





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 Local Resilience community can be complex, but to bad engageme weather it is possible to achieve nt Habitat great success. and Permafrost (Vegetation **Insects** Pasture Crane and manageme biodiversity nt Without linking actions Sustainable **Peatland** at the flyway level, we water use cannot secure the Climate change success achieved at the local level.

Outlines

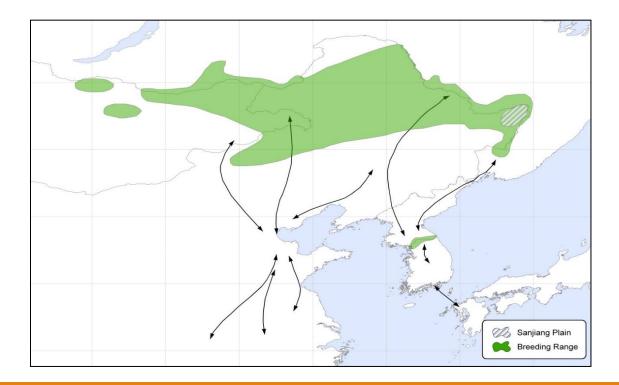
Ecology and migration research
Habitat conservation and management
Community engagement
Public Awareness
Flyway level cooperation

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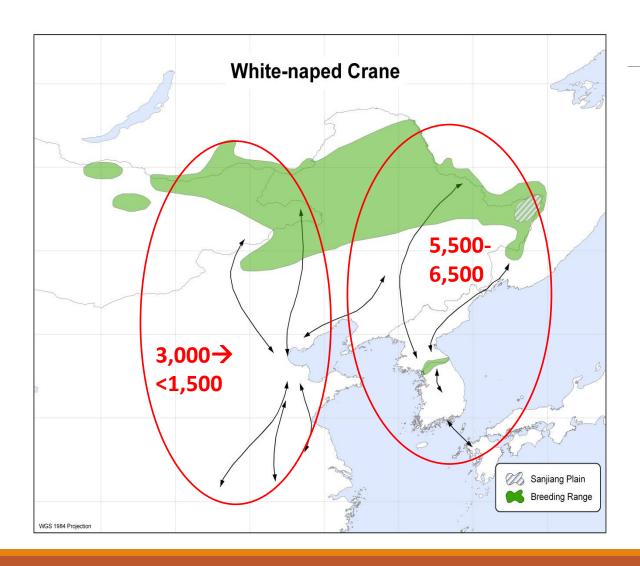
White-naped Crane in reed marsh in China (Photographer: Crane Wu)

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?





Challenges: Grazing & Climate Warming

Overgrazing









Population monitoring







Species	: WNC	vipi	n Grus		YEAR		2021		Nest Code :	WNC	21005
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		: 109.9						Alt	itude (m): _	1161_	
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3	Hag	Visit 4		2	RC		DSC-17	42-1809	IMIGXUZ	0805_15	1806.122
	/	Visit 5									
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Day		Length Width			Weight						
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14		Egg 2	93,8	62,5	177	, b					
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3	Aug	Chick 2	right leg-> left leg->		besu gymnyl					800	S sprage
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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







Mirane and Harris, eds. 2019. Crane conservation strategy.



Objectives

- Describe migration flyways and habitats
- Identify stopover and wintering sites
- Study factors that influence migration of WNCs
- Identify areas with high mortalities
- Determine if there is exchange between two flyways





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

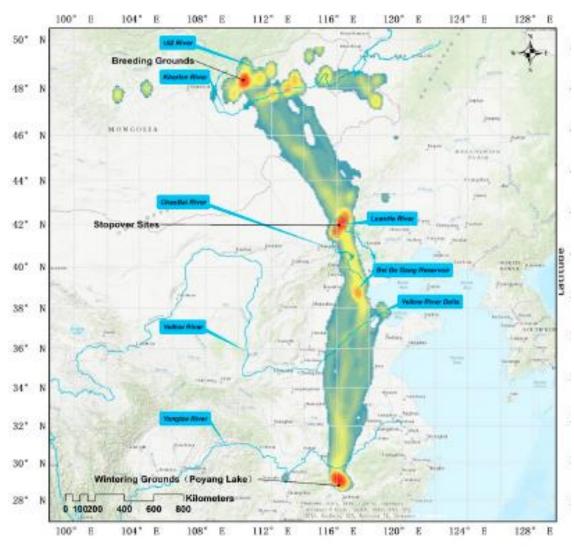


Max-Planck Like Weight: 25g

GPS tracking White-naped cranes

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

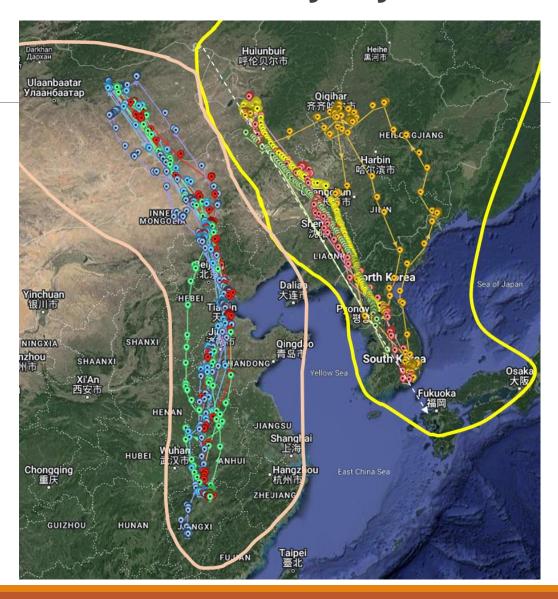


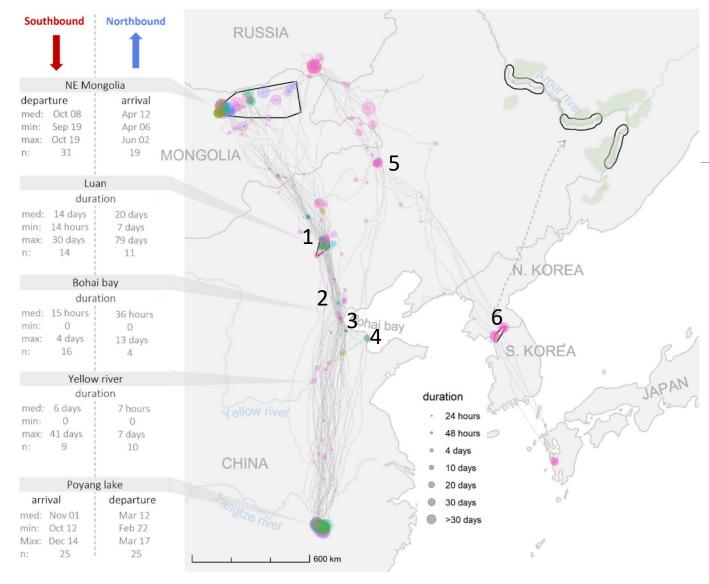


Batbayar et al. 2021

fall 2019 - spring 2020 The Journey of Borzya fall 2018 - spring 2019 Borzya River fall 2015 - spring 2016 country border Wulagai Reservoir Duolin Izumi Poyang Lake map created by Nyambayar Batbayar, @ WSCC/ICF

Where two WNC flyways meet?





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

Key stopover locations

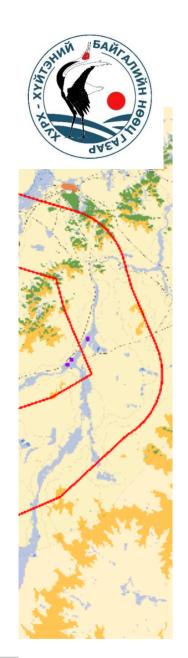
- Duolun An agriculture and grassland area near Duolun County
- 2. Miyun Reservoir There are several large corn fields in the northern and northeastern parts of the reservoir
- 3. Bohai Bay/Cangzhou/Beidagang These adjoining areas are in both Tianjin City and Hebei Provinces along Bohai Bay, with a landscape of mixed agricultural fields and wetlands.
- 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

Khurkh and Khuiten River Valleys MONGOLIA -110.3 110.6 110.9 longitude We have the highest nesting density of WNCs here!

Galtbalt et al. 2022

Khurkh and Khuiten Nature Reserve

In 202 Mong natior **Mongol Daguur SPA** with a hecta impor Khurkh-Khuiten NR stopo' napec NR Ac officia ТУСГАЙ ХАМГААЛАЛТТАЙ



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

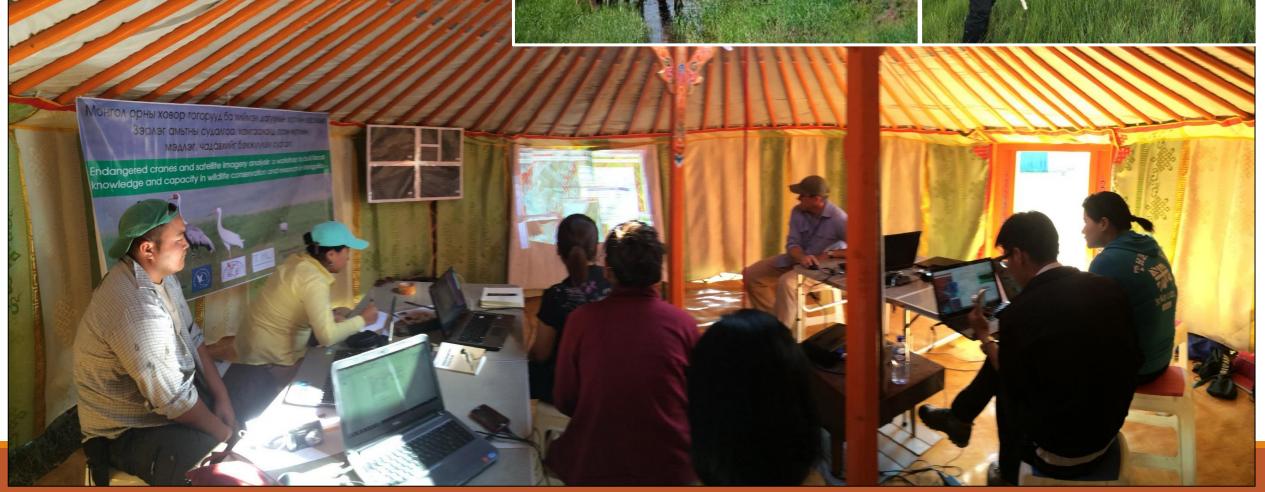


Capacity building

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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Thank you!

























Ministry of Environment

National Institute of Biological Resources





Thank you very much for your attention

