Atlas of Key Sites for Cranes
in the North East Asian Flyway

Simba Chan

Compiled by

Wetlands International Japan

With financial support from the

Environment Agency of Japan

1999

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Foreword

East Asia is home to four species of cranes found nowhere else in the world. Through this century, progress and development of the people of this region has exacted a heavy price on the natural landscape. This has affected the habitats of cranes and they are being forced to use fewer and fewer areas. The future of these birds is thus directly dependent on the actions of the people.

Conservation of species and their habitats is of great concern to the people of Japan and the Environment Agency of Japan. All species of cranes are protected in Japan. At an international level, Japan has actively promoted a number of wide ranging initiatives to conserve wetland ecosystems, including habitats for migratory bird species and other fauna and flora. One initiative has been to work with governments, conventions and non-government organizations to implement the *Asia-Pacific Migratory Waterbird Conservation Strategy: 1996-2000*, which promotes regional conservation.

The Environment Agency of Japan is actively working with Wetlands International and BirdLife International and other NGOs on several initiatives linked to the Strategy, including establishment of the *North East Asian Crane Site Network.* The Network was launched in March 1997 at an international wetland workshop in China and has attracted the interest and participation of all the range countries. The Network aims to highlight the value and importance of wetlands for the conservation of cranes. As these birds depend on a variety of wetlands in different countries to complete their spectacular migrations, it is important to ensure that these wetlands are conserved.

We are very pleased to support the publication of the *Atlas of Key Sites for Cranes in the North East Asian Flyway*. We understand that although there is a lot of information about the cranes in the region, this is the first publication to review the sites of importance for these species from the breeding grounds to the wintering grounds in North East Asia. It is hoped that the document will be of use to a variety of people involved in the conservation of cranes and their habitats.

Kojiro Mori
Director, Wildlife Protection Division
Environment Agency of Japan

Preface

The satellite tracking of migratory birds was started in 1990 by the Research Center of Wild Bird Society of Japan and the study brought us much useful information about migration routes, stopover and breeding sites of each individual migratory birds. The Hooded and the White-naped Cranes wintering at Izumi, southern Japan were the first target of this study in 1991. The result of the study encouraged conservationists to consider forming a network of the important sites for crane migration of the region. Thus the idea was developed to make an international network of the wetland reserves along the migration route of the cranes from Japan to their breeding sites in China and Russia through the Korean Peninsula.

It was fortunate that all governments of the range countries, Russia, Mongolia, China, North Korea, South Korea and Japan showed interest in this network and 18 wetlands of global importance for cranes were listed as a North East Asian Crane Site Network. The Crane Working Group was established under the Migratory Waterbird Conservation Committee of Wetlands International-Asia Pacific in September 1998 at Muraviovka, Russia. Mr. Simba Chan, the author of this paper was nominated as the Crane Flyway Officer to develop the conservation projects along the crane flyway.

It is nice to have a strong support for the crane flyway from the Environment Agency of Japan and I would like to appreciate all people and organisations supporting this programme. The Flyway Network is not a short-lived conservation campaign but a day-by-day work for the conservation of the cranes and their habitats. I hope this paper will be useful for the promotion of the activities under the network.

Noritaka Ichida,
Chairman,
Crane Working Group, WMCC, Wetlands International Asia Pacific,

Director,
International Center, Wild Bird Society of Japan

Acknowledgements

This Atlas is produced under the North East Asian Crane Site Network, which has evolved after a series of important studies and workshops carried out since the early 1990s. The Workshop on Cranes and Storks of the Amur River, held in July 1992 was the first time for North East Asian countries to meet and discuss conservation of cranes and wetlands. The author was very fortunate to have the chance to attend this historic workshop that was held on a boat cruising on the Amur River (Heilong Jiang). The author would like to thank the organisers of the workshop: The International Crane Foundation, the Amur Program of the Socio-ecological Union, and the Moscow State University, particularly to George Archibald, Yuri Darman and Sergei Smirenski, to open up the chance for international co-operation. This has also opened up the authorís commitment to the conservation of cranes.

Much of the information listed in this Atlas is compiled as part of the authorís work as the Crane Flyway Officer. The preparation of the Network was started at the North East Asia and the North Pacific Environment Forum held in Kushiro, Japan in September 1995. Since then the author has been preparing the activities for the Network, which was officially launched at the International Workshop on Wetland and Waterbird Conservation in North East Asia held in Beidaihe, China in March 1997. From the beginning many researchers and conservationists have provided the author with valuable information and advice. Without their support it would have been impossible to complete this Atlas. The author would like to thank them all for their generous help and support: Arongqiqige, Jeb Barzen, Dashnamjilyn Batdelger, Cao Yonghan, Chang Jiachuan, Chen Kelin, Chen Kuiwu, Chiang Kuen-dar, Chong Jong-ryol, Cui Zhixing, Yuri Darman, Ding Changqing, Environment Section of Yamaguchi Prefecture, Feng Shangzhu, Yuzo Fujimaki, Gao Yuren, Oleg Goroshko, Han Sang-hoon, Hiroyoshi Higuchu, Takashi Hiraoka, Kazuaki Hoshino, Hu Hongxing, Edith Hubert, Valentin Ilyashenko, Ji Weitao, Fran Kaliher, Yuki Katoh, Chieko Katsura, Yoshiki Kawamura, Kim Soo-il, Lee Woo-shin, Lei Gang, Li Wenfa, Liu Bowen, Liu Songtao, Liu Xiping, Lu Jianjian, L¸ Juanzhang, L¸ Shicheng, Ma Ming, Ma Yiqing, Ma Zhijun, Hiroyuki Masatomi, Fumio Matsumoto, Kunikazu Momose, Konstantin Mricot, Yoshifumi Nakagami, Kiyoaki Ozaki, Pae Seong-hwan, Michail Parilov, Park Hee-cheon, Piao Renzhu, Yoshinaga Sawada, Hiroshi Serai, Yuri Shibaev, Yoshimitsu Shigeta, Katsunori Shioya, Sergei Smirenski, Sergei Surmach, Yuri Sushitsky, Teng Tzu-ching, Ekaterina Tkachenko, Miyako Tsurumi, Boris Voronov, Wang Hui, Wu Jiayan, Wuliji, Xing Lianlian, Xu Weishu, Xu Yangong, Yu Changshan, Zeng Nanjing, Zhao Yanmao and Zheng Guangmei (All Chinese and Korean family names are written as first names).

The author wishes to thank members of the Working Group of the Network: Wang Wei, Vladimir Andronov, Natsagdorjiyn Tseveenmyadag, Pak U-il, Kim Jin-han, Nikolai Germogenov and Qian Fawen for their help and support on data compilation in North East Asian countries.

Jim Harris and Wang Qishan have been particularly helpful in providing information, criticism and advice. They are great teachers and friends to the author.

Great thanks to the Environment Agency of Japan which financially supports the Network. The author would like to thank Kojiro Mori and Fumiko Nakao on their support and advice. At the preparation of the Network Hikari Kobayashi and Naohisa Okuda have given the author warm encouragement. Maki Koyama and Yuji Saito have offered technical assistance. The author appreciates the hard work of Koji Tagi and Mai Yamamoto at and before the launch. Their cheerful personalities had also made the trip to Beidaihe unforgettable.

The author feels deeply indebted to Kaori Matsui of Wetlands International Japan for her constant support. The other three Flyway musketeers: Yoshihiko Miyabayashi, Taej Mundkur and Doug Watkins have been providing the author with valuable information and advice.

Some data in this Atlas have been extracted from the BirdLife International Red Data Book: Threatened Birds of Asia. The author wishes to thank his fellow RDB compilers: Alexander Andreev, Nigel Collar, Mike Crosby and Joe Tobias for their useful data input and comments.

The author could not survive without the assistance from colleagues of the Wild Bird Society of Japan. Noritaka Ichida is the main driving force of the Network. Without his encouragement the author would not be confident for the task. Yuko Inui is a genius on logistic matters. Jason Minton and Kazuaki Kato helped in the production of the maps. Shim Cho-ryon and Fumiko Shimazaki helped in Korean and Russian translations. Kazuo Koyama helped in taming the silicon monster. Yozo Tsukamoto, Tsuyoshi Morishita, Yutaka Kanai, Mutsuyuki Ueta, Osamu Harada, Shinji Kawasaki and Naomi Tsubomoto have provided data and comments.

Finally the author would like to express special gratitude to a young Japanese lady whom he wishes to remain anonymous. She gives the author the essential spiritual support in countless lonely working nights in the office. Her smile has always made the author feel refreshed and regained the vitality to work.

WETLANDS INTERNATIONAL

Conserving wetlands for people and wildlife

Wetlands International, the world's leading non-profit wetland conservation organisation, was created by the integration of the Asian Wetland Bureau, the International Waterfowl and Wetlands Research Bureau, and Wetlands for the Americas. The achievements of the founding organisations date back 40 years, and include the launch of (and support to) the Ramsar Convention, major regional surveys and conservation programmes for wetlands and wetland species, and the development of international programmes for migratory waterbird conservation.

Sound technical information is the basis for Wetlands International's work, which includes co-ordinating conservation, management and assessment projects at international level, providing technical and fundraising support to national and local projects, and helping to build the capacity of relevant agencies. Wetlands International produces a wide range of publications and awareness materials, and organises numerous workshops, training courses and conferences each year.

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1. Introduction

Very few birds enjoy the same cultural significance as cranes do in North East Asia. They have long been recognised as symbols of longevity and peace. It is not easy to have travelled in North East Asian countries without seeing any art or designs depicting images of cranes. It is even much rarer to encounter persons in North East Asia who do not respect cranes.

Of the 15 species of cranes in the world, seven can be found in North East Asia. Four species (with the exception of a small central and western population of Siberian Cranes) are endemic to North East Asia, and all these four species are ranked as globally threatened.

Reports from the late 19th century showed cranes were once common in many parts of North East Asia. However, in the beginning of the 20th century their number started to decline. Most species reached their historical minimum after the Second World War. They are strictly protected in all North East Asian countries and numbers have increased since. However, they are now facing threats of habitat destruction and over -concentration at a few remaining sites.

Cranes are large birds of the wetlands. Their decline is closely related to wetland destruction and degradation in North East Asia. The economic transformation and development in North East Asia will certainly bring greater conservation challenges to cranes and all wetland species.

The aim of this Atlas is to give a clear picture on the present distribution and status of the cranes in North East Asia. It is hoped through the documentation of important sites for cranes the importance and conservation needs of these sites will be recognised. Protection and appropriate management of the sites must be carried out effectively.

The North East Asian Crane Site Network was launched in 1997. The function of the Crane Site Network is to promote awareness, communication and exchange of management experience among the sites. Currently 18 sites from all countries in North East Asia have been designated as Network Sites. The number of Network Sites will grow in the future and we hope all the important sites for cranes will be linked up as a regional conservation network. Although not necessarily inclusive, the Atlas provides a list of sites that have the potential to be designated on the North East Asian Crane Site Network.

2. Methods

2.1. Regional scope

The regional scope of this Atlas follows the definition of 'North East Asia' of the North East Asian Crane Site Network: Asia east of longitude 110 ° E and north of the Tropic of Cancer. The natural ranges of Black-necked Cranes of western China and Sarus Cranes of South East Asia are not included in this Atlas.

The following countries are included in the NEA Network.

Russia	(East of 110 ° E)
Mongolia	(East of 110 ° E)
China	(East of 110 ° E and north of the Tropic of Cancer)
North Korea	(Whole country)
South Korea	(Whole country)
Japan.	(Whole country)

2.2.. Taxonomic scope

Seven species of cranes breed in North East Asia. The population of Sandhill Cranes (*Grus canadensis*) breeding in extreme northeastern Russia winters in North America. As it only occurs in the wintering grounds of North East Asia as a vagrant, they are not included in this Atlas.

There are no recognised subspecies in all six species listed in this Atlas. Formerly two subspecies of Eurasian Crane (*Grus grus*) were recognised. *Grus grus lilfordi* was found in North East Asia. However this classification is no longer generally accepted (Meine and Archibald 1996)

The species and populations of cranes included in this Atlas are listed in 2.3. It follows the definition of population of Rose and Scott (1997) with the exception that the Eurasian Crane in North East Asia is not regarded as a subspecies.

It should be noted that while it is easy to count cranes and estimate the number of some populations in their wintering grounds, there is no evidence that individuals of one wintering population are from the same breeding grounds. Sometimes cranes are known to change their wintering grounds. For example, two Hooded Cranes banded in Izumi, Japan were found to have wintered in Taegu, Korea for one year, and one Hooded Crane banded at the Bikin River valley, Russia was seen one winter in Izumi and one winter in Yashiro, Japan. This shows Hooded Cranes sometimes change their wintering grounds year to year, and that young and immature birds tend to do so (Ozaki and Baba 1994). Sometimes wintering cranes at the Yangtze Valley also switch between different sites in different years (Wang Qishan pers. comm.). Satellite tracking of Red-crowned Cranes revealed two major migratory routes in continental Asia: The eastern route from Lake Khanka, Russia to the Korean Peninsula, and the western route from Khingansky Nature Reserve, Russia, via the Song-nen Plain and the coast of Bo Hai to Yancheng Nature Reserve, China (Higuchi et. al. 1998). However, one Red-crowned Crane banded in Khingansky was seen in Incheon, Korea in 1999 (Yu. Darman per. comm.).

The examples above show exchanges of individuals between different wintering sites and even different migratory routes (East China and Korea) do exist. Decrease of number in one wintering ground does not necessarily mean an overall decrease of the flyway or the global population. Wintering population does not necessarily have genetic meanings.

2.3. Population estimate and trends

Table 1: Population estimate and trends of cranes in North East Asia:

Species	Population	Estimated population (birds)	Population trend	1% level
Demoiselle Crane	Eastern Asia breeding	70000-100000	stable/ declining	850
Eurasian Crane	C Siberia/NE China (breeding)	5000	declining	50
Red-crowned Crane	E. China (wintering)	1200	stable	12
Red-crowned Crane	Korea (wintering)	400	stable	4
Red-crowned Crane	Japan	600	Stable / increasing	6
Siberian Crane	China (wintering)	2500	declining	25
Hooded Crane	China (wintering)	1000	stable?	10
Hooded Crane	Korea/Japan (wintering)	8150	stable	82
White-naped Crane	China (wintering)	3000-4000	stable?	35
White-naped Crane	Korea/Japan (wintering)	2500	increasing	25

Figures of estimated populations in Table 1 are from the following references:

Demoiselle and Eurasian Cranes: Meine and Archibald (1996)

Red-crowned Crane (E. China): Wang Qishan (unpublished material for BirdLife International Red Data Book), Lü Juanzhang et. al. (1998) and Wang Hui (1997)

Red-crowned Crane (Korea): Pae et. al. (1996) and Kim Jin-han (unpublished material)

Red-crowned Crane (Japan): Yamamoto (1998)

Siberian Crane: Wang Qishan (unpublished material for BirdLife International Red Data Book), Ji Weitao (*in litt.*) and Lei Gang (*in litt.*)

Hooded Crane (China): Wang Qishan (1998)

Hooded Crane (Korea / Japan): Kim Jin-han (unpublished material) and Homepages of Kumage Town, Japan and Izumi City, Japan.

White-naped Crane (China): Wang Qishan (unpublished)

White-naped Crane (Korea/Japan): Kim Jin-han (unpublished material) and Homepage of Izumi City, Japan.

Most of the Demoiselle Cranes and Eurasian Cranes breeding in North East Asia do not winter in the major wintering grounds of North East Asia: Yangtze Valley, coastal Jiangsu and Yellow River Delta of China, Demilitarized Zone (DMZ) of Korea and Izumi of Japan. Therefore

census figures are few, thus it is not easy to estimate precise population figures. Good census data are available for the other four species.

Naturally, numbers of different populations fluctuate in different years. The above table is a summary of the best available figures in recent years.

Crane populations in Korea and Japan seem to be gradually increasing. It is difficult to conclude a trend for the wintering cranes in China. Number of wintering Red-crowned Cranes seems to be increasing while other three species seem to be stable. However, the long-term survival of the cranes wintering in middle and lower reaches of Yangtze River is in great doubt in the face of rapid economic development of the region, and the change of hydrology when the Three Gorges Dam is in operation.

2.4. Selection of key sites

Numerical criteria are used to identify key sites plotted on the species map.

a. The 1% criterion:

This is the most widely used numerical criterion to identify important wetlands for waterfowl conservation. It was adopted with other criteria by the Fourth Conference of the Contracting Parties of the Ramsar Convention in Montreux, Switzerland, in June 1990. This states that a wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterfowl.

In this Atlas, the five-year mean (FYM) of individuals at a site is used to define whether the site "regularly" holds 1 % or more of the relevant population. Average of the maximum counts of a site in the last five years between 1990 to 1999 are used to calculate the mean of visiting cranes at the site. It should be noted that counts at some sites in some years maybe disregarded if they are known or suspected to be misleading. For example, if the census was known to be conducted briefly, so the low number should only represent a portion of the population.

'Occasional' means the population at the site is known to exceed the 1% population at least once since 1990. However data are not enough to calculate a five year average, or the five year average does not exceed the 1% threshold.

b. Key Site for breeding birds

To apply the 1% criterion, census of population at the sites is essential. This is easier to do at the wintering grounds. Most crane species winter in congregations in open areas. This makes direct counts possible. Many protected areas in China, Korea and Japan have good database of wintering population censuses. However, breeding cranes tend to spread over a wide area, this makes ground census and estimation difficult. Aerial census provides data of breeding population of birds at some areas but these areas are usually much wider than the protected areas in the wintering ground and not easy to define their boundaries. Data of aerial surveys are also scarce.

Moreover, population estimates of cranes are mainly done on the wintering populations. There are still not enough studies to prove wintering populations in Japan/Korea and China are from separate breeding populations. Even if they do, at this stage it is impossible to draw the border between these populations, especially for the breeding cranes in Russia.

Therefore the 1% thresholds for the breeding populations are defined as the 1 % of the total known population of Hooded and White-naped Cranes, and the mainland breeding population of Red-crowned Cranes. 1 % thresholds for other species remain unchanged.

Table 2: The 1 % threshold for breeding populations of cranes in North East Asia:

Species/population	Population estimate (birds)	1% level
Red-crowned Crane (mainland breeding)	1600	16
Hooded Crane	9150	92
White-naped Crane	5500	55

The author finds it is not easy to apply the 1 % criterion to non-colonial breeding birds such as cranes. Breeding birds tend to have their territories, therefore the whole population spread over a much wider area. In addition, the number of birds counted in the wintering grounds must have a high proportion of non-breeding birds that may not return to the breeding grounds.

Therefore with some good justifications from local ornithologists, sites known to be important for breeding are marked on the map even if number of nesting birds does not meet the 1% thresholds. Details of the site are explained on the species accounts.

c. Provisional assessments

Unfortunately, in most North East Asian countries, birdwatching and waterfowl census have not been practised until recent years. Site studies and records are insufficient at most sites. Not many sites meet the 1 % thresholds if the criterion is applied without flexibility.

Some species of cranes concentrate in one or two sites only. For example, over 95% of Siberian Cranes winter at Poyang Lake, China and about 85% of Hooded Cranes winter at Izumi, Japan. To only mark sites which meet the 1 % thresholds will certainly miss many sites potentially important for the cranes. Therefore on the Atlas other sites known to be important to the cranes are also marked, with explanations on the species account. These sites belong to the following two categories:

i) *Important sites in the near past*: Sites that meet the 1% threshold at least once between 1960 to 1989 but no detailed information available in the 1990s, or the number of crane declined in recent years so that it no longer meet the 1% threshold. These sites are believed to maintain similar habitats and there is no evidence that habitats favourable to cranes have been completely destroyed.

ii) *Potential sites*: Sites that regularly (at least in 5 years between 1990 – 1999) visited by cranes but do not meet the 1% threshold. Good management of these sites are likely to increase number of cranes.

iii) *Data insufficient sites*: Sites that are recommended by crane and waterbird specialists as important site but without numerical support; or sites where counts do not meet the 1% criteria but are believed to be underestimated.

d. Summary of criteria used in this Atlas:

The important sites listed at the species accounts are selected if they meet one of the following criteria:

Table 3 Selection criteria for key sites

Importance code	Reason for selection
1	The site regularly supports 1% of the population in the 1990s.
2	The site occasionally supports 1% of the population in the 1990s.
3	The site is known to be an important breeding ground but may not meet the 1% criterion.
4	The site is known to support 1% of the population between 1960 – 1989 but no detailed information in the 1990s, and there is no reason to suspect cranes are no longer found there.
5	The site is regularly visited by cranes and has good potential of becoming an important site.
6	The site is suggested to be an important site by crane experts but without numerical support

e. Other important sites for crane conservation.

Sites listed on the species accounts are evaluated by their importance to single species. There is the danger of omission of sites that are good for more than one species of cranes but none of the species meets the 1% threshold.

The North East Asian Crane Site Network uses three biological criteria to evaluate important sites for cranes:

- The Ramsar numerical (1%) criteria.
- The site is known to support a total of 25 or more cranes (can be more than one species) at any stage of their life cycle (breeding, migration stop-over, staging of non-breeding birds, wintering etc.)
- Under special occasion, if the Crane Working Group of the Network agrees a particular site is important to cranes even if it does not reach the numerical threshold, it will still be considered as an important site to be included in the Network.

Sites that are known to support 25 or more cranes are listed in the Appendix. As explained in c(ii), conservation value of these sites can be improved with good management.

3.Species accounts and maps

3.1 Species accounts

The species accounts contain information under the following headings:

Distribution: a brief description of the world range of the species, with species emphasis on its distribution within North East Asia.

Movement: brief information on the movements of the species and special emphasis on its migration in North East Asia, as deduced from satellite tracking, banding and other migration studies.

Population limits: a brief description on the population as note on Table 1.

Population size: a brief description on the population size and trend as noted on Table 1. If the figure given is different from Menie and Archibald (1996) and Rose and Scott (1997), the other figures are also listed and explanations is made on why the author thinks the figure on Table 1 is a more updated figure.

Key sites: key sites are chosen if they meet any one of the criteria listed in table 3. The following information will be given:

Name of site: Transcription of site names from native languages could be confusing. The author uses the official transcription system as much as possible.
Locality names in China are transcribed according to the Pinyin system adopted in 1958 (which became widely used internationally since 1978) with the following exceptions: Yangtze River (not 'Chang Jiang'), Yellow River (not 'Huang He'. Thus Yellow River Delta is not called 'Huang He Sanjiaozhou') and Inner Mongolia (not 'Nei Mongol'). Locality names originated from Mongolian languages will be written in the Mongolian form as on the Gazetteer of China (1994). For example, Horqin is not written as 'Ke'erqin'.

Co-ordinates: the approximate geographic centre of the site in degrees and minutes. One degree is sixty minutes;

Seasons: the time of year during which the site is important for the population;

Numbers: the number of individual counted or estimated during the season noted above. When the site is important for more than just one season (for example, both breeding and during migration) the figures will be given to the relevant season whenever possible. Number chosen is the highest number of the last 5 counts, or specified on the species account;

Importance code: As listed on Table 3.

Remarks: Protection status of the site and other information.

3.2 Maps

For each species included in this Atlas, a map is given showing the distribution of key sites. For wide ranging species (Demoiselle Crane and Eurasian Crane) generally accepted breeding ranges are included. The maps generally follow the maps given by Miene and Archibald (1996) with changes when necessary.

Sites are marked in solid circles if they are supported by criteria 1 – 3 (1 % criterion and / or important breeding site). Closed circles are used to mark sites assessed by criteria 4 – 6 (provisional assessments).

Demoiselle Crane
Anthropoides virgo

Distribution:

Widespread. Breed on the Eurasian steppes from the Black Sea to North East China.*. Winter mainly in the Indian subcontinent and Sahel (northern sub-Sahara Africa). In North East Asia this species breed in south-eastern Russia, western North East China and Mongolia. It is not a common wintering bird in China and is only a vagrant to Korea and Japan.

Movement:

It migrates pass northern and western China, over the Himalayas to its wintering grounds in the Indian subcontinent. Only very few birds winter in North East Asia. Highest wintering record in recent years was 46 birds at Heigangkou, Henan Province in January 1991 (Waterbird Specialist Group 1994).

Population limits:

Only one population: Eastern Asia breeding (Meine and Archibald 1996). However, this breeding population extends beyond the regional scope of this Atlas.

Population size:

Meine and Archibald (1996): 70,000-100,000.

1 % level: 850.

Trend: Stable or declining.

Widespread and common in Mongolia (Bold, Tseveenmyadag and Zvonov 1995). The range of this population extends west of the scope of this Atlas. The actual number in North East Asia maybe lower than the estimated breeding population number.

Wang Qishan estimated total population in China to be 4,000-5,000 (Wang Qishan unpublished).

Dauria (Border of Russia, Mongolia and China) is probably the most important area for this species in North East Asia.

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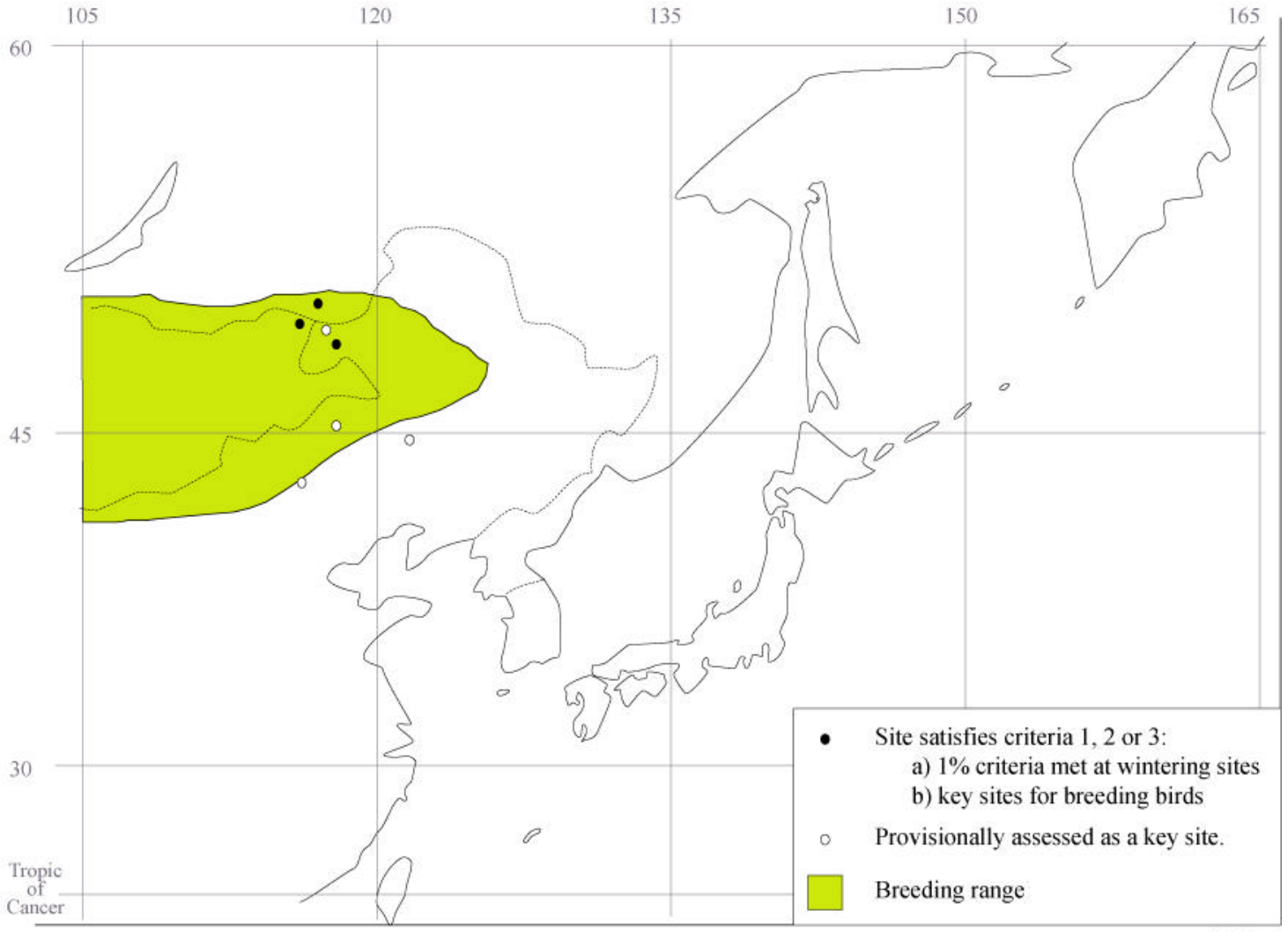
*In the Atlas 'North East China' is a proper name stands for the Chinese provinces Heilongjiang, Jilin, Liaoning and eastern Inner Mongolia. It is identical to the area formerly known as Manchuria in many western literatures.



Demoiselle Crane
(Anthropoides virgo)

Key sites:

Russia:

Name of site:	Torey Lakes Depression, Chita Province.
Co-ordinates:	49 ° 50'N 115 ° 30'E
Seasons:	Breeding / Staging.
Numbers:	520 breeding pairs and in autumn up to 42,000 staging birds.
Importance code:	2
Remarks:	Site of the North East Asian Crane Site Network. Ramsar Site in Russia, Daursky Nature Reserve is part of the Torey Lake Depression.
Reference:	Golovushkin and Goroshko (1995), Tkachenko (1997)

Mongolia:

Name of site:	Mongol Daguur Strictly Protected Area, Dornod Province.
Co-ordinates:	49 ° 42'N 115 ° 06'E
Seasons:	Breeding / Staging.
Numbers:	'Numerous'.
Importance code:	2
Remarks:	Site of the North East Asian Crane Site Network. Ramsar Site in Mongolia.
Reference:	Tseveenmyadag (1997)

China:

Name of site:	Dalai Lake Nature Reserve, Hulun Buir Laegue, Inner Mongolia Autonomous Region.
Co-ordinates:	49 ° 00'N 117 ° 20'E
Seasons:	Breeding.
Numbers:	Not given.
Importance code:	6
Remarks:	Biggest breeding population in China. Dalai Lake is also known as Dalai Nor or Hulun Lake.
Reference	Lu Jianjian (1990)

Name of site:	Xin Bulag Dong Sum, Hulun Buir Laegue, Inner Mongolia Autonomous Region.
Co-ordinates:	48 ° 42'N 118 ° 42'E
Seasons:	Summer staging.
Numbers:	About 1,100 – 1,500 seen staging on 25 August 1997.
Importance code:	2
Remarks:	Li Xiaomin interviewed local herders. They told Li such big flock had never been seen in August. In recent years even flocks of several hundreds during migration are becoming rare.
Reference:	Li Xiaomin (1998a)

Name of site:	Ulgai (=Wulagai), Xilin Gol League, Inner Mongolia Autonomous

	Region.
Co-ordinates:	45 ° 43’N 118 ° 22’E
Seasons:	Breeding / Staging.
Numbers:	Not given.
Importance code:	6
Remarks:	Regarded as an important site.
Reference:	Lu Jianjian (1990)

Name of site:	Xianghai Nature Reserve, Jilin Province.
Co-ordinates:	44 ° 55’N 122 ° 30’E
Seasons:	Breeding.
Numbers:	About 100
Importance code:	6
Remarks:	Ramsar Site in China.
Reference:	Lu Jianjian (1990)

Name of site:	Dali Nor Nature Reserve, Chifeng City, Inner Mongolia Autonomous Region.
Co-ordinates:	43 ° 17’N 116 ° 38’E
Seasons:	Breeding.
Numbers:	Not given
Importance code:	6
Remarks:	This species is regarded as very common in the area.
Reference:	Lu Jianjian (1990), Arongqiqige (*in litt*. 1997)

Eurasian Crane
Grus grus

Distribution:

Widespread. Breed in northern Eurasia from Siberia to Germany. Winter in China, India, Middle East, south-western Europe, northern and eastern Africa. In North East Asia it breeds in Siberia, northern Mongolia and North East China. Winters in eastern and southern China. Very few birds winter in Korea and Japan

Movement:

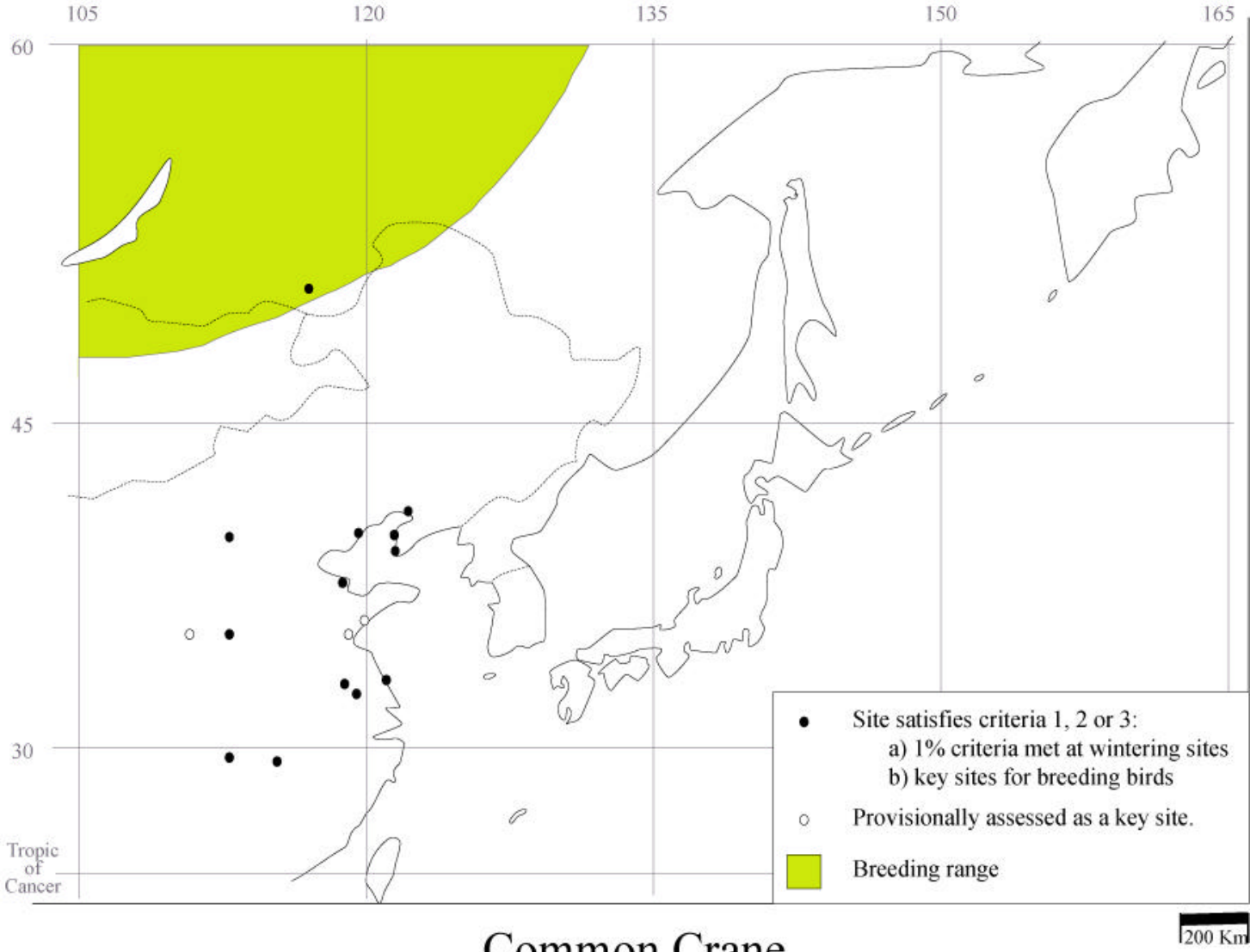
Cranes which breed in eastern Siberia and North East China migrate through coastal Hebei to wintering grounds in eastern and southern China. Cranes which breed in Mongolia migrate southward to southern China. Seldom seen migrating along the Korean Peninsula.

Population limits:

Only one population: Central Siberia / North China breeding (Meine and Archibald 1996). The subspecies status of *Grus grus lilfordi* is no longer generally accepted (Meine and Archibald 1996).

Population size:

Meine and Archibald (1996): 5,000.
1 % level: 50.
Trend: Declining.



Common Crane
(Grus grus)

Key sites:

Russia:

Name of site:	Torey Lakes Depression, Chita Province.
Co-ordinates:	49 ° 50'N 115 ° 30'E
Seasons:	Breeding.
Numbers:	74 breeding pairs.
Importance code:	2
Remarks:	Site of the North East Asian Crane Site Network. Eurasian Cranes usually stay in floodplains of the Chikoy River and its tributaries. Ramsar Site in Russia, Daursky Nature Reserve is part of the Torey Lake Depression.
Reference:	Golovushkin and Goroshko (1995)

China:

Name of site:	Shuangtaizi Hekou Nature Reserve (= Panjin Marshes), Liaoning Province.
Co-ordinates:	40 ° 30'N 122 ° 00'E
Seasons:	Staging.
Numbers:	About 50 migrants annually.
Importance code:	2
Reference:	Yang Fulin et. al. (1998)

Name of site:	Coast of Wafangdian City, Liaoning Province.
Co-ordinates:	39 ° 50'N 121 ° 30'E
Seasons:	Wintering.
Numbers:	1,500 counted on 10 December 1992.
Importance code:	2
Reference:	Waterbird Specialist Group (1994)

Name of site:	Beidaihe and Luan He Estuary, Hebei Province.
Co-ordinates:	39 ° 49'N 119 ° 30'E
Seasons:	Staging.
Numbers:	3,000-4,000 (late 1980s).
Importance code:	2
Remarks:	Figures of 1980s from. It is almost sure at least 50 birds still migrating pass Beidaihe.
Reference:	Lu Jianjian (1990)

Name of site:	Huayan Reservoir, Shanxi Province.
Co-ordinates:	39 ° 15'N 113 ° 25'E
Seasons:	Wintering / Staging?
Numbers:	79 counted on 30 November 1991.
Importance code:	2
Remarks:	17 Demoiselle Cranes were also reported on the same day.
Reference:	Waterbird Specialist Group (1994)

Name of site:	Santai, Liaoning Province.
Co-ordinates:	39 ° 00'N 121 ° 05'E

Seasons:	Wintering.
Numbers:	52 counted on 17 January 1992.
Importance code:	2
Reference:	Waterbird Specialist Group (1994)

Name of site:	Yellow River Delta Nature Reserve, Shandong Province.
Co-ordinates:	37 ° 55'N 118 ° 55'E
Seasons:	Wintering.
Numbers:	About 2,000 winter annually.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Crane number increasing. Found almost everywhere inside the reserve. Surprisingly, Siberian Crane has never been recorded at the Yellow River Delta.
Reference:	Lü Juanzhang et. al. (1998)

Name of site:	Jiaozhou Bay (=Qingdao), Shandong Province.
Co-ordinates:	36 ° 10'N 120 ° 10'E
Seasons:	Wintering.
Numbers:	62 seen in mid-January 1990.
Importance code:	4
Reference:	Lu Jianjian (1990)

Name of site:	Liangpoduan, (= Hejin County), Yellow River bordering Shanxi and Shaanxi Province
Co-ordinates:	35 ° 30'N 110 ° 35'E
Seasons:	Wintering / staging?
Numbers:	Up to 2,500 birds (Nove,mber 1986). 1,020 seen in January 1988.
Importance code:	4
Remarks:	Results of monthly counts from October 1986 to March 1987 was: 17, 2,500, 1,600, 1,355, 1,200 and 2,100. Suggesting passage migrants in November and March.
Reference:	Lu Jianjian (1990), Wang Qishan (unpublished)

Name of site:	Pangzhai (= Old Yellow River Channel in northern Henan), Henan Province.
Co-ordinates:	35 ° 26'N 114 ° 22'E
Seasons:	Wintering.
Numbers:	Census data: 119 – 981 wintering birds from 1990 – 1993 (average: 572 birds).
Importance code:	1
Remarks:	Although data after 1993 is not available, it is believed number should still be over the 50 birds threshold. Also regularly visited by small numbers of wintering Demoiselle Cranes (4 – 29 birds).
Reference:	Waterbird Specialists Group (1994)

Name of site:	Coast of Rizhao, Shandong Province.
Co-ordinates:	35 ° 04'N 119 ° 20'E
Seasons:	Wintering.
Numbers:	117 seen in mid-January 1988.
Importance code:	4
Reference:	Lu Jianjian (1990)

Name of site:	Yancheng Nature Reserve, Jiangsu Province.

Co-ordinates:	33 ° 38'N 120 ° 28'E
Seasons:	Wintering.
Numbers:	1,186 counted on 8 January 1990.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. In most cases, 'Coast of Jiangsu' province is probably identical to Yancheng. 200 – 300 wintered regularly at the estuary of River Guan He (34 ° 28'N 119 ° 48'E), which is on the northern edge of the nature reserve.
Reference:	Waterbird Specialists Group (1994), Wang Qishan (1998)

Name of site:	Hongze Lake, Jiangsu Province.
Co-ordinates:	33 ° 23'N 118 ° 35'E
Seasons:	Wintering.
Numbers:	Over 100 birds winter annually at Chengtou Tree Farm of Huiyin City, which is on the north west of Hongze (33 ° 29'N 118 ° 12'E). This could be the same birds wintering at Hongze. Mainly stay at Xiangyang Reservoir.
Importance code:	2
Reference:	Waterbird Specialists Group (1994), Wang Qishan (1998), Zhang Guibo (1997)

Name of site:	Dazong Lake, Jiangsu Province.
Co-ordinates:	33 ° 09'N 119 ° 48'E
Seasons:	Wintering.
Numbers:	66 counted on 20/29 January 1990.
Importance code:	2
Reference:	Waterbird Specialists Group (1994)

Name of site:	East Dongting Lake Nature Reserve, Hunan Province.
Co-ordinates:	29 ° 20'N 113 ° 00'E
Seasons:	Wintering.
Remarks'	Ramsar Site.
Numbers:	Census data: 317 – 480 wintering birds from 1992 – 1997 (average: 394 birds).
Importance code:	1
Remarks:	Increasing.
Reference:	Lei Gang et. al. (1997)

Name of site:	Poyang Lake Nature Reserve, Jiangxi Province.
Co-ordinates:	29 ° 10'N 115 ° 55'E
Seasons:	Wintering.
Numbers:	Census data: 65 – 372 birds from 1991 – 1997 (average: 220 birds).
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Ramsar.
Reference:	Liu Zhiyong and Zhao Jinsheng (1998)

Red-crowned Crane
Grus japonensis

Distribution:

Endemic to North East Asia. Main breeding grounds are wetlands along the Ussuri and Amur rivers of Sino-Russian border. Also breed in western North East China to the border of Mongolia, but it is not recorded as a breeding bird in Mongolia nowadays. Isolated breeding grounds located in Dali Nor and Shuangtai Hekou nature reserves in China. The Japanese breeding population are found in eastern Hokkaido and Kunashir Island. The Japanese population stays in eastern Hokkaido in winter. The mainland population mainly winter at Yellow River Delta and Yancheng nature reserves in China, the DMZ in Korea. In the 1980s a few birds had been reported wintering at inland wetlands in Jiangsu, Anhui, Shangdong and Henan provinces. However, census data are only available from Pangzhai, Henan Province since 1990, Red-crowned Cranes wintered at other inland sites are probably disappearing (Wang Qishan 1998). Occasionally some birds were found wintering in locations in Shandong, such as along the coast of Rongcheng and Rizhao. New sites (probably migratory staging sites) have been discovered at the Yellow River basin between Shanxi and Shaanxi provinces in 1995 (Cao Yonghan and Wu Jiayan in litt.). There were some winter sighting reports from Yunnan Province before 1980 (Yang Lan 1995).

Movement:

Satellite tracking revealed two major routes of migration: the eastern route from Khanka Lake through the Tuman River Estuary and the eastern coast of North Korea to the DMZ, and the western routes from Khingansky Nature Reserve though the Song-nen Plain to the Gulf of Bo Hai, along the coast of Hebei to the Yellow River Delta and Yancheng (Higuchi et. al. 1998).

There is a report that Red-crowned Cranes are seen annually in April as migrants on Nantuozi Dao Island (37 ° 56'N 120 ° 37'E), one of the Changshan Islands, Shandong Province, China (Fan Qiangdong and Xu Jianmin 1996). It is possible some are migrating along the coast of Shandong.

The population in Japan does not migrate, but makes seasonal movements in different parts of Hokkaido. A few Red-crowned Cranes breed on Kunashir Island and nearby small islets but also winter in Hokkaido.

Population limits:

No subspecies. The population breeding in Japan is genetically isolated from the mainland population. Although researchers have listed some morphological differences, recent analysis found no significant genetic differences between the mainland and Japanese populations (Meine and Archibald 1996).

The mainland population can be subdivided into two wintering populations: the population wintering in the Korean Peninsula and the other wintering in eastern China.

Population size:

The population summary given by Meine and Archibald (1996) and Rose and Scott (1997) is 1,700 – 2,000 birds. The figure now is probably outdated. The author gives the reasons for the revised estimation on Table 1 as below:

China wintering: 1,200 (total population)

1 % level: 12

Trend: Stable / increasing

Data from Wang Qishan (for the BirdLife Red Data Book) shows the average number of Red-crowned Cranes in Yancheng in the 1990s is 786 birds: lowest was 595 in 1990/91; highest was 1,020 in 1996/97). Lü Juanzhang et al. (1998) estimated about 200 wintering at the Yellow River Delta in recent years. Ground census at Yellow River Delta is not easy because of the size of the reserve. Nevertheless 70 Red-crowned Cranes were counted in three days during the International Crane Census in early January 1999 (Qian Fawen *in litt.*). This shows 200 should not be an overestimation. Wang Hui (1997) collected data of cranes in different sites in China and estimated the total number of Red-crowned Crane to be 1,400. The author thinks it could be overestimated as the birds found in Shaanxi are passage migrants (Cao Yonghan *in litt.*)and the environments of the lakes on the border of Jiangsu and Anhui provinces is deteriorating and cranes have not been reported in some sites in recent years. The author believes this is the reason for the increase of numbers at Yancheng and Yellow River Delta in recent years. The author suggests 1,200 as an estimated winter population. This is based on the assumption that a total of 1,000 – 1,100 birds wintering at the two major sites (Yancheng and Yellow River delta), and about 100 or so birds scattered in other smaller wintering sites in eastern China.

Korea wintering: 400 (total population)

1 % level: 4

Trend: Stable / increasing

The maximum count of 1995/96 by Pae et. al. was 269 birds on 30 January 1996. From Pae et. al. (1996) and unpublished data from Dr. Kim Jin-han (maximum count in Cholwon in 1997/98 was 285). The author feels safe to estimate wintering Red-crowned Cranes in South Korea to be around 300 birds.

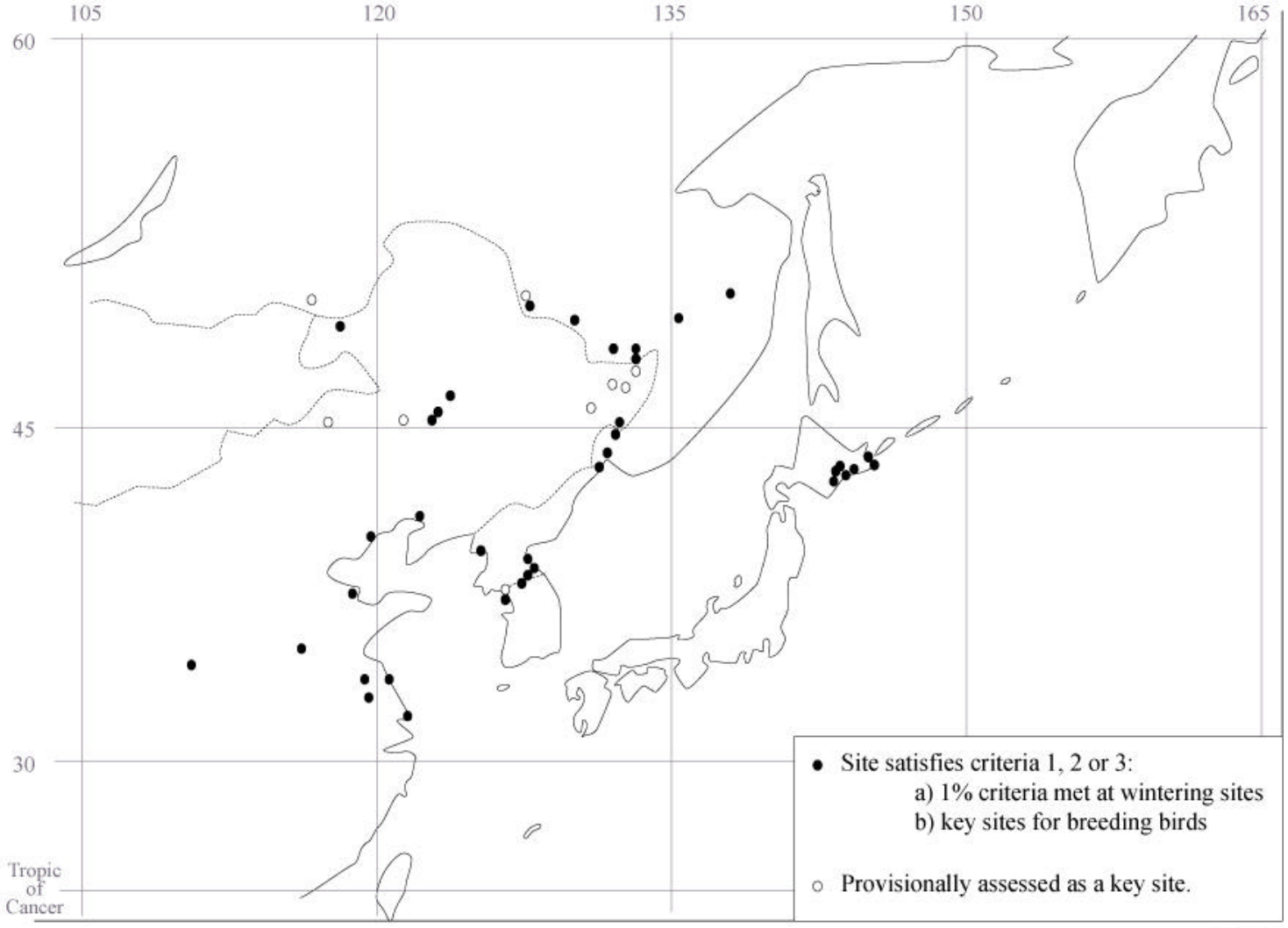
Dr. Pak U-il estimated 180 – 250 Red Crowned Cranes wintering in North Korea (Unpublished data for BirdLife International Red Data Book).

The problem to determine the total wintering population on the Korean peninsular is, the majority of wintering birds in both North and South Korea concentrates at the DMZ. The census figure from both sides of the DMZ could be double counted.

The author wishes to take a conservative estimation of around 400 Red-crowned Cranes wintering in Korea. This is no more than an educated guess. But the author thinks it is better not to overestimate the population.

Japan population: 600 (total population)
1 % level: 6
Trend: Increasing
It is easiest to estimate the number of Red-crowned Cranes on Hokkaido because thorough census is conducted annually. 600 is a round-up figure of the results of recent years.

From all the information available, despite the problem of habitat loss, number of Red-crowned Cranes still seems to be stable. The higher number observed in China and Korea in recent years should not be simply interpreted as increase in population. It is also likely the cranes are now getting more concentrated in some better protected and preserved areas.



Red-crowned Crane
(Grus japonensis)

Key sites:

Russia:

Name of site:	Torey Lakes Depression, Chita Province.
Co-ordinates:	49 ° 50'N 115 ° 30'E
Seasons:	Breeding / summer staging.
Numbers:	2 breeding birds and up to 12 staging birds in 1989.
Importance code:	5
Remarks:	The breeding pair stayed at the Argun River near Kailastuy village. Torey Lake is a Ramsar Site in Russia, Daursky Nature Reserve, a site of the North East Asian Crane Site Network, is part of the Torey Lake Depression.
Reference:	Golovushkin and Goroshko (1995), Tkachenko (1997)

Name of site:	Amursky Game Refuge, Amur Province.
Co-ordinates:	50 ° 00'N 128 ° 00'E
Seasons:	Breeding ground.
Numbers:	Data not available.
Importance code:	6
Reference:	Comments from Russian experts on the list of North East Asian Crane Site Network

Name of site:	Muraviovka Nature Park, Amur Province.
Co-ordinates:	49 ° 55'N 127 ° 39'E
Seasons:	Breeding.
Numbers:	About 20 breeding birds in good years, usually about 6 – 20 breeding cranes (Red-crowned and White-naped).
Importance code:	1
Remarks:	Zeya-Bureya plain in the Muravyevski State Park is a Ramsar Site.
Reference:	S. Smirenski (pers. comm.)

Name of site:	Lake Bolon' lowland, Khabarovsk Territory.
Co-ordinates:	49 ° 50'N 136 ° 20'E
Seasons:	Breeding.
Numbers:	No recent information but breeding birds in the whole Khabarovsk Territory is likely to be only about 10 pairs.
Importance code:	3
Reference:	B. Voronov for BirdLife RDB

Name of site:	Khingansky Nature Reserve and Ganukan Game Reserve, Amur Province.
Co-ordinates:	49 ° 10'N 130 ° 00'E
Seasons:	Breeding.
Numbers:	About 100 breeding birds.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Khingan-Arkhara lowlands in the Khingansky State Nature Reserve is a Ramsar Site.
Reference:	V. Andronov (in litt. 1997)

Name of site:	Tunguska River Valley, Khabarovsk Territory.
Co-ordinates:	48 ° 30'N 134 ° 00'E
Seasons:	Breeding.
Numbers:	No recent information but breeding birds in the whole Khabarovsk Territory is likely to be only about 10 pairs.
Importance code:	3
Reference:	B. Voronov for BirdLife RDB

Name of site:	Basin of the Bidzhan River (=Zhuravliny Game Reserve), Khabarovsk Territory.
Co-ordinates:	48 ° 30'N 132 ° 00'E
Seasons:	Breeding.
Numbers:	No recent information but breeding birds in the whole Khabarovsk Territory is likely to be only about 10 pairs.
Importance code:	3
Reference:	B. Voronov for BirdLife RDB

Name of site:	Lower reaches of the rivers Khor and Podkhorenok, Khabarovsk Territory.
Co-ordinates:	47 ° 30'N 134 ° 40'E
Seasons:	Breeding.
Numbers:	No recent information but breeding birds in the whole Khabarovsk Territory is likely to be only about 10 pairs.
Importance code:	3
Reference:	B. Voronov for BirdLife RDB

Name of site:	Khanka Nature Reserve, Lake Khanka, Primorsky Territory.
Co-ordinates:	44 ° 53'N 132 ° 30'E
Seasons:	Breeding / summer staging.
Numbers:	70 breeding birds and another 50 non-breeding summer birds.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Part of the Lake Khanka Ramsar Site (total area 310,000 ha) .
Reference:	Yu. Sushitsky (reported at a workshop 1998)

Name of site:	Khasan Plain, Primorsky Territory.
Co-ordinates:	43 ° 00'N 131 ° 15'E
Seasons:	Migration staging.
Numbers:	not available. But almost certainly more than 1%.
Importance code:	1
Reference:	Shibaev and Surmach (1994)

Name of site:	Tuman Estuary, Primorsky Territory.
Co-ordinates:	42 ° 20'N 130 ° 40'E
Seasons:	Migration staging.
Numbers:	not available but certainly over 1%.
Importance code:	1
Reference:	Y. Shibaev (pers. comm.)

China:

Name of site:	Huihe Nature Reserve, Hulun Buir League, Inner Mongolia.
Co-ordinates:	48 ° 24'N 118 ° 42'E
Seasons:	Summer and autumn staging.
Numbers:	232 birds seen on 27 September 1997.
Importance code:	2
Remarks:	Breeding has not been proven.
Reference:	Liu Songtao (1998)

Name of site:	Honghe Nature Reserve, Heilongjiang Province.
Co-ordinates:	47 ° 20'N 132 ° 45'E
Seasons:	Breeding.
Numbers:	28 birds found in the survey of 1984.
Importance code:	4
Remarks:	Part of the Sanjiang Plain wetlands of North East China.
Reference:	Ma Yiqing and Jinlongrong 1985)

Name of site:	Zhalong Nature Reserve (including Lindian County), Heilongjiang Province.
Co-ordinates:	47 ° 00'N 125 ° 00'E
Seasons:	Breeding.
Numbers:	189 cranes found in May 1984.
Importance code:	1
Remarks:	Although without recent data, it is sure the area supports more than 19 individuals of this species. A Ramsar Site in China.
Reference:	Feng Kemin and Li Jinlu (1985), Gao Zhongxin (1989)

Name of site:	Xinglong Nature Reserve, Heilongjiang Province.
Co-ordinates:	46 ° 45'N 131 ° 55'E
Seasons:	Breeding.
Numbers:	176 found during the aerial survey in May 1984.
Importance code:	4
Remarks:	Part of the Sanjiang Plain wetlands of North East China. Ma Yiqing et al. regarded this as the biggest breeding population in China.
Reference:	Ma Yiqing and Jin Longrong (1990)

Name of site:	Changlindaoand and Yanwodao nature reserves, Heilongjiang Province.
Co-ordinates:	46 ° 42'N 132 ° 35'E
Seasons:	Breeding.
Numbers:	Unknown.
Importance code:	6
Remarks:	At the Qixing and Naoli river basin. Part of the Sanjiang Plain wetlands of North East China.
Reference:	Zhang Yongming and Chen Shuxuan (1998), J. Minton (pers. comm.)

Name of site:	Melmeg (=Momoge) Nature Reserve, Jilin Province.
Co-ordinates:	45 ° 55'N 123 ° 20'E
Seasons:	Migration staging.
Numbers:	30 – 50 birds.
Importance code:	2

Reference: Wu Zhigang and Han Xiaodong (1992)

Name of site: Ulgai (=Wulagai) Marshes, Inner Mongolia.
Co-ordinates: 45 ° 38'N 118 ° 25'E
Seasons: Breeding.
Numbers: not available.
Importance code: 6
Reference: Tong Yongchang and Tong Junchang (1986)

Name of site: Xingkai Lake Nature Reserve, Heilongjiang Province.
Co-ordinates: 45 ° 12'N 132 ° 54'E
Seasons: Breeding / summer staging.
Numbers: 24 – 51 birds recorded annually from 1991 to 1995. 30 breeding birds recorded in 1998.
Importance code: 1
Remarks: Site of the North East Asian Crane Site Network. Chinese part of Lake Khanka.
Reference: Li Wenfa et. al. (1998), Feng Shangzhu (report at a workshop 1998)

Name of site: Xianghai Nature Reserve, Jilin Province.
Co-ordinates: 44 ° 55'N 122 ° 30'E
Seasons: Breeding.
Numbers: About 30 –60 birds.
Importance code: 2
Remarks: Ramsar Site.
Reference: Xianghai Nature Reserve Management Office (1996)

Name of site: Horqin (=Ke'erqin) Nature Reserve, Hinggan League, Inner Mongolia.
Co-ordinates: 45 ° 05'N 121 ° 03'E
Seasons: Breeding.
Numbers: 40 birds (16 breeding birds) were found during a census in 1987.
Importance code: 4
Reference: Zhang Zixue et. al. (1989)

Name of site: Shuangtaizi Hekou Nature Reserve (= Panjin marshes), Liaoning Province.
Co-ordinates: 40 ° 30'N 122 ° 00'E
Seasons: Breeding / staging.
Numbers: About 50 breeding birds. 198 – 502 birds recorded during spring and autumn migration from 1991 to 1998.
Importance code: 1
Reference: Yang Fulin et. al. (1998)

Name of site: Beidaihe and Luan He estuary, Hebei Province.
Co-ordinates: 39 ° 49'N 119 ° 30'E
Seasons: Migration staging.
Numbers: 281 – 630 birds (1986 – 1990).
Importance code: 2
Reference: Williams et. al. (1992)

Name of site:	Yellow River Delta Nature Reserve, Shandong Province.
Co-ordinates:	37 ° 55'N 118 ° 55'E
Seasons:	Wintering / Staging.
Numbers:	About 200 recorded in winter and 800 recorded in autumn annually. Number increased in recent years.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. The northernmost major wintering ground of Red-crowned Cranes in China. Found in farmlands at the south bank of the channel, Yiqian'er and Dawenliu. Also found on tidal flats at the estuary of the Yellow River.
Reference:	Lü Juanzhang, et. al. (1998)

Name of site:	Pangzhai (=Old Channel of Yellow River), Henan Province
Co-ordinates:	35 ° 26'N 114 ° 22'E
Seasons:	Migratory staging / wintering ?
Numbers:	6 – 12 birds (1985-1987); 13 birds were seen on 17 January 1991. 7 birds were seen on 12 January 1993.
Importance code:	2
Reference:	Xu Xinjie et. al. (1990), Wang Qishan (Data for BirdLife RDB)

Name of site:	Sanhe Wetland , Shaanxi Province.
Co-ordinates:	34 ° 38'N 110 ° 15'E
Seasons:	Migratory Staging.
Numbers:	15 – 20 in autumn.
Importance code:	2
Remarks:	In February and March 1995, Up to 140 Red-crowned Cranes were found during a survey in Dali and Heyang counties. These sites are in or near this nature reserve (Wu Jiayan et. al. 1998), Sanhe Nature Reserve is also known as 'Sanmenxia Nature Reserve'. Name changed to avoid confusion with Sanmenxia in Henan Province.
Reference:	Cao Yonghan (*in litt.* 1999)

Name of site:	Majia Marshes, Jiangsu Province.
Co-ordinates:	33 ° 48'N 119 ° 49'E
Seasons:	Wintering ?
Numbers:	12 birds reported by Zhang Yibing (1996-1997).
Importance code:	2
Reference:	Wang Hui (1997)

Name of site:	Yancheng Nature Reserve, Jiangsu Province.
Co-ordinates:	33 ° 30'N 120 ° 25'E
Seasons:	Wintering.
Numbers:	531 – 1020 wintering birds (1989 – 1997).
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. The most important wintering ground. Number increasing.
Reference:	Wang Qishan (1998)

Name of site:	Gaoyou Lake, Jiangsu Province.
Co-ordinates:	32 ° 52'N 119 ° 22'E
Seasons:	Wintering.
Numbers:	22 birds were seen on 16 January 1990.

Importance code: 2
Remarks: Number decreasing. But Wang Hui (1997) estimated 50 Red-crowned Cranes wintering at Gaoyou and Shaobo lakes.
Reference: Wang Qishan (Data for BirdLife RDB)

Name of site: Xinglong Dongsha Dao Nature Reserve, Jiangsu Province.
Co-ordinates: 31 ° 30'N 121 ° 45'E
Seasons: Wintering.
Numbers: 50 birds in late 1980s but 0nly 17 birds in 1990.
Importance code: 2
Remarks: Number declining.
Reference: Wang Qishan (Data for BirdLife RDB)

North Korea:

Name of site: Kumya Plain, South Hamgyong Province.
Co-ordinates: 39 ° 25'N 127 ° 20'E
Seasons: Migration staging.
Numbers: Regular stop-over for about 100 cranes. 54 birds were seen on 17 March 1993.
Importance code: 1
Remarks: Site of the North East Asian Crane Site Network.
Reference: Chong, Higuchi and Pak (1994)

Name of site: Anpyong Plain, Kangwon Province.
Co-ordinates: 39 ° 03'N 127 ° 31'E
Seasons: Wintering.
Numbers: 150-200 birds winter from December to March.
Importance code: 1
Reference: Chong and Morishita (1996)

Name of site: Samilpo Lagoon, Kangwon Province.
Co-ordinates: 38 ° 41'N 128 ° 18'E
Seasons: Wintering.
Numbers: 50 – 70 birds.
Importance code: 1
Reference: Chong and Morishita (1996)

Name of site: Panmun Plain, Kaesong City.
Co-ordinates: 38 ° 50'N 126 ° 38'E
Seasons: Wintering.
Numbers: Not available.
Importance code: 6
Reference: Chong and Morishita (1996)

Name of site: Mundok Wetland Reserve, South Pyongan Province.
Co-ordinates: 39 ° 30'N 125 ° 20'E
Seasons: Migration staging.
Numbers: 135 birds were seen from 7 -12 March 1993.
Importance code: 1
Remarks: Site of the North East Asian Crane Site Network. Mundok is on the Chongchon River Estuary. Reports of Red-crowned Cranes from the

estuary should be the same birds in Mundok.
Reference: Chong, Higuchi and Pak (1994)

South Korea:

Name of site: Cholwon Basin, Kangwon Province.
Co-ordinates: 38 ° 17'N 127 ° 13'E
Seasons: Wintering.
Numbers: 177 – 285 wintered in winter of 1997 / 98.
Importance code: 1
Remarks: Site of the North East Asian Crane Site Network.
Reference: Kim Jin-han (*in litt*. 1998)

Name of site: Southern Kanghwa Island, Kyonggi Province.
Co-ordinates: 37 ° 40'N 126 ° 25'E
Seasons: Wintering.
Numbers: 18 birds were seen on 24 January 1992.
Importance code: 2
Remarks: Do not meet the 1% criterion every year.
Reference: Forestry Research Institute of Korea (1992)

Japan:

Name of site: Notsuke Peninsula, Nemuro, Hokkaido.
Co-ordinates: 43 ° 35'N 145 ° 20'E
Seasons: Breeding.
Numbers: 10 breeding pairs estimated from a breeding survey done in 1994.
Importance code: 1
Reference: Masatomi et.al. (1994)

Name of site: Nemuro Peninsula, Nemuro, Hokkaido.
Co-ordinates: 43 ° 25'N 145 ° 50'E
Seasons: Breeding.
Numbers: 7 breeding pairs estimated from a breeding survey done in 1994.
Importance code: 1
Reference: Masatomi et.al. (1994)

Name of site: Lake Furen, Nemuro, Hokkaido.
Co-ordinates: 43 ° 20'N 145 ° 25'E
Seasons: Breeding.
Numbers: 44 breeding pairs estimated from a breeding survey done in 1994.
Importance code: 1
Reference: Masatomi et.al. (1994)

Name of site: Akan –cho and Tsurui-mura, Hokkaido.
Co-ordinates: 43 ° 10'N 144 ° 25'E
Seasons: Wintering.
Numbers: Over 90% of the Red-crowned Cranes gathered at the feeding sites in winter.
Importance code: 1
Reference: Wild Bird Society of Japan (1993)

Name of site:	Kushiro Marsh, Hokkaido.
Co-ordinates:	43 ° 09’N 144 ° 26’E
Seasons:	Breeding.
Numbers:	49 breeding pairs estimated from a breeding survey done in 1994.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Ramsar Site.
Reference:	Masatomi et.al. (1994)

Name of site:	Kiritappu Marsh, Kushiro, Hokkaido.
Co-ordinates:	43 ° 05’N 145 ° 05’E
Seasons:	Breeding.
Numbers:	14 breeding pairs estimated from a breeding survey done in 1994.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Ramsar Site.
Reference:	Masatomi et.al. (1994)

Name of site:	Bekanbeushi River, Kushiro, Hokkaido.
Co-ordinates:	43 ° 03’N 144 ° 54’E
Seasons:	Breeding.
Numbers:	24 breeding pairs estimated from a breeding survey done in 1994.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Ramsar Site.
Reference:	Masatomi et.al. (1994)

Name of site:	Onbetsu River, Hokkaido.
Co-ordinates:	43 ° 00’N 143 ° 55’E
Seasons:	Wintering.
Numbers:	10 – 30 birds winter.
Importance code:	1
Reference:	Wild Bird Society of Japan (1993)

Name of site:	Tokachi, Hokkaido.
Co-ordinates:	42 ° 40’N 143 ° 20’E
Seasons:	Breeding.
Numbers:	19 breeding pairs estimated from a breeding survey done in 1994
Importance code:	1
Reference:	Masatomi et.al. (1994)

Siberian Crane
Grus leucogeranus

Distribution:

Breed in the arctic area in Yakutia and Siberia. The major wintering ground is the middle reaches of the Yangtze River, especially Poyang Lake. A few birds also winter at Keoladeo National Park, India and southern coast of the Caspian Sea, Iran. The central (Indian) and western (Iranian) populations has a total number of less than 20 birds and is critically endangered. The main breeding grounds of the North East Asia population is the arctic tundra between the rivers Kolyma and Yana, which both flow into the Arctic Ocean. Dauria (including Daursky Nature Reserve in Russia, Mongol Daguur, in Mongolia and Dalai Lake Nature Reserve in China) is a site for occasional non-breeders in summer. However, the cranes are not found in high numbers. Winter at the middle reaches of the Yangtze River. Almost all Siberian Cranes wintered at the Poyang Lake Nature Reserve, but in some years they moved out of the reserve boundaries. The two other regular wintering grounds are Dongting Lake and Shengjin Lake. A few birds have been recorded in other localities but not regularly and not in big numbers. These localities including: Heigangkou (Henan Province), Longgan Lake (Hubei Province), Jiaozhou Bay (Qingdao City, Shandong Province) and Yancheng (Jiangsu Province).

Movement:

From the study of satellite tracking and ground observations, the eastern population migrates from far north Sakha (Yakutia), through the upper reaches of Lena River to the Song-nen Plain in North East China. Some birds might have migrated through Dauria to North East China. They are recorded regularly in localities on the Song-nen Plain, including Zhalong, Melmeg, Xianghai and Horqin When they meet the coast at the Gulf of Bo Hai, they migrate along the coast of Hebei to the old channels of Yellow River (occasionally a few birds can still be seen in mid-winter) then to the lakes in Yangtze valley. They migrate through Shengjin Lake or the lakes in Hubei (the so-called 'Jiang-Han lakes') before they arrive in Poyang Lake and Dongting Lake.

Some migrants had been found at the lower reaches of Kirenga River in Irkutsk Province and mouth of the Ussuri River in Khabarovsk Provcince. These are probably vagrants (BirdLife RDB data). There have also been some unconfirmed sightings in Xinjiang Uygur Autonomous Region, north-western China (Ma Ming *in litt.* 1999).

There is a report that Siberian Cranes are seen annually in April as a migrant on Nantuozi Dao

Island (37 ° 56'N 120 ° 37'E), one of the Changshan Islands, Shandong Province, China (Fan Qiangdong and Xu Jianmin 1996). There are also reports of this species migrating pass Jiaozhou Bay (Shandong Province). But these birds should have been vagrants because this species is very rare on the eastern coast of China. At times single birds turned up in Korea and Japan, but normally they do not migrate through the Korean Peninsula.

Population limits:

No subspecies. Three populations generally recognised: the eastern, the central and the western. The eastern population consists of over 99% of the global population and is endemic to North East Asia.

Population size:

2,500

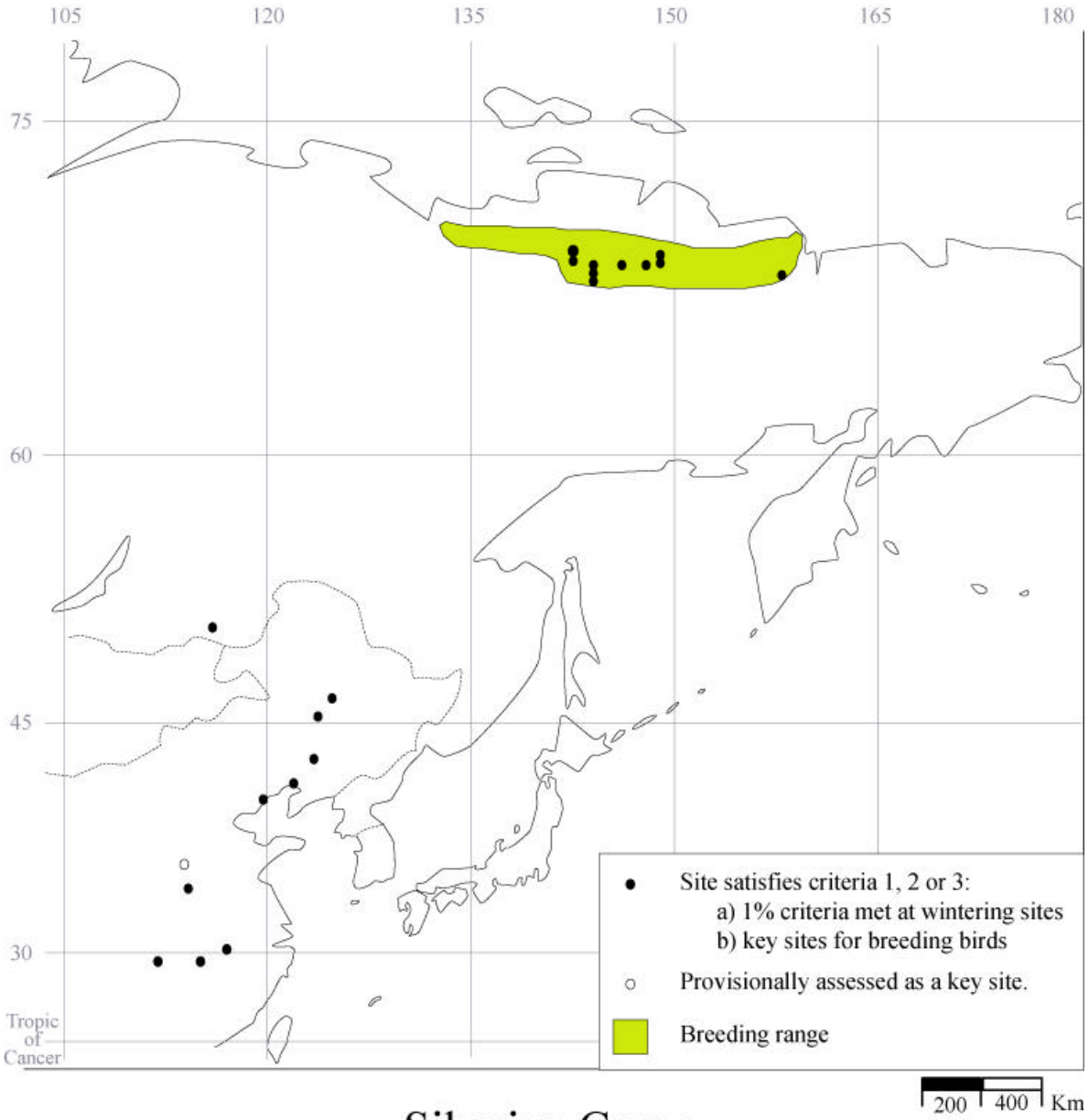
1 % level: 25

Trend: Declining

The population summary given by Meine and Archibald (1996) and Rose and Scott (1997) is 2,900 - 3,000 birds. The author feels this maybe an overestimation now and put only 2,500 on Table 1. The reason is given below.

The number 2,900 or 3,000 was the number from 1992-1995. However, such high number has not been recorded since the winter 1995 / 96 (Wang Qishan 1998). Number at Poyang Lake Nature Reserve has further declined since 1995. In 1997 / 98 there were only 1,917 Siberian Cranes wintering at the Poyang Lake Nature Reserve. (Liu Zhiyong and Zhao Jinsheng 1998). The reason for this was probably because of some birds moved out of the boundary of the nature reserve. The ICF sponsored aerial census revealed only 2,004 Siberian Cranes in the whole lake area of Poyang (Ji Weitao *in litt.*) This shows the days of almost 3,000 Siberian Cranes in Poyang has probably gone. East Dongting Lake Nature Reserve has less than 100 wintering Siberian Cranes and the number at Shengjin Lake has never been more than 20 birds (Wang Qishan 1998). Assuming some birds are wintering in other wetland in the Yangtze valley, the author gives the estimation of 2,500.

Rose and Scott (1997) does not give a population trend for this population. The author assigned 'declining' based on the counts at Poyang in recent years.



Siberian Crane
(Grus leucogeranus)

Key sites:

Russia:

Name of site:	River Kyuel' with its tributary, the Uryung-Ulakh near Soluntakh Lake, Sakha Republic (Yakutia).
Co-ordinates:	71 ° 46'N 142 ° 30'E
Seasons:	Breeding.
Numbers:	Breeding ground for 12 – 15 Siberian Cranes in 1970s and 1980s. No good data for 1990s (but believed to be stable).
Importance code:	3
Reference:	BirdLife RDB Data

Name of site:	Lower half of the Gusinaya River, Sakha Republic (Yakutia).
Co-ordinates:	71 ° 35'N 148 ° 00'E
Seasons:	Breeding.
Numbers:	The total number of breeding and non-breeding birds was no less than 17 Siberian Cranes in 1970s and 1980s. No good data for 1990s (but believed to be stable).
Remarks:	Inside the Kytalyk Resources Reserve, which has joined the North East Asian Crane Site Network.
Importance code:	3
Reference:	BirdLife RDB Data

Name of site:	Kytalyk Resource Reserve, Sakha Republic (Yakutia).
Co-ordinates:	71 ° 30'N 148 ° 00'E
Seasons:	Breeding.
Numbers:	Breeding ground for at least 480 Siberian Cranes.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. This is a very big area and some of the important sites of the reserve are listed below.
Reference:	N. Germogenov (*in litt*. 1997)

Name of site:	Middle reaches of the Khroma and adjoining territories ,Sakha Republic (Yakutia).
Co-ordinates:	71 ° 25'N 144 ° 00'E
Seasons:	Breeding.
Numbers:	The total number of breeding and non-breeding birds was no less than 85 Siberian Cranes in 1970s and 1980s. No good data for 1990s (but believed to be stable).
Remarks:	Inside the Kytalyk Resources Reserve, which has joined the North East Asian Crane Site Network.
Importance code:	3
Reference:	BirdLife RDB Data

Name of site:	Basin of the Lower Indigirka, Sakha Republic (Yakutia).
Co-ordinates:	71 ° 25'N 147 ° 20'E
Seasons:	Breeding.
Numbers:	The total number of breeding and non-breeding birds was no less than 213 Siberian Cranes in 1970s and 1980s. No good data for 1990s (but believed to be stable).
Importance code:	3

Remarks:	Inside the Kytalyk Resources Reserve, which has joined the North East Asian Crane Site Network.
Reference:	BirdLife RDB Data

Name of site:	Basin of the upper Uryung – ulakh, Sakha Republic (Yakutia).
Co-ordinates:	71 ° 22'N 142 ° 40'E
Seasons:	Breeding.
Numbers:	The total number of breeding and non-breeding birds was no less than 30 Siberian Cranes in 1970s and 1980s. No good data for 1990s (but believed to be stable).
Importance code:	3
Reference:	BirdLife RDB Data

Name of site:	Tributary of the Kyuel'-yuryakh, Sakha Republic (Yakutia).
Co-ordinates:	71 ° 22'N 142 ° 20'E
Seasons:	Breeding.
Numbers:	The total number of breeding and non-breeding birds was no less than 30 Siberian Cranes in 1970s and 1980s. No good data for 1990s (but believed to be stable).
Importance code:	3
Reference:	BirdLife RDB Data

Name of site:	Upper reaches of the Lapcha River, Sakha Republic (Yakutia).
Co-ordinates:	71 ° 20'N 146 ° 00'E
Seasons:	Breeding.
Numbers:	The total number of breeding and non-breeding birds was no less than 22 Siberian Cranes in 1970s and 1980s. No good data for 1990s (but believed to be stable).
Importance code:	3
Remarks:	Inside the Kytalyk Resources Reserve, which has joined the North East Asian Crane Site Network.
Reference:	BirdLife RDB Data

Name of site:	Basin of the upper Syuryuktyakh River, Sakha Republic (Yakutia).
Co-ordinates:	71 ° 10'N 142 ° 30'E
Seasons:	Breeding.
Numbers:	The total number of breeding and non-breeding birds was at least 28 in the 1970s and 1980s. No good data for 1990s (but believed to be stable).
Importance code:	3
Reference:	BirdLife RDB Data

Name of site:	Upper reaches of the Khroma River and adjoining territories Sakha Republic (Yakutia).
Co-ordinates:	70 ° 45'N 142 ° 20'E
Seasons:	Breeding.
Numbers:	The total number of breeding and non-breeding birds was no less than 19 Siberian Cranes in 1970s and 1980s. No good data for 1990s (but believed to be stable).
Importance code:	3
Remarks:	Inside the Kytalyk Resources Reserve, which has joined the North East Asian Crane Site Network.
Reference:	BirdLife RDB Data

Name of site:	Basin of the middle Berelekh River, Sakha Republic (Yakutia).
Co-ordinates:	70 ° 30'N 144 ° 20'E
Seasons:	Breeding.
Numbers:	The total number of breeding and non-breeding birds was about 70 Siberian Cranes in 1970s and 1980s. No good data for 1990s (but believed to be stable).
Importance code:	3
Remarks:	Inside the Kytalyk Resources Reserve, which has joined the North East Asian Crane Site Network.
Reference:	BirdLife RDB Data

Name of site:	Lake Bol'shoe Morskoe, Sakha Republic (Yakutia).
Co-ordinates:	70 ° 00'N 158 ° 26'E
Seasons:	Breeding.
Numbers:	The total number of breeding and non-breeding birds was no less than 18 Siberian Cranes in 1970s and 1980s. No good data for 1990s (but believed to be stable).
Importance code:	3
Reference:	BirdLife RDB Data

Name of site:	Torey Lakes Depression, Chita Province.
Co-ordinates:	49 ° 50'N 115 ° 30'E
Seasons:	Summer / migration staging.
Numbers:	Up to 32 non-breeding summer birds. Migration stop-over ground for up to 50 Siberian Cranes.
Importance code:	1
Remarks:	Ramsar Site in Russia. Known to be staging at the vicinity of Torey Lake. Daursky Nature Reserve of the North East Asian Crane Site Network is part of the Torey Lake Depression.
Reference:	Golovushkin and Goroshko (1995), O. Goroshko (report at a workshop 1998)

China:

Name of site:	Zhalong Nature Reserve (=Lindian), Heilongjiang Province.
Co-ordinates:	47 ° 11'N 124 ° 51'E
Seasons:	Migration staging.
Numbers:	525 – 806 birds counted in springs from 1986 to 1993. Autumn migration not observed.
Importance code:	1
Remarks:	Ramsar Site.
Reference:	Li Fangman (1998)

Name of site:	Melmeg Nature Reserve ('Momoge'), Jilin Province.
Co-ordinates:	45 ° 55'N 123 ° 10'E
Seasons:	Migration staging.
Numbers:	Found in both spring and autumn. The number of staging cranes was from 100 – 200 but 422 Siberian Cranes were recorded in spring of 1985.
Importance code:	1
Reference:	Wu Zhigang. et al. (1991)

Name of site:	Wolong Lake, Liaoning Province.
Co-ordinates:	42 ° 43'N 123 ° 15'E
Seasons:	Staging.
Numbers:	28 birds were seen on 11 April 1998.
Importance code:	2
Reference:	Xu Yangong (1998)

Name of site:	Shuangtaizi Hekou Nature Reserve (= Panjin Marshes), Liaoning Province.
Co-ordinates:	40 ° 30'N 122 ° 00'E
Seasons:	Staging.
Numbers:	In 1995 and 1996, over 400 birds recorded during spring and autumn migration. In other years migration is mostly recorded in spring (2 – 21 birds).
Importance code:	1 (FYM 1994 – 1998 = 177)
Remarks:	Surprisingly, migration of Hooded Crane was only recorded in spring of 1997 (20 birds) and migration of White-naped Cranes only recorded in springs of 1995 (2 birds) and 1997 (9 birds). This shows these two species do not use this area as their migration staging site.
Reference:	Yang Fulin et. al. (1998)

Name of site:	Beidaihe and Luan He Estuary, Hebei Province.
Co-ordinates:	39 ° 49'N 119 ° 30'E
Seasons:	Migratory staging.
Numbers:	Several hundred are seen annually.
Importance code:	2
Reference:	Williams et al (1992)

Name of site:	Pangzhai (=Old channel of Yellow River), Henen Province.
Co-ordinates:	36 ° 24'N 114 ° 07'E
Seasons:	Migration staging.
Numbers:	About 21 birds in spring and 33 birds in autumn (1985-1987).
Importance code:	4
Reference:	Xu Xinjie et al. (1990)

Name of site:	Heigangkou , Henan Province.
Co-ordinates:	34 ° 47'N 114 ° 21'E
Seasons:	Wintering ?
Numbers:	43 birds were seen on 4 January 1991.
Importance code:	2
Reference:	Waterbird Specialist Group of Chinese Ornithological Association, (1994)

Name of site:	Shengjin Lake Nature Reserve, Anhui Province.
Co-ordinates:	30 ° 16'N 116 ° 58'E
Seasons:	Wintering / Migrantion staging.
Numbers:	4 to 5 birds winter annually. 14 birds were seen on 5 February 1998. 81 birds were seen on 2 March 1994.
Importance code:	2
Remarks:	Migration stop-over of Siberian Cranes wintering at Poyang Lake.
Reference:	Wang Qishan (BirdLife RDB Data), Liu Zhengyuan and Xu Wenbin (1998)

Name of site:	East Dongting Lake Nature Reserve, Hunan Province.
Co-ordinates:	29 ° 20'N 113 ° 00'E
Seasons:	Wintering.
Numbers:	Census data: 22-76 wintering birds from 1992 – 1997 (average: 44 birds).
Importance code:	1
Remarks:	Ramsar Site.
Reference:	Lei Gang et. al. (1997)

Name of site:	Poyang Lake Nature Reserve, Jiangxi Province.
Co-ordinates:	29 ° 10'N 115 ° 55'E
Seasons:	Wintering.
Numbers:	Census data: 725 - 2896 birds from 1988 – 1997 (average: 2308 birds).
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Ramsar Site in China. In 1993 most cranes were found out of the reserve boundary so the count was low (725). However, the number of cranes is slowly decreasing.
Reference:	Liu Zhiyong and Zhao Jinsheng (1998)

Hooded Crane
Grus monacha

Distribution:

Endemic to North East Asia. Breed in the forested wetlands in Russian provinces and territories of Sakha (Yakutia), Krasnoyarsk, Khabarovsk, Amur and Primorsky. Accidental visitor to Sakhalin and presumed to be a rare breeder on that island by V. Nechaev. In Mongolia, possible breeding grounds are located in Khubsugul, Darhat and Hentiy provinces. Breeding was not confirmed in China until 1993 (Li Lin et. al 1996) and the breeding range in China is very small and localised. No breeding record in Mongolia but Mongol Daguur Strictly Protected Area and the agricultural areas of Uvs are important migration staging areas. Most Hooded Cranes winter in Japan: Izumi and smaller wintering populations in Yashiro and sometimes Nakamura. Vagrants are reported all over Japan. In Korea, they do not winter in Taegu anymore. A new wintering ground at Suncheon Bay was discovered in December 1996. In China, the main wintering grounds are the wetlands along the Yangtze River. Vagrants have been seen in Caohai Nature Reserve (Guizhou Province) and north-eastern Taiwan.

Movement:

Migratory. Colour-banding studies show birds on the western side of their breeding range (Daursky Nature Reserve) will also migrate to Izumi, Japan. Color-banding has also revealed that the same bird do not necessary winter at the same site every year (Ozaki and Baba 1994). During the spring migration of 1996, up to 56 birds were seen migrating along Honshu to Hokkaido and it is very likely the birds were from Izumi. That was a rather abnormal migration route (Katoh 1997).

Birds wintering in China migrate mainly through the coast of Hebei (Beidaihe), as deduced from the estimated population by Wang Qishan and the number of birds observed at Beidaihe during the migration season (Williams et. al. 1992). Satellite-tracking data show birds breeding at Daursky stop over at the Yellow River Delta during migration (Higuchi H. et al 1994).

Population limits:

No subspecies. Two wintering populations are recognised: one winter in Korea and Japan, and one in China.

Population size:

China wintering: 1,000 birds (Total population) (Wang Qishan 1998).

1 % level: 10

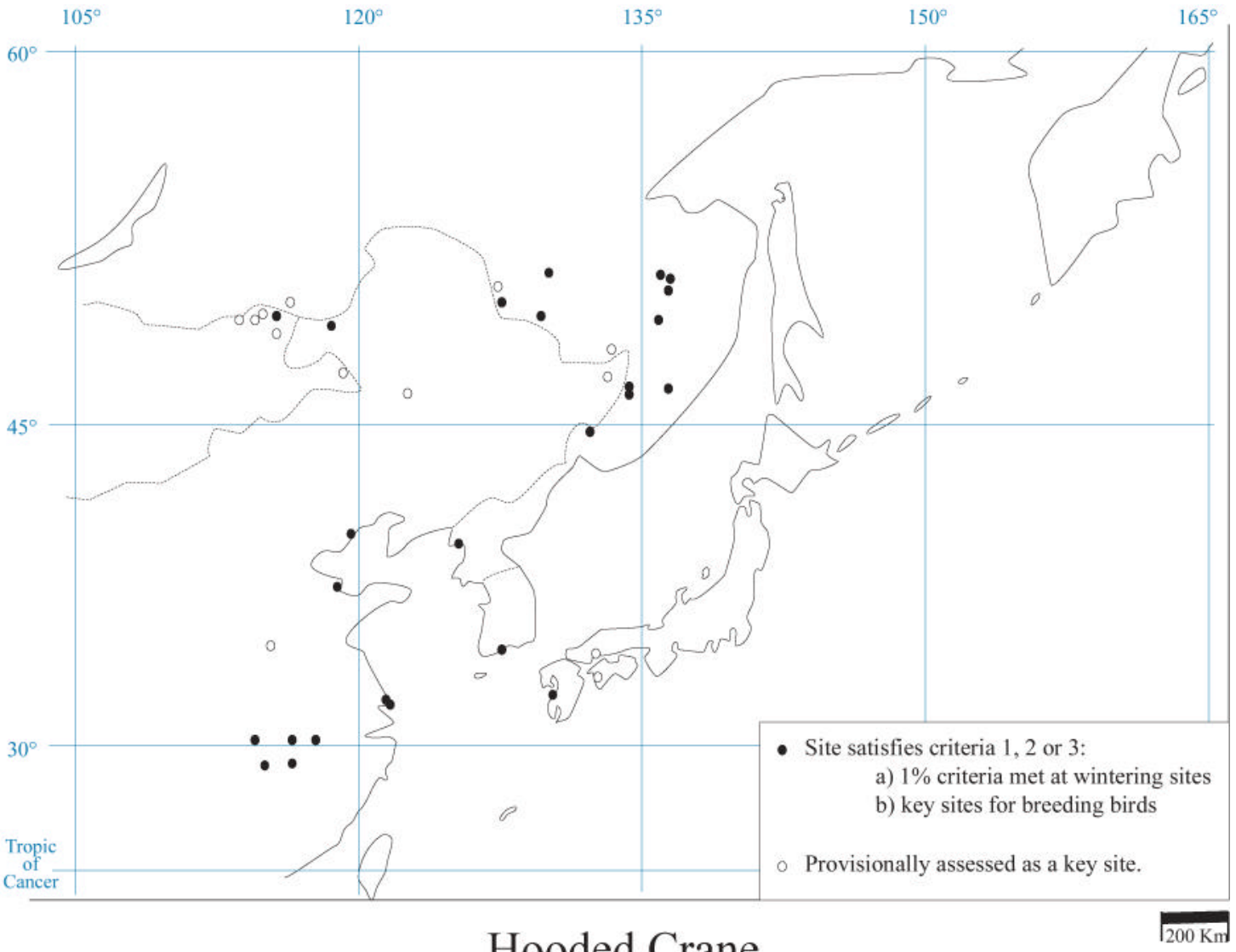
Trend: Probably stable but difficult to deduce because of fluctuations in different years.

Korea/Japan wintering: 8,150 (Total population).

1 % level: 81

Trend: Stable

The above figure is deduced from the number of Japan (about 8,000 in Izumi, 20-30 in Yashiro and some birds as vagrants) plus about 100 wintering bird in Korea (Kim Jin-han data prepared for migratory bird meeting in 1998. Unpublished.).



Hooded Crane
(Grus monacha)

Key sites:

Russia:

Name of site:	Norsky Nature Reserve, Amur Province.
Co-ordinates:	52 ° 30'N 130 ° 20'E
Seasons:	Breeding ground.
Numbers:	At least 14 breeding birds.
Importance code:	3
Reference:	Darman (1995)

Name of site:	The Nemelen, Nilan, Ol'dzhikan rivers, Khabarovsk Territory.
Co-ordinates:	52 ° 20'N 136 ° 30'E
Seasons:	Breeding.
Numbers:	16 - 20 breeding birds from 1977-1986.
Importance code:	3
Reference:	BirdLife RDB data

Name of site:	Lake Chukchagir, Khabarovsk Territory.
Co-ordinates:	52 ° 00'N 136 ° 40'E
Seasons:	Breeding.
Numbers:	10 – 14 breeding birds from 1977-1986.
Importance code:	3
Reference:	BirdLife RDB data

Name of site:	Lake Evoron Basin, Khabarovsk Territory.
Co-ordinates:	51 ° 40'N 136 ° 40'E
Seasons:	Breeding.
Numbers:	30 breeding birds in 1975, 30 - 40 breeding birds from 1977-1986.
Importance code:	3
Reference:	BirdLife RDB data

Name of site:	Amursky Game Refuge, Amur Province.
Co-ordinates:	50 ° 00'N 128 ° 00'E
Seasons:	Migration staging / summer ?
Numbers:	36 on 3 May 1977.
Importance code:	5
Reference:	BirdLife RDB data

Name of site:	Muraviovka Nature Park, Amur Province.
Co-ordinates:	49 ° 55'N 127 ° 39'E
Seasons:	Migration staging.
Numbers:	350-500 birds annually observed during spring migration at Zeya-Bureya plain.
Importance code:	1
Remarks:	Zeya-Bureya plain in the Muravyevski State Park is a Ramsar Site.
Reference:	BirdLife RDB data.

Name of site:	Lake Bolon, Khabarovsk Territory.
Co-ordinates:	49 ° 50'N 136 ° 20'E
Seasons:	Breeding.

Numbers:	20 - 30 breeding birds from 1977-1986.
Importance code:	3
Reference:	BirdLife RDB data
Name of site:	Torey Lakes Depression, Chita Province.
Co-ordinates:	49 ° 50'N 115 ° 30'E
Seasons:	Summer / migration staging.
Numbers:	About 300 non-breeding summer birds. 700 birds seen during migration.
Importance code:	1
Remarks:	Usually stay by the Boroholoy River (a tributary of the Uldz River). Daursky Nature Reserve has joined the North East Asian Crane Site Network. Daursky is also part of the Torey Lake Depression Ramsar Site in Russia.
Reference:	Golovushkin and Goroshko (1995), O. Goroshko (report at a workshop 1998)
Name of site:	Khingansky Nature Reserve and Ganukan Game Reserve, Amur Province.
Co-ordinates:	49 ° 10'N 130 ° 00'E
Seasons:	Migration staging.
Numbers:	About 300.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Khingan-Arkhara lowlands in the Khingansky State Nature Reserve is a Ramsar Site.
Reference:	V. Andronov (*in litt.* 1997)
Name of site:	Bidzhan River Basin (=Zhuravlini Game Refuge), Khabarovsk Territory.
Co-ordinates:	48 ° 30'N 132 ° 00'E
Seasons:	Breeding ground.
Numbers:	No data available.
Importance code:	6
Reference:	Meine and Archibald (1996)
Name of site:	The upper Zeva River, Bikin headwaters, Primorsky Territory.
Co-ordinates:	46 ° 40'N 137 ° 30'E
Seasons:	Breeding.
Numbers:	At least 8 pairs nested within 20 sq km area in 1996.
Importance code:	3
Reference:	K. Mikhailov for BirdLife RDB data
Name of site:	Bikin River Basin, Primorsky Territory.
Co-ordinates:	46 ° 30'N 134 ° 40'E
Seasons:	Breeding.
Numbers:	60 – 70 birds and about 20 nests from 1975 – 1980.
Importance code:	3
Remarks:	The birds occur from the lower reaches of the Bikin up to its headwaters in nine localities: Nznepereval'skaya mar', Alchanskie mari, Silanshanskaya mar', Silanskaya mar', Kushnarikhskaya mar', Zmeinaya mar', Kapshanskaya mar', Olonskaya mar' and Modyagou.
Reference:	BirdLife RDB data

Name of site:	Marevka River (=the basin of the Bol'shaya Ussurka or Iman River), Primorsky Territory.
Co-ordinates:	46 ° 05'N 134 ° 20'E
Seasons:	Breeding.
Numbers:	Breeds in small numbers.
Importance code:	3
Reference:	Yu. Shibaev for BirdLife RDB

Name of site:	Lake Khanka Nature Reserve, Primorsky Territory.
Co-ordinates:	44 ° 53'N 132 ° 26'E
Seasons:	Migration staging.
Numbers:	About 100
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Part of the Lake Khanka Ramsar Site (total area 310,000 ha).
Reference:	V. Andronov (*in Litt.* 1997)

Mongolia:

Name of site:	Uldz and Duch River Valley, Khaichiin Tsagaan lakes, Dornod Province.
Co-ordinates:	49 ° 50'N 114 ° 00'E
Seasons:	Migration staging / summer ?
Numbers:	Not available, but listed as important sites for this species.
Importance code:	6
Reference:	Tseveenmyadag (unpublished. 1997).

Name of site:	Mongol Daguur Strictly Protected Area, Dornod Province.
Co-ordinates:	49 ° 42'N 115 ° 06'E
Seasons:	Migration staging / summer ?
Numbers:	Migration stop-over ground for up to 400 Hooded Cranes.
Importance code:	2
Remarks:	Site of the North East Asian Crane Site Network. Ramsar Site.
Reference:	Tseveenmyadag (unpublished. 1997)

Name of site:	Ugtam Nature Reserve, Dornod Province.
Co-ordinates:	49 ° 30'N 113 ° 50'E
Seasons:	Migration staging / summer ?
Numbers:	Not available, but listed as important sites for this species.
Importance code:	6
Reference:	Tseveenmyadag (unpublished. 1997)

Name of site:	Uldz River Valley, Baga and Ekhen lakes, Dornod Province.
Co-ordinates:	49 ° 00'N 112 ° 00'E
Seasons:	Migration staging / summer ?
Numbers:	Not available, but listed as important sites for this species.
Importance code:	6
Reference:	Tseveenmyadag (unpublished. 1997)

Name of site:	Kherlen River Valley, Lake Sumiin Tsagaan Nuur, Dornod Province.
Co-ordinates:	48 ° 40'N 115 ° 10'E

Seasons: Migration staging / summer ?
Numbers: Not available, but listed as important sites for this species.
Importance code: 6
Reference: Tseveenmyadag (unpublished. 1997)

Name of site: Lake Taschgain Tavan Nuur, Dornod Province.
Co-ordinates: 47 ° 00'N 119 ° 00'E
Seasons: Migration staging / summer ?
Numbers: Not available, but listed as important sites for this species.
Importance code: 6
Reference: Tseveenmyadag (unpublished. 1997)

China:

Name of site: Huret, Hulun Buir League, Inner Mongolia.
Co-ordinates: 49 ° 49'N 118 ° 31'E
Seasons: Summer staging.
Numbers: 47 on 23 June 1998Importance.
code: 2
Reference: Li Xiaomin (1998b)

Name of site: Zhalong Nature Reserve (including Lindian County), Heilongjiang Province.
Co-ordinates: 47 ° 10'N 124 ° 50'E
Seasons: Migratory staging.
Numbers: Autumn migrant number observed from 1983 -1986: 417 –465.
Importance code: 4
Remarks: Ramsar Site.
Remarks: Li Lin et al. (1995)

Name of site: Changlindao Nature Reserve, Heilongjiang Province.
Co-ordinates: 46 ° 42'N 132 ° 35'E
Seasons: Staging.
Numbers: Unknown.
Importance code: 6
Reference: Zhang Yongming and Chen Shuxuan (1998)

Name of site: Beidaihe and Luan He Estuary, Hebei Province.
Co-ordinates: 39 ° 49'N 119 ° 30'E
Seasons: Migration staging.
Numbers: Numbers observed from 1986 to 1990: 45 – 527.
Importance code: 2
Reference: Williams, M. D. et al (1992)

Name of site: Yellow River Delta Nature Reserve, Shandong Province.
Co-ordinates: 37 ° 55'N 118 ° 55'E
Seasons: Migration staging.
Numbers: About 25 recorded annually.
Importance code: 1
Remarks: Usually found at Yiqian'er (northern part of the reserve). Form mixed flocks with Eurasian Cranes. Site of the North East Asian Crane Site Network

Reference: Lü Juanzhang, et. al. (1998)

Name of site: Pangzhai (=Old channel of Yellow River), Henen Province.
Co-ordinates: 36 ° 24'N 114 ° 07'E
Seasons: Migration staging.
Numbers: From the result of a survey done from 1985 -1987, 11 birds seen during autumn migration and 7 during spring migration.
Importance code: 4
Reference: Xu Xinjie et al. (1990)

Name of site: Xinglong Dongsha Dao Nature Reserve (=Xinglongsha), Jiangsu Province.
Co-ordinates: 31 ° 45'N 121 ° 30'E
Seasons: Wintering.
Numbers: 56 birds were seen in January 1990.
Importance code: 2
Remarks: No birds were seen during the surveys from 1993 to 1995.
Reference: Wang Qishan (BirdLife RDB data)

Name of site: East coast of Chongming Island, Shanghai Municipality.
Co-ordinates: 31 ° 30'N 121 ° 55'E
Seasons: Wintering.
Numbers: 150 birds wintered annually prior to 1990. In early to mid 1990s only 70 – 80 birds. 145 birds were seen in late December 1997.
Importance code: 1
Reference: Yu Kuai.(1998)

Name of site: Shengjin Lake Nature Reserve, Anhui Province.
Co-ordinates: 30 ° 21'N 117 ° 05'E
Seasons: Wintering.
Numbers: Usually 300 – 400 birds winter (from 1986 – 1994). 115 – 264 birds were seen from 1995 to 1998.
Importance code: 1
Remarks: The trend is probably decreasing.
Reference: Liu Zhengyuan and Xu Wenbin (1998)

Name of site: Chen Hu Lake Nature Reserve, Hubei Province.
Co-ordinates: 30 ° 15'N 113 ° 50'E
Seasons: Wintering.
Numbers: About 60 birds wintering annually.
Importance code: 1
Reference: Hu Hongxing (1997)

Name of site: Longgan Lake, Hubei Province.
Co-ordinates: 30 ° 00'N 115 ° 55'E
Seasons: Wintering.
Numbers: 120 – 218 birds recorded from 1992 to 1998.
Importance code: 1
Remarks: Decreasing.
Reference: Hu Hongxing (1998)

Name of site: East Dongting Lake Nature Reserve, Hunan Province.
Co-ordinates: 29 ° 20'N 113 ° 00'E

Seasons:	Wintering.
Numbers:	Census data: 22 - 87 wintering birds from 1992 – 1997 (average: 51 birds).
Importance code:	1
Remartks:	Ramsar Site.
Remarks:	Stable, but less than the number of 10 years ago.
Reference:	Lei Gang et. al. (1997)

Name of site:	Poyang Lake Nature Reserve, Jiangxi Province.
Co-ordinates:	29 ° 10'N 115 ° 55'E
Seasons:	Wintering.
Numbers:	Census data: 62 - 208 birds from 1988 – 1997 (average: 107 birds).
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Ramsar Site.
Reference:	Liu Zhiyong and Zhao Jinsheng (1998)

North Korea:

Name of site:	Mundok Wetland Reserve, South Pyongan Province.
Co-ordinates:	39 ° 29'N 125 ° 28'E
Seasons:	Migration staging.
Numbers:	A total of 2,474 birds counted from 7 – 30 March 1993.
Importance code:	2
Remarks:	Site of the North East Asian Crane Site Network. Important stop-over sites identified by satellite tracking.
Reference:	Chong, Higuchi and Pak (1994)

South Korea:

Name of site:	Suncheon Bay, South Cholla Province.
Co-ordinates:	34 ° 50'N 120 ° 10'E
Seasons:	Wintering.
Numbers:	80 – 100 since 1996.
Importance code:	2
Remarks:	90-100 wintering Hooded Cranes discovered in December 1996. About the same number wintered at the site since. One possibly Eurasian – Hooded hybrid was seen in January 1999.
Reference:	Kim Jin-han (pers. comm.)

Japan:

Name of site:	Yashiro, Yamaguchi Prefecture.
Co-ordinates:	34 ° 01'N 131 ° 54'E
Seasons:	Wintering.
Numbers:	20 – 30.
Importance code:	5
Remarks:	Site of the North East Asian Crane Site Network. Number has been decreasing since 1940 (355 cranes).
Reference:	N. Kawamura and H. Serai (*in litt*. 1998)

Name of site:	Nakamura, Kochi Prefecture.
Co-ordinates:	32 ° 55'N 132 ° 55'E
Seasons:	Wintering / Migration staging.
Numbers:	Occur in most years. 35 non-wintering bird in 1997, 18 birds in mid-winter 1998.
Importance code:	5
Remarks:	Can be found in many locations in Kochi Prefecture. The rivers Nakasuji-gawa and Shimanto-gawa are main sites for wintering birds.
Reference:	Y. Sawada (*in litt.*)

Name of site:	Izumi-Takaono (= Izumi or Arasaki), Kagoshima Prefecture.
Co-ordinates:	32 ° 05'N 130 ° 20'E
Seasons:	Wintering.
Numbers:	7,000 – 8,000
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network.
Reference:	Momose (1998), Yamamoto (1998)

White-naped Crane
Grus vipio

Distribution:

Endemic to North East Asia. Breed in Dauria, the Amur and Ussuri valley and North East China. In Mongolia the main population is in Khentii and Dornod provinces: from river basins of Uldz and Onon to Kherlen River in the south. It is at north-eastern Mongolia bordering Russia and China (the whole area is also known as Dauria). In Russia it mainly breeds along the Amur and Ussuri basin, bordering China. The breeding colonies in China are in Heilongjiang Province and north-eastern Inner Mongolia.

Winter mainly in the wetlands of Yangtze Valley, DMZ of Korea and southern Kyushu of Japan.

Movement:

Migratory. Satellite tracking results show White-naped Cranes breeding in Daursky Nature Reserve migrate south-eastward to the Gulf of Bo Hai, along the coast to the Yellow River Delta, then fly inland to Poyang Lake. Cranes which breed in Khingansky migrate through Khanka Lake, Tuman River estuary, through the Korean Peninsula ro Izumi (Higuchi et. al. 1994).

Population limits:

No subspecies. Two wintering populations are recognised: one winter in Korea and Japan, and one in China.

Population size:

The population estimated given by Meine and Archibald (1996) and Scott and Rose (1997) is about 3,000 for China and 1,900 – 2,300 for Korea / Japan. The figure is updated by the author.

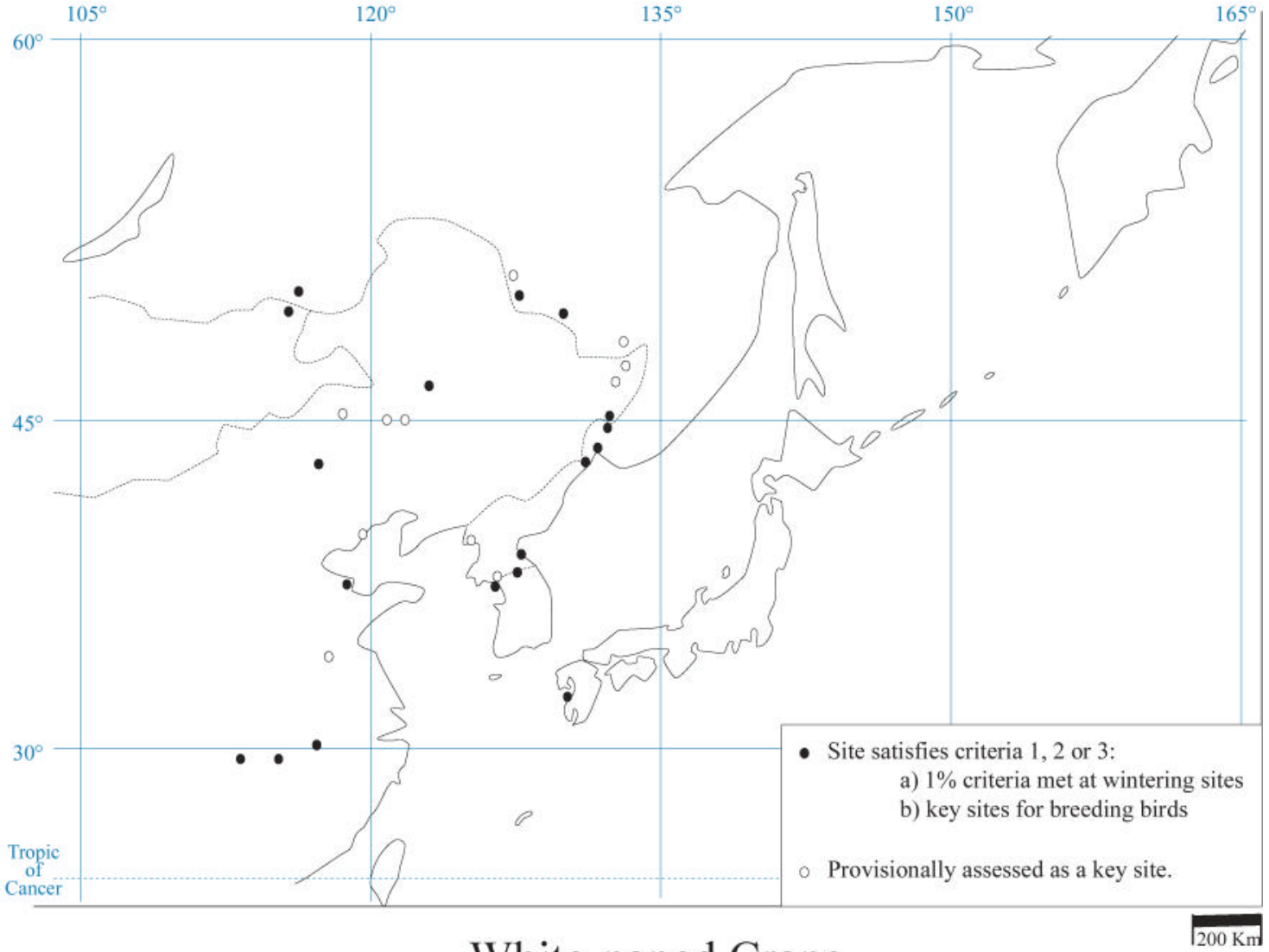
China wintering: 3,000 – 4,000 (Total population)
1 % level: 35
Trend: Stable. But likely to decline in future.
It is difficult to judge because of the big fluctuation of number. Wang Qishan (1998) compiled numbers from Poyang, East Dongting and Shengjin lakes from 1988 / 89 to 1994 / 95. In 1992 / 93 and 1994 / 95 the total numbers were higher than 3,700.

Korea/Japan wintering: 2,500 (Total population)

1 % level: 25

Trend: Increasing

The above figure is deduced from the number of Izumi, Japan (more than 2,200 from 1996 to 1999) and about 300 wintering birds in Korea (Kim Jin-han data prepared for migratory bird meeting in 1998. Unpublished.).



White-naped Crane
(Grus vipio)

Key sites:

Russia:

Name of site:	Amursky Game Refuge, Amur Province.
Co-ordinates:	50 ° 00'N 128 ° 00'E
Seasons:	Breeding ground.
Numbers:	Data not available.
Importance code:	6
Reference:	Comments from Russian experts on the list of North East Asian Crane Site Network.

Name of site:	Muraviovka Nature Park, Amur Province.
Co-ordinates:	49 ° 55'N 127 ° 39'E
Seasons:	Breeding.
Numbers:	About 24 breeding birds in good years, usually about 6 – 20 breeding cranes (Red-crowned and White-naped).
Importance code:	3
Remarks:	Zeya-Bureya plain in the Muravyevski State Park is a Ramsar Site.
Reference:	S. Smirenski (pers. comm.)

Name of site:	Torey Lakes Depression, Chita Province.
Co-ordinates:	49 ° 50'N 115 ° 30'E
Seasons:	Breeding / Staging.
Numbers:	About 50 breeding birds in Daursky and Daguur (Mongolia) regularly, if the weather is not too dry. In good years, up to 300 breeding birds can be found in the region.
Importance code:	1
Remarks:	Ramsar Site in Russia, Daursky Nature Reserve is part of the Torey Lake Depression and has joined the North East Asian Crane Site Network. This species mainly stays in floodplain of the Onon River and its tributaries.
Reference:	Golovushkin and Goroshko (1995), O. Goroshko (reported at a workshop 1998)

Name of site:	Khingansky Nature Reserve and Ganukan Game Reserve, Amur Province.
Co-ordinates:	49 ° 10'N 130 ° 00'E
Seasons:	Breeding.
Numbers:	About 60 breeding birds.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Khingan-Arkhara lowlands in the Khingansky State Nature Reserve is a Ramsar Site.
Reference:	V. Andronov (*in litt.* 1997)

Name of site:	Zhuravlini Game Refuge, Khabarovsk Territory.
Co-ordinates:	48 ° 30'N 132 ° 00'E
Seasons:	Breeding ground.
Numbers:	No data available.
Importance code:	6
Reference:	Comments from Russian experts on the list of North East Asian Crane Site Network.

Name of site:	Khanka Nature Reserve, Lake Khanka, Primorsky Territory.
Co-ordinates:	44 ° 53'N 132 ° 30'E
Seasons:	Breeding / migration staging.
Numbers:	4 breeding birds and up to 300 migrants.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network. Part of the Lake Khanka Ramsar Site (total area 310,000 ha).
Reference:	Yu. Sushitsky (reported at a workshop 1998)

Name of site:	Khasan Plain, Kedrovaya Pad Reserve and adjoining coastal plain, Primorsky Territory.
Co-ordinates:	43 ° 00'N 131 ° 15'E
Seasons:	Migration staging.
Numbers:	Not available, but almost certain more than 1%.
Importance code:	1
Reference:	Shibaev and Surmach (1994).

Name of site:	Tuman Estuary, Primorsky Territory.
Co-ordinates:	42 ° 20'N 130 ° 40'E
Seasons:	Migration staging.
Numbers:	not available but certainly over 1%.
Importance code:	1
Reference:	Y. Shibaev (pers. comm.)

Mongolia:

Name of site:	Mongol Daguur Strictly Protected Area, Dornod Province.
Co-ordinates:	49 ° 42'N 115 ° 06'E
Seasons:	Breeding.
Numbers:	Breeding ground of 30 White-naped Cranes.
Importance code:	2
Remarks:	Site of the North East Asian Crane Site Network. Ramsar Site.
Reference:	Tseveenmyadag (unpublished. 1997)

China:

Name of site:	Honghe Nature Reserve, Heilongjiang Province.
Co-ordinates:	47 ° 20'N 132 ° 45'E
Seasons:	Breeding / staging.
Numbers:	No information.
Importance code:	6
Reference:	Lu Jianjian (1990)

Name of site:	Zhalong Nature Reserve (including Lindian County), Heilongjiang Province.
Co-ordinates:	47 ° 00'N 125 ° 00'E
Seasons:	Breeding / staging.
Numbers:	From 1981 - 1986, about 20 White-naped Cranes nested in Zhalong and another 36 -48 used Zhalong as a migratory staging ground.

Importance code: 3
Remarks: Ramsar Site.
Reference: Feng Kemin and Li Jinlu (1985)

Name of site: Changlindao and Yanwodao nature reserve, Heilongjiang Province.
Co-ordinates: 46 ° 42'N 132 ° 35'E
Seasons: Breeding.
Numbers: Unknown.
Importance code: 6
Reference: Zhang Yongming and Chen Shuxuan (1998), J. Minton (pers. comm.)

Name of site: Ulgai Marshes (=Wulagai), Inner Mongolia.
Co-ordinates: 45 ° 38'N 118 ° 25'E
Seasons: Breeding.
Numbers: not available.
Importance code: 6
Reference: Tong Yongchang and Tong Junchang (1986)

Name of site: Xingkai Lake Nature Reserve, Heilongjiang Province.
Co-ordinates: 45 ° 12'N 132 ° 54'E
Seasons: Breeding / summer staging.
Numbers: At least 16 - 20 breeding birds.
Importance code: 3
Remarks: Site of the North East Asian Crane Site Network.
Reference: Li Wenfa et. al. (1998)

Name of site: Xianghai Nature Reserve, Jilin Province.
Co-ordinates: 45 ° 05'N 122 ° 20'E
Seasons: Breeding / summer staging.
Numbers: 12 -14 breeding birds in the nature reserve but summering non-breeding birds can be as high as 100 birds.
Importance code: 4
Remarks: Ramsar Site.
Reference: Lu Jianjian (1990)

Name of site: Horqin (=Ke'erqin) Nature Reserve, Hinggan League, Inner Mongolia.
Co-ordinates: 45 ° 05'N 121 ° 03'E
Seasons: Breeding.
Numbers: About 20 breeding birds.
Importance code: 5
Reference: Zhang Zixue et. al. (1989)

Name of site: Dali Nor Nature Reserve, Chifeng City, Inner Mongolia.
Co-ordinates: 43 ° 20'N 116 ° 30'E
Seasons: Breeding / Migration staging.
Numbers: About 100 recorded from March to October 1995.
Importance code: 2
Reference: Arongqiqige (*in litt.*1998)

Name of site: Beidaihe coasts and Luan He Estuary, Hebei Province.
Co-ordinates: 39 ° 49'N 119 ° 30'E
Seasons: Migration staging.

Numbers:	17-152 birds (1986 – 1990).
Importance code:	4
Reference:	Williams et. al. (1992)

Name of site:	Yellow River Delta Nature Reserve, Shandong Province.
Co-ordinates:	37 ° 55'N 118 ° 55'E
Seasons:	Wintering / Staging.
Numbers:	About 50 recorded annually during migration. Some stayed in winter. 17 birds were recorded in January 1999 (Qian Fawen in litt.). Site of the North East Asian Crane Site Network.
Importance code:	1
Remarks:	Usually found at Yiqian'er (northern part of the reserve)., sometimes also found at Huanghekou (Mouth of Yellow River).
Reference:	Lü Juanzhang, et. al. (1998)

Name of site:	Hongze Lake, Jiangsu Province.
Co-ordinates:	33 ° 23'N 118 ° 35'E
Seasons:	Wintering.
Numbers:	Records of wintering White-naped Cranes at Chengtou, Xiangyang and Lihewa (30-40 wintering birds) before 1990.
Importance code:	4
Remarks:	No information in recent years.
Reference:	Zhang Guibo (1997)

Name of site:	Shengjin Lake Nature Reserve, Anhui Province.
Co-ordinates:	30 ° 21'N 117 ° 05'E
Seasons:	Wintering / staging ?
Numbers:	500 seen on 2 February 1993. But usually only has about 8 birds wintering. On 5 February 1998, at least 48 birds were seen..
Importance code:	2
Reference:	Liu Zhengyuan and Xu Wenbin. (1998)

Name of site:	East Dongting Lake Nature Reserve, Hunan Province.
Co-ordinates:	29 ° 20'N 113 ° 00'E
Seasons:	Wintering.
Numbers:	Census data: 2 – 103 wintering birds from 1992 – 1997 (average: 63 birds).
Importance code:	1
Remarks:	Decreasing rapidly. Ramsar Site.
Reference:	Lei Gang et. al. (1997)

Name of site:	Poyang Lake Nature Reserve, Jiangxi Province.
Co-ordinates:	29 ° 10'N 115 ° 55'E
Seasons:	Wintering.
Numbers:	Census data: 1158 - 3716 birds from 1988 – 1997 (average: 2,878 birds).
Importance code:	1
Remarks:	Decreasing. But still the most important wintering ground in China. Site of the North East Asian Crane Site Network. Ramsar Site.
Reference:	Liu Zhiyong and Zhao Jinsheng (1998)

North Korea:

Name of site:	Mundok Wetland Reserve, South Pyongan Province.
Co-ordinates:	39 ° 30'N 125 ° 20'E
Seasons:	Migration staging.
Numbers:	Data not available.
Importance code:	6
Remarks:	Site of the North East Asian Crane Site Network.
Reference:	Chong & Morishita (1996)

Name of site:	Kumya Wetland Reserve, South Hamgyong Province.
Co-ordinates:	39 ° 25'N 127 ° 20'E
Seasons:	Migration staging.
Numbers:	Migration of 472 birds observed in mid March 1993.
Importance code:	2
Remarks:	Site of the North East Asian Crane Site Network. Important stop-over site identified by satellite tracking.
Reference:	Chong, Higuchi and Pak (1994)

Name of site:	Panmun Plain, Kaesong City.
Co-ordinates:	38 ° 50'N 126 ° 38'E
Seasons:	Wintering.
Numbers:	Data not available.
Importance code:	6
Reference:	Chong & Morishita (1996)

South Korea:

Name of site:	Cholwon Basin, Kangwon Province.
Co-ordinates:	38 ° 17'N 127 ° 13'E
Seasons:	Wintering / migration staging.
Numbers:	Wintering ground for 350 White-naped Cranes.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network.
Reference:	Kim Jin-han (*in litt.*1998)

Name of site:	Han River Estuary, Kyonggi Province.
Co-ordinates:	37 ° 45'N 126 ° 40'E
Seasons:	Wintering / migration staging.
Numbers:	Wintering ground for 150 White-naped Cranes; migration stop-over ground for more than 600 White-naped Cranes.
Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network.
Reference:	Kim Jin-han (*in litt.*1998)

Japan:

Name of site:	Izumi-Takaono (= Izumi or Arasaki), Kagoshima Prefecture.
Co-ordinates:	32 ° 05'N 130 ° 20'E
Seasons:	Wintering.
Numbers:	2,000 – 3,000.

Importance code:	1
Remarks:	Site of the North East Asian Crane Site Network.
Reference:	Website of Izumi City.

4. Key sites for cranes in North East Asia

The following table is a summary of the sites known to be important for cranes in North East Asia. The numbers in the boxes stand for the criteria of the sites chosen for these six species. While the table is convenient for a quick look of important sites, the readers must beware of the facts that situations at the sites are constantly changing. New information comes out every year. For example, the importance of Huret as a summer staging ground of Hooded Cranes was not discovered until the summer of 1998. Some sites that used to support cranes for decades are gradually losing their cranes. It is very important to keep countries and sites updated on the movement of cranes, and it is more important to share our experience on site conservation, education and management, to make sure these birds, which our ancestors cherished for thousands of years, will still be part of our natural heritage thousands of years after.

In recent years many international and national journals and newsletters on crane and waterbird conservation appear in North East Asia. The readers should report any new findings (changes of numbers, discovery of new sites etc.) to these journals. Editors of national journals should also contact their counterparts in other countries to promote flow of information. This is also a challenge to the newly established North East Asian Crane Site Network.

Name of Site	**Co-ordinates**	*A. virg*	*G. grus*	*G. japo*	*G. leuc*	*G. mona*	*G. vipi*
Russia							
Amursky Game Refuge	5000N 12800E			6		5	6
Berelekh River, middle reaches	7030N 14420E				3		
Bidzhan River Basin (=Zhuravliny GR)	4830N 13200E			3		6	6
Bikin River Basin	4630N 13440E					3	
Bolon Lake lowland	4950N 13620E			3		3	
Bol'shoe Morskoe Lake	7000N 15826E				3		
Chukchagir Lake	5200N 13640E					3	
Evoron Lake basin	5140N 13640E					3	
Gusinaya River, lower	7135N 14800E				3		
Indigirka River, lower	7125N 14720E				3		
Khanka Nature Reserve	4453N 13230E			1		1	1
Khasan Plain	4300N 13115E			1			1

Name of Site	**Co-ordinates**	*A. virg*	*G. grus*	*G. japo*	*G. leuc*	*G. mona*	*G. vipi*
Khingansky Nature Reserve and Ganukan Game Reserve	4910N 13000E			1		1	1
Khor and Podkhorenok rivers (lower reaches)	4730N 13440E			3			
Khroma River, middle reaches	7125N 14400E				3		
Khroma River, upper reaches	7045N 14220E				3		
Kyuel' River, the Uryung-Ulakh near Soluntakh Lake,	7146N 14230E				3		
Kyuel'-yuryakh, tributary of the	7122N 14220E				3		
Kytalyk Resource Reserve	7130N 14800E				1		
Lapcha River, upper reaches	7120N 14600E				3		
Marevka River (=the basin of the Bol'shaya Ussurka or Iman River)	4605N 13420E					3	
Muraviovka Nature Park	4955N 12739E			1		1	3
Nemelen, Nilan, Ol'dzhikan rivers	5220N 13630E					3	
Norsky Nature Reserve	5230N 13020E					3	
Syuryuktyakh River, upper basin	7110N 14230E				3		
Torey Lakes Depression (including Daursky Nature Reserve)	4950N 11530E	2	2	5	1	1	1
Tuman Estuary	4220N 13040E			1			1
Tunguska River Valley	4830N 13400E			3			
Uryung – ulakh, basin of upper reaches	7122N 14240E				3		
Zeva River, upper reaches	4640N 13730E					3	
Mongolia							
Kherlen River Valley, Lake Sumiin Tsagaan Nuur	4840N 11510E					6	
Mongol Daguur Strictly Protected Area	4942N 11506E	2				2	2
Taschgain Tavan Nuur	4700N 11900E					6	
Ugtam Nature Reserve	4930N 11350E					6	
Uldz and Duch River Valley, Khaichiin Tsagaan lakes	4950N 11400E					6	
Uldz River Valley, Baga and Ekhen lakes	4900N 11200E					6	

Name of Site	Co-ordinates	*A. virg*	*G. grus*	*G. japo*	*G. leuc*	*G. mona*	*G. vipi*
China							
Beidaihe and Luan He Estuary	3949N 11930E		2	2		2	4
Changlindao and Yanwodao nature reserves	4642N 13235E			6		6	6
Chen Hu Lake Nature Reserve	3015N 11350E					1	
Chongming Island, east coast	3130N 12155E					1	
Dalai Lake Nature Reserve	4900N 11720E	6					
Dali Nor Nature Reserve	4317N 11638E	6					2
Dazong Lake	3309N 11948E		2				
East Dongting Lake Nature Reserve	2920N 11300E		1		1	1	1
Gaoyou Lake	3252N 11922E			2			
Heigangkou	3447N 11421E				2		
Honghe Nature Reserve	4720N 13245E			4			6
Hongze Lake	3323N 11835E		2				4
Horqin (=Ke'erqin) Nature Reserve	4505N 12103E			4			5
Huayan Reservoir	3915N 11325E		2				
Huihe Nature Reserve	4824N 11842E			2			
Huret	4949N 11831E					2	
Jiaozhou Bay (=Qingdao)	3610N 12010E		4				
Longgan Lake	3000N 11555E					1	
Majia Marshes	3348N 11949E			2			
Melmeg (=Momoge) Nature Reserve	4555N 12320E			2	1		
Pangzhai, (= Old Yellow River Channel in northern Henan)	3526N 11422E		1	2	4	4	
Poyang Lake Nature Reserve	2910N 11555E		1		1	1	1
Rizhao (Coast)	3504N 11920E		4				
Sanhe Wetland	3438N 11015E			2			
Santai	3900N 12105E						
Shengjin Lake Nature Reserve	3016N 11658E				2	1	2
Shuangtaizi Hekou Nature Reserve	4030N 12200E		2	1	2		
Ulgai	4543N 11822E	6		6			6
Wafangdian City (Coast)	3950N 12130E		2				
Wolong Lake	4243N 12315E				2		

Name of Site	**Co-ordinates**	*A. virg*	*G. grus*	*G. japo*	*G. leuc*	*G. mona*	*G. vipi*
Xianghai Nature Reserve	4455N 12230E	6		2			4
Xin Bulag Dong Sum	4842N 11842E	2					
Xingkai Lake Nature Reserve	4512N 13254E			2			3
Xinglong Dongsha Dao Nature Reserve	3130N 12145E			2		2	
Xinglong Nature Reserve	4645N 13155E			4			
Yancheng Nature Reserve	3338N 12028E		1	1			
Yellow River Delta Nature Reserve	3755N 11855E		1	1		1	1
Yellow River Liangpoduan, (= Hejin)	3530N 11035E		4				
Zhalong Nature Reserve	4700N 12500E			1	1	4	3
North Korea							
Anpyong Plain	3903N 12731E			1			
Kumya Plain	3925N 12720E			1			2
Mundok Wetland Reserve	3930N 12520E			1		2	6
Panmun Plain	3850N 12638E			6			6
Samilpo Lagoon	3841N 12818E			1			
South Korea							
Cholwon Basin	3817N 12713E			1			1
Han River Estuary	3745N 12640E						1
Kanghwa Island (southern)	3740N 12625E			2			
Suncheon Bay	3450N 12010E					2	
Japan							
Akan –cho and Tsurui-mura	4310N 14425E			1			
Bekanbeushi River	4303N 14454E			1			
Furen Lake	4320N 14525E			1			
Izumi-Takaono (= Izumi or Arasaki)	3205N 13020E					1	1
Kiritappu Marsh	4305N 14505E			1			
Kushiro Marsh	4309N 14426E			1			
Nakamura	3255N 13255E					5	
Nemuro Peninsula	4325N 14550E			1			
Notsuke Peninsula	4335N 14520E			1			
Onbetsu River	4300N 14355E			1			
Tokachi	4240N 14320E			1			
Yashiro	3401N 13154E					5	

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