

Population abundance and landscape connectivity of snow leopards and the implications for conservation



Photo: Snow Leopard Conservancy

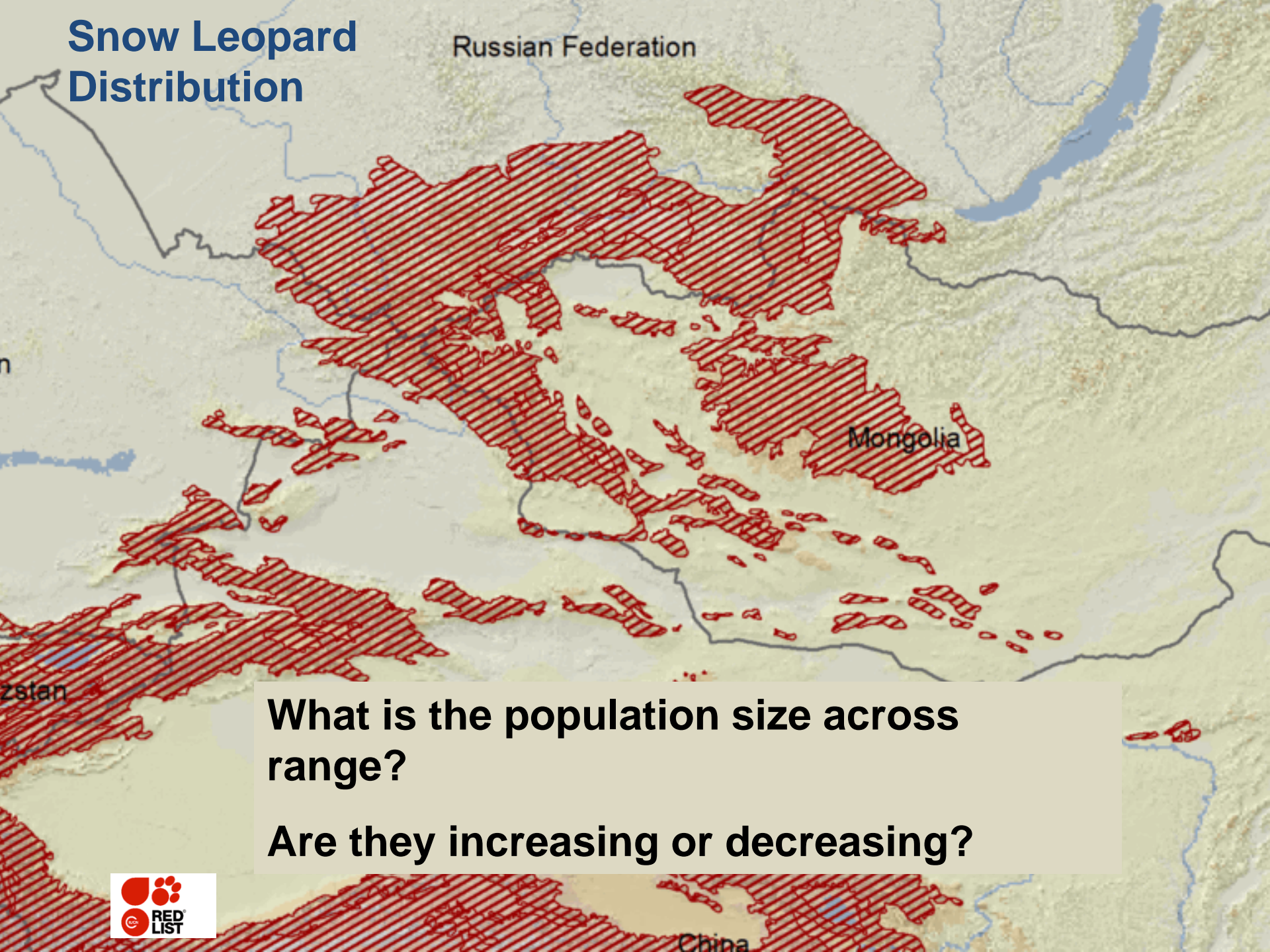


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Snow Leopard Distribution



What is the population size across range?

Are they increasing or decreasing?

Traditional Snow Leopard Surveys

Monitor Snow Leopard Sign

Tracks



Tracks



Scent
Rocks



Photo: Snow Leopard Conservancy

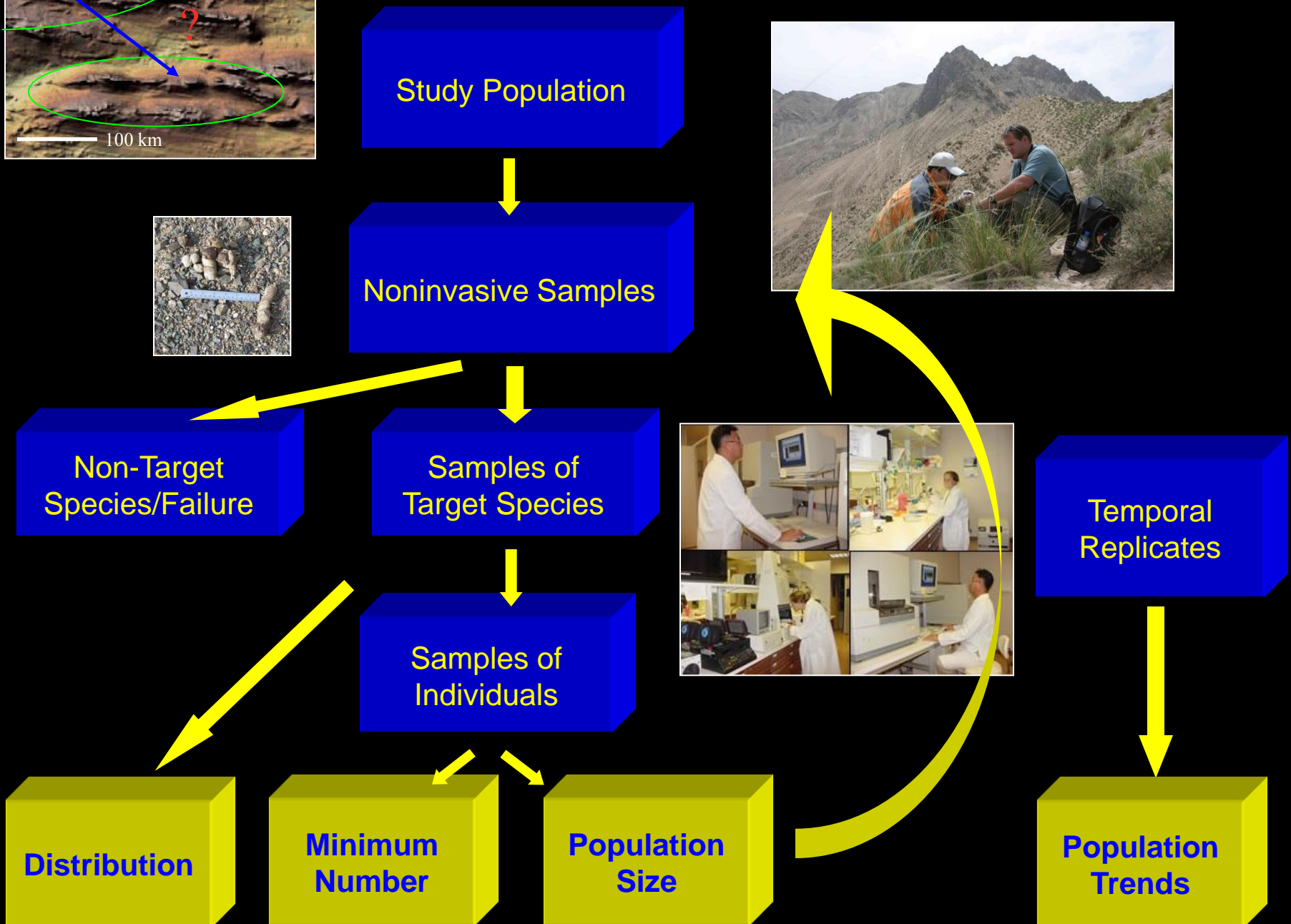
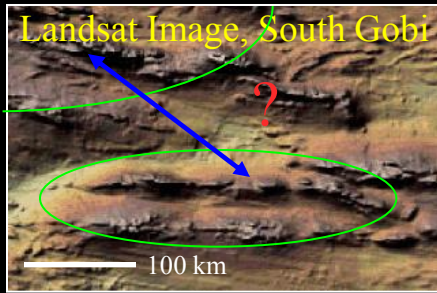
Fresh Scrape



Scat

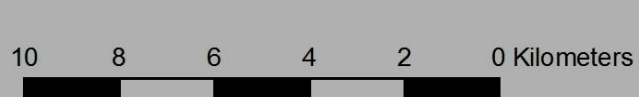


Non-invasive Techniques





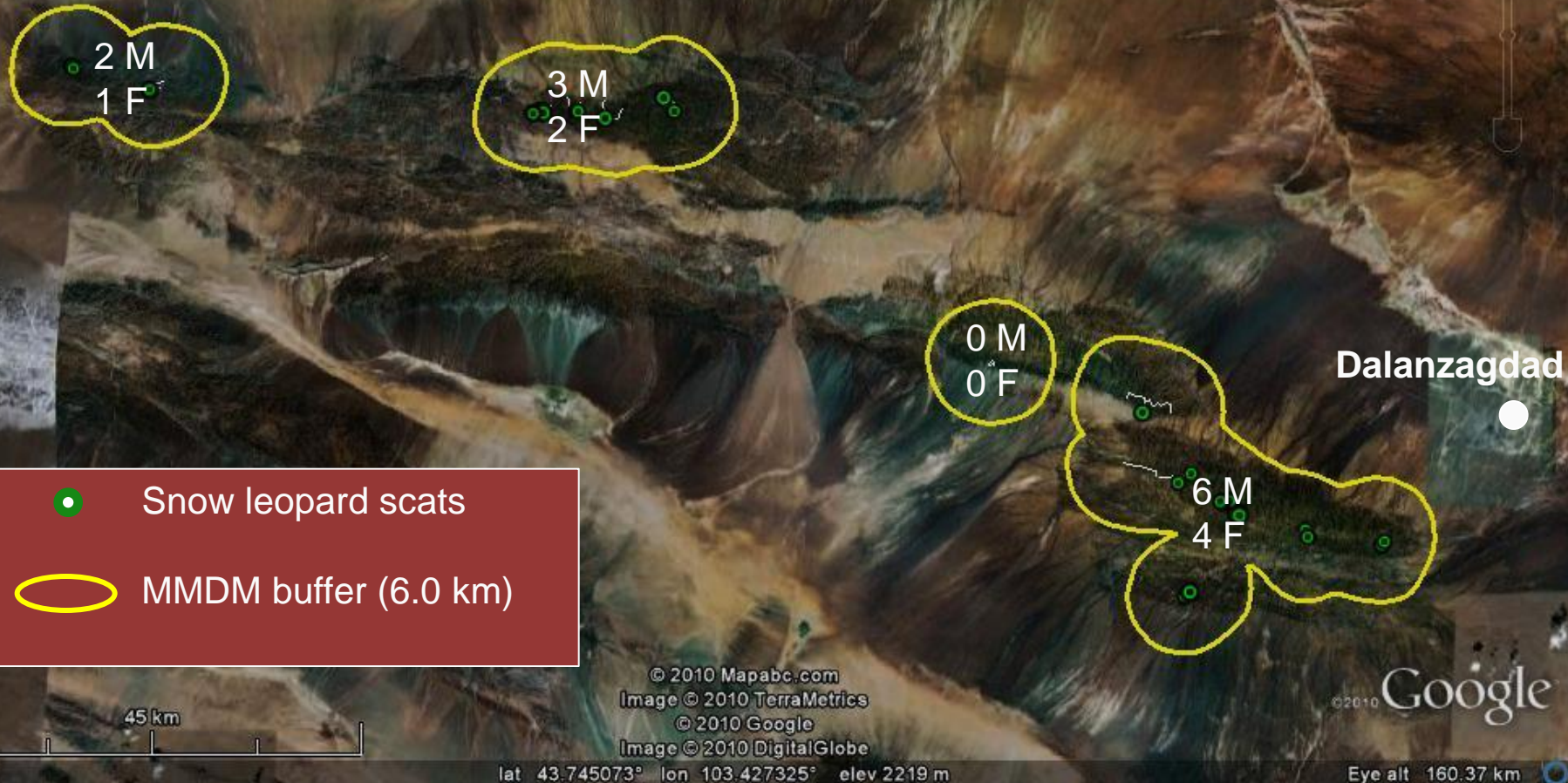
Individual Snow Leopards Identified in the Tost Mountains of the Gobi Desert by Genetic Analysis Noninvasively Collected Scat



Gurvansaikhan National Park

Population Size Estimate

- $N = 36$ individuals (C.I. = 18 – 50, CAPWIRE maximum likelihood estimator)
- Area surveyed = 556.9 km² (mean maximum distance moved = 6.0 km)
- Density: 6.5 snow leopards/100 km²

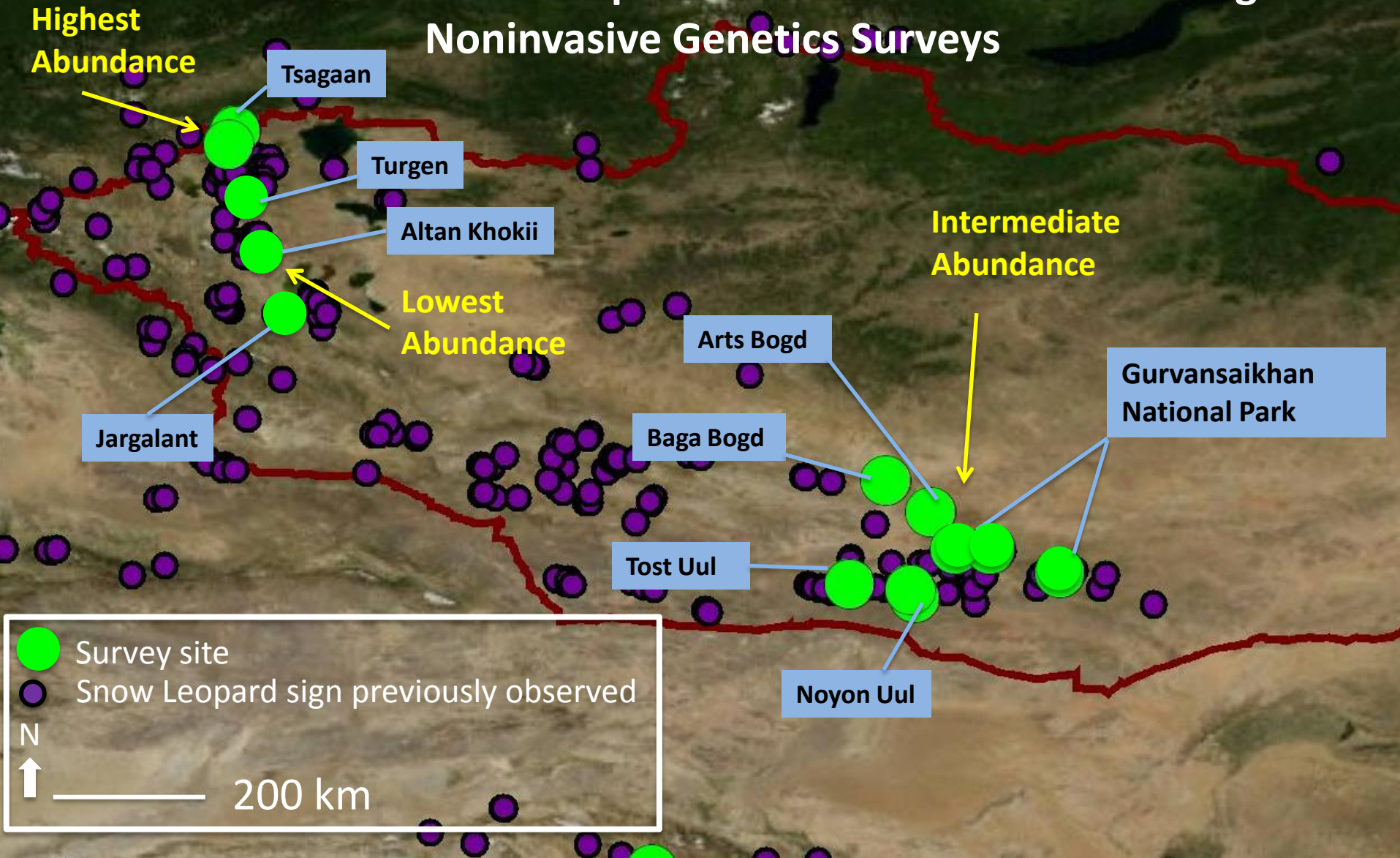


Abundance Correlates Across Mongolia

Area	Transects	Total Km	Scrapes/ km	SL scat/ km	SL #/ km
Easter Beauty	10	28.80	2.39	1.20	0.56
Middle Beauty	4	12.59	0.11	0.04	0.04
Western Beauty	10	25.46	7.24	1.10	0.52
Tost Uul	7	22.19	10.56	1.63	0.87
Noyon Uul	6	15.55	3.46	1.69	1.08
Arts Bogd	3	6.11	4.94	3.90	0.72
Baga Bogd	2	4.25	6.58	1.33	0.48
Tsagaan Shuvuut	3	5.30	17.26	7.07	1.62

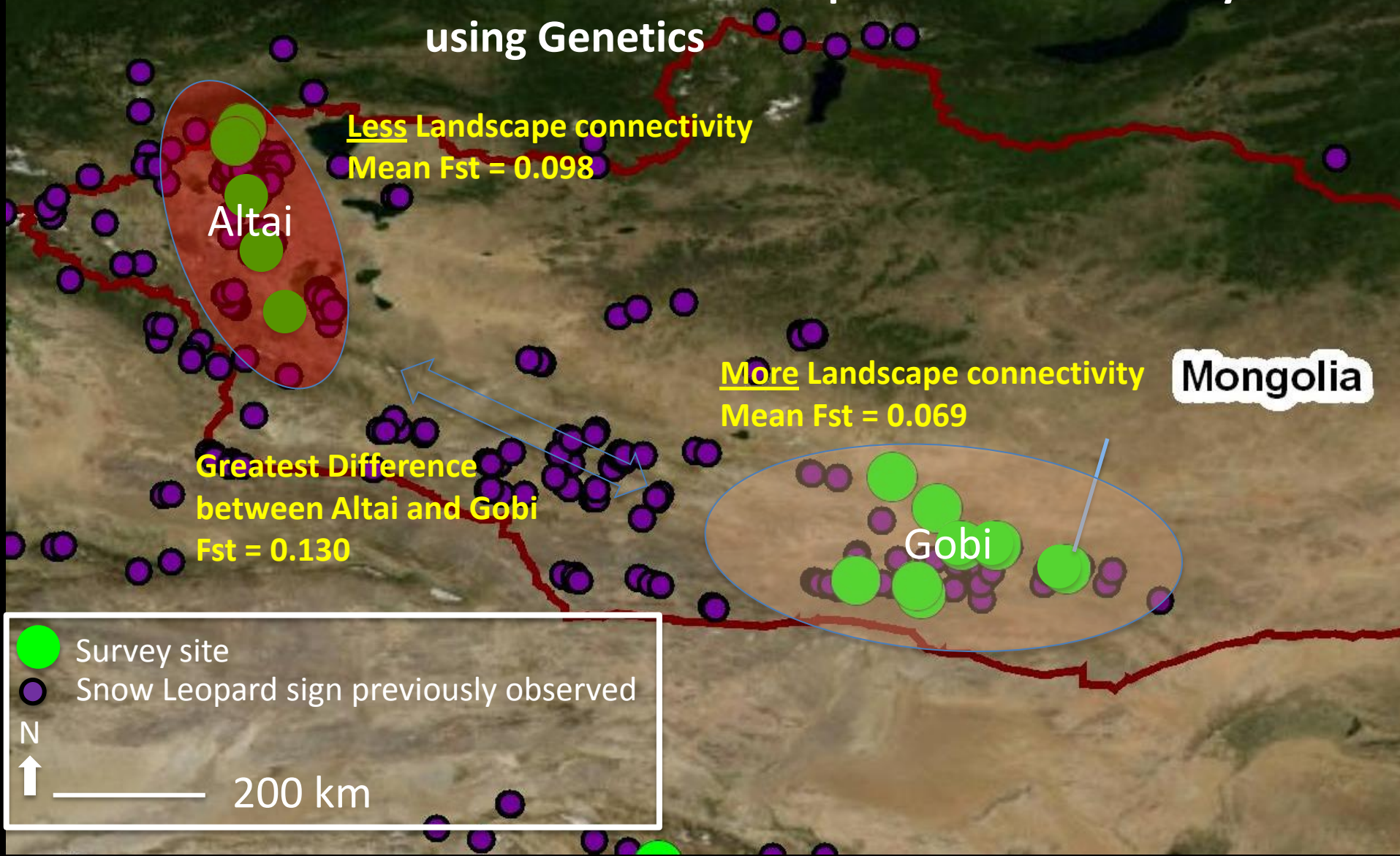
Preliminary surveys in Tsagaan suggest highest densities

Snow Leopard Abundance Assessed through Noninvasive Genetics Surveys



Purple dots represent documented snow leopard sign and approximates species distribution. Green circles represent sites sampled between 2006-09.

Estimates of Landscape Level Connectivity using Genetics



Purple dots represent documented snow leopard sign and approximates species distribution. Green circles represent sites sampled between 2006-09.

Training and Capacity Building for Genetic Analysis





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