



Photo. Konstantin Litvin, Petri Lampila, Toni Eskelin and Petro Pynnönen counting the morning flight of geese at Lake Koybagar, Kustanay region, north-western Kazakhstan. Several surveys of this staging area were included in the Finnish Lesser White-fronted Goose Life project. © Petteri Tolvanen, October 1998

The Finnish Lesser White-fronted Goose EU Life/Nature project 1997–2000

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1. Introduction

In the years 1997–1999, the major part of the Lesser White-fronted Goose (*Anser erythropus*, subsequently referred to as LWfG) conservation activities by Finnish partners – and a significant part of the international conservation work on the species – was carried out by the Finnish LWfG Life/Nature project supported by the European Union (EU) Life fund. The partners of the Life project were: Northern Lapland District for Wilderness Management (Metsähallitus, Ylä-Lapin luonnonhoitoalue), North Ostrobothnia Regional Environment Centre (Pohjois-Pohjanmaan ympäristökeskus), Häme Regional Environment Centre (Hämeen ympäristökeskus), Lapland Regional Environment Centre (Lapin ympäristökeskus), Hunters' Central Organisation (Metsästäjien keskusjärjestö) and WWF Finland. The LWfG working group of WWF Finland, established in 1983, was particularly active in the project and had the main responsibility of the field work.

2. Aims and organisation

The objectives and activities of the Life project were based on the experience of the Finnish WWF LWfG working group and international co-operation partners as well as on the international Action Plan for the LWfG (Madsen 1996). Although, according to the rules of Life funds, only 10% of the funding may be used outside the EU, the idea was not to restrict the scope of the project to a Finnish or a Fennoscandian scale. The strategic idea was to promote

LWfG conservation especially along the migration routes and in the wintering quarters of the Fennoscandian population and the western part of the Russian breeding population. This was possible, because of the advantageous ratio between the western and eastern exchange quotations. Thus the 10% of the resources spent outside EU could form significantly more than 10% of the results.

The objectives of the Life project included mostly already identified needs that had not been implemented earlier:

- to locate the migration routes and wintering quarters of the LWfG by satellite tracking and ringing
- to establish protected areas in LWfG staging and wintering places
- to target international conservation efforts to these key areas; e.g. to form hunting-free zones around roosting lakes
- to monitor and produce accurate estimates of LWfG sub-populations, especially the Fennoscandian highly endangered population
- to improve public awareness on the endangered status of the LWfG, especially among hunters
- to include all Finnish breeding and staging areas in the Natura 2000 network
- to stop the decline of the Western Palearctic population of the LWfG and turn it towards an increase and to enable a recovery of the Fennoscandian population of the LWfG

The project period was 1 February, 1997–30 September, 2000. Originally the year 1999 was supposed to be the last activity year,

but the delay in establishing a protected area at Säärenperä on the Bothnian Bay coast, allowed us to apply for a continuation of the project time. The Life project was led by a team consisting of representatives of partner organisations. The team carried through 15 project meetings and altogether 114 people participated in the work, ca 60 as volunteers and ca 30 as temporary employees. Most of the employment periods were short, 1–5 months, but four were lasting 18 months or more.

3. Results of the project

The results of the Life project are not always clearly distinguishable from the results of other international LWfG conservation work, and a significant part of them were gained in co-operation with international partners the LWfG project of the Norwegian Ornithological Society, the Goose and Swan Study Group of Eastern Europe and Northern Asia and the Wetlands International LWfG Task Force.

3.1. Revealing the migration routes of the LWfG from Western and Central Siberia to Kazakstan

During the expeditions to Yamal and Taimyr, altogether 12 moulting LWfG were tagged with satellite transmitters. Three individuals out of these gave good tracking results: one female LWfG tagged in Yamal in 1997 was followed 2400 km to the Kustanay region in north-west Kazakstan and finally as far south as 490 kilometres north of the Caspian Sea (Karvonen & Markkola 1998). The LWfG pair equipped with transmitters in southern Taimyr in 1998 migrated to the Astana region, ca 300 km east of Kustanay region. The female finally continued to the north-western coast of the Caspian Sea (Øien et al. 1999).

3.2. Confirming the western route between Greece, Hungary, Estonia, Norway and Finland

The connection between Estonia, Finland (Bothnian Bay) and Norway was confirmed in 1998–2000, when some individuals were identified in all of these countries during the spring migration by colour-rings and video-recording of individually recognisable belly patches. Some of the individuals using this migration route are known to stage in Hungary and winter in Greece (Aarvak et al. 1999, Aarvak et al. 2000).

3.3. Updated estimates of the LWfG populations for Nordic countries and Eurasia

In Finnish Lapland, surveys for breeding pairs covered an area of 2160 km² of traditional and 3630 km² of potential breeding places of LWfG. In addition, 1500 km² in the adjacent parts of Norway was covered. No breeding pairs were located in the breeding grounds, but broods were seen every year at Varangerfjord autumn staging area, where LWfG of north-east Finnish Lapland and eastern Finnmark gather (Tolvanen 2000). According to these and a number of pre-breeding period observations, LWfG still breed in Finnish Lapland or in closely neighbouring parts of Norway and Sweden. Most of the breeders in Finland in 1990's (up to 15 pairs in 1991) belonged to the sub-population of north-east Finnish Lapland and eastern Finnmark. In 1997 this sub-population still produced at least 5 broods, and in 1997–1999 10–14, 6–8 and 6 pairs were seen at the staging areas, respectively. Because non-breeders and unsuccessful breeders move to Russia for moulting in early July and cannot be seen at Varangerfjord in autumn, the real size of this sub-population may still be 10–15 pairs. During the years of the Life project, the total LWfG population of Norway, Finland and Sweden was approximately 45 pairs. Thus, the Fennoscandian population is critically endangered but is still big enough to enable a recovery if the negative population development is reversed soon. During the Life project, new data on LWfG was received from the Kola Peninsula, which is most probably inhabited by individuals genetically identical to LWfG breeding in the more western parts of

Fennoscandia (see Aikio et al. 2000). The number of LWfG breeding on the Kola Peninsula is not known, but it could even exceed the numbers of LWfG in the Nordic countries.

Along the westernmost migration route in autumn a maximum 29 LWfG was seen during the years of the Life project in the border areas between Germany and Poland (van den Bergh 2000), 45–90 in Hungary (Tar 2001, pp. 34–36 in this report), and ca 70 in north-eastern Greece (Lampila 1998). During spring migration, a maximum of 43–51 LWfG has been counted in Estonia (Tolvanen et al. 2000b). The LWfG using this route breed in the Nordic countries (mainly Norway) and possibly in western Russia.

In Russia, LWfG breed along a disconnected zone from Kola to The Far East. LWfG from the eastern main population migrate to China. Kazakstan is the junction of the migration routes of the western populations from Fennoscandia to central Siberia. In autumn 1998, 7,300–12,400 LWfG were estimated in the Kustanay region in north-west Kazakstan, but only 3,880 in 1999. More east, in the Astana area, 990 LWfG were estimated in 1999 (Tolvanen et al. 2000a). The western main population (Fennoscandia – central Siberia) thus enumerates ca 8,000–15,000 individuals.

During the Life project period also conservation and research of the eastern main population wintering in China proceeded well. The surveys of winter and spring 1999 yielded an estimate of 16,000 LWfG in central China (Markkola et al. 2000). This, combined with population estimates for the western sub-population, suggests a global population estimate of 24,000 – 30,000 individuals.

3.4. Increased knowledge about population trends of the Lesser White-fronted Goose

A monitoring programme for the LWfG breeding in Fennoscandia and western and central Siberia (= the western flyway population) was prepared and implemented during the Life project period. The aim of the program is to produce reliable data of LWfG population patterns as well as total numbers and reproductive success in the different sub-populations and to evaluate the effectiveness of the Life project and other conservation efforts. The program suggests regular counts at nine localities: the Finnish Bothnian Bay coast, the traditional breeding area in Finnish Lapland, the Matsalu Bay in Estonia, Varangerfjord and Porsangerfjord in Norway, Evros delta and Lake Kerkinis in Greece, Kustanay Oblast in north-west Kazakstan, Kanin Peninsula in NW Russia and the Hortobágy steppes and fishponds in Hungary. Regular monitoring was carried out in six different places during the Life project period. The new video recording technique (see Aarvak et al. 1999, Aarvak et al. 2000) made the registration of individuals more accurate than before in Estonia, Finland and Norway.

3.5. Establishing of a protected area at Säärenperä, Bothnian Bay coast

The Säärenperä area at the Bothnian Bay coast in Finland has been the second most important of the three still existing LWfG staging areas on the Bothnian Bay coast in the 1990's. The two others are located on the isle of Hailuoto and at the bay of Liminganlahti have already been protected as a part of the Liminganlahti Life project, although the rate of protection is still insufficient; e.g. hunting is still allowed in the staging places of LWfG on Hailuoto in autumn. During the Life project, a management plan was prepared for Säärenperä. The aim of the plan was to secure the valuable nature types and rare and endangered species of the area, and it has been applied when making agreements about conservation with the land owners. The plan also produced new information about habitats, flora and fauna of the area as well as about the traditional human use of the coastal meadows. The Säärenperä area provides well representative low-growth sea-shore meadows and primary succession forests, which are habitats of special conservation concern according to EU's Habitats Directive.

After a delay caused by the difficulties of the government of Finland to decide about the list of areas designated to the Natura



2000 network in Finland, North Ostrobothnia Regional Environment Centre (NOREC) could not start the negotiations about the purchase or lease of land with the land owners of the Säärenperä area early enough to be completed by the expiry date of the project, 30 September 2000. After a promising start, the jointly owned land (the common area) organisation of Siikajoki rejected the tender made by NOREC, who was forced to start an expropriation process that may last until summer 2001. The start meeting of the expropriation process was organised 17 October, and at the moment the ban of measures is in force. The protection measures of the area has already been practised, except the hunting ban, thanks to the ban of measures and legislation concerning Natura sites.

3.6. Revealing new staging places of the Lesser White-fronted Goose and improving their conservation

As a result of satellite telemetry and consecutive field surveys in the revealed places, knowledge about location and importance of different LWfG staging places and night roosts has been improved considerably during the Life project period. New important localities revealed were Lake Ayke (51°05'N, 61°34'E) in the south-western corner of Kustanay Oblast in north-west Kazakstan, and Lake Kubikol (50°53'N, 68°42'E) and Lake Baumanskoye (51°05'N,

68°55'E) in Astana Oblast in northern Kazakstan (Tolvanen et al. 2000a). The outstanding importance of the earlier revealed Lake Kulykol became clear in 1998: 85 percent of all LWfG staging in Kustanay region were concentrated at Kulykol, enumerating as many as 6,000 (Tolvanen et al. 1999). During the Life project period, Lake Kulykol and some other important LWfG roosting lakes were included in a proposal of protected wetlands in Kazakhstan. Hunting-free zones were expanded around Kulykol and some other important LWfG lakes during the Life project period.

3.7. Improving conservation of traditional breeding areas in Finland

The most important breeding area of the LWfG in Finland in 1990's hosting up to 15 breeding pairs in 1991 was designated to Natura 2000 network in 1998. During the Life project period no breeding was confirmed there, but a few pairs are still left in the area or adjacent parts of Norway. The area is situated far from roads and villages and the only human disturbance has been caused by sport fishing and planes carrying the fishermen to the wilderness. This disturbance force the LWfG broods away, and they often have to run hundreds of meters, sometimes kilometres over land, where they are vulnerable to attacks by predators like Red Fox. During the Life project period



Photo. Risto Karvonen searching for Lesser White-fronted Geese in the Kurluska area, southern Taimyr, Russia. Two surveys and catching attempts of Lesser White-fronted Geese on Taimyr were included in the Finnish Lesser White-fronted Goose Life project
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the brood rearing areas and other core areas of the LWfG were located and the Forest and Park Service will line them out of sport fishing areas.

The data collected since 1985 suggests that abundance of Red Foxes in the breeding grounds of the LWfG seriously limits the annual reproduction of the geese (Markkola et al. 1994). The Red Fox population of increased gradually in the 1980's and 1990's in the LWfG breeding areas. During the Life project period, reduction of the Red Fox population was carried out, and according to impressions of field workers, the number of Red Foxes seemed to decline in the years 1997–2000. The total hunting bag of period 1997–1999 was 276 Red Foxes. Limiting the Red Fox population could also provide advantages to the endangered Arctic Fox, too, because the Red Fox abundantly occupy Arctic Fox dens and even kill the pups.

3.8. Improved public awareness of the endangered status of the Lesser White-fronted Goose

The practical aim in improving public awareness of the Lesser

White-fronted Goose was to reduce the additional mortality of the species caused by shooting by accident. The situation of the LWfG had been quite well-known among public in Finland already in the 1980's and 1990's, but during the Life project period the publicity rose to a higher level. An illustrated identification article was annually published in "Metsästäjä" and its correspondent in Swedish; "Jägare". The circulation of *Metsästäjä* is 290,000 copies and of *Jägare*; 18,000, respectively, and they reach all registered hunters in Finland.

In spring 1998 a new guiding centre for bird watchers and nature tourists was opened at the bay of Liminganlahti. The LWfG Life project got an opportunity to prepare a LWfG exhibition for the whole summer, and it was visited by approximately 30,000 people. In 1998, the Life project was represented at XIII International Sportmens' Fair in Riihimäki by the Hunters' Central Organisation. In winter 1999–2000 Life partners contributed the Forest and Park Service of Finland to prepare a LWfG exhibition as part of a nature guiding centre in Changsha, China. This was a part of a more extensive exhibition presenting nature conservation in Finland. The exhibition was hosted by the state forest service of China, which is responsible for the management of the most important LWfG winter quarter in the world, namely the East Dongting Lake. A large scale exhibition summarising the results of the Life project and other conservation

work for the LWfG was inaugurated in November 1999 in Inari. In spring 2000 it was moved to the guiding centre of Liminganlahti, and later the exhibition posters will be circulated in Finland and abroad.

The Life project partners produced brochures both in Finnish and in English, that have been distributed to public e.g. in public information meetings with local people and hunters in Lapland. Press releases were distributed 15 times during the Life project period and news were printed in papers with circulation figures of some hundreds of thousands of copies. Press and public information meetings have been organised e.g. in Lapland, Oulu and Helsinki. Presentations were also given in the television in Kazakstan. LWfG news have been published e.g. in web sites of the Forest and Park service and North Ostrobothnia Regional Environment Centre and WWF Finland: <http://www.metsa.fi/natural/projects/lwfg/index.htm> (in English) and <http://www.metsa.fi/luo/projektit/kiljuh/index.htm> (in Finnish).

A brochure was produced for Kazakstan with the title "Hunters – Attention, Please!" in Kazakh and Russian languages. The brochure advises how to identify LWfG among other goose species. A volume of 10,000 copies was delivered in the beginning of the hunting season 1998 together with hunting licenses throughout Kazakstan by the State Committee for Forestry, Fishery and Hunting. In co-operation with the customs officers and the Environment Centre of Finland, a brochure concerning the ban to import bird species protected in Finland was distributed to customs stations on the Finnish-Russian border in 1998. It seemed that this activity and the contemporary press information sharply declined the number of Finnish hunters participating in spring hunting of geese in Russian Karelia. An identification article concerning the LWfG published in *Alua* magazine in 1999 was reprinted and distributed as a 8 pages brochure to co-operation partners from Estonia to China to improve the field workers' capability of identifying the LWfG among common White-fronted Geese. In autumn 1999, LWfG posters and stickers produced by The *Wetlands International (WI) LWfG Task Force*, the Norwegian Ornithological Society/BirdLife Norway and the Bulgarian Society for Protection of Birds /BirdLife Bulgaria for Kazakstan were distributed.

3.9. Conservation networking and international co-operation

During the Life project period the Finnish delegates have been active in the WI LWfG Task Force, an international network of people involved in LWfG conservation activities, since its establishment in 1995. The Task Force has 15 members, who represent countries covering the whole distribution area of the LWfG. During the Life project period the first representatives of China, Estonia, Japan and Kazakstan joined the group. The main mission of the group is to intensify and co-ordinate research and conservation work of the LWfG in order to enable a population recovery of the world population of the LWfG. An annual task is to discuss and update the LWfG Action Plan (Madsen 1996) which takes the form of an annual Urgent Action Plan. In addition to WI Task Force, the LWfG Life project has been co-operating with a great number of national or local LWfG conservation initiatives, especially in Finland, Norway, Sweden, Russia, Kazakstan and China. An international LWfG seminar was organised by LWfG Life project in Helsinki 26–28 March 1998 under the title 'The future of the Lesser White-fronted Goose in Finland'. The seminar was funded by the Life project, the Ministry of Environment of Finland and WWF Finland, and the participants represented six countries. As a conclusion of this seminar, the reintroduction of LWfG was stopped in Finland (Markkola et al. 1999).

During the Life project period, negotiations concerning protection the LWfG with environmental and hunting authorities, as well as volunteer organisations in countries holding breeding grounds, migration stop-over sites and wintering grounds of the LWfG have proceeded. These organisations included among many others, the Academy of Science and the State Committee of

Environment Protection and Association of Hunters and Fishermen of Russia, Karelian Academy of Science, the Ministry of Ecology and Bioresources and the Zoological Institute of the Academy of Science and different hunting inspection authorities of Kazakstan and the management authorities of Finnmark county (Fylkesmannens miljøvernnavdeling) in Norway.

3.10. Official protection of the LWfG in new countries

During the Life project period, the LWfG was officially protected in Romania, Turkmenia and quite recently (July 2000) in Lithuania. The Life project promoted the process by distributing information and negotiating with different organisations and authorities in many countries.

3.11. Ecological and genetic knowledge about the Lesser White-fronted Goose

The LWfG Life project produced a lot of biological data that is applicable in the conservation work for the species. When catching LWfG for satellite telemetry and when investigating hunting bags, blood and feather samples has been collected for LWfG population structure studies. During the Life project period and partly based on data collected during the Life project period, three different examination works concerning the LWfG were completed, one about habitat selection of the LWfG during the breeding season in Lapland (Umeå, Sweden), one about diet selection of the LWfG in the spring staging area on the Bothnian Bay coast (Oulu) and one about population parameters and population development predictions (Oulu).

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