



## Research Networking Programmes

Short Visit Grant  or Exchange Visit Grant

*(please tick the relevant box)*

### Scientific Report

**Scientific report (one single document in WORD or PDF file) should be submitted online within one month of the event. It should not exceed eight A4 pages.**

**Proposal Title:** Inventory of monitoring for raptors in Europe

**Application Reference N°:** 4218

#### 1) Purpose of the visit

A main objective of the exchange visit was to focus on the science related to EURAPMON Work Package 2 (WP2), Inventory of Existing Raptor Monitoring within Europe. WP2 is closely connected to Work Package 3 (assessment of user needs) and 4 (prioritisation) which all contribute to deliver EURAPMON objective 2: “to establish consensus on Europe-wide priorities for monitoring for and with raptors, based on comprehensive inventory of existing monitoring, and of needs of key users (policy makers, risk assessors, environmental managers)”.

Exchange Visit Grant was offered for conducting analysis of meta-data of a pan-European inventory of monitoring for raptors largely obtained via an on-line questionnaire filled in by a network of EURAPMON National Coordinators in European countries.

Preliminary results of the on-line questionnaire and preliminary review papers contributed by the National Coordinators were then used as preparatory material for a two days workshop "Workshop on inventory of monitoring “for” raptors" organised by EURAPMON in late May and early June 2013 in Murcia, Spain.

After the workshop and after the end of submission deadline in the 10 of July for the on-line questionnaires a draft manuscript was prepared.

The main tasks during the exchange visit included:

- Definition, together with a supervisory group, of the scope of the review of inventory of monitoring for raptors in Europe.
- Collation of relevant papers and other information about the monitoring of raptors from across Europe.
- Scientific evaluation of the meta-data obtained via the on-line questionnaire for monitoring for raptors in Europe.
- Drafting of key scientific information and identification of key discussion issues in preparation for the workshop, and participation at the workshop.
- Preparation of a draft manuscript for peer-review journal submission as an outcome of the workshop.

## 2) Description of the work carried out during the visit

At the beginning of the visit Maja Derlink was informed by the scope of the EURAPMON objective related to the WP2 by supervisor Dr. Chris Wernham and Dr. Andrew Dobson who lead raptor research within the BTO.

Relevant literature was collated. Preliminary papers providing an overview of monitoring in 25 European countries written by National Coordinators derived from previous workshop in Murcia in February 2012 were examined.

A seminar about EURAPMON and WP2 was given by Maja Derlink to BTO research team from Scotland and researches from BTO in Thetford through a teleconference. This provided a fruitful insight into the treated topic.

Further on meta-analysis of the gathered questionnaires via on-line database began. In addition new questionnaires were gathered via direct enquires through EURAPMON network. Requests were sent to different contacts in Europe, particularly to National Coordinators as well as to newly acquired contacts.

In April also preparation for workshop held in Murcia began. Several teleconferences were organised with a core member group of the EURAMON. In agreement different contacts were invited to take part in the workshop. Program was prepared and materials were distributed to the participants.

31st of May – 1st of June 2013, Murcia, Spain. Workshop "Review of inventory of monitoring for raptors". Workshop was lead by Dr. Chris Wernham, Dr. Al Vrezec and Maja Derlink.

Seventeen participants (including one ESF member) represented 13 countries (Estonia, Finland, Georgia, Germany, Italy, Latvia, Poland, Portugal, Russia, Slovenia, Spain, Turkey and United Kingdom) attended the workshop. A critical review was made of the inventory data gathered since the previous Murcia workshop (February 2012) that brought together key national experts from 27 countries. During plenary talks from Dr. Chris Wernham, Dr. Al Vrezec and Maja Derlink preliminary review papers and results from a questionnaire survey submitted thereafter were examined.

During workshop sessions, participants explored and agreed approaches to filling the current gaps in inventory coverage and contributed to the content of the subsequent review paper for publication in a peer-reviewed scientific journal (Derlink et al. in preparation: A review of raptor monitoring activity across Europe and its implications for capacity building towards pan-European monitoring). In addition, activities and recommendations were discussed relevant to advancing other EURAPMON work

packages (WP3 User Needs; WP4 Prioritisation; WP5 Best Practice; WP6 Capacity-building; and WP7 Database, Reporting and Analysis).

A Joint Session of “for” and “with” raptors groups was organised to progress work in contaminant monitoring. The “with” group introduced the structure of their database of contaminant monitoring activities and a draft sampling and contaminant protocol to the “for” group. “For” group prepared a preliminary list of priority species for the monitoring of contaminants, drawing on knowledge of existing European monitoring coverage from the “for” raptors inventory.

Due to the great enthusiasm and cooperative input from all the participants, the workshop was considered to achieve its objectives.

After the workshop a report was prepared and published on EURAPMON webpage. Based on the new inputs from the workshop participants and several teleconferences with a core group of EURAPMON a draft manuscript was prepared. Since not all of the expected questionnaires were gathered until the end of the exchange visit the review of the draft manuscript by the core group did not yet continue.

### **3) Description of the main results obtained**

First steps towards a comprehensive inventory of existing raptor monitoring were built in 2006 - 2008, when 22 BirdLife Partners contributed a questionnaire prepared by BirdLife Hungary. With EURAPMON questionnaire we continued this work in more details, including also organizations other than BirdLife Partners. Majority of the questions is close-ended. Questionnaire contains questions about monitored species, areas, population parameters, environmental parameters, monitoring methods, biological materials collected, individual marking techniques, data management and application and resources. Preliminary we received 234 submitted questionnaires respectively monitoring programs from 36 European countries. Altogether 152 people provided contacts to their monitoring programs. In this preliminary results only programs that didn't finish more than 10 years ago, that is 232 programs are included. We captured only most recent programs since 95 % were still active in 2012.

For the ease of gathering information and standardisation the questionnaire was primarily promoted via National Coordinators of the EURAPMON working group responsible for the “for” raptors. When we didn't receive a reply, the survey was additionally advertised with contacts gathered from EURAPMON and BirdLife network. In addition a shorter questionnaire was sent to National Coordinators with questions about means of gathering information, difficulties encountered and programs that are not included in questionnaire survey. 16 National Coordinators returned the answers. Phone calls (87,5 %) and personal emails (68,75 %) were the most used means of gathering information. Meetings and emails to groups received 43,75% of positive responses, presentations at conferences/events, internet forums, information gathering from websites, local/regional reports, national reports or specialized/scientific papers received from 6 - 31,5 % of positive responses. 11 NC reported about other programs that they are aware but are not included in the inventory. The most encountered difficulties were lack of response (56,25 %), lack of time for contacting people and lack of monitoring in respective country both with 37,5 %. Lack of national network, dislike for paperwork, dislike of sharing information and language barrier received between 18,75 and 31,25 %.

Monitoring programs covered single species or multi species, ranging from 1 to 39 in a program. As also instructed we supposed that if the program involved more than one species, all of the species were monitored in the same way. Each species in a program was consequently treated as one scheme. In 232 programs 1157 schemes were included. Majority of the received programs treated regular breeders. 37 programs described migration monitoring, 9 programs winter visitors and two summer visitors. Most schemes were civil or private (80%) rather than governmental, even if the programs are national. France, Sweden, UK, Russia, Portugal, Georgia, Finland and Ukraine reported more than 50 % schemes. 13 countries reported more than 20 schemes. 7 countries reported less than 5 schemes.

185 programs included monitoring in protected areas (Ramsar sites, Special protected areas, Important bird areas and areas protected by national law). 40 programs didn't report to occur in any protected area. Only 15 programs reported to monitor in protected and non-protected areas. 74,7 % reported about data provision to other institutions, the same proportion of programs also reported that they don't assess the effectiveness of research and conservation techniques (66,1 % and 71,8 %). 35,7 % of all programs reported that they use advanced statistics. Only 13,7 % of all programs reports only occasionally. Most (63,3 %) report annually or at least regularly if not annually (18,1 %). Only 11 programs reported to produce reports more than once a year. Hunting and persecution is the most observed threat, followed by human disturbance and forestry intensification.

#### % of programs that monitor population parameters

- age structure monitoring 31 %
- monitoring causes of death 29 %
- dispersal monitoring 19 %
- genetic variation 10 %

#### % of programs that monitor key environmental parameters

- habitat availability 28 %
- prey availability 20 %
- monitoring the effect of climate change 20 %

#### % of programs that collect biological materials

- food remains 35 %
- feathers 31 %
- pellets 28 %
- egg remains 27 %
- raptor carcasses 27 %
- tissue samples 13 %
- blood samples 13 %
- parasites 6 %

#### % of programs that use individual marking techniques

- regular metal ring 62 %
- colour ring 24 %
- satellite tracking 18 %
- DNA identification 14 %

- VHF radio tracking 12 %
- wing tagging 9 %
- feather coloration, PIT, geolocator, bioacoustic identity 4 - 2 %

Most used monitoring methods for the determination of breeding population size, abundance indices or nest monitoring and breeding success monitoring are nest search, territory mapping and point count, line transect. Among 56 European species the 10 most monitored species with from 10 - 16 countries monitoring the species are in this order Aquila chrysaetos, Falco peregrinus, Falco tinnunculus, Haliaeetus albicilla, Accipiter nisus, Bubo bubo, Buteo buteo, Asio otus, Circus aeruginosus and Accipiter gentilis.

**4) Future collaboration with host institution (if applicable)**

Future collaborations in regards to completion of the manuscript in preparation are planned with Dr. Chris Wernham from BTO Scotland.

**5) Projected publications / articles resulting or to result from the grant (ESF must be acknowledged in publications resulting from the grantee's work in relation with the grant)**

Manuscript in preparation:

Derlink et al. in preparation: A review of raptor monitoring activity across Europe and its implications for capacity building towards pan-European monitoring

Contribution on conferences:

Raptor Research Foundation Annual Conference 2013, III Neotropical Raptor Network Conference, WWGBP VII International Conference on Birds of Prey and Owls, October 2013, Bariloche, Argentina

Eagles of Palaearctic: study and conservation in Russia, International Scientific and Practical Conference, September 2013, Elabuga city, Tatarstan Republic, Russia

"Database on inventory of existing raptor monitoring in Europe". The database will be available in the EURAPMON webpage ([www.eurapmon.net](http://www.eurapmon.net))

**6) Other comments (if any)**

After the end of the exchange visit all of the expected questionnaires were gathered. Revision of the final results will be finished by the end of August by Maja Derlink. Draft will then be presented to the co-authors to review and completion is planned by the end of 2013.

In total the exchange visit lasted from 24th of March until 22nd of July. Altogether 17 weeks, with 5 days spent from 29 th of May until 3rd of June in the workshop in Murcia, Spain.