

Unit 2 Black Bear Study

**Life History, Habitat Use, Den Site
Selection, and Vulnerability Along
Streams and Roads**

Outline

- Information needs
- Description of POW study area
- Summary of study bears
- Male and female home ranges
- Den distribution and descriptions
- Project summary

Data needed to help manage POW black bears

- How many bears are there?
- Do we have a declining, stable, or increasing population of bears?
- How do bears use the landscape?
- What habitats are most important to bears?
- How does access along streams and roads by hunters impact bears and bear distribution?
- What role do bears play in deer populations?
- Do all bears catch fawns or are some bears fawn specialists?

POW Black Bear Study Area



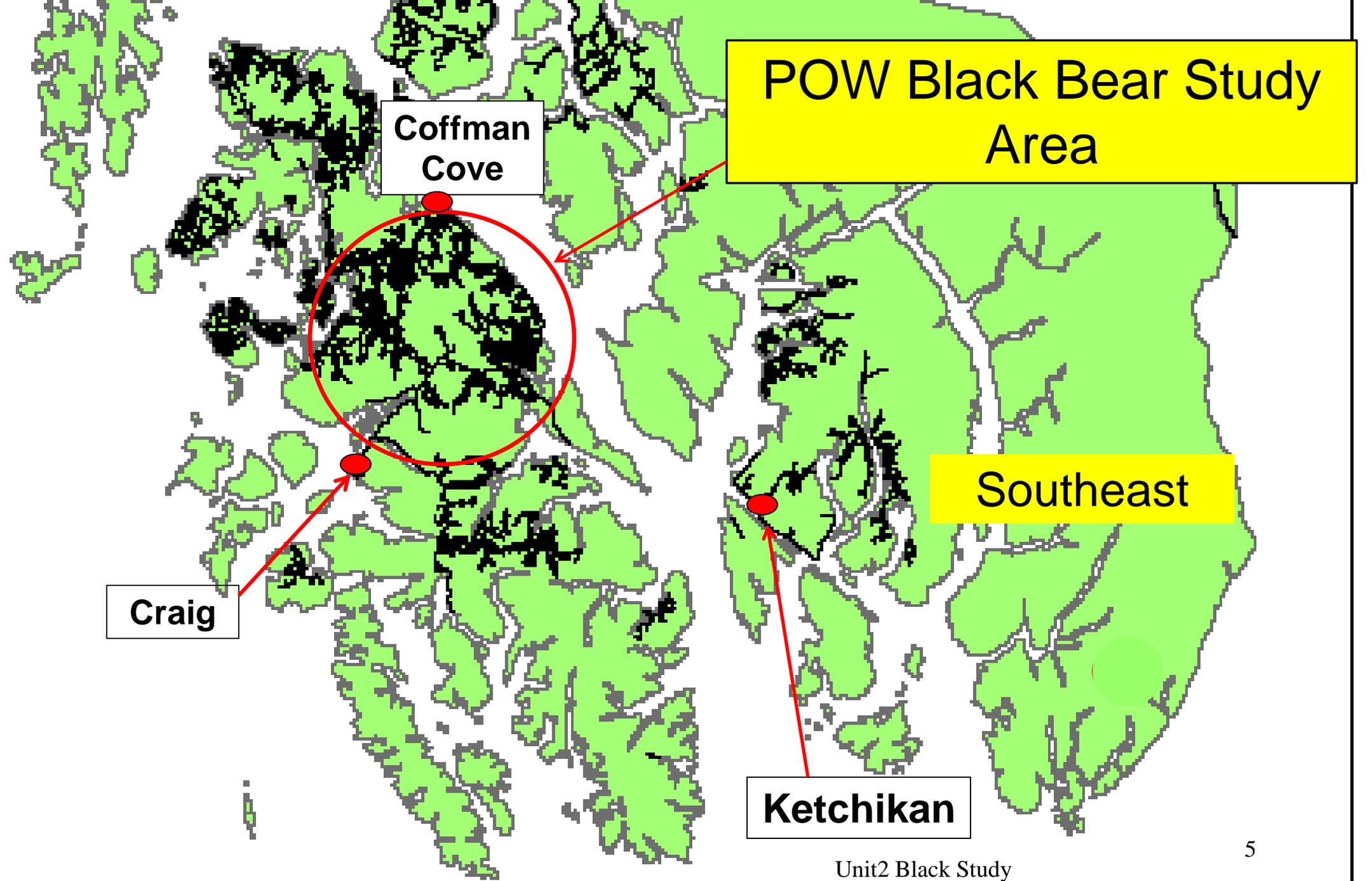
POW Black Bear Study Area

Coffman Cove

Southeast

Craig

Ketchikan



Selection of Study Area on POW

- High bear and deer harvest
- High road density and high hunter use
- Most pavement on island-wildlife viewing
- Intensive timber harvest
- Close to many communities and lodges
- Wolf research and adult deer and fawn mortality study in same area

Summary of Study Animals 2011-2012

- Deployed 59 collars thus far
- 45 GPS and 14 VHF
- 33 collars currently active
- 6 hunter killed (all male)
- 2 illegal kill (wounding loss?)
- 2 capture mortalities

Additional Data Collected

- Located 56 den sites and described 32 of them
- Collected blood, hair, and tissue for stable isotope diet analysis
- Mark-recapture harvest rate estimate 2007-2009
= 9.2% (CI 0.03- 0.18)
- Combined 12 years of reproductive history from cementum aging of harvested bears, to look at age of first reproduction (5-6 yrs.)







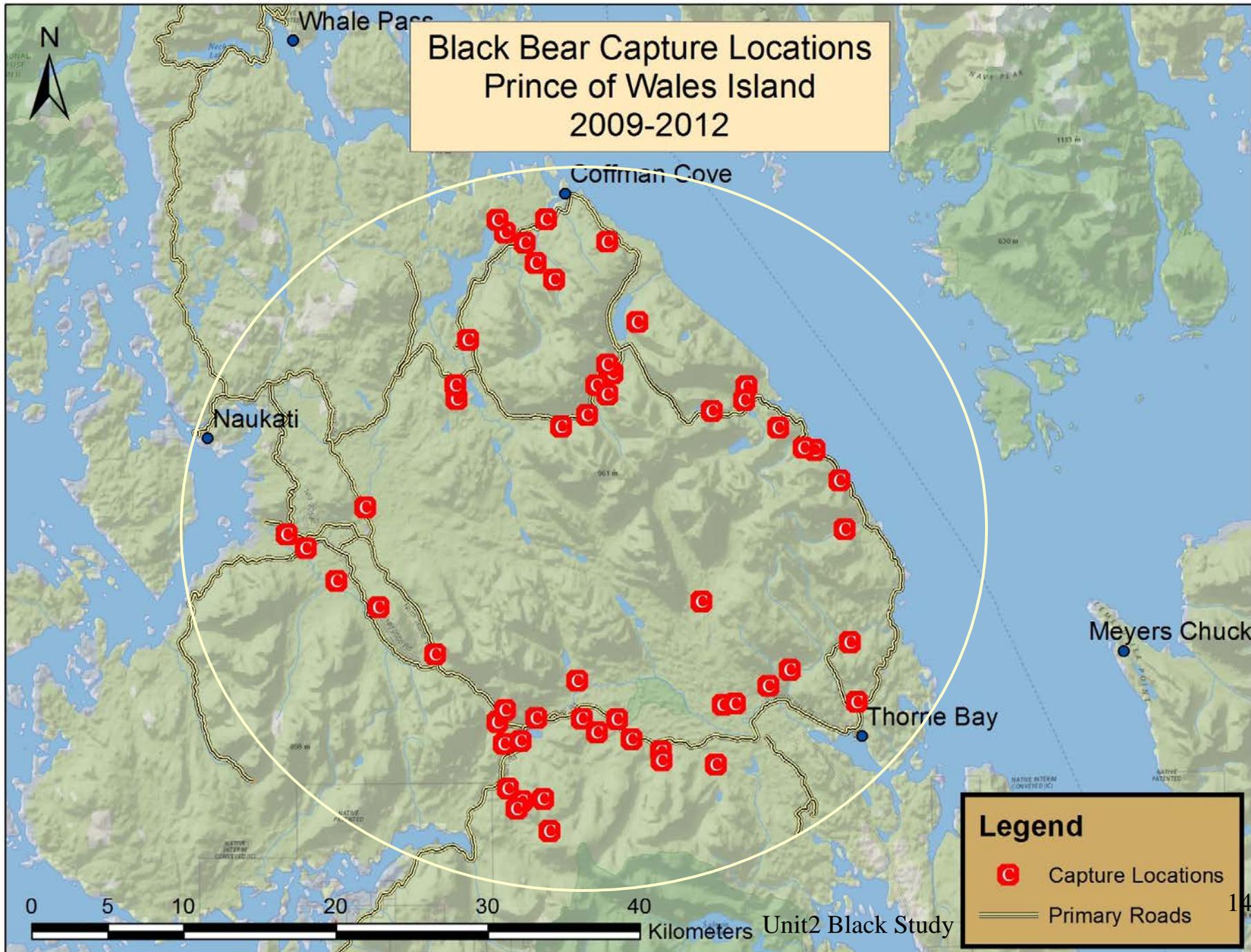


Global Positioning System GPS Bear Collars





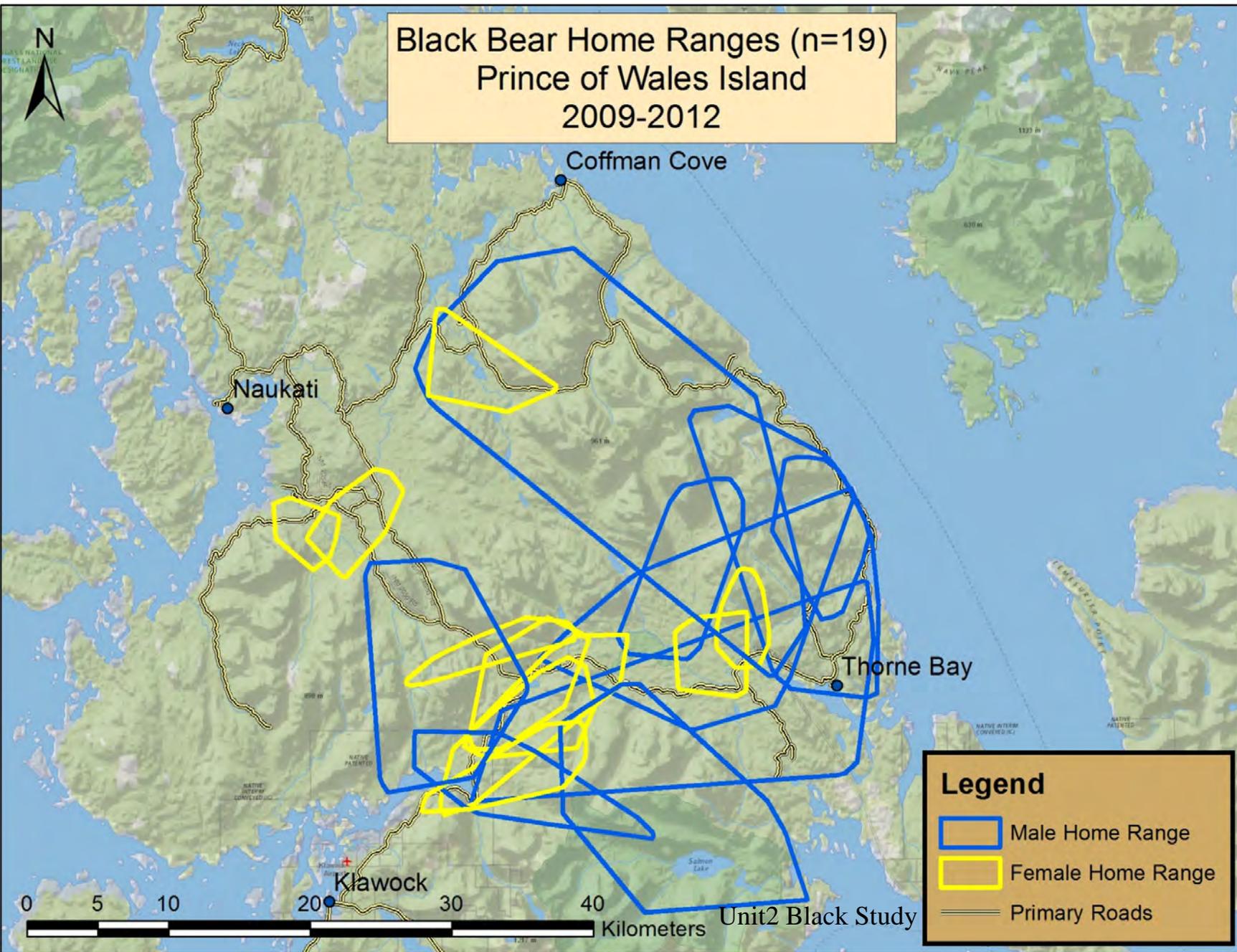
Black Bear Capture Locations Prince of Wales Island 2009-2012



Legend

-  Capture Locations
-  Primary Roads

Black Bear Home Ranges (n=19)
Prince of Wales Island
2009-2012

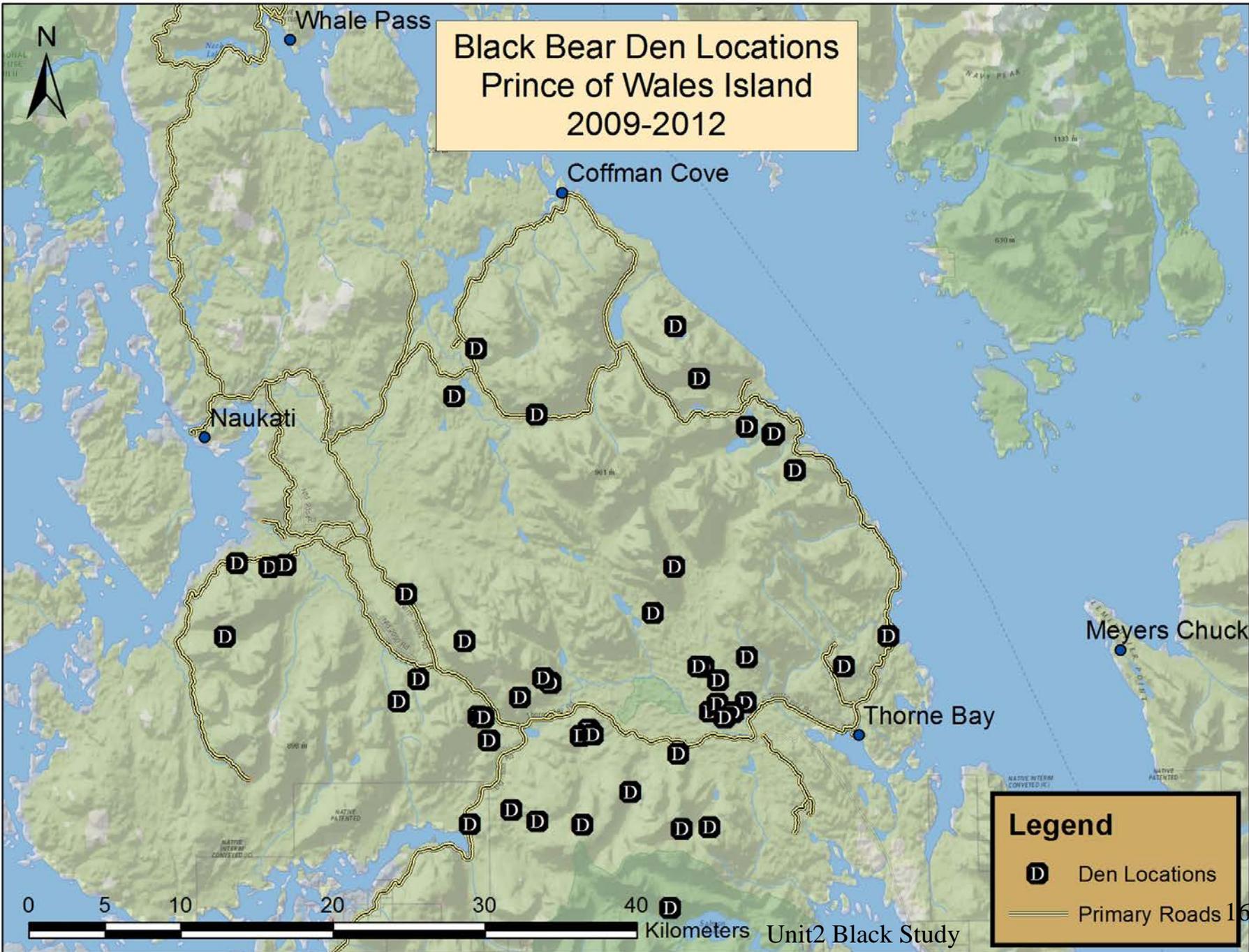


Legend

- Male Home Range
- Female Home Range
- Primary Roads

Unit2 Black Study

Black Bear Den Locations Prince of Wales Island 2009-2012



Legend

- D** Den Locations
- Primary Roads

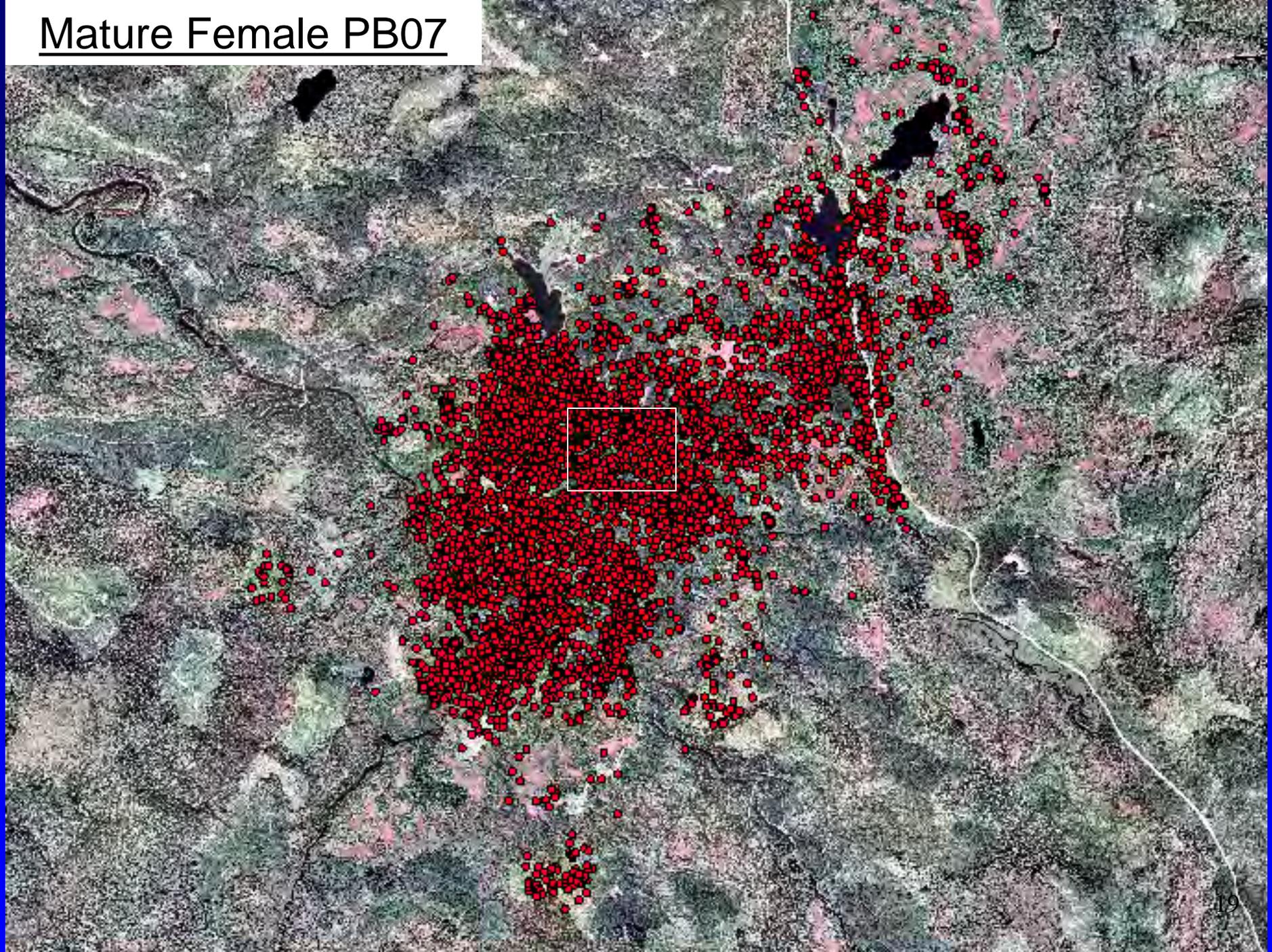
Average Home Range

- | <u>Sex</u> | <u>Sample Size</u> | <u>Home Range (km²)</u> | <u>SD</u> |
|------------|--------------------|---|-----------|
| Male | 9 | 173.77 (km ²) (67 mi ²) | 117.22 |
| Female | 10 | 34.60 (km ²) (13 mi ²) | 15.81 |
- Average locations per study bear ~ 7600 points

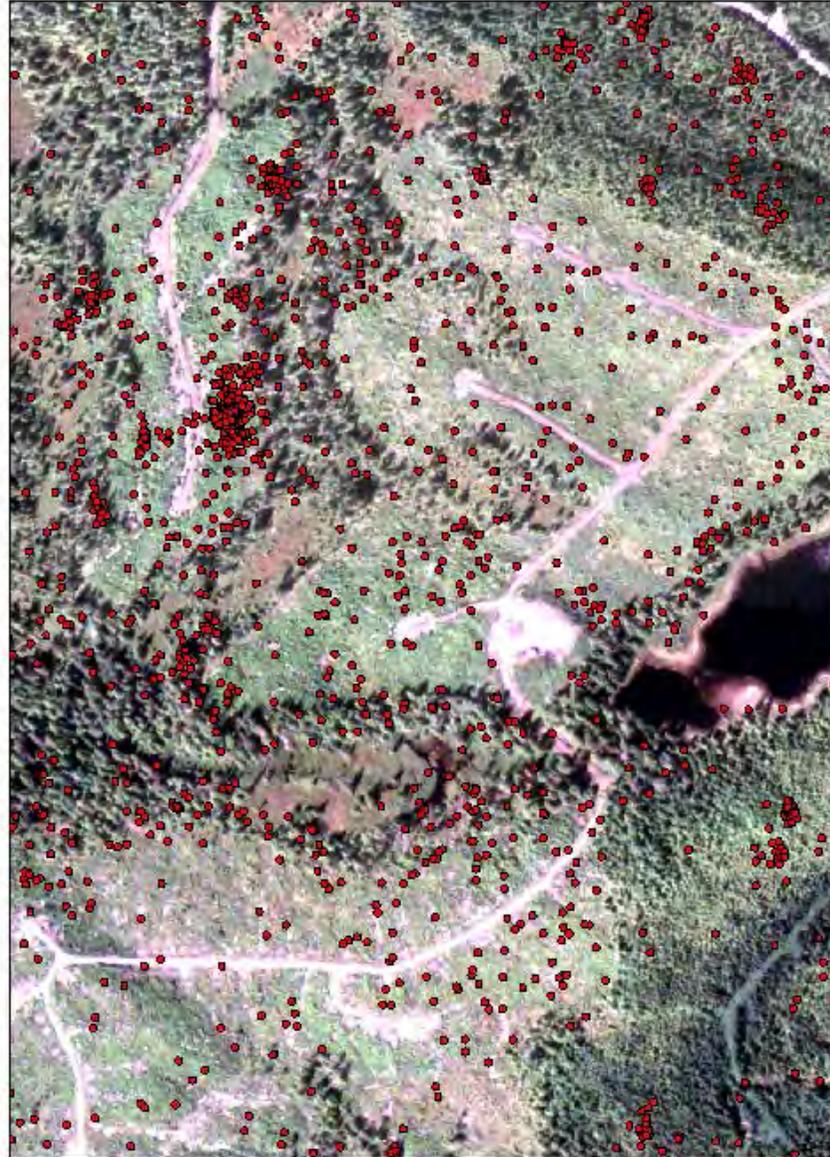
Composite of bear locations in study area



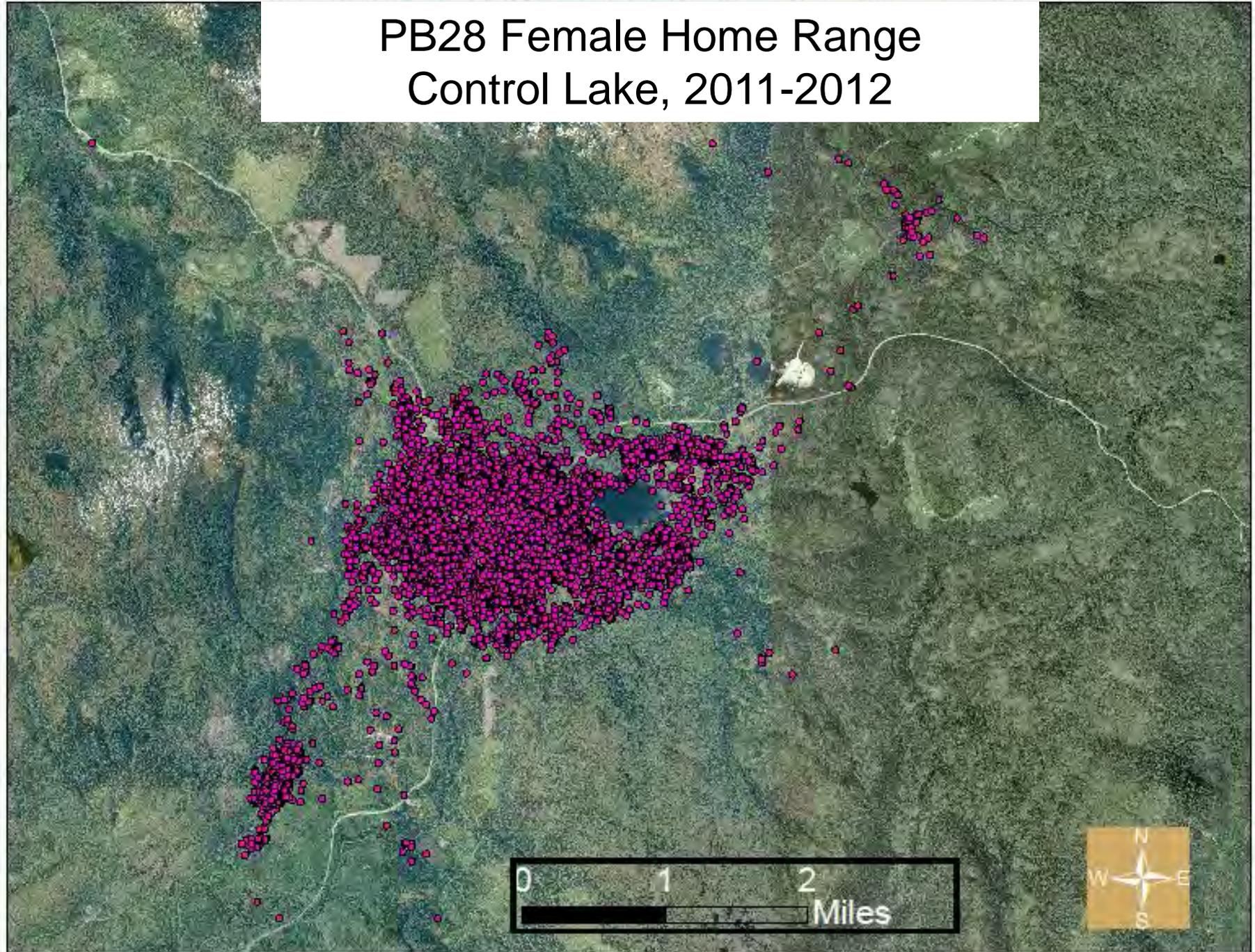
Mature Female PB07



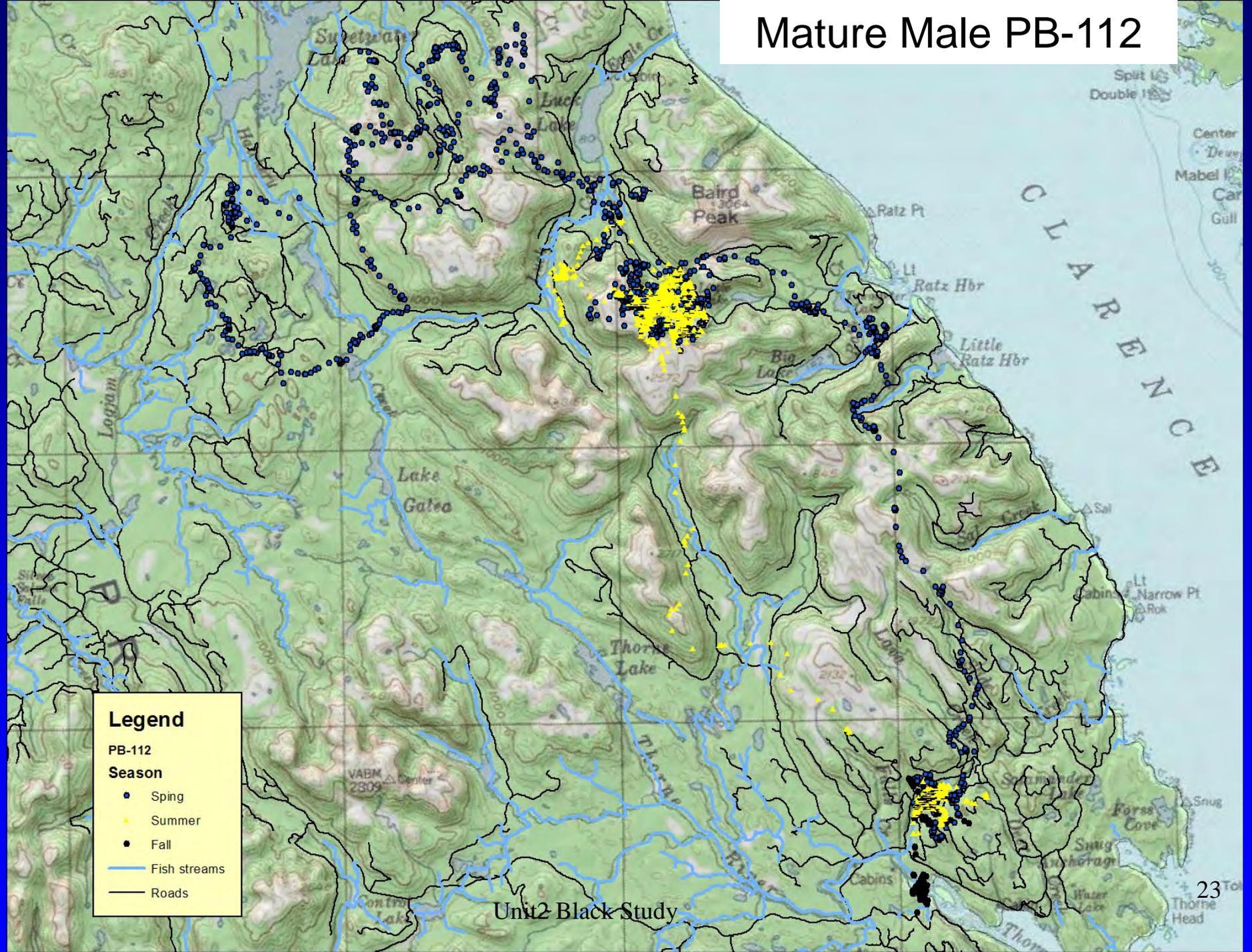
Utility of spatial data



PB28 Female Home Range Control Lake, 2011-2012



Mature Male PB-112

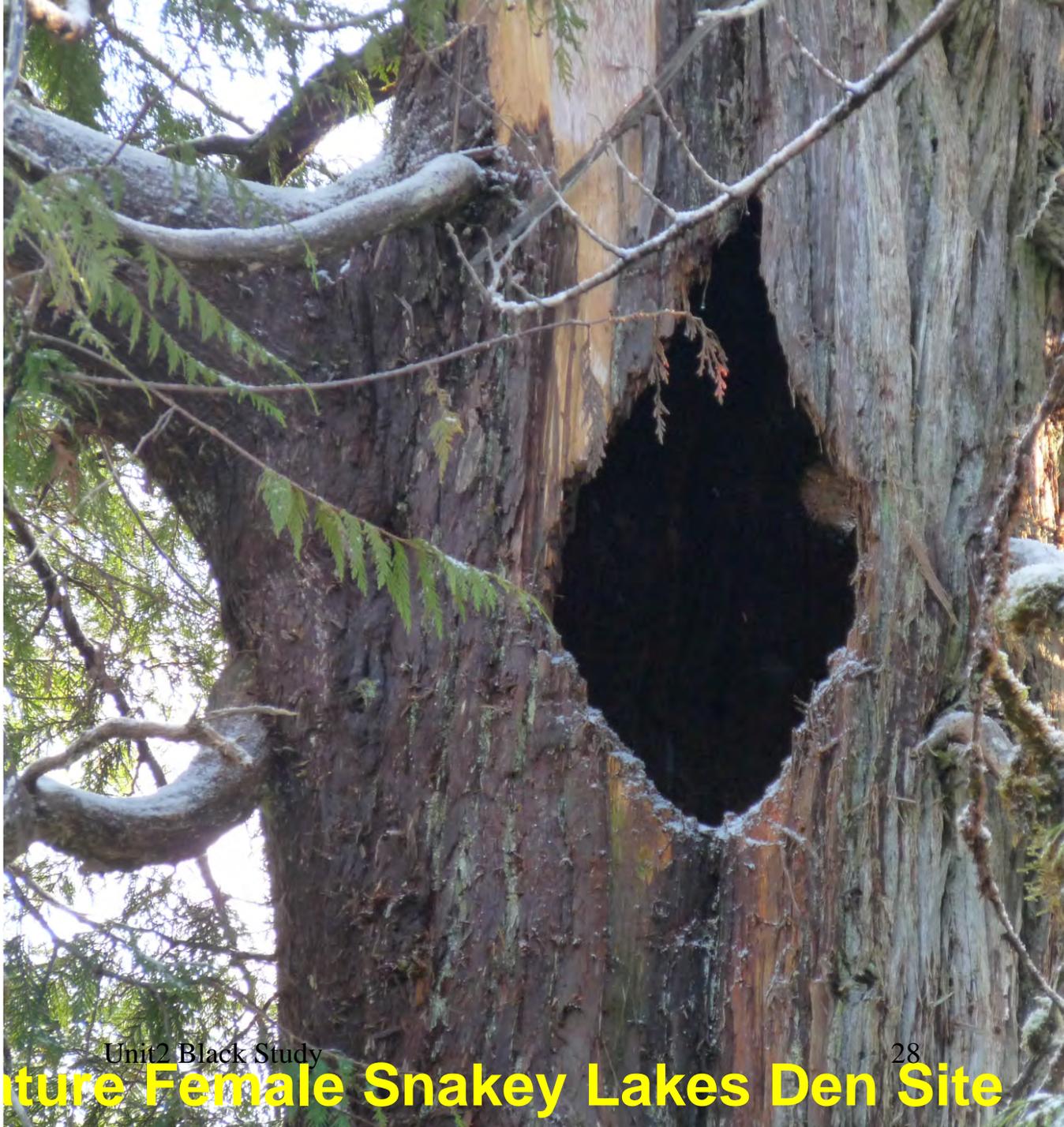


**Den Sites: Capturing Bears and
Describing Characteristics of
These Sites**









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PB 106 Mature Female Snakey Lakes Den Site







Black Bear Work British Columbia

- “Because black bears in coastal BC only used trees or structures derived from trees for winter dens and forest harvesting reduces the supply of these necessary structures, conservation and recruitment of suitable den trees is necessary if maintaining black bear populations is a management goal in these areas.”

Bear Project Summary

- Last winter of den captures, 2013
- All radio collars will be off by Fall 2013
- Continue monitoring dens until 2015
- Data analysis will begin Fall 2013
- Reports and publications



Questions and Discussion?