

Dr Gregory Rasmussen, Painted Dog Research Trust, Zimbabwe, email greg@painteddogresearch.org web: www.painteddogresearch.org Department of Biological Sciences, University of Zimbabwe, University Road, Mount Pleasant, Harare Using satellites to understand corridors and trans-boundary landscapes and integrate species management.

> Dr Gregory Rasmussen, Painted Dog Research Trust University of Zimbabwe Collaborators Associate Professor Shelley Alexander Elisabeth van Stam



The Painted Dog Is A Unique Canid With No Close Relatives

No two dogs have the same coat pattern

They only have four toes

They are not a true dog and stem from an ancient evolutionary line.



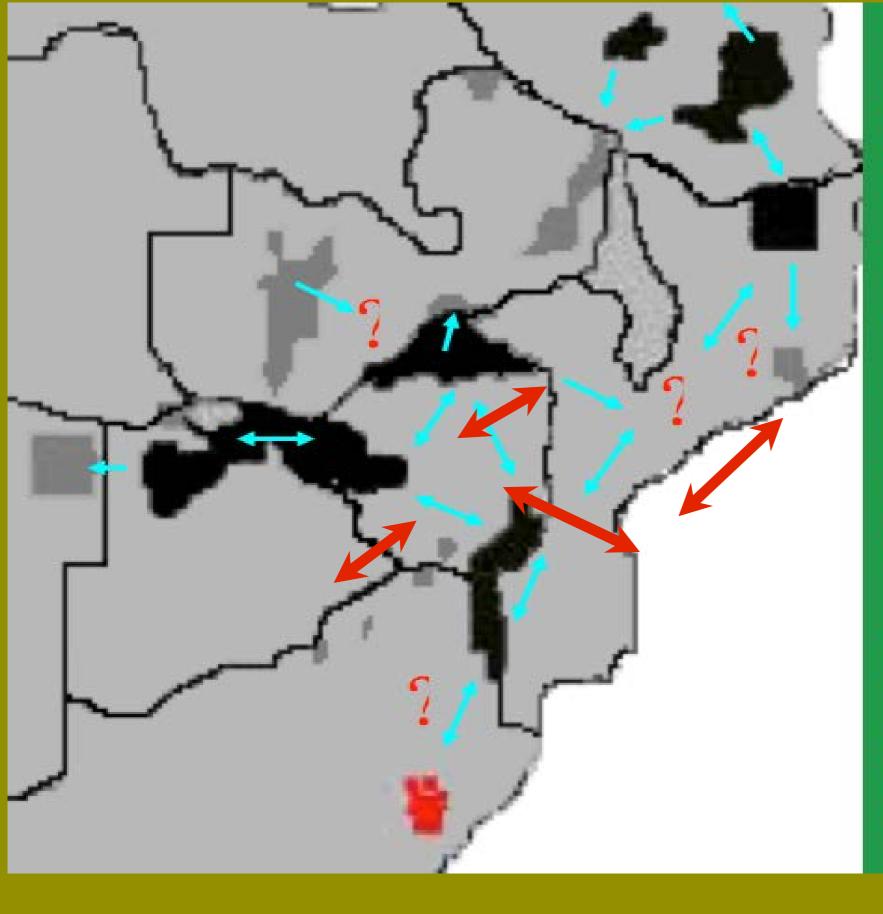


historic Range



- Distribution known numbers low
- Viable numbers distribution uncertain
- Numbers and distribution uncertain

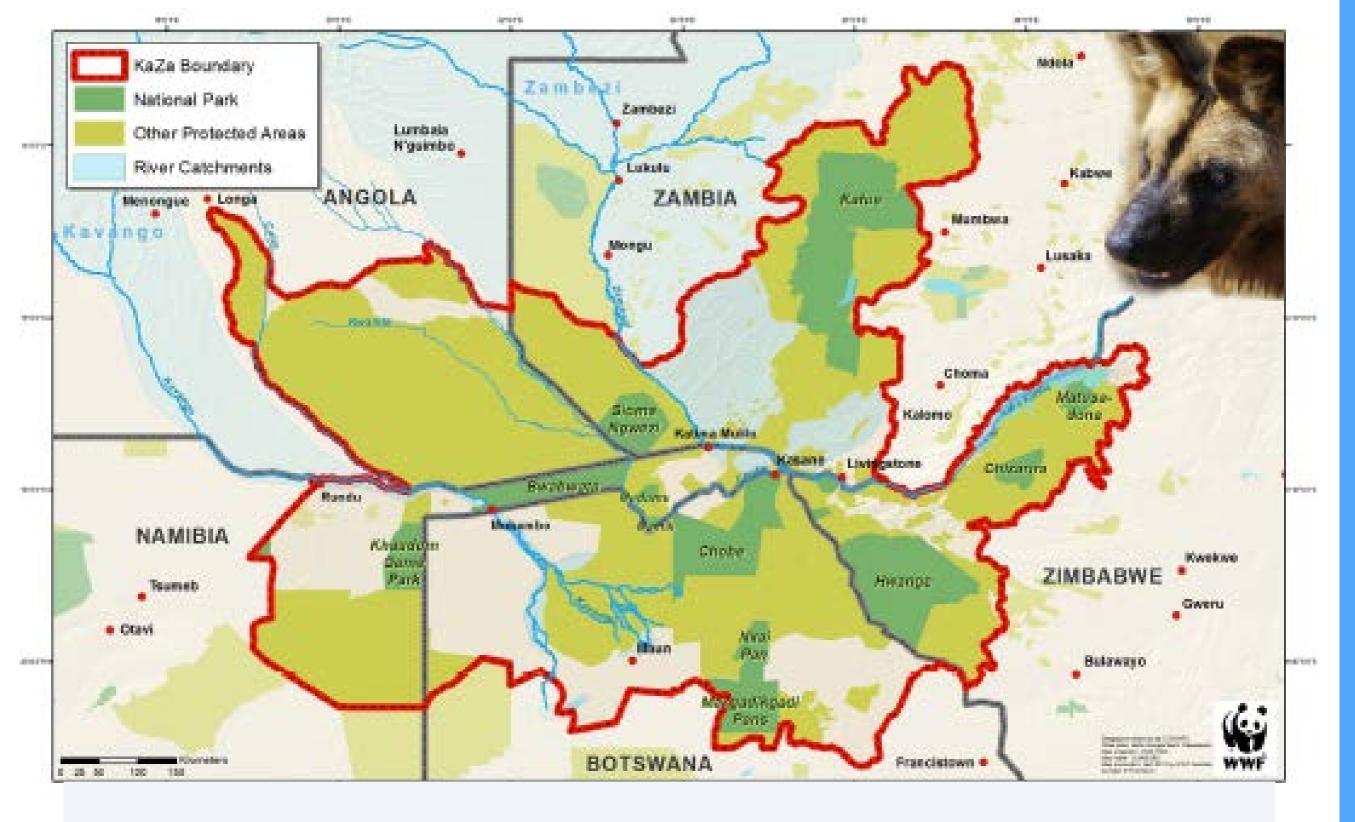
Distribution and density of the Painted Dog Lycaon pictus



Keystone populations Zimbabwe Tanzania **Important source** sink population Luangwa, Hluhuwe, Niassa, Moremi, Kafu e

Bridging population Lower Zambezi, Luangwa, Mozambique

IMPORTANT TRANSBOUNDARY INITIATIVES



1995Tchokamela M1

A8

A 1

476

km

A 3

Zimbabwe

997

A4

Two males dispersed 199 km from HNP (18 Feb 1992 in the

evening) to the 40km peg near Bulawayo (15 Mar 1992).

Bulawayo T4996 A9

Sua Pan

Roma P

Central

US Dept of State Teography © 2012 Google © 2012 Cnes/Spot Image 4998 1 Otal 570° COO © 2012 AfriGIS (Pty) Etd.

Rasmussen, G. S. A. and D. W. Macdonald. 2012. Masking of the zeitgeber: African wild dogs mitigate persecution by balancing time. Journal of Zoology 286:232–242.

magery Date: 9/24/2006

-20.033628° lon 28.774195° elev 1256 m

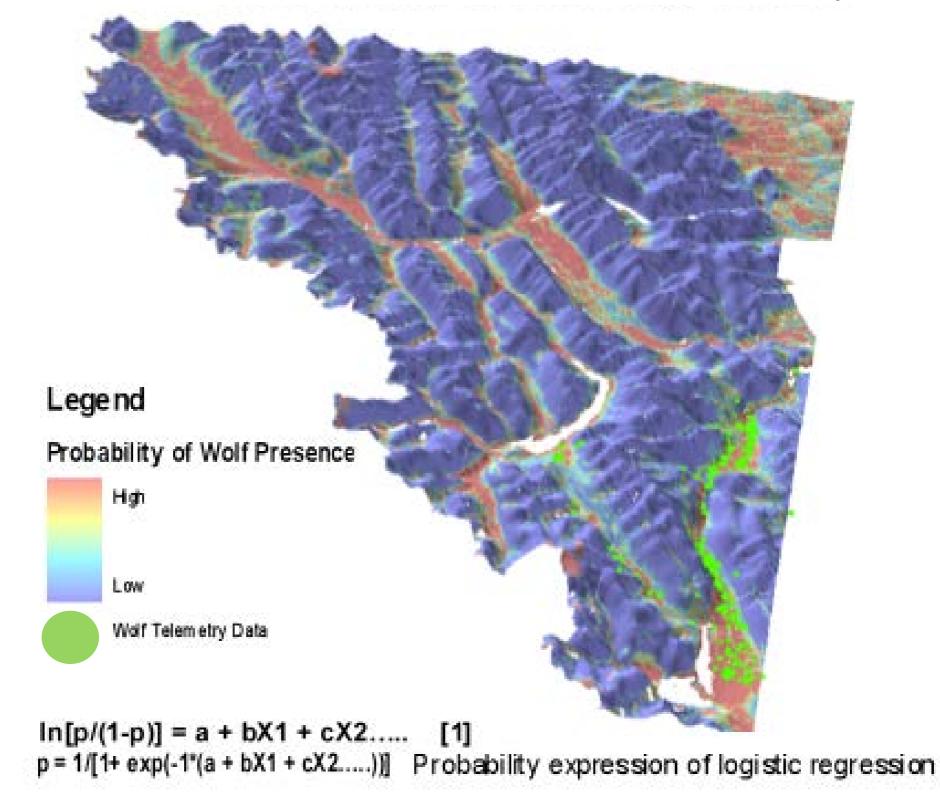
Eye alt 665.83 km

443 km 🛦

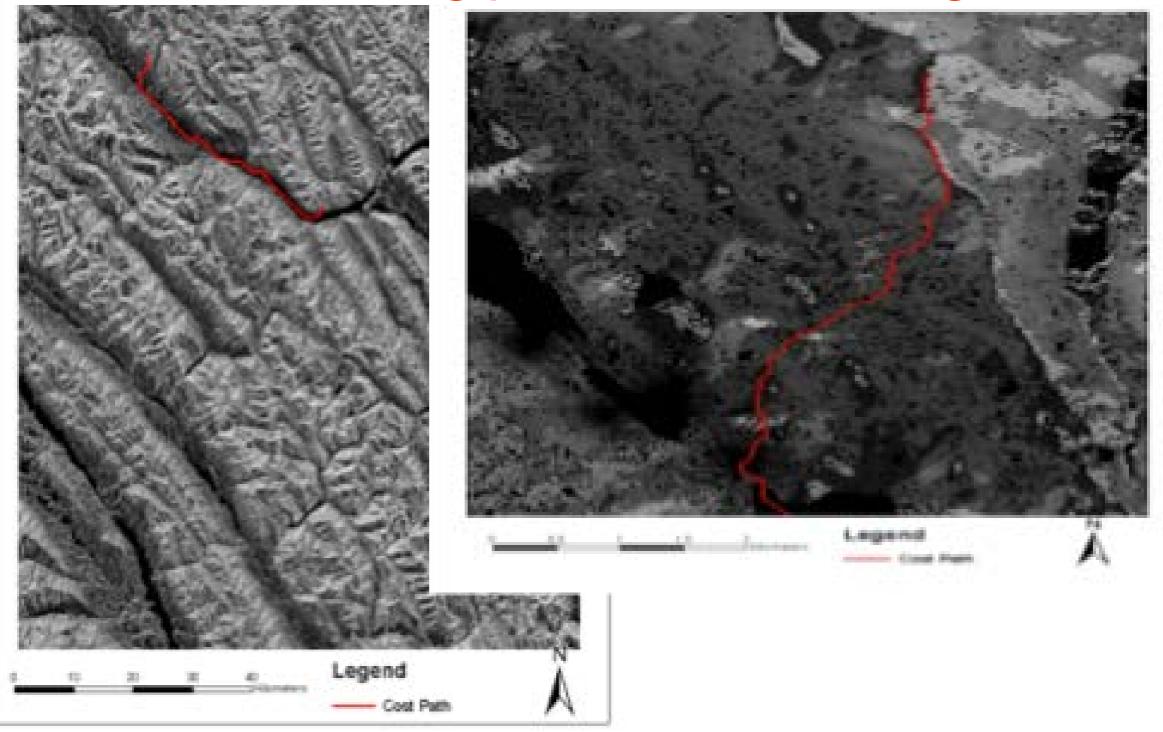
Harare

Species based landscape approach

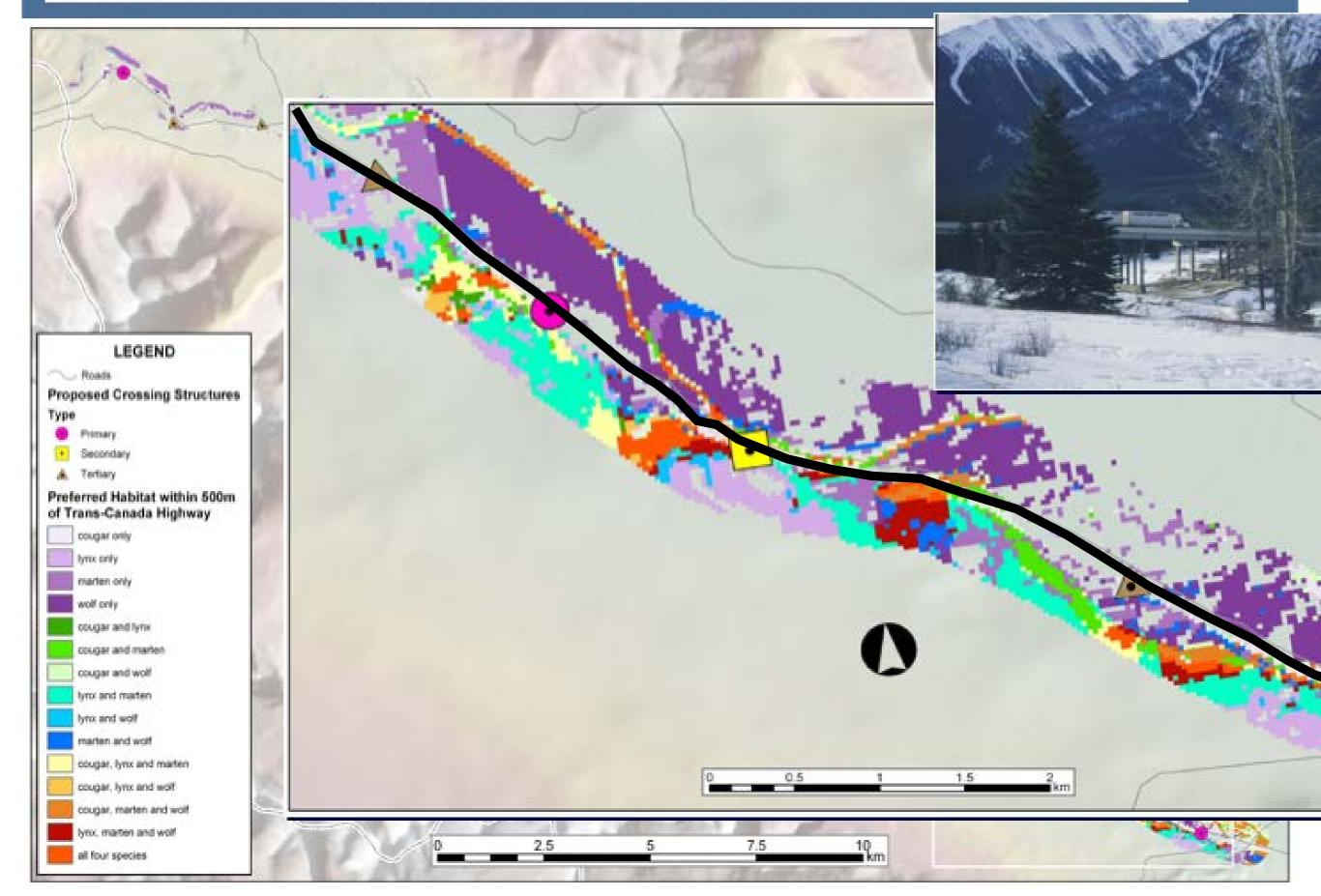
Probability of detection using tracking data and multiple environmental layers

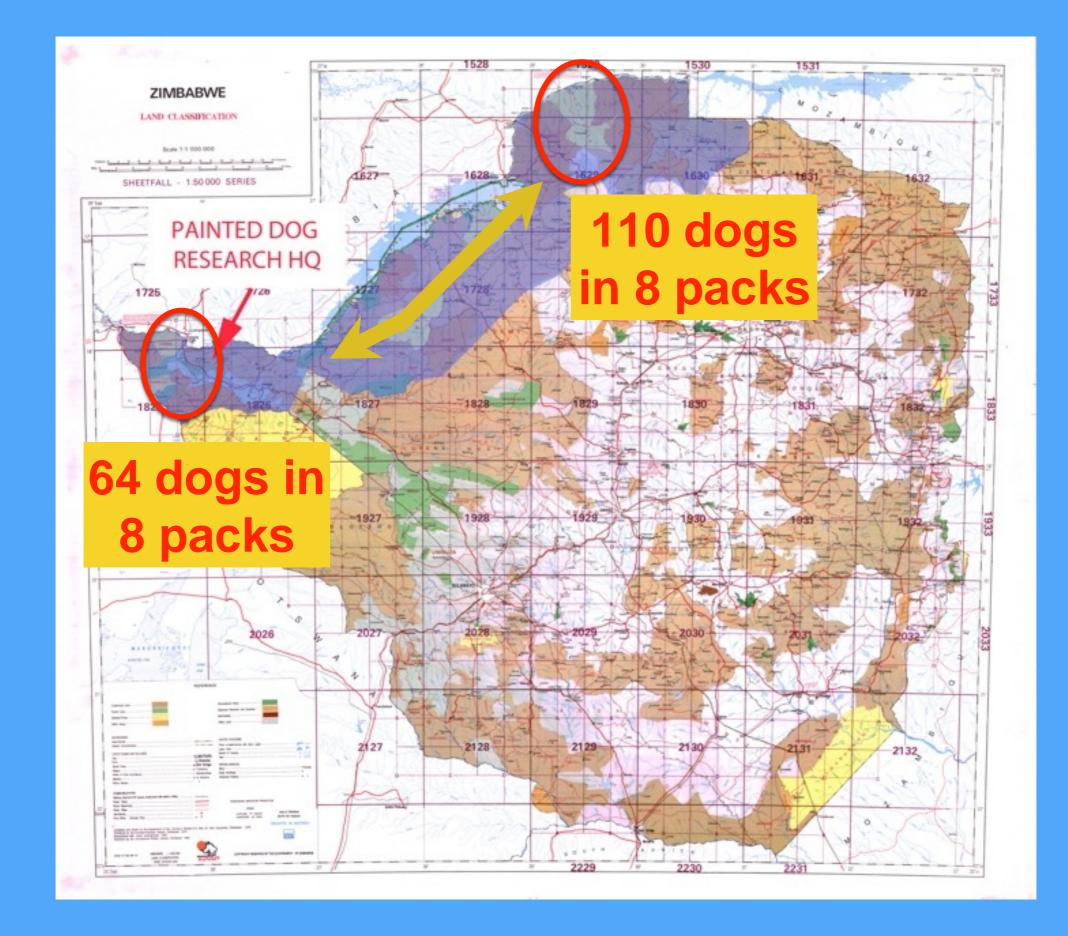


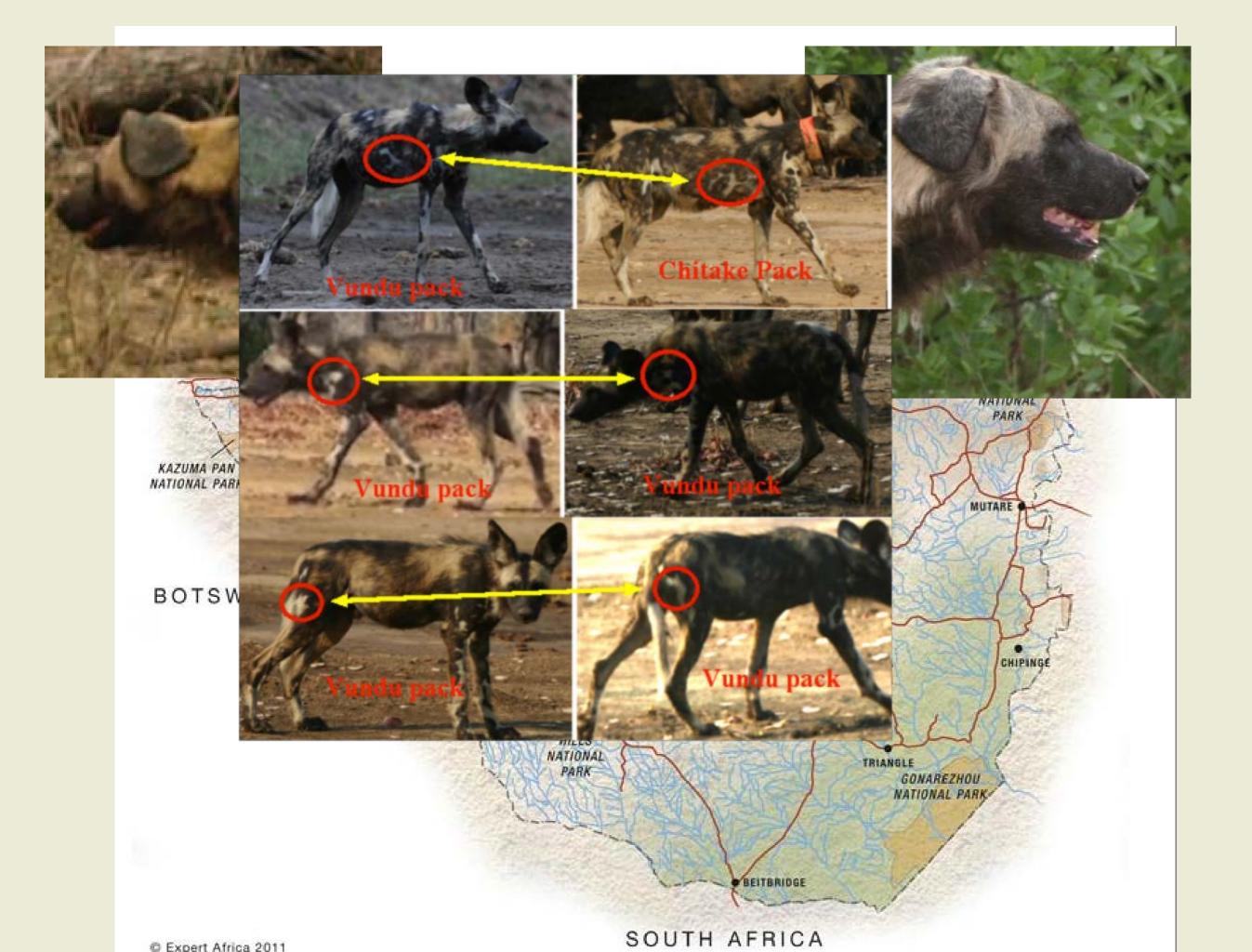
Facilitating determination of corridors using predictive modeling



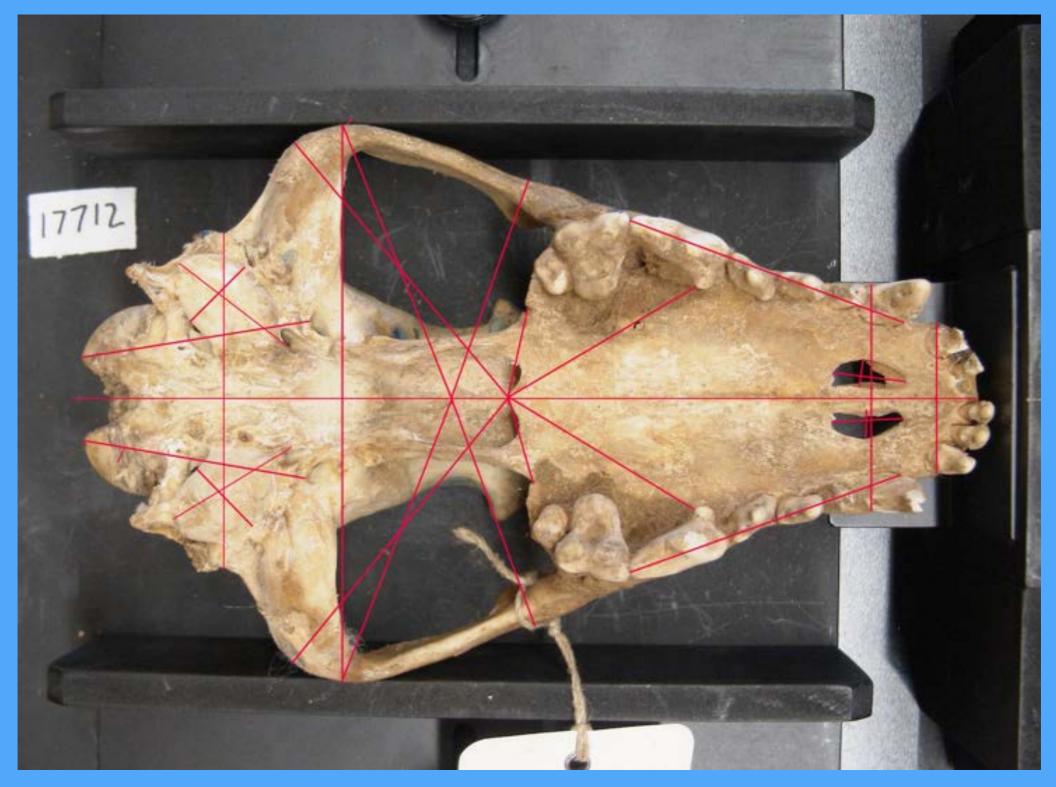
Finer scale identification of corridors/ linkage zones

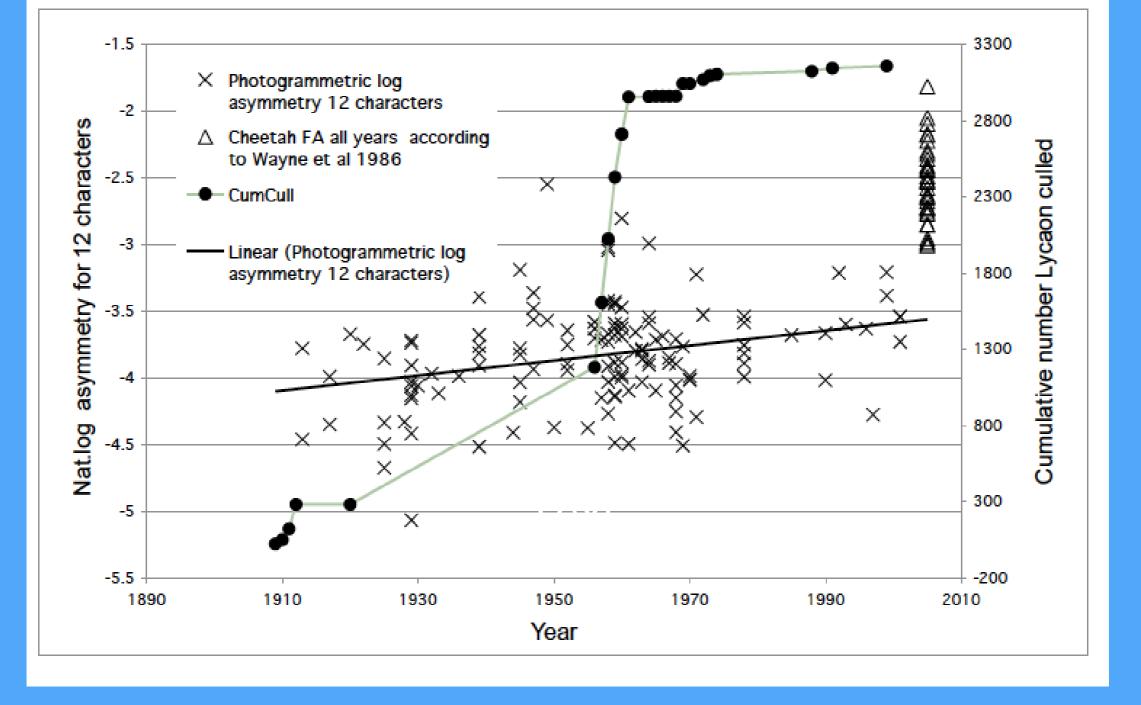






Changing cranial morphometrics





Non-Adaptive Phenotypic Evolution of the Endangered Carnivore Lycaon pictus Charles T. T. Edwards., Gregory S. A. Rasmussen Philip Riordan, Franck Courchamp David W. Macdonald2



US Dept of State Geographer © 2013 Google Image © 2013 DigitalGlobe

8

405 m





12:522/Oct/12 16:30 30/Sep/12 15:26 24/Jan/12 16:44 02:10 /12 18:04 07:51 20:59

 Δ

00

26/Nov/12 12/Nov/12 00:50 14/Nov/12 02:50 13/Nov/12 23:30 14/Nov/12 00:30 14/Nov/12 00:30 14/Nov/12 22:50 14/Nov/12 22:50 14/Nov/12 22:50 14/Nov/12 22:50

221

15/Nov/12 07:10 19/Nov/12 06:12 19/Nov/12 11:11 19/Nov/12 04:30

Cochise died HERE

0 25/Nov/12 10 0 Nov/12 21:50 25/Nov/12 12:10 25/ Nov/12 01:10 00:30 14/Nov/12 22:50 /Nov/12 21:10

221

2 07:10 19/Nov/12 05:12 11 19/Nov/12 04:30



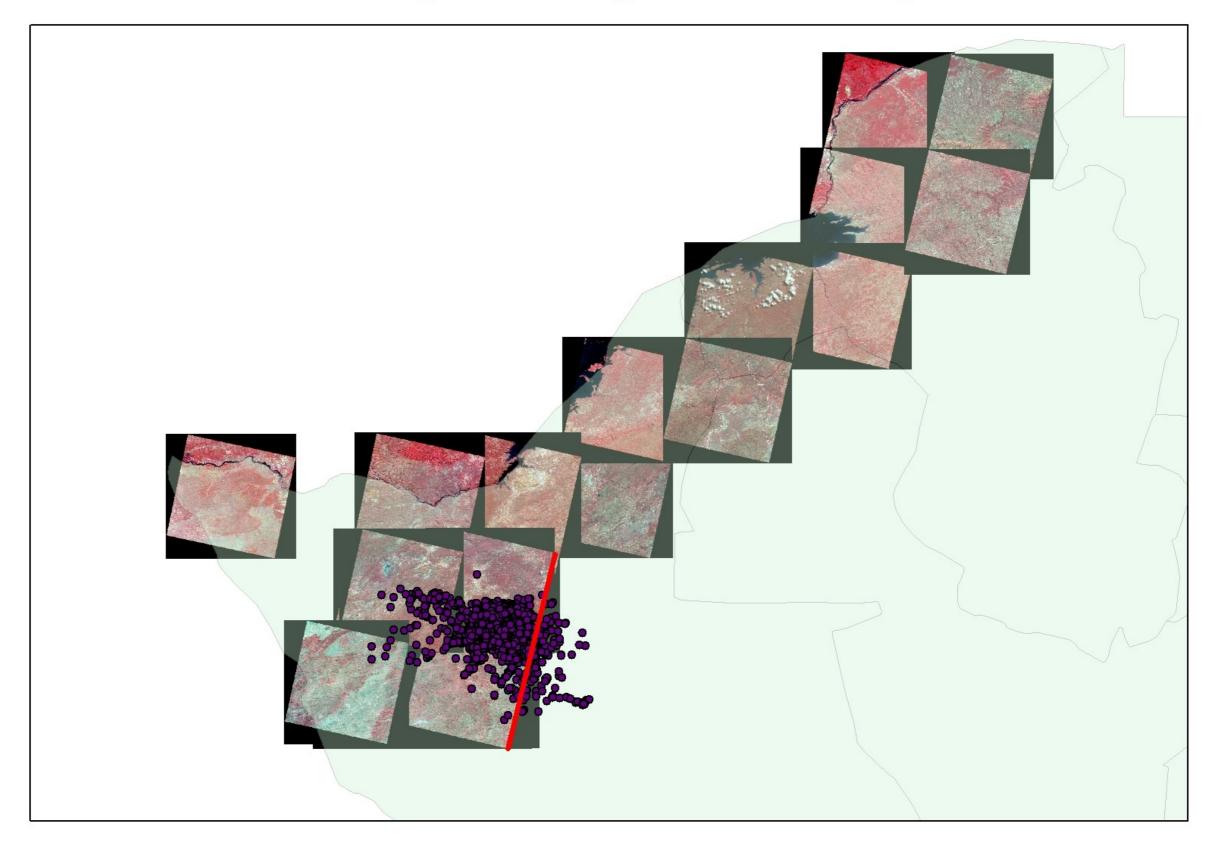
Solutions

Corridor identification and management

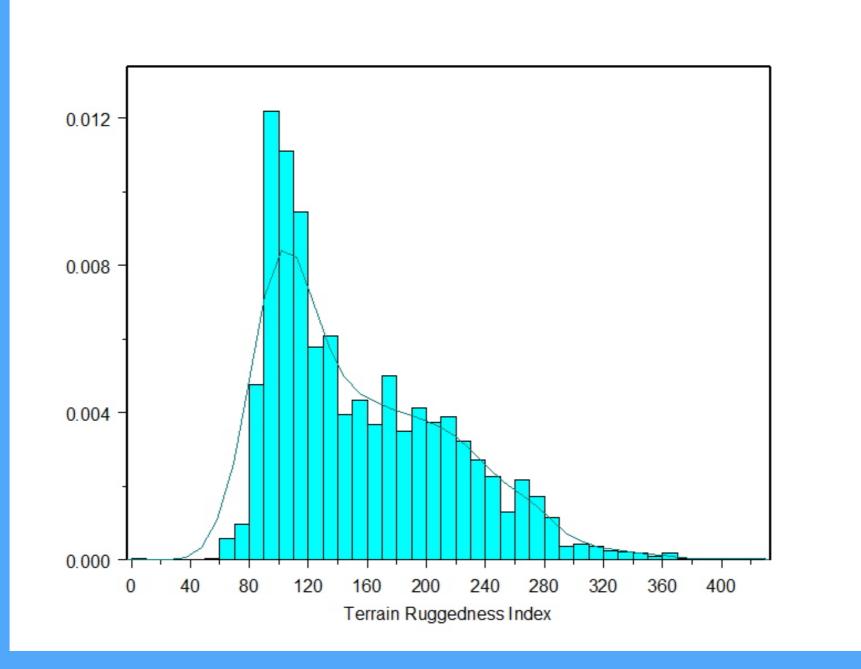
Metapopulation Management

Intervened dispersal

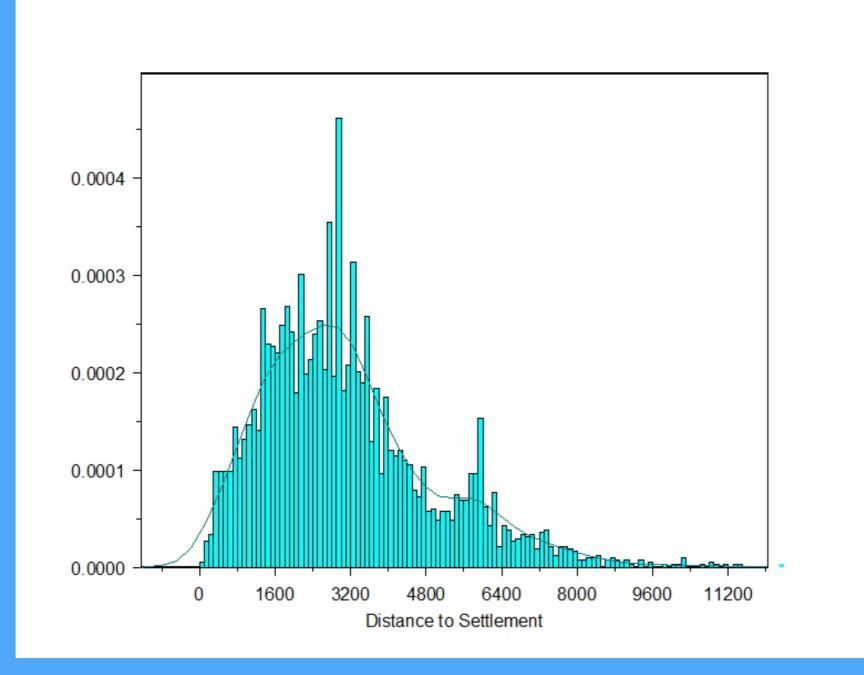
SPOT Coverage for Hwange and Surrouding Area



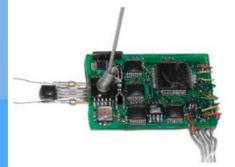
Terrain Ruggedness Index



Distance to Settlements



Unmanned Data Acquisition Unit Under construction



Chuck Pezeshki Washington state University Brent Wright Boulder Creek Computing Systems Carrie Culp Painted Dog Research Trust USA Guy Oliver Marine Mammal Institute, Santa Cruz



Intervened Dispersal









New Volunteers Painted Dog Protection Initiative











Metapopulation Management

Understanding dispersal mechanisms and constraints



THANK YOU FOR LISTENING

