

Current Status and conservation of Przewalski's Gazelle

Li Chunlin
licleecology@gmail.com





Teratoscincus przewalskii



Phrynocephalus przewalskii



Grallaria przewalskii



Grus nigricollis



Eolagurus przewalskii



Equus przewalskii



Procapra przewalskii



Specimen of
Przewalski's gazelle



Nocoli M. przewalski
1839-1888

Do you
know
me?

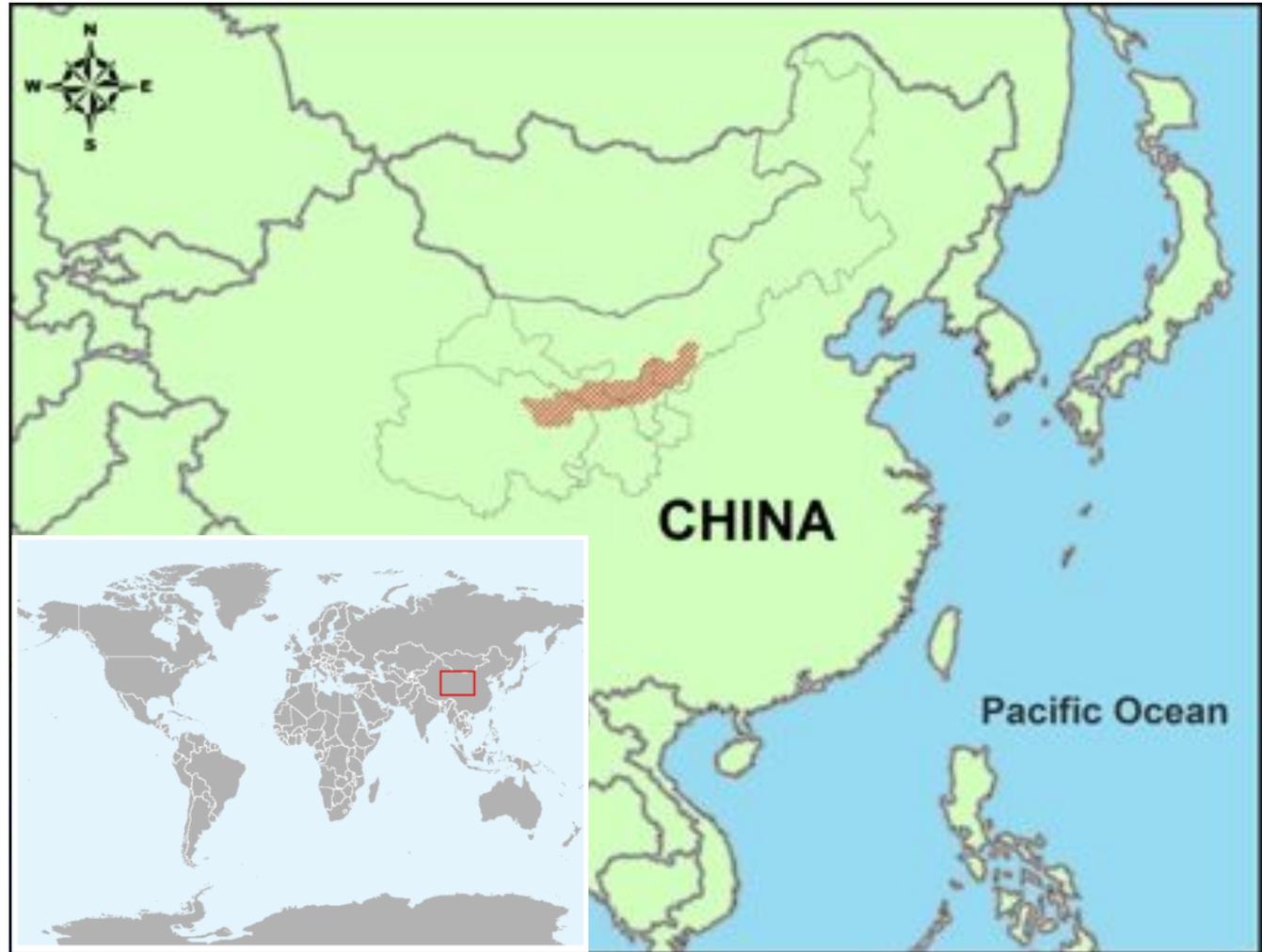


**HELP ME!
PLEASE!**

Historical distribution ranges

First found by N. M. Przewalski in 1875

Widely distributed in northwestern China



Endangered status

- IUCN Red List: Endangered
- Category I Key National Protected Wild Animal Species in China
- One of the 15 conservation priorities from 2000 to 2050 in China



This is the most highly threatened antelope species in the region...

— David Mallon, IUCN/SSC Antelope Specialist Group

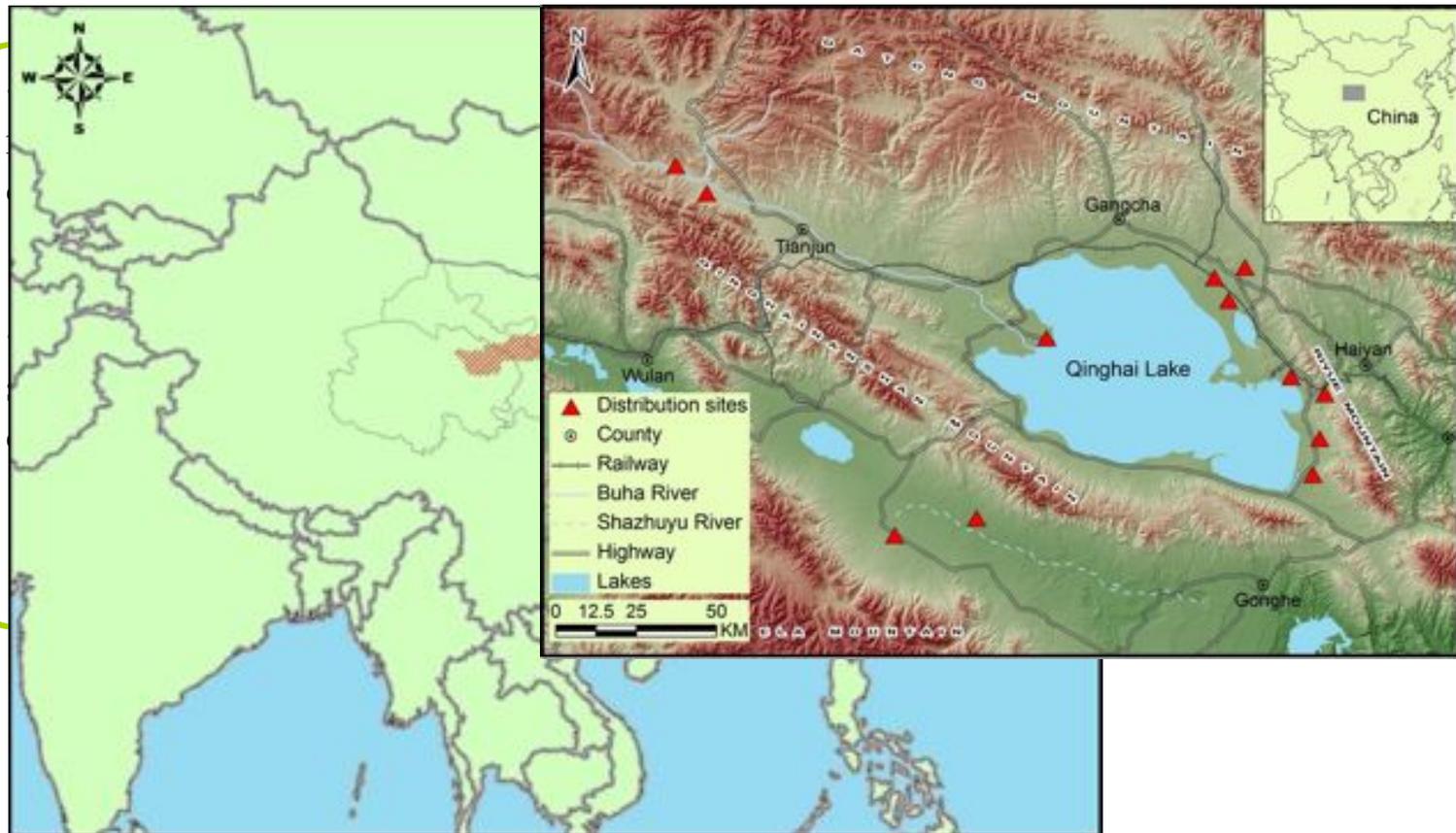


Population trends



- Widely distributed in northwestern China

- In large number



We want to know ...

- in the context of rapid human population growth and economic development,
 - WHAT is the current population size?
 - WHAT is the current distribution range?
 - WHAT factors are there threatening its survival?
 - WHAT conservation actions are there and what about their efficiency?

Field survey



➤ Survey time

- 7~8, 2009
- 1, 5, 8, 12, 2010 and 5, 8, 2011

➤ Survey sites

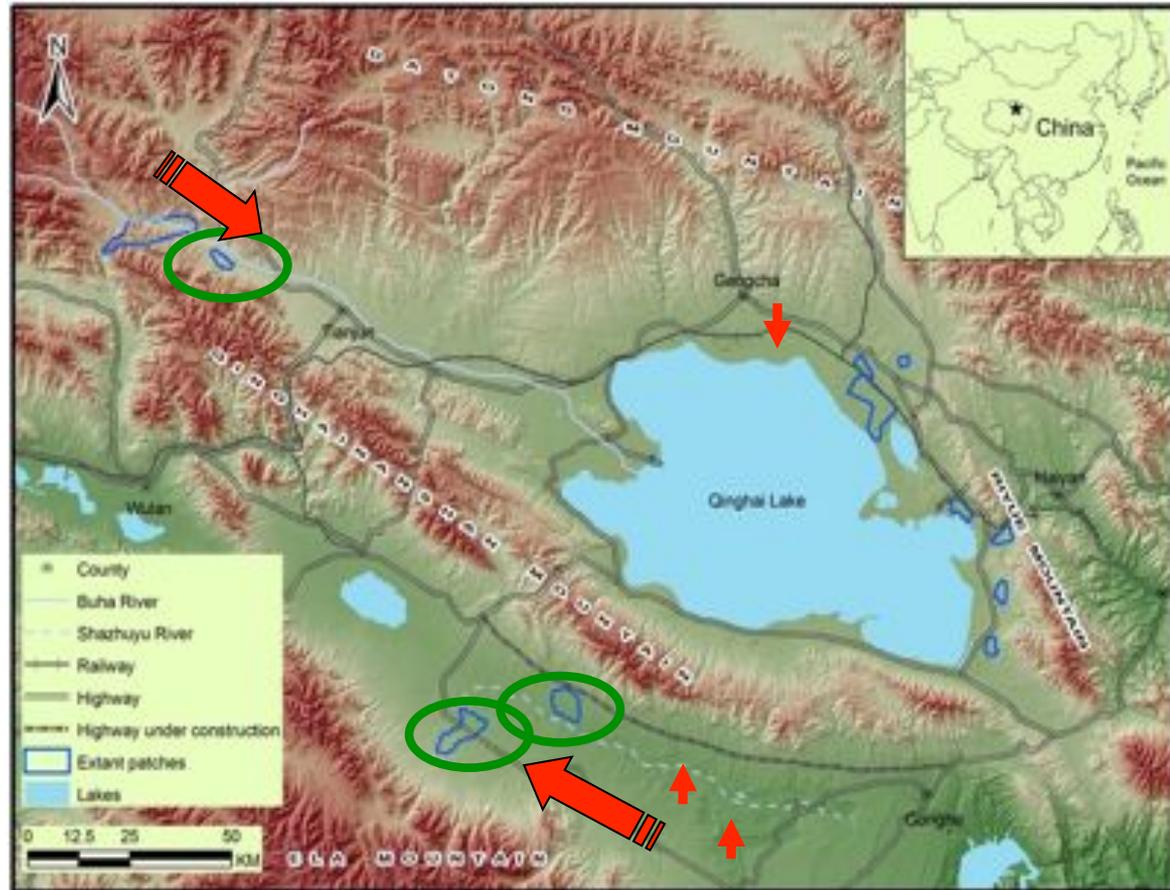
- All potential patches around the Qinghai Lake

➤ Survey method

- Distance sampling
- Total count
- Minimum Convex Polygon MCP
- 95% Fixed Kernel Method

Distribution range

- Located in 12 of 15 surveyed patches
- Total 250 km²
- Fragmented with poor connectivity
- 3 historical distribution areas have no records
- 3 newly reported patches

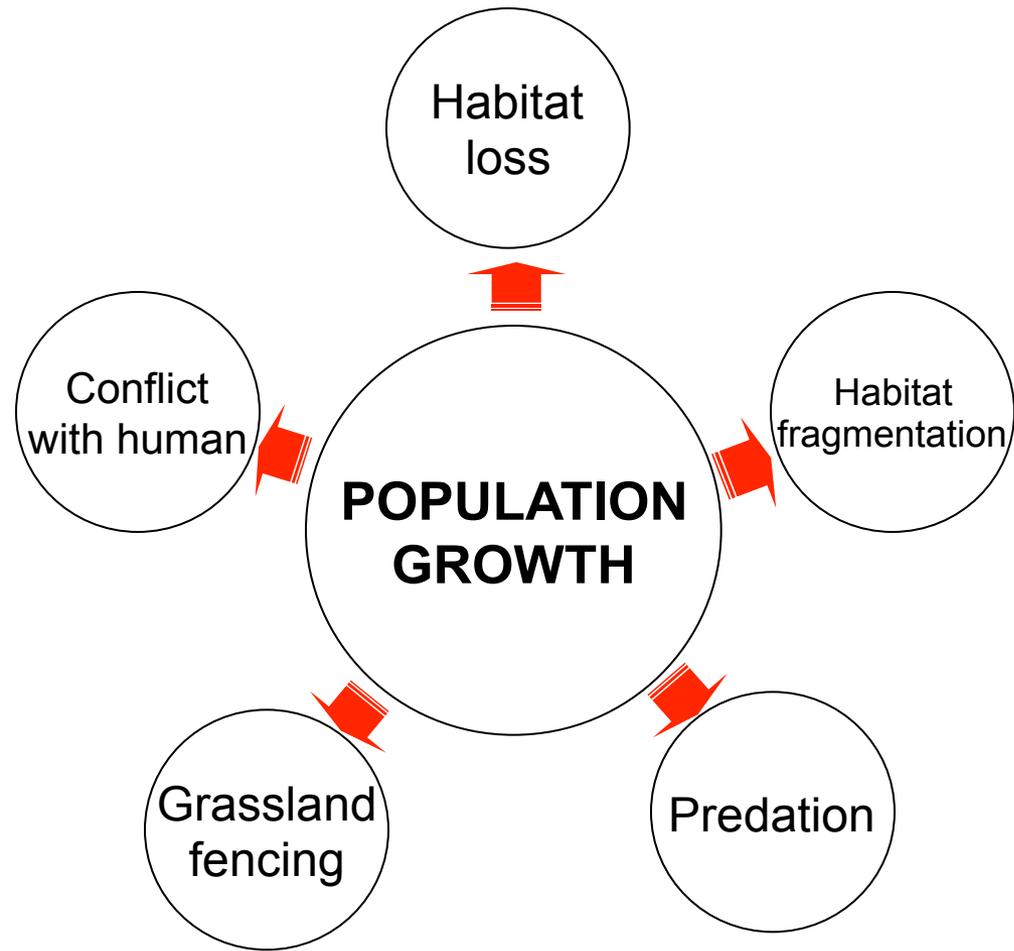


Population size

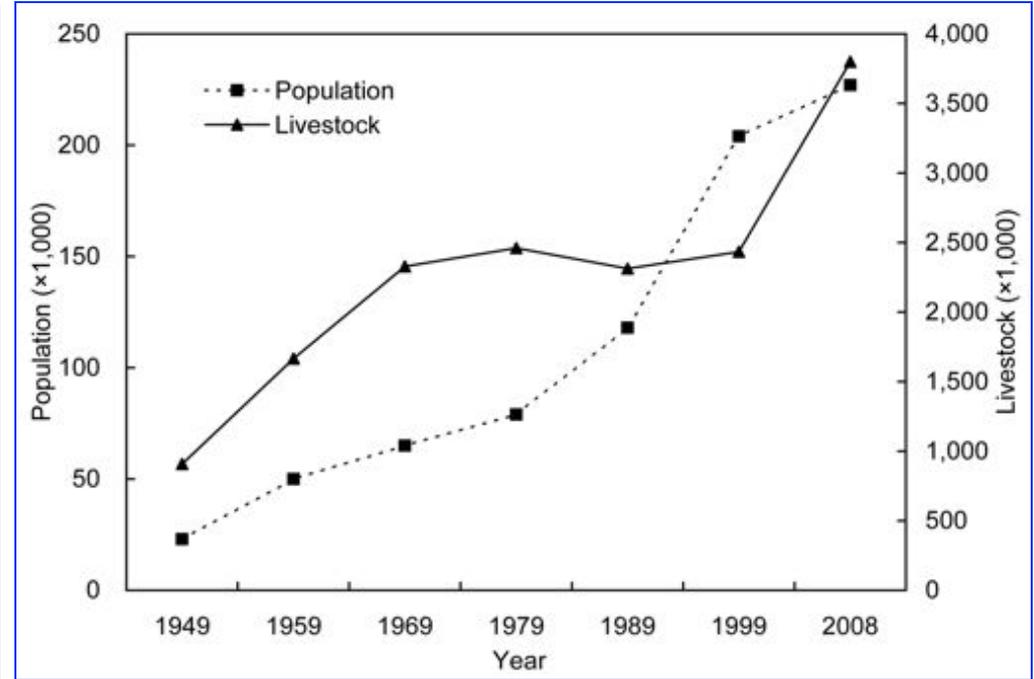
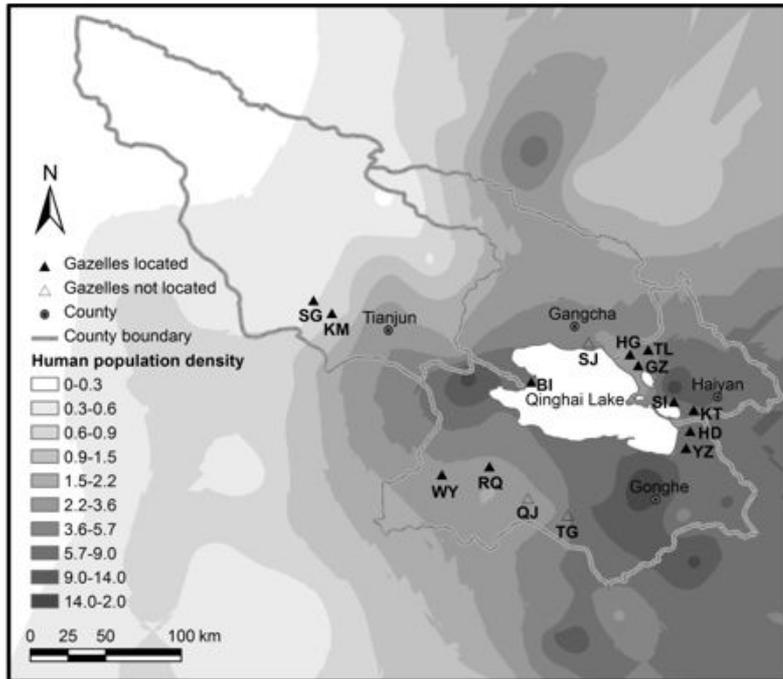


- Total count: 1 544
- Distance sampling: 1 635
- Average annual population growth rate since 2003: 6.17%
- Newly discovered: c. 300 (20%)
- Overall growth but with local declines or extirpations
- Population size is still very small
- Some small population is still declining

Threats



Threats



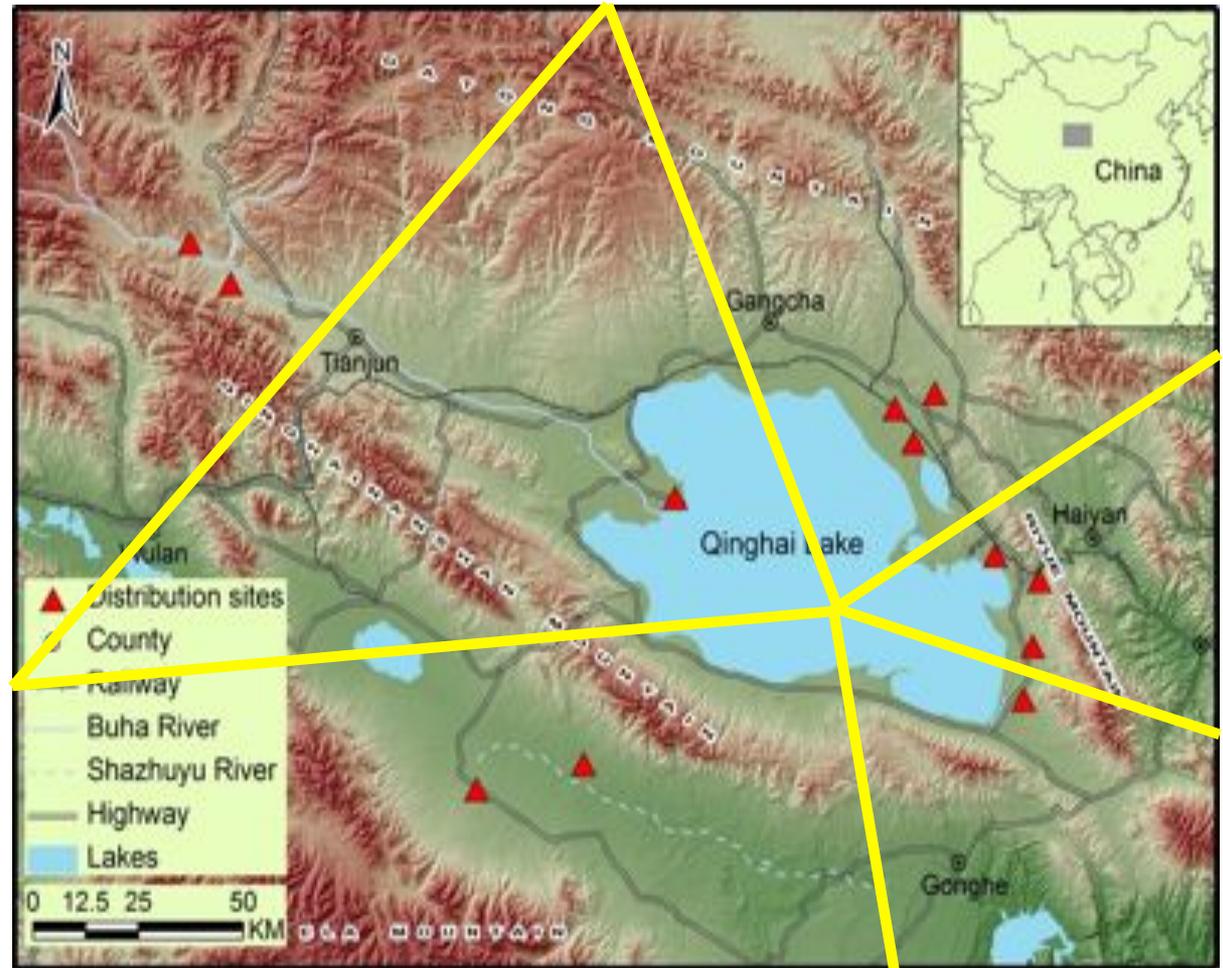
- Human population growth: 10 times
- Livestock population growth: 4 times



Habitat fragmentation

- Habitat degradation
- Fragmentation
- Increasing conflict with human
- Significant genetic differentiation

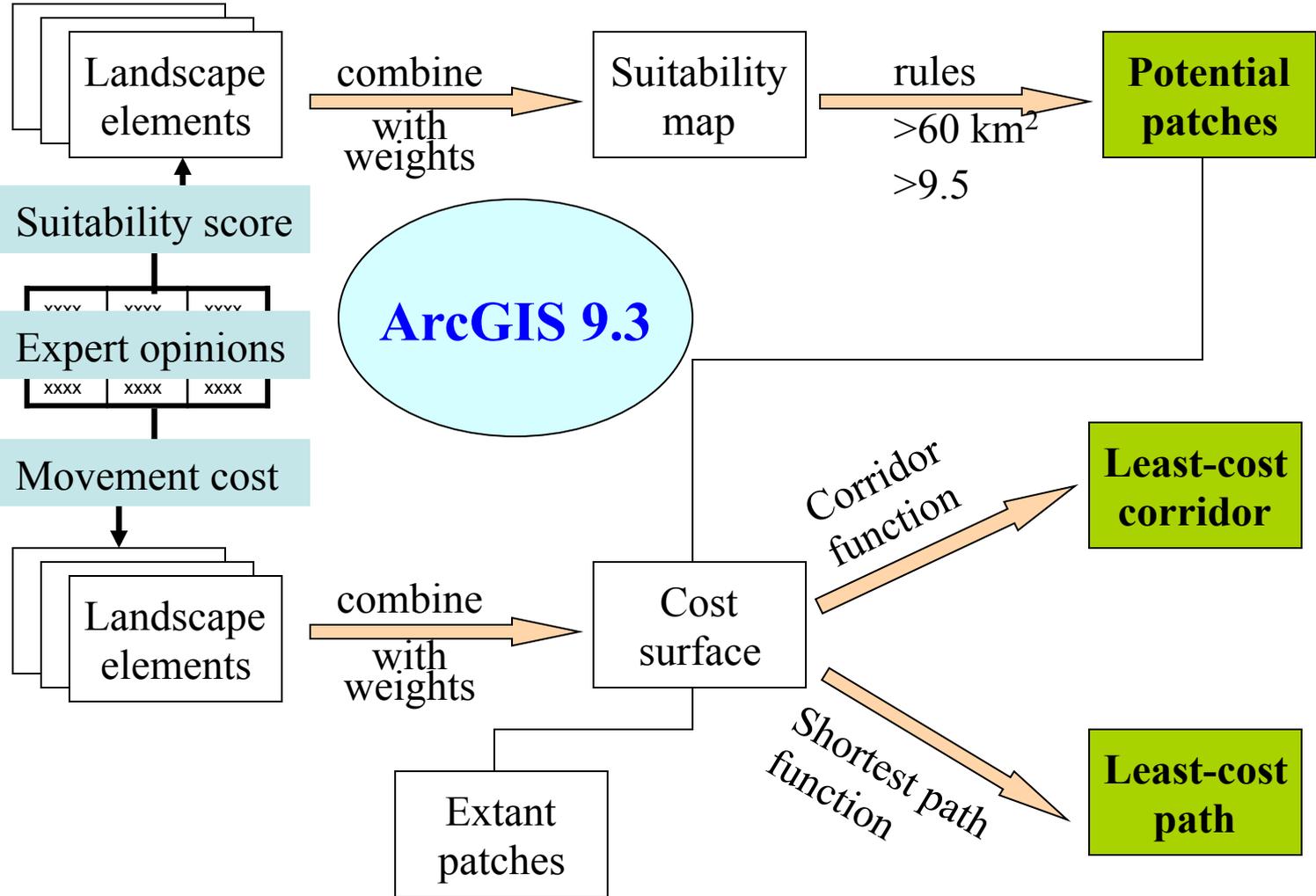
(Yang et al. 2011; Li et al. 2012)



We want to know ...

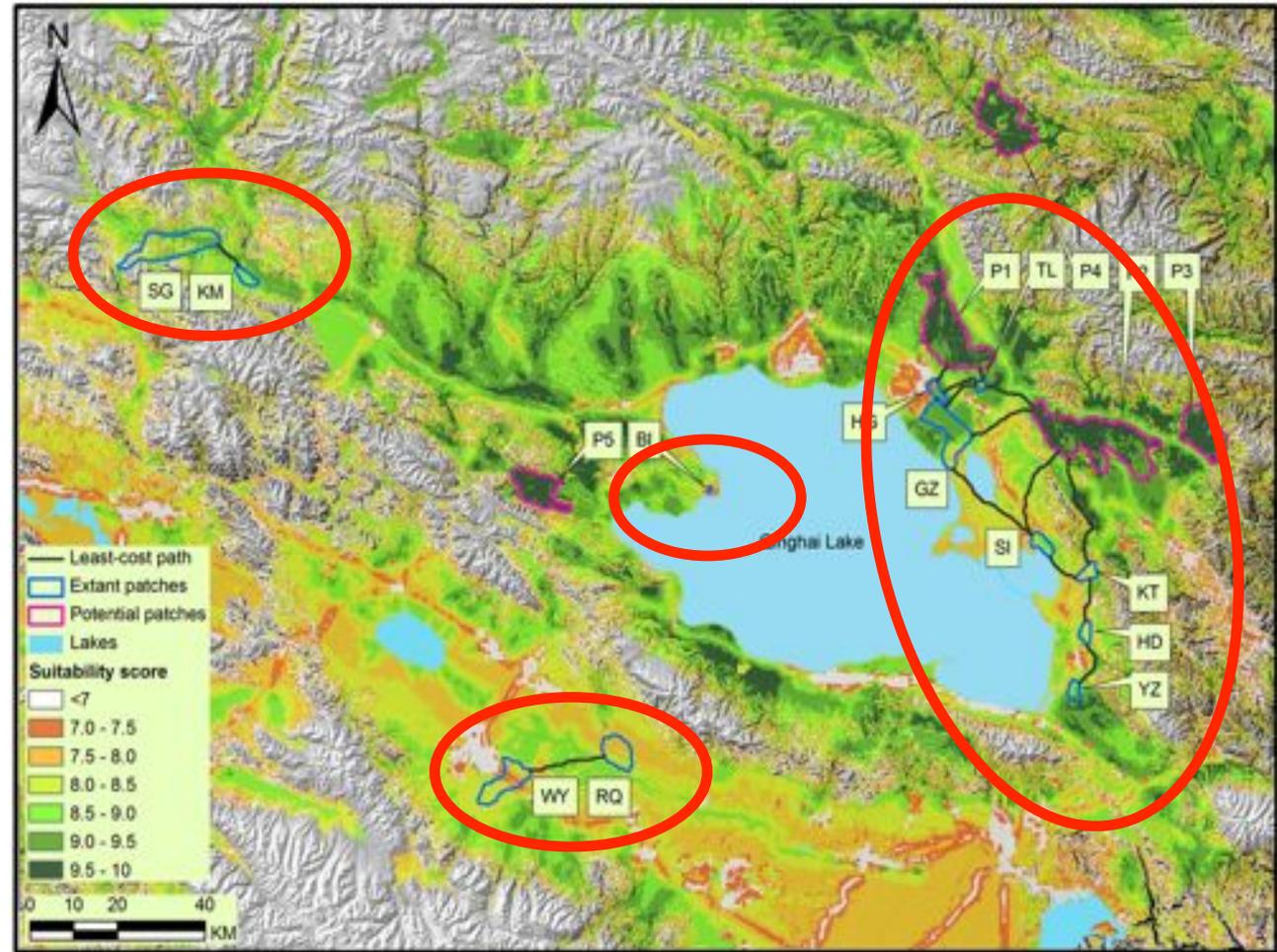
- What is the spatial pattern of habitat quality for Przewalski's gazelle around the Qinghai Lake?
- How many potential habitat patches are there near the extant populations? Where are they?
- What is the current status of the inter-patches landscape connectivity?
- How do landscape elements affect the landscape connectivity for Przewalski's gazelle?
- What can we do to protect a viable metapopulation of Przewalski's gazelle?

Methods

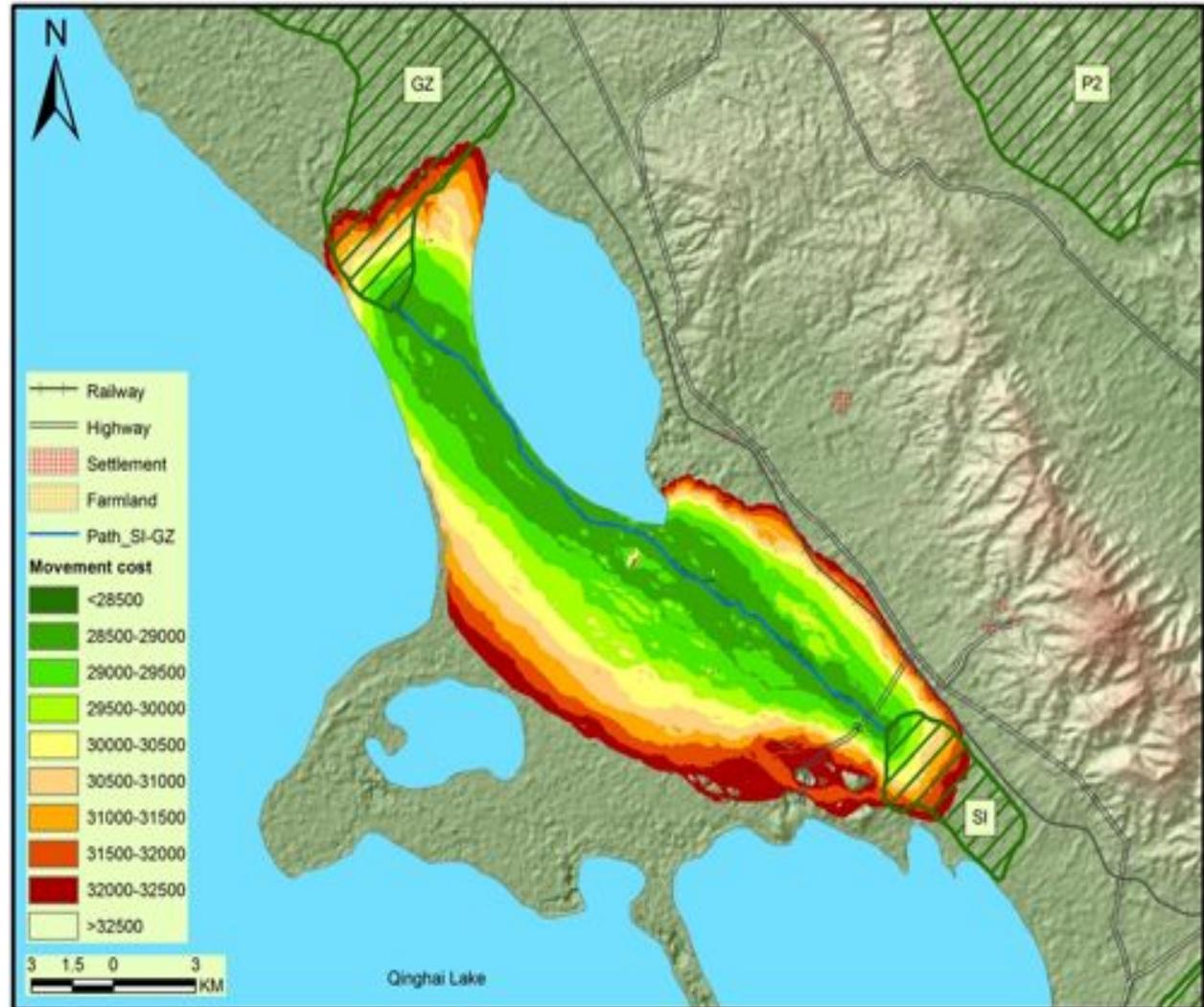


Habitat suitability

- Suitable habitats are limited
- Fragmented
- Regional scale: geographical elements
- Inter-patch level: threatened by anthropogenic influences



15 pairs of least-cost corridors and paths



Management implications

- Long-term and systematic monitoring on populations and key habitats
- Habitat restoration
- Connectivity preservation and restoration
- Reducing the influences of threats
- Reducing conflicts with humans
- Evaluation of the current conservation efforts
- Making conservation plans in the context of the regional ecological balance

Thanks for
your
attention!

