https://doi.org/10.22364/iarb.2024.05

# MARKING GREYLAG GOOSE ANSER ANSER WITH COLOUR NECKBANDS IN LATVIA – THE FIRST RESULTS

#### Antra Stīpniece\*, Andris Stīpnieks, Jānis Bētiņš, Dmitrijs Boiko, Toms Endziņš, Oskars Keišs, Artūrs Laubergs, Ilmārs Bauga

University of Latvia, Faculty of Medicine and Life Sciences, Institute of Biology, O. Vācieša iela 4, LV-1004, Riga, Latvia

\* Corresponding author: e-mail: antra.stipniece@lu.lv

**Abstract:** During the breeding seasons of 2021–2024, 55 greylag geese were marked with leg and neck bands (2 adults, 53 juveniles). Since then, 47 resighting records for 19 birds have been obtained. Before the start of the hunting seasons all resightings came from ringing sites in Latvia. Starting from mid-August birds appear to use Nemunas River delta region in Lithuania, from where resightings came from fish-ponds, a natural lake Kroku Lanka and from arable land. From September till December our geese have been reported from Poland, in October and November – from Germany. The resightings lie in SW direction from Latvia and up to 740 km from the ringing sites.

Key words: ringing, migration, staging

# Introduction

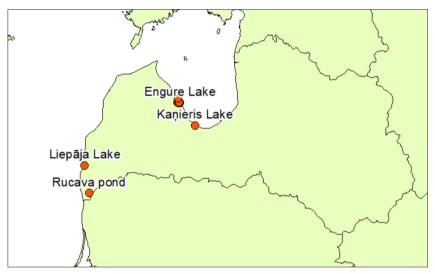
Greylag goose is a species with increasing regional population in Latvia. In 2013–2018 its population estimate was 200–500 pairs with 44 national breeding bird atlas squares of possible to prooved breeding (Kerus et al. 2021). Prior to this study only 8 greylag geese have been ringed in Latvia and no ring recoveries available. Exact wintering, staging and moulting sites of these birds are unknown.

## **Material and methods**

The first greylag goose broods in Latvia appear in mid- to late April. By late June – early July they have reached the age when leg size is fit enough for banding, but the birds are still flightless. Also, adults may be flightless at that time. Birds were 1) chased and caught with a dip-net or bare hands or 2) net lines were erected in the reedbeds (96 m total length, mesh size 50–70 mm) and checked every 3 hours.

Geese were marked with leg rings and plastic neck bands (height 55 mm, diameter 45 mm, yellow colour). The neck bands carried a 4-digit letter and number combination, colour black. Bird age and in 2021 also sex according to cloaca examination was registered.

The ringing sites were three NATURA sites and a smaller pond in western Latvia (Figure 1).



*Figure 1.* Location of the ringing sites in Latvia.

In total during breeding seasons 2021–2024, 55 birds were marked (Table 1).

*Table 1.* Number of geese marked at different sites in 2021–2024.

Ringing site		Total				
Kinging site	2021	2022	2023	2024	TULAL	
Engure Lake	14	1	8	9	32	
Kaņieris Lake		1	1	4	6	
Liepāja Lake				7	7	
Rucava Pauguru pond				10	10	
Total	14	2	9	30	55	

# **Results and discussion**

#### **Resighting countries**

Since the beginning of the study, 47 resightings of 19 individuals have been accumulated (Table 2). Till early August all resightings came from the ringing sites in Latvia.

Starting from mid-August birds use Nemunas River delta region in Lithuania, from where resightings come from fish-ponds, a natural lake Kroku Lanka and arable land. From September till December the marked geese have been reported from Poland (most records near seacoast but also up to 200 km inland), in October and November – from Germany (the Baltic Sea coastal lagoons and their vicinity). One family group has been recorded in October still in Latvia.

Resightings from the 2<sup>nd</sup> and following calendar years refer to three birds marked as juveniles in Lake Engure in 2021. A female spent her 1<sup>st</sup> winter, spring and 2<sup>nd</sup> summer in Lithuania (8 reports). One male was spotted twice during the 2<sup>nd</sup> summer in the hatching lake, October the 2<sup>nd</sup> autumn in Germany, and October the 4<sup>th</sup> autumn in Poland. Other male has been spotted at the native lake in spring of its 3<sup>rd</sup> year, and in Poland during autumn of its 4<sup>th</sup> calendar year (Figure 3).

Year after ringing	Month	LV	LT	PL	DE	Total
1 <sup>st</sup>	July	5				5
	August	3	1			4
	September		1	1		2
	October	3	4	6	2	15
	November				3	3
	December			1		1
	Total 1 <sup>st</sup> cal. year	11	6	8	5	30
2 <sup>nd</sup>	February		2			2
	April	1	4			5
	Мау		1			1
	July	1				1
	August		1			1
	October				1	1
	Total 2 <sup>nd</sup> cal. year	2	8		1	11
3 <sup>rd</sup>	April	1				1
	Total 3 <sup>rd</sup> cal. year	1				1
4 <sup>th</sup>	October			4		4
	November			1		1
	Total 4 <sup>th</sup> cal. year			5		5
Total		14	14	13	6	47

*Table 2*. Resightings of Greylag Geese ringed in Latvia in 2021–2024. Standard country codes used.

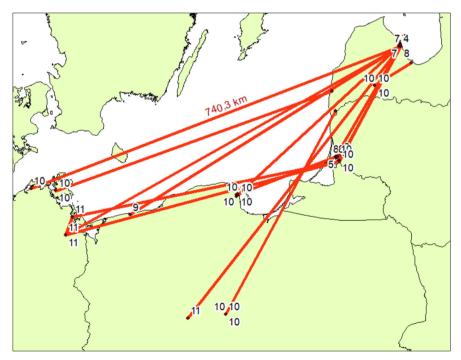
# **Migration distance**

The resightings lie in SW direction and up to 740 km from the ringing sites in Latvia (Figure 2).

Studies from the neighbouring countries demonstrate longer travel distances. Birds from Estonia ringed in 1960ies had been found wintering in Austria (1000 km) and even Algeria (ca 3000 km from nesting site) (Kiscinsky 1979). Birds, nesting in Finland

nowadays travel 1500–2000 km to their wintering grounds (Piironen & Laaksonen 2023). Greylag geese nesting in Sweden have recently shortened their migration routes, presumably due to milder winters. Still, many individuals migrate 750–1000 km. Only the subpopulations from southern Sweden travel even shorter distances than our birds (Månsson et al. 2022).

When evaluating the migration distance and direction, not only climate change but also origin of Latvian regional population should be taken into consideration. In 1970ies the greylag goose regional breeding population in Latvia did not exceed 10 pairs (Mednis, 1983). Part of this small number came from reintroduction attempts where birds from Astrakhan, southern Russia (different flyway and a different subspecies – *Anser a. rubrirostris*) were used. Strazds & Kuze describe history of such reintroduction attempt in Kaņieris Lake – in 1969–1971 goslings had been held captive on one of islands. In 1972 they had been released and in 1972–1974 the first nests of these birds had been found (Strazds & Kuze 2006). The translocated birds had no parents with them who could teach the migration route. As Sokolovskis team has proven in a similar case for the taiga bean goose (*Anser f. fabalis*), also unrelated birds can serve as migration mentors (Sokolovskis et al. 2024). We speculate, that the geese introduced at Kaņieris and their descendants could have followed greater white-fronted geese *Anser albifrons* during their first migration.



*Figure 2*. Resighting months and connection with the ringing sites of the Latvian individuals of greylag goose.

#### **Departure time**

Two birds were observed already away from Latvia in mid-August. In 2004–2023 waterfowl hunting season in Latvia began on the 2<sup>nd</sup> Saturday of August. Thus in 2021 hunting began on August 14. Four days before this date one of our geese was present on Lake Engure. Four days later it was observed in Lithuania. The other bird has demonstrated similar migration pattern. Although until 2024 greylag goose season began only in September and there was no direct threat till that time, the hunting disturbance could have influenced the departure. The family group that was observed in Latvia still in October, originates from Lake Kaņieris – the ringing site with a complete hunting ban. The coincidence of the hunting disturbance and bird departure has been well marked in literature (Madsen & Fox 1995, Väänänen 2001, Adam et al. 2016, Kleinhenz & Koening 2018).



*Figure 3*. Greylag Goose LV1C hatched in Engure Lake staging in Poland during its 4<sup>th</sup> autumn. Image courtesy: Bartosz Krąkowski.

#### Acknowledgements

We thank people who helped to catch and treat geese (Ivo Dinsbergs, Māris Jaunzemis, Valts Jaunzemis, Aigars Kalvāns, Egils Kazubiernis, Agnese Kokina, Jānis Ķuze, Egils Paņēvics, Ance Priedniece, Roberts Lepsis, Viesturs Vīgants, Annika Peter, Ginta Gedovius, Elza Zacmane, Jannis Leistikow, Jule Koch, Nauris Kuplēns, Brigita Baženova), Aldis Preiss who allowed to work in his pond, Latvijas Vides aizsardzības fonds and Medību saimniecības attīstības fonds, who funded the work, Szabolcs Nagy, Tony Fox and Julius Morkunas for suggestive discussions, all people who reported ringed bird resightings.

#### References

- Adam, M., Podhrázský, M., Musil, P. 2016. Effect of start of hunting seasonon behaviour of Greylag geese *Anser anser. Ardea* 104(1): 63–68.
- Ķerus, V., Dekants, A., Auniņš, A., Mārdega, I., 2021. Latvijas ligzdojošo putnu atlanti 1980–2017. Latvijas Ornitoloģijas biedrība.
- Kiscinsky, A. (ed) 1979. Migrations of birds of Eastern Europe and Northern Asia, Nauka, Moscow.
- Kleinhenz, A. & Koening, A. 2018. Home ranges and movements of resident Greylag geese (*Anser anser*) in breeding and winter habitats in Bavaria, South Germany. *PLoS ONE* 13(9): e0202443. https://doi. org/10.1371/journal.pone.0202443
- Madsen, J., Fox, A. D. 1995. Impacts of hunting disturbance on waterbirds. A review. *Wildlife Biology* 1: 193–207.
- Månsson, J., Liljebäck, N., Nilsson, L., Olsson<sup>,</sup> C., Kruckenberg<sup>,</sup> H., Elmberg, J. 2022. Migration patterns of Swedish Greylag geese Anser anser-implications for flyway management in a changing world. European Journal of Wildlife Research 68: 15. https://doi.org/10.1007/s10344-022-01561-2
- Mednis, A. 1983. Greylag Goose *Anser anser*. In: Birds of Latvia territorial distribution and numbers. Ed. Viksne J., Zinatne Publishing House, Riga. P. 31–32.
- Piironen, A. & Laaksonen, T. 2023. A gradual migratory divide determines not only the direction of migration but also migration strategy of a social migrant bird. *Proc. R. Soc. B* 290: 20231528 https://doi. org/10.1098/rspb.2023.1528
- Sokolovskis, K., Piironen A., Laaksonen T. 2024. Translocation experiment of taiga bean geese *Anser fabalis* provides evidence for oblique social learning of moult migration. *Journal of Avan Biology*, 7: 3–9. https://doi.org/10.1111/jav.03263

Strazds, M. & Kuze, J. (red) 2006. Kemeru nacionālā parka putni. Jumava. Rīga.

Väänänen, V. 2001. Hunting disturbance and the timing of autumn migration in *Anas* species. *Wildlife Biology*, 7: 3–9.