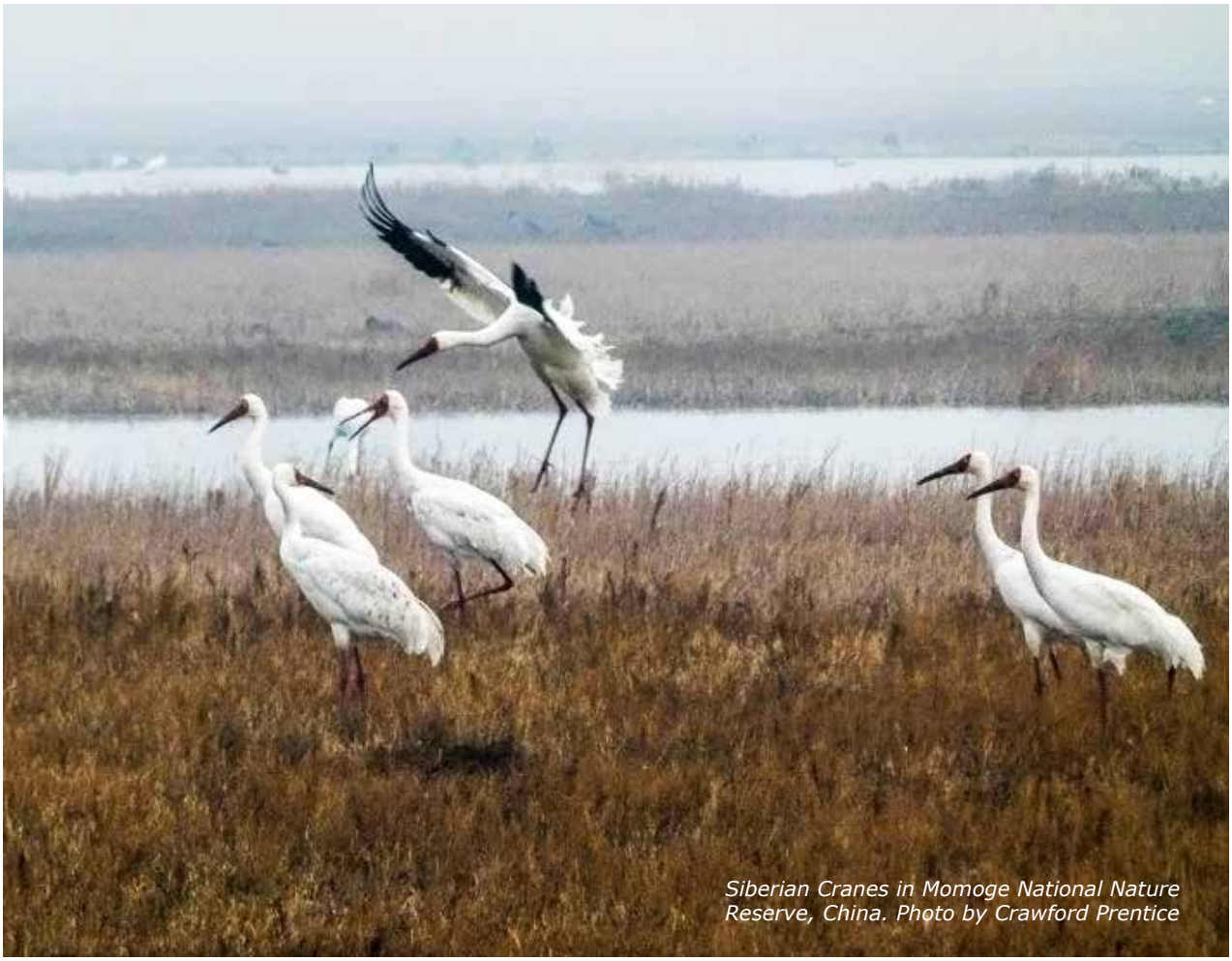
SIBERIAN CRANE FLYWAY NEWS



Siberian Cranes in Momoge National Nature Reserve, China. Photo by Crawford Prentice

#13

June 2014

Compiled by
Elena Ilyashenko
ICF/CMS Siberian Crane Flyway Coordinator

Content

Siberian Crane Observations at Breeding Grounds in Yakutia, Russia, in June 2013

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From 10 to 24 June 2013, bird surveys were conducted on the left-bank of Indigirka River at the area of near 100 km^2 inside model territory which covered 1,314 km^2. Six pairs of Siberian Cranes were recorded at long-term breeding sites. The number of crane sightings near housing has increased, we registered seven such cases. Almost every day we observed four Siberian Cranes (probably two pairs of young birds, which still didn't occupy their breeding sites) near our field station. When we went by motorboat up to the Elon River, we regularly saw them feeding on the bank or flying across the river. This fact can be explained both as a result of nature conservation activities as well as the high density of breeding sites at the observed area where territorial cranes drive out newly created pairs of young birds.

On 20 June 2013, we observed a pair of Siberian Cranes which during three minutes attacked in flight a pair of Sandhill Cranes flying over the Siberian Crane's nesting site. The chasing of Sandhill Cranes by Siberian Cranes was described early (Vladimirtseva et al. 2011), but it normally happens during a period of rodent depression, when competitive mutual relations between these species are sharpened. However, in the summer of 2013 the numbers of lemmings and voles (*Myopus schisticolor, Dicrostonyx torquatus, Clethrionomys cf. rutilus*) were quite high. We observed two Siberian Cranes (single bird and a crane from the pair #5) that hunted lemmings, each of them caught 3 and 2 animals respectively. Usually Siberian Cranes are tolerant towards Sandhill Cranes, even inside their breeding site. Therefore, the observed high aggression of Siberian Cranes to Sandhill Cranes, despite high rodent numbers, can be explained by the increasing number of Sandhill Cranes and, as a result, heightened irritability of Siberian Cranes to the Sandhill Cranes presence.

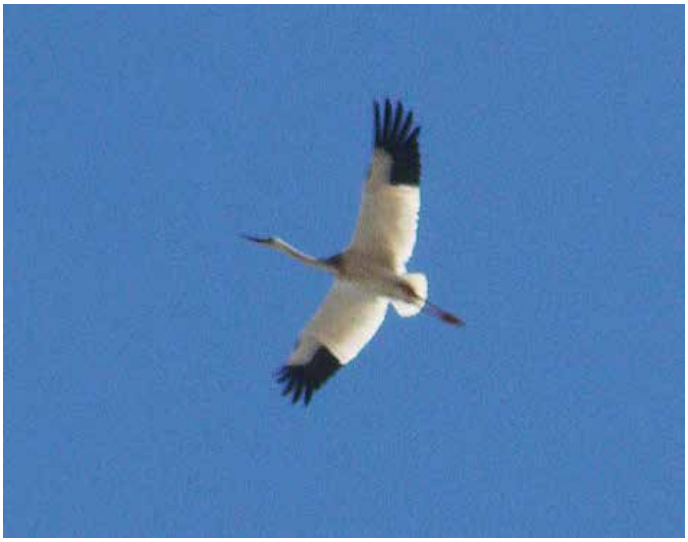

Fig. 1. Male from long-term observed pair flies around its territory. Photo by J. Tamm

Fig. 2. Pair of young Siberian Cranes on the bank of Elon River opposite field station. Photo by J. Tamm

Siberian Crane Sightings in Dauria, Russia, in 2013

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The number of Siberian Cranes sighted during the summer in Dauria has increased during last ten years. The maximum number registered in 2012: 35 individuals, 10 sightings (see article by Oleg Goroshko with co-authors in Siberian Crane Flyway News #12). In 2013, in the Russian part of the Daurian steppe, 16 sightings of Siberian Cranes (44 individuals) were registered (Table). In northeastern Mongolia we didn't sight Siberian Cranes in 2013, probably because of the short duration of monitoring.

Data on Siberian Cranes sightings was collected mainly during regular counts of waterbirds which cover a vast area of the Daurian steppe in southeastern Transbaikalia in Russia and northeastern Mongolia (approximately from 47°00'N to 51°00' N and from 110°00'E to 119°20'E). However, in the center of the north part of this area (Torey Hollow), counts are conducted regularly from 5 to 10 times in a year. In other parts during a period of 2-6 years birds were counted 1 to 3 times a year. Torey Hollow includes Torey Lakes as well as hundreds of small water bodies and parts of a few rivers. Torey Hollow is a key Siberian Crane site in Dauria. Torey Lakes are located in Daurskiy State Nature Biosphere Reserve (DSNBR), in the Low River Borzya, and in Dzeren Valley Federal Wildlife Refuge. There are many lakes in the south part of the federal wildlife refuge of Tsasuchei Pine Forest and the provincial wildlife refuge of Aginskya Steppe. Federal wildlife refuges are administrated by DSNBR, which, in turn, is included in the Dauria International Protected Area (Russian-Mongolian-Chinese). Waterbird counts are conducted from early spring to late autumn by a monitoring network created specifically for the international protected area which includes hundreds lakes and few river parts.

Wetlands of the Daurian steppe is a summering place of non-breeding Siberian Cranes, predominately presented by young birds up to three years old (with brown feathers in their plumage). In 2013, they were 74% of the total number of sighted Siberian Cranes.

Table. Sightings of Siberian Cranes in Dauria, Russia, in 2013

Date	Место встречи	Coordinates	Number of cranes
12 May	Floodplain of Low Borzya River	50°20'21"N, 115°46'32"E	1
12 May	Aginskaya steppe, Khaptsagatui Lake	50°37'52"N, 114°57'49"E	1
16 May	Aginskaya steppe, Zun-Soktui Lake	50°52'01"N, 114°39'50"E	2
19 May	Floodplain of Low Borzya River	50°14'20"N, 115°52'31"E	2
21 May	Khara-Torm Lake near Tsasuchei pine forest	50°20'00"N, 114°52'00"E	2
25 May	Floodplain of Low Borzya River	50°20'20"N, 115°46'41"E	4
27 June	Great Ukshinda Lake near Tsasuchei pine forest	50°20'23"N, 114°51'09"E	3
2 July	Floodplain of Low Borzya River	50°16'10"N, 115°50'12"E	2
12 July	Floodplain of Low Borzya River	50°26'25"N, 115°46'26"E	4
12 July	Floodplain of Low Borzya River	50°19'06"N, 115°48'01"E	4
25 July	Aginskaya steppe, Swan Lake	50°40'31"N, 114°54'08"E	1
8 August	Aginskaya steppe, Swan Lake	50°40'31"N, 114°54'08"E	2
12 August	Daurskiy Nature Reserve, Torey Lakes	50°13'43"N, 115°40'10"E	6
21 August	Daurskiy Nature Reserve, Torey Lakes	50°13'43"N, 115°40'10"E	2
30 August	Floodplain of Low Borzya River	50°18'56"N, 115°54'57"E	7
30 August	Floodplain of Low Borzya River	50°19'15"N, 116°13'01"E	1

Notes: Repeated registrations of the same individuals are not included in the table

Information from Migration Sites 2013 and 2014

Western and Central Flyways

Siberian Crane Sightings in North Kazakhstan in Spring 2013 and 2014

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In 2013 and 2014, two sightings of the Siberian Crane were recorded in North Kazakhstan at traditional migration stopovers along the Western and Central Asian Flyways.

On 13 and 14 April 2013, one adult Siberian Crane was observed in a flock of Eurasian and Demoiselle Cranes in an agricultural field 90 km north of Kostanay City, according to the information from a local hunter a resident of the village of Fedorovka. This sighting is confirmed by pictures taken using a cell phone (Fig. 1).

In spring 2014, the information about the sighting of one adult Siberian Crane in wet lowlands near the Baituma Lake (Naurzum Lake System), 600-700 m from the road leading to the village of Dockuchaevka, was received from Maxim Glushkov.

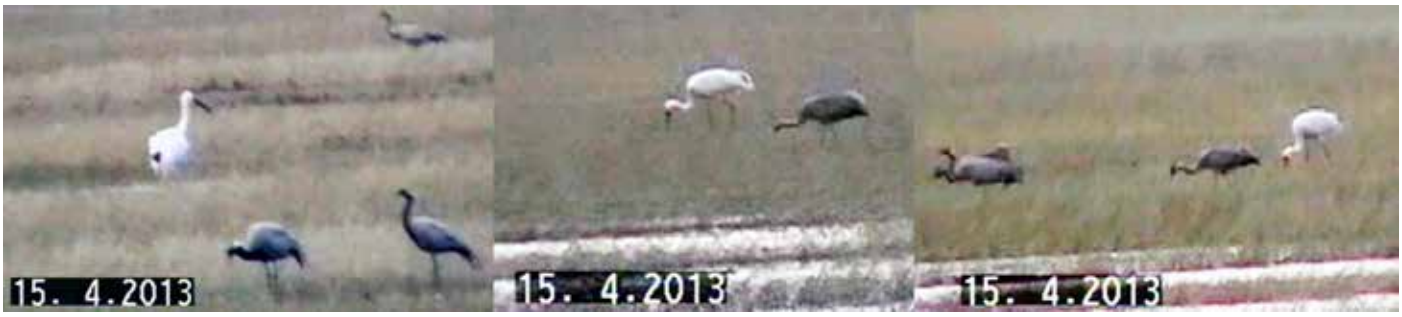

Fig. 1. Adult Siberian Crane in a flock of Eurasian and Demoiselle Cranes in spring 2013. Anonymous photographer

A Sighting of the Siberian Crane in Volga Delta, Russia, in Autumn 2013

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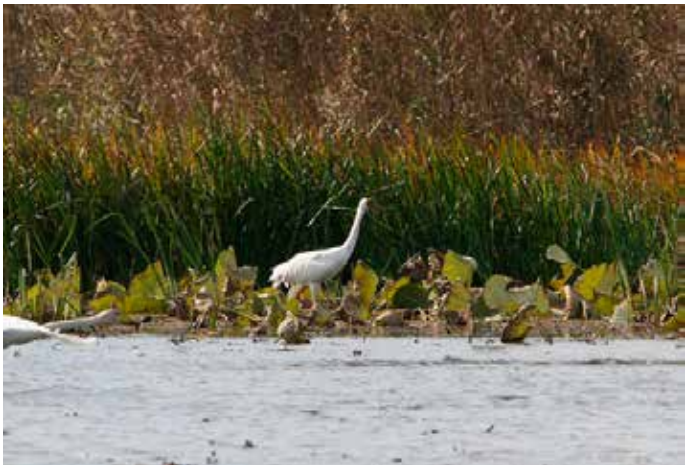
On 13 October 2013, I sighted one wild adult Siberian Crane in the west part of Volga Delta (45°43'N, 47°52'E) in Damchik Site of Astrakhan State Nature Biosphere Reserve (ASNBR) (Fig. 1). The next day, on 14 October, this bird was in the same place and feeding in shallow water (approximately 20 cm deep) near a thicket of water plants (Fig. 2). Nearby a family of Whooper Swan and a group of cormorants rested on a sandy spit. The Swans were the first to see me and took off and then the Siberian Crane left (Fig. 3).

It is interesting to note that the adult Siberian Crane was sighted in 2013 at the same place on 20 October 2011 and on 21 October 2012 (see article by Rusanov et al in SCF News #12).

On 20s October the weather became much colder and mass waterbird migration started. There were a lot of swans in the shallow bay at the Damchik Site, but no Siberian Cranes were seen.

Fig. 1. Adult Siberian Crane in Damchik Site of ASNBR on 13 October 2013. Photo by G. Rusanov



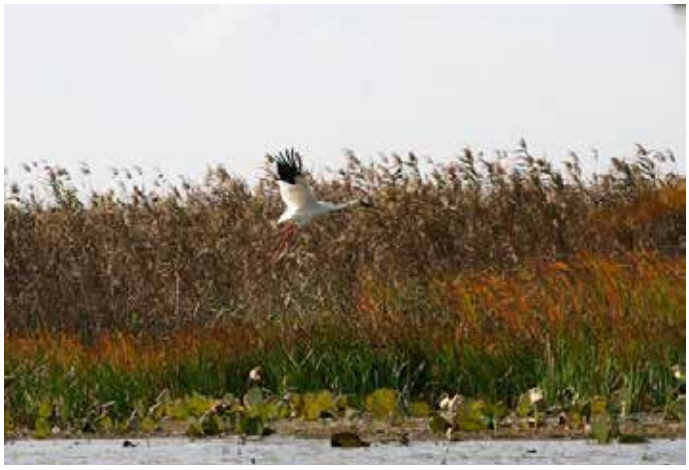


Fig. 2, 3. Adult Siberian Crane in Damchik Site of ASNBR on 14 October 2013. Photo by G. Rusanov

Eastern Flyway

A Sighting of Young Siberian Cranes During Spring Migration in Yakutia, Russia, in 2014

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Pictures of a group of young Siberian Cranes were uploaded on Facebook by photographer Makarov. They were taken on 20s May 2014 near Sylan Village (Churapchinckiy District, Central Yakutia), which is located 150 km east from Yakutsk City in Lena and Aldan Interfluves. The cranes had a short rest of one night and the next day they continued their migration to the north.

These pictures are very interesting for discussion about time frames when almost one-year-old cranes separate from parents and create own small groups. It is known that during their first winter chicks stay with the parents who continue to feed them. Creation of groups of young birds most likely occurs at migration stopovers in northeast China, where Siberian Cranes can stay up to two months and then continue to migrate to breeding

Fig. 1. A group of young Siberian Cranes during spring migration through Central Yakutia in 2014. Photo by Makarov

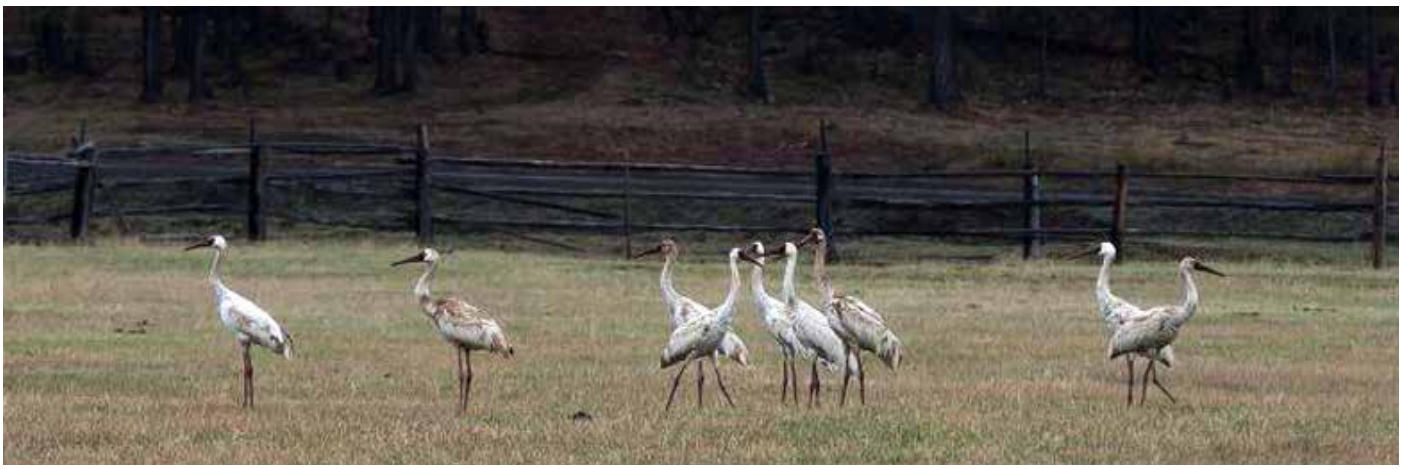

Fig. 2. A group of young Siberian Cranes during spring migration not far from Sylan Village. Photo by Makarov

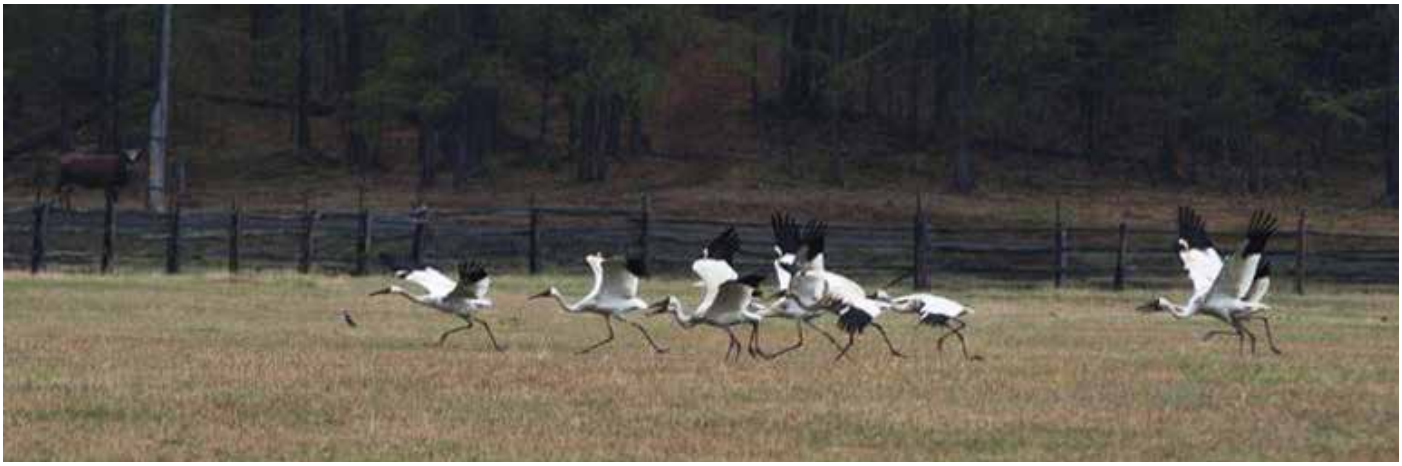

Fig 3. A group of young Siberian Cranes took off a roosting site near Sylan Village, spring 2014. Photo by Makarov

grounds. At the present time, Momoge National Nature Reserve (NNR) is a key site along eastern flyway, where almost 90% of world Siberian Crane population stops for a long-term rest. Therefore, it is important to study the social structure of Siberian Crane flocks and groups in spring time in Momoge NNR.

The fact that Siberian Cranes rest not far from a village is also very interesting. Maria Vladimirtseva and Jochen Tamm (see article in this issue) noted that sightings of Siberian Cranes close to housing is increasing, while before such cases were almost not recorded.

Information from Wintering Sites 2013/14

Central Flyway

Surveys of Eurasian Crane Wintering Grounds in the South of Uzbekistan in 2014

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The Eurasian Crane wintering grounds on the right bank of the Amudaria River in south Uzbekistan were discovered in 2000. Since that time observations were conducted sporadically and starting in 2010 yearly observations have been carried out. This area is considered as alternative wintering grounds for the Siberian Crane on the implementation of the "Flight of Hope" Project. The surveys were conducted to determine if the majority of wintering cranes focus on a 30-kilometer stretch of the floodplain which is located 25 km west of Termez. In the higher part of the floodplain there are cultivated rice fields and irrigation ditches and a canal system with the dirt roads alongside. Close to the river the area is covered with reeds which are partially burned in winter. Rice fields are harvested in October and are seeded in April. Thus, during the winter, crane disturbance is minimal because the territory is under strict protection of the state border. After the harvesting, leftover grain remains in the fields and provides good forage for wintering birds (cranes, geese, ducks, etc.). Moreover, there is also a large amount of sedge which is part of the crane diet. During the day cranes forage on agricultural fields within the frontier zone, and at night fly to and rest the sand spits and islands of the Amudaria River, some also stay for the night on rice paddies according to information from the guards. Eurasian Cranes arrive at the wintering grounds in late November and depart for the breeding grounds in late March. The largest crane concentrations are recorded from late January to mid-March.

In winters 2010-2014, surveys were carried out by groups of 6-7 observers using cars along determined routes from early February to early March.

In 2014, field work was conducted from 11 to 13 February. Ten days before the start of the survey the temperature declined dramatically from an average daytime temperature

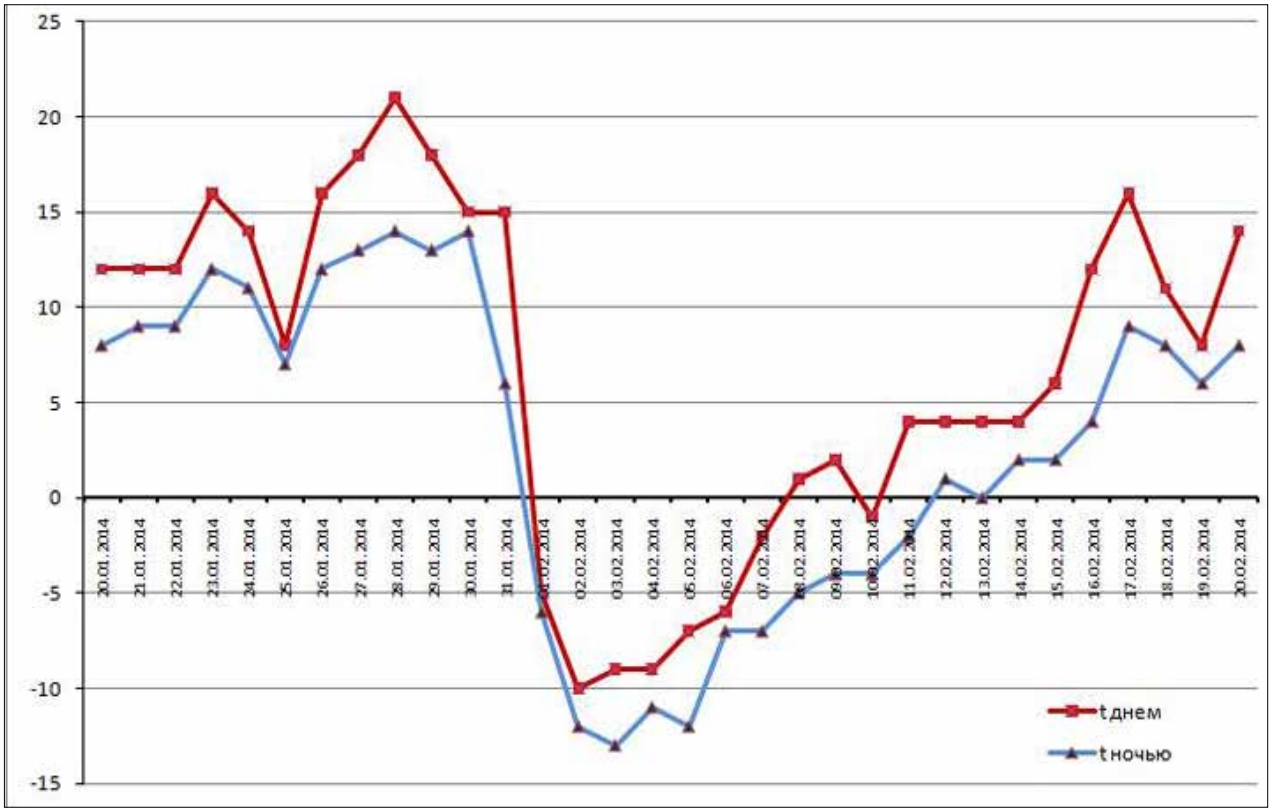

Fig. 1. Dynamics of day and night temperatures near Termez in the south of Uzbekistan in winter 2014, according to GISM-ETEO (http://www.gismeteo.ru)

of +14.3°C throughout the last decade of January to -5°C on the night of 1st February (Fig. 1), and during the next few days to -10°C. The lower temperatures were accompanied by snowfall. Negative temperatures were recorded for 10 days, and during this period snow fell again on 6 February, although the snow depth was not high.

Short frosts during the winter, accompanied by snow precipitation are observed in this region periodically. Similar weather was experienced in 2005, when the snow depth reached 30 cm (Lanovenko 2008), and in 2008, when temperatures to –20°C and snow cover with the depth of up to 60 cm were registered during all of January (Lanovenko 2008). During such periods, wintering birds have a very hard time: grains in the fields are under the snow, and water in the irrigation ditches and canals covered with ice.

Compared with previous years, more remains of Eurasian

Fig. 2. Eurasian Cranes looking for food at wintering grounds in Uzbekistan in February 2014. Photo by A. Shilina

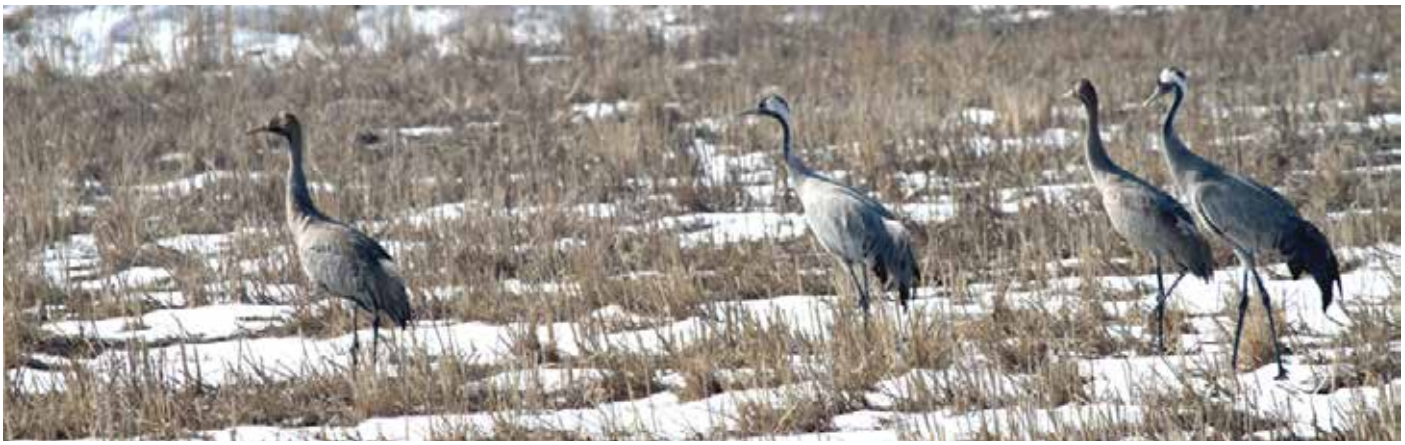

Fig. 3. Family of Eurasian Cranes with two chicks at wintering grounds in the south of Uzbekistan. Photo by A. Shilina

Cranes and other waterbirds (geese, ducks and herons) were found during the survey of 2014, evidence that the birds were weakened by the harsh weather.

Eurasian Cranes are kept in rice paddies mainly by families or are in small (20 to 50 birds) groups (Fig. 2-4), which greatly complicates the calculation, since such groups are less visible during the survey. In addition, the burning of rice straw and reeds had not started in the frontier zone and the high grass strongly limited visibility. Lack of attractive feed for the cranes in the burned areas may also affect the size of feeding groups. In past years, large flocks of cranes with the number of more than 500 birds were observed in the burned areas.

Currently, the data received during surveys are still being processed, but, nevertheless, we can say that, due to hard wintering conditions, the number of Eurasian Cranes in 2014 was probably less in half that in previous years, when the total number of wintering Eurasian Cranes was about 30,000 individuals (Sorokin et al 2011).

Fig. 4. Small groups of Eurasian Cranes in rice paddies in the south of Uzbekistan. Photo by A. Shilina

Western Flyway

Siberian Crane Wintering in Iran in 2013/14

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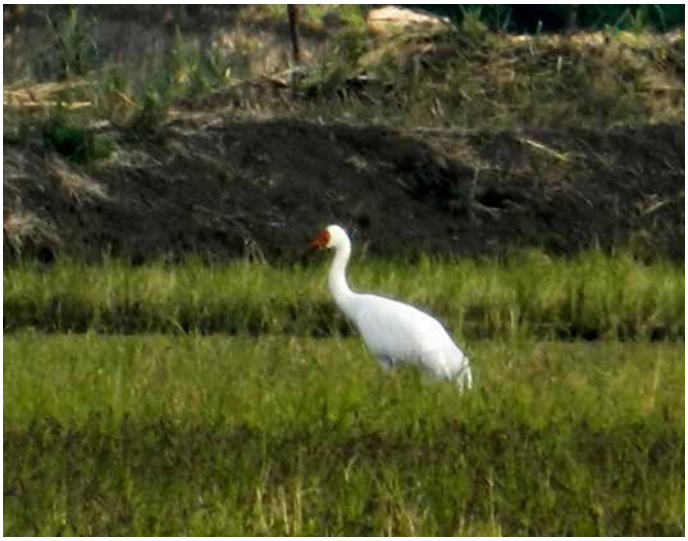
In 2013, same as in previous five years, only one adult wild Siberian Crane, named Omid (Hope), arrived at the wintering grounds of the Western/Central population on the southwest Caspian coast in Mazandaran Province in Islamic Republic of Iran (see previous issues of SCW News).

On 29 October, in the middle of night near 3:00 a.m., a few Ezbaran Damgah keepers heard the familiar call of the Siberian Crane and observed that it had landed in their damgah, the traditional first stop on arrival in Fereydoonkenar (FDK). Near 8 a.m. the single crane left Ezbaran damgah and moved to the FDK main damgah, where it was sighted by local damgah keepers about 10 a.m. in its northern part in Ghela territory. Two days later, on 31 October, Omid spent the night in Ezbaran and in the morning returned to the FDK damgah. On 4 November, around 11 a.m. it was again observed in the FDK damgah in the Siberian Cranes' favorite feeding site at the northern boundary. The old damgah area now has become disturbed by a highway, which cuts across many old damgahs. However, Omid did not seem aware of any danger, sheltered only by the high grass and reeds, and here he was easily photographed at about a distance of 50 m by Massoud Mohammadi, the local young bird lover, son of the damgah-keeper, and also the source of most observations related herein (Fig. 1, 2).

On Sunday, 2 February 2014, a rare, once-in-a-century snow storm came suddenly from the west, without warning nor hardly any readiness for emergency aid for birds or people. The snow was piled up to 1.5 meters all over western Mazandaran, however somewhat less in FDK Damgah (20-25 cm), but with weeks of below zero temperatures. During this incredible, unprecedented winter phenomenon, the situation was severe for the hapless migratory birds used to migrating to this 'sub-tropical' area for some thousand years from colder regions. Such a snow storm had previously occurred over 65 years ago, when a similar frost had hit the area,



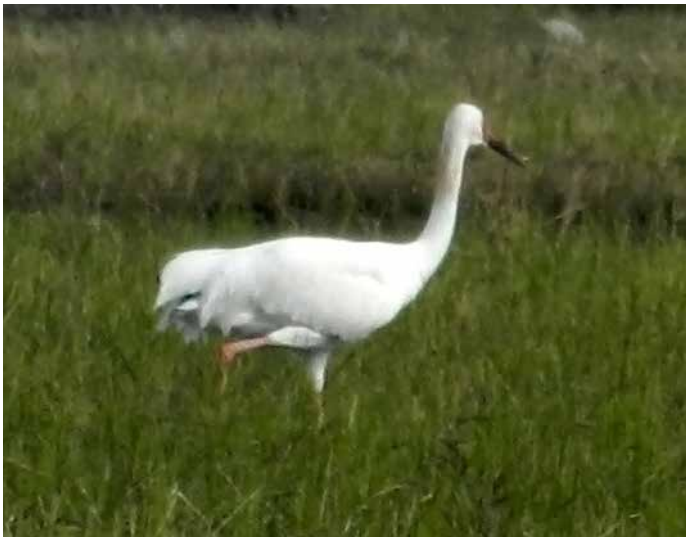


Fig. 1, 2. The Siberian Crane (Omid/ Hope/ Nadezhda) in Fereydoonkenar Damgah on 4 November 2014, in few days after arrival. Photo by M. Mohammadi

destroying all the citrus fruit gardens of this Caspian littoral, after which imported orange trees were planted. This year the bitter cold completely destroyed the gardens west of FDK area.

So in February 2014, the immediate concern was the situation of the waterfowl in the frozen damgahs and of the 4-5,000 Whooper Swans which have only recently (4-5 years ago) adopted the FDK rice fields. Many local Iranian NGO's actively tried to help the Department of Environment (DoE) by feeding the birds, breaking the ice in the ponds and gathering dead birds. They also needed long-time support from local people for buying food, because the waterbirds would still be staying another month before migrating, i.e. the swans alone needed about 1½ tons of grain each day = 45 tons of feed as wildbird-welfare support. The main focus, however, was the wintering Siberian Crane. The threat to Omid's condition was hopefully mitigated by having coped with probably similar experiences in Siberia and this was born out when on 6 February the first sighting of Omid after the snow storm was reported by a local trapper in the north part of FDK damgah . On 8 February it was again observed in good condition at sundown in the same part of FDK damgah by Dr. Leander Khil, Austrian ornithologist and wildlife photographer, who, visiting the damgahs for the first time, described the sites as well-deserving international attention for their uniqueness and biodiversity of waterbirds. The easiest for him to observe were the 4-5,000 Whooper Swans (incl. only a few Mute and one Bewick Swans) in a staging area of these huge flocks, which lies in the fields between the Sorkhrud and Ezbaran damgahs. He also observed a few stray Flamingos (likely from Miankaleh, Golestan Province), and, after futile searches in this vast few hundred hectares of wetlands for two days, he unexpectedly spotted the lonely Siberian Crane at sunset,. As his last observation, it was like a award!

On 27 February the Siberian Crane most likely took off from Ezbaran Damgah unobserved, as on 26 February, Wednesday evening, one local trapper saw it flying towards Ezbaran, where the cranes have routinely departed from, though Omid was unobserved by damgah

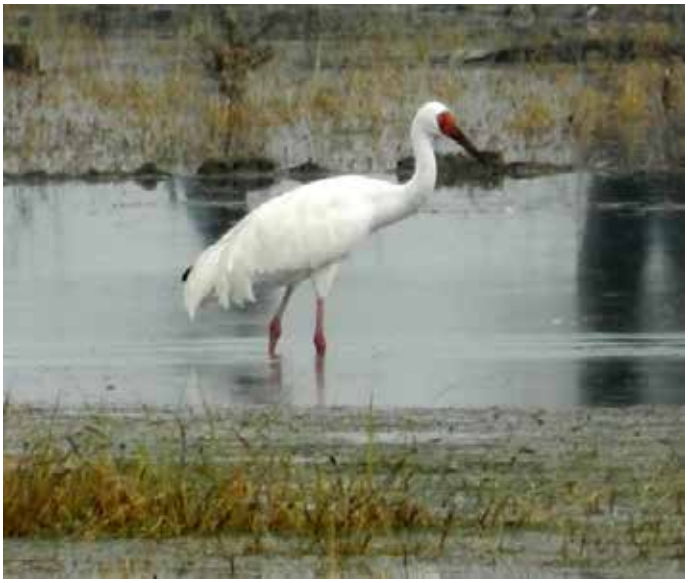


Fig. 3. The Siberian Crane at the middle of wintering season – on 3 January 2014. Photo by M. Mohammadi

Fig. 4. Huge flocks of Whooper Swans (near 4-5,000) adopted Fereydoonkenar Damgah during last 4-5 years.

keepers for the previous 3 days just like last year when Omid also 'disappeared' for a few days before departure. Then, on 2 March, Omid was seen again around 11 a.m. in Ezbaran circling around the damgah and then flying towards Sorkhrud Damgah, his usual behavior before leaving. So, the Siberian Crane said 'good bye' to FDK for the northerly migration on 2 March, a little earlier than usual (the mean departure date being 4-5 March), leaving the local people wishing that they would see Hope / Omid return in the fall, as usual.

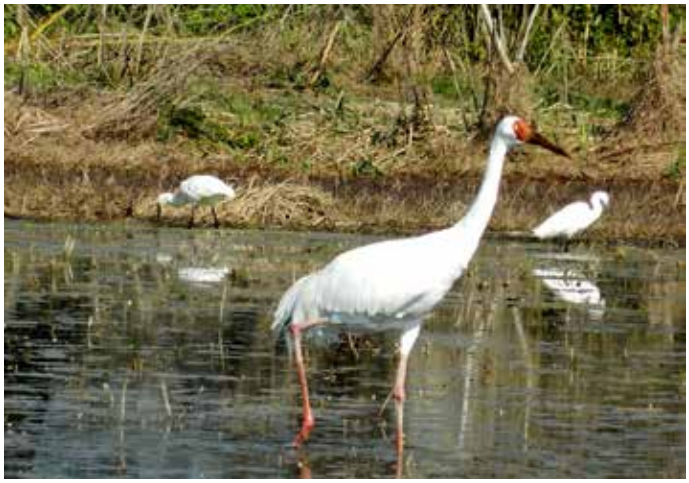


Fig. 5. The Siberian Crane during the week after the hard snow storm – on 9 February. Photo by M. Mohammadi

Eastern Flyway

Waterbirds Count at Wintering Grounds in Poyang Lake Basin, China, in December 2012

Liu Guanhua, Wu Jiandong, Jin Jiefeng, Wen Sibiao, He Shouqing, Cao Rui

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On 25 December 2012, sponsored by the International Crane Foundation, a basin-wide waterbird survey was conducted at Poyang Lake Basin, Jinangxi Province. A total of 419,773 waterbirds of 58 species were recorded. Among the 58 species, 13 had a population over 1% of the world or flyway population each. Duchang Nature Reserve (NR), Nanji National Nature Reserve (NNR), Poyang Lake NNR, and Yugan were the most important areas for the waterbirds, which all four together accounted for 90.2% of the total waterbirds recorded. In the table only the numbers of cranes and other large waterbirds are represented (Table).

Table. Numbers of large waterbirds recorded in different areas at Poyang Lake Basin on 25 December 2012

Species	Number
Siberian Crane (*Grus leucogeranus*)	1966
White-naped Crane (*G. vipio*)	221
Hooded Crane (*G. monacha*)	96
Eurasian Crane (*G. grus*)	502
Oriental White Stork (*Ciconia boyciana*)	1339
Black Stork (*C. nigra*)	4
Spoonbill (*Platalea leucorodia*)	5,535
Tundra Swan (*Cygnus bewickii*)	62,631
Swan Goose (*Anser cygnoides*)	67,181
Bean Goose (*A. fabalis*)	95,883
Greater White-fronted Goose (*A. albifrons*)	33,242
Lesser White-fronted Goose (*A. erythropus*)	1,206
Greylag Goose (*A. anser*)	838
Total	**270,644**

Waterbirds Count at Wintering Grounds in Poyang Lake Basin, China, in March 2013

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Poyang Lake National Nature Reserve, Jiangxi Province, China

On 8 March 2013, sponsored by the International Crane Foundation, the count of large waterbirds, including cranes, geese, and storks was conducted in Poyang Lake Basin, Jiangxi Province. A total of 40,573 large waterbirds were recorded (Table). Geese, including Swan, Bean, Greater White-fronted, and Greylag Geese, accounted for 88.32% of the total birds recorded. Among all species, the Tundra Swan had the highest number of 16,552. Of available water, mudflats, grassland, rice paddes, and other habitats, the Siberian Cranes used mudflats the most, with 56.52% of all Siberian Cranes, while grassland was used the most by Eurasian, White-naped and Hooded Cranes, with near or above 70%. Each of all four species of cranes had juvenile recruitments over 18%.

Table. Numbers of large waterbirds recorded in different areas at Poyang Lake Basin on 8 March 2013

Species	Number
Siberian Crane (*Grus leucogeranus*)	700
White-naped Crane (*G. vipio*)	688
Hooded Crane (*G. monacha*)	557
Eurasian Crane (*G. grus*)	886
Oriental White Stork (*Ciconia boyciana*)	501
Spoonbill (*Platalea leucorodia*)	1,409
Tundra Swan (*Cygnus bewickii*)	16,552
Swan Goose (*Anser cygnoides*)	15,511
Bean Goose (*A. fabalis*)	2,546
Greater White-fronted Goose (*A. albifrons*)	1,223
Total	**40,573**

Siberian Crane Counts in Poyang Lake Basin, China, in Winter 2013/14

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The staff of the Institute of Biological Problems of Cryolithozone NB RAS, Yakutia, Russia, after attending International Symposium «Poyang Lake Water Conservancy Project and Ecological Protection» in Nanchang in Jiangxi Province from 7 to 18 December 2013 participated at Siberian Crane counts on lakes of Bang Hu, Dahu Chi, Zhonghu Chi, and Dacha Hu in the Poyang Lake Basin and monitoring of crane wintering.

According to information by Mr. Zheng Zhongjie, cameraman of provincial TV "City Channel", in 2013 the first Siberian Cranes appeared at wintering grounds in Poyang Lake National Nature Reserve (PLNNR) on 22 October (21 individuals). A family with chick arrived on 1 November. One of the adults was banded with a plastic band with the number 8. The marked bird was banded as a chick in August 1991 at breeding grounds in Yakutia in left bank of Indigirka River in Low Berelyakh River, west of Brosokovskoye Lake. Since discovering this pair with banded bird at wintering grounds in China in 2005, every winter it stays at the same wetland not far from the road to Wucheng City (near the entrance to PLNNR, not far from Dahu Chi Lake), separate from large groups of Siberian Cranes. During our observation on 7 December this pair and their chick fed at the same place. According to information from the PLNNR staff, on 6 December around 600 Siberian Cranes were counted on Dahu Chi

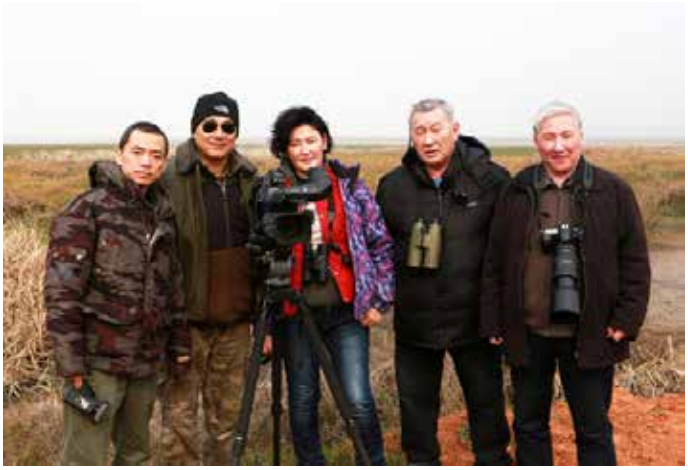

Fig. 1. Participants of crane counts in Poyang Lake Basin in February 2014 (from the left to the right): Cui Guoqiang, Zheng Zhongjie, Inga Bysykatova, Nikolai Germogenov, Sergei Sleptsov

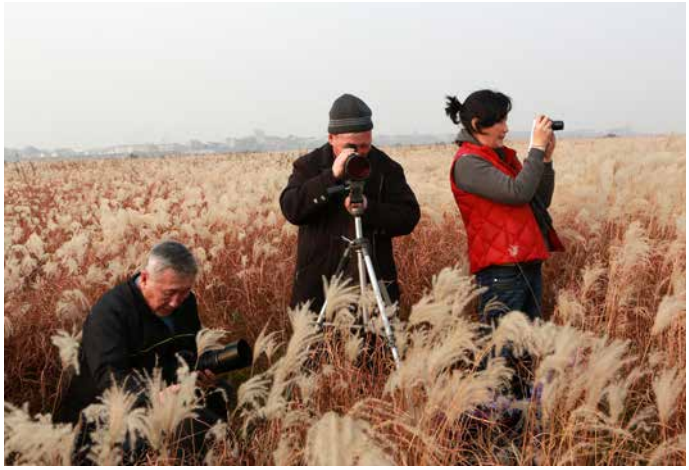

Fig. 2. Observations on Siberian Cranes by Yakutian ornithologists. Photo by Zheng Zhongjie

Lake. In the next day, on 7 December, we could see only 40 individuals because of dense fog.

On 8 December we visited two wintering sites on the lakes of Bang Hu and Sha Hu. According to data from Chinese colleagues, one more family with a chick and an adult marked by plastic band with number 10 was sighted near Bang Hu Lake before our visit. This bird also was banded as a chick in August 1991 at breeding grounds in northeast Yakutia in Low Berelyakh River. Mr. Zheng Zhongjie informed us that in November, when the water level was 40-50 cm, around 500 Siberian Cranes were counted on Bang Hu Lake. Then, with decreasing water levels, the crane numbers also gradually decreased. Local people closed the dam in Sha Hu Lake to retain water level for their needs. They did not agree to release water to rapidly shoaling Bang Hu Lake, despite persuasion. We could not count Siberian Cranes on Bang Hu and Sha Hu Lakes due to bad weather conditions.

On 9 December we observed two lakes of Dahu Chi and Zhonghu Chi. 495 Siberian Cranes including 17 chicks were counted on Dahu Chi Lake, and three flocks with total number of 333 individuals (the first – 159, the second – 90 and the third – 84 cranes) were counted on Zhonghu Chi Lake. On 12 December we counted near 1,400 Siberian Cranes at two sites of Dacha Hu Lake (approximately one thousand at the first sites and 345 cranes including 53 chicks at the second site).

Parallel with crane observation in PLNNR, provincial TV took film about Siberian Cranes at wintering grounds as a continuation of film shooting at breeding grounds in Kytalyk Regional Resource Reserve in Yakutia in July 2013. The filming will be continued in Middle Aldan Valley in the south Yakutia in autumn 2014 during crane migration.

We would like to acknowledge Mr. Sun Xiaoshan, Director of Department of Water Resources of Jiangxi Province, Mr. Zheng Zhongjie, cameraman of TV "City Channel" and his colleagues, the staff of PLNNR.

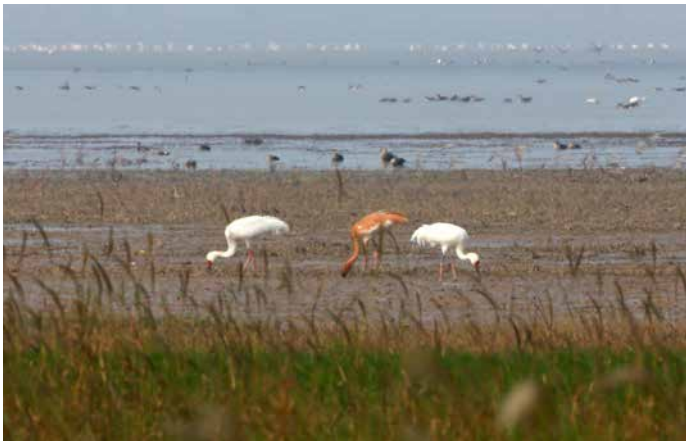

Fig. 3. Siberian Crane family with chick and adult marked with band #8. Photo by Zheng Zhongjie

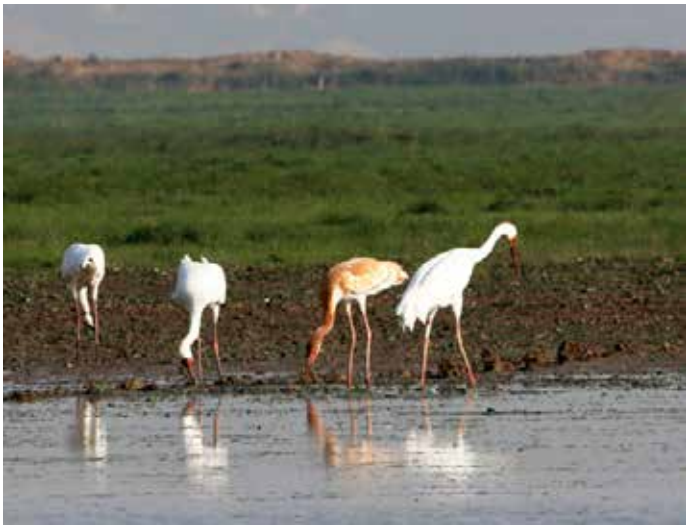

Fig. 4. Siberian Crane family with chick and adult marked with band #8. Photo by Zheng Zhongjie

Crane Propagation in Oka Crane Breeding Center, Russia, in 2013

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Oka Crane Breeding Center (OCBC) of the Oka State Nature Biosphere Reserve (OSNBR) is a key agency responsible for keeping the main captive flock of Siberian Cranes and their breeding for the reintroduction into the wild.

As of 1 January 2014, the OCBC is a host to 29 Siberian Cranes (15 males and 14 females).

In 2013, 11 pairs of the Siberian Crane bred at the OCBC (Table). They started to breed earlier than the mean date of egg laying: the first egg was laid on 22 February. The period of egg laying ended on 7 June. Peak of egg laying was recorded in the last week of April.

To produce offspring from birds incapable of copulation, artificial insemination was used for eight females. The female from a pair which copulated naturally before but in 2013 the male suffered from arthritis of the intertarsal joints, was inseminated artificially with sperm from other Siberian Crane males. However genetic analyses showed that both chicks are offspring of the male from this pair (see article by Mudrik et al in this issue). Thus, this pair copulated naturally despite of male's disease.

Artificial incubation was not used. Only one Siberian Crane egg, which was broken by the incubating pair of White-naped Cranes a few days before hatching, was placed in wet conditions in an incubator. The embryo was constantly under observation; half of the egg with an unretracted yolk sac was regularly moistened. During the next day the yolk sac was retracted. The chick hatched and was placed in special playpen after drying for further rearing using costume technique. The incubation period for the four pairs was prolonged artificially using wooden or infertile eggs with a goal to use these pairs as adoptive parents for incubation of the second eggs from Siberian Crane full clutches. The second clutch, after the full incubation of the first clutch, was recorded only for one pair.

Three chicks were reared by parents. After hatching in the parent's nests 11 chicks from early clutches were placed in an isolated enclosure complex for rearing using costume technique (staff wear white costume and feed chicks using crane puppet) for the Flight of Hope Project. Each chick was kept in a separate enclosure but in visual contact with other chicks. Models of an incubated adult Siberian Crane were placed in the chick enclosures. Also, a hybrid of Siberian and Eurasian Cranes was kept near them for imprinting. Training using ultralight motodeltaplan in combination with feeding was conducted individually for each chick one-two times a day. On 20 July, ten chicks (eight Siberian and two Eurasian Cranes) were moved to the Lipovaya Gora site inside the OSNBR for a month of continuing training using the ultralight plane.

The scientists of the Vavilov's Institute of General Genetics, Russian Academy of Sciences, determine

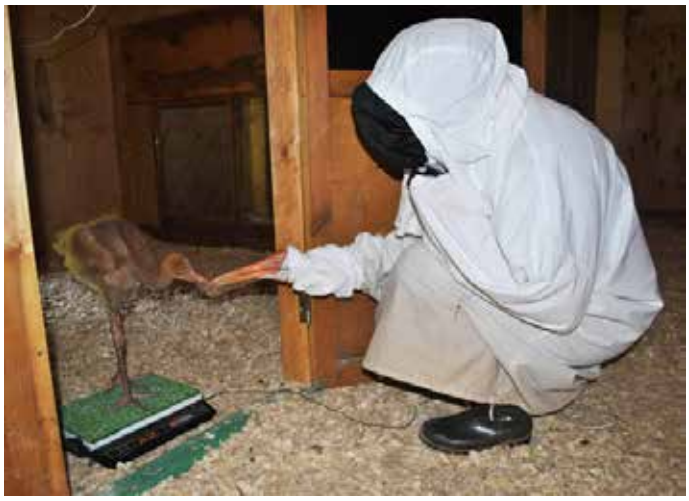

Fig. 1. Weighing of a Siberian Crane chick by keeper in white costume. Photo by G. Nosachenko

Fig. 2. A Siberian Crane chick near model of adult incubated crane. Photo by G. Nosachenko

Table. Results of Siberian Crane breeding in OCBC in 2013

Number of laid eggs (number of broken eggs)	Number of fertilized eggs	Number of hatched chicks	Number of raised chicks	Raising success, %
31 (8)	17	12	9	75%

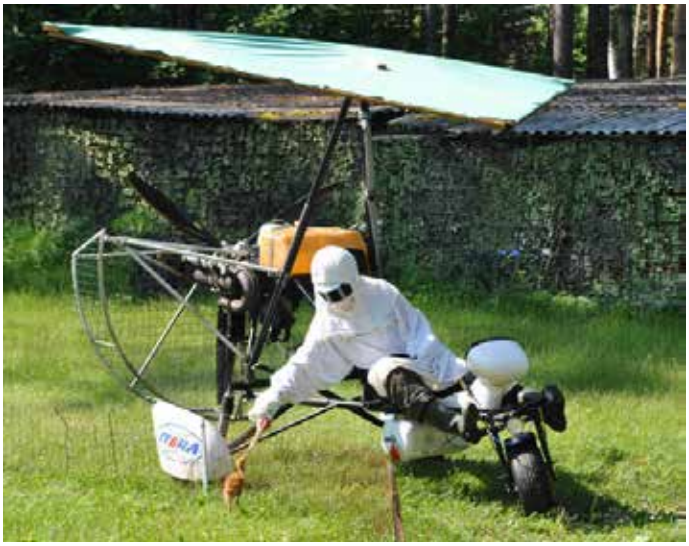

Fig. 3. Training of seven-day-old chick using ultralight motodeltaplan. Photo by G. Nosachenko

Fig. 4. Chick transportation by boat to the field station in Lipovaya Gora site of OSNBR. Photo by G. Nosachenko

Fig. 5. Chick enclosure in the field station in Lipovaya Gora site. Photo by G. Nosachenko

Fig. 6. Attack of a White-winged Tern during chicks' walk in Lipovaya Gora site. Photo by T. Postelnykh

gender of all chicks during their first weeks of life using blood samples. Three of nine hatched chicks died because of disease and trauma. Thus, in total, eight chicks of Siberian and two chicks of Eurasian Cranes were reared in OCBC for the reintroduction program in 2013.

On 24 June three one-year-old Siberian Cranes were transported to the Uvat District of Tyumen Region at breeding grounds of Western Asian population for the reintroduction into the wild (see article by Sorokin et al in this issue).

On 9 September three chicks of Siberian and one chick of Eurasian Cranes reared using costume technique, were released into the wild in Beloozersky Wildlife Refuge (Armizon District of Tyumen Region) (see article by Sorokin et al in this issue).

On 26 September five chicks (two reared using costume techniques and three by parents) were transported to the Astrakhan State Nature Biosphere Reserve for release into the wild at the traditional Siberian Crane migration stopover in Volga Delta (see article by Markin et al in this issue).

Fig. 7. Chick training flights follow ultralight motodeltaplan in Lipovaya Gora site. Photo by T. Postelnykh

Reintroduction of Siberian Cranes in West Siberia in 2013

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In 2013, the Siberian Crane reintroduction in Western Siberia was carried out in two places: 1) at breeding grounds of the Western Asian population of the Siberian Crane in Uvat District of the north of Tyumen Region and 2) at the Beloozersky Wildlife Refuge (BWR) in the south of Tyumen Region which has had a large autumn pre-migratory congregation of Eurasian Cranes during the last 20 years and where, according to satellite tracking, Siberian Cranes stopped during autumn migration.

For reintroduction into the breeding grounds, Siberian Cranes of 2012 birth were selected (Table 1). These were birds who had migration experience from Kushevat Village (Yamalo-Nenetsky Autonomous Region) to BWR in the south of Tyumen Region during the implementation of «Flight of Hope» Project in 2012, and who had contact with wild Eurasian Cranes at the autumn staging area in BWR in the same year (see article by Sorokin et al in SCF News #12).

Reintroduction was conducted from 25 June to 7 July 2013. Siberian Cranes were transported in special boxes in Uvat, and then to the release area by helicopter. On 27 June, the Siberian Cranes were put in a temporal enclosure (Fig. 1) where they stayed for three days. This gave them time for their adaptation to the environment and to natural food.

On 29 June the Siberian Cranes were released into the wild. Immediately after their release, they began to show adequate behavior, including a negative attitude towards man. They did not remain in the territory near the enclosure, and as the Siberian Cranes released here last year, flew for some distance. Visual observation of them, both ground and air, was carried out for five days.

Observations showed that the birds were in good physical shape, stayed together, successfully adapted, learned territory and used natural food (Fig. 2). Because of this behavior, and taking into account that the Siberian Cranes adequately contacted with neighboring breeding and territorial pairs of Eurasian Cranes, the release was considered successful.

In September 2013, confirmation of the successful release was received. A resident of the village of Orlovo (Armizon District) informed us that in the morning of 21 September he sighted three cranes in the group of Eurasian Cranes flying over arable fields. These cranes at-

Fig. 1. Siberian Cranes in a temporary enclosure in the place of release in Uvat District of the Tyumen Region on 26 June 2013. Photo by Y. Markin

Table 1. Origination of Siberian Cranes released in the breeding grounds in the north of Tyumen Region in 2013

Name	Gender	Date of birth	Location and number of the band		Origination		Generation
			Right leg above hock	Left leg above hock	Father # ISB	Mother # ISB	
Vorona	male	17.05. 2012	Color plastic bands: black-white-black	Standard metal band: **A 354285**	Chara #505	Mirande #226	F2
Uvat	male	19.05. 2012	Standard metal band: **AA 2008**	Color plastic bands: yellow-blue-yellow	Kieng #67	Mirande #226	F1
Lel’	male	31.05. 2012	Color plastic bands: white-blue-white	Standard metal band: **A 145947**	Chara #505	Agidel’ #89	F2

tracted his attention because they had white wings with black tips. At the same time, young released Siberian Cranes of 2013 birth were in BWR 20 km southwest from the village of Orlovo.

Most of the Eurasian Cranes departed this area for south migration on 4 and 5 October, and on 6 October a single Siberian Crane was sighted on the bank of a lake near Ivanovo Village, not far from the village of Orlovo. When people tried to approach, he flew further along the bank. The next morning, after consultation with experts of the All-Russian Research Institute for Nature Protection, the staff of the BWR decided to catch the Siberian Crane using a "crane costume". After examination it was determined that the bird was in good physical condition and had no injuries. According to the colored plastic bands on its legs, it was Siberian Crane named Vorona (Table 1). In all probability the Siberian Cranes reintroduced in the Uvat District, spent the summer at the release site, started autumn migration along with wild Eurasian Cranes, and successfully flew nearly 320 km to the south of Tyumen Region. The reasons why Vorona stayed along on the lake bank are unknown. He was transported back to the Oka Crane Breeding Center (OCBC). Since this return was widely covered in the press and information about the sightings in October in nearby areas and that two released Siberian Cranes named Lel and Uvat were not seen, we are assuming that they migrated along with the Eurasian Cranes.

In 2013, the Siberian Crane release into the wild in West Siberia was also carried out in the territory of BWR. On

Fig. 2. Siberian Cranes learning the territory of release on 3 July 2013. A circle marks the territorial pair of wild Eurasian Cranes, and a square marks the released Siberian Cranes. Photo by Y. Markin

12 September, three young Siberian Cranes and one Eurasian Crane of the same age (Table 2) reared in OCBC were released on the Omelino Island in the midst of the White Lake, where roosting site of Eurasian Cranes is located for the pre-migratory period. The number of Eurasian Cranes at this autumn staging area has reached two - three thousand in recent years.

During the week, released cranes made contact with wild Eurasian Cranes which arrived on the Omelino Island for the night.

A fox caught and ate one of the adult Eurasian Cranes one night in the shallows on the Omelino Island, where wild Eurasian Cranes were staying. This happened in the immediate vicinity of the released young cranes. This caused great concern and movement of cranes and a rough messy departure early in the next morning. Probably as a result, the group of released cranes split up and scattered from the island in different directions. Only three days later, on 21 September, two Siberian Cranes (Taz and Vasyugan) and a young Eurasian Crane were discovered about 20 km southwest from the place of release; Yukonda was not found. Two days later, when it became clear that the probability of joining of released chicks to the Eurasian Crane flocks was low, two Siberian Cranes were caught and returned to the OCBC.

Table 2. Origination of Siberian Cranes released in Beloozersky Wildlife Refuge in the south of Tyumen Region in 2013

Name, species	Gender	Date of birth	Location and number of the band		Origination		Gene-ration
			Right leg above hock	Left leg above hock	Father # ISB	Mother # ISB	
Taz, Siberian Crane	male	17.05. 2013	Orange plastic band with black number 4	Standard metal band: **A 354526**	Ukhta #646	Banyl #68	F1
Vasyugan, Siberian Crane	female	22.05. 2013	Green plastic band	Standard metal band: **A 354546**	Kolyma #82	Bilipu #128	F1
Yukonda, Siberian Crane	female	30.05. 2013	Blue plastic band	Standard metal band: **A 354528**	Tyung #509	Soima #510	F2
Pim, Eurasian Crane	female	24.05. 2013	Red plastic band	Standard metal band: **A 354524**	Bedny	Bed-nyazhka	F1

Release of Siberian Cranes in Volga Delta, Russia, in 2013

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In September 2013, the eighth release of young Siberian Cranes was conducted in the Volga Delta (Astrakhan Province, Russia); five of them were supported by the oil and gas company "Petroresurs".

Releases of young Siberian Cranes in the Volga Delta are not accidental. The Astrakhan State Nature Biosphere Reserve (SNBR) is a place of traditional migration stopovers for the western population of the Siberian Crane, which spend winter in the south-west coast of the Caspian Sea in Iran. Written reports of Siberian Cranes in ASNBR have been collected since 1927. From year to year they stay for rest in the same bays (kultuks) located at the sea edge of the delta, in the spring often in the Damchik site of the ASNBR, and in the fall - in the Obzhorovo site.

On 27 September 2013, once again five Siberian Crane chicks reared in Oka Crane Breeding Center of the Oka SNBR were transported to Astrakhan SNBR by car. Three chicks were raised by parents, and two – using isolation (costume) technique. After arrival, the birds were transferred to the Obzhorovo site, the place of release, by motor boat (Fig. 1) and placed in spacious enclosures specially built at the mouth of the Kutum channel, to relax after a long journey (Fig. 2).

On 28 September, the Siberian Cranes were measured and marked with color plastic and standard metal bands, and two chicks also by satellite transmitters (PTT) made in Russia by ZAO "ES-PAS" (Table) (Fig. 3).

In the morning of 29 September, five Siberian Cranes were released in the delta between two small Kutum and Poldnevaya channels where there were a lot of other waterbirds (Fig. 4). All chicks were in a good physical condition. Almost immediately after the release, they began to take off and after a few laps over the place of release, again set down on the spit. Only one crane took off up to 80 m, disappeared behind the trees and stayed away from the group. Later this chick joined others, and for several days they stayed together (Fig. 5).

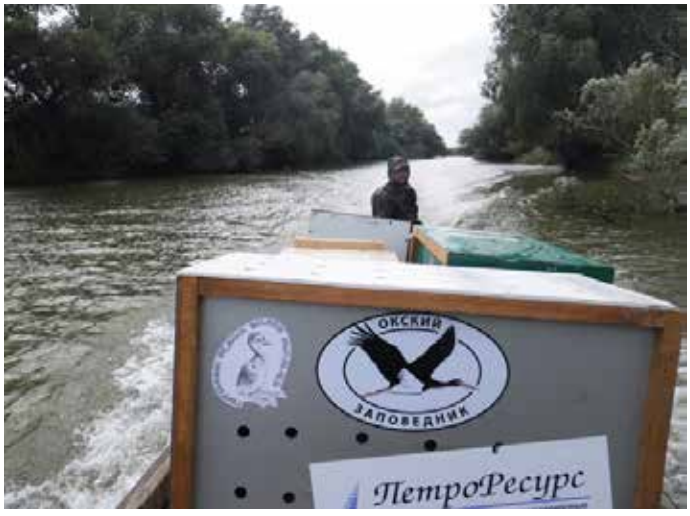

Fig. 1. Transportation by motor boat to the site of release on 27 September 2013. Photo by Y. Markin

Fig. 2. Siberian Cranes in the enclosure in the Obzhorovo site of Astrakhan Nature Reserve. Photo Y. Markin

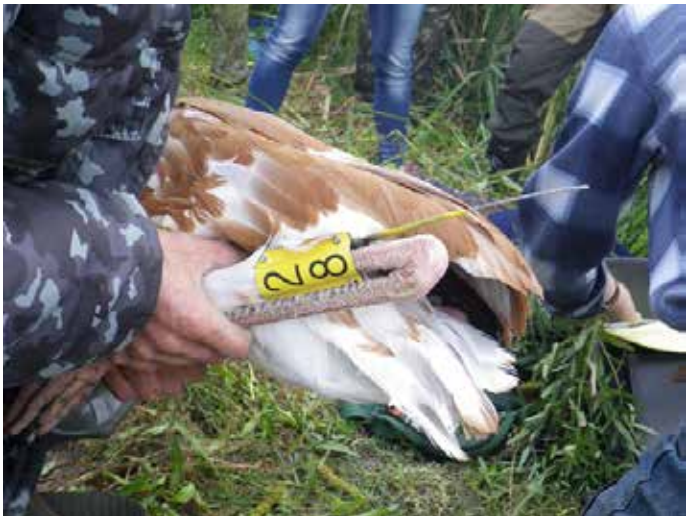

Fig. 3. Installing a satellite transmitter on the Siberian Crane. Photo Y. Markin

After the release, the cranes were regularly monitored, but it was quite difficult because high and thick reeds and willows, as well as numerous impassable wide channels. The Siberian Cranes were mainly observed from a motor boat when they were in the open shallows.

Visual observations had allowed tracing the process of adaptation to natural conditions of released Siberian Cranes, including such aspects of behavior as the use of natural food, flight and response to environmental factors. After their release, the Siberian Cranes immediately began actively foraging the natural food on dry islands, shallow water and channels up to 1 meter depth (Fig. 6). Because we were unable to approach them, and by their behavior it can be assumed that they were collecting shellfish, various insects and their larvae, as well as plant roots. The young cranes chiefly caught small fish ranging in size from 2 to 10 cm in shallow water. Sometimes the interval between catching small fish only took 10 seconds (Fig. 7). Catching crabs, noted in previous years, was not observed.

On 30 September, we witnessed an interesting episode. Two of our released chicks took off from a small desert island, where they were resting among a mass of other birds, and next to them two young white-tailed eagles started to soar. The Siberian Cranes flew toward the enclosure and the eagles followed. The eagles clearly had no intention of attacking cranes - they flew away from the Siberian Cranes flying quietly playing and practicing in flight. The crane chicks, realizing that it was not an attack, took part in the air game (Fig. 8, 9). Then the Siberian Cranes landed near the enclosure and eagles quietly continued their flight hunting.

Unfortunately the satellite transmitters attached to two of the Siberian Cranes before their release were very soon out of order. On the third day after the release, on 2 October, the antenna of the satellite transmitter on the chick called Lyapin broke and curled into a spiral, and after that no signals were received from this PTT (Fig. 10). Lyapin was caught, the broken PTT was removed and a new PTT was attached (Fig. 11). This PTT worked until 6 October 2013,

Table. Marking of Siberian Cranes released in Volga Delta in 2013

Name, rearing technique	Gender	Date of birth	Location and number of the band	
			Right leg above hock	Left leg above hock
Nazym (by parents)	female	2.06.2013	Standard metal band: **A 354530**	Yellow plastic band with black number **5**
Kilmez' (by parents)	female	5.06.2013	Standard metal band: **A 354531**	Orange plastic band with black number **8**
Balyk (by parents)	male	6.06.2013	Standard metal band: **A 354533**	Satellite transmitter **#61929** attached to yellow plastic band with black number 28 (from up to bottom)
Sabun (costume technique)	male	26.05.2013	Standard metal band: **A 354534**	Plastic bands yellow-black-red (from up to bottom)
Lyapin (costume technique)	male	27.05.2013	Standard metal band: **A 354543**	Satellite transmitter **#61933** attached to green plastic band with white number **17** (from up to bottom) (data of repeated marking)

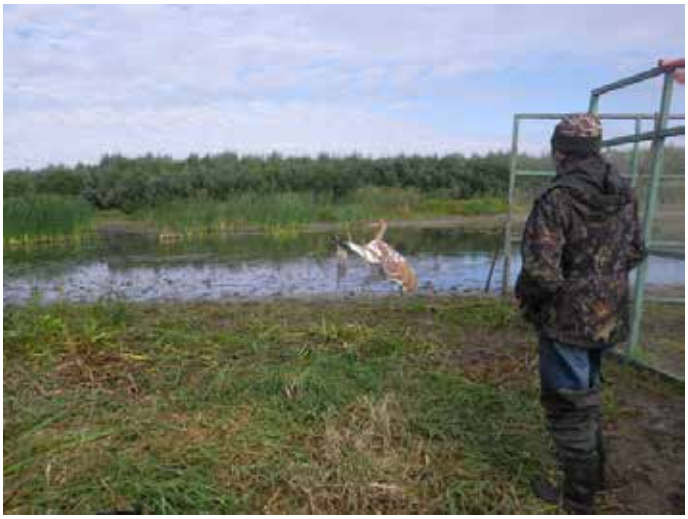

Fig. 4. Release of Siberian Cranes in the delta rivers between Kutum and Poldnevaya channels on 29 September. Photo by Y. Markin

Fig. 5. Chicks kept in groups of shoals on the border with reed floodplains. Photo by Y. Markin

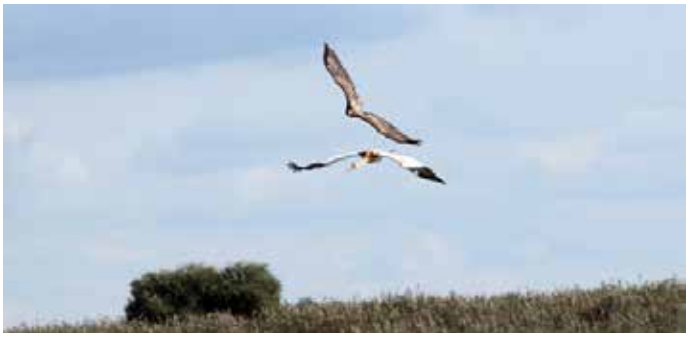

Fig. 8, 9. Siberian Cranes flight with young White-tailed Eagles. Photo by Y. Markin

Fig. 6. Young Siberian Cranes often fed together as a friendly team, learning from each other to forage. Photo by Y. Markin

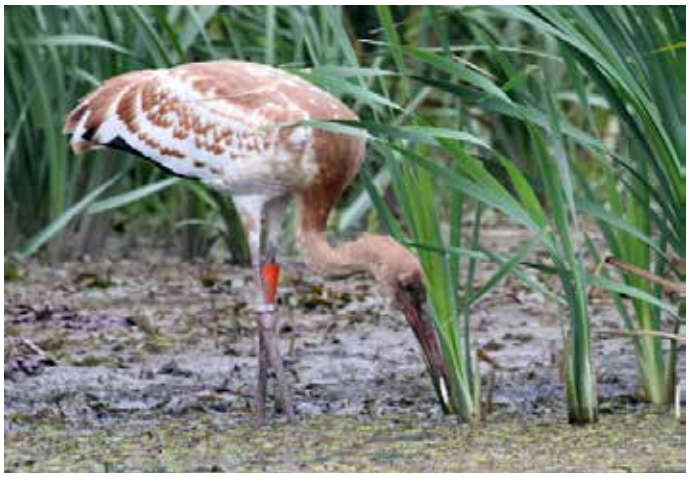

Fig. 7. Chick Kilmez catches and swallows small fish in shallow water, not looking up, at intervals of 10-30 seconds. Photo by Y. Markin

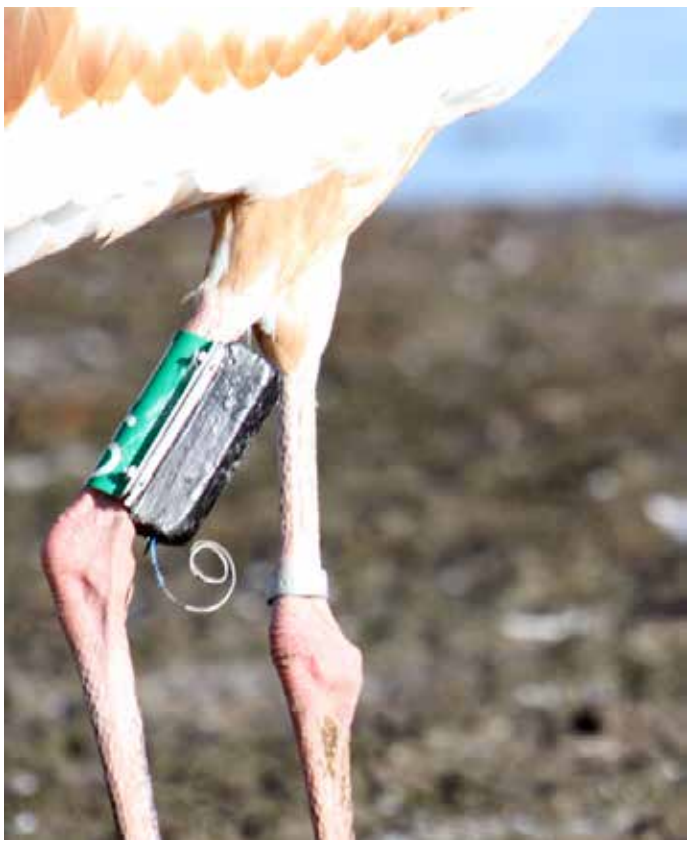

Fig. 10. The broken antenna on the transmitter with which the chick Lyapin was marked. Photo by Y. Markin

after that signals stopped again, probably because of the same cause. On 2 October, it was also found that the transmitter, which was on the chick Balyk, lost its antenna (Fig. 12). This chick was not caught and started migration with an inoperative PTT. Thus, the testing of new satellite transmitters «Pulsar» showed that their electronic parts are made at the highest level - they transmitted the exact coordinates of the location of Siberian Cranes. However, the mechanical part of the antenna and the cover of the PTT itself is weak and easily damaged by the cranes.

Due to the cold weather, the Siberian Cranes flew from the place of release on 24 November. In total, for the period from 1999 to 2013, 37 young Siberian Cranes were released in the Volga Delta.

Fig. 11. The chick Lyapin was marked with PTT again. Photo by Y. Markin

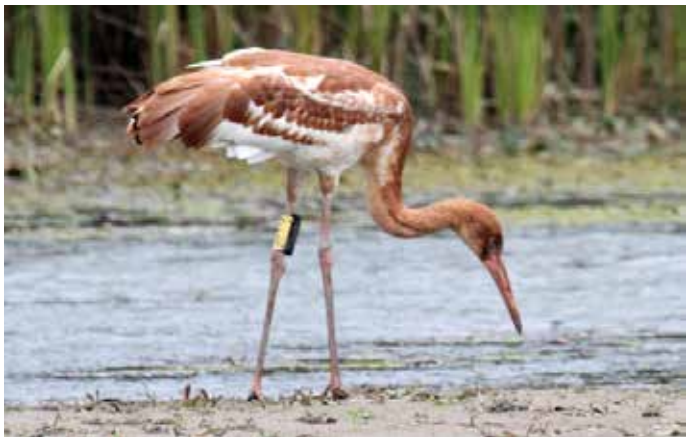

Fig. 12. Chick Balyk with PTT that lost its antenna. Photo Y. Markin

Research 2013

DNA Analysis Proved Paternity of 'Husbands' in Artificially Bred Siberian Cranes

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Since 2010 we have been employing molecular genetic control of paternity in Siberian Cranes bred in Oka Crane Breeding Center (OCBC) using artificial insemination (AI). Previously, we have shown that the last male donating semen shortly before AI does not necessarily become a father. This inconsistency is caused by the long, up to nine days, survival and fertility of sperm in genital tracts of females. In this view, genetic control of paternity is underway for all available breeding adults and their progenies. Besides the birds currently held in captivity genetic analysis is also run for egg-shells, tissues of unhatched embryos and deceased individuals, as well as blood samples from cranes reintroduced into the wild or transferred to different organizations. Filling gaps and correction of errors in pedigrees enforce more effective planning of mating and coupling unrelated birds which is crucial in avoiding inbreeding and maintenance of appropriate genetic diversity. At the same time, paternity analysis helped to reveal facts important not only for breeding practice but also for understanding reproductive biology and mating behavior in Siberian Crane.

According to the traditional point of view cranes imprinted to humans do not identify conspecific individuals as mating partners and technically unable for copulation. For a family of imprinted Siberian cranes Yulia – Nazar, artificially reproduced in OCBC since 1988, we demonstrated successful natural mating by means of paternity DNA-analysis. For example, in 2005 this dam was sequentially inseminated by sperm from three males: 01.05 – Kolyma, 12.05 – Kunovat, 17.05 – Kieng. The egg was laid on 19.05, it gave rise to female Neya. Kieng was recorded as her father because he was the last male among the donors of semen. However, genetic analysis disproved paternity of all three males that took part in AI, while Yulia's mating partner Nazar was identified as Neya's biological father. Among other chicks produced by Yulia in different years, eight were also shown to be descendants of Nazar while recorded paternity was attributed to other males. These eight chicks may have appeared after natural mating but in these cases this cannot be stated for sure since Nazar was also among donors of sperm for AI (though AI was 9-10 days before oviposition).

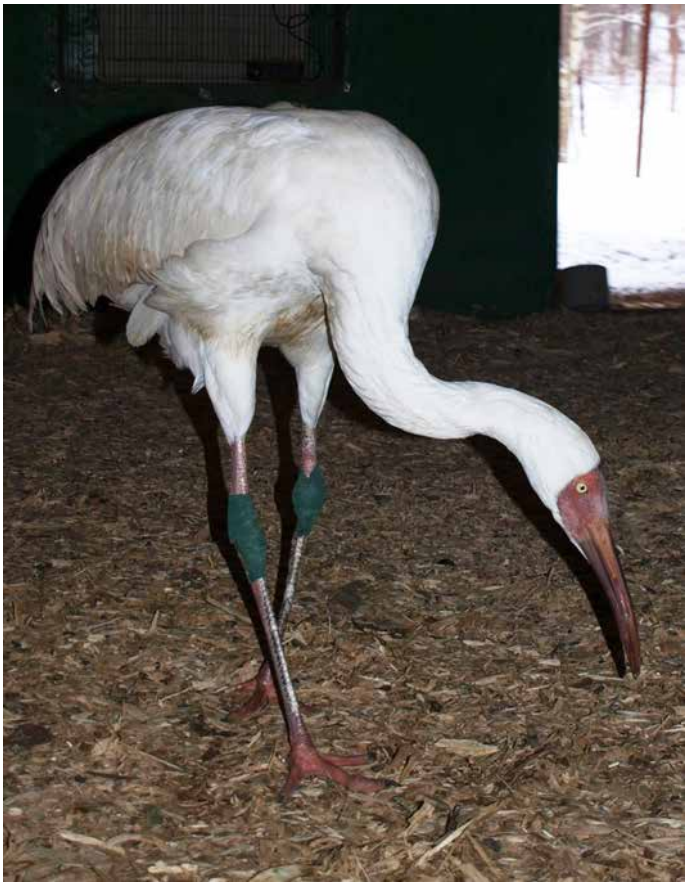

Fig. 1. Male Bakul with arthrosis of intertarsal joints. Photo by T. Kashentseva

We also proved ability for natural copulation in a male with a leg injury. As it is usually believed, males with injured legs or wings cannot jump onto a female and maintain balance as long as it is needed for copulation. E.g., the family Byugyuchen – Bakul has been successfully mating for more than ten years. In 2013, due to lameness in

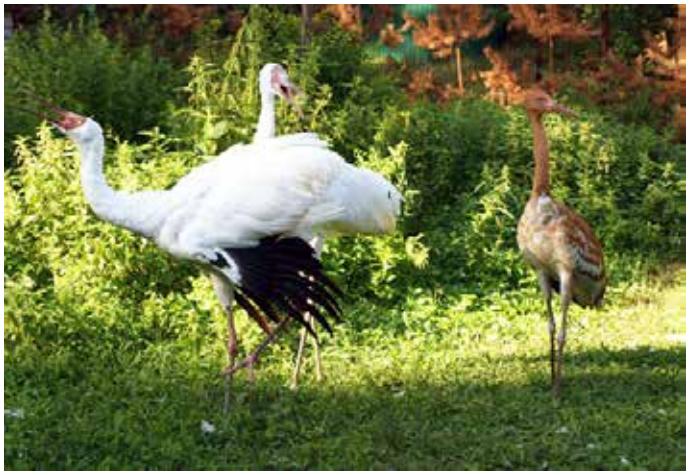

Fig. 2. Siberian Crane family Bakul and Byugyuchen with chick. Photo by T. Kashentseva

the male caused by arthrosis of intertarsal joints, the female was subjected to AI. She was inseminated seven times by sperm from four donors: Granat (03.04, 06.04 and 21.04), Kunovat (10.04 and 16.04), Chara (13.04) and Ukhta (25.04). In this case semen from the mating partner was not used for AI. The female laid two eggs, 24.04 and 27.04. The first embryo was dead in the shell, but a chick hatched from the second egg. Paternity analysis based on DNA from embryo tissues and capillaries of the egg-shell membrane showed that the father was none of the AI-sperm donors but it was Bakul.

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Projects

Study of the Eastern Population of the Siberian Crane

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In 2013, the project "Structure and Dynamics of Migratory and Breeding Habitats of the Eastern Population of the Siberian Crane", supported by Russian Fund for Fundamental Researches (RFFR), was completed.

The stenotopic, polyphagia and territoriality of the eastern population was determined using long-term research. The research was based on the relationships between the eastern population of the Siberian Crane, wetlands and consumed fodder on the migration route in the taiga zone and in the area of highest crane density at the breeding grounds in Yakutia using the analyses of topographic materials and satellite imageries. It exposed the role of these factors in the formation of structure and distribution of breeding sites and in organization of seasonal migrations. Functional importance of core elements of tundra and taiga wetlands, cenotic

communications in ornithozenos, fodder status, connections with internal parasites, and habitat dynamic were also studied during the project implementation. Some project results were published in scientific journals such as Zoological Journal, Ecology, and Journal of Threatened Taxa (see section New Publications in this issue).

The Siberian Crane eastern population is an ecotype which was formed by conditions of vast treeless lowlands with systems of large shallow lakes plentiful with fish. Such systems are located in unlocked hollows and have seasonal connections with river system. Sustainable habitation and breeding of Siberian Cranes are provided by surplus stable fish resources (mainly Ninespine Sticklebacks) and conditions when territorial behavior is the most effective. Therefore, successful familiarization of new territories by the eastern population which have different features than described above is unlikely, as well as former stable reproduction in forest-tundra and north taiga.

The eastern population is not adapted to successful foraging in conditions of taiga wetlands, where its stenotopic restricts any possibilities to realize its polyphagia. However, during migration and wintering the population finds wetlands which are almost similar to breeding habitats physiognomically, and which conditions allow them to switch to vegetable food.

During the project implementation, the steady trend of increasing of lake areas (especially large and mid-sized), destroying or disappearing of lake islands, peninsulas and isthmuses was determined to be a result of wave erosion. With the increasing water surface, the area of shallow wetlands (key element of population habitats) has decreased. New threats, including intensive human disturbance of migratory flocks at migration stopovers along rivers, distribution of the Wolverine at Siberian Crane breeding grounds, and an increasing number of Tundra Swans and Sandhill Cranes were identified.

Received data can serve as a basis for new ideas about the consequences of the degradation of the main wintering grounds of Siberian Crane eastern population or any other serious violation of stroke of pre-migratory season. It is believed that the deterioration of wintering conditions leads to lower reproductive success during the breeding season, following a period of unfavorable conditions (Ankney et al. 1991). But for the eastern population it is clear that the Siberian Crane will inevitably face difficulty in overcoming the taiga zone. Thus, the vulnerability of the population, due to its high level of ecological specialization lays in the inability of the weakened part of the population to overcome the taiga zone and reach the breeding grounds.

Should the eastern population begin to decline due to wetland degradation in its main wintering grounds, there is an opportunity to develop and implement measures to artificially improve feeding conditions on the Siberian Crane flyway in taiga zone of the northeast Asia, based on recently revealed positive effect of elk activity on the Siberian Crane feeding conditions in taiga habitats.

News

Momoge National Nature Reserve in China is designated as a Wetland of International Importance

Fig. 1. More than 100,000 waterbirds use Momoge National Nature Reserve during migration. Photo by N. Germogenov

On 16 October 2013, Momoge National Nature Reserve (MNNR) (144,000 ha; 45°54'32"N 123°45'56»E) was designated as a Ramsar Site – a wetland of international importance. MNNR is located in the northwestern part of Jilin Province, in the transition zone from forested landscapes in the east and grasslands in the west, and supports wetland types that are representative of the biogeographic region, such as low plain wetlands, rivers, temperate meadow and shallow lakes. These habitats provide important refuge for a variety of fish and bird species. MNNR is one of the key wetland sites in Northeast China. In spring 2012, more than 90% of the world's population of the critically endangered Siberian Crane was recorded at the site, and over 100,000 waterbirds have been recorded in each year between 2010 and 2012. The Ramsar designation results from the hard work of the reserve's leadership and of many technical and other staff. This effort began under our UNEP/GEF Siberian Crane Wetland Project and it is rewarding to see Ramsar designation achieved.

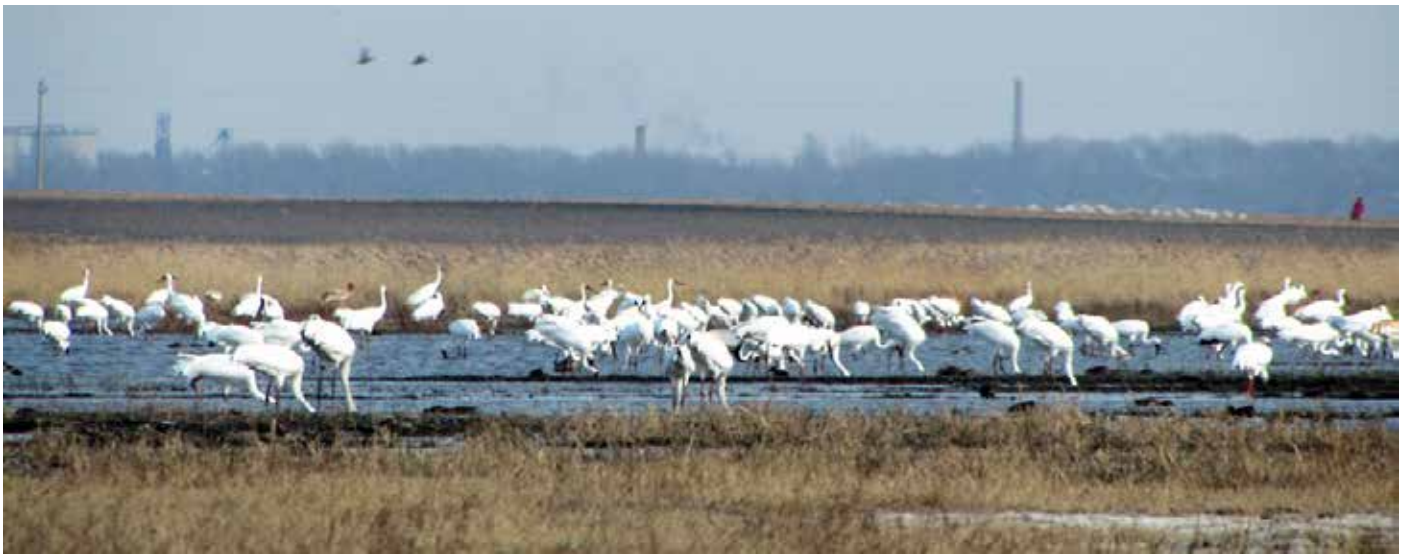

Fig. 2. Momoge NNR is a key stopover of the Siberian Crane on the eastern flyway where near 90% of the world's population is recorded during migration. Photo by S. Sleptsov

Siberian Crane MoU Celebrates 20 Years of Successful Collaboration

(according to www.cms.int/siberian-crane)

The Convention on the Conservation of Migratory Spe¬cies of Wild Animals (CMS) has a long and rich history of efforts to protect the Critically Endangered Siberian Crane (http://www.cms.int/en/species/grus-leucogeranus). The Memorandum of Understanding concerning Conservation Measures for the Siberian Crane (*Grus leucogeranus*) (Siberian Crane MoU) was the first species level agreement to be developed under the auspices of CMS. It was concluded on 1 July 1993 and revised on 1 January 1999. Since then, the Siberian Crane MOU has been of great value to the Convention. This groundbreaking memorandum has provided lessons learned and served as an ex¬ample to other MOUs on the conservation of migratory species concluded to date under CMS.

Originally concentrating on the Western and Central populations of Siberian Cranes, which migrate between breeding grounds in Western Siberia and wintering sites in Iran and India, the scope of the Memorandum was extended in 1998 to cover the larger Eastern Asian population which winters around Poyang Lake, China, and accounts for 98% of the world population.

To date, the Siberian Crane MoU is signed by all 11 Range States: Afghanistan (2006); Azerbaijan (1998); China (1999); India (1998); Iran (1998); Kazakhstan (1998); Mongolia (2004); Pakistan (1998); Russian Federation (2002); Turkmenistan (1998); and Uzbekistan (1998); as well as by five Co-operating Organizations: CMS Secretariat (1998); International Crane Foundation (1998); Wild Bird Society of Japan (2000); Wetlands International (2007) and Cracid and Crane Breeding and Conservation Centre (2007).

Over the years, the MoU has united the Signatories under a common purpose. Through regular meetings the

Signatories have continued to monitor progress on the status of this species, were able to identify challenges and threats, and were successful in developing strategies to address them. Detailed Conservation Plans for the Western, Central and Eastern Siberian Crane Flyways with ambitious ac¬tivities have been developed and implemented and the joint efforts of all stakeholders have led to important achievements in many different areas of work. Overall aims of the three plans are to reduce mortality in the remaining populations, to protect

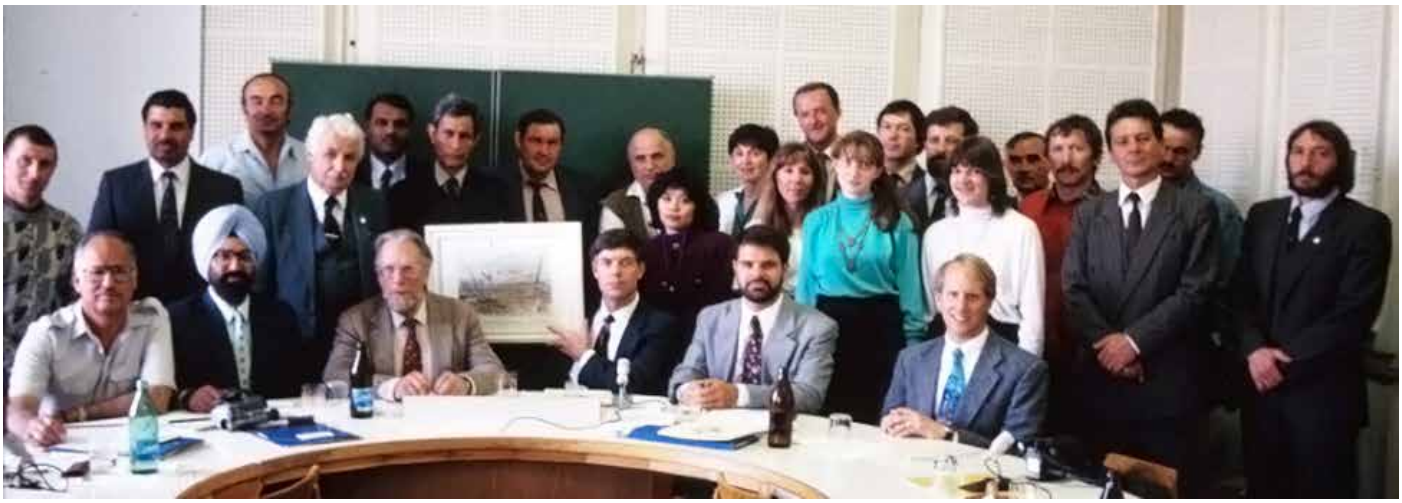

Fig. 1. The First Range States meeting in Moscow, Russia, in 1995. Photo from International Crane Foundation archive

Fig 2. The Second Range States meeting, India, 1996. Photo by A. Shilina

Fig. 3. The Fourth Range States meeting, USA, 2001. Photo by A. Shilina

Fig. 4. The Third Range States meeting, Islamic Republic of Iran, 1998. Photo by A. Shilina

and manage their habitats, and to enhance co-operation among the Range States and other concerned agencies. The plans for the Western and Central populations strive also to increase numbers and genetic diversity. The implementation of the Conservation Plans is reviewed regularly at the meetings of the Signatories to the Siberian Crane MOU and also updated to provide the framework for action until the next meeting takes place.

The UNEP/GEF Siberian Crane Wetland Project implemented from 2003-2009 is one of the main accomplishments of these collaborative efforts and was rated as one of UNEP's top 20 GEF projects. By building capacity for conservation at site, national and flyway levels, it has played a catalytic role in implementing the MOU and in safeguarding a network of 16 critical sites for the Siberian Crane (http://www.scwp.info/).

An important initiative under the MOU is the Western/Central Asian Site Network for Siberian Cranes and Other Waterbirds (WCASN), which was formally launched on 18 May 2007 in Kazakhstan, in a special signing ceremony held during the Sixth Meeting of the Signatories (http://www.cms.int/en/document/westerncentral-asian-site-network-siberian-cranes-and-other-waterbirds-background-paper-and). To date 12 sites have been officially designated in 5 countries and activities conducted focusing on education and awareness and engagement of hunters in conservation (http://www.speciesconservation.org/case-studies-projects/siberian-crane/1552).

Building on two decades of experience and con¬siderable progress achieved within the framework of this MOU, we should now face the upcoming challenges and continue investing energy and resources to assure the future of the Siberian Crane throughout its range.

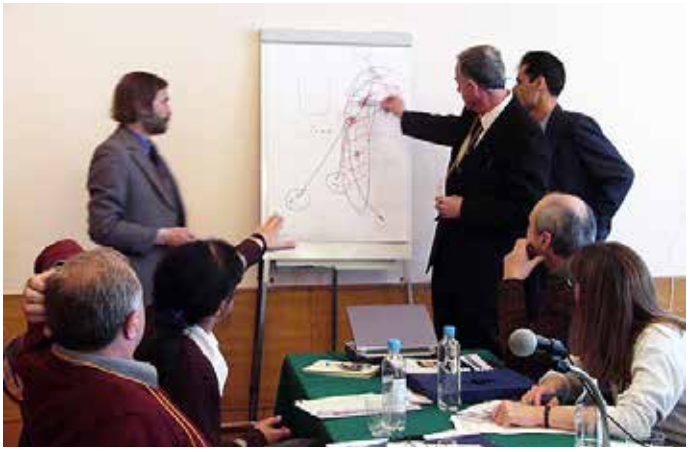

Fig. 5. Discussion on Conservation Plan of Western/Central Asian Flock at the Fifth Range States meeting, Moscow, Russia, 2004. Photo by C. Prentice

Fig. 6. Launch of the Western/Ventral Asian Site Network for the Siberian Crane and Other Waterbirds at the Sixth Range States Meeting, Kazakhstan, 2007. Photo by C. Prentice

Fig. 7. The Seventh Range States meeting, Bonn, Germany, 2010. Photo by C. Prentice

New Publications

Degtyarev VG, Sleptsov SM, Pshennikov AR. 2013. Territoriality of eastern population of the Siberian Crane (*Grus leucogeranus)*. Ecology 3: 183-188

According to long-term observations, intrapopulation and interspecies relationships relations of the estern population of the Siberian Crane in breeding season are described and analyzed.

Degtyarev VG, Sleptsov SM, Pshennikov AR. 2013. Piscivory in eastern population of Siberian Crane (Grus leucogeranus). Zoological Journal 92 (5): 588-595 (In Russian with English summary)

The long-term studies of the Siberian Crane foraging in its eastern population were carried out. Piscivory is assessed as a component of the population trophic specialization. Methods of fish foraging, the species composition, and the fish state are described. Fish is one of the main components of the crane's food in the area with the highest nesting density of the bird population. Breeding individuals spend 70–100% of the time on shallow marshes with the high masses of fish. Ninespine sticklebacks and pikes (mass of up to 3 kg) were the main food for cranes. Scavenging and kleptoparasitism were observed. The availability of fish for cranes is related to vast shallow marshes with abundant fish masses. This wetland type is optimal nesting habitat of the eastern population. Siberian cranes are likely to feed mainly on sticklebacks infected with Schistocephalus pungitii that makes them slow moving and causes habitation at the surface. The population stenotopy or fish paucity limits the realization of piscivory at migration stopovers. The majority of reactions and motions on foraging of Siberian cranes are not displayed as the activity of a specialized fish eater. However, the horizontal turning of bird's wings while pursuing fish is its adaptation to displace fish from shallow areas. Piscivory in the eastern population of the Siberian crane is a significant component of its trophic specialization and adaptation to the conditions of the typical tundra in northwestern Asia.

Degtyarev VG, Sleptsov SM. 2013. Ecology of the eastern population of the Siberian Crane Leucogeranus leucogeranus in the taiga section of its flyway: habitats, foraging, trophic links with Elk Alces alces, and threats. Journal of Threatened Taxa 5(14): 4871–4879

Stopovers along the flyway of the Siberian Crane in the taiga zone of northeastern Asia have not been previously described. In this study, we provide the first investigation of the stopovers of its eastern population in the taiga zone (2006–2011). Seven spring stopovers at bogs were investigated for 10–24 hr each. The birds spent 5–6 hr sleeping at night, while 54–74% of their time was spent foraging outside the sleep time budget. Based on excreta samples, only 5/109 cranes successfully obtained adequate food during stopovers at typical bogs. Favorable foraging conditions were found at the rare shallow lakes or at Elk Alces alces salt licks where the foraging efficiency was 16 times greater than at bogs unaffected by ungulates. Elk activity led to areas of peat exposure in bogs where the availability of edible grass rhizomes and readily extractable sprouts were increased for the Siberian Crane. Investigations at three autumn stopovers at poor forage riverbeds lasted for 0.3–11.0 hr and were interrupted by boating activities, as were 22 other reported stopovers. Cranes allocated a high proportion of their time to foraging, which they commenced immediately after landing. However, the cranes failed to acquire any significant sustenance during the overwhelming majority of taiga stopovers. Our investigation showed that the eastern population was not specialized in foraging at typical taiga wetlands. Humans indirectly aggravated the naturally harsh migration conditions by overhunting Elk on the flyway and intensive boating activities during the most intense migration period.

Bysykatova I, Krapu N, Germogenov N, Buhl D. 2014. Distribution, densities, and ecology of Siberian Cranes in the Khroma River Region of Northern Yakutia in northeastern Russia. In: Hartrup B, ed. Proceedings of the North American Crane Workshop 12: 51-64

During 16 July - 2 August 2009, we undertook ground surveys within the Khroma River core breeding area, surrounding buffer zone, and lands lying to the west of the known breeding range to estimate densities and determine habitat use and social status of Siberian cranes. A total of 142 Siberian cranes were sighted (including 55 pairs) at 54 locations with 32 cranes (including 13 pairs) sighted outside the currently known breeding range in the lower drainages of the Syalakh and Syuryuktyakh Rivers. After adjusting for a probability of detection of 0.484 (95% CI = 0.281-0.833), Siberian crane densities in the Khroma core area and the buffer zone averaged 0.0921 cranes/km^2 and 0.0363 cranes/km^2, respectively. A majority of cranes (n = 93 [65%]) occurred in complexes of large basin wetlands, with use centered in those having extensive beds of pendant grass (*Arctophila fulva*). Of the 142 cranes seen, 110 (77%) were paired, 21 (15%) were singles, and 11 (8%) were in groups of 3-5. The Khroma core supports 1 of 2 large concentrations of breeding Siberian cranes remaining in the wild; therefore, we recommend that consideration be given to designating a nature reserve that would encompass the Khroma core, adjacent buffer zone, and lands to the west (including coastal tundra areas along the lower drainages of the Syalah and Syuryuktyah Rivers). Further research is needed to gain additional insight into Siberian crane distribution and numbers on lands beyond the currently delineated western boundary of the Siberian crane breeding range in the Ust-Yana District of northern Yakutia. Important gaps remain in information needed to effectively guide conservation efforts for the Eastern Population, and recent advances in remote tracking technology offer potential opportunities to help address several key information needs.

Mudrik EA, Kashentseva TA, Gamburg EA, Gavrikova EY, Politov DV. 2013. Noninvasive method for identifying sex of crane chicks using DNA of the capillary vessels of the allantois. Ontogeny 44 (5): 372-376.

Mudrik EA, Kashentseva TA, Gamburg EA, Politov DV. 2013. Identification of ten crane species using DNA-marker EE0.6. Genetic 49 (12): 1254-1257.

Mudrik EA, Kashentseva TA, Gamburg EA, Politov DV. 2014. Genetic passport system and identification of Siberian Cranes (*Grus leucogeranus* Pallas) in artificial conditions. Izvestiya RAS. Biology Series, 3 (in press).