

# Cabinet-Yaak / Selkirk Mountains 2016 Grizzly Bear Monitoring

Wayne Kasworm, Tom Radandt,  
Justin Teisberg USFWS  
Michael Proctor, Birchdale Ecological

- Cabinet Mountains Augmentation
- 2016 capture efforts
- 2016 Monitoring of collared bears
- 2016 Hair snag collection and remote cameras
- Recovery Plan Goals
- Population numbers and growth rates





# Cabinet Mountains Grizzly Bear Augmentation

- Released 2 year-old male 25 July 2016
- Monitoring one of 2 females released 2014
- 19 bears released since 1990 (13F 6M)
- 6 bears known dead, 5 left target area, did not return
- 2 bears known to have reproduced

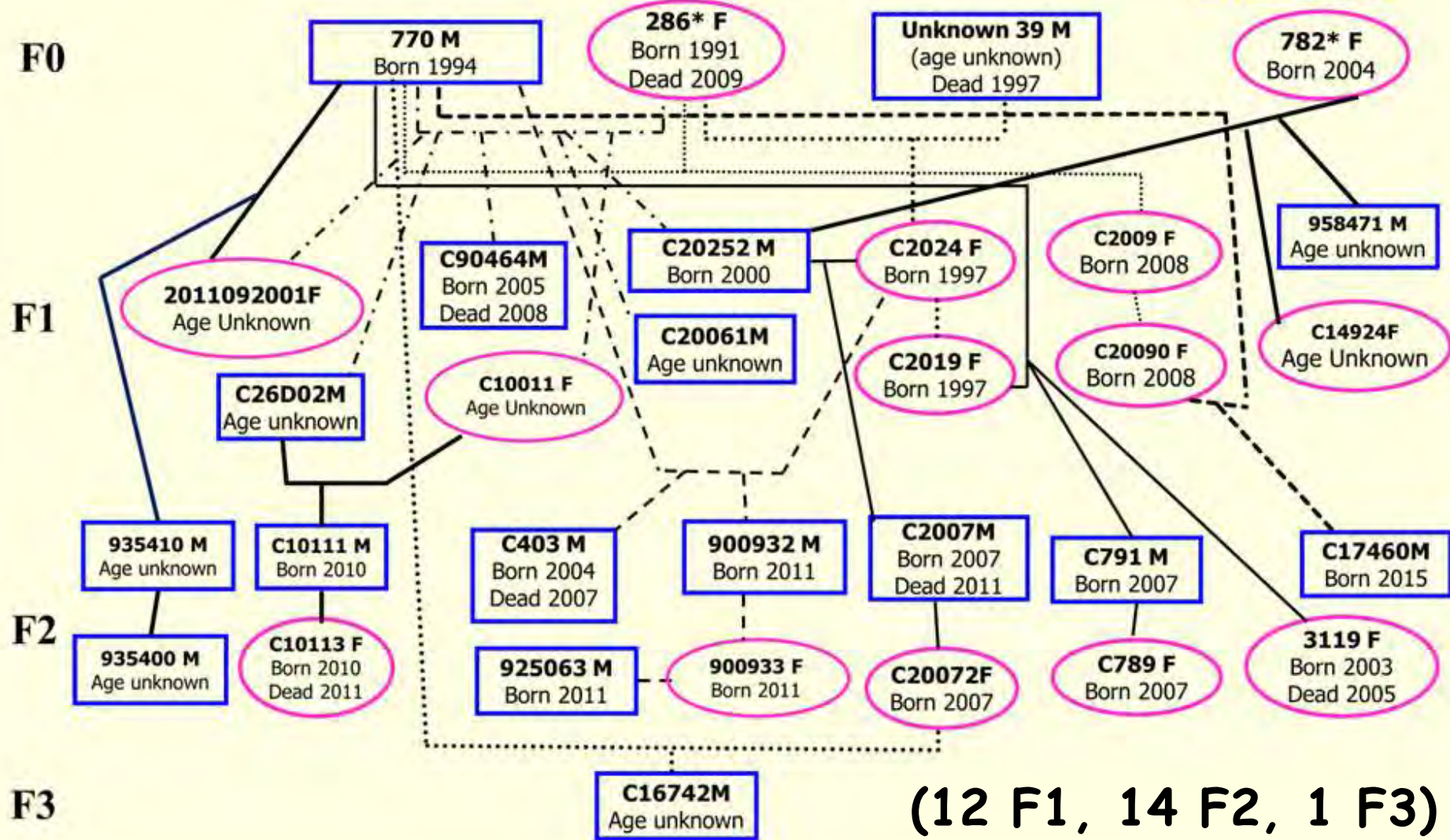




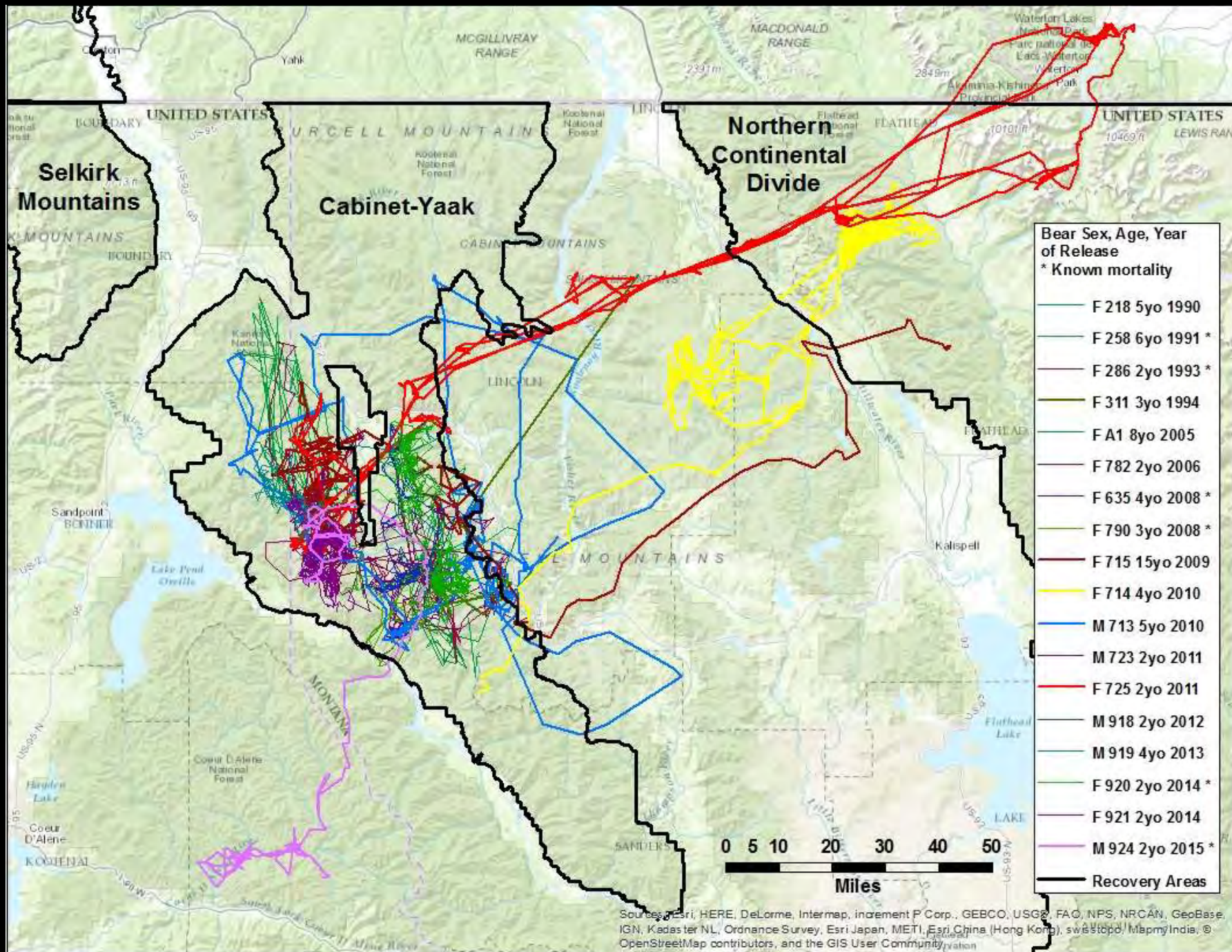
# Augmentation Grizzly Bear DNA Family Tree for the Cabinet Mountains

DNA relationships for grizzly bears in the Cabinet Mountains from 1990 through 2014  
 (\* Bear 286 was the augmentation bear placed in the Cabinet Mountains in 1993 and Bear 782 was released in 2006)

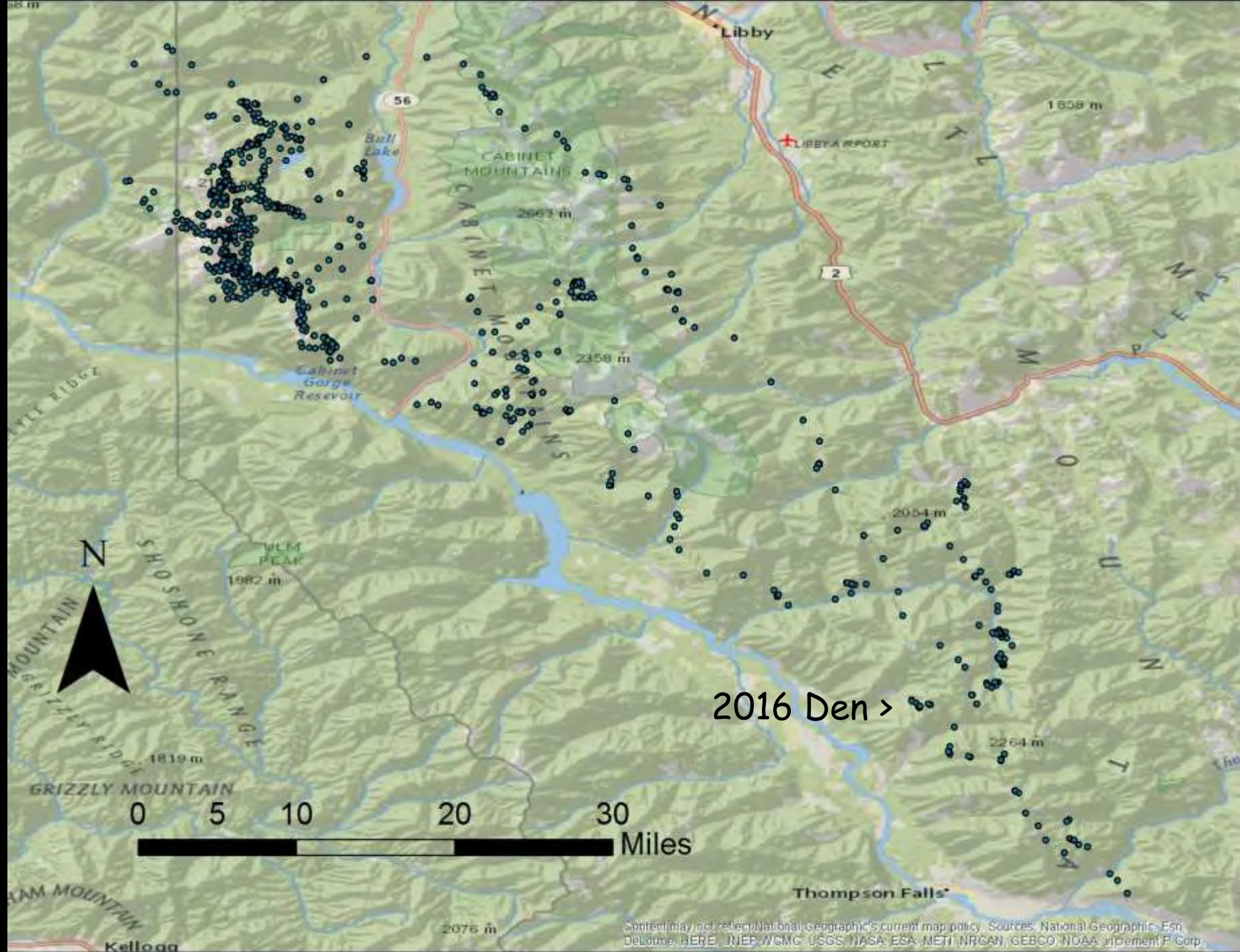
Pink Circles = Females  
 Blue Boxes = Males













# 2016 Captures (14)

- US Selkirk Mtns: adult male and adult female, Creston Valley, BC: adult male, 2 subadult males, 3 adult females
- Yaak River: adult male, 3 subadult males, 2 subadult females





### Legend

- GB 9611 SAM
- GB 837 ADM
- GB 836 SAF
- GB 835 ADM
- GB 822 SAF
- GB 820 ADF
- GB 729 ADF
- GB 824 ADM
- GB 821 SAM
- GB 853 SAM
- GB 303 ADF
- GB 807 SAM
- GB 1002 SAM
- GB 4327 ADM
- GB 3017 SAF
- GB 248 SAM
- GB 234 SAM
- GB 226 ADF
- GB 2016 ADF
- GB 150 ADF
- GB 1020 ADF
- GB 1003 ADF
- GB 839 SAM
- GB 820 SAF
- GB 926 SAM

2016 Monitoring  
Cabinets - 3  
Yaak - 11  
BC Selkirks - 5  
US Selkirks - 6

0 5 10 20 30 40 50  
Miles



# Hair Sample Collection

- Corrals 2-3 weeks
- Rub trees monthly May - October





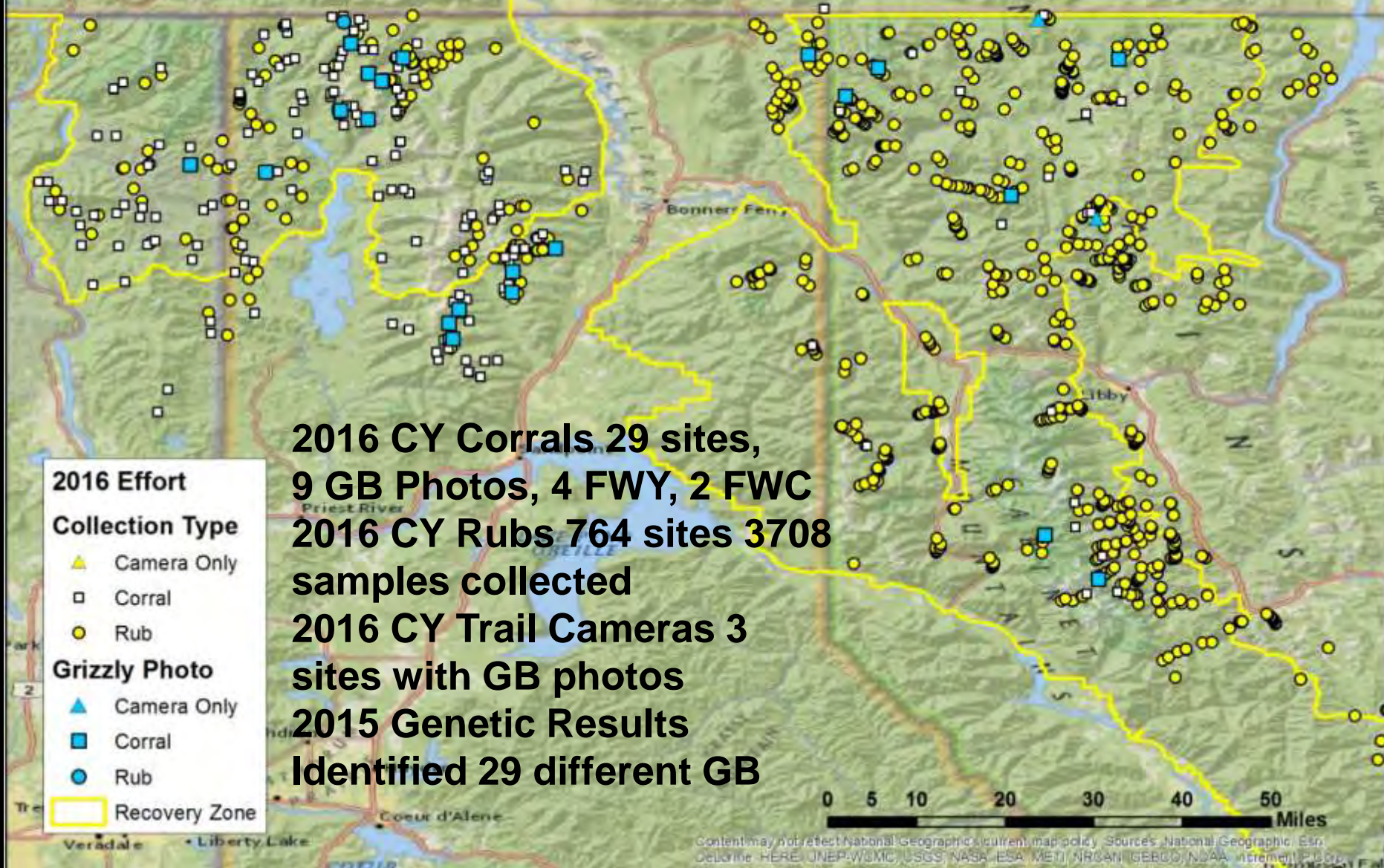
# Hair Snag Genetics Results

- Samples go to Wildlife Genetics International in December with results the following summer
- Hair samples from captures, rub trees and corrals with cameras
- We get species, sex, individual genotype, and parentage





**2016 Selkirk Corrals 160 sites, 16 GB photos, 5 FWY, 3 FWC**  
**2016 Selkirk Rubs 154 sites, 432 samples collected**  
**2016 Selkirk Trail Cameras 3 sites with GB photos, 1 FWC**  
**2015 Genetics Results Identified 20 different GB**





# GRIZZLY BEAR RECOVERY PLAN



NCE Subunits =

## Cabinet-Yaak and Selkirk Recovery Criteria

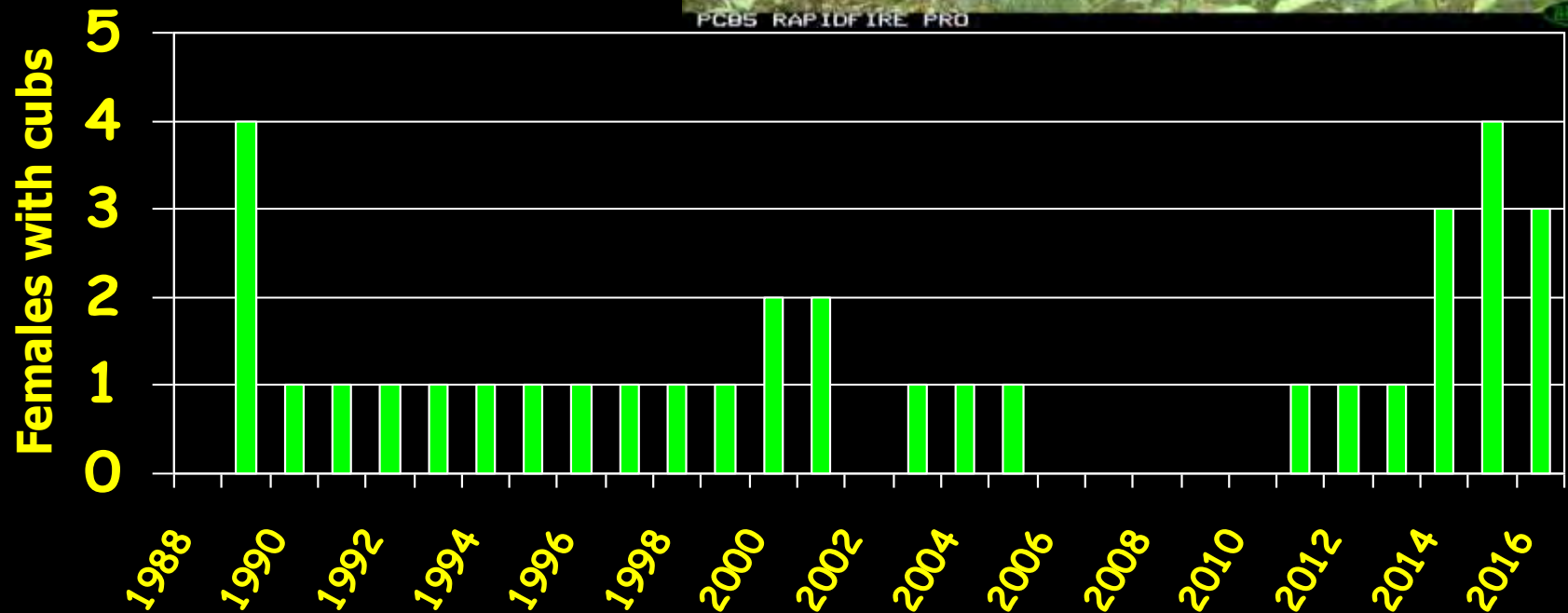
Population of about 90 -100 bears, judged by the Number and Distribution of Females with young. Human-caused Mortality limits. Populations need to be linked to other populations.





Selkirk Recovery Goal -  
Average 6 Females with Cubs  
(FWC) of the Year over last 6  
years

2011-16 = 2.16 FWC / YEAR



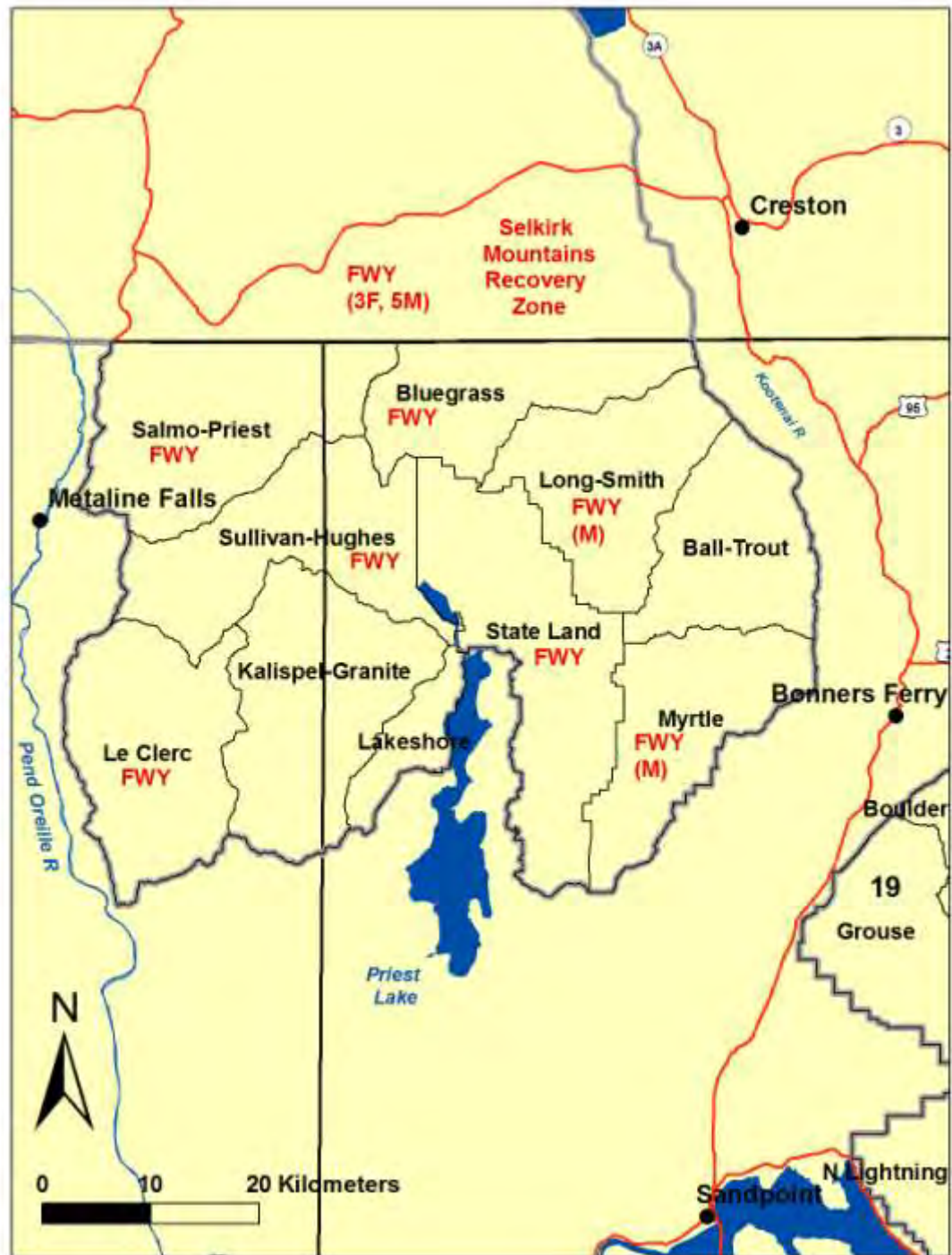


# Female with young (FWY) BMU occupancy and Human-caused Mortality (F,M), 2011-2016

7 of 10 US BMUs  
occupied (Target 7 of 10)

10 Human-caused  
Mortalities (3F, 7M)  
3 MGMT, 1 Mis-ID, 1  
Car, 1 Train, 1 Defense,  
3 Unk Human

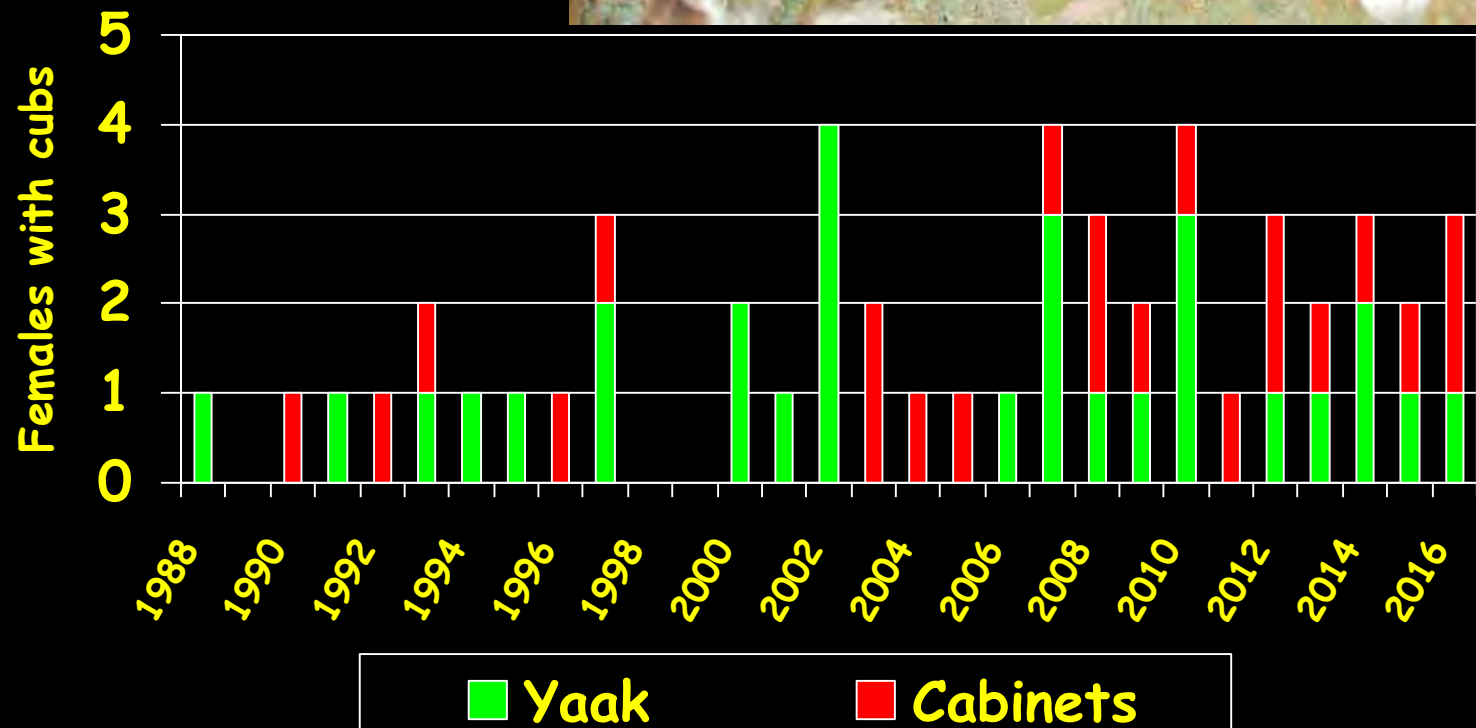
Average 1.67 / year  
Target < 2.0 and < 30%  
Females





Cabinet-Yaak Recovery Goal  
- Average 6 Females with  
cubs of the year over last 6  
years

2011-16 = 2.33 FWC / YEAR



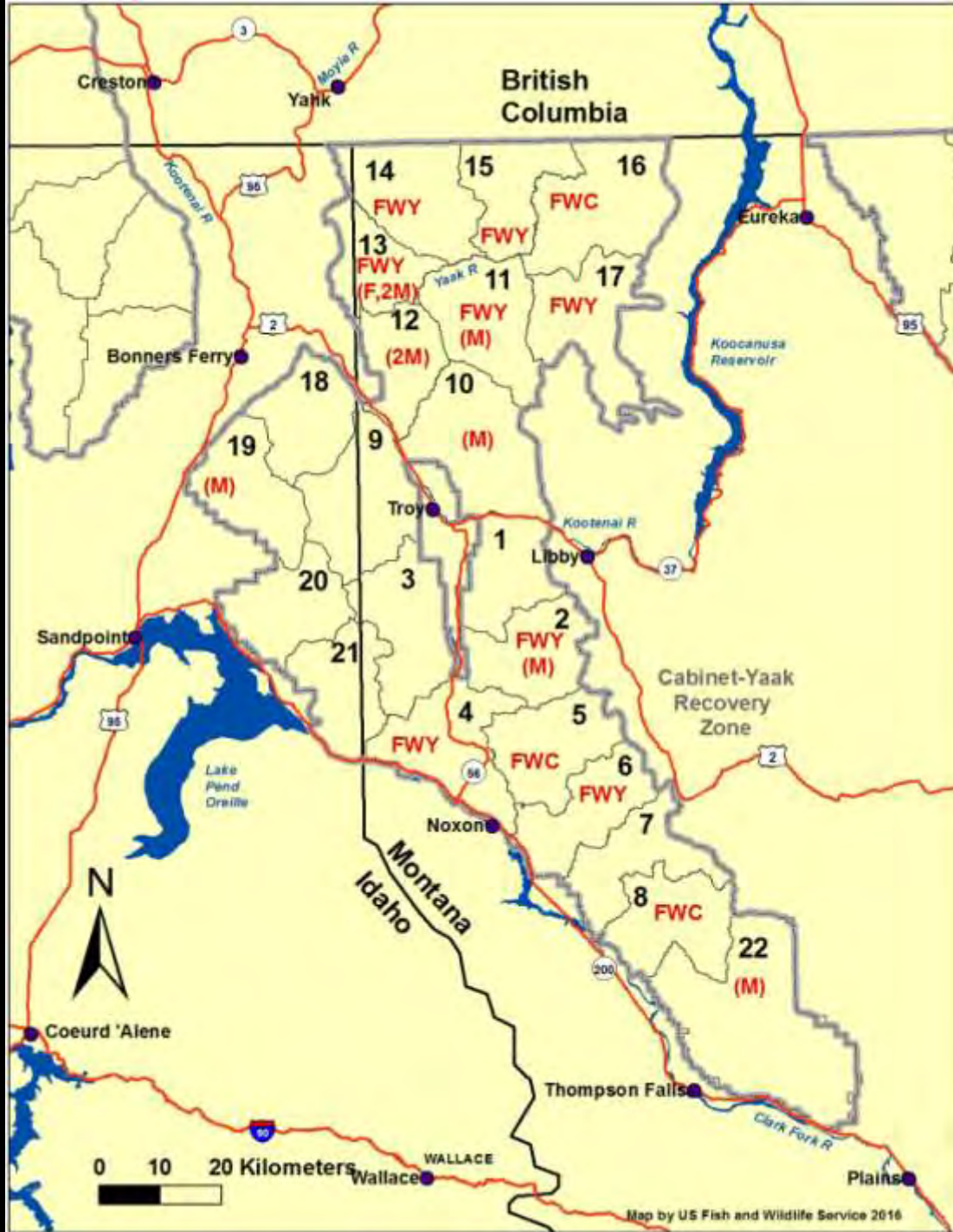


# Female with young (FWY) BMU occupancy and Human-caused Mortality (F,M), 2011-2016

11 of 22 BMUs occupied  
(Target 18 of 22)

10 Human-caused  
Mortalities (1F, 9M)  
2 Mis-ID, 3 Self  
Defense, 4 Unk Human,  
1 Poach

Average 1.67 / year  
Target < 1.8 and < 30%  
Females





# Radio collared bears are the basis for determining population trend

- Survival information based on time wearing collar alive
- Mortality cause information
- Reproduction data
- Survival of young
- Calculations compare reproductive rates with survival/mortality rates to determine if population growing



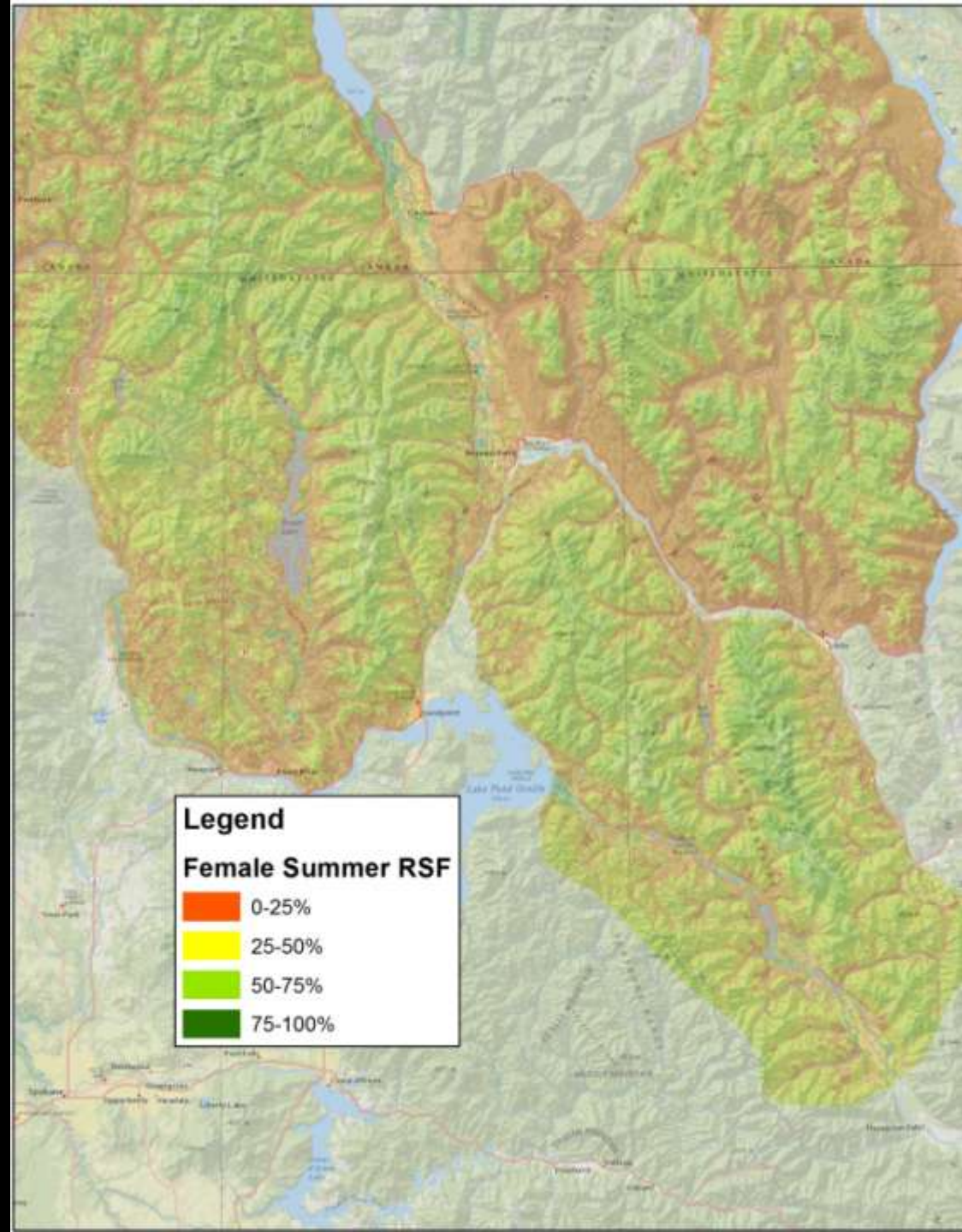


	Growth Rate	2012 Estimate	2016 Estimate
Cabinet-Yaak	1.6%	49	53+3=56
Selkirk Mtns	1.8%		70-80





# Testing Habitat Quality Mapping





# QUESTIONS?

Reports found at: <https://www.fws.gov/mountain-prairie/es/grizzlyBear.php>

We wish to extend a special thanks to the citizens of the province of British Columbia for allowing us to remove grizzly bears from the Flathead River drainage to augment populations in the Cabinet Mountains.



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• M. Burcham