

Bridge River Fisher Project



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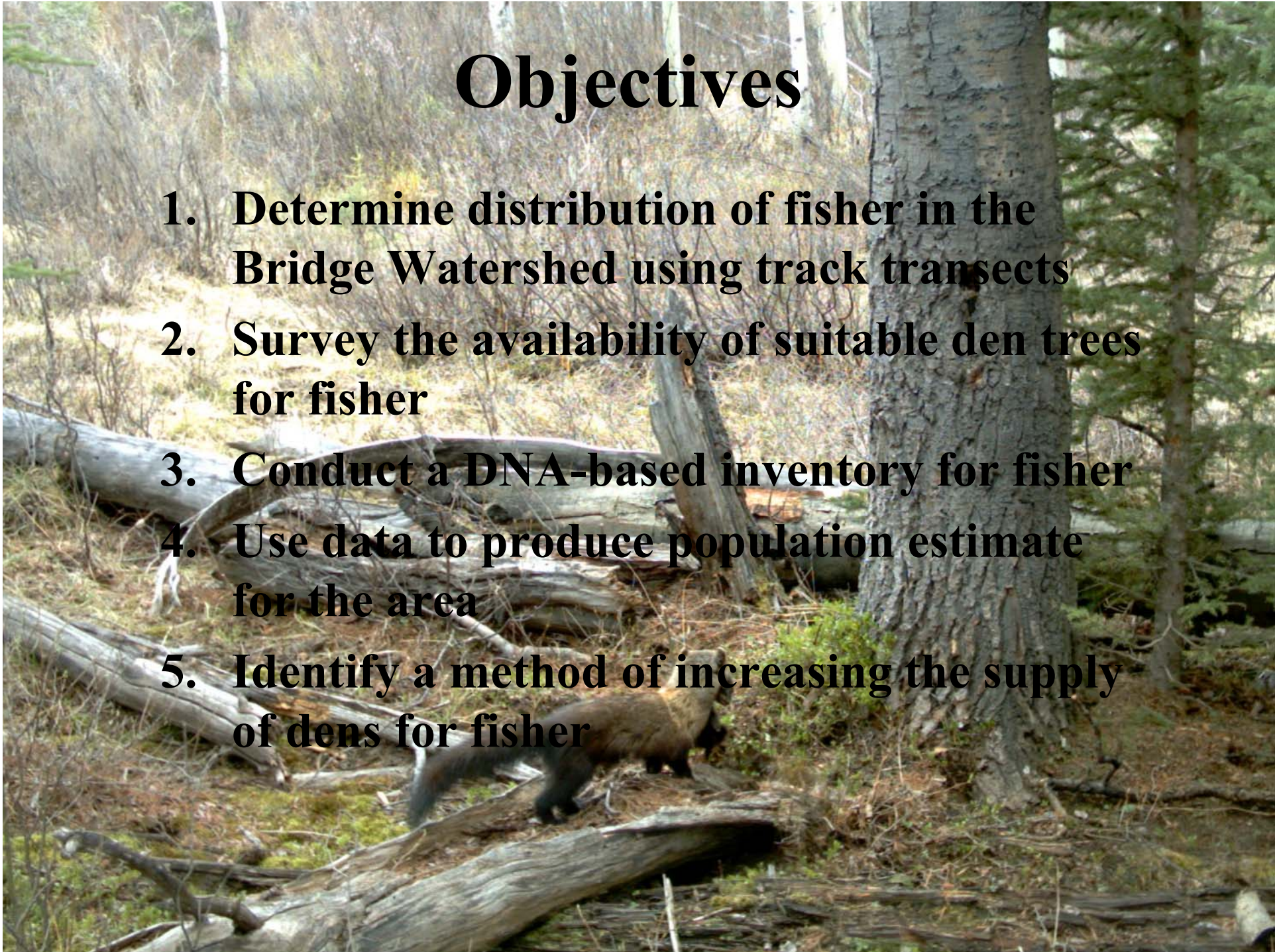
Issue

- Fisher are a blue-listed species in BC
- Low reproductive output
- Kits have high mortality rate in first year
- Linked to rare forest elements like hollow large diameter trees
- Habitat losses
- Susceptibility to trapping
- Bridge River Project initiated to study a population at the edge of the species range



Objectives

1. **Determine distribution of fisher in the Bridge Watershed using track transects**
2. **Survey the availability of suitable den trees for fisher**
3. **Conduct a DNA-based inventory for fisher**
4. **Use data to produce population estimate for the area**
5. **Identify a method of increasing the supply of dens for fisher**

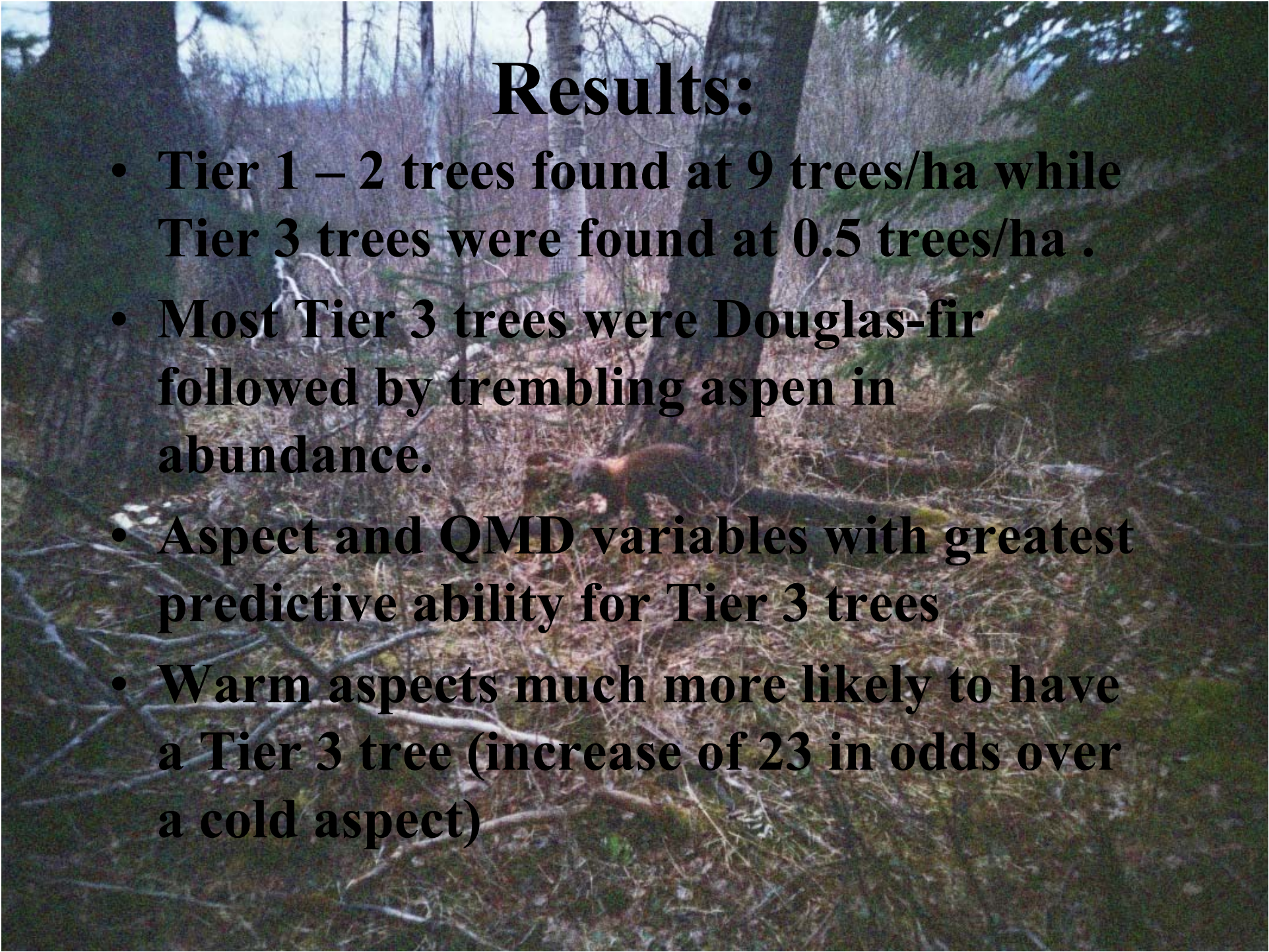


Track Transects

- Conducted 4 sessions of tracking using snowshoe and sled in 22 km² cells
- Encountered 72 fisher, 92 marten, and 14 wolverine tracks along 680 km of transects
- Fisher detections in 50% of the cells surveyed

Den Tree Surveys

- Used belt transects to estimate the number of potential den trees for fisher.
- Tier 1 trees: right species (Fd, Pl, A, Ct) and size
- Tier 2 trees: had advanced decay
- Tier 3 trees: had an access hole to an internal cavity (5-10 cm wide on narrow axis).

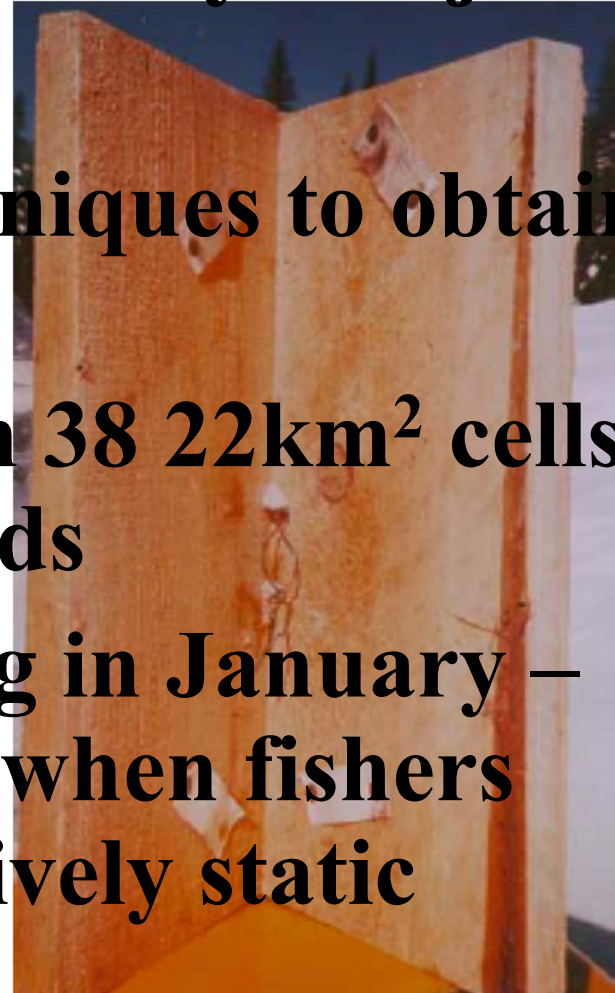
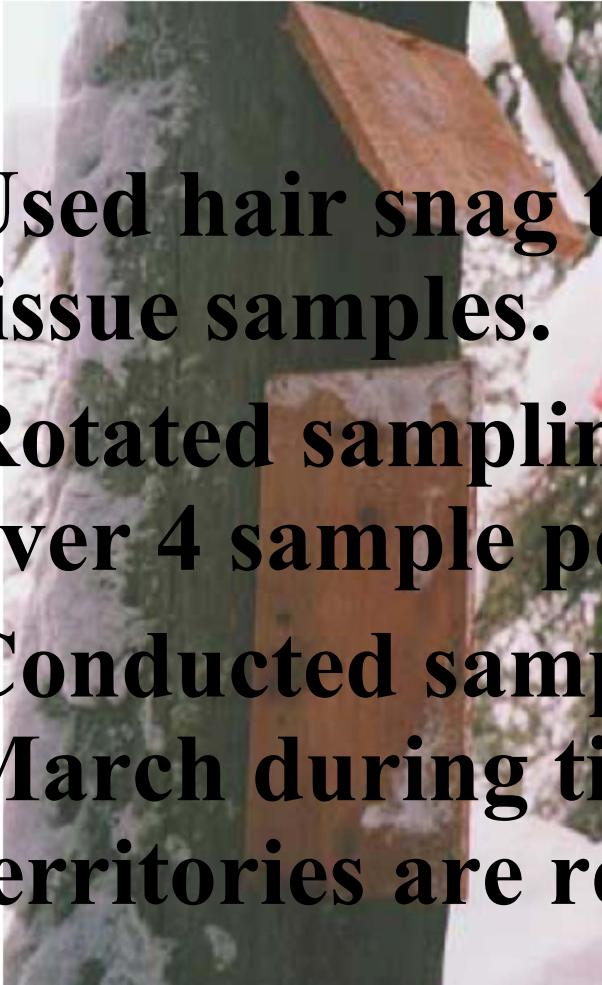
A photograph of a forest floor. In the foreground, a squirrel is visible, partially obscured by dry leaves and twigs. The background shows several tall, thin trees, likely aspens, with some green foliage visible at the top. The lighting is somewhat dim, suggesting a shaded forest environment.

Results:

- **Tier 1 – 2 trees found at 9 trees/ha while Tier 3 trees were found at 0.5 trees/ha .**
- **Most Tier 3 trees were Douglas-fir followed by trembling aspen in abundance.**
- **Aspect and QMD variables with greatest predictive ability for Tier 3 trees**
- **Warm aspects much more likely to have a Tier 3 tree (increase of 23 in odds over a cold aspect)**

DNA-based Inventory Project

- Used hair snag techniques to obtain tissue samples.
- Rotated sampling in 38 22km² cells over 4 sample periods
- Conducted sampling in January – March during time when fishers territories are relatively static



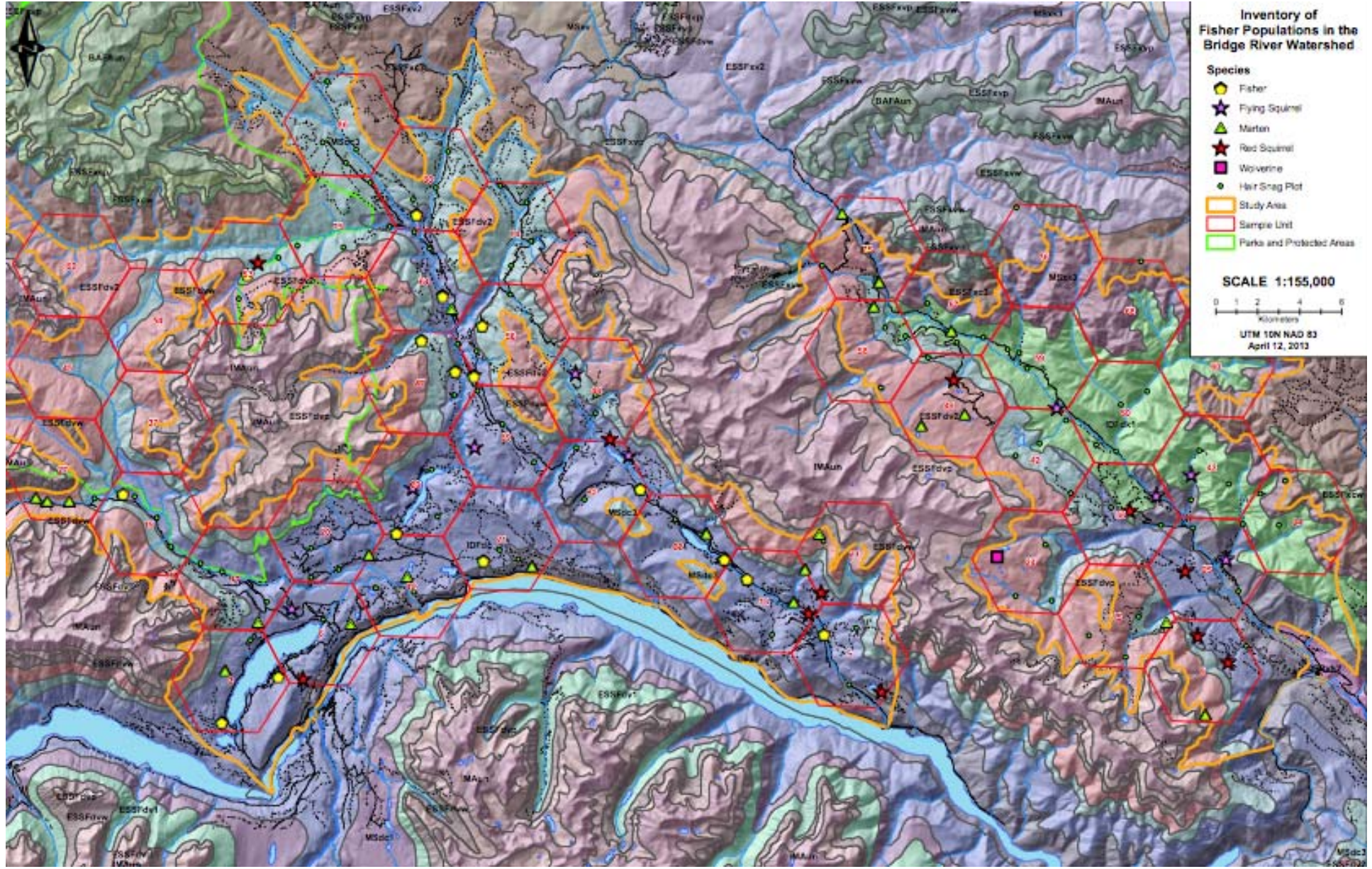
Results

Elevations and biogeoclimatic zones (BEC) at species detections in the Bridge River watershed, British Columbia.

Species	Mean Elevation (range) (m)	BEC		
		IDF	MS	ESSF/ IMA
Fisher	1141 (861 – 1423)	13	3	0
American marten	1309 (822 – 1978)	11	4	8
Red squirrel	1180 (937 – 1439)	9	1	1
Northern flying squirrel	1057 (733 – 1424)	8	1	0
Wolverine	1898	0	0	1

Population estimate

- Identified 8 individual (5 Male, 3 Female)
- Use CAPWIRE to estimate the local population using two innate rates model
- Local fisher population estimated to be 14 individuals (8 – 26 95% CI) using whole sample area.
- Density estimated 18 animals / 1000 km².
- Estimate likely includes young and transient individuals



Acknowledgements

- BC Ministry of Environment

