



White-naped crane research and conservation in Mongolia

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White-naped crane as an umbrella species for nature conservation

Local conservation measures can be complex, but it is possible to achieve great success.

Without linking actions at the flyway level, we cannot secure the success achieved at the local level.



Outlines

Ecology and migration research

Habitat conservation and management

Community engagement

Public Awareness

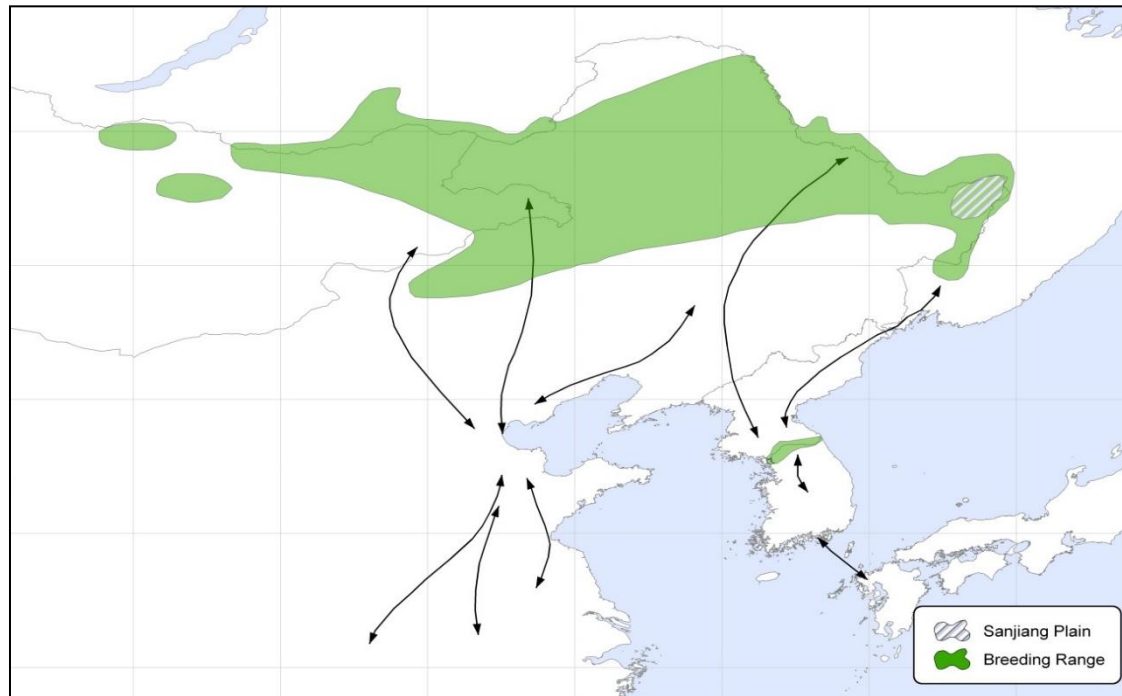
Flyway level cooperation

White-naped Crane (*Antigone vipio*)

IUCN Red List Category: Vulnerable

Population trend: Mixed; eastern population increasing, western population decreasing

Current estimate: 6,700-7,700 individuals



IUCN SSC Crane Specialist Group – Crane Conservation Strategy

SPECIES REVIEW:

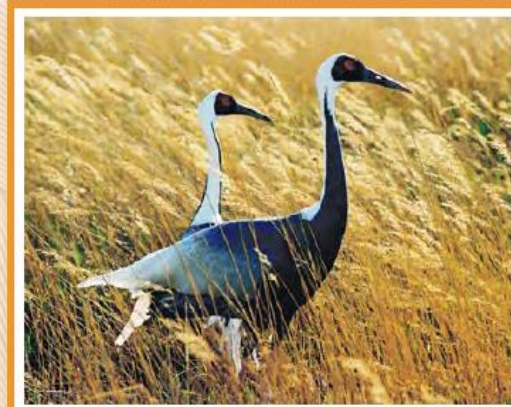
WHITE-NAPED CRANE (*Grus vipio*)

Claire Mirande¹, Nyambayar Batbayar², and James T. Harris

(with input from Yachang Cheng, Oleg Goroshko, Yumin Guo, Yuko Haraguchi, Hall Healy, Elena I. Ilyashenko, Yifei Jia, Kisup Lee, Kunikazu Momose, Kirk Olsen, Ri Kyong Sim, Sergei M. Smirenski, Liying Su, and Seungwha Yoo)

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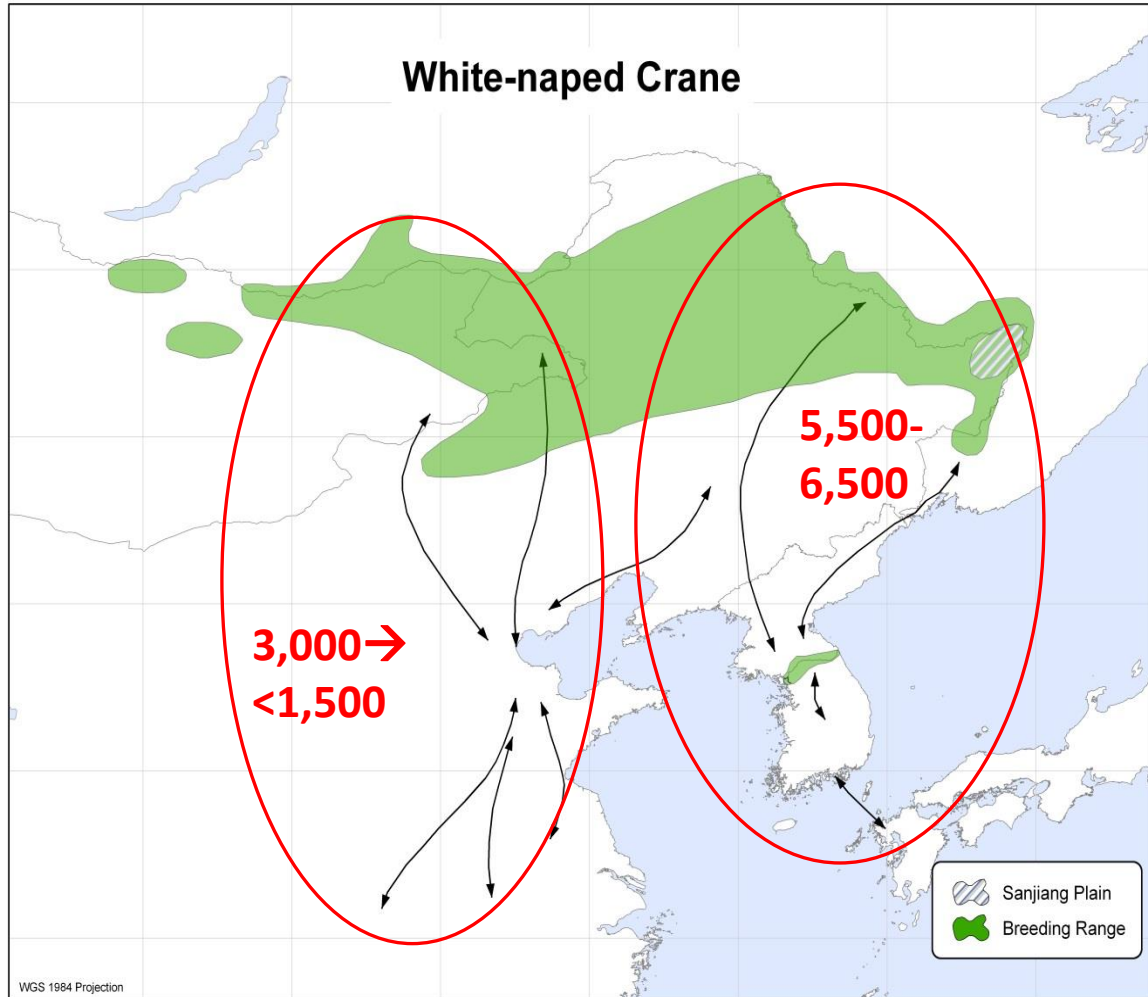
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White-naped Crane in reed marsh in China (Photographer: Crane Wu)

Red List Category: Vulnerable
Population Size: 6,700–7,700
Population Trend: Mixed; eastern population increasing;
western population decreasing
Distribution: Northeast Asia

White-naped Crane - Two Flyways



Eastern Flyway

Breeds in northeast China and Russian Far East region

Wintering birds shift between the Korean Demilitarized Zone (DMZ) and Izumi in Japan

Western Flyway

Breeds in eastern Mongolia, southern Russia, and northeast China

Counts at Poyang suggest the western population is declining by 50% or more in 10-15 years

Do birds from Eastern Mongolia fly to Korea/Japan?

Wetland/permafrost/peatland are the core of the system in KKRV

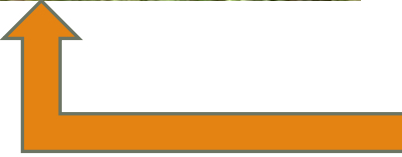


Challenges: Grazing & Climate Warming

Overgrazing



Pollution



Biodiversity monitoring

- **Wetland birds**
- Cranes
- Waterfowl

- **Wetland vegetation**
- Impact of grazing
- Climate change
- Diversity
- Peatland restoration

- **Insects**
- Impact of grazing
- Diversity
- Phenology



Insect monitoring as a measure of biodiversity change



GPS tracking White-naped and Siberian cranes



Application of GPS tracking technology on migration research

Totally 142 WNC, 24 CC, 6 SC, and 34 DC were marked with transmitters.



NorthStar Technology
Weight: 45g



Cellular Tracking Technologies
Weight: 45g



KoEco Inc.
Weight: 40g



Ornitela L40
Weight: 35g



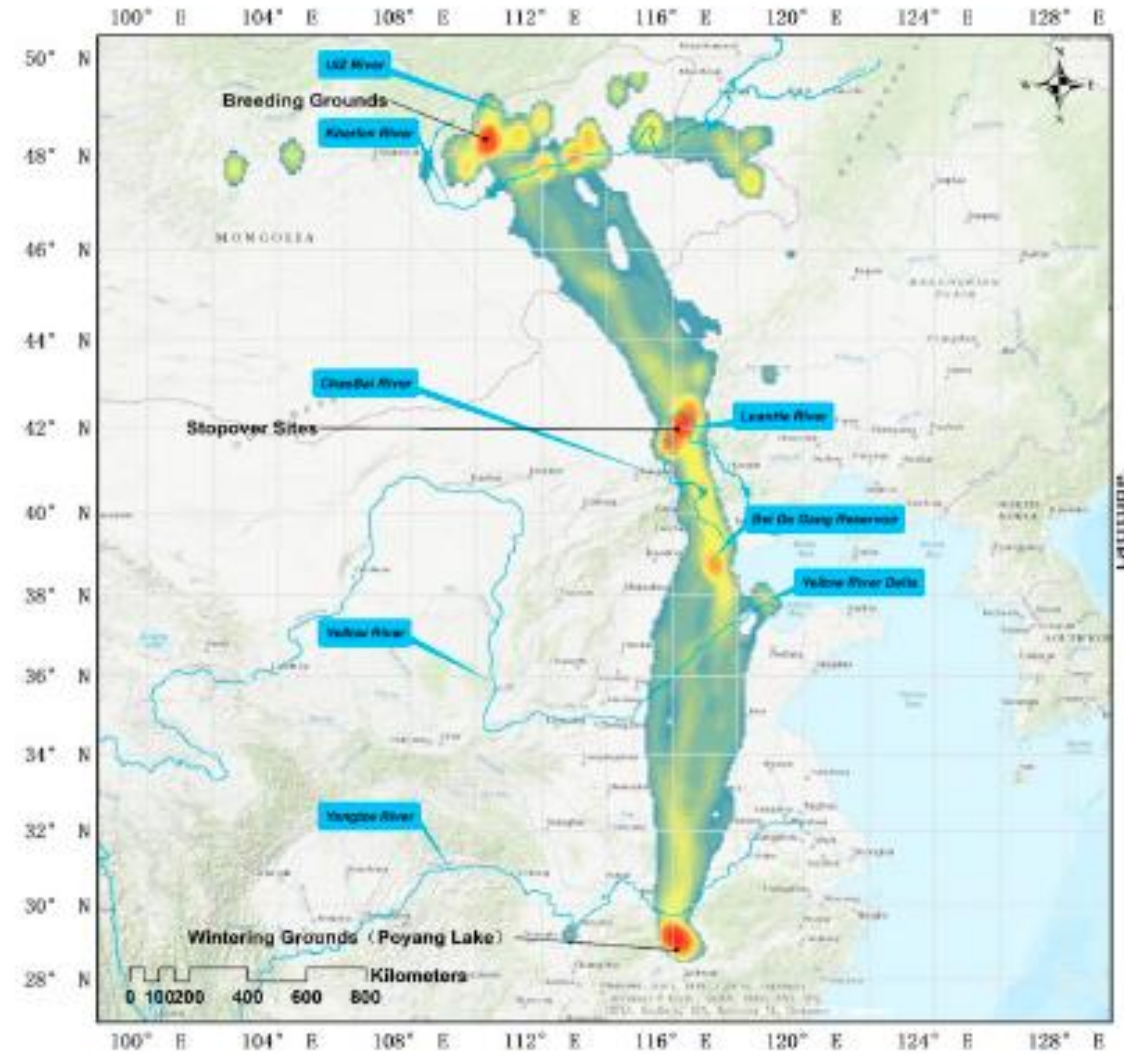
Max-Planck Like
Weight: 25g

Argos satellite system

GSM network

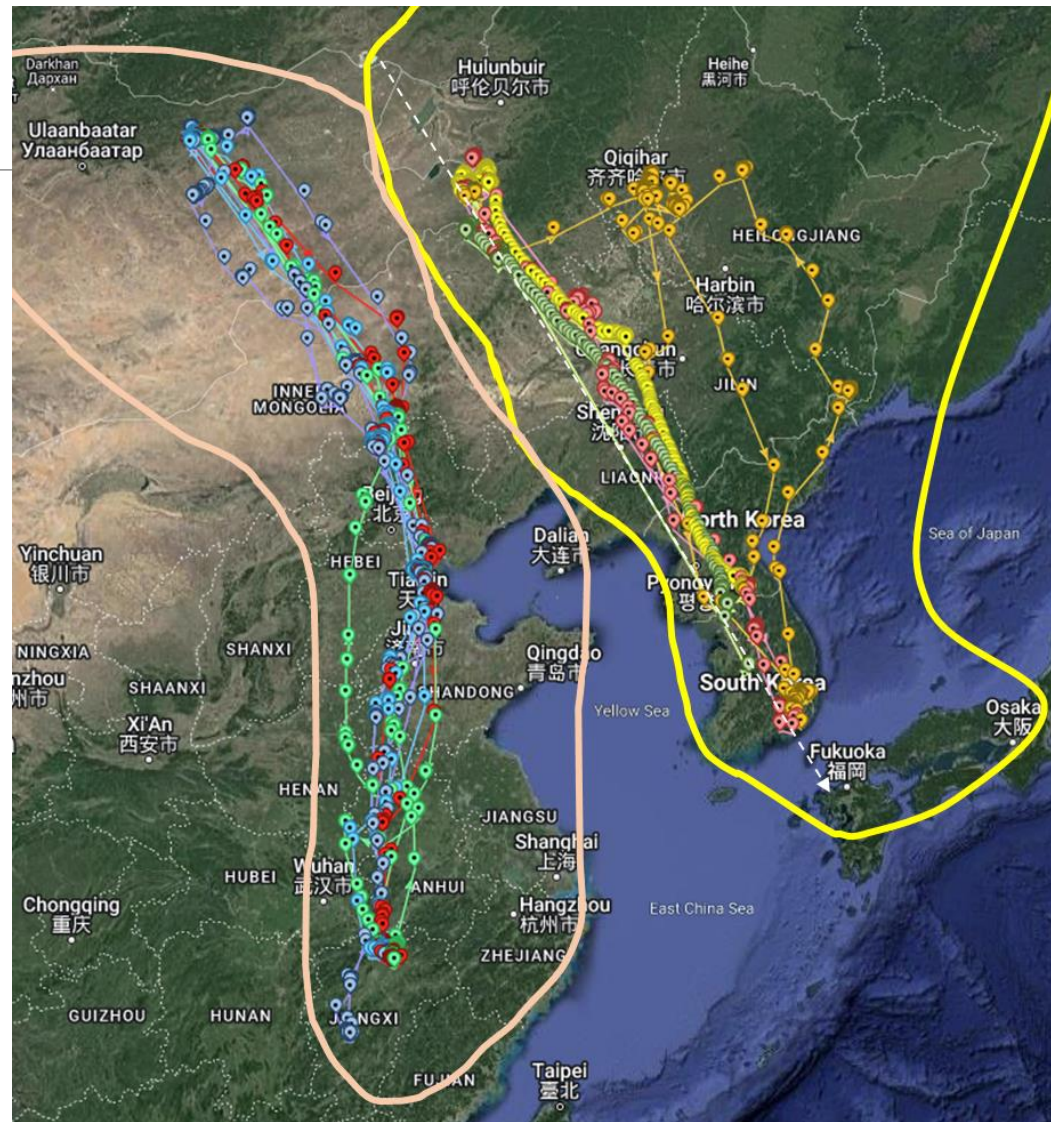
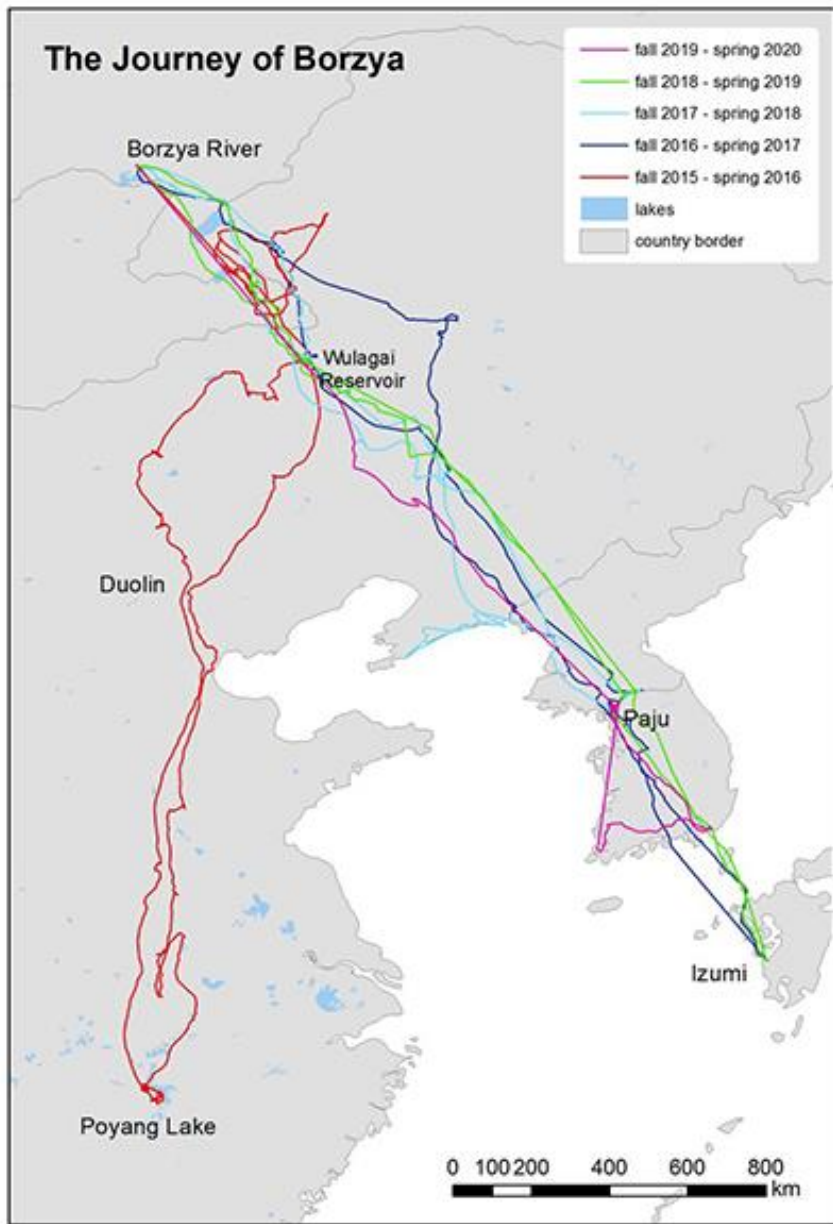
GPS tracking White-naped cranes

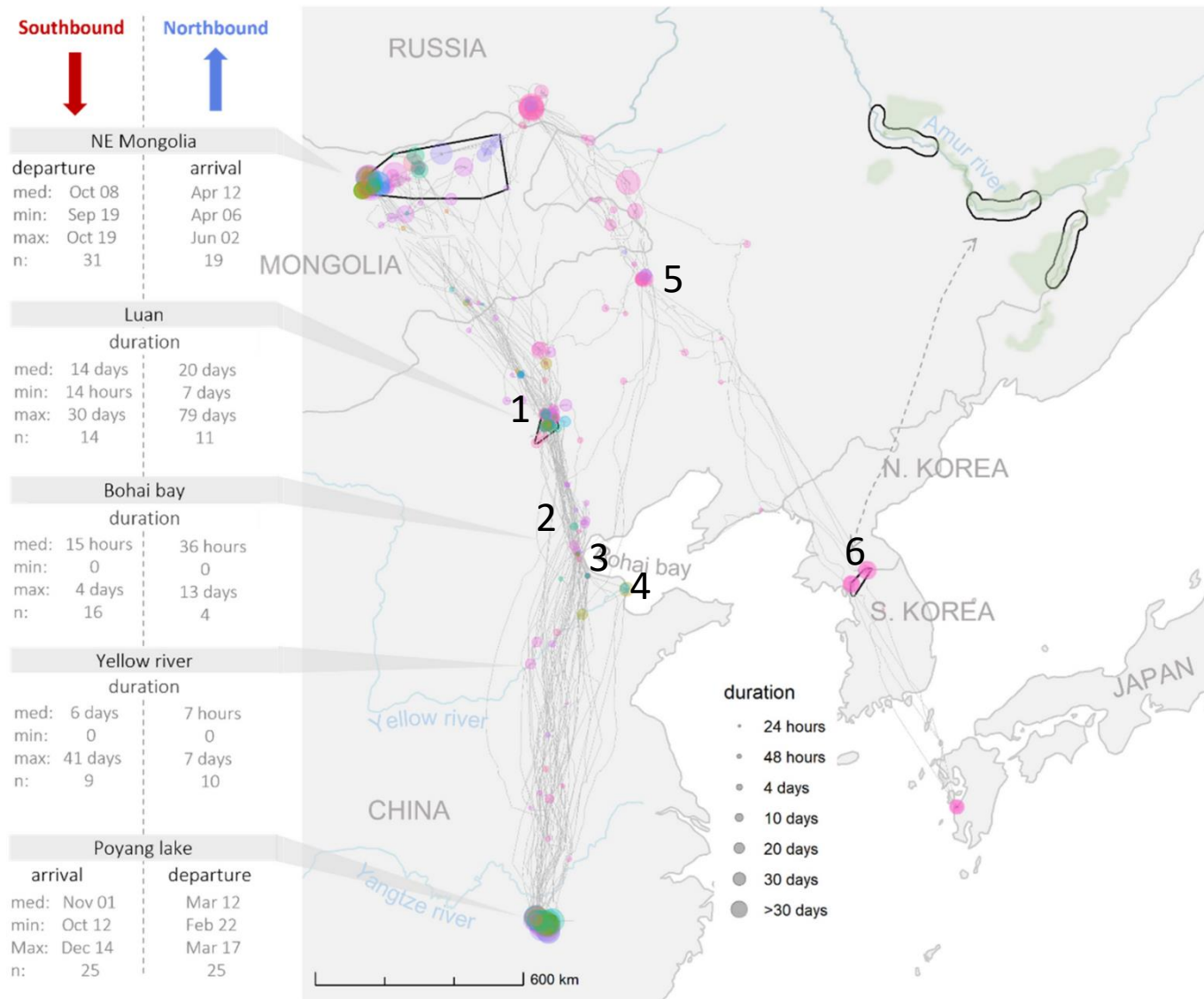
| | Autumn | Spring |
|--------------------------|---------------------|---------------------|
| Departure Date | 4 Oct \pm 8 | 9 Mar \pm 3 |
| Migration duration (Day) | 33.10 \pm 12.8 | 59.62 \pm 12.4 |
| Migration distance (Km) | 2446.85 \pm 139.4 | 2537.38 \pm 319.2 |



Batbayar et al. 2021

Where two WNC flyways meet?



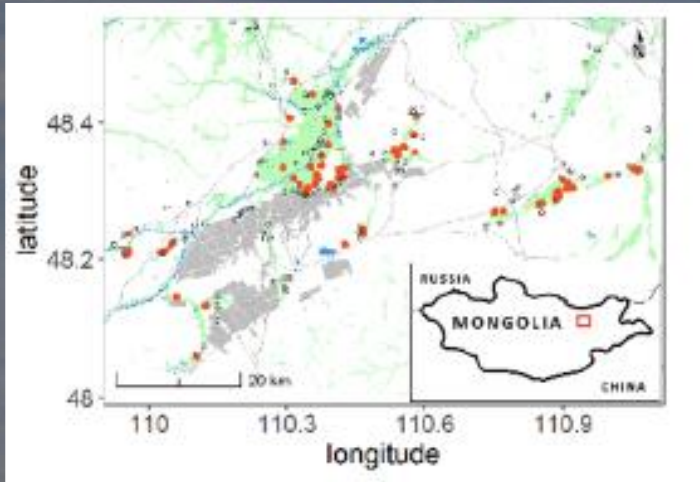


Key stopover locations

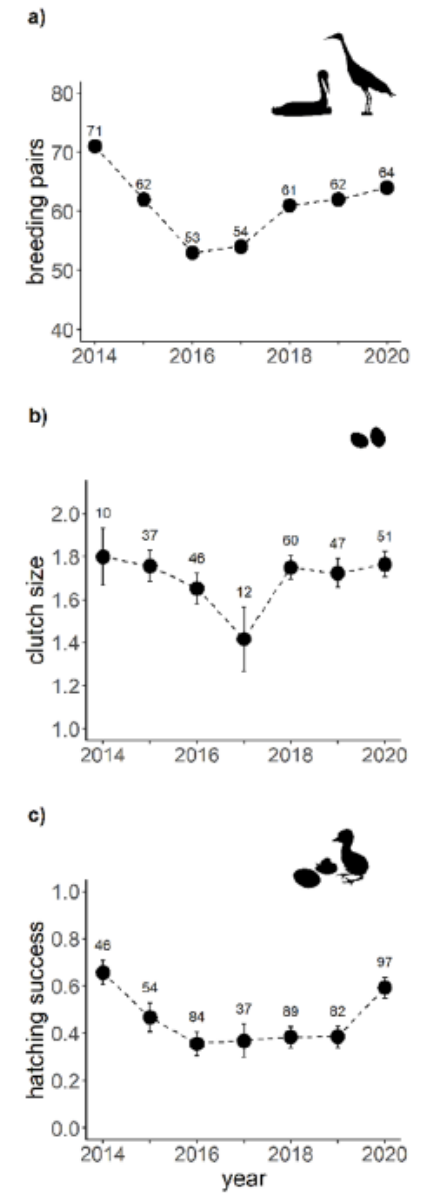
1. Duolun – An agriculture and grassland area near Duolun County
2. Miyun Reservoir - There are several large corn fields in the northern and northeastern parts of the reservoir
3. Bohai Bay/Cangzhou/Beidagang – These adjoining areas are in both Tianjin City and Hebei Provinces along Bohai Bay, with a landscape of mixed agricultural fields and wetlands.
4. Yellow River Delta National Nature Reserve –This site includes wetlands and farmlands along the east coast.
5. Tsagaan Nour, Inner Mongolia
6. DMZ, South Korea

Galtbalt et al. 2022. Breeding and migration performance metrics highlight challenges for White-naped Cranes

Khurkh and Khuiten River Valleys



We have the highest nesting density of WNCs here!

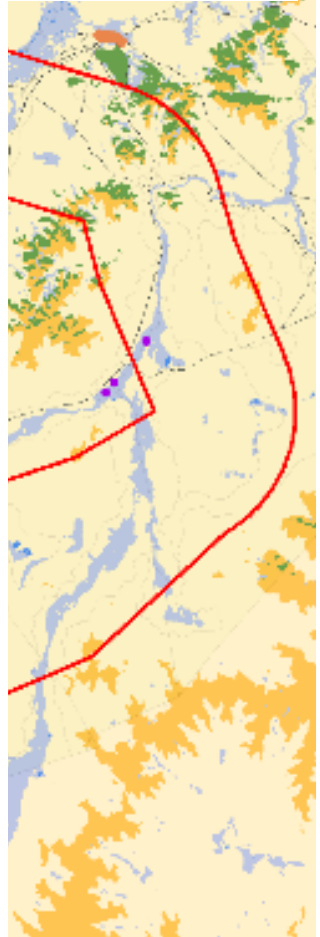




Khurkh and Khuiten Nature Reserve

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Khurkh-Khuiten Nature Reserve

The protection and management responsibilities of the newly established KKNR was handed over to WSCC of Mongolia in October 2022.

MET and ICF signed an agreement to jointly develop and assist the KKNR and wetland conservation in Mongolia for next 10 years.



Community participation from the beginning



Community engagement Crane Enterprise program





Binder Crane Festival

Everybody welcome to visit us!



Cranes and Wetlands summer camp



We aim to build a flagship environmental education program targeting kids across Mongolia



Capacity building

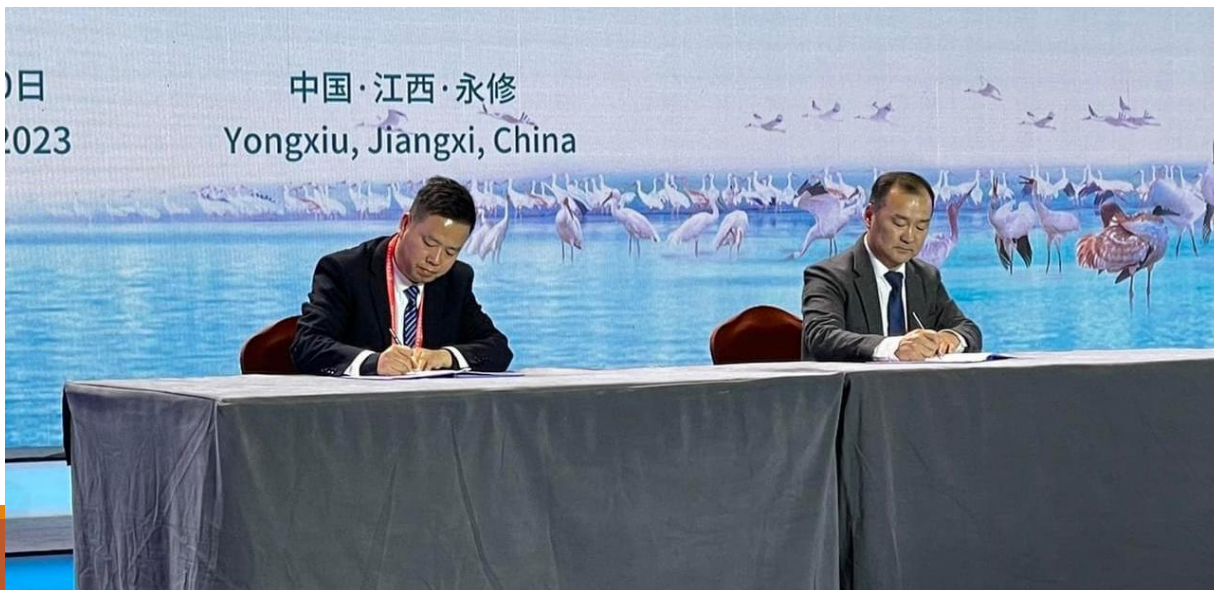
Training young researchers

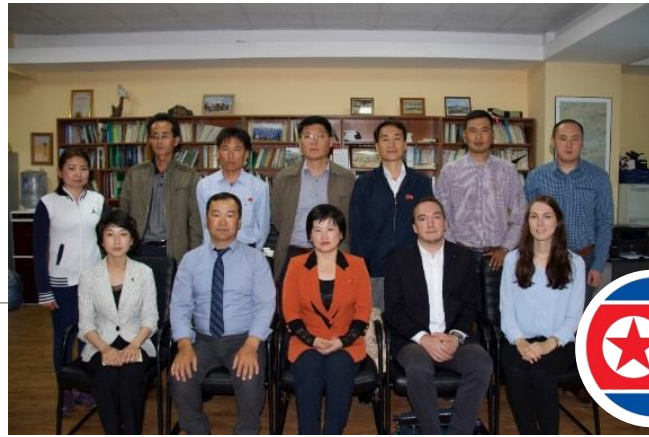


Сургалт - Training



MOU for strategic cooperation between the Poyang Lake National Nature Reserve and the Khurkh-Khuiten Nature Reserve





Acknowledgments

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Kang Suggu

Dong-Won Kim

Deakin University, Australia

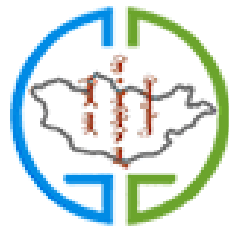
Marcel Klaassen





Wetlands
INTERNATIONAL

Thank you!



LUNDS
UNIVERSITET

Max-Planck-Institut
für Ornithologie



Ministry of Environment
National Institute
of Biological Resources



North-East Asian
Subregional Programme for
Environmental Cooperation

Thank you very much for your attention

