



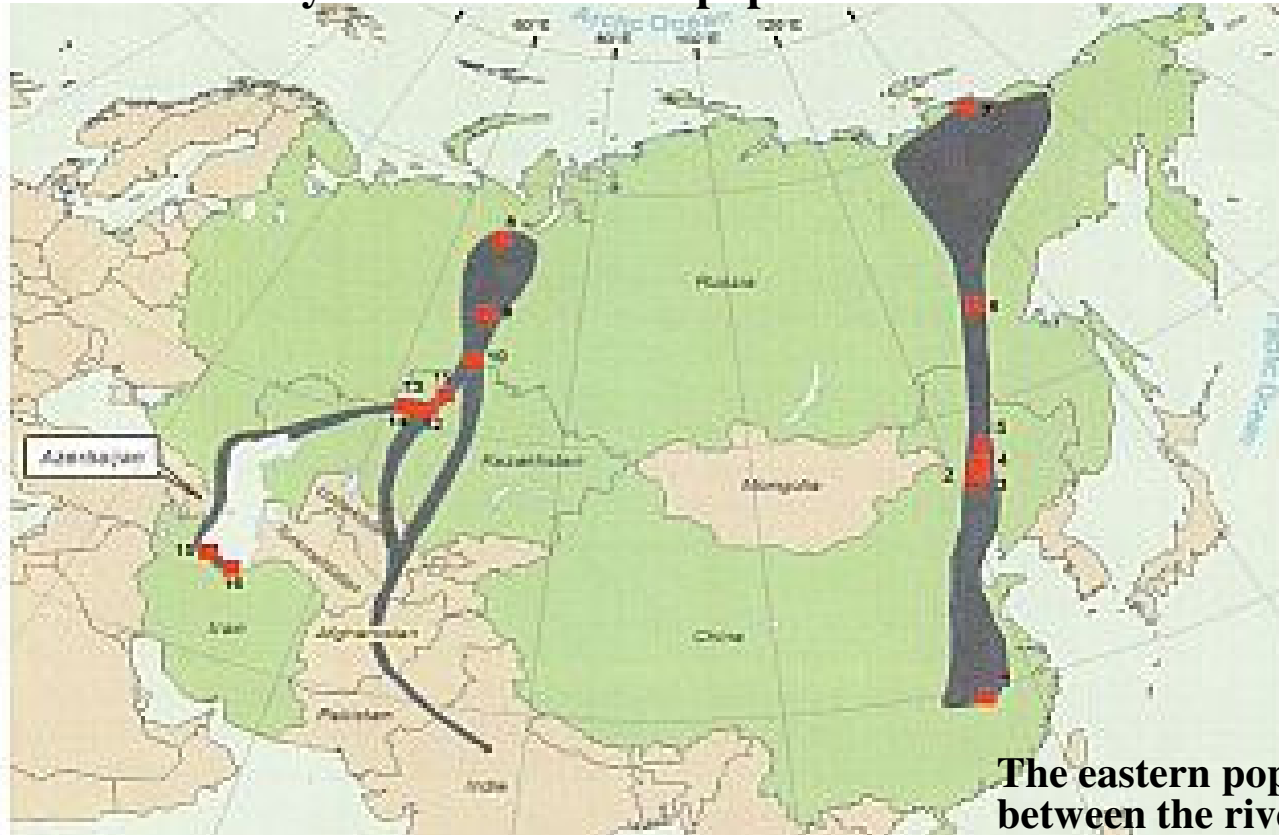
Ecological links in breeding habitat of Siberian Crane

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Siberian Crane is a Critically Endangered bird (IUCN 2008). Till lately, three populations, western, central and eastern, separated geographically, were existed. But by the present we can say rather about two populations.

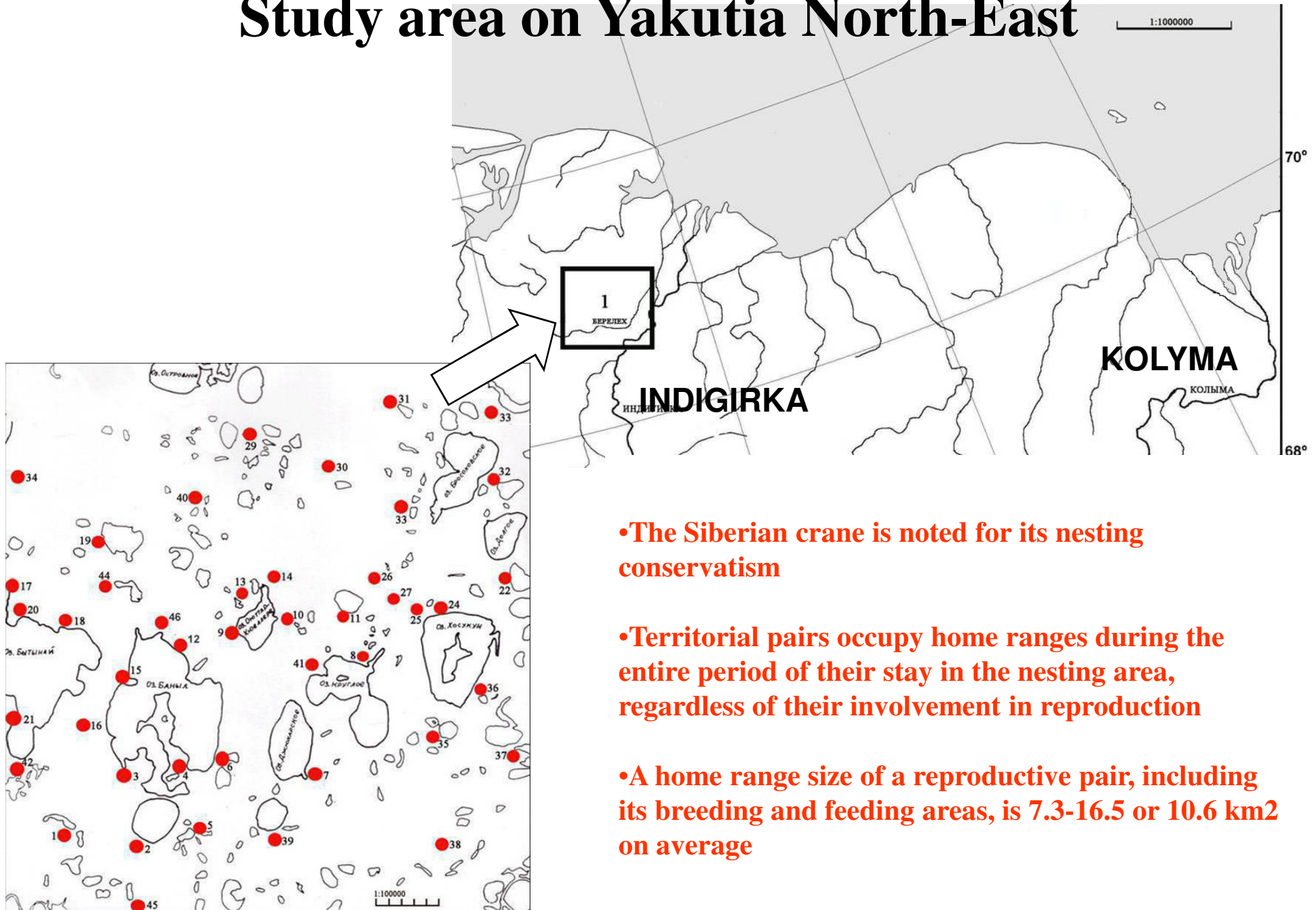


The low-numbered western population still exists, breeding in Lower Ob River Basin of northwestern Russia (Markin *et al.* 2007), and wintering in Fereydoon Kenar, Iran, were only one wild bird is reported from 2010-2013 (Takavoli, 2013).

The central population with breeding ground in Kunovat River Basin of northwestern Russia and wintered at Keoladeo National Park in India, but it is considered to be extinct because of any Siberian Crane absence in this wintering ground from 2002.

The eastern population breeds between the rivers Kolyma and Yana and winters in the middle to lower reaches of the Yangtze river, mostly on Poyang Hu lake, China. The present number of eastern population on its main wintering ground in Poyang Lake Nature Reserve counts from 2500-3000 (1996) to 2683-4004 (1999 - 2005) birds (Qian Fawen, 2003; Harris, 2009; Liu Yun-Zheng, Jia Dao-Jiang, 2000; Ji Wei-Tao, Wu Jian-Dong, 2005).

Study area on Yakutia North-East



- The Siberian crane is noted for its nesting conservatism

- Territorial pairs occupy home ranges during the entire period of their stay in the nesting area, regardless of their involvement in reproduction

- A home range size of a reproductive pair, including its breeding and feeding areas, is 7.3-16.5 or 10.6 km² on average

Every Siberian crane breeding pair has its individual nesting territory and will defend it from any suspicious intruder including birds of their own species



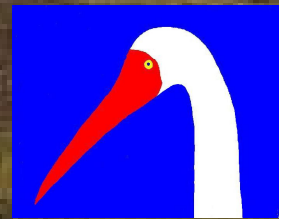


Siberian Crane 05:

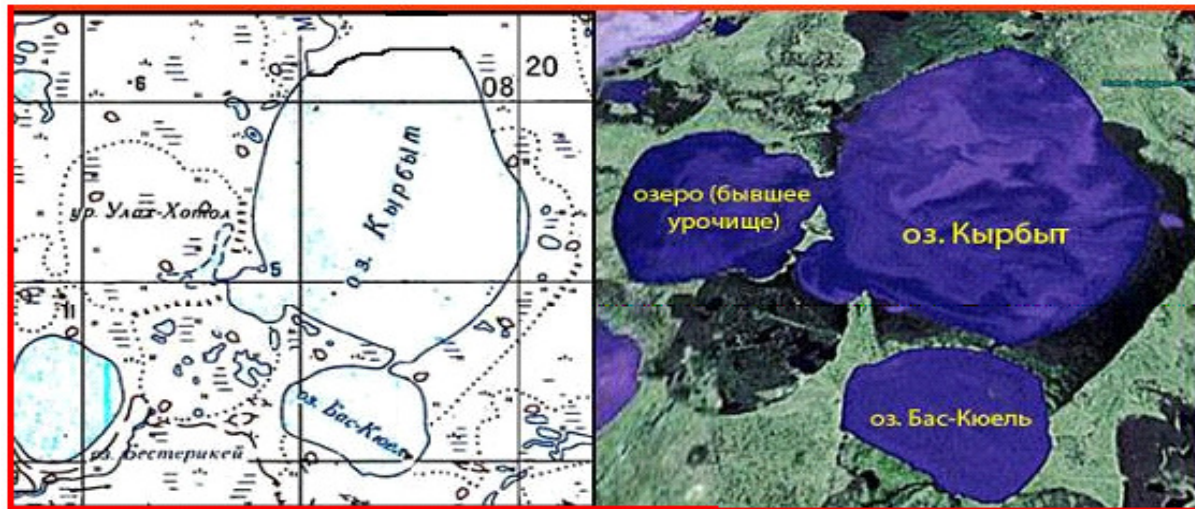
Was born in 1991

Still lives and breeds

- **Siberian Crane - is the most “aquatic” crane**
- **and choose for nesting just places what are situated very close to great lakes.**



0,71 ind./10 км2



1980 г.

2000 г.

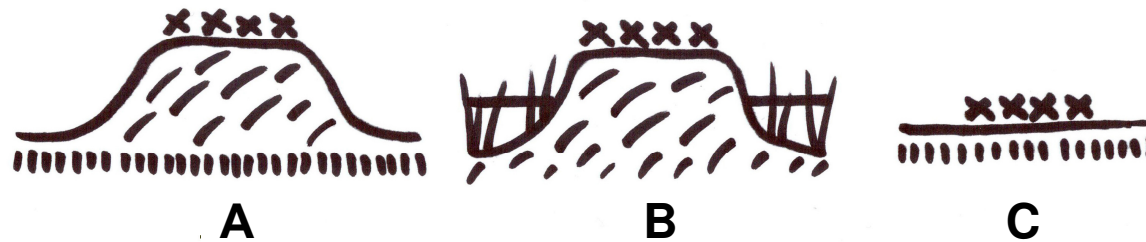
- The tundra is one from the most hard-accessible and, at the same time, one from the most vulnerable to external influences zones of the Earth
- Climate warming may let to thawing of permafrost and to submerging of Siberian Crane habitats



Start of incubation in late May –early June coincides in time with the process of water level increase in tundra own to snow and ice thawing



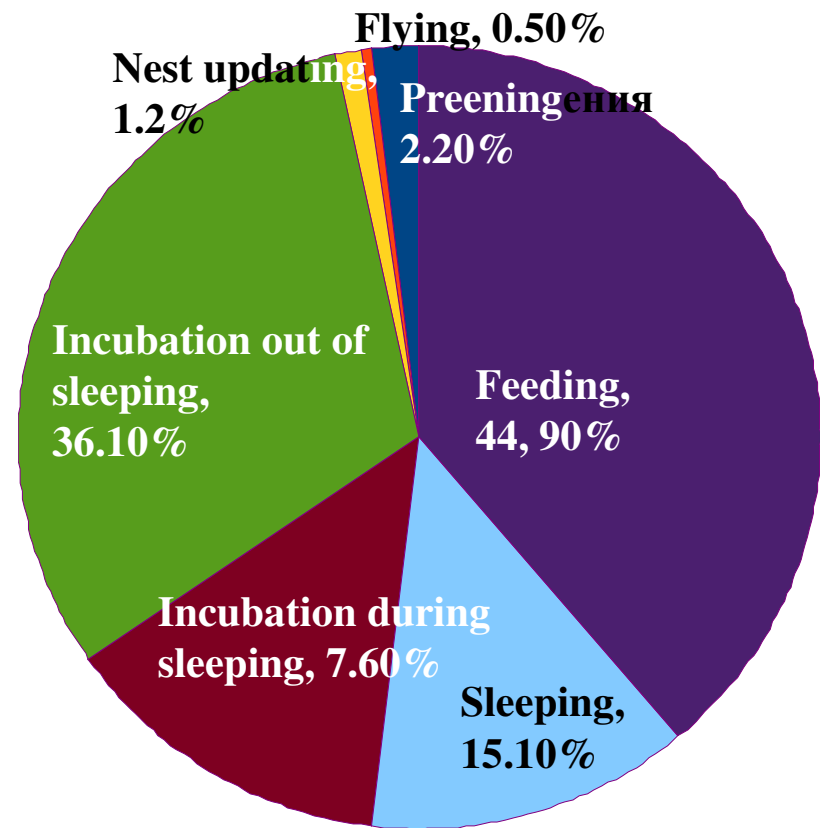
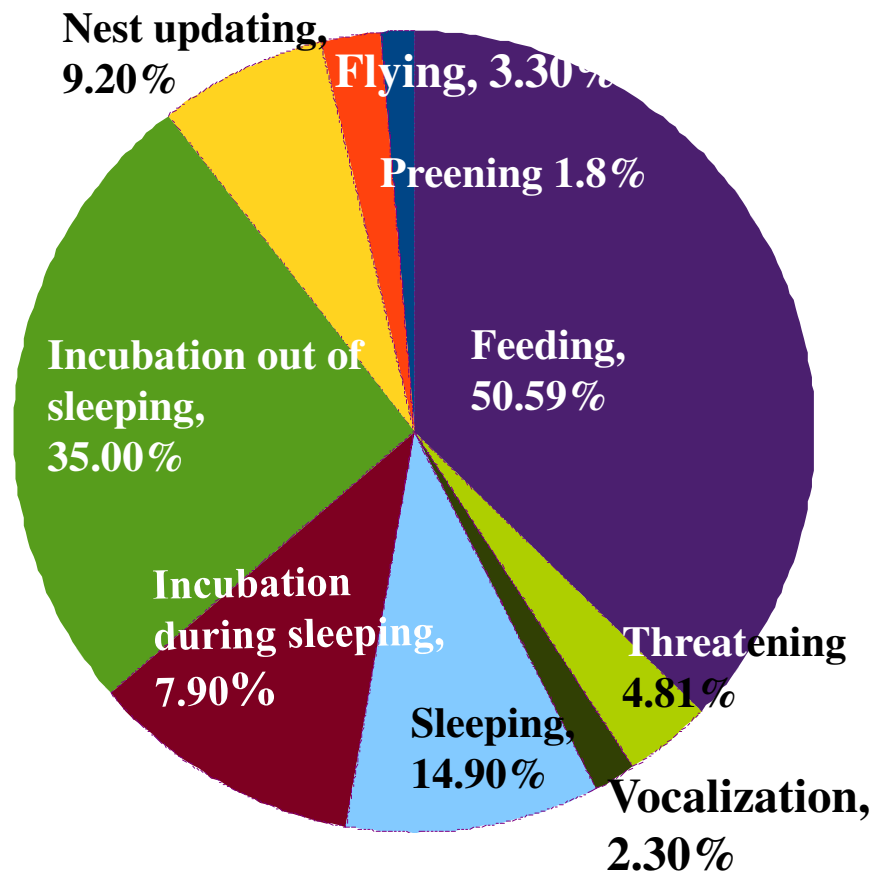
The nest of Siberian Crane



Types of the nest . A – on a dry hill among damp area (n=1); B – on small hill among watered area (n=43); B – on dry and flat area (n=2)

Update of a nest because of water level increasing in result of snow and ice melting








Percent of correlation of time for the base activities in Siberian crane breeding pair which where under our watching in early incubation period (2004) and in late incubation period (2005)

**Daily time budget (% from a day time)
of the same Siberian crane feeding behavior during clutch incubation, 2007,
and in period of being on the individual territory without a chick, 2008**

Activities	June, 17-19, 2007		July, 14-25, 2008	
	Male	Female	Male	Female
Tracking for fish	49.7	39.4	15.4	14
Fishing and fish-eating	11.5	7.0	7.7	6.9
Eating plant subject	9.3	10.1	47.4	48.6



**Species, quantity and sizes of fish caught
by Siberian crane breeding pair per a day, 24 hour**

Fish species	Number of caught fish				Fish length, cm
	2007		2008		
	%	n	%	n	
Ninespine Stickleback <i>Pungitius pungitius</i> 	78.7	91	69.0	48	3-5
Northern Pike <i>Esox lucius</i> 	6.0	7	11.9	8	20-30
Peled <i>Coregonus peled</i> 	15.5	18	19.0	13	20-50

- **Such fishy diet of incubating Siberian cranes may be related to the necessity of high-energetic food in their post-migration period as well as the particularity of this species to leave plant resources around the nest point for period of the first days after chick hatching.**
- **This situation emphasizes tight connections in the vulnerable northern ecosystems. If the water level in tundra lakes starts will be higher own to the climate warming all these links may be destructed.**
- **Nesting in places near great lakes in Siberian tundra, this crane appears to be an indicator for the global climate change processes what affect lakes growth in the result of permafrost close situation to the surface in tundra.**



THANK

YOU!