



WildCoast Project

Continuing Carnivore Diet Analysis - 2007

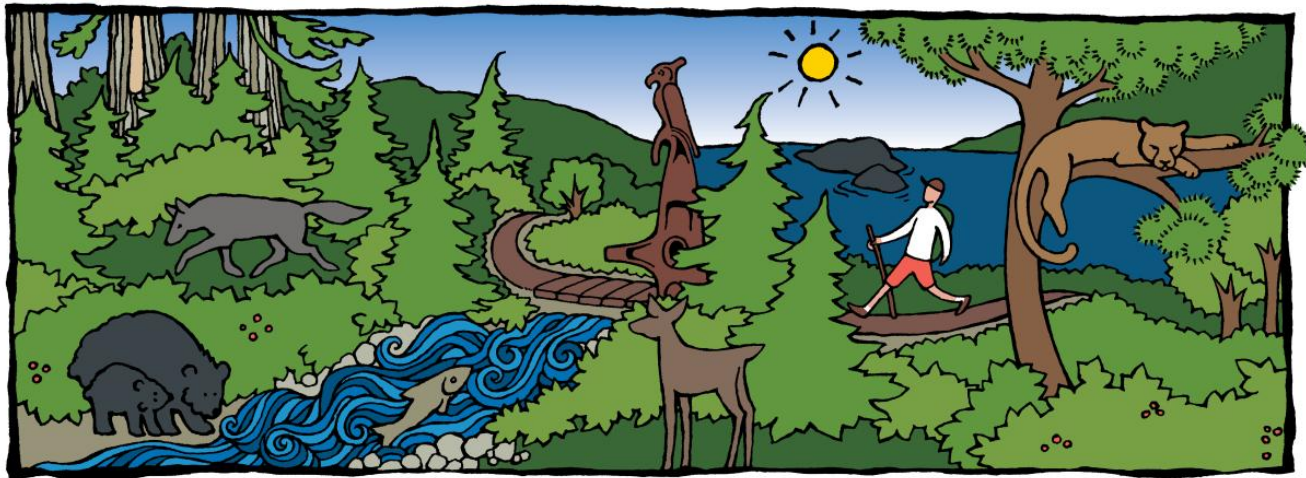
- The WildCoast Project is a research initiative that is trying to understand the increase of carnivore-human interactions by studying predators, prey and people
- A key part of the predator research:
 - to understand the diets of wolves and cougar
- To address this knowledge gap:
 - the project has developed and employed a technique to search systematically for carnivore scats within the study area





Projet Côte Sauvage

Prédateurs, Proies et Personnes



WildCoast Project

Predators, Prey and People





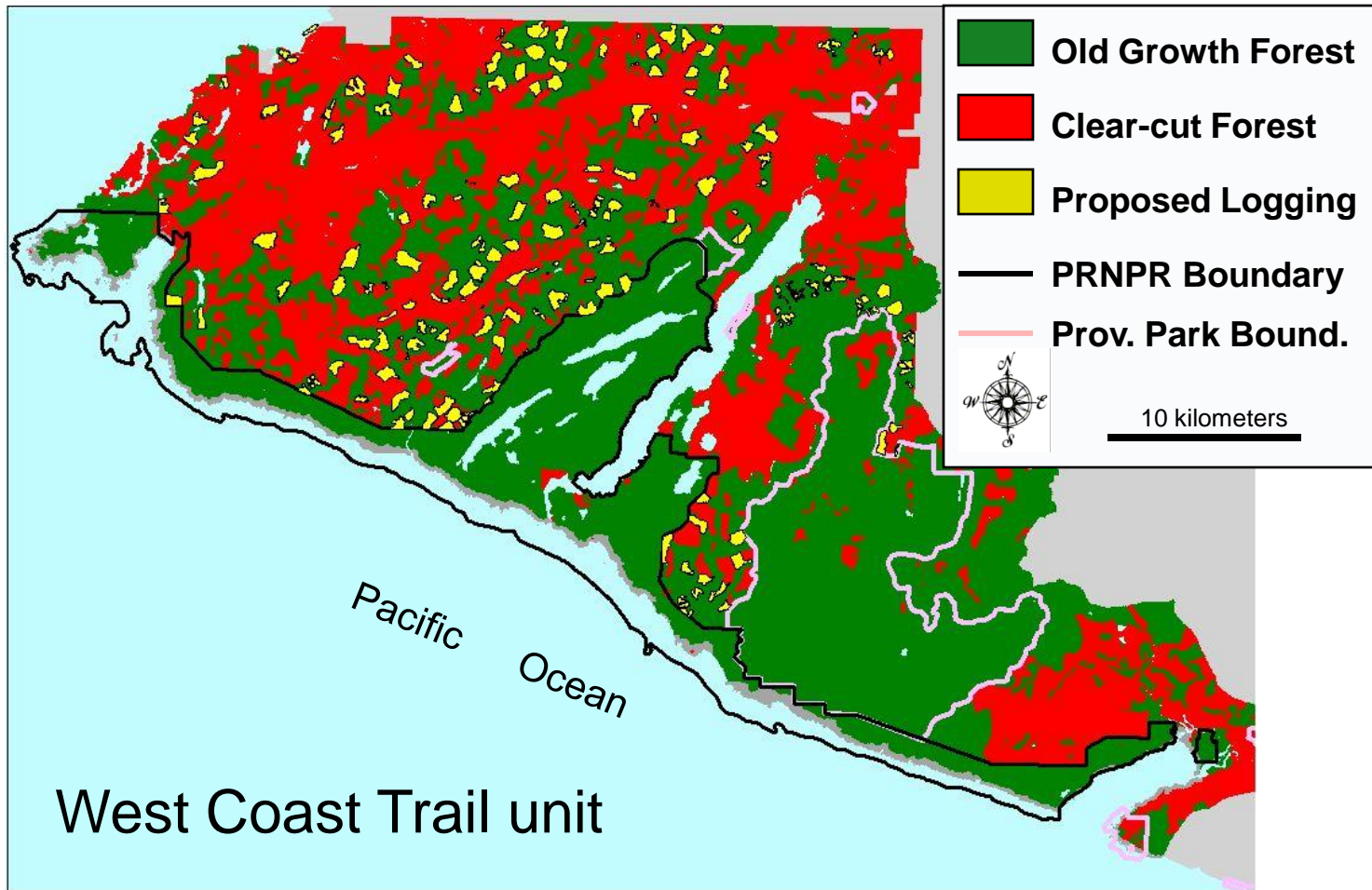
STUDY AREA

Central West Coast of Vancouver Island, British Columbia





EVER-CHANGING LANDSCAPE





Carnivore - Human Interactions

Raise Many Questions:

- Can we co-exist in the long term
 - What underlying dynamics contribute to interactions?
 - Due diligence - human safety?
 - Communities - Parks - Mortality Sinks?
 - Adapting Communication - Education?
- The WildCoast Project - pursuit of a greater understanding



An initial set of 93 scats
analyzed for carnivore diet in
2005.

The 2007 project brings the
total up to 179 scats.





Research Methods:

- non-invasive techniques:
- the forests are thick and the rains are heavy. . .
but
we can look for animal sign:
 - tracks and scats

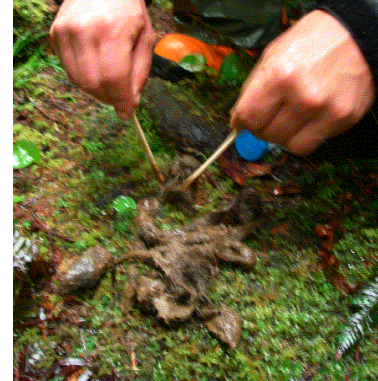




SCAT COLLECTION

When a carnivore scat is detected:

- We take a picture!
- Samples are collected
- Observations about scat are made
- Habitat data is collected
 - GPS
 - Site Series





WHY ANALYZE SCATS?

- To Answer some of the species ecology questions
 - So many unknowns
- What are they eating?
 - Determining Prey species and relative importance
 - Which habitats are important foraging areas
 - Where are the important travel corridors
 - Initial Steps but only the beginning....
- DNA analysis
- Isotopic Analysis





WHY ANALYZE SCATS?

Using the answers to these ecological questions we can gain perspective on how carnivores are using the landscapes within the PRNPR

Does this use contribute to increased predator-human interaction?

Fact: Human activity is generally within 500m of waterfront

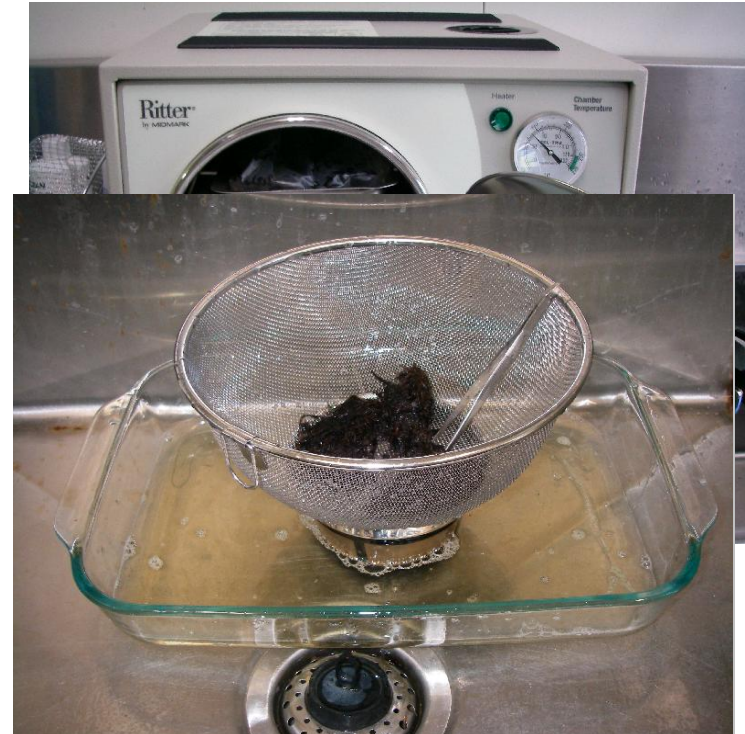
If carnivores are targeting prey in these areas, this could be contributing to interactions

Ultimately mitigation of risks and interactions is in the interest of Parks



Scat Analysis Protocols

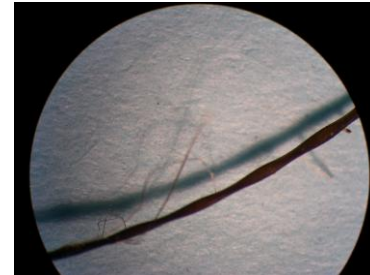
- **Autoclave (Pressure Cook)**
 - **Sterilize**
- **Rinse & Strain scats**
 - **Remove debris**
 - **Clean Hairs are easier to ID**
- **Air Dry**
 - **Minimum one week**





ANALYSIS

- 3 Random Subsamples
 - Time constraints
- Dissecting Microscope
 - Reference Samples
 - Dichotomous Key
- Major & Minor prey items
 - Estimate of relative proportions





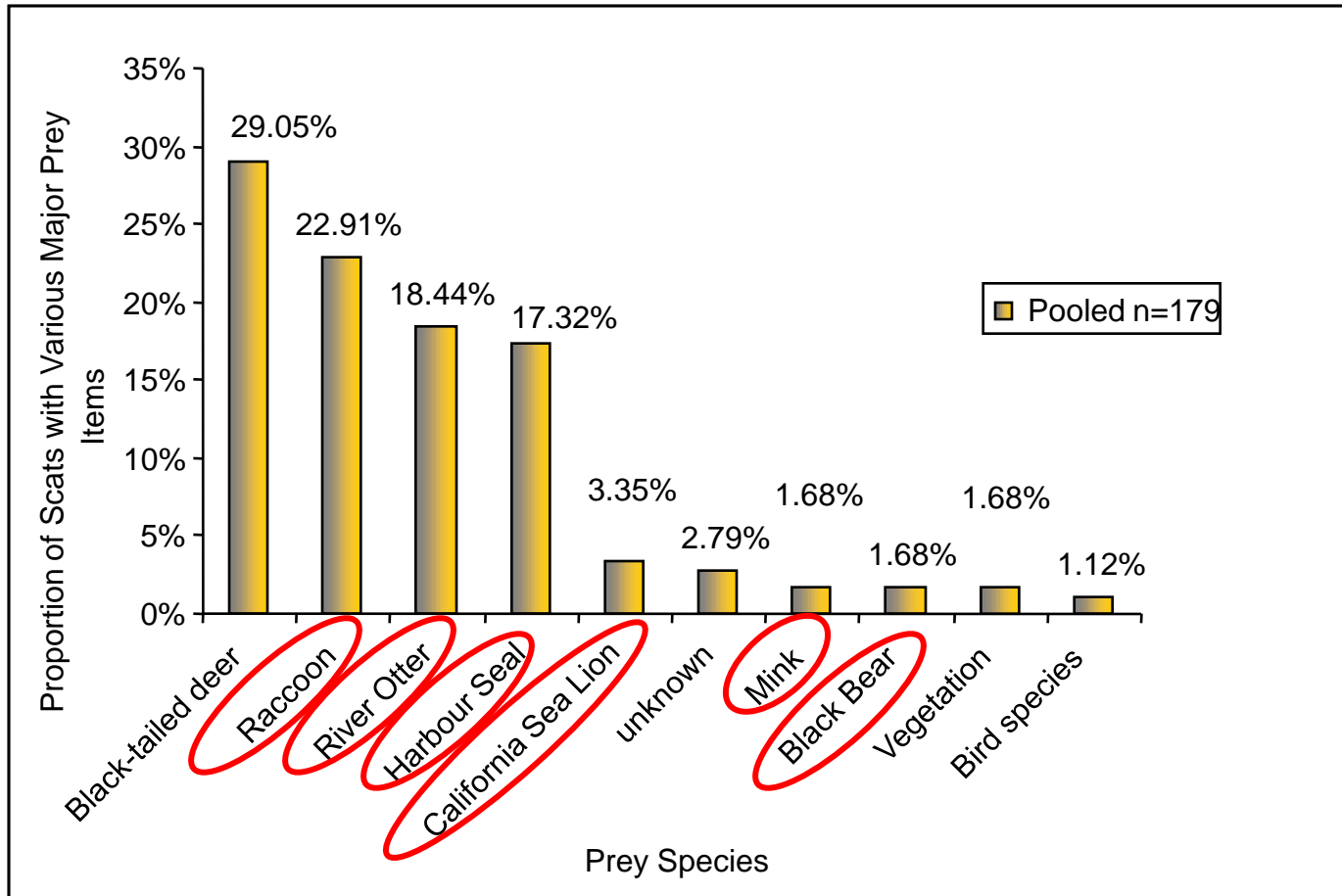
RESULTS

- Summary
 - Diet of All Carnivores
 - Wolf Diet
 - Cougar Diet
 - Wolves v.s. Cougar Diets
 - Carnivore Diet by Park Unit
 - Interesting Finds





DIET OF ALL CARNIVORES

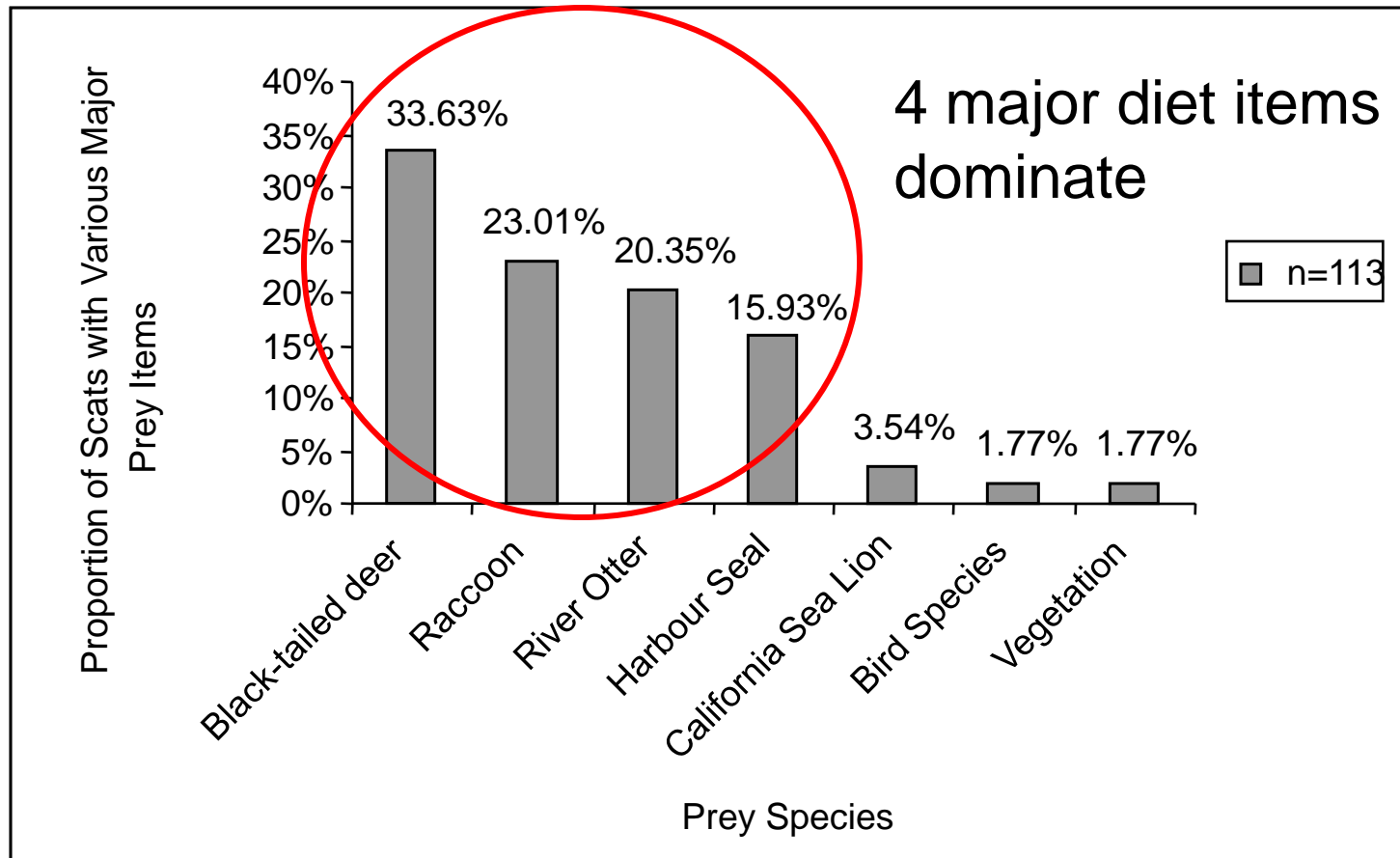


- 6 prey from the order Carnivora



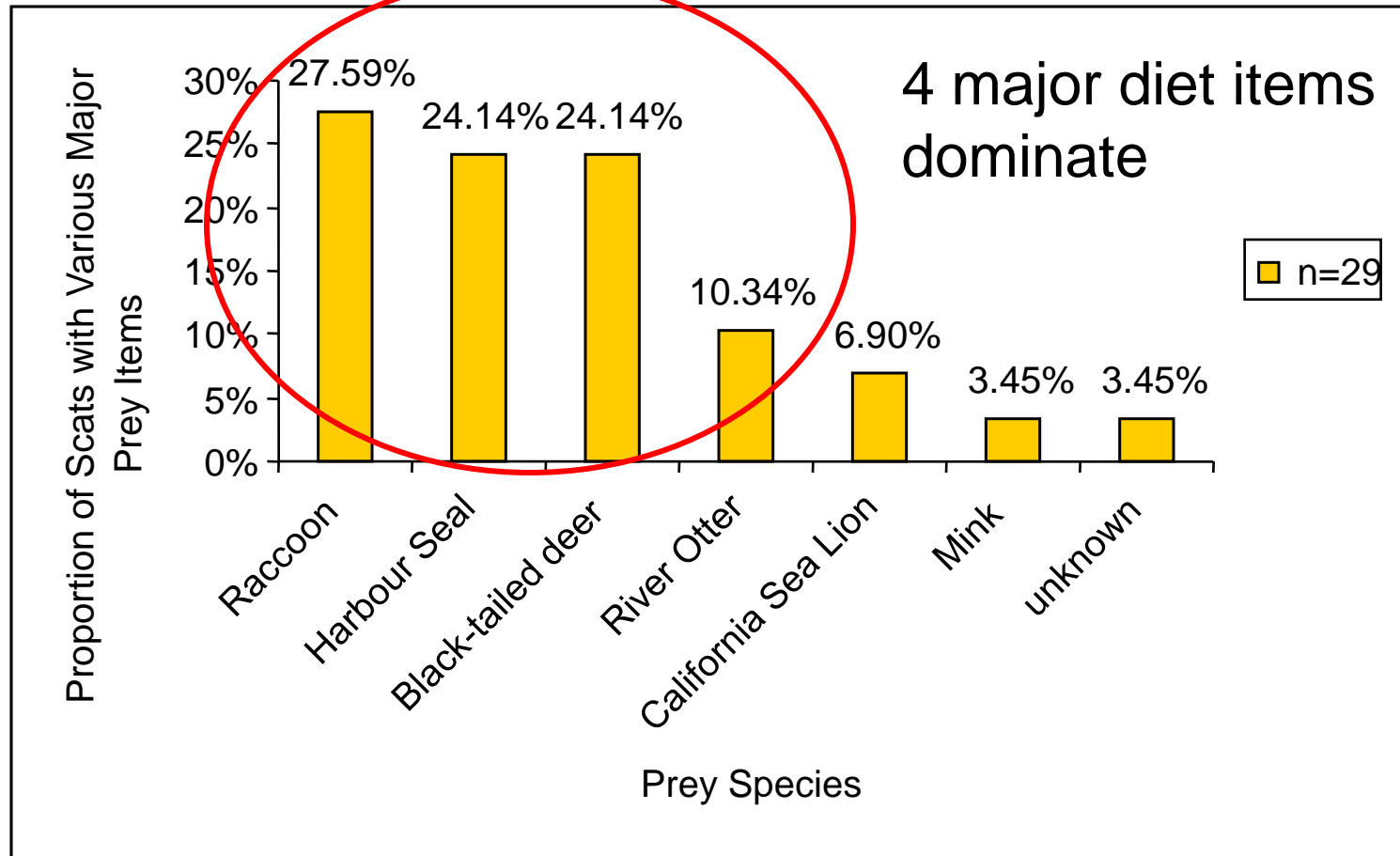


WOLF DIET



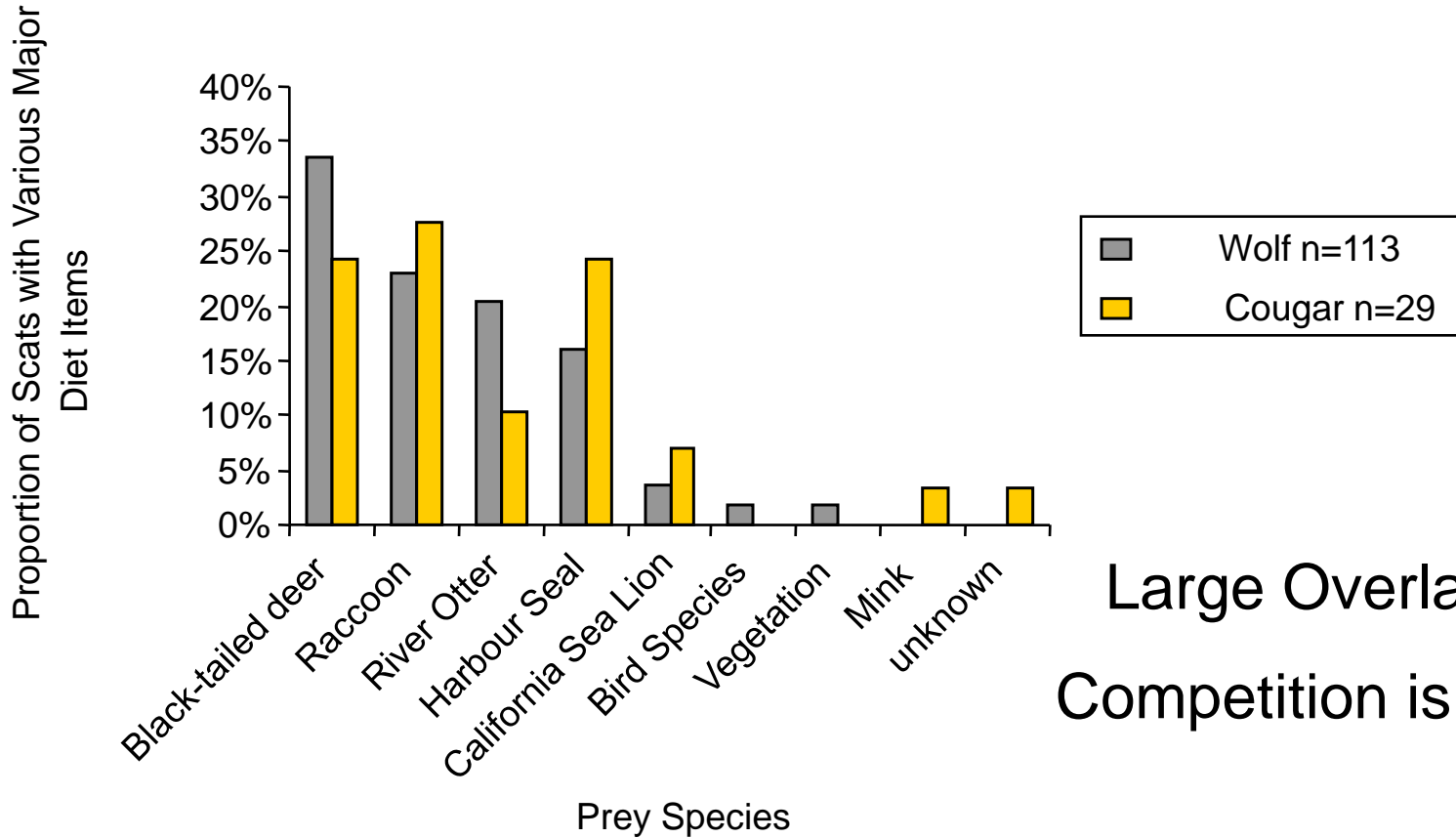


COUGAR DIET





WOLF V.S. COUGAR DIETS

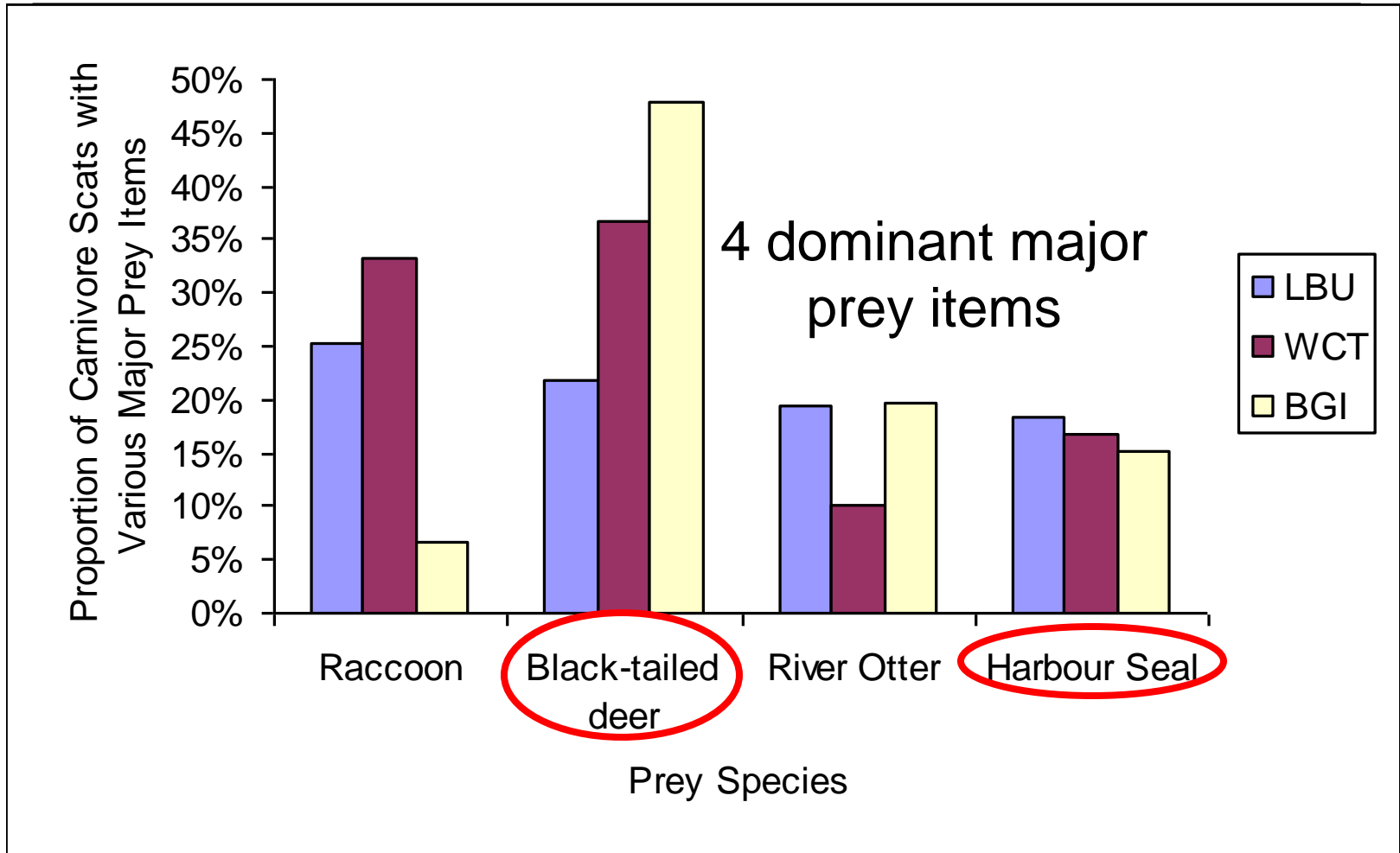


Large Overlap in Diet
Competition is occurring



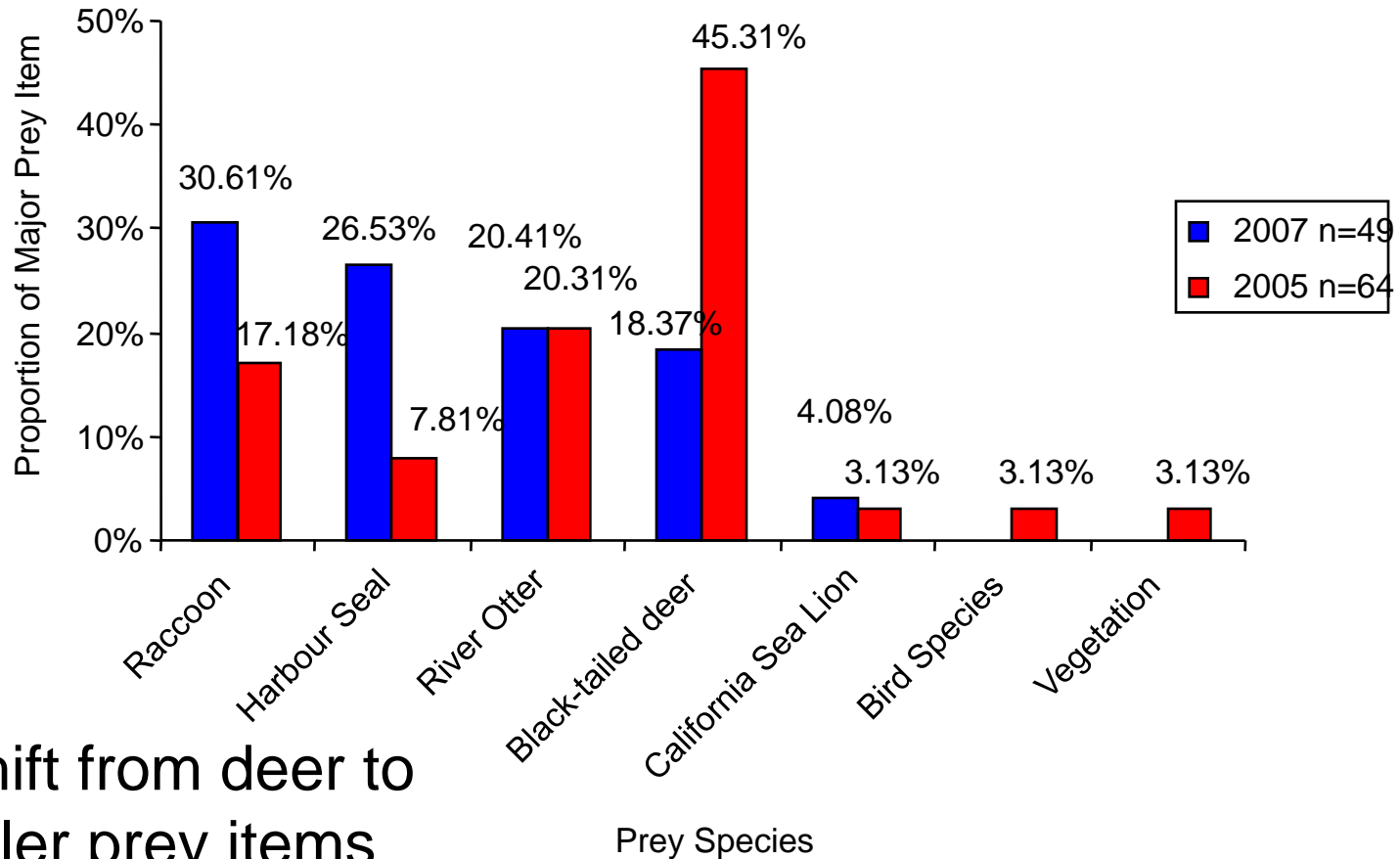


CARNIVORE DIET BY PARK UNIT





CHANGE IN PREY USE OVER TIME



- A shift from deer to smaller prey items





INTERESTING FINDS

- Carnivores eating carnivores
- Large Overlap in Wolf and Cougar Diets
 - Competition among carnivore species
- Carnivores in PRNPR are utilizing a diversity of prey
 - Consistently four major diet items
 - Prey that use various habitats
- Harbour seals a contributor to carnivore diets in PRNPR
- Shift of carnivores from deer to small mammalian prey items





SYNOPSIS

Wolves and Cougar are preying primarily on 4 species

- Raccoons are ranked 2nd
 - This species is found in areas around human activity
- River otter and Seals are ranked 3rd and 4th
These species are found in shoreline areas.

Human infrastructure (villages, trails, etc.) and human activity is generally within 500m of shoreline (reside, surf, jog, etc.)

Targeting of deer, raccoon, river otter and seals in these areas increases the chance of predator-human interactions



FUTURE WORK

- Continue Long Term Monitoring Efforts
- Many more samples to analyze
 - 200 from 2005
 - 11 from 2006
 - 50 from 2007 and counting
- More detailed analysis to add depth and resolution
 - DNA analysis
 - Isotope Analysis





ACKNOWLEDGEMENTS

I would like to thank everyone for their help this season including:

- Bob Hansen – Wildlife Specialist PRNPR
- Park Wardens & Other ResCon Staff
- Volunteers
- Pacific Rim National Park Reserve

