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Norsk ornitologisk forening

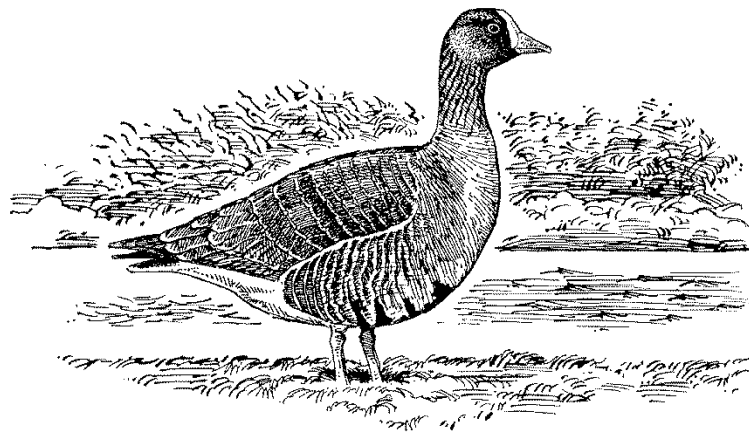


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**Front cover photo:** Adult Lesser White-fronted Goose worries for its brood. © Vladimir V. Morozov

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## **SUMMARY**

Fieldwork took place between 8th June and 6th August 2013, in the Adzva and More-Yu Rivers basins, near the city of Vorkuta in the eastern part of Bolshezemelskaya Tundra in Russia. Two adult Lesser White-fronted Geese were caught using hoop-nets and fitted with PTT-satellite transmitters.

Both individuals stayed in the breeding area throughout the summer, and crossed eastwards over the Ural Mountains in September. Thereafter they travelled fast southwards in the Ob-river valley. In late September they were both located in northern Kazakhstan where they stayed until October. From there the migration took a southwestern route to the Aras water reservoir on the border between Nakhchivan, Azerbaijan and Iran. One of the birds was probably shot in this area in late October, while the other individual was still located in there in early March 2014.

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## BACKGROUND

The Lesser White-fronted Goose *Anser erythropus* is globally threatened, being recognised as Vulnerable by the International Union for Conservation of Nature (IUCN), and ranked by BirdLife International as 'SPEC 1' within Europe, denoting a European species of global conservation concern. It is listed in Annex 1 of the European Council Directive on the conservation of Wild Birds (79/409/EEC, 2 April 1979), in Column A of the Action Plan under the African-Eurasian Migratory Waterbird Agreement (AEWA), and in Annex II 'Strictly protected species' of the Bern Convention.

The most threatened population of Lesser White-fronted Geese (hereafter referred to as LWfG) is the Fennoscandian population (see Jones et al. 2008). In order to protect each of the populations most effectively it is important to know where the boundary is between the Fennoscandian and the main western population of Lesser White-fronted Goose. In an effort to answer this question, a total of four LWfG were fitted with satellite transmitters in 2011 and 2012 in the lowlands of the eastern part of Bolshezemelskaya Tundra, about 100 km west of Vorkuta. Satellite tracking indicated that LWfG breeding by the Bolshaya Rogovaya River belongs to the main western population. Therefore, it was decided to tag LWfG in areas even further west to find the boundary between the Fennoscandian and main western populations.

An expedition was organized in summer 2013 to the European Russian tundra as collaboration between the Norwegian Ornithological Society (NOF) and the Goose and Swan Study Group of Eastern Europe and North Asia (RGG). Catching and tagging of LWfG was carried out by the Russian team led by Vladimir Morozov (Russian Research Institute for Nature Conservation). The Norwegian Ornithological Society (NOF) supplied the Russian team with satellite transmitters and financial support for fieldwork.

The main aim of the project was to tag adult LWfG on their breeding grounds in the European Russian tundra, in order to receive information on migration routes, staging areas and wintering grounds, as well as information on numbers, density and threats faced by LWfG within the breeding areas.

The following objectives were established:

- organize and carry out fieldwork within breeding areas of LWfG in the Eastern European tundra of Russia.
- catch LWfG and attach satellite transmitters.

The project is funded by and part of the biodiversity program, one of the pillars of the [Norwegian-Russian environmental cooperation](http://tinyurl.com/kb7c8fp) (<http://tinyurl.com/kb7c8fp>).

## METHODS & MATERIAL

### Itinerary

Fieldwork took place between 8th June and 6th August 2013, in the Adzva and More-Yu Rivers basins, near the city of Vorkuta in the eastern part of Bolshezemelskaya Tundra, Russia.

### Participants

There were two principal field personell, Vladimir V. Morozov (co-ordinator) from Russian Research Institute for Nature Conservation & RGG (Moscow) and Svyatoslav Dmitriev, a student from Moscow Pedagogical State University.

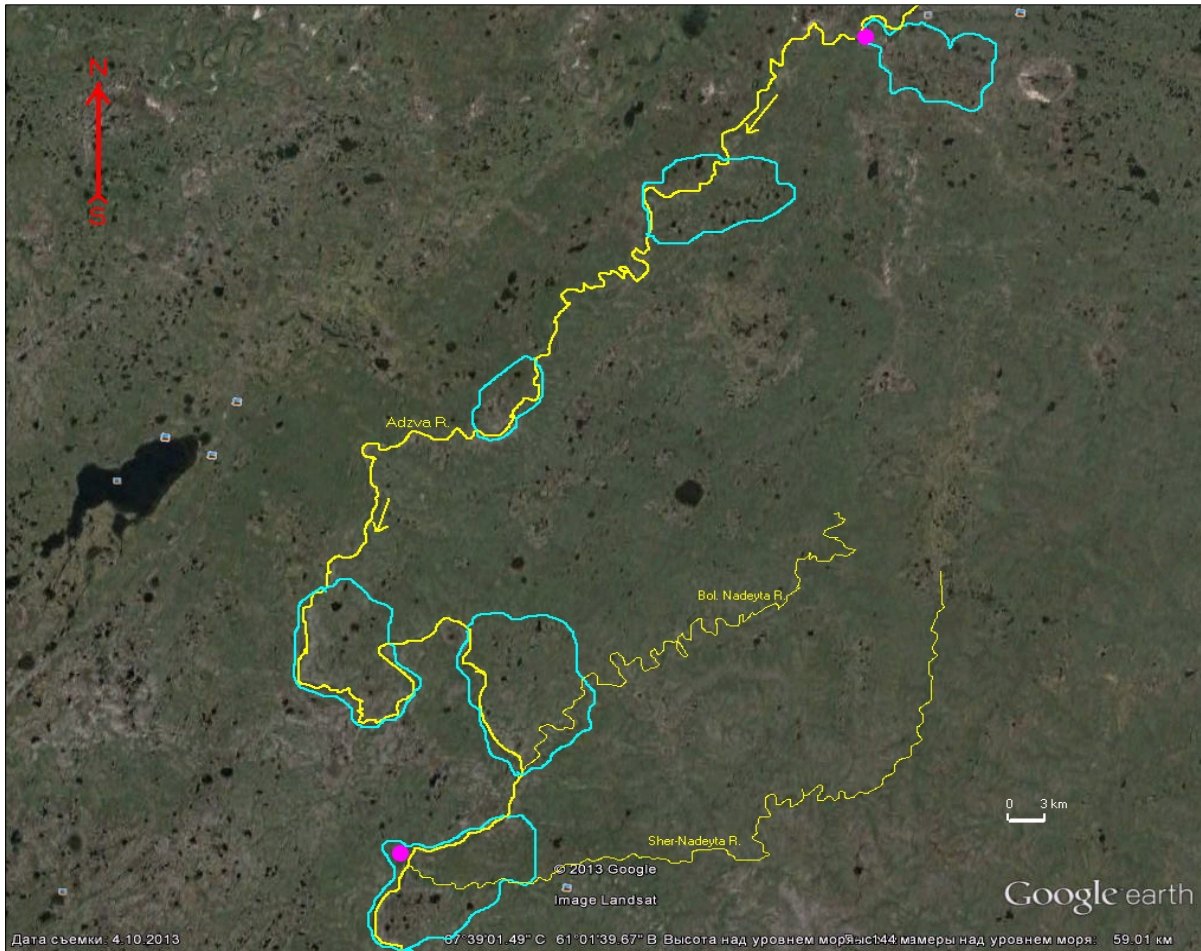
### Study areas

The study areas are located in the eastern part of Bolshezemelskaya Tundra in Nenets Autonomous District, Russia (Figure 1).



**Figure 1.** Location of study areas (outlined in yellow).





**Figure 2.** The map of the first study area –The Adzva River valley (yellow lines – rivers, blue lines – surveyed watersheds, pink dots – arrival and departure places).

The first study area includes the valley of the Adzva river between its tributaries, the mouth of the Lyayu river (67°55'30,8" N, 61°16'49,7" E) and the Lyok-Nadeyta river (67°20'24" N, 60°51'25" E), the lower reaches of the Bolshaya Nadeyta and Sher-Nadeyta rivers and the adjoining watersheds with bogs and lakes (Figure 2).

The medium-sized Adzva river is 40 to 100 m wide, flowing southwards and has mainly muddy or sandy banks and stony fords. There are some pebble banks. The valley of the river has no forest or large scrubs, the banks of the river are steep or low and terraced (Figure 3).



**Figure 3.** View of the Adzva river valley.

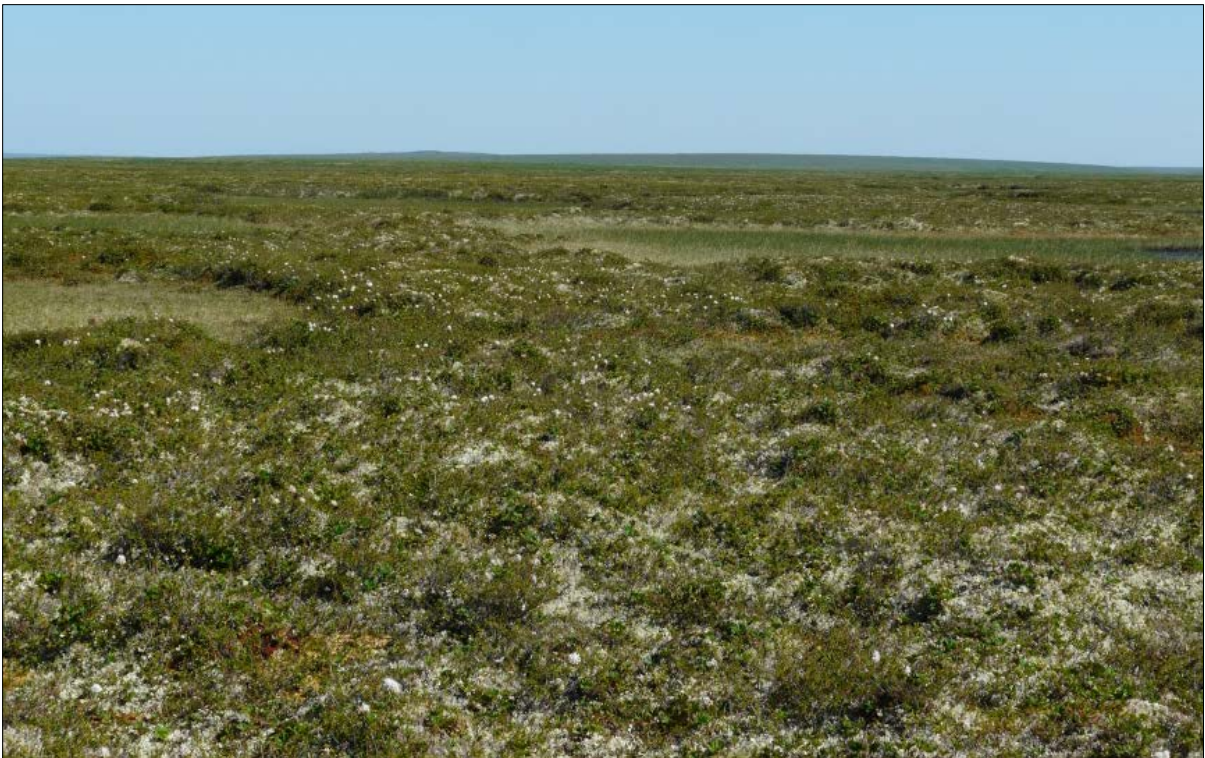
Low banks extend to thick and high willow growth, alternating with narrow swampy tussock meadows. The river valley terraces are covered with high and thick bushes stretching down to the creeks (Figure 4). The steep slopes of the river banks are usually eroded, and consist of sand or clay with sparse vegetation of shrubs and flowering plants (Figure 4). Turfed steep slopes are covered with dwarf shrubs.

The complex peat bogs with Marsh Labrador tea *Rhododendron tomentosum*, *syn.: Ledum palustre*, dwarf birch *Betula nana*, mosses and lichens dominate the watersheds (Figure 5). Shrub tundra with dwarf birch and some willow shrubs cover much smaller areas (Figure 6). Lakes of the watersheds are shallow with very swampy shores and wide borders of high willow bushes (Figure 7).

The second study area is located in the middle reach of the More-Yu river basin between the Syabu-Yu river mouth in the east (67°51'30" N, 60°27'04" E) and a point with co-ordinates (67°49'40" N, 60°00'38" E) in the west (Figure 8).



**Figure 4.** View of the habitats of the Adzva river valley near the Lyayu river mouth.



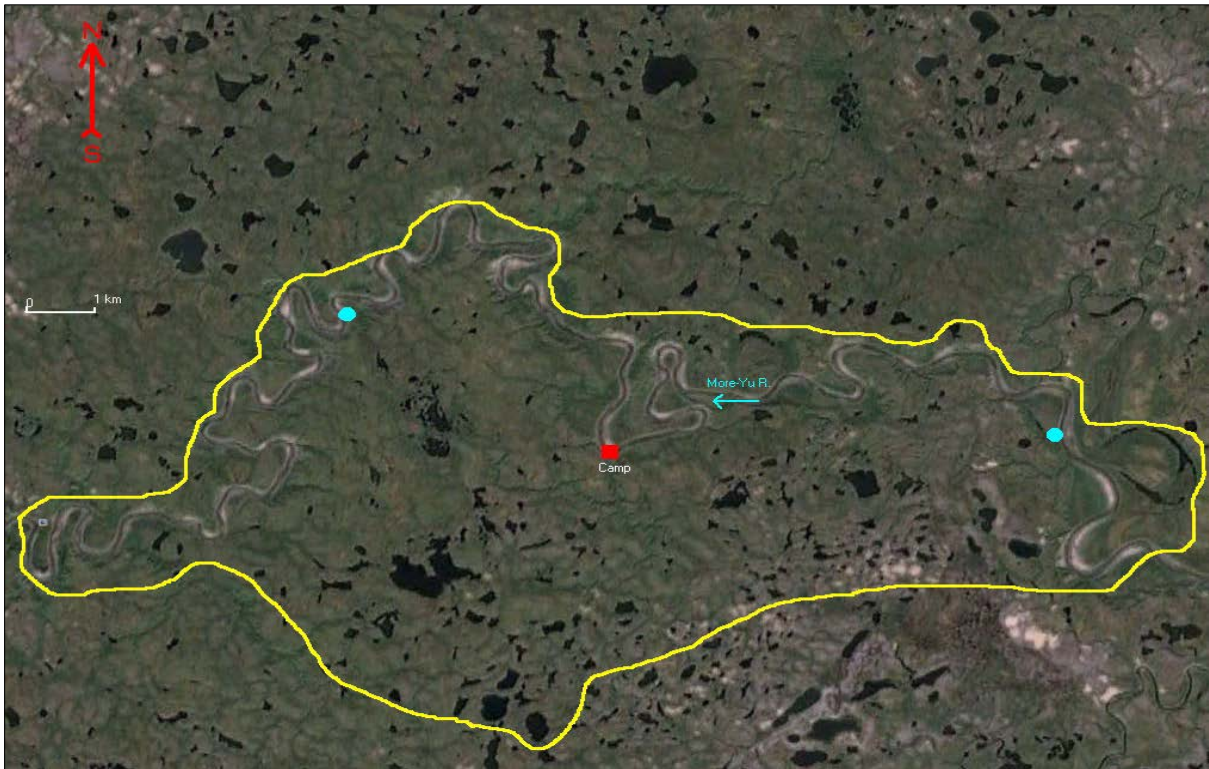
**Figure 5.** Peat bog on the watersheds of the Adzva river valley.



**Figure 6.** Shrub tundra on the watershed of the Adzva river valley



**Figure 7.** Habitats around a lake on the watersheds of the Adzva river valley.



**Figure 8.** The map of the second study area – the More-Yu river basin (red square – camp, blue dots – places where LWfG were caught, study area outlined in yellow).



**Figure 9.** View of the More-Yu river valley.



**Figure 10.** Habitats of the More-Yu river valley – sandy banks, bushes with meadows, willow grove and shrub tundra.



**Figure 11.** Habitat on the watersheds at the More-Yu river valley.

The medium-sized More-Yu river is a typical tundra lowland river, flowing between hilly and sandy uplands and moraines. The More-Yu river and the valleys along its tributaries are very deep and well denudated. The river stream has huge meanders, the banks are typically steep, and are eroded on sandy or peaty substrates (Figure 9). There are many wide sandy and pebble beaches and spits, as well as stony fords. Along the low banks, flooded meadows are very common, which stretches inland to bushes with grassy glades. The flood-plain and the first terrace of the river are covered with high willow bushes (Figure 10). There are small willow groves in some places. There are a number of large lakes on the wide river plain.

The river plains are covered with different types of dwarf shrub tundra. There are numerous glacial and thermokarst lakes between moraines and sandy uplands (Fig. 11), and the areas are split up by numerous creeks.

## Execution

We used a caterpillar track vehicle (Fig. 12), rented in the town of Vorkuta, to reach the destination. The Adzva river valley was surveyed during the trip down the river by rubber boat between 28th June and 5th July. The total length of this trip was more than 150 km. We counted all geese observed while floating by boat down the river. The banks suitable for Lesser White-fronted geese and breeding Peregrine Falcons were thoroughly examined on foot in search of goose nests and any concealed broods. Geese often lay their nests nearby breeding peregrines to utilise the falcons nest defence from ground predators (see f.ex. Quinn et al. 2008). Wetland areas with lakes and bogs situated near the river valley were also checked in search of broods of LWfG.



**Figure 12.** Caterpillar track vehicle – transport for the expedition

The More-Yu river valley was surveyed between 19th and 30th July. As this was during the moulting period, we looked for LWfG by going up the river along both banks on foot. Feeding and roosting sites, as well as the places where feathers and footprints were found were checked very carefully. If long-term presence of LWfG was confirmed by finds of numerous moulting feathers, large amounts of fresh excrement, and / or fresh grazing signs, then the watersheds lakes suitable for feeding, roosting and moulting geese were also surveyed in detail. Each day, a new part of the river valley or the watershed was investigated. Two sites where LWfG were found were re-checked later.

LWfG were caught using hoop-nets (Figure 13) when they dived into the water, or by hand while chasing geese trying to escape and hide in the bushes. The LWfG caught were fitted with platform terminal transmitters (PTT-transmitters) supplied by NOF and ringed with aluminium rings supplied by the Moscow Ringing Centre of Academy of Sciences of Russia (Figure 14).



**Figure 13.** Catcher with a hoop-net.



## RESULTS

No Lesser White-fronted Geese were found in the Adzva river valley, despite the fact that there were enough suitable breeding and feeding habitats and the level of human impact was low. Both breeding and non-breeding Bean Geese were common during the survey period. Between 28th June and 5th July, 55 broods and 298 individuals without goslings were counted.

Lesser White-fronted Geese were found in the More-Yu river basin. LWfG were observed by the river banks only, and were not found elsewhere in the valley. Numbers were very low, with one flock of four moulting non-breeding adult birds and a pair with three goslings being found. One male from the flock of non-breeding birds was caught on 22nd July. The same flock of four LWfG, including the male fitted with the PTT, was observed at the same site on 24th July. The geese were not caught on this date because they could fly by that time. It was a very early date for completion of moult in comparison to known dates for non-breeding individuals.

The breeding pair of LWfG with three goslings were found at the point with co-ordinates 67°51'48,5" N, 60°20'56,5" E on 23rd July. Only the male was caught (Figure 14) since the wide and deep river stream was unsuitable for catching. Repeated surveys at the same site as well as both upstream and downstream on 25th, 26th and 27th July failed to find any LWfG.



**Figure 14.** Lesser White-fronted Goose caught, ringed, and fitted with PTT tag (More-Yu River 23rd July 2013).

**Table 1.** Ringing information for LWfG caught during the expedition.

	Date caught	Sex	Age	PTT number	Ring number	Co-ordinates of catching site
1	22 July 2013	male	adult	126641	C-748109	67°53'14,0"N 60°08'07"E
2	23 July 2013	male	adult	126642	C-748110	67°51'48,5"N 60°20'56,5"E

In addition to LWfG, many Bean Geese were counted. The vast majority of these were non-breeding moulting birds ( $n = 266$ ). Only 17 pairs with goslings were recorded.

## Threats

Human impact along the Adzva river valley is low. During the trip between 29th June and 5th July no people were encountered. There are several small huts on the river banks to the south of the Vatyartovis creek mouth. These huts are used by reindeer herders in spring, and as temporary lodging at night whilst fishing when they move from winter pastures to the seashore.

Human influence is more intensive in the More-Yu river valley. In addition to the reindeer pressure, gas is extracted at the Syabu-Yu river mouth, and a compressor station and pipeline to the town of Usinsk have been built there. There is a rough track along the pipeline which is used by heavy machines. Vehicular traffic is forbidden other than along this track. We did not see any people around the compressor station during our visit, and workers do not tend to venture far from the station itself.

## Satellite tracking results

Both birds tagged with satellite transmitters stayed in the breeding area throughout the summer. Then on 11th August the bird called More-Yu (PTT126641) left for the coast where it was staging until 19th September. On 20th September it had crossed eastwards over the Ural Mountains and was travelling fast southwards in the Ob-river valley. On 23rd September it was located in northern Kazakhstan region in Kazakhstan where it stayed until 4th October. It then moved to Kustanay where it again staged for three weeks until 24th October. The migration took a southwestern route to the Aras water reservoir on the border between Nakhchivan, Azerbaijan and Iran.

Here it stayed in the period 30th October to 14th November. It was then most probably shot. The following loop track within Iran which ends up in Armenia largely follows major roads. In Armenia the gps-positions are from a construction / living sites deep within a valley. According to various sources this site houses Iranian construction workers.

The other bird called More-Yu-Too (PTT 126642) left the breeding area on 23rd August. It staged on the coast from that day until 13th September. On 14th September it crossed the Ural Mountains southeastwards and flew down the Ob River Valley the same day.

It arrived in Kazakhstan on 15th September, passing through northern Karagandy region into Kustanay region where it spent some few hours on Zharkol lake before moving on the same day through the western parts of Kustanay into Orenburg region in Russia and the lakes Zhetykol with the surrounding smaller lakes and steppe areas. There it stayed for a month. On 15th October it was followed while flying south-southwest with a speed of 20-35km/h, through Aqtobe region, Uzbekistan and then again through Mangystau region in Kazakhstan before crossing the Caspian Sea. On 16th October it passed through Azerbaijan, with a few hours rest during mid day before ending up also at the Aras water reservoir on the border between Nakhchivan, Azerbaijan and Iran. By early March 2014 the bird was still at this site.



**Figure 15.** Migration tracks of the two satellite transmitter tagged Lesser White-fronted Geese in 2013. Orange = More-Yu (126641) and blue = More-Yu-Too (126642). Note that the dots also show when the birds are actively migrating, as is the case for all locations in southern Kazakhstan and through Uzbekistan. The loop by More-Yu within Iran was probably done after the bird was shot (see text).

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