

New breeding and moulting areas of Lesser White-fronted Goose revealed in Indigirka, Yakutia

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1. Introduction

The status of the East-Asian population of Lesser White-Fronted Goose (*Anser erythropus*, later LWfG) is still poorly known. The current estimate of the total population is at least 14,000 individuals (Iwabuchi 1998), but only fragmented information about some few small breeding sites in Siberia has been presented in ornithological literature until recently (Kretchmar et al. 1991, Degtyarev & Perfiliev 1996).

In June–August 1999, the Goose and Swan Study Group of Eastern Europe and North Asia and IPEE, Russian Academy of Sciences arranged an expedition to Indigirka in Yakutia. The work was carried out as part of a project on surveying important goose areas in co-operation with the Japanese Association for Wild Geese Protection.

Several new breeding and moulting locations of LWfG were found in the middle and lower parts of the Indigirka river. The first information on breeding locations in Abyi Lowland is published by Artyukhov & Syroechkovski, Jr (1999). Here we present a more detailed review of the distribution of LWfG at Indigirka.

2. Results

2.1. Breeding distribution

Breeding LWfG were found in the taiga areas of Abyi Lowland. The main part of the observations was made by A.I. Artyukhov along the tributaries of Indigirka River north of the Momski Ridge (67°32'N; 144°15'E). In 9 out of 15 study areas in the taiga zone visited by our expedition in summer 1999, no LWfG was found.

About 250 birds (including 24 broods) were observed along the Indigirka River south of the Momski Ridge. According to interview data and previously published material, at least six more areas possessed breeding LWfG (see Figure 1). All observations of LWfG were reported from the marginal parts of the Abyi Lowland not further than 50 km from the mountains. The preferred habitat of LWfG was slow-flowing river stretches not wider than 100 m, with numerous branches and islands. No birds were seen on the Indigirka river and closer than 5 km from the main river, most likely due to disturbance and illegal hunting.

The first brood, with 3–5 days old goslings, was recorded on 27 June. The average brood size was difficult to estimate. We have the following data on brood size: 2 broods with 5 young; 6 broods with 4 young, and 2 broods with 3 young. On 15 July a flock of ca. 20 adults and 60 young was seen. In some broods it was not possible to estimate accurately the number of goslings. If we calculate the approximate average brood size during the first 3 weeks of age of the goslings up to mid July, we obtain an average of about 4 goslings per pair for single broods, 6 goslings per pair in an aggregation seen on 15 July, and an average of 5 goslings for all observed broods (n = 20). Survival in brood aggregations could possibly be higher than for single broods, but the sample size is too small to estimate this with certainty.

At the middle stretches of the Uyandina River (68°30'N; 142°30'E), 39 LWfG were registered during 5 days in late June and one pair was probably breeding (Table 1). Also the Uyandina river consists of numerous branches and green flood plain pastures where most of the LWfG were seen. Again, all geese were mostly met at shallow remote parts of the river that are rarely visited by native people in summer.

2.2. Distribution of moulting non-breeders

Northward moult migration of the non-breeding LWfG is earlier described from Taimyr (Syroechkovski, Jr. 1996).

During our work in 1999 this phenomenon was also observed for the East Asian population. Lesser White-fronts do not moult in the Indigirka Delta but can be met in the small river valleys west and east of the delta. The main location of moulting non-breeding LWfG was found in the basin of the rivers Melkaya and Volchya (about 72°N, 147°E).

Hunters from Russkoe Ust'e settlement reported that about 10–15 years ago a concentration of about 2,500 LWfG was found in the lower Volchya River. The place have the name "Piskun" (local name for LWfG) and was regularly visited by hunters who killed 50–300 LWfG every July in the 1980's–early 1990's.

During 1990's the remaining LWfG have moved to smaller rivers nearby due to increasing disturbance and hunting pressure. In early July 1999, several hundreds were observed in the area and on 23–25

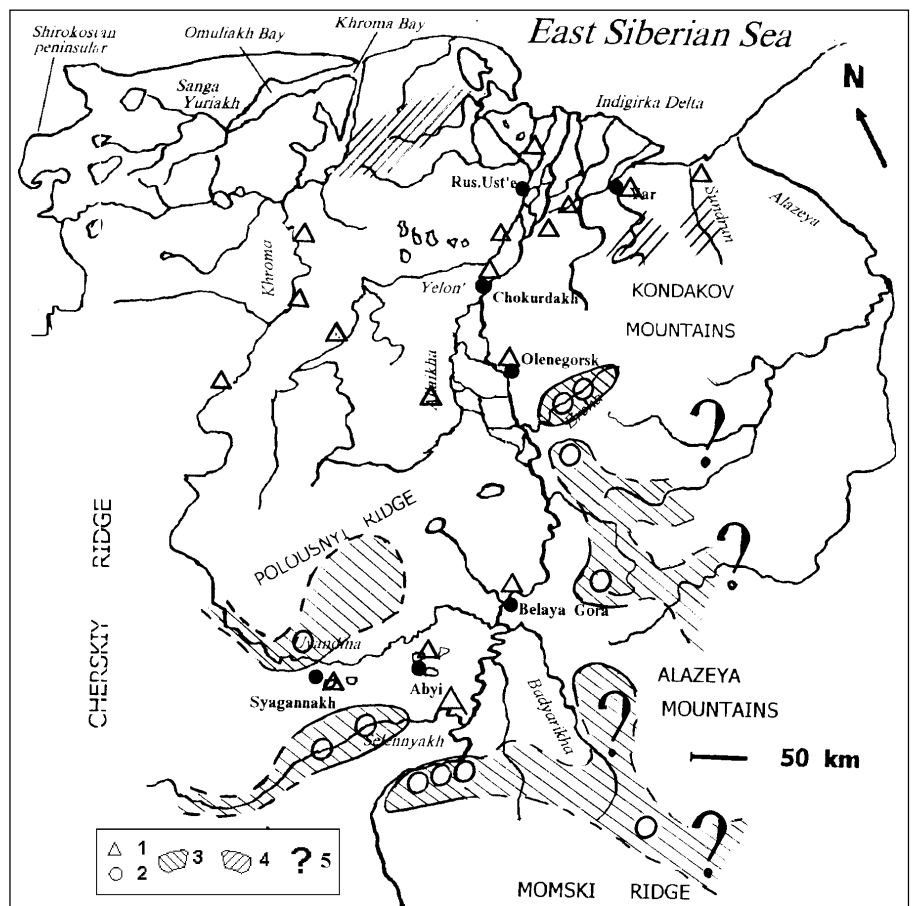


Figure 1. Distribution of LWfG at Indigirka. Legend symbols: 1 – non-breeding records; 2 – proved or assumed breeding records; 3 – assumed breeding range; 4 – current distribution of moulting non-breeders 5 - areas with suitable breeding habitats for the species

Table 1. Numbers of geese in the middle stretches Uyandina River in June 1999 (* = individuals assumed to be breeding).

	Buor-Yuryakh	Uyandina Upstream	Uyandina downstream	Mountain field-camp	Total.
Boat trip, km	480	270	270	–	
Observation period	19–20 June	21–22 June	25–26 June	23–24 June	19–26 June
Anser fabalis	*3	*28	*24	2	57
Anser albifrons	1	*60	*32	8	101
Anser erythropus	-	15	14	*10	39
Unidentified geese	3	11	45	8	67
Total	7	124	116	28	275

July, we were able to find only 24 birds on the Melkaya River in areas reachable by motor boat and by foot. We suggest that moulting concentrations of LWfG still exist in the area, but are relocated and dispersed due to human disturbance. Interview data indicate the presence of several moulting locations of LWfG in the 1960's-1980's also upstream Gusinaya River, and small tributaries at Khromskaya Bay west of the Indigirka Delta and in the middle stretches of Sundrun and Shandrin rivers east of Indigirka River.

2.3 Status of the LWfG populations at Indigirka

By summing up our field observations and interview data it is possible to specify the following breeding areas of LWfG in middle Indigirka (Figure 1.):

1. Branches and tributaries of Indigirka, mainly on the east coast, south of Momi Ridge and nearly up to Krest-Major. This is about 100 km along the river valley, including the tributaries Burunnas and Kyllakh
2. About 200 km of a valley of middle reaches of Uyandina River (approximately 50 km from west to east) just east from the mountains Esteriktyakh-Tas
3. Khatnyngnakh river basin (tributary of Uyandina River), except its lower reaches
4. Valley Sellenyakh River for about 100-150 km of the valley just east of the mountains
5. the upper and middle stretches of the rivers flowing north from the Momi Ridge – Bour-Yuryakh, Myatis, and almost the whole basin of the rivers Chukcha, Sakanya, Behelekh
6. Upstream of Badyarikha River and its tributary Kamchatka. Few other small rivers coming down from Alazeya Plateau, and also upstreams Ozhogina River which belongs to Kolyma Basin (Labutin, Perfiliev, 1991)
7. the middle stretches of Bolshaya Ercha River between Kondakovskoe Plateau and Ulakhan-Sys Ridge
8. Several sites in Shangina River Basin

Moulting non-breeders were concentrated in the tundra areas between Khroma Bay and Indigirka Delta (9). Some few locations still exist on the rivers Volchya and Melkaya and likely on other small rivers of the area out of reach by motor boats. The current breeding range of LWfG includes the periphery of Abyi Lowland, and does not include the mountain areas with the poorly developed valleys and the central plains of Abyi Lowland (Figure 1). The almost continuous strip of the LWfG's breeding range is 10-50 km wide. The interview data verify that LWfG do not breed, and occur only sporadically in more northern and more southern areas (Allaikhovski and Momi regions of Yakutia). Another promising area to search for LWfG breeding grounds is the western part of the Kolyma Lowland, upstream Alazeya River (about 67°30'N; 151°E).

According to our estimation, a total of roughly 3,500–4,500 LWfG could be found during summer in the Abyi Lowland and at least an additional 500 birds as non-breeders in the tundra areas. The estimation of 3,500–4,500 individuals was made by extrapolating the actual field data (ca. 250 individuals observed) for the total area of suitable LWfG habitats in the whole Abyi Lowland (covering of an area of ca. 300 x 500 km, of which a minor fraction was surveyed). This estimated number is approximately 20–25 % of the total East Asian LWfG population, and allows us to consider the middle stretches of Indigirka as one of most important areas for conservation of breeding LWfG.

3. Protection status and threats

None of the areas important for LWfG in Indigirka Valley have any protection status, even though some of them now experience a year-round hunting pressure and an increasing human disturbance. The main breeding area discovered by us is located only 50 km downstream Indigirka River from a large coal deposit planned to be developed in the near future. The local people have very poor experience in identification of LWfG and are unaware of the importance of the protection of this species.

We recommend the following measures on LWfG protection at Indigirka:

- creation of a network of local protected areas, and in the future, a Nature Reserve (Zapovednik), to protect the high level of biodiversity in the region considering the absence of Nature Reserves in similar northern taiga lowlands of Yakutia
- implementation of the public awareness campaign and environmental educational programmes among the local authorities and people
- regulations on the timing of spring hunting in taiga areas in order to make a shift in the hunting pressure to ducks and reduce the hunting pressure on geese.

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