White-naped Crane Manazuru (Jpn) *Grus vipio*

Morphology and classification

Classification: Gruiformes Gruidae

Total length:	125cm	Wingspan:	530-610mm
Tail:	164-230mm	Culmen length:	115-160mm
Tarsus length:	230-305mm	Weight:	5.1-6.0kg

Total length is after del Hoyo (1996), and others after Kiyosu (1978).

Appearance:

The plumage of White-naped Cranes is the same in males and females, with the upperpart and wings pale gray and underpart dark gray. The nape is strikingly white, hence the English name. There are red patches of exposed skin around the eyes. White-naped Cranes look pretty from a distance, but this denuded part is reminiscent of a ruddy-faced middle-aged man at close range. Juveniles are roughly similar to adults in plumage, except that the juveniles are paler in the exposed area around the eye and tinged with drab brown especially on the head.

Photo 1. White-naped Cranes.

Call:

They utter a voice that sounds like “Krull” or “Gyurr”.

Distribution and Habitat

Distribution:

The main breeding grounds of White-naped Cranes are wetlands in Russia, the southeastern part of Northeast China and northeastern Mongolia. As a winter resident, White-naped Cranes come over to the reclaimed land and paddy fields of southern Japan, especially Kyushu. It is estimated that the 2000 to 3000 cranes wintering in the Izumi Plain, Kagoshima Pref. represent half of the world population of this species. Lake Poyang located in the middle reaches of the Yangtze River in China is another major wintering site, which compares with Izumi. There are some other minor wintering sites in southeast China and the Korean Peninsula.

Habitat:

In contrast with Hooded Cranes which share wintering grounds with White-naped Cranes, White-napes breed in extensive wetlands. They primarily winter in rice fields, but use rivers and lakes as a wintering site as well. They usually roost in sandbars, mudflats, shallow ponds and marshes. In Izumi, however, they use paddy fields filled with water as a roost site.

Life history

Breeding system:

White-naped Cranes are monogamous and it is assumed that they do not usually change their partners once they are paired. If they lose their partners, however, they pair anew.

Nest:

Nest of stacked grasses is built at a raised spot with little or no risk of submergence in a marsh.

Eggs:

Clutch size of White-naped Cranes is 2 eggs. The egg size is 62 ~ 62.8mm for the major axis and about 102 ~ 103mm for the minor axis. The egg has gray and dark brown flecks on the ground of light brown tinged with dark gray.

Incubation and nestling periods:

The incubation period of White-naped Cranes is 28 to 32 days. Hatchlings are densely covered with natal down. The upperparts are pale brown with a back washed over by a rust and the underparts are cream. Juveniles can live on their own 70-75 days after hatching, but they spend the wintering period with their parents. The young become independent during the spring migration or after the arrival at their breeding grounds. Independent young birds usually stay in the flocks of non-breeding birds for 2-3 years until they begin to breed.

Migration:

Satellite-trackings revealed the migration routes of White-naped Cranes in the early 1990s. The cranes wintering in the Izumi Plain depart for the breeding grounds between mid-February and early March to reach the Korean Peninsula through western Kyushu, and Iki and Tsushima Islands. They stay for a long period of time in Chorwan and Panmunjom on the border between North and South Koreas. After they have fed sufficiently there, they head north for the breeding grounds, such as the Sanjiang Plain of northeastern China and the wetlands of southeastern Russia through Kumya and Lake Khanka (Figure 1). They use the same routes in the autumn southward migration. The cranes breeding west of these areas, on the other hand, do not move to the Korean Peninsula and Japan to winter. Instead, they head south for the wintering grounds of southeastern China, such as Lake Poyang in the middle reaches of the Yangtze River through Baicheg and the estuary of the Yellow River on the coast of the Bohai Sea, which they use as a long time stopover site (Fig. 1). These stopover sites are also used by many other water birds while on migration.

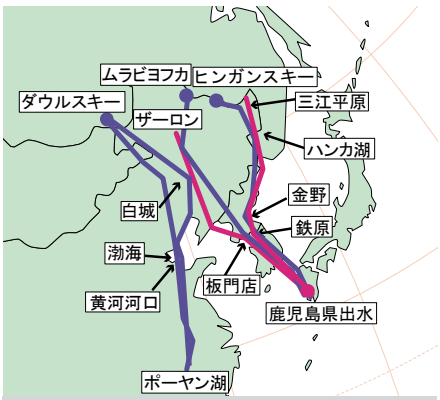

Fig. 1. Examples of autumn and spring migration routes of White-naped Cranes revealed by satellite tracking. Red lines show spring, and blue autumn migration routes, respectively. Drawn after Higuchi et al. (1994, 1996).

Diet and behavior:

The staple diet of White-naped Cranes consists of grass roots, seeds and small animals. White-naped Cranes dig the soil more frequently to feed than Hooded Cranes which share the wintering grounds with White-napes. Therefore, the fields White-naped Cranes use frequently as a foraging site look as if they had been plowed.

Topics of ecology, behavior and conservation

● Project for decentralizing the wintering grounds of White-naped Cranes ?

Due to the conservation efforts in the Izumi Plain, White-naped Cranes that had been reduced to dozens of birds in the late 1940s (shortly after the Second World War) increased to 2,000 - 3,000 birds in the 2000s (Fig. 2). This is one of the successful conserva-

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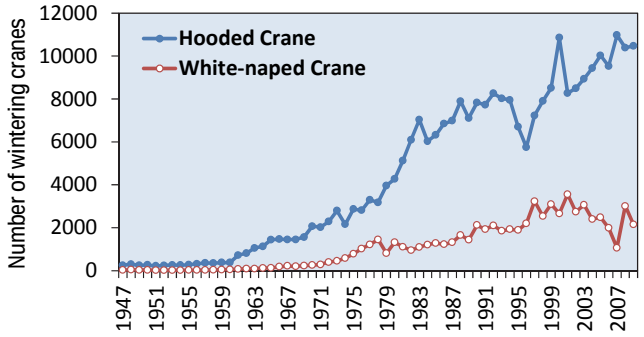

Fig. 2. Changes in the population of White-naped and Hooded Cranes in the Izumi Plain, Kagoshima Pref. Drawn after the information of Izumi Crane Museum. (http://www.city.izumi.kagoshima.jp/izumi_crane/default.asp).

tion cases that Japan can be proud of in the world. As a result, however, all the wintering individuals of this species in Japan have been concentrated in Izumi, which might present a serious threat to the species survival, in the case of outbreaks of infectious diseases. Therefore, the project for decentralizing the wintering grounds is underway to avoid this risk. In Nagahama reclaimed land, Imari City, Saga Prefecture, for example, the Imari Crane Society and the Wild Bird Society of Japan have played a central role in managing a wintering habitat to create a new wintering ground for White-naped Cranes since 2003. They have begun to use the reclaimed land as a stopover site in the spring and autumn migrations, but only one family spend the winter there each year. The project is far from satisfactory. The same problem is observed for the Hooded Cranes in Yashiro, Yamaguchi Prefecture. Apparently, the family that occupied the wintering site claims an extensive territory and tend to expel other cranes. For further information, please see the following site. http://www.wbsj.org/nature/kisyou/crane/index.html

Photo 2. Decoy of White-naped Cranes at Nagahama reclaimed land, Imari, Saga.

What decides the migration route?

For any migratory birds, migration is the biggest event of the year and an ordeal full of dangers. As the distance of travel becomes shorter, the burden seems to be relieved. The simplest answer would be a straight flyway between the breeding and wintering grounds. However, the real migration routes cannot be determined so simply. Since land birds cannot take wing once they get waterlogged, they try to avoid flying over an extensive body of water, such as the sea. Therefore, White-naped Cranes wintering in Izumi fly across the Sea of Japan through Iki and Tsushima Islands and head north for the breeding grounds along the Korean Peninsula. Then how do White-naped Cranes determine the migration routes over the continent ? Comparison between the migration routes revealed by satellite tracking and the land use along the routes showed that the cranes took the routes that passed through wetlands and were the shortest possible to the breeding or wintering grounds (Fujita et al. 2004). The sea is a dangerous place for White-naped Cranes to cross, but other habitats than wetlands also present a danger to them when they land. It is assumed, therefore, that the cranes try to fly over wetlands in precaution against an emergency landing due to bad weather.

White-naped Cranes arrive late in the wintering grounds and depart early for the breeding grounds

As autumn deepens into winter, Hooded Cranes arrive one after another in the Izumi Plain and almost all wintering individuals assemble there in November. White-naped Cranes, on the other hand, do not come flying as readily as Hooded Cranes. The number of White-naped Crane arrivals reaches its peak after the cold wave in late December or early January. And most of the wintering White-napes depart for the breeding grounds in February, while Hooded Cranes, in contrast, stay in Izumi until March.

Since White-naped Cranes breed in more southern regions than Hooded Cranes, it is assumed that White-napes arrive later in the wintering grounds. However, Hooded Cranes could also spend the first part of winter in some stopover sites in the Korean Peninsula before arriving at Izumi. Therefore, there must be some other reasons for the later arrival of white-napes. Possible reasons include a tendency of White-naped Cranes to winter in more northern areas or to hold a family territory and a tendency of Hooded Cranes to be attracted more easily to the feeding. I would like to know the real reason.

Literature

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I was employed by the Wild Bird Society of Japan for the satellite tracking of White-naped Cranes in 1992 when I was fresh out of college. With Drs. Higuchi and Fujita that are now on the staff of the University of Tokyo and Dr. Ozaki at Yamashina Institute, I attached transmitters to the cranes in Izumi, their major wintering ground, to satellite-track them while on migration. We were given a hard time by the media calling the study as abuse of cranes, but the study brought some conservation results, such as the establishment of their North Korea stop-over site as a nature reserve and the conservation advancement of their breeding grounds of China, based on the findings of the study. I realized effects of scientific studies on conservation. I owe White-naped Cranes what I am now as an ornithologist .

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Commemorative photo of 1995 with the crane research team in Russia