

The European Raptor Biomonitoring Facility (ERBfacility) cost action

Reference: Short term scientific mission (STSM)

Grantee: Abigail Louise Maiden

STSM period: Grant period 2

Host: Dr Jari Valkama, Finnish Museum of Natural History

The ERBfacility has three scientific objectives (R) and three capacity building objectives (C):

Objective R1: To assess current capacities for pan-European raptor biomonitoring and develop a framework for a European Raptor Biomonitoring Scheme (ERBioMS).

Objective C1: To build capacity in the ‘analysis arena’ through networking and collaboration among ecotoxicologists, collaborating laboratories and regulators.

Objective R2: To develop a framework for a distributed European Raptor Specimen Bank (ERSpeB) for contaminant monitoring.

Objective C2: To build capacity in the ‘collections arena’ through networking and collaboration among ecotoxicologists and raptor collections (NHMs, ESBs, etc).

Objective R3: To develop a framework, standards and protocols for a European Raptor Sampling Programme (ERSamP).

Objective C3: To build capacity in the ‘field arena’ through networking and collaboration among field ornithologists, raptor collections and ecotoxicologists.

WG4 – Field arena priorities

Working Group 4 aims to: (a) facilitate improved sample collection across Europe for the target species, sample types and geographical areas agreed as of priority for contaminant monitoring; (b) improve collection of contextual information on the individuals and populations from which these samples are derived; and (c) build capacity to collect more samples by motivating field observers to engage with the collections and analytical arenas, and providing them with the guidance and motivation they need.

The priorities of WG4 in Grant Period 2 are to:

1. Assess the existing and potential capacity of fieldworkers/groups that currently handle raptors (e.g. ringers) to collect suitable samples for contaminant analysis.
2. Assess any constraints that may hamper the collection and sharing of raptor samples (including dead birds)
3. Assess current sampling practice and develop best practice guidance (appropriate to, e.g. differing species, sample types, geographical regions) for collecting raptor samples and relevant contextual (field) data for contaminant monitoring purposes.

Contribution of the current STSM to Action Objectives and Priorities

The over-arching objectives of the current STSM were:

- (a) To review the level and distribution of current raptor ringing effort across Europe; and
- (b) To assess the potential to expand ringing effort to create a larger pool of field participants with the skills to collect both sample material and contextual data on raptors.

Overall, the STSM contributes to the objectives of the ERBFacility COST Action and priorities of WG4 in several different ways. Firstly, it will meet the 1st priority which is to assess existing capacity to detect pan European spatial and temporal trends in the exposure of raptors to contaminants because ringed birds could fall to contamination and the ring, if on long enough, could provide life histories for the individual and the populations in that area and aid to give more insight into how the contaminations are effecting the population in that area. It could also find more information on how many ringing groups would come across poisoned raptors and what procedure the different ringing groups would undergo. In addition this STSM would also aid the ‘improved collection of contextual information on the individuals and populations’- ‘assessing the potential capacity of fieldwork groups that currently handle raptors (e.g. ringers) to collect suitable samples for contaminants’. It would aid this because bird ringing data records would provide demographic and temporal trends of local areas. Furthermore, contacting these ringing schemes could also be used to find out the willingness of ringers to aid the collection of raptor samples.

Objective R1: My review of raptor ringing on a pan-European scale provides a clear picture of where people are ringing raptors across Europe and who might therefore be willing to also collect additional contamination data (samples and contextual data). Additionally, it provides information on ringing schemes that are already participating in raptor material collection, which could be priority areas for capacity building for ERSamP.

Objective R3, C3 and WG4 priorities for GP2:

A) Provides information on the number and distribution of ringers, therefore allowing prioritisation of areas to engage with to start or continue with collecting raptor material for contaminant analysis.

B) Samples for contaminant analyses will be even more useful if they are taken from ringed birds because information may then be available on the bird’s movements and life history providing richer information on which to base inferences about levels of, and effects of, contaminant loads.

C) The raptor ringing review questionnaire has been designed to acquire information about the permits and licences associated with raptor ringing, the collection of samples, and the training/capacity building already carried out by national ringing schemes. Therefore, it provides information as to which ringing schemes have most experience to support capacity building in other areas, and which countries experience greater constraints when trying to build ringing capacity. This also links with WG4 current objective 2.

Description of the work carried out during the STSM

The following work was carried out during the STSM:

- A visit to the host institute; the Finnish Museum of Natural History to work alongside Dr. Jari Valkama (6-12th Jan 2019) in order to design the questionnaire survey of national ringing centres and learn about EURING.
- Development of a questionnaire which reviewed raptor ringing across Europe. The questionnaire was created and sent using survey monkey and consisted of 27 questions. The questions covered topics from logistics, permits/licences, capacity building, telemetry data and raptor sample material collection. It also had an accompanying excel spreadsheet that was required to be filled in to provide data on numbers of raptors ringed in each scheme between 2012-2018 for all raptors species, the number of raptor ringers in 2018 and the number of satellite and radio tags fitted.
- I attended the Working Group meeting in Thessaloniki, Greece (5-8th Feb 2019) where I presented the preliminary results and lead a question and answer session to provide more data for the study.
- I attended the General Meeting and Working Group 4 Workshop in Florence, Italy (5-8th March 2019) where I presented the preliminary results at the General Meeting and then presented an in-depth presentation into the data analysed to date. I also facilitated a breakout session tasked with discussing how to engage people involved in population monitoring into ERSamP.
- Analysed the questionnaire results in Excel and the statistics package 'R'.

Description of the main results obtained

- Updated information on contact details for the national ringing schemes that are affiliated with EURING.
- Information on the number of raptors ringing in 2018 on a pan European scale.
- Information on the telemetry data to which the national ringing schemes across Europe contribute.
- Information on the current raptor sample material collection affiliated with the national ringing schemes and their potential to capacity build sample collection for the ERSamP.
- Collection of the national ringing schemes protocols and annual reports.
- Collated and statistically analysed data on all raptor species ringing between 2012-2018 on a pan-European scale. This data is also broken down into birds caught at the nest, other fully grown birds (including immatures) and pulli, because the providence

and movements of birds is important when interpreting contaminant exposure and effects.

Future collaboration with the host institution

I will continue to work with Dr. Jari Valkama and the WG4 committee to gain the last questionnaire responses, to conduct data analysis and to produce a scientific publication of the study results.

Foreseen publications/ articles or the results from the STSM

After the completion of this STSM it is the aim of myself, the host institute and the WG4 committee to produce a scientific publication in a peer reviewed scientific journal alongside articles in local NGO publications, for example those of the Northern Ireland Raptor Study Group and the British Trust of Ornithology.

Confirmation by the host institution of the successful execution of the STSM

Abigail Maiden made a research visit of one week to the Finnish Museum of Natural History in the beginning of January 2019. During her stay at the Museum she prepared a questionnaire to be sent to all European ringing schemes (described in detail above). Although she did the work under my supervision, she worked most of the time independently and was able to complete the work successfully within a very short period of time. In addition, during her visit she collated the Finnish raptor ringing data to be included in the questionnaire dataset.

As the representative of the host institution I am happy to confirm that Abigail Maiden has successfully executed the STSM at the Finnish Museum of Natural History.

Dr Jari Valkama

Other comments (if any)

N/A