

# Saker Falcon Conservation Projects

*undertaken by*

**International Wildlife  
Consultants & Partners**

*on behalf of the*



**Dr. Andrew Dixon**  
Head of Research  
International Wildlife Consultants

# Saker Falcon Conservation Projects



## CONSERVATION RESEARCH

- What needs to be done

## CONSERVATION MANAGEMENT

- Doing it



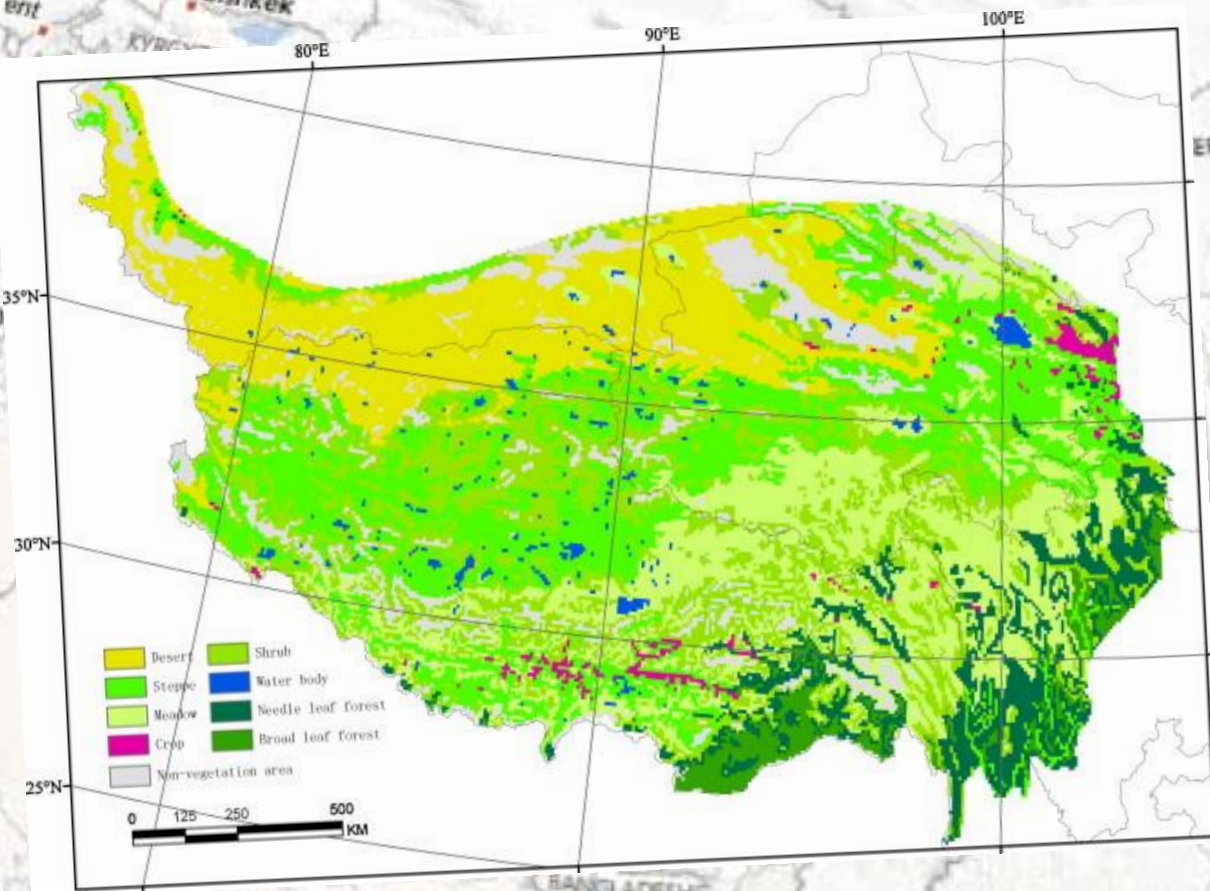
# CONSERVATION RESEARCH

- Population status/threats (China)





# CHINA: Qinghai-Tibetan Plateau

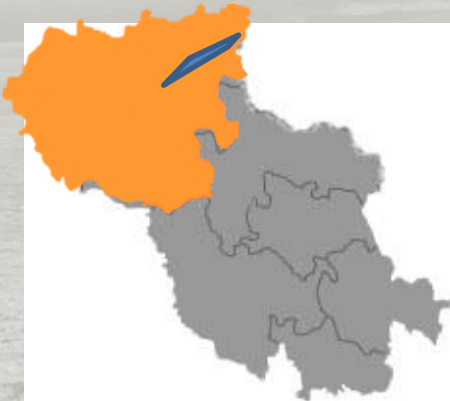




# QTP: breeding surveys 2007

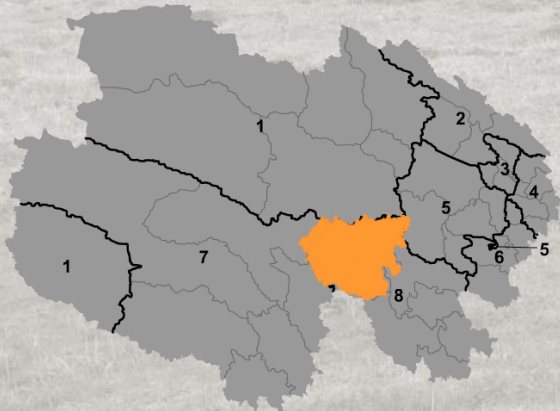


Study area: 7 nests in 735 km<sup>2</sup>  
Madoi County = 25,000 km<sup>2</sup>



Golog Prefecture = 132,530 km<sup>2</sup>

*1.4x larger than Hungary*



Qinghai Province = 720,000 km<sup>2</sup>

*8x larger than Hungary*

QTP = 2,500,000 km<sup>2</sup>

*27x larger than Hungary*

# QTP: breeding surveys 2007

County	Survey Area (km <sup>2</sup> )	Nests	Nests/100 km <sup>2</sup>
Madoi	735	7	0.95
Qumerleb	1435	4	0.28
Ziduo/Yulshul	1555	5	0.32

Population Estimate: 792 (455-1195) breeding pairs in 155,129 km<sup>2</sup>

Only **6%** of QTP! Population undoubtedly **> 1000 bp**

**Ref:**

Dixon, A. , Ma, M. and Batbayar, N. Submitted. *Forktail*.

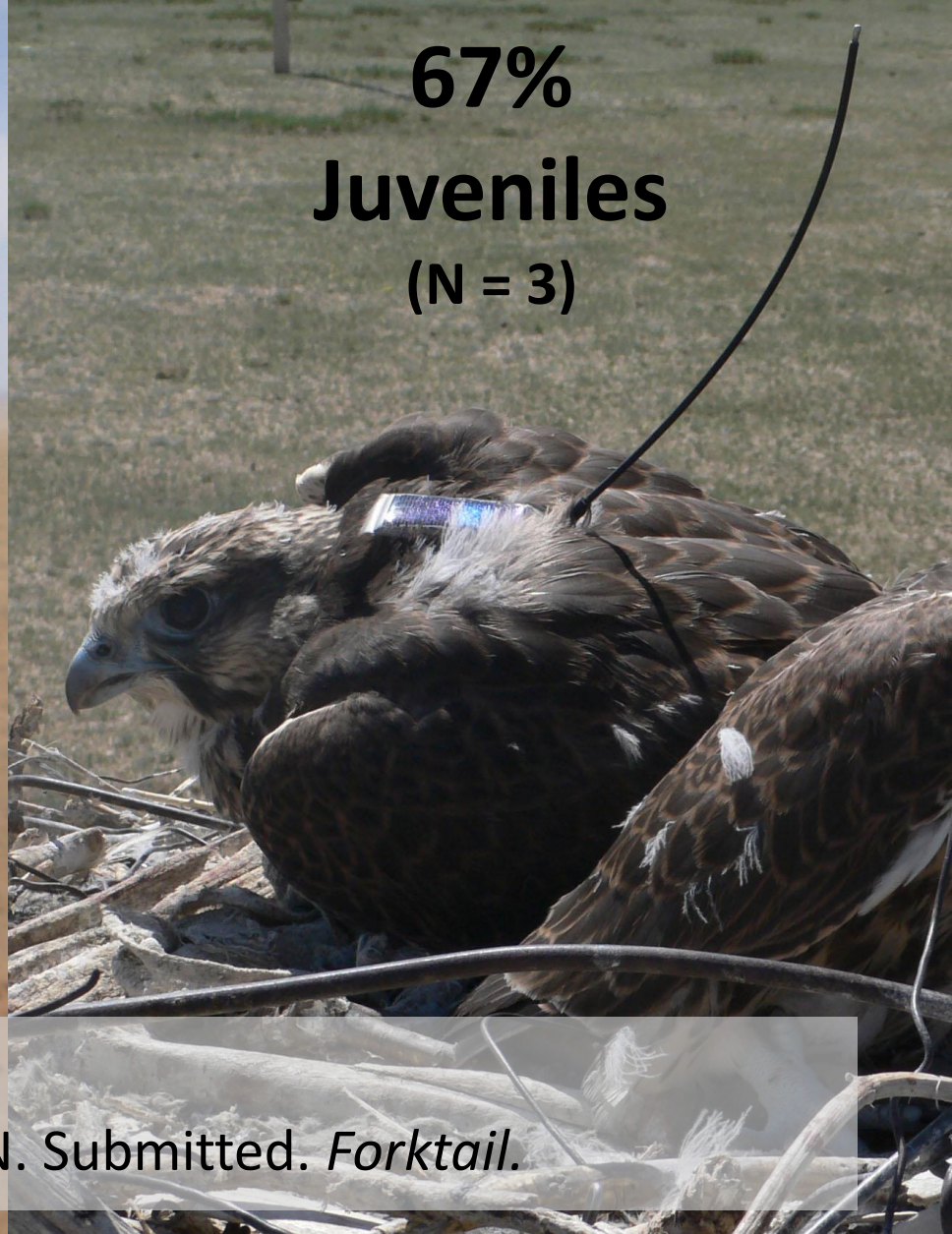


# MIGRATORY SAKERS

**50%**  
**Adults**  
(N = 18)



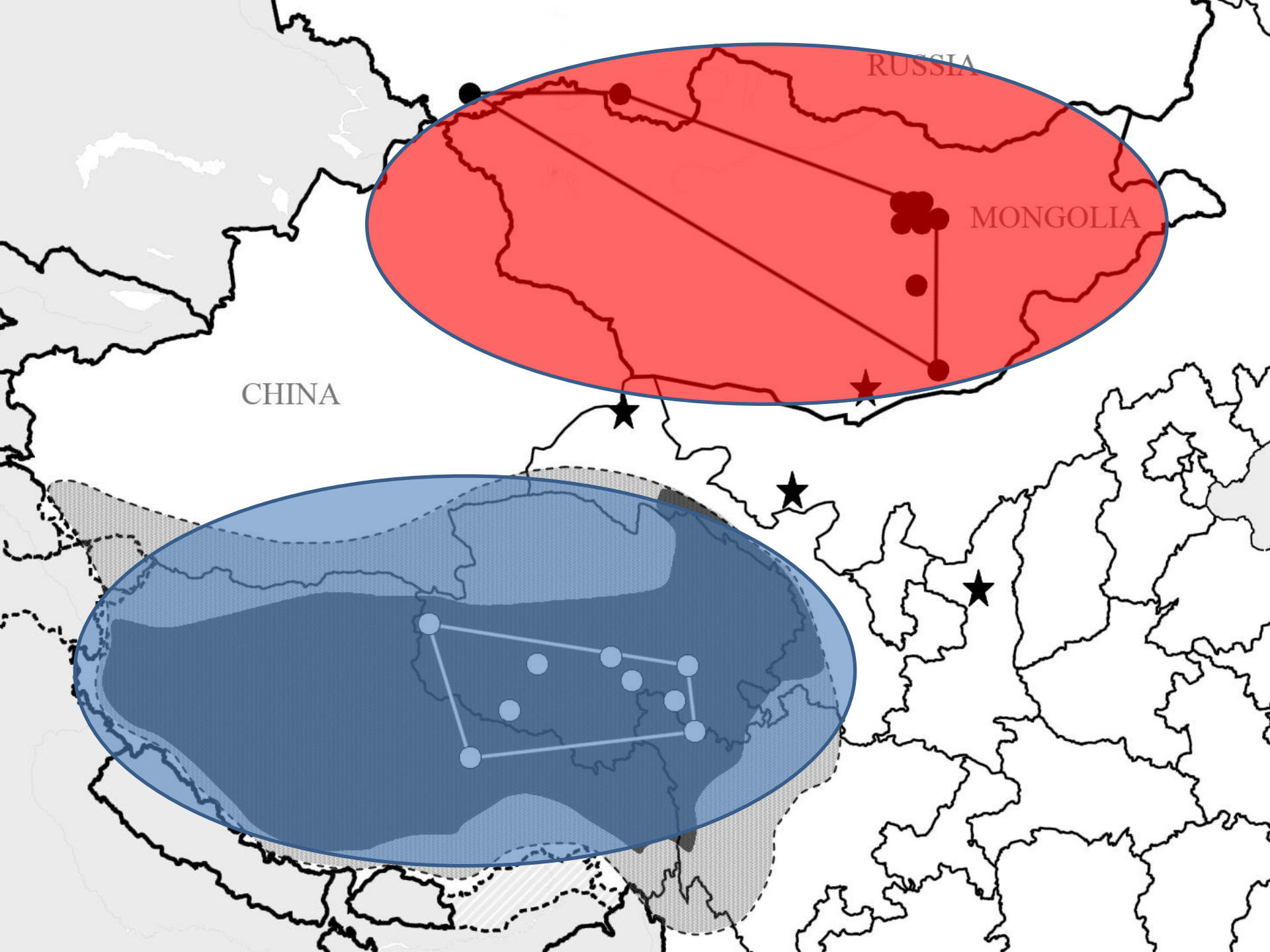
**67%**  
**Juveniles**  
(N = 3)



**Ref:**

Dixon, A. , Ma, M. and Batbayar, N. Submitted. *Forktail*.





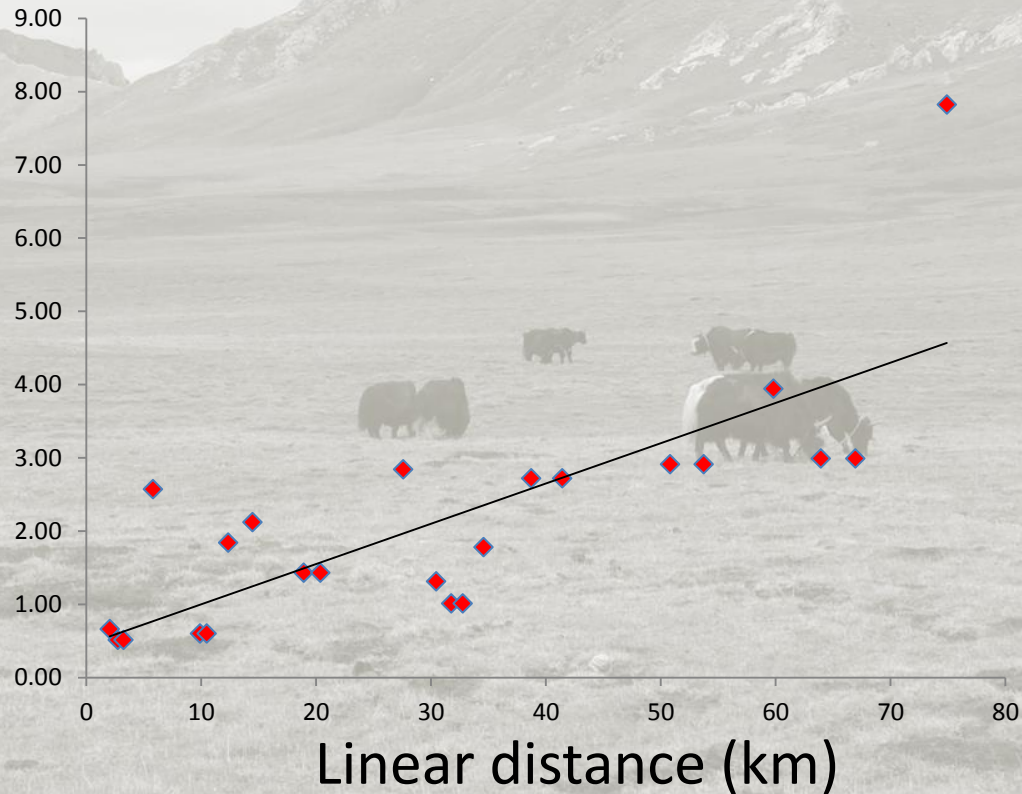


# Local wintering density & small mammal abundance

Ref: Dixon, A. , Ma, M. and Batbayar, N. Submitted. *Forktail*.



NND  
(km)



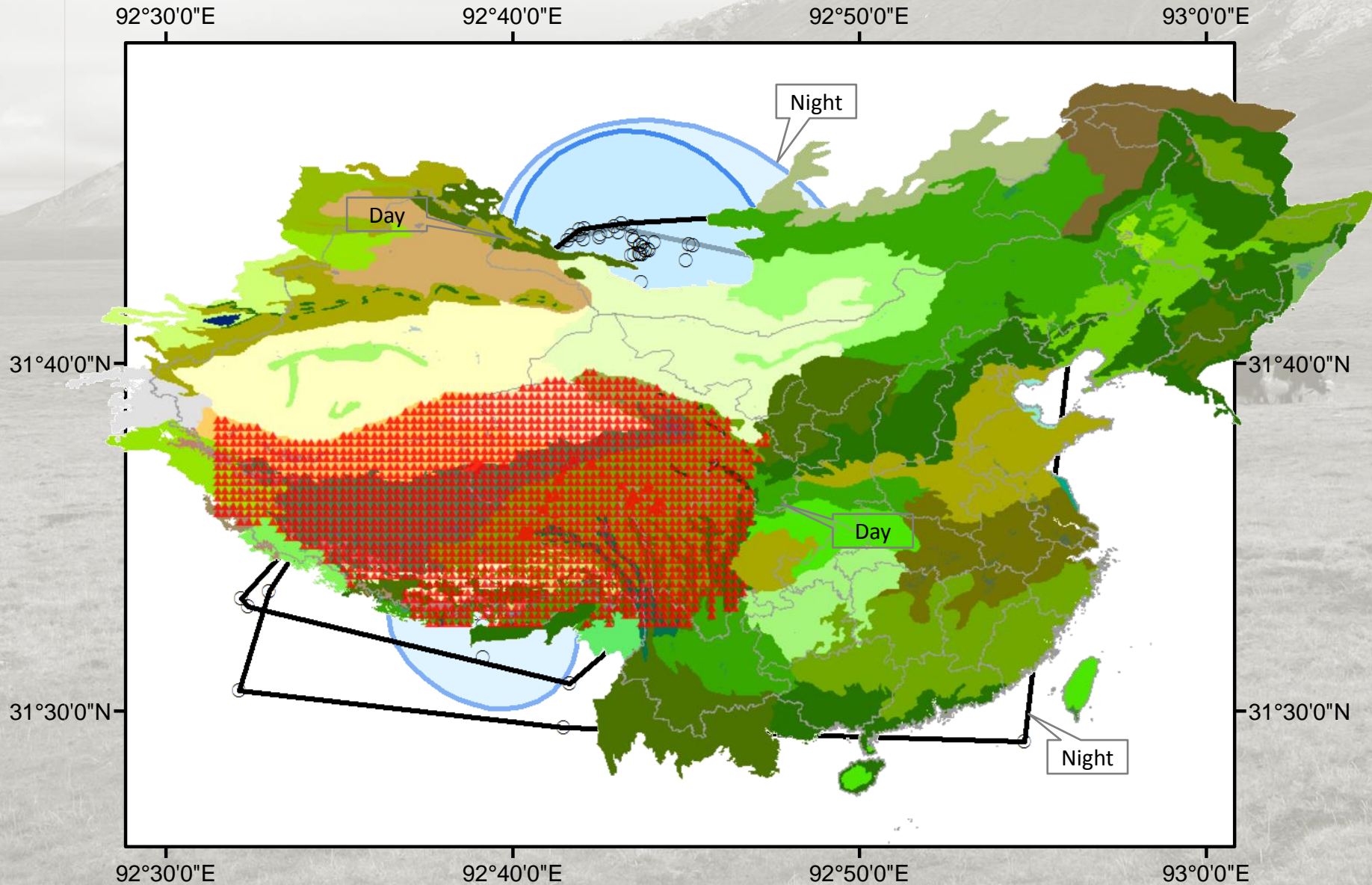
**HIGH**



**LOW**

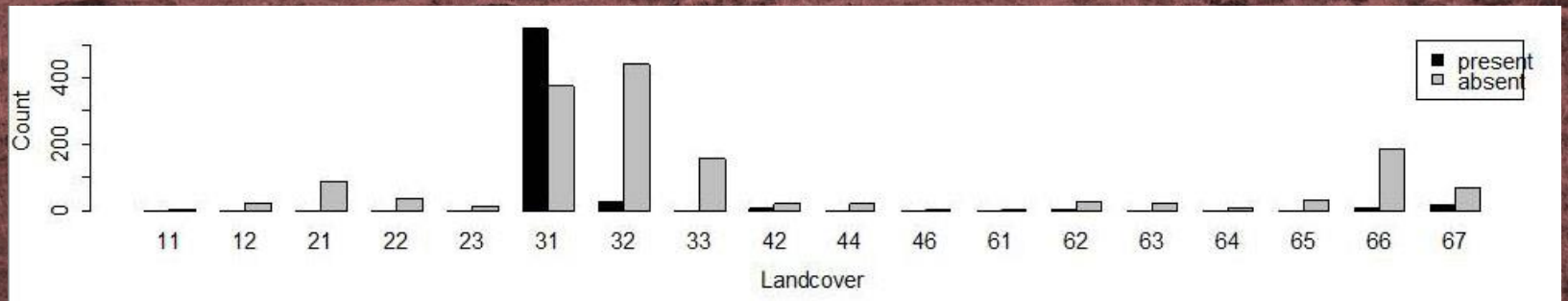
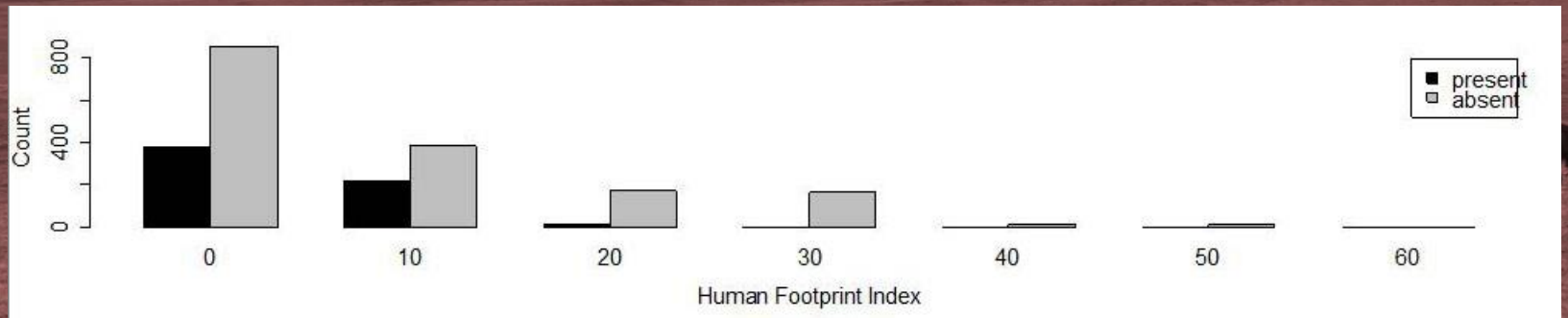
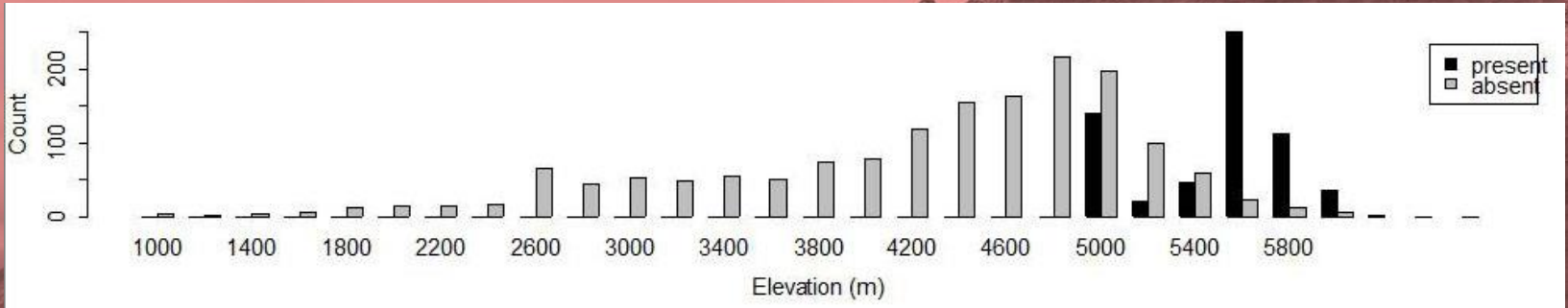
# Winter ranging behaviour

Ref: Zhan, Li, Batbayar & Dixon. Submitted. *Ibis*





# Presence vs. absence on the QTP



# QTP: Threats

- **GENERAL**

- ❖ Climate change





# QTP: Threats

- **GENERAL**

- ❖ Land use changes



# QTP: Threats

- **GENERAL**

- ❖ Socio-economic development





# QTP: Threats

- **SPECIFIC**
- ❖ Small mammal eradication





# QTP: Threats

- **SPECIFIC**

- ❖ **Electrocution**





# QTP: Threats

- **SPECIFIC**

- ❖ **Trapping**



# Conservation Management Proposals

- ARTIFICIAL NESTS  
Rodent control
- POWER LINE MITIGATION  
Electrocution
- SUSTAINABLE USE  
Trapping



*Northwest Institute of Plateau Biology, CAS*



**Institute of Zoology**  
**Chinese Academy of Sciences**



# CONSERVATION MANAGEMENT

- Artificial nests (Mongolia)
- Electrocution (Mongolia)



IBER

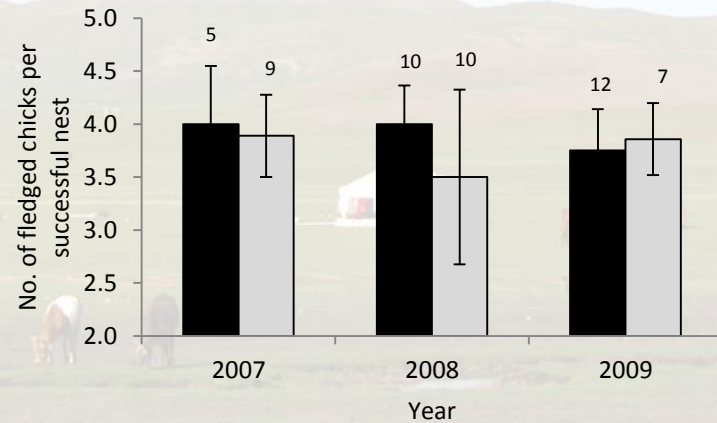
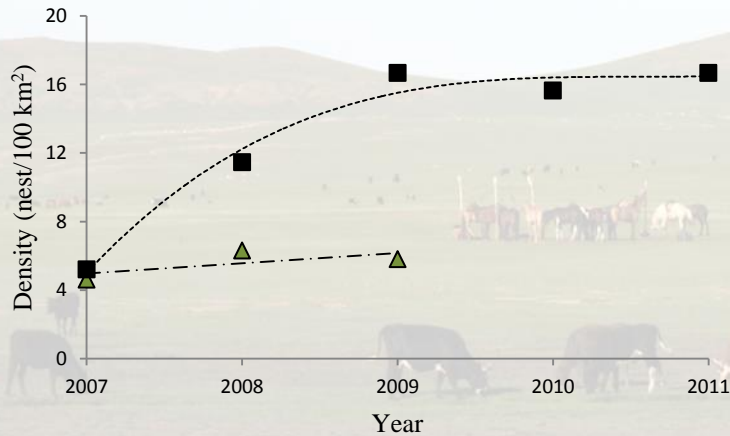
- **Reintroduction (Bulgaria)**



# CONSERVATION MANAGEMENT PROJECTS

## ARTIFICIAL NESTS (Mongolia)

❖ 2006-10: 5yr experimental study



**Ref:** Rahman, Purev-Ochir, Etheridge, Batbayar & Dixon. In review.  
*Biological Conservation*

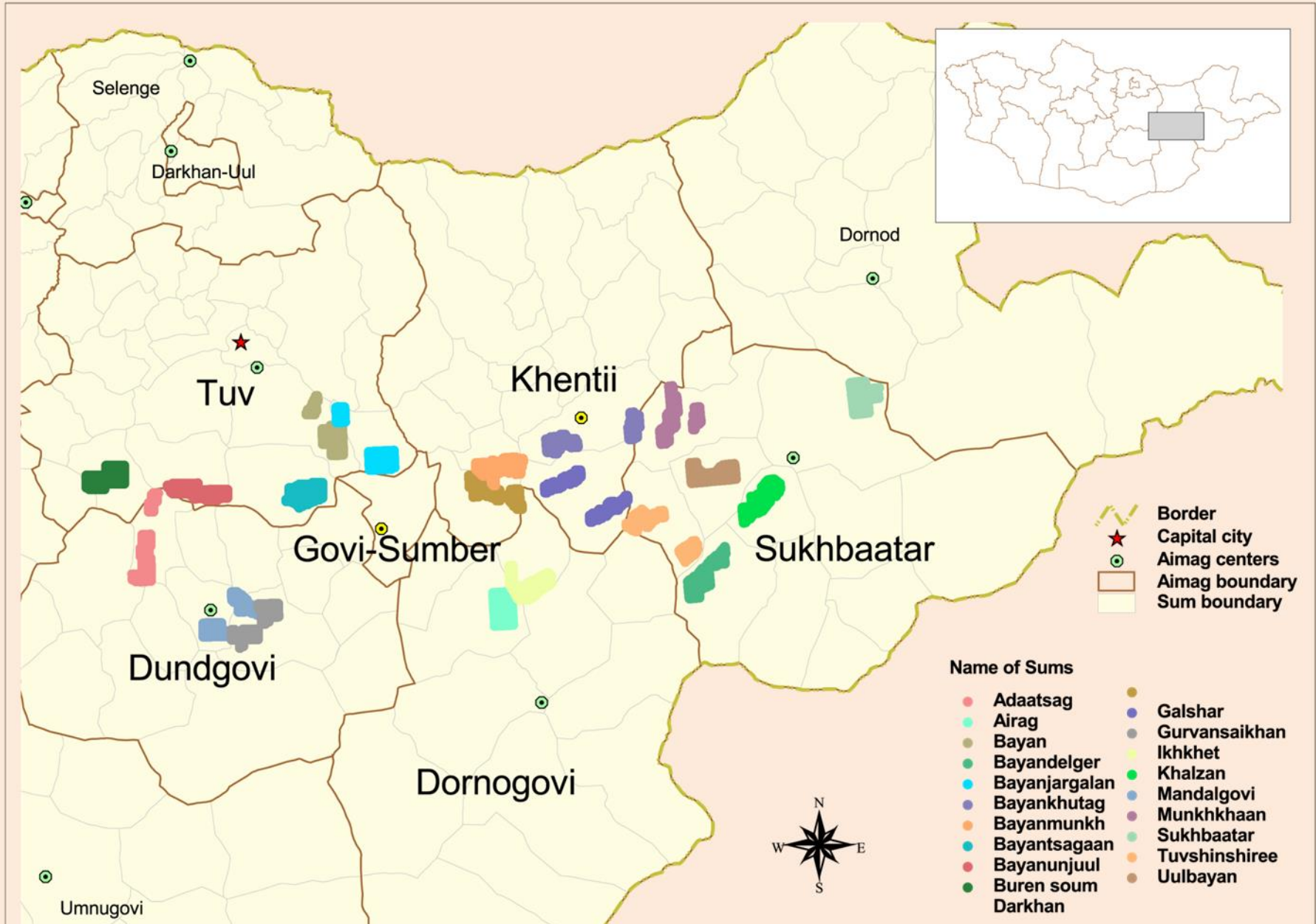


# Establishing a managed & monitored Saker population

- **How:** 5000 artificial nests to create a new breeding 'population'
- **Where:** Areas with nest-site limited breeding population
- **When:** Erected in 2009/10, monitored 2011-15







**Ref:** Dixon, Batbayar, Purev-Ochir, Fox. 2011. In: *Gyrfalcons and Ptarmigan in a Changing World*.



**BREEDING**  
*(N. Observed)*

2011 = 200

2012 = 380

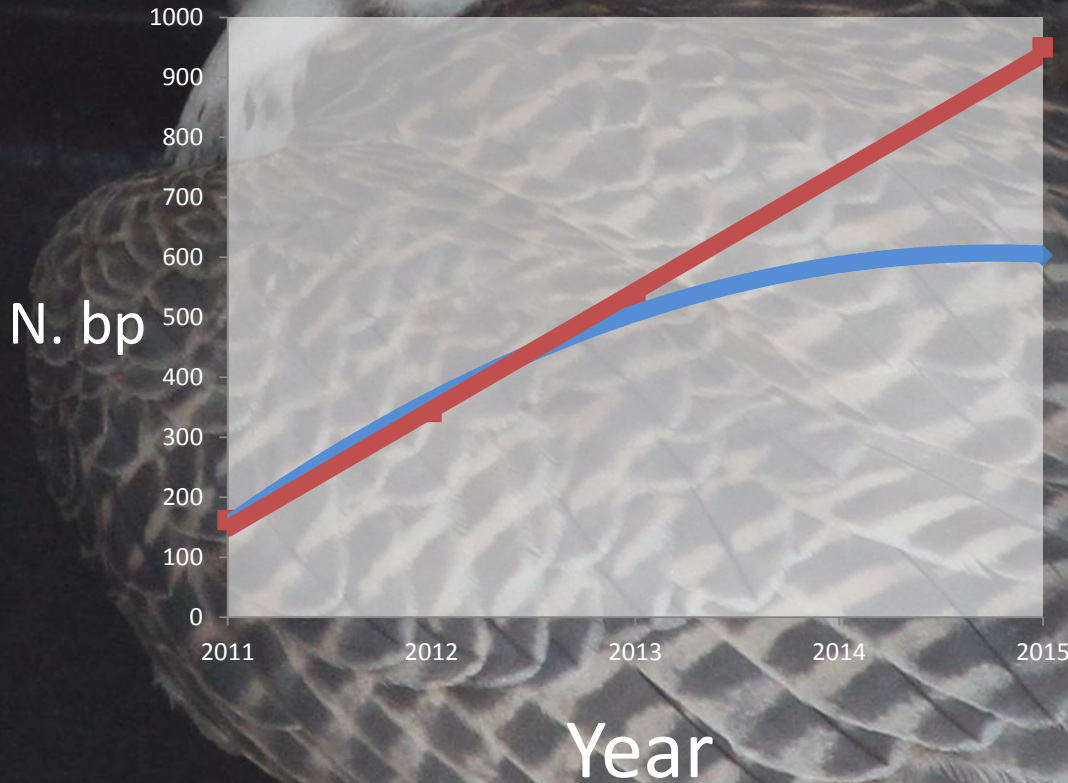
2013 = 568

**PRODUCTIVITY**  
*(N. Fledglings)*

2011 = 486

2012 = 1,298

2013 = (1,924)



# Why? What is the conservation benefit?



- **Buffer** against high mortality rates resulting from novel and/or increasing threats (e.g., electrocution, trapping)

- Resource for promoting environmental awareness, capacity and **Education**



# Why? What is the conservation benefit?



- Potential value in wide scale **pollution monitoring** (e.g., heavy metals from mining activities)

- Potential value in **biological control** of rodent pest species – alternative to rodenticides



# Why? What is the conservation benefit?



- Managed and monitored population to establish a **Sustainable Harvest Quota**



Mongolia announced 5-year suspension of  
You can lead a horse to water but you  
'commercial trade' in January 2013  
can't make it drink *old English proverb*





# CONSERVATION MANAGEMENT PROJECTS

## ELECTROCUTION (Mongolia)

Ref: Dixon, Ma, Gunga, Purev-Ochir, Batbayar. In Press. *Bird Conservation International*





# Dangerous power poles

Steel-reinforced concrete poles with metal cross-arms = earthed



SUSPENSION POLE



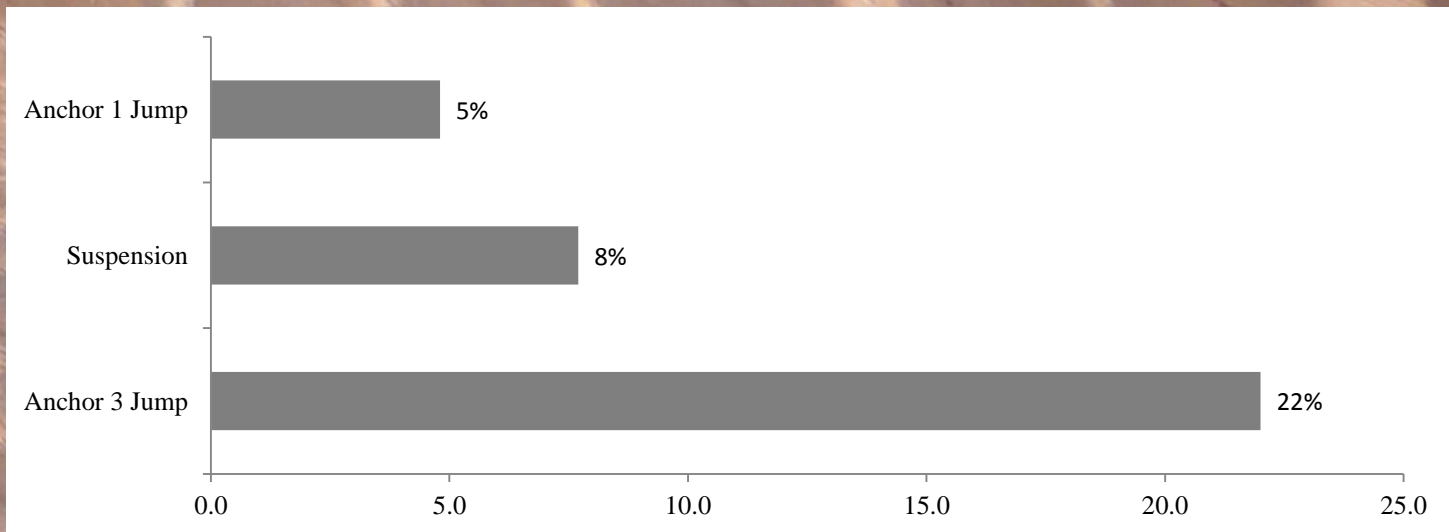
ANCHOR POLE

Jump-wires over crossarm  
(all 3-phases)



ANCHOR POLE

Jump-wires under crossarm  
(1<sup>st</sup> & 2<sup>nd</sup> phases)



% of poles with electrocuted raptors





15 kV line Eastern Mongolia  
149 days (March-August 2013)

**235 Electrocuted Sakers**

1 Saker every 5 km every week!

205  
2013-3-16

456  
2013-3-16

346  
2013-4-10

297  
2013-4-10

441  
2013-4-17

217  
2013-4-17

173  
2013-4-17

280  
2013-4-17

56  
2013-4-21

337  
2013-4-28

242  
2013-4-28

35  
2013-5-1

56  
2013-5-2

104  
2013-5-4

47  
2013-4-19

301  
2013-4-21

194  
2013-4-19

2013-5-22

2013-4-24

2456

172

275  
2013-4-21

2013-4-21

357  
2013-4-24

213  
2013-4-24

210  
2013-4-21

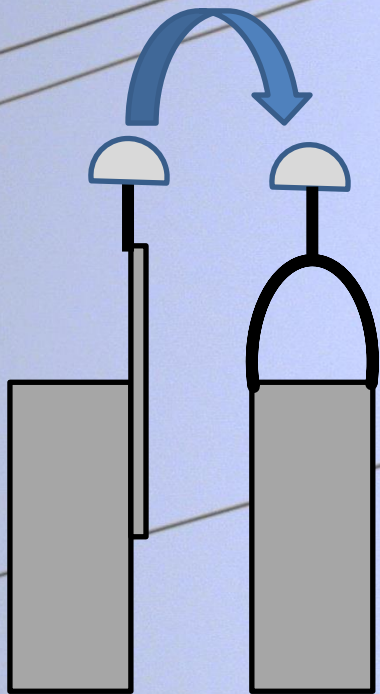
333  
2013-5-8

2013-4-21



# 2013-14 Research Programme

## Evaluation of mitigation techniques





# REINTRODUCTION (Bulgaria)

Ref: Ragyov, Dixon & Kowalczyk. 2010. *Global Re-introduction Perspectives: 2010*.  
IUCN/SSC RSG

## Feasibility Study

SOUTHEAST  
EUROPE  
SAKER  
FALCON  
NETWORK

### SAKER FALCON *Falco cherrug* REINTRODUCTION IN BULGARIA

#### FEASIBILITY STUDY



© Nedko Nedialkov

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Sofia 2009

## Captive Breeding



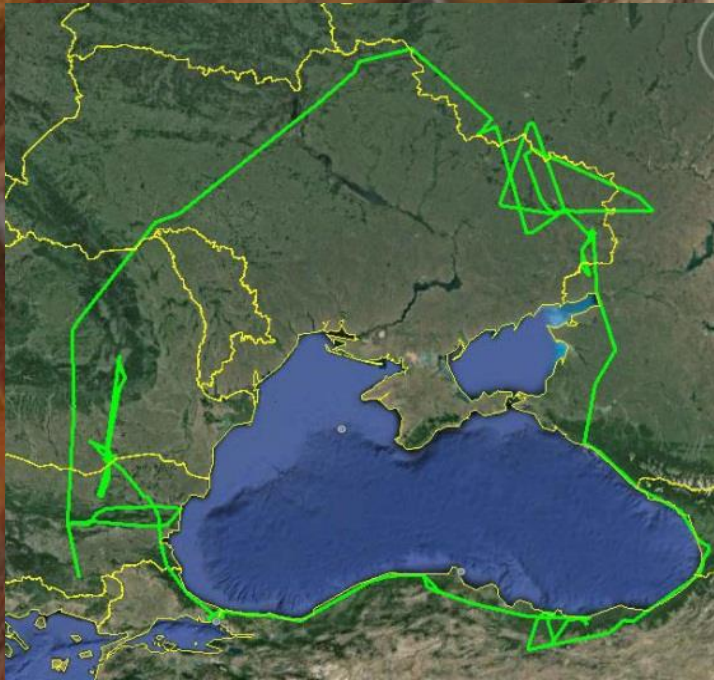
## Pilot Releases





# Satellite Telemetry

- Movements



- Habitat use
- 'Natal' philopatry
- Survival rates
- Mortality factors





# 2014: Evaluation

- Survival rates (refined population models)
  - Electrocution
    - Targets
  - Capacity
  - Funding
  - “Politics” !!!





Thank You

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8

4

7

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