

# Status of Lesser White-fronted Goose in China

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## 1. Introduction

The Lesser White-fronted Goose (*Anser erythropus*, later LWfG) is a globally threatened species. In Japan and Korea, where it used to be a common winter visitor, LWfG is at present almost extinct. Results from satellite tracking and ringing projects strongly indicate that the most important reason for the decline of the LWfG population is hunting (e.g. Lorentsen et al. 1999, Øien et al. 1999, Tolvanen et al. 1999).

Current studies show that the world population of LWfG is not more than 25,000–30,000 individuals (Tolvanen et al. 1999). Roughly half of these belong to the eastern subpopulation, which breeds in eastern Siberia (east of the Taimyr Peninsula) and winters mainly in China. The East Dongting Lake National Nature Reserve is the most important wintering site known so far, the highest counts being 9,000 ind. in the winter 1989/90 (Liu 1994); 13,700 ind. in spring 1997 (Iwabuchi et al. 1997) and 16,500 ind. in late autumn 1999 (own unpublished data).

Information about the eastern subpopulation of LWfG is very limited. The LWfG population size and its habitat preferences remains poorly understood, especially at its wintering sites in China. In China, LWfG is not protected under the National Special Protection Decree. In the Decree, protected species are divided in first (stricter protection) and second degree categories. Surprisingly, White-fronted Goose (*Anser albifrons* et. spp) is listed as a protected species (second degree), but LWfG is not on the list. There are two alternative explanations for this. First, the expression "*Anser albifrons* et. spp" on the list could mean all goose species with a white front patch. In that case, also LWfG would be protected. Usually, Chinese authorities seem to follow this explanation, but it also means that LWfG has been treated as a subspecies of White-fronted Goose. Alternatively, LWfG is treated as a separate species, and since it is not included on the list, it is unprotected. However, LWfG has usually been treated as a protected species (second degree) in practice.

## 2. Study activities

### 2.1. Monitoring

The available data on LWfG from China is very limited. There is no specific monitoring programme for LWfG, as usually only the first degree protected species are monitored annually. However, some persons working for the nature reserves or other research institutions may possess some old unpublished data.

Information from Asian Waterbird Census (AWC) include the following quite recent counts: 7,500 individuals at Xinkai Lake (a staging site) in spring 1988 (Li et al. 1994); 1,150 ind. at Shenjing Lake in winter 1992/93 (AWC); 9,790 ind. at Poyang Lake in winter 1988/1989 (AWC) and 13,700 ind. at East Dongting Lake in winter 1997/1998 (Iwabuchi et al. 1997). According to old monitoring data at Daxi Lake in the East Dongting Lake National Nature Reserve, 1,350 ind. were counted in 1993; 1,500 ind. in 1994;

2,300 ind. in 1995 and 1,800 ind. in 1996. The maximum counts of all goose species in the East Dongting Lake National Nature Reserve are shown in Table 1.

### 2.2. Research

Most of the research work on LWfG in China has been conducted after 1996, when we for the first time became aware that LWfG is a globally threatened species. Our main aim is to improve the protection of LWfG at the known wintering areas (especially at the East Dongting Lake). In order to achieve this, it is important to establish annual monitoring; to study the habitat use of LWfG, and to reveal what are the most important factors causing the population decline. Unfortunately, our work is suffering from lack of supporting funds.



**Photo.** The author holding a 2cy Lesser White-fronted Goose killed by illegal poisoning in the core area of the East Dongting Lake National Nature Reserve in February 1999. © Petteri Tolvanen

**Table 1.** Species composition in the goose flocks in the East Dongting Lake National Nature Reserve in 1997 and 1998.

Species	Highest count in 1997	Highest count in 1998	% 1997	% 1998
<i>Anser albifrons</i>	83,000	60,000	77.2	76.1
<i>Anser erythropus</i>	13,700	9,860	12.7	12.5
<i>Anser fabalis</i>	6,000	5,800	5.6	7.4
<i>Anser cygnoides</i>	4,500	3,000	4.2	3.8
<i>Anser anser</i>	345	180	0.3	0.2

In 1997 the first LWfG arrived on 29 October, and in 1998 they arrived on 11 November. The spring migration northwards starts in late March and ends in mid April, with the peak departure normally between 26 March and 5 April. The juvenile ratio of LWfG is normally in the range 25–30 %.

The most important wintering sites of LWfG in the East Dongting Lake Nature Reserve are the Daxi and Xiaoxi lakes in the north-western part of the reserve, but also the Chun Feng Lake, the White Crane Mouth, He Dang and Piaow Wei are commonly used by LWfG, especially when the disturbance (fishing) at the Daxi and Xiaoxi lakes is high. In early winter, LWfG are usually shy and mixed with White-fronted Geese, so it can be very difficult to count the total population size at that time of year. In spring, especially after the Chinese Spring Festival (normally in February), the LWfG are usually concentrated at the Daxi and Xiaoxi lakes, because the disturbance is relatively low in that period.

In 1997, the staff of East Dongting Lake ringed the first LWfG in China with a colour neck collar. The Bird Ringing Centre of China has no ring recoveries of LWfG.

### 3. Threats and problems of LWfG conservation in the East Dongting Lake area

#### 3.1. Illegal hunting

The hunting pressure on geese has never been as high as today. Poisoning is the most common way of hunting. In the East Dongting Lake National Nature Reserve, more than 2000 kg of Funandan (a typical poisoning chemical used by poachers) is estimated to be spread in the lake annually. The poachers usually put the poison on the mud flats and the shoreline, that is frequently used by LWfG, while White-fronted Geese usually occupy the higher-laying grass land or open water.

#### 3.2. Habitat loss and degradation

Although we do not have firm evidence that habitat loss and degradation are significant reasons for the drastic decline of LWfG population, suitable feeding habitats for LWfG have decreased by 50% during the last 50 years. According to local hunters, the present density of geese and ducks is far lower than 50 years ago.

#### 3.3. Human disturbance

Human disturbance, especially due to fishing, is also a serious threat for the wintering geese, because more than 20,000 fishermen live in the East Dongting Lake area, with some 180,000 more in the surrounding areas. In order to obtain more income from the lake, many fishermen dry out parts of the lake in order to increase the catch, thus drying out the lake. They also have extended their working hours thus prolonging the disturbance period.

### 4. Discussion

Efficient conservation work for LWfG can hardly be implemented without international co-operation and support, since China is a developing country. The threats which LWfG are facing are more serious than ever before, and thus the need for an international co-operation in the LWfG conservation work in China is urgent. The most urgent actions in the LWfG conservation would be to establish an efficient guarding system against poaching in the core area of the



**Photo.** Lesser White-fronted Geese grazing near the Crane Station in East Dongting Lake, February 1997. © Lei Gang

East Dongting Lake National Nature Reserve. It is further important to train Chinese field workers; to estimate the total wintering population of LWfG in China; to reveal the (winter) distribution area and site preferences in the most important areas and to raise public awareness on the status of LWfG.

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