

## A PRELIMINARY OVERVIEW OF MONITORING FOR RAPTORS IN LATVIA

### Predhodni pregled monitoringa populacij ptic roparic v Latviji

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Latvia is situated in Northern Europe and belongs to the Boreal biogeographical region (EC 2005). Most of the country is composed of fertile lowland plains and moderate hills. Forests account for 56% of the total land area. Mires occupy 9.9% of Latvia's territory. Of these, 42% are raised bogs.

Raptor assemblages (both diurnal and nocturnal) are comprised of species characteristic of Northern Europe. Species composition of breeding raptors is similar (forms one cluster) to that in the neighbouring Estonia and Fennoscandian countries – Finland, Sweden and Norway (LÓPEZ-LÓPEZ *et al.* 2008).

Including all historical records and rare vagrants, Latvia's list of raptors includes 28 diurnal raptor species and 13 owl species. Out of these, at least 17 diurnal birds of prey and at least 7 owl species can be counted as regularly breeding species (BIRDLIFE INTERNATIONAL 2004, LATVIJAS PUTNI 2013).

#### *Main players*

The Latvian Ornithological Society (LOB, BirdLife Partner) was a co-ordinating organisation for most bird monitoring schemes, including those for raptors, when these schemes were state-supported. In 2010 and 2011, there were no state-supported programmes implemented since no funding was granted. Some monitoring schemes were based only on the enthusiasm of individual experts, their ability to raise funds and/or their willingness to work voluntarily. Thus, individual experts can be considered as the main actors in monitoring for raptors, regardless of their institutional affiliation.

Several project-based monitoring and research activities were/are co-ordinated by the Latvian Fund for Nature (Latvijas Dabas fonds). Monitoring of bird migration is carried out by the Laboratory of Ornithology, Institute of Biology, University of Latvia. Since 2012, the joint stock company “Latvijas valsts meži” (Latvia's State Forests) supports monitoring for the Lesser Spotted Eagle *Aquila pomarina* and Golden

Eagle *A. chrysaetos*.

Regional co-operation includes regular meetings of diurnal raptor experts from the neighbouring Baltic States and Belarus. Meetings have been taking place since 2005 and act as basis for discussing the broad spectrum of raptor-related topics at the regional scale, such as monitoring and research, conservation, development of common project ideas, etc. These meetings have resulted in several joint publications (e.g. VĀLI *et al.* 2010). Latvian raptor scientists have cooperated with colleagues from Germany (SCHELLER *et al.* 2001, HELBIG *et al.* 2005, MEYBURG *et al.* 2011). This collaboration concentrated mostly on the Lesser Spotted Eagle. More diurnal raptor and owl species have been included during the co-operation within MEROS programme (MAMMEN 2003, KOVÁCS *et al.* 2008). Since 1984, raptor specialists have been co-operating with the Swedish Museum of Natural History within colour-ringing scheme of the White-tailed Eagle *Haliaeetus albicilla*. The Latvian Fund for Nature is currently implementing the project “Eagles cross borders”, during which research and monitoring of the White-tailed Eagle and Osprey *Pandion haliaetus* is carried out in Latvia and Estonia.

Data obtained during different monitoring schemes (in which raptors are included to some extent) are used by NGO's – LOB and Latvian Fund for Nature, for species conservation purposes. Information is used by experts from these NGO's also during the preparation of site management plans for Natura 2000 sites. Raptor species listed in Annex I of the EU Birds Directive are monitored within the Monitoring of Natura 2000 sites scheme. Data from all monitoring schemes are used by the Ministry of Environment and Rural Development for reporting to the European Commission – e.g. for Article 12 report (Birds Directive).

#### *National coverage*

For state-supported monitoring schemes, the Nature Conservation Agency was the responsible supervising public authority, with LOB co-ordinating their implementation. As state institutions showed no interest in monitoring data in 2010 and 2011, most schemes were stopped or implemented by individual experts at a minor scale. Exceptions are the *Latvian Breeding Bird Monitoring scheme* (LBBM – data submitted to the Pan-European Common Bird Monitoring Scheme) and comprehensive surveys for several species. LBBM managed to obtain some funding and is still running, co-ordinated by LOB. The Latvian Fund for Nature is a coordinating body for the White-tailed Eagle monitoring, while LOB is

coordinating Osprey monitoring in Latvia.

In Latvia, there is no unified, countrywide and standardized monitoring scheme targeted exclusively on all raptor species, i.e. there is no special programme designed to include all raptor (diurnal and nocturnal) species and to obtain reliable data for the whole country. Raptor data are split among several national and regional schemes, each having their own methodology and data recording standards. As there is no special programme for raptor monitoring in Latvia, the available data come from several schemes and are of variable degree of patchiness.

There are several species for which comprehensive surveys do exist. Those having such a scheme are mainly rare and charismatic species, such as the White-tailed Eagle (KŪZE *et al.* 2010), Golden Eagle, Osprey (KALVĀNS 2011) and Eagle Owl *Bubo bubo* (LIPSBERGS 2011). There are experts who work with these species and attempt to monitor most known active nests.

The LBBM scheme generates national trends for four common diurnal raptor species – Buzzard *Buteo buteo*, Sparrowhawk *Accipiter nisus*, Marsh Harrier *Circus aeruginosus* and Goshawk *A. gentilis* (AUNIŅŠ 2010). This is the most reliable scheme in terms of sampling design, however, the number of raptors (even common ones) recorded is rather insufficient, since the confidence intervals of obtained trends remain very high.

There is survey-plot-based research in the Lesser Spotted Eagle (BERGMANIS 2009) and five most common breeding owl species – Tengmalm's Owl *Aegolius funereus*, Long-eared Owl *Asio otus*, Short-eared Owl *A. flammeus*, Tawny Owl *Strix aluco* and Ural Owl *S. uralensis* (AVOTIŅŠ 2009). The results obtained during these studies are valuable as long-term and in-depth research; however, distribution of survey-plots is distinctly patchy. Therefore, the number of survey-plots is insufficient to obtain reliable population trends for the whole country for such a widespread species. There was an attempt to expand the number of owl survey-plots to improve coverage at the national scale. Monitoring for Natura 2000 sites includes species listed in Annex I of the Birds Directive. This scheme is designed to survey only protected areas and does not take into account birds or habitats outside these sites. Therefore, spatial bias cannot be avoided in design of this scheme.

### **Key species and key issues**

Summing up, at least some kind of monitoring exists or has existed in recent years for eight species of diurnal raptors and six owl species.

Monitoring of bird migration is carried out by the

Institute of Biology, University of Latvia. Standardized migration counts are conducted at Pape ornithological station (south-western Latvia). Diurnal species for which the data obtained are sufficient to draw conclusions about the migration process include two most common species – the Buzzard and Sparrowhawk (KEIŠS & PĒTERSONS 2009). Nocturnal migration is monitored at Pape ornithological station as well. The Long-eared Owl is an owl species with the highest number of captured/ringed birds.

Kolkasrags (Slitere National Park, north-western Latvia) is the migration site where important bird congregations occur during the spring migration. The site is on the list of Important Bird Areas (IBAs) that are currently known to be important congregatory raptor sites in Africa and Eurasia, under the CMS Agreement on the Conservation of Migratory Birds of Prey. The high concentration of migratory birds demonstrates that the Kolkasrags is a vital site, where birds are funnelled in a narrow corridor. Thus, the geographical location of Kolkasrags at the northernmost point of the Kurzeme peninsula gives a unique opportunity for conducting flyway population counts to monitor raptor populations from large northeastern European areas (REIHMANIS 2010). Monitoring of migratory birds (including diurnal raptors) has been conducted there for several years (KAZUBIERNIS 2007). At Kolkasrags, monitoring (by means of mist-net trapping) of migratory owls has been conducted since 2011. Migratory owls are best represented by the Long-eared Owl (GRANDĀNS 2013). Other common breeding owl species also are listed as target species in this research.

Forestry practice is most often mentioned as threat, both by destroying habitats and causing disturbance. Agricultural land abandonment and land use change are identified as threats to species like the declining Lesser Spotted Eagle (MEYBURG *et al.* 2004).

The whole monitoring system and all species could benefit from international networking. We are seeking to establish long-term monitoring scheme for raptors to determine population trends for the country's breeding raptors. We are interested in designing monitoring scheme compatible with other countries, based on common standardized methods and being linked to the international monitoring system.

### **Strengths and weaknesses**

The main strengths of raptor monitoring in Latvia are highly motivated experts, accumulated experiences and the existing well-established research programmes. Weaknesses include shortage of volunteers with necessary skills, which leads to insufficient

coverage across the country and species, and lack of coordination for raptor monitoring. The existing monitoring schemes provide insufficient data on countrywide trends of widely dispersed species e.g. Lesser Spotted Eagle, Honey Buzzard *Pernis apivorus*, Buzzard, Sparrowhawk, Marsh Harrier and Goshawk. Information on the effects of environmental pollutants on raptor populations are almost entirely missing in Latvia. Only some preliminary research has been carried out on this topic, such as the study of DDT effect on breeding Black Stork *Ciconia nigra* (STRAZDS & GRINBLATE 2009).

Cost effective country-wide monitoring of both common and those with conservation concern status raptor species is the issue we are interested in terms of best practice obtained in other countries. International sharing of best practice could be used to promote understanding of sampling design principles.

### **Priorities, capacity-building**

Priorities to strengthen monitoring for raptors in Latvia are to increase the number of motivated and trained surveyors to obtain representative countrywide coverage and population trends for many breeding species. To work on these trends, unified, countrywide and standardized monitoring schemes need to be launched. However, fundraising for such raptor monitoring schemes is still a challenge in Latvia.

Thus, to strengthen monitoring for raptors, the main capacity-building needs are (1) securing long-term continuity of funding, (2) development and launching of unified monitoring that focuses on most raptor populations and its trends, and (3) attracting more surveyors.

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