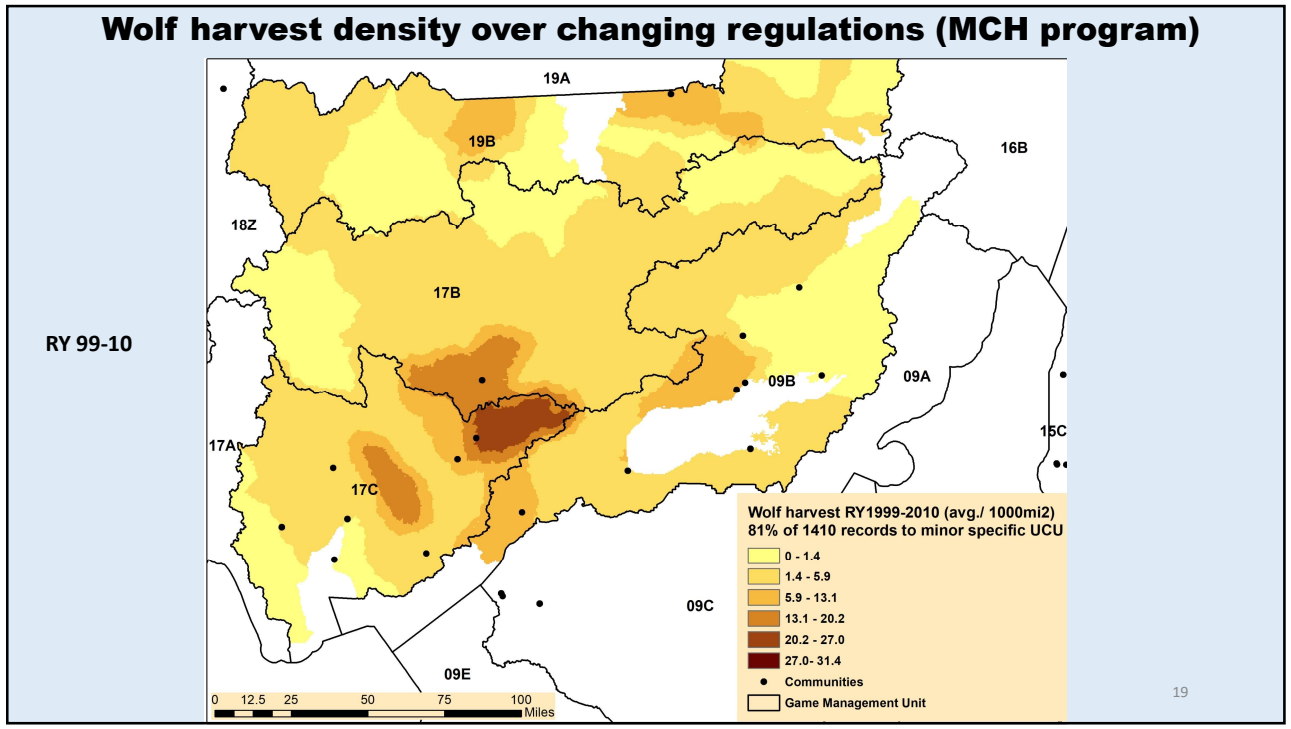
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Using the spring 2008 extrapolation of density (high?)

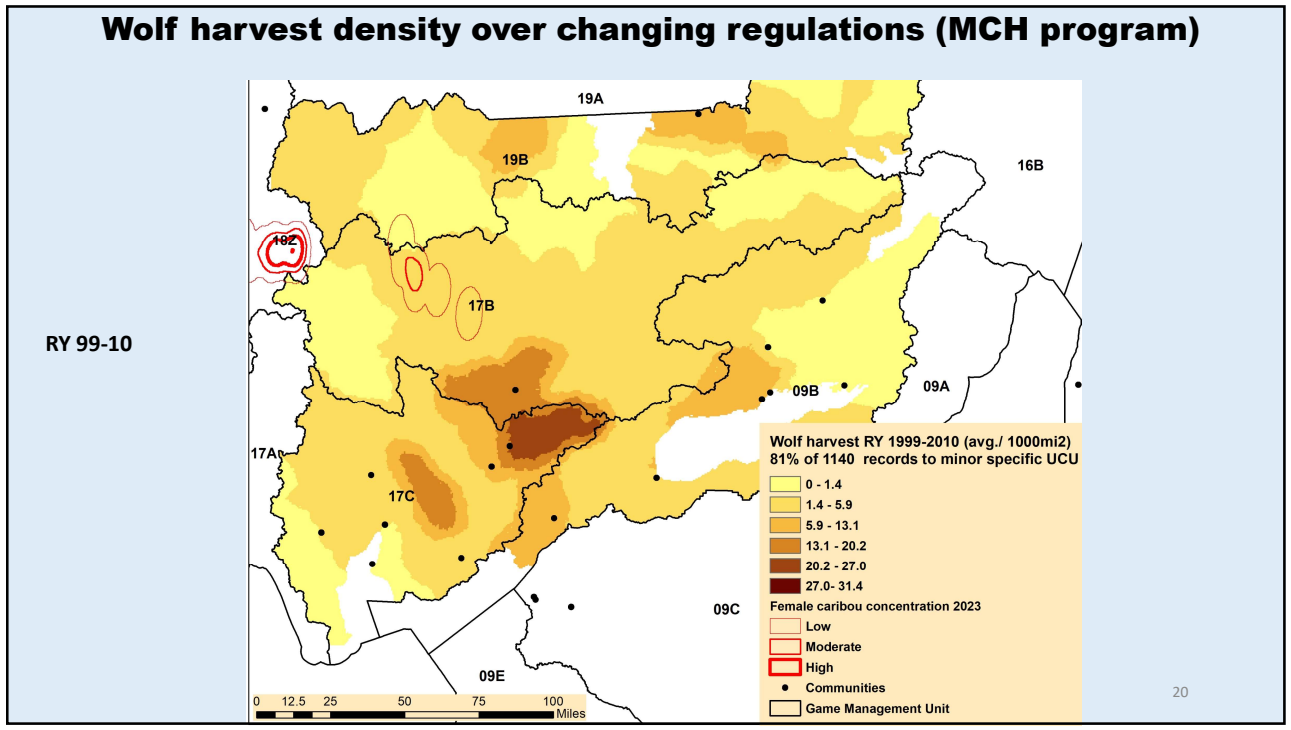
- **RY11 removed 94 wolves: 21-30% reduction (low?)**
- **RY17 removed 65 wolves: 14-20% reduction (low?)**

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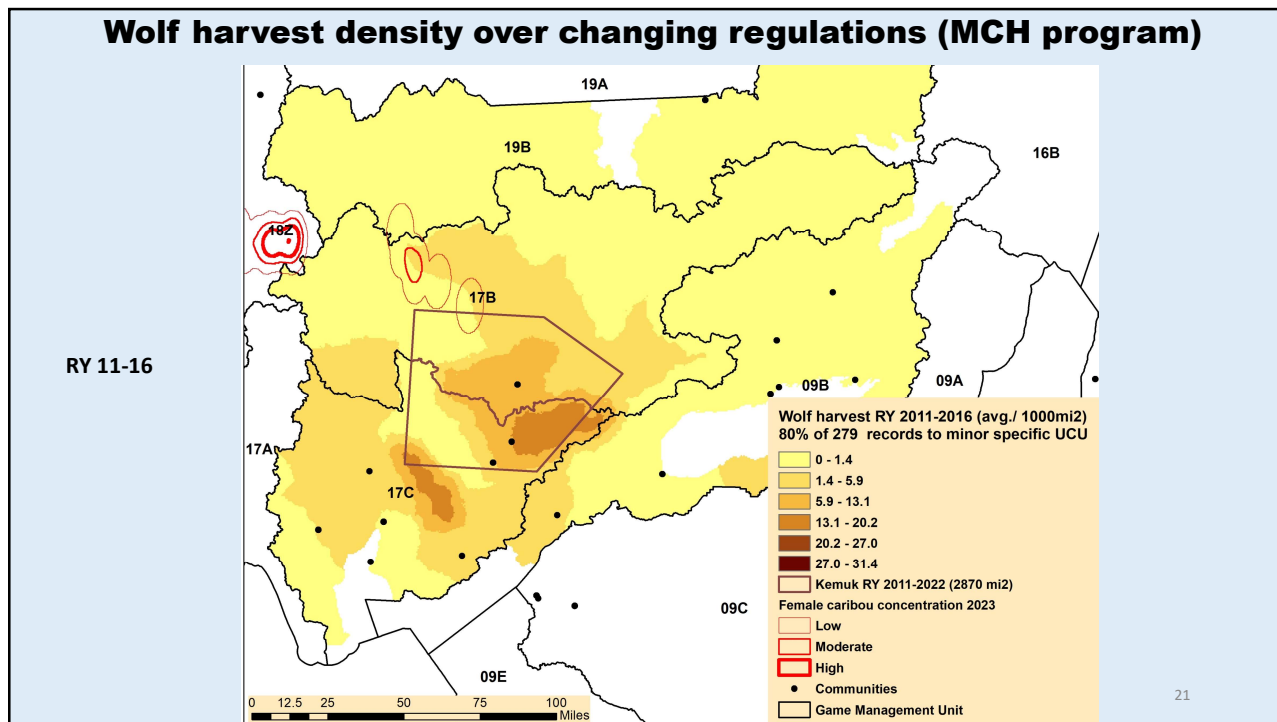
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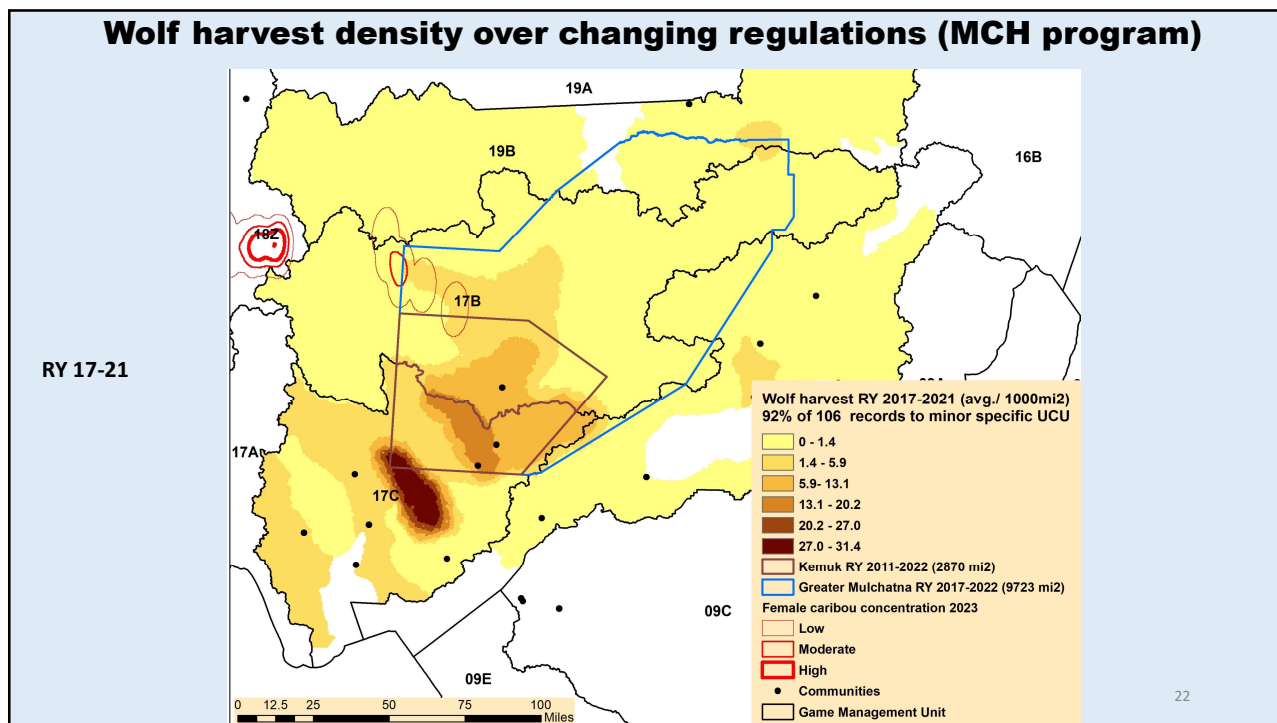
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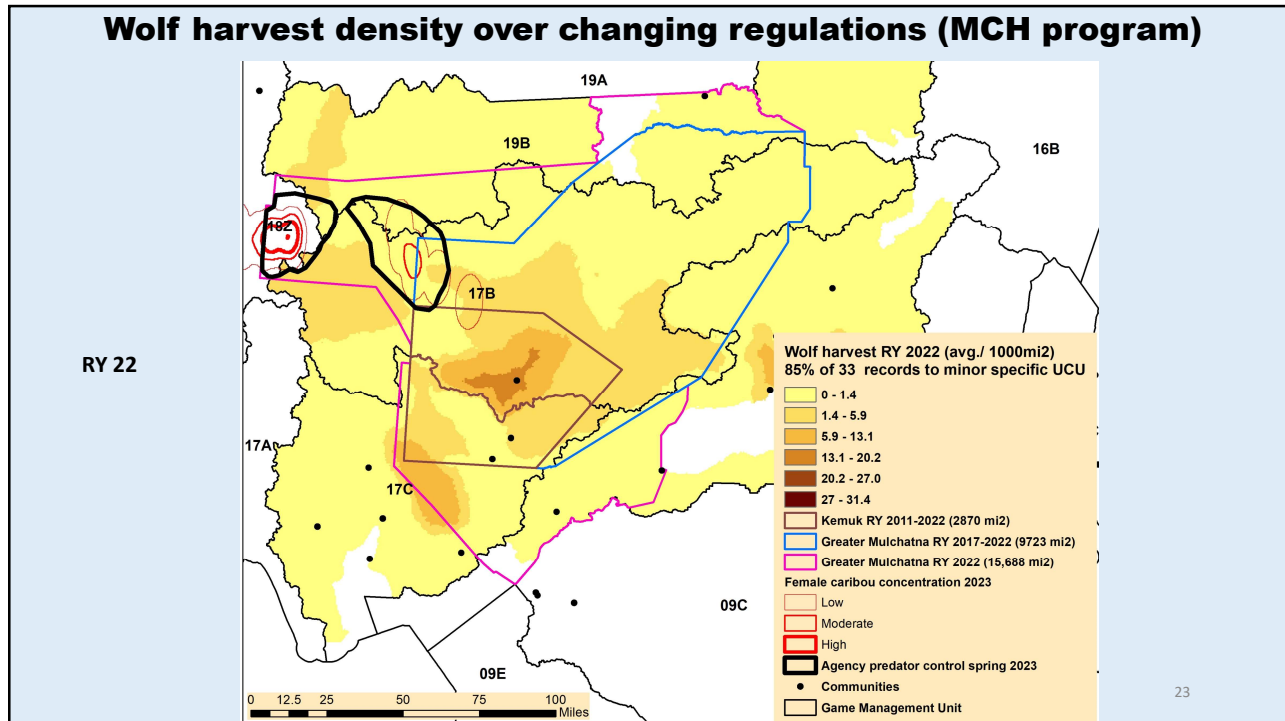
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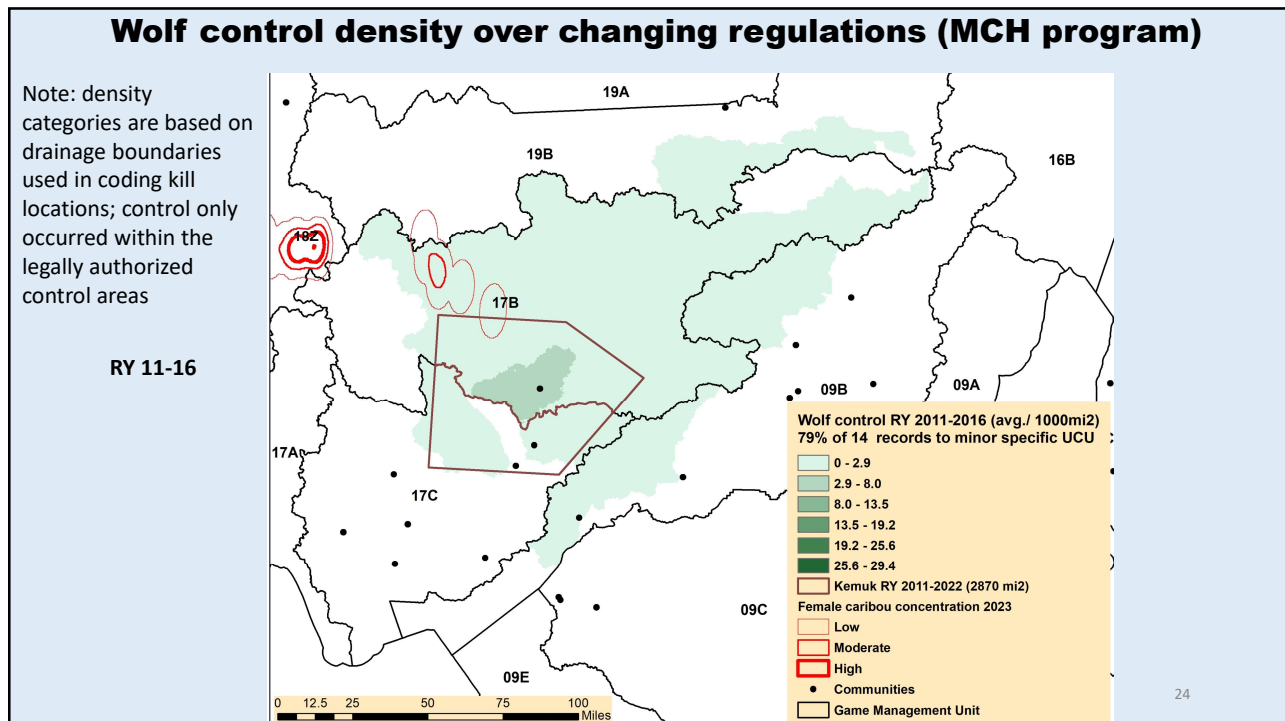
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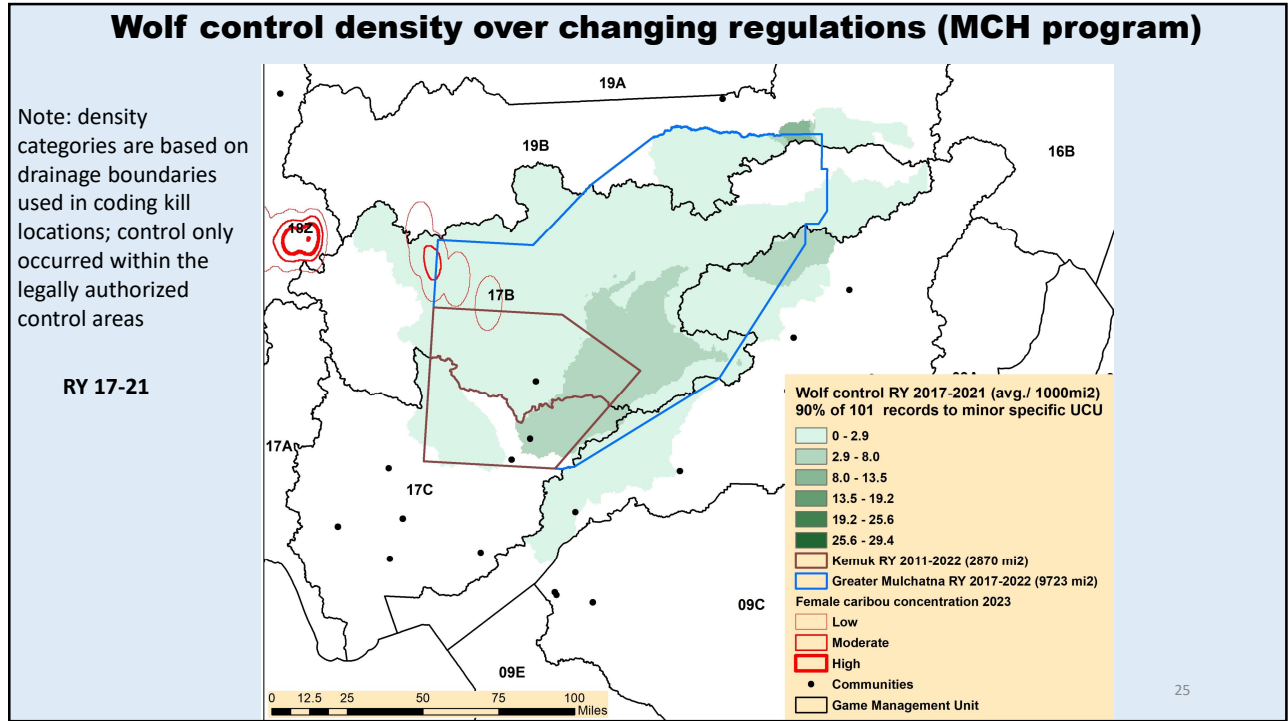
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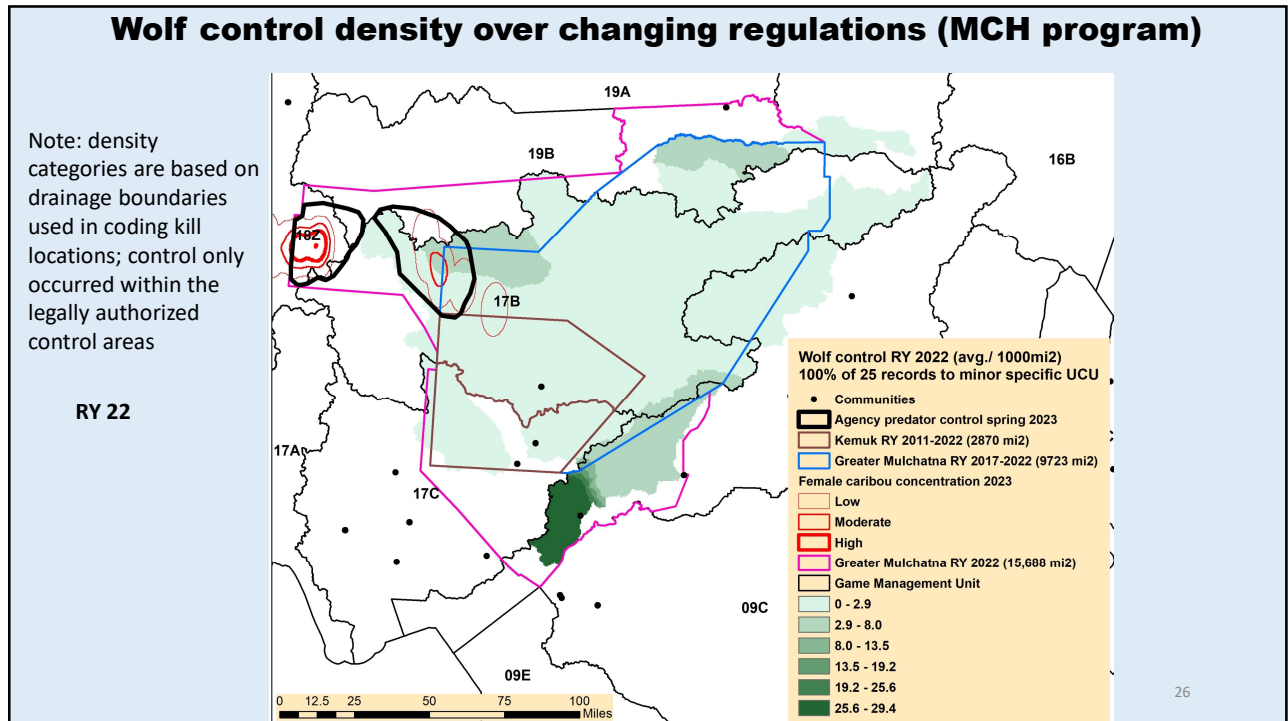
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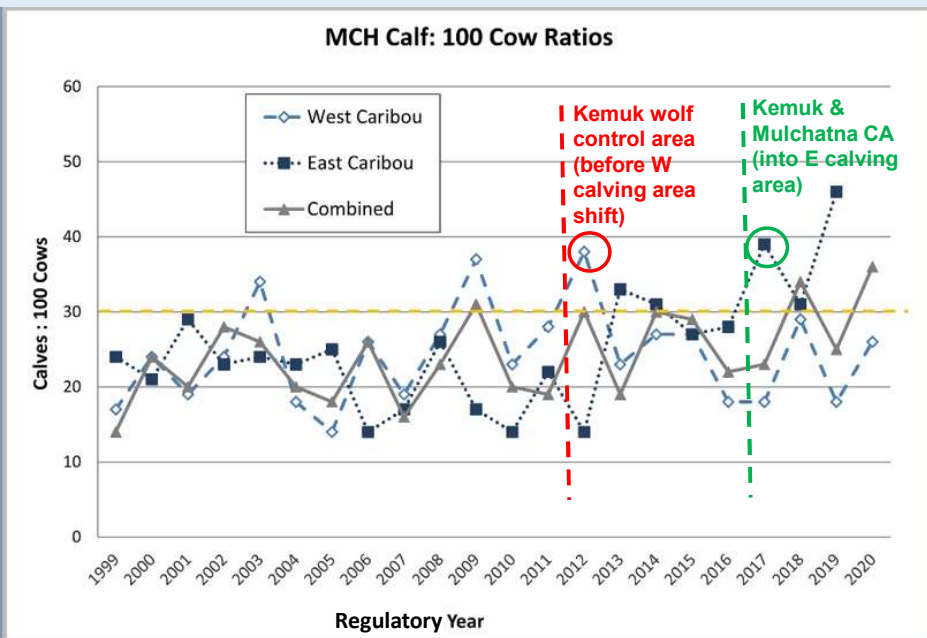
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Slide presented
January 2022
C&SW BOG
(RC4, Tab 1.4)

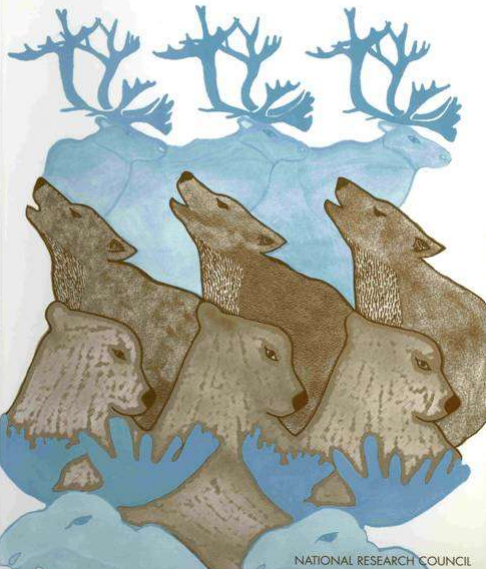
Little response in proxy measure of summer calf survival



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WOLVES, BEARS, AND THEIR PREY IN ALASKA

Biological and Social Challenges in Wildlife Management



1997, p. 184

Wolf control likely to increase moose or caribou numbers during and possibly after control:

- Wolf primary predator of all age classes (likely not MCH calves)
- Air-assisted control on at least 3900 mi² (only after 2017, uneven)
- Reduce wolves to ≤55% of pre-control numbers for at least 4 years (likely no)
- Weather favorable for ungulate survival (unknown)

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Summary of factors leading to 2023 agency predator control MCH

Multiple years of moderately high parturition rates, but fall 2020 body condition adult females moderately poor (new technique; reflects poor summer range); calf reproductive fitness unknown

Brucellosis since 2014, epidemic levels 2020, higher western group but parturition still moderately high on 3-year-old females

Adult female survival was moderately high but lower in 2016 & 2017 (brucellosis?), just prior to decline in herd size from ~27,000 in 2016 to ~13,000 by 2019

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Summary of factors leading to 2023 agency predator control MCH

Calving area shifts ~2014, bear predation more than wolf on western calves, west group minimum counts began declining in 2014 (stable low since 2019)

State and federal managers closed harvest from MCH starting fall 2021 (illegal take of adult females?)

Wolf harvest & public wolf control was irregular, of low degree, mostly not in calving areas, and with minor responses in fall calf : cow ratio (public wolf control ineffective)

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How many brown bears in 2023 predator control area?

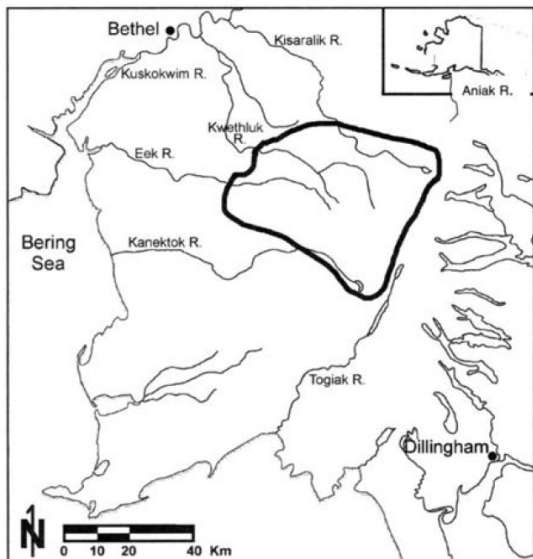


Fig. 1. Brown bear study area in the southwestern Kuskokwim Mountains, Alaska, 1993-97.

Van Daele et al. (2001)

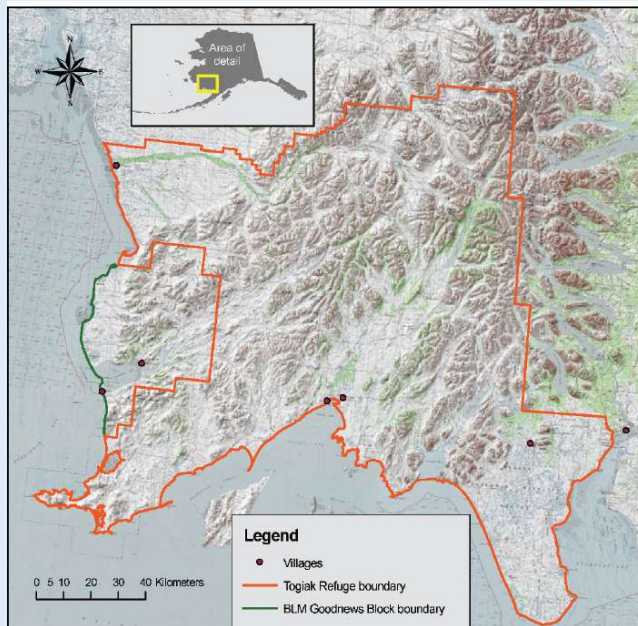
1113 mi² survey area Unit 18 (1993)

Min: 47 adult brown bears/1,000 mi²

p. 148: “we suspect actual density was nearly twice that size” (~94 adults/1000 mi²)

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Walsh et al. (2010)

8272 mi² survey area, Units 17A and 18 (2003-04)

70 independent brown bears / 1,000 mi² (95% CI = 55-88)

103 brown bears / 1,000 mi² (95% CI = 80-140, all ages)

32

32

How many brown bears in 2023 control area?

February 2023 IM Operational Plan:

47 (minimum adults) to 103 brown bears (all ages) /1000 mi²

103 bears/1000 mi² may be conservative: record sockeye salmon returns 2015-2020 as a primary food source

Proposed 1150 mi² Bear Predation Control Area in MCH western calving area: 54-118 brown bears

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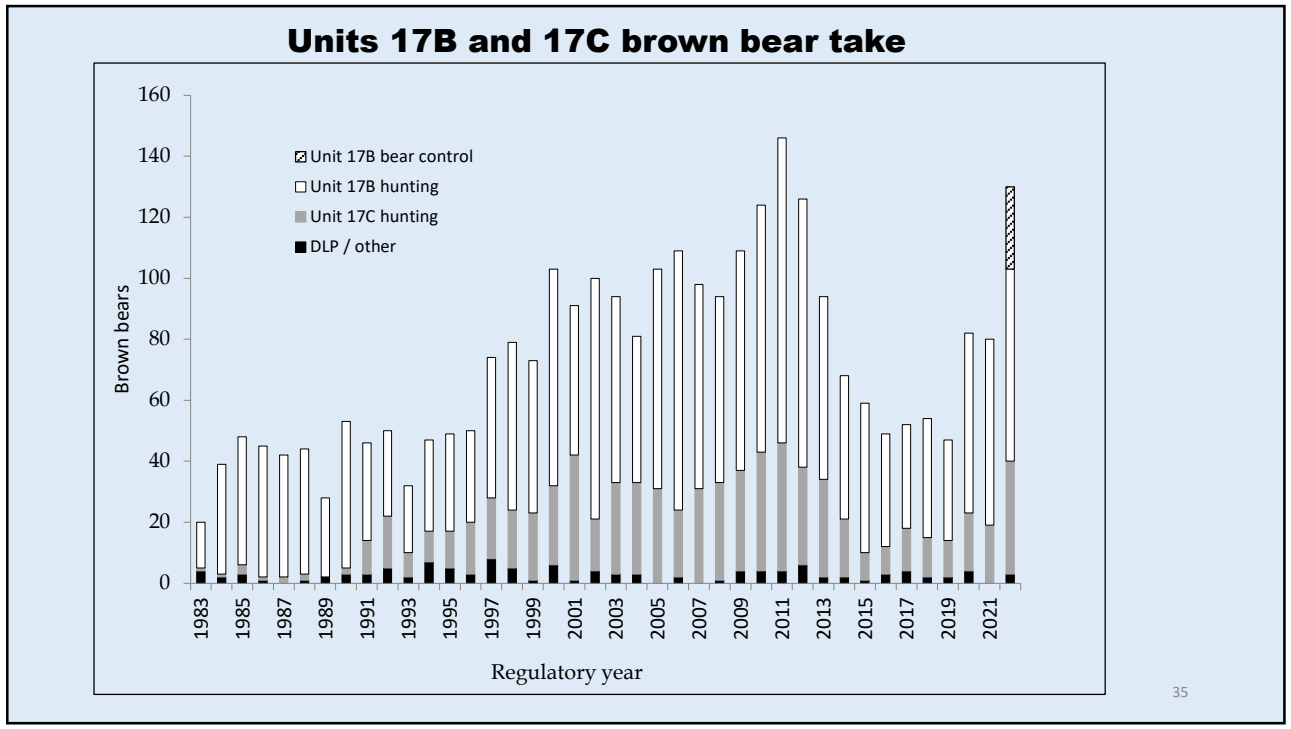
Proposed 1150 mi² Bear Predation Control Area in MCH western calving area: 54-118 brown bears

Bear control objective (p. 18, IM Ops. Plan): “remove all bears within the Bear Predation Control Area”

Focusing removal in the control area will ensure brown bears remain in the larger region where reported harvest is relatively low

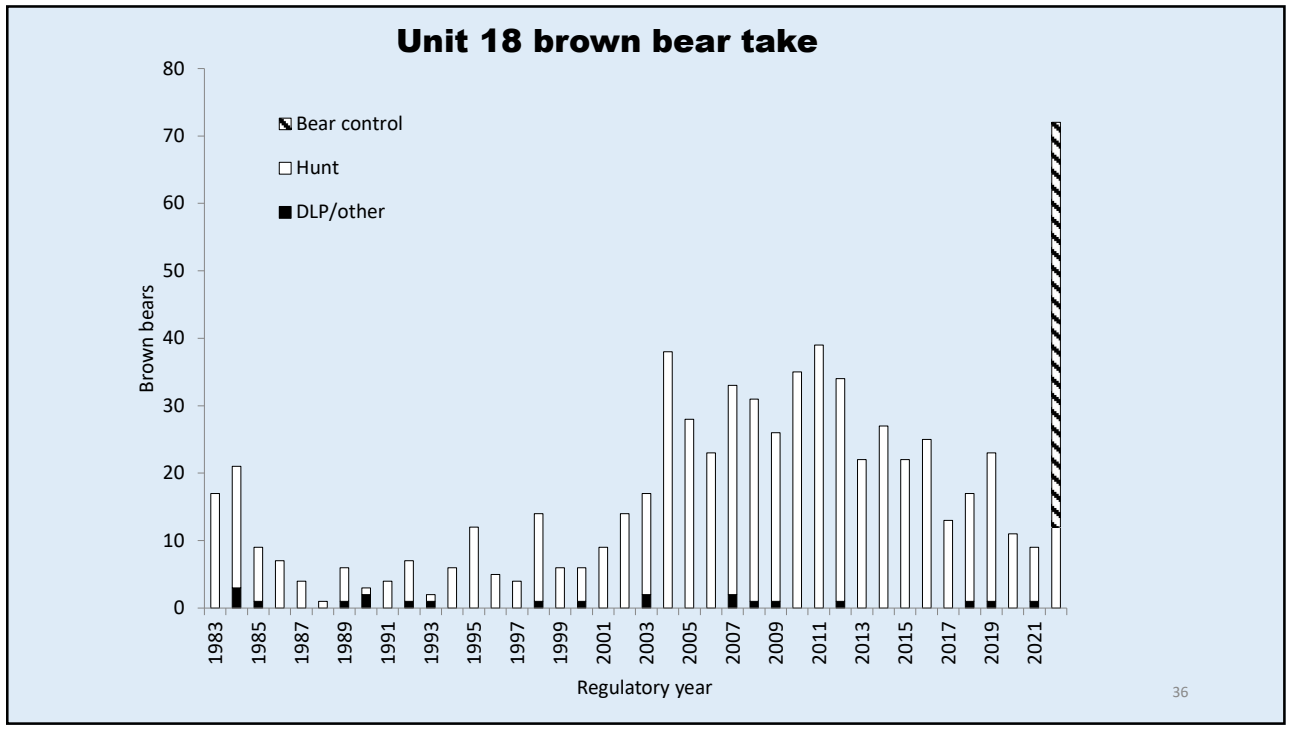
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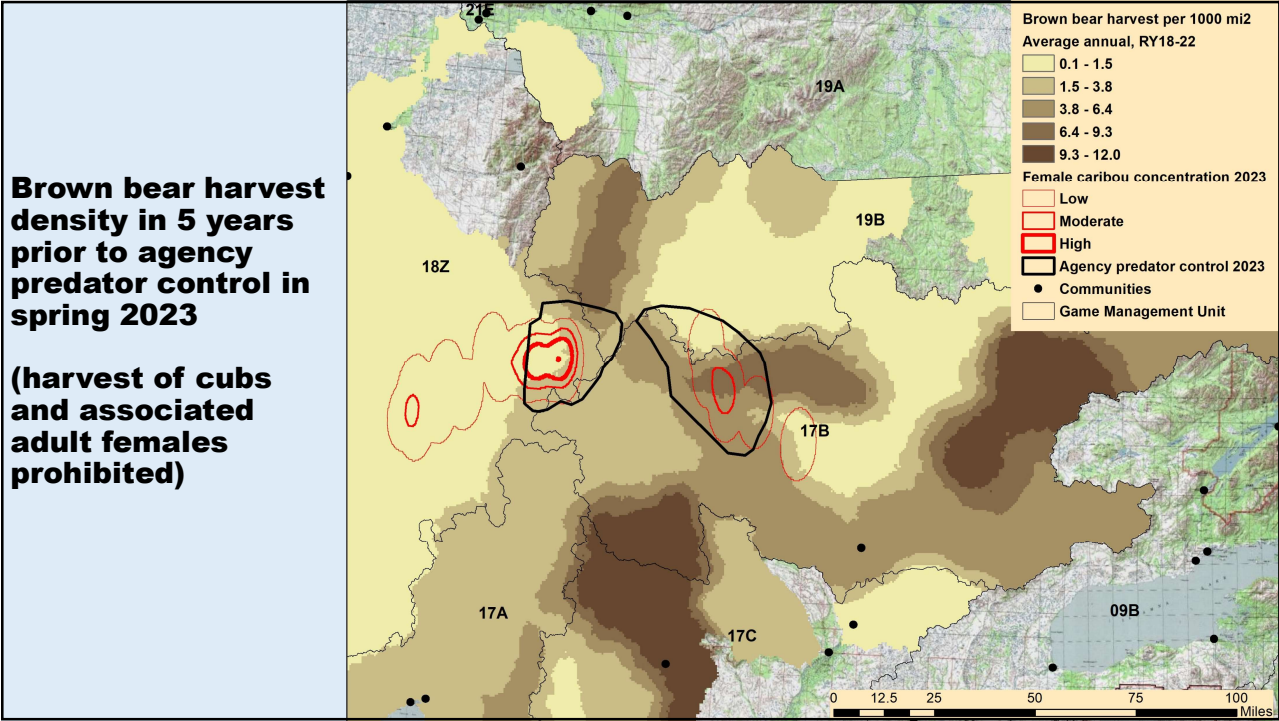
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Effectiveness of other brown bear reductions on moose:

60% min. brown bear reduction (nonlethal, 1 year) on 1352 mi² had positive effects on moose calf survival that year in Unit 13E

Subsequent 36% reduction in brown bears (harvest, 7 years) did not produce an increase 13E moose abundance (compensatory mortality?)

12-24% reduction of brown bears in Unit 16B (lethal, public ground-based, 3 years) did not improve moose calf survival

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2023 bear reduction was consistent with an improved summer survival of western MCH caribou calves (higher fall 2023 calf : cow ratio)

Continue to monitor calf:cow ratio, calf survival to 1 year, cause specific mortality, abundance, other factors to gauge potential for herd growth

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