Lesser White-fronted Goose survey in southern Russia in November 2012.

Field Report

Risto Karvonen, Gustaf Nordenswan & Vladimir Kazmin

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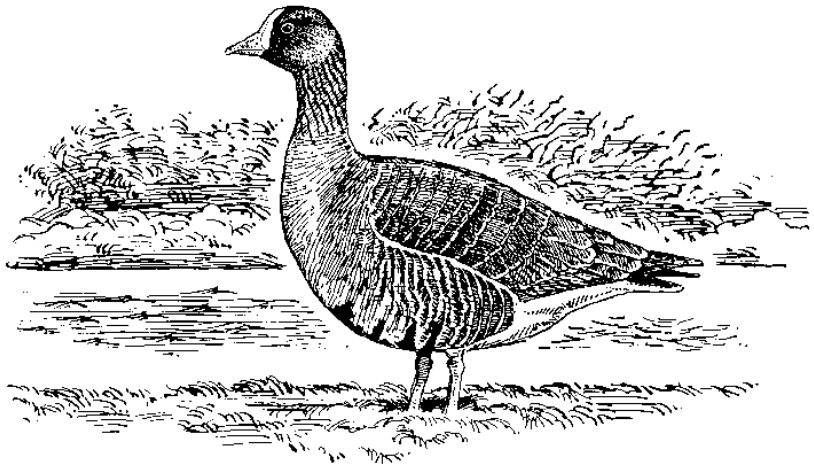

Drawing: © Trond Haugskott

SUMMARY

In November 2012, a survey to the important Lesser White-fronted Goose (later LWfG) areas revealed by satellite tracking in 2006 and 2012 was carried out in Southern Russia. Nearby location-sites, concerning LWfG breeding population in Norway, from 2006, we found six adult individuals feeding and four adult individuals migrating in the Volgograd Region. In the area revealed by fresh satellite plot locations in 2012, from LWfG breeding in Yamal Peninsula, Russia, we observed 19, 77 and 68 individuals respectively when roosting and feeding at Chograyskoye Reservoir in Regions of Kalmykia and Stavropol Krai. As a minimum 80 LWfG were roosting here during the survey.

In the report, descriptions of located areas, list of visited points with travelling schedule, and also observations of other interesting species for the area are included.

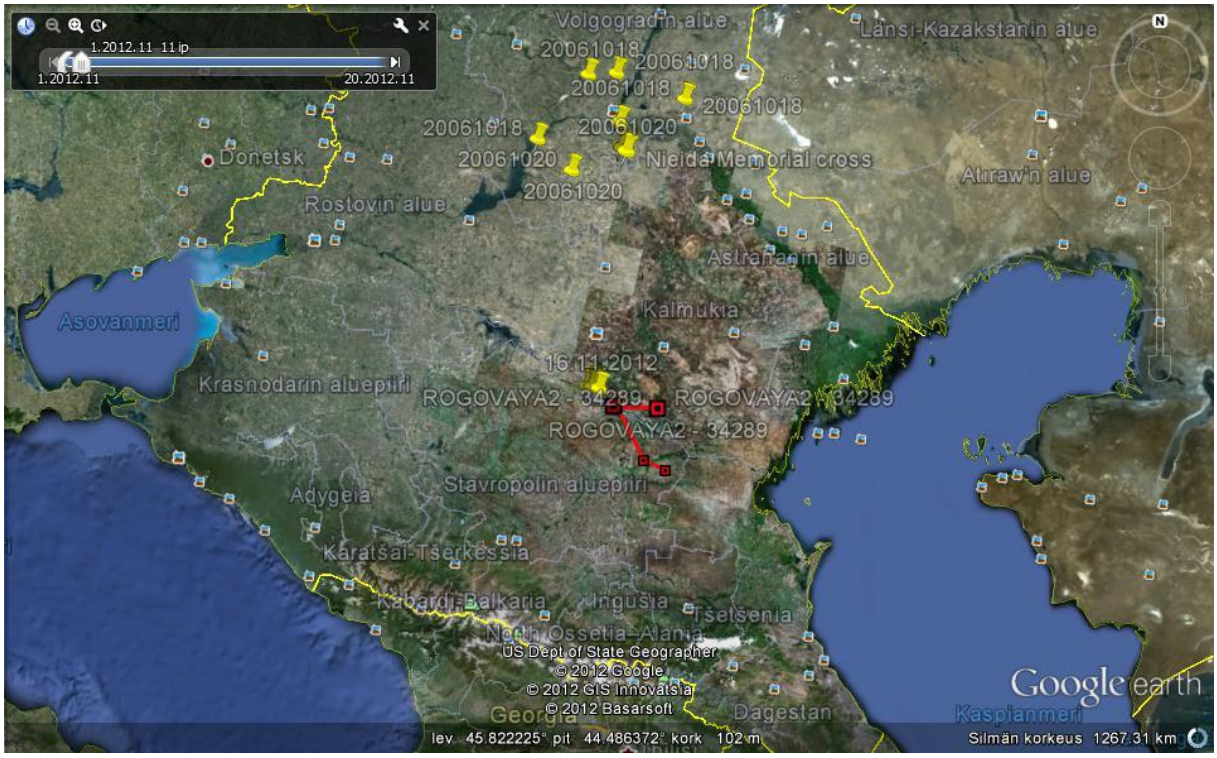

Figure 1. Map of sites where Lesser White-fronted Geese were located in in 2006 and 1012.

CONTENTS

1. INTRODUCTION

During spring 2006, three adult Lesser White-fronted Geese were caught and equipped with GPS-satellite transmitters at the Valdak Marshes in Finnmark, Norway. All three birds were unsuccessful with their breeding and migrated to moulting areas in Taymyr Peninsula in Northern Russia. During autumn migration they flew through Kazakhstan to the area of Volgograd Oblast in Russia at late October 2006. Locations situated near the city of Volgograd and most of them were visited during the survey. One of the birds, named Imre, was shot in last days of October, but the other two, Finn and Nieida, continued migrating to Greece. Later they have been observed based on coloured leg rings, along the western migration route between Greece and Norway.

During moulting season, in late July and early August, 2012, through Norwegian Russian Environmental cooperation, NOF/BirdLife Norway cooperated with the Russian scientist V.V. Morozov on harnessing three LWfG with satellite-transmitters at breeding sites in the Vorkuta area in Northern Russia. These birds migrated via Kazakhstan to Southern Kalmykia, near the border between the Kalmykia- and Stavropol Krai regions in Russia. These newly identified locations and areas nearby were also visited during the survey, with the absolutely newest locations being received by txt-messages on GSM phone during the survey.

2. METHODS

The survey was carried out, travelling 2000 km by car, according to locations revealed by satellite-tracking in 2006 and 2012. First we evaluated the old locations near the city of Volgograd and Tsimlyansk Reservoir and then concentrated on the most likely places to find feeding and roosting geese. After checking most of the possible places and finding that the amount of geese was not very high, we moved south-east towards to the area with the most recent satellite tracking locations near Chograyskoye Reservoir between the regions Kalmykia and Stavropol Krai.

Observations were made with binoculars and telescopes during daylight from early dawn to late twilight. The total amount of geese was counted during morning flight or during afternoon flight back to the fields or the amount of individuals in the flocks on the fields, depending on the most reliable method. We interviewed local people very often, almost every village we passed, asking the local view of geese occurrence and behaviour. Short interviews were made by Vladimir Kazmin and translated immediately to Finnish participants.

The sites of checked locations were documented with GPS and digital camera. Also, video-clips were taken. The survey was organised by NOF/BirdLife Norway and financed by the Norwegian Directorate for Nature Management (DN) through the Russian-Norwegian bilateral Environmental cooperation programme. The connection between field team partners was arranged by Sonia Rozenfeldt (*Institute of ecology and evolution, Russian academy of sciences)*. The field team members were Vladimir Kazmin and Sergei Tuhachevskyi (driver) from Russia, and Gustaf Nordenswan and Risto Karvonen from Finland.

3. RESULTS

3.1. Survey in the Volgograd Region and Rostov Region based on 2006 locations (November 4th – 10th and 13th)

3.1.1 LWfG observations and number of individuals

In the morning 9th November at 08.50 we saw a flock of geese and Ruddy Shelducks flying over and later landing on the field near the Romashkin-village. After ten minutes we found the flock feeding on harvested wheat field (our loc. Ansery N48,05682 - E043,15393). After ten minutes observing by telescopes we found the first Lesser White-fronted Geese (2 adults) and later, after half an hour, when the flock has flew some circles over the field, altogether 6 adult LWfG were observed. The geese were filmed by video and telescope and they kept on feeding on the field when we continued our survey at 10.20. At the flock there were also 270 White-fronted Geese and 40 Red-breasted Geese, 950 Ruddy Shelducks and 400 Mallards.

Photocapture 1. From digital video. A mixed flock of Lesser White-fronted Geese, White-fronted Geese and Ruddy Shelducks at the harvested field near the village Romashkin 9th November 2012. R. Karvonen.

At the small fishing harbor, on the other side of narrow bay of Tsimlyansk Reservoir at the small village Primoskyey (our loc. Aeryharbour N48,02052 - E043,12948) we saw several hundreds of geese and Ruddy Shelducks at 11.10 coming flying from the same fields where the LWfG were left an hour before. No LWfG were identified because of rippling air and long distance, but most likely LWfG were present in the flock. The geese landed on the water circa 1.5 kilometers west from the GPS-location Aeryharbour and Ruddy Shelducks a bit further away, but closer to the shoreline.

Photo 1. Vladimir Kazmin, Sergei Tuhachevskyi and Gustaf Nordenswan observing geese at the harbor of Primoskyey. Photo R. Karvonen.

In the afternoon 13th November on our way back to Volgograd, (our loc. Lukoil Kalmuk N N47,98337 - E044,69858), at 14.46 we saw a migrating flock: 4 LWfG, 13 Red-breasted Geese, and 50 White-fronted Geese flying to SSW.

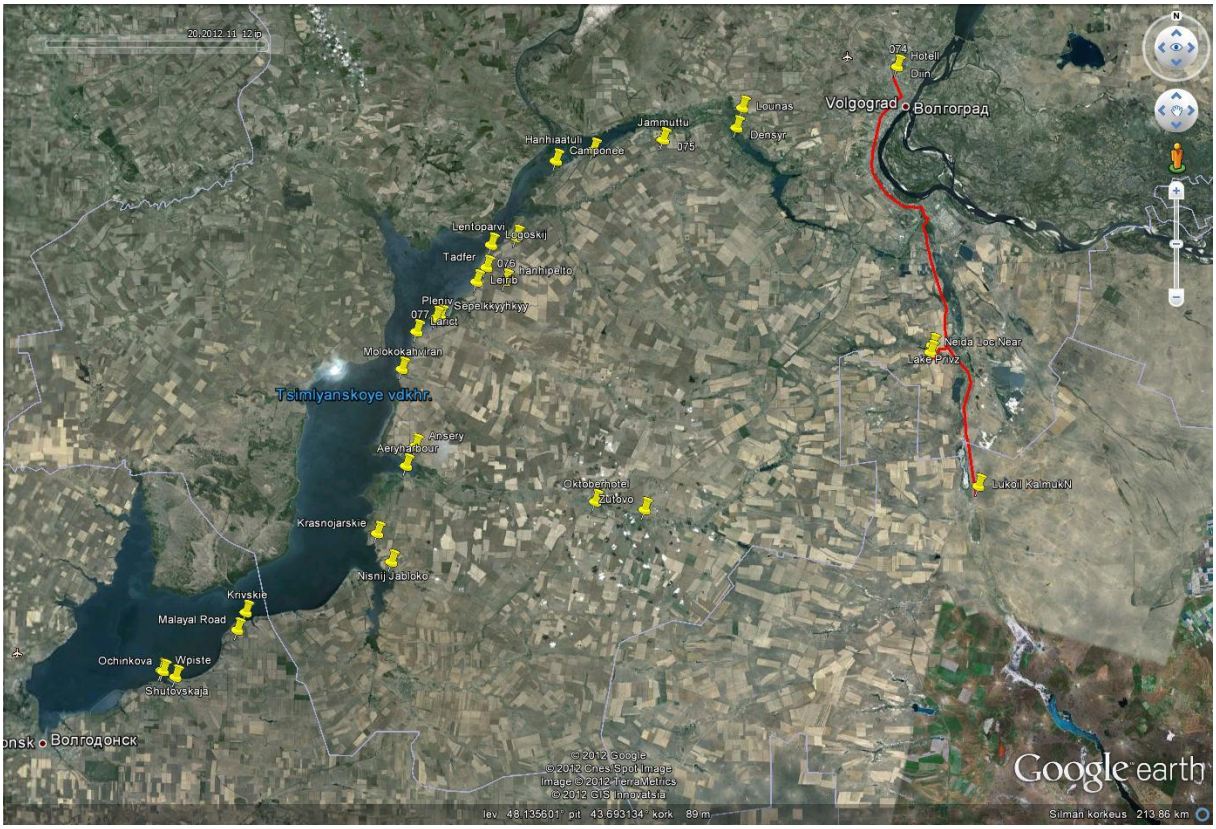

Figure 2. Map of the northern part of the surveyed area, with visited locations marked with yellow pins.

3.1.2 Observations on other geese and shelducks

5.11.2012: At the Sarpa-Lakes Middle (our loc. 48,35625 - N, 44,61438 E), 450 Ansalb and 4 Braruf local on water, + 620 Ansalb+Ans sp. flying N. At Lake Tsatsa 50 Ans/Bra SW, Ansalb 1.

6.11.2012: At the fields near Volgodonskoy (our loc. Jammuttu N48,62034 - E043,82997) Ansalb 1 1cy.. At road (our loc. Hanhiaatuli N48,60134 - E043,63922) near Kolpachki 800 Ansalb, 8 Braruf flew over the road. At the Primorskiy-village (our loc. Camponee (N48,58103 - E043,53577) Ansalb 110.

7.11.2012: Near the village Logovskiy (our loc. Lentoparvi N48,44107 - E043,42688) 250 Ansalb landed on a field but continued towards West and back to the Lake Tsimlyansk Reservoir and 350 Ansalb flew SW. Near the village of Pervomayskiy, at the Lake Tsimlyansk Reservoir and at the neighboring fields (our loc. Tadfer N48,38520 - E043,34574, hanhipelto N48,36051 E043,39791 and Leirib N48,35882 E043,31856) there were 3700 Ansalb, 1 Ansans, 55 Braruf and 9400 Tadfer roosting on lake and feeding at fields.

8.11.2012: Geese left from the roosting area at Pervomayskiy very early and mostly in dark, we saw only 555 Ansalb leaving the lake, and 4000 Tadfer a bit later in the morning. In the afternoon near Romashkin (see above) 90 Tadfer ENE.

9.11.2012: In the morning, see above observation of LWfG. In the afternoon, at Nizhneyablochnyy (our loc. Nisnij Jabloko N47,84427 - E043,09151), Ansans 70, Tadfer 100.

10.11.2012: In the morning at the camp near village Krivskiy (our loc. Krivskie N47,74781 - E042,69440) 19 Ansalb NE, near Zhukovskaya (our loc. Shutovskaja N47,62630 - E042,50416) 30 Tadfer.

3.1.3 Descriptions of other locations and most important lakes

A. **Sarpa-lakes system** .The only hint (outside of LWfG GPS-locations from 2006) about existence of geese in the Volgograd Region was the Sarpa-lakes system. It is situated along the main road between Volgograd and Elista only 60 kilometres South from Volgograd. Old locations were situated more to the west and south from this lake system. We visited the area in the afternoon on 5th November. At the Lakes near Krasnoarmeisk, Volgograd there were open water with ducks but no geese (our location Sarpa Lakes N: 48,47273 N - 44,56465 E and Sarpa Lakes N2: 48,47388 N - 44,56447 E), shores and islands were with reed belts. Near the village Dubovyj Ovrag (our location Sarpa Lakes Middle 48,35625 N - 44,61438 E) we found some hundreds of geese drinking at open water. Local hunters told that most of the lakes are dried or suffering of dryness, the water level has been higher some two or three years ago, and in that time the amount of geese has been higher than at present.

Photo 2. View to Lake Sarpa at location Sarpa Lakes Middle near the village Dubovyj Ovrag. Photo G. Nordenswan.

B. **Lake Tsatsa** (our location 48,35625 - N, 44,61438 E), west from Tsatsa-village, was surrounded by fields and dry 'grass-bushy steppe'. Having open water in middle and northern parts of the lake and reed belts around the shoreline. The southern part of the lake was reed covered with dry muddy patches and no open water.
LWfG-Finn was located at fields to the west from the lake in late October 2006. We had an overview to that area without seeing any geese. The fields looked very dry. Also the LWfG *Nieida* was located here at 2006. At the southern side of the lake, we visited the fields (our loc. Nieida memorial cross: 48,14805N, 44,6656 E) near Nieida's location from 2006.

Photo 3. Vladimir Kazmin and Gustaf Nordenswan at Lake Tsatsa. Photo R. Karvonen.

Photo 4. Vladimir Kazmin and Gustaf Nordenswan at a memorial cross checking the area where LWfG Nieida was located on 20th October 2006. Photo R. Karvonen.

Photo 5. Behind the village Privolzhskiy. Here LWfG Nieida was located 20.10.2006. Photo G. Nordenswan,

C. **Privolzhskiy Lake** (our loc. Lake Privz N48,24237 - E044,57491) is also a reservoir situated near the village Privolzhskiy. The water level was not very high but still no muddy shores were seen and open water were more than half of the width at the eastern part. Reed belt covered all the shores expect the Eastern end where the dam was.
LWfG-Nieida was located to the south behind the village on 20th October 2006. Now the area (our location: Nieida Loc Near N48,22943 - E044,57010) was suffering from dryness and the neighbouring fields were harvested.

D. **Tsimlyansk Reservoir** or Tsimlyanskoye Reservoir is an artificial lake on the Don River in the territories of Rostov and Volgograd. It is one of the largest reservoirs in Russia, and the distance from end to end is more than 250 kilometers. The reservoir, together with the Volga-Don Canal and the lower course of the Don, provides an important waterway between the Volga River basin and the Sea of Azov.

We drove along the east shoreline partly through small field roads and partly along the main road. Most of the areas were harvested field and minor parts of the field were sprouting up as green. The area where LWfG Imre was located at 18th October 2006 was visited at 8th November. It consisted of dry steppe and harvested fields and no geese were observed (our loc. Pleniv N48,29143 E043,20732).

Photo 6. The area where LWfG Imre was located at 18th October 2006. Photo R. Karvonen.

E. The areas near the village Zhutovo seemed to suffer from overall dryness like most the other areas we visited. The area of 20th October 2006 LWfG Nieida satellite GPS- location was situated to the south from the village. A small rivulet flows through the small grass-bush vegetated steppe and no geese were seen (our loc. Zutovo N47,94311 -E043,78280).

3.1.4 Hunting pressure and human activity

A. At Sarpinskiye – lakes system (Sarpa-Lakes) no active hunting was recorded. Near the village of Dubovyj Ovrag, at the GPS location Sarpa Lakes Middle (48,35625 N - 44,61438 E), at the so called "hunter's basin", we found some remnants of shot waterbirds, including one White-fronted Goose (wings), one Cormorant (entire body) and several ducks and diving ducks (wings and heads of Ferruginous Duck and Gadwall). After having visited another area, we noticed that plastic geese decoys appeared on the lake.

B. At Lake Tsatsa, hunting was not recorded possibly due the lack of geese.

C. At Privolzhskiy Lake, hunting was not recorded possibly due to the lack of geese.

D. In the surroundings of Tsimlyanskoye Reservoir, hunting was recorded locally on Rabbits and Red Foxes and on Waterbirds at the places of their occurrence.
In the north-east, near Primorskiy-village (our loc. Camponee (N48,58103 -E043,53577) on 6th - 7th November, we heard 4 shots and visually observed hunting on Cormorants, but not on other bird species. It seemed that hunting appeared mainly in the areas where the possibility to get geese in the catch/hunting bag as compared to the areas that the geese did not use.

Near the village of Pervomayskiy, at 7th to 8th November, we heard 8 gunshots in the morning of 8th in foggy weather but after sun rise. In the afternoon and early evening on the7th, we met four hunters (two groups in two cars) at the neighboring fields (our loc. Hanhipelto N48,36051 - E043,39791) when they were hunting to feeding geese flock and waiting for the evening flight at the fields. These hunters told, when interviewed by V. Kazmin, that last year (2011), they got one or two LWfG in the hunting bag in this area. The hunters wanted us to go away from the fields, hoping that we are not going to disturb their hunting. The goose flock was not properly checked because of this.

Near the village of Molokonovskiy on 8th and 9th November (gps Molokokahviran 7N48,19761 - E043,11506) we did not see any geese or hunting. It is unsure what is the hunting pressure in the fields near the village Romashkin (our loc. Ansery N48,05682 - E043,15393, feeding field) and Primoskyey (our loc. Aeryharbour N48,02052 - E043,12948, roosting/day care), because we were on the area only in the early afternoon 8th and middle forenoon 9th November, and those times of the day are not the most efficient hunting times in late autumn.

During last day and night 9th November and the morning, 10th November near Lake Tsimlyanskoye Reservoir, there were no records of hunting and only one record of a small goose flock (Ansalb 19) flying to NE at the camp near village Krivskiy (our loc. Krivskie N47,74781 E042,69440).

E. Visiting shortly at Zhutovo-village (our loc. Zutovo N47,94311 - E043,78280) did not reveal any hunting, mainly because there were no geese to see at all, in this year.

3.1.5 Weather conditions

During the first days in the Volgograd Region there was very heavy fog, at the city of Volgograd but not at the time of field work. Some days and nights there were slight (once a bit heavy) rain but mostly it was not harmful at all. Temperatures were between 17°C (sunny days) and 2 °C (first cool mornings), according to our measurements with a small thermometer. Winds were mostly calm, once there was more strong wind at the shore of the Lake Tsymlyansky Reservoir on the 8th November.

3.2 Survey in the Kalmykia Region near Chograyskoye (Chogray) Reservoir and Zunda Tolga village based on 2012 locations (November 11th – 13th)

3.2.1 LWfG observations and number of individuals

Most of the observations of LWfG were made at the same point near the shore bank of the **Chogray Reservoir** (our loc. Roost Check N45,59535 - E044,26373).

At 11th November 19: at 12.00: 7 Ansery at muddy shoreline at South side of the lake, at 14.15 12 Ansery (5 1cy.) flew with flock of 650 Ansalb to SSE to the lake over the Zunda Tolga –village.

At 12th November before midday: 77 during morning flight, at 08.12: 29 Ansery flew NNW, 08.35 – 10.20 first 39 later 49 (at least 7 1cy.) along the muddy shore and timely on water and timely feeding on upper shore at grass-bushy 15-30 cm high vegetation, behind and mixed in a flock of Ruddy Shelducks, at 09.25 1 ad flew W, at 9.50 8 ad flew towards point Feed2 (Feed 2 N45,64365 - E044,32933).

Photocapture 2. From digital video through telescope. A flock of LWfG landing at the shore of Chogray Reservoir to feed on the same area with a flock of Ruddy Shelducks 12th November 2012. R. Karvonen.

At 12th November in the evening: 64 feeding with a flock of Ruddy Shelducks on the upper shore timely in groups of 7 (two 1.cy.), 43 and 14. It felt like most of the LWfG had spent the day feeding on the lake shore.

At 13th November in the morning: 68 at 07.40 in a mixed flock with Ansalb; c.25 Ansery N, on the shoreline until 10.45. 43 Ansery in the same area as on 12th November.

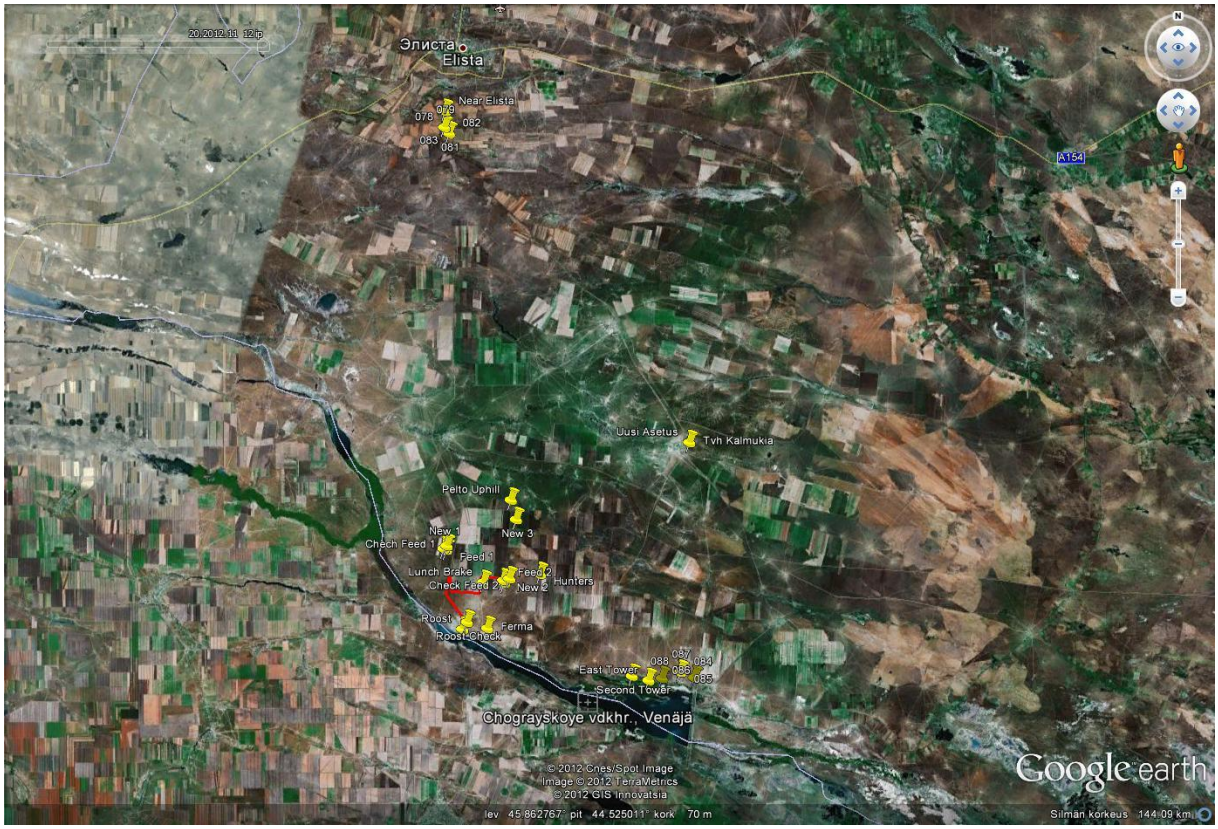

Figure 3. Map of the surveyed area in the south, with visited locations.

Photo 7. Gustaf Nordenswan counting LWfG at the shore bank of Chogray Reservoir on 13th November 2012. Photo: R. Karvonen.

3.2.2 Observations on other geese and Shelducks

11.11.2012: In the morning at middle east parts of the Chogray Reservoir (our loc. Chog 1 N45,52474 E044,66361, East Tower N45,52199 E044,58289, Second Tower N45,52757 E044,55374), we observed 101 Ansans, 16 Ansalb and 6 Ans sp. and 6 Tadtad. At Midday, afternoon and evening around the area of villages Ferma and Zunda Tolga, at the fields and at Chogray Reservoir, there were 78 Ansans, 10 Ansfab, 6000 Ansalb, 25 Braruf, 870 Tadtad and 1700 Tadfer.

12.11.2012: During the morning flight, from the lake Chogray Reservoir, there were altogether 12 000 Anser –geese at the area mainly Ansalb, only 1000 of them flew SW and the rest to N – NE. The geese were spread around the fields in flocks from 700 to several thousands and quite restless all the time. The daily sums of other species were 80 Ansans, 12 Ansfab, 220 Braruf, 800 Tadtad and 4800 Tadfer.

13.11.2012: During the morning flight, there were c. 9000 Ansalb, 27 Ansans, 9 Ansfab, 143 Braruf, 600 Tadtad and 6000 Tadfer.

3.2.3 Descriptions of locations and important areas

The **Chogray Reservoir** (*Chograyskoye vodokhranilishche*) is an artificial reservoir (lenght 49 km) on the East Manych River on the border of Regions Stavropol Krai and Kalmykia in southern Russia. The eastern and middle parts of the lake are open watered with reed belt, the western part is narrow and also open watered with muddy shores without reed belt around.

Photo 8. Risto Karvonen at Eastern part of Chogray Reservoir. Photo: G. Nordenswan.

ROOST

The location of the roosting site (Roost N45,58683- E044,25550)(as well the feeding sites), was revealed by satellite tracking and we observed that area from opposite shore (our loc. Roost Check N45,59535 E044,26373), with a good view to the area. At the point, the lake is rather narrow and with muddy shoreline. At the upper parts of the shore there was some kind of grass-bushy vegetation up to height of 15-30 centimetres.

Photo 9. View to roosting site behind the Chogray Reservoir. Photo R. Karvonen.

Photocapture 3. From digital video through telescope. LWfG and Ruddy Shelducks at the partly frozen shore of Chogray Reservoir. R. Karvonen

FEED ONE

We checked the feeding area (Feed 1: N45,68450- E044,22750) at mid-day 12th November. The field (size 4x5 km) was green with sprouting wheat at height 12 to15 cm, but no geese were feeding there. On the next harvested field we saw a flock of 1050 Little Bustards.

Photo 10. Sprouting wheat field at location Feed 1. Photo: G. Nordenswan.

Photocapture 4. From digital video. Part of the flock of Little Bustard at Feed 1. R. Karvonen

FEED TWO

The field of location feed 2 (Feed 2: N45,64365 - E044,32933) was still favourable to geese, it was also green with sprouting wheat. Geese grazed in the middle of the wolding field and hunters went around the field and hid near the edges.

Photo 11. Coffee break at the edge of non-farmed steppe and sprouting field at location Feed 2. Photo G. Nordenswan.

Photocapture 5. From digital video. A nervous geese flock flying over location Feed 2 at 11th November 2012. R.Karvonen

Photocapture 6. From digital video. Plastic geese lures, hided hunters and leader's car at Feed 2. at 11th November 2012. R.Karvonen

FEED NEW THREE

While searching for the geese at the fields, we saw a flock of 800 geese near the new location (New 3: N45,72183 - E044,35133) which we got in the evening of 12th November. This field was also with sprouting wheat.

Approaching the geese flocks at the fields was very difficult because of their restlessness. The reason for this behaviour was most likely an intense hunting pressure, and an additional, but minor cause was hunting by White-tailed Eagles. Another obstacle for observing geese was the heat haze during day time.

FEED AFTER THE SURVEY

There were more gps-locations near Chograyskoye-lake after our survey to that area (See Figure 1. loc.16.11.2012). According to our notes the hunting pressure in the new locations in south-west was minor during the survey. Also, most geese flew to the north side, but Ruddy Shelducks flew west and south-west, and the LWfG we saw at the lake shore, were close to Ruddy Shelducks, but still independent of the flock of Ruddy Shelducks. It looked like LWfG just happened to use similar-sized vegetation (small 15-30 cm height plants) to eat at upper shore and timely flew to near muddy water to drink and rest.

The image of the field to the south and southeast from the Chogray Reservoir was similar to the field on the north side of the lake, every now and then green, sprouting fields, yellow-grey harvested fields and brown cultivated fields.

3.2.4 Hunting pressure and human activity

Photocapture 7. From digital video. A hunter is going to the hunting zone at early dawn near the village Zunda Tolga at 12th November 2012. R. Karvonen

In the morning of 11th November we visited at the eastern and middle parts of the Chogray Reservoir and did not recognize any hunting and only some few geese. When arriving to Western parts of the lake near Zunda Tolga village, we met some hunters who told that the amount of geese is 5000-6000 and they are feeding on fields at day time and flying to the lake at night. In the afternoon, at the observation point near Chogray Reservoir (our loc. Roost Check N45,59535 - E044,26373), we heard three gunshots from fields and found four remains (wings) of White-fronted Geese near the shoreline.

During the afternoon and evening of 11th we visited at the camp of hunters (our loc. Hunters N45,65420 E044,39279) and informed them about LWfG and checked their hunting bag: 5 Ansalb (4ad 1 1cy.). At the fields we saw four to five different hunting groups around the goose flocks. Some hunters use also plastic geese decoys to allure geese to the shooting zone. While evening flight after 17.15 we saw four hunters near the lake between villages Ferma and Zunda Tolga, and at least two geese were shot, and we heard three other shots.

Photo 12. Hunters camp and hunting bag at fields near the Chogray Reservoir. Photo: R. Karvonen.

At morning flight at 12th November we saw five hunters and counted 195 gunshots in an hour (7.10 - 8.10) and saw three droppings and at least two harmful shots. At daytime, we visited again the hunters' basecamp and counted 11 shot White-fronted Geese. The hunters were going to stay three days more at the area, and again there were 6-7 hunters at the camp with several cars. During the day at field we heard some occasional gunshots, and in late afternoon hunters asked us to avoid

disturbing their hunting on the field. We noticed two shootings to the flock of 1600 Little Bustards, but none of them were killed. During the evening flight, at the shoreline of the lake Chogray Reservoir, we saw four hunters at the northern side of the lake and one car with a driver, on the southern side, directly near the shore where the LWfG flock was roosting. We heard two gunshots only from the fields on the northern side.

Hunting pressure during the morning flight at 13th November was lower than 12th November, only 98 shot in one hour and 20 minutes, and only two dropping geese. We saw five hunters and met three of them. Once they ordered us to go further behind the small hill so our disturbance for their hunting would be less harmful.

It seemed that goose flocks tried to avoid hunting by flying higher over the hunting zone. At the fields, geese seemed to prefer the middle part of the field area, where the hunters approaching to the shooting area was more difficult than at field edges.

3.2.5 Weather conditions

At the last days of the survey wind turned to north and north-east and the temperatures begin to go down near zero. Maximum day temperature was 9° C and minimum was < minus 1°C. Travelling day to Kalmykia was cloudy and a bit rainy, but the rest of the time it was dry with daily sunshine.

Appendix 1. Table of observed bird species

	5.11.	6.11.	7.11.	8.11.	9.11.	10.11.	11.11.	12.11.	13.11.
Gavia stellata			1	1	1				
Gavia arctica						3			
Gavia sp.						2			
Podiceps cristatus	115	1	8	40	235	2540	30		
Podiceps auritus						2			
Podiceps nigricollis	4				2	53			
Phalacrocorax carbo	85	35	132		300	3	104	31	
Pelecanus onocrotalus							33		
Egretta alba							19	1	1
Ardea cinerea		4				1	1		
Cygnus olor	2		26		10		1550	895	750
Cygnus cygnus			10				10	10	3
Anser fabalis							2	12	9
Anser albifrons (+Anssp)	1120	910	3700	555	270	19	6000	12000	9000
Anser erythropus					6		19	77	72
Anser anser			1		70		179	80	27
Branta ruficollis	4	8	55		40		25	220	156
Tadorna tadorna							876	800	600
Tadorna ferruginea			9400	4090	1050	30	1700	4800	6000
Anas platyrhynchos	60	460	4500	1300	1700	484	2000	1500	400
Anas penelope									1
Anas strepera	2						14	2	2
Anas crecca	90	1050	1400		1		460	170	80
Anas acuta			2	2	2		20	15	
Anas clypeata	6						50	66	48
Netta rufina							23		
Aythya ferina						20	7		182
Aythya marila				5		470	2		
Aythya fuligula				2	1	226	8		3
Aythya nyroca	2								
Melanitta nigra						1			
Melanitta fusca				2					
Bucephala clangula			510	600	500	150	250		
Mergus albellus	53		1	80	26	1	60		
Mergus serrator						34	18		
Mergus merganser	11		15	7	5	1	2		
Haliaeetus albicilla	4	1	16	11	15	7	26	16	4
Circus aeruginosus	7'								
Circus cyaneus	5	1	2	2		1	18	6	9
Accipiter gentilis				1					
Accipiter nisus	3	1	2	2	3	1			
Buteo buteo									1
Buteo rufinus							1		
Buteo lagopus				1					
Aquila heliaca								1	
Falco tinnunculus	2					1			
Falco columbarius				2		1	1		1
Perdix perdix	16			30	4	15			
Coturnix coturnix								1	
Fulica atra	15				1				
Tetrax tetrax							231	4500	150
Pluvialis squatarola	30			50			7		
Vanellus vanellus	10	20	8		1		100		
Calidris alpina				10			3500	335	60

Philomachus pugnax	1						11		
Gallinago gallinago	1								
Tringa nebularia	1								
Grus grus						10		18	
Larus minutus		10							
Larus ridibundus	35	800	600	400	135	200	650	600	470
Larus icthtyaetus		15	50	170	670	300	55	75	20
Larus canus	300	400	750	200	230	10	10	20	
Larus cachinnans	230	15	50	150	250	4	50	75	50
Columba livia	400	100		95	850	285		43	1000
Columba oenas				9					
Columba palumbus				2					
Streptopelia decaocto	7		4	5	18	61		1	40
Picus canus			ä	1					
Dendrocopos syriacus		1		1					
Dendrocopos medius				1					
Melanocorypha calandra			80	25	5		21	1045	122
Melanocorypha leucoptera	500			30			212		
Melanocorypha yeltoniensis							900		12
Calandrella brachydactyla			3				2		
Galerida cristata		10	32	12	8	17	4	3	11
Eremophila alpestris			34	27					
Alauda arvensis	1	8	10	5	1	2	8	1	
Hirundo rustica	2						30		
Anthus pratensis			1		1				
Bombycilla garrulus				77	2				
Troglodytes troglodytes				1					
Prunella modularis				1					
Phoenicurus ochruros		1							
Turdus merula		2	1						
Turdus pilaris		7000	10000	370	8	15			
Turdus philomelos				1	2				
Turdus iliacus			1						
Turdus viscivorus			2	1					
Panurus biarmicus	10			27	5				
Parus caerulescens	2		2	4	2	1			
Parus major	7		2	4	2	2			
Lanius excubitor	1		1	1					
Garrulus glandarius			2	1	8				
Pica pica	90	300	200	60	80	30	20	3	150
Corvus monedula	700	300	1	115	520	700	11	45	105
Corvus frugilegus	800	200	50	300	130	750	1200	750	600
Corvus cornix	40		200	30	70	145	100	200	50
Corvus corax		4			2		2		
Sturnus vulgaris		25					24	11	1
Passer domesticus	1500	2000	600	400	300	200	240	20	500
Passer montanus			8	12	28				
Fringilla coelebs	10			115			30		
Fringilla montifringilla				20					
Carduelis chloris	12	20	100	35	2	22			3
Carduelis carduelis	10	100	150	120	4	100	10	15	15
Carduelis spinus				9					
Carduelis cannabina		25	10	15					1
Coccothraustes coccothraustes			1	13					
Calcarius lapponicus			1						
Plectrophenax nivalis				15		1			1
Emberiza citrinella	400	6	10	120	5	20			15

Emberiza schoeniclus	5	1	2	6	5		40

Appendix 2. *List of visited locations*

Label	Type Symbol	date and time	Waypoint	Latitude	Longitude	Elevation
Zutovo		08-MAR-12 15:4	N47,94311	E043,78280		162,05 ft
Wpiste		10-MAR-12 9:15	N47,63766	E042,46569		125,78 ft
Uusi Asetus		11-MAR-12 3:49	N45,81519	E044,65863		
Tvh Kalmukia		10-MAR-12 16:5	N45,81526	E044,65862		336,30 ft
Tadfer		07-MAR-12 13:0	N48,38520	E043,34574		143,13 ft
Shutovskaja		10-MAR-12 9:52	N47,62630	E042,50416		108,44 ft
Sepelkkyyhkyy		08-MAR-12 9:57	N48,29491	E043,21928		124,99 ft
Second Tower		11-MAR-12 6:24	N45,52757	E044,55374		56,39 ft
Roost Check		11-MAR-12 9:46	N45,59535	E044,26373		86,36 ft
Roost		10-MAR-12 17:1	N45,58683	E044,25550		333,15 ft
Pleniv		08-MAR-12 10:1	N48,29143	E043,20732		124,99 ft
Pelto Uphill		12-MAR-12 11:2	N45,74590	E044,34232		427,77 ft
Oktoberhotel		08-MAR-12 16:1	N47,95772	E043,64801		191,22 ft
Ochinkova		10-MAR-12 8:55	N47,63625	E042,46976		105,28 ft
Nisnij Jabloko		09-MAR-12 11:0	N47,84427	E043,09151		117,11 ft
New 3		12-MAR-12 17:5	N45,72183	E044,35133		112,38 ft
New 2		12-MAR-12 17:5	N45,64650	E044,32767		95,03 ft
New 1		12-MAR-12 17:4	N45,68617	E044,22300		57,19 ft
Neida Loc Near		13-MAR-12 13:3	N48,22943	E044,57010		79,26 ft
Near Elista		10-MAR-12 15:2	N46,22577	E044,22846		581,52 ft
Molokokahviran		09-MAR-12 5:37	N48,19761	E043,11506		87,15 ft
Malayal Road		10-MAR-12 8:24	N47,71505	E042,67204		205,42 ft
Lunch Brake		12-MAR-12 13:0	N45,64448	E044,29297		176,24 ft
Lukoil KalmukN		13-MAR-12 12:5	N47,98337	E044,69858		31,95 ft
Lounas		06-MAR-12 11:2	N48,67938	E044,05267		171,51 ft
Logoskij		07-MAR-12 11:1	N48,42657	E043,35818		124,99 ft
Lentoparvi		07-MAR-12 10:0	N48,44107	E043,42688		251,94
Leirib		07-MAR-12 16:1	N48,35882	E043,31856		111,59 ft
Larict		08-MAR-12 10:4	N48,26635	E043,15443		110,80 ft
Lake Privz		13-MAR-12 13:3	N48,24237	E044,57491		76,11 ft
Krivskie		09-MAR-12 16:0	N47,74781	E042,69440		184,13
Krasnojarskie		09-MAR-12 10:3	N47,89606	E043,05193		110,80 ft
Jammuttu		06-MAR-12 13:0	N48,62034	E043,82997		274,02 ft
Hunters		12-MAR-12 12:0	N45,65420	E044,39279		337,88 ft
Hotell		05-MAR-12 19:2	N48,75482	E044,48442		717,93 ft
hanhipelto		07-MAR-12 13:3	N48,36051	E043,39791		216,46 ft
Hanhiaatuli		06-MAR-12 13:3	N48,60134	E043,63922		181,76 ft
Ferma		11-MAR-12 9:06	N45,58771	E044,29933		71,37 ft
Feed 2		10-MAR-12 17:1	N45,64365	E044,32933		371 ft
Feed 1		10-MAR-12 15:3	N45,68450	E044,22750		587,83 ft
East Tower		11-MAR-12 5:58	N45,52199	E044,58289		69,01 ft
Diin		05-MAR-12 19:2	N48,75435	E044,48467		566,54 ft
Densyr		06-MAR-12 11:4	N48,64269	E044,03650		215,67 ft
Chog 1		11-MAR-12 5:19	N45,52474	E044,66361		50,88 ft
Check Feed 2		11-MAR-12 13:5	N45,64904	E044,33889		233,02 ft
Chech Feed 1		11-MAR-12 12:3	N45,68969	E044,22855		133,66 ft
Camponee		06-MAR-12 16:1	N48,58103	E043,53577		106,86 ft
Camp Local		11-MAR-12 5:34	N45,52437	E044,60644		61,13 ft
Ansery		09-MAR-12 8:25	N48,05682	E043,15393		191,22 ft
Aeryharbour		09-MAR-12 9:24	N48,02052	E043,12948		113,17 ft
Nieida Memorial cross			N48,4805	E044,6656		
Lake Tsatsa			N48,8423	E044,66448		
Sarpa Lakes Middle			N48,35625	E044,61438		
Sarpa Lakes N			N48,47273	E044,56465		
Sarpa Lakes N2			N48,47388	E044,56447		

Appendix 3. *Schedule*

4.11.2012: Travelling to Volgograd and overnight at hotel

5.11.2012: Purchasing materials for field working, field work at Sarpa Lakes and Lake Tsatsa, checking locations of LWfG Nieida and Finn, overnight at hotel.

6.11.2012: Purchasing salaries and costs for Russians and exchange the money needed in field work, field work South-West from Volgograd and overnight in tents at Primorskiy –village.

7.11.2012: Morning at GPS location Camponee, at Primorskiy –village, moving through fields towards South-West near the shore of the Tsimlyansky Reservoir and overnight in tents at Pervomayskiy.

8.11.2012: Continuing SW along the fields 5-10 kilometers from the shoreline of Tsimlyansky Reservoir, driving further inland (50-70 km) to village Zhutovo and check one of the location of LWfG Nieida (20061020), overnight at Oktoberski Hotel.

9.11.2012: Early morning drive to the shore of the Tsimlyansky Reservoir at Molokonovko -village, then towards SW and finding first Lesser White-fronted Geese (6) on the fields near Romashkin - village and also finding the roosting/ day freshening area at Tsimlayansky Reservoir near village Primoskyey, driving further SW to Rostov Region but still at the area of Tsimlyansky Reservoir, overnight in tents near village Krivskiy.

10.11.2012: Morning observing at Krivskiy and Zhukovskaya, then driving to Elista, Kalmykia,visiting at the temple of Buddhism, forwarding towards fresh locations at vicinity of the Chograyskoye Reservoir near the region border between Kalmykia and Stavropol Krai, overnight at the barrack of local public road authority, adjusting the accuracy of GPS-co-ordinates with colleagues from Finland and Norway.

11.11.2012: Early morning drive east end of Chograyskoye Reservoir and slowly observing near shoreline towards West at morning. Finding the view to the roosting area revealed by satellite tracking near village Zunda Tolga. Checking fields and hunters bag, evening flight at the shorebank of Chograyskoye Reservoir. LWfG (19). Overnight in Kalmykian home accommodation.

12.11.2012: Early morning flight and escalating hunting pressure at Chograyskoye Reservoir. Lesser White-fronted Geese (77). Checking feeding areas at fields and hunters camp, evening count at the shoreline Chograyskoye Reservoir. Overnight in Kalmykian home accommodation.

13.11.2012: Early morning flight and escalating hunting pressure at Chograyskoye Reservoir. LWfG (68), driving to Volgograd, LWfG (4) on migration near the Region border Kalmykia and Volgograd, overnight at hotel.

14.11.2012: Traveling home