



**European Raptor
Biomonitoring Facility**



COST Action CA16224

The European Raptor Biomonitoring Facility

A European network für pollutants in birds of prey

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The European Raptor Biomonitoring Facility

A European network für pollutants in birds of prey

- **Start of Action - 17/10/2017**
- **End of Action - 16/10/2021 ext. until 2022**
- **26 country representatives signed the MoU**
- **44 MC members, 21 MC substitutes**

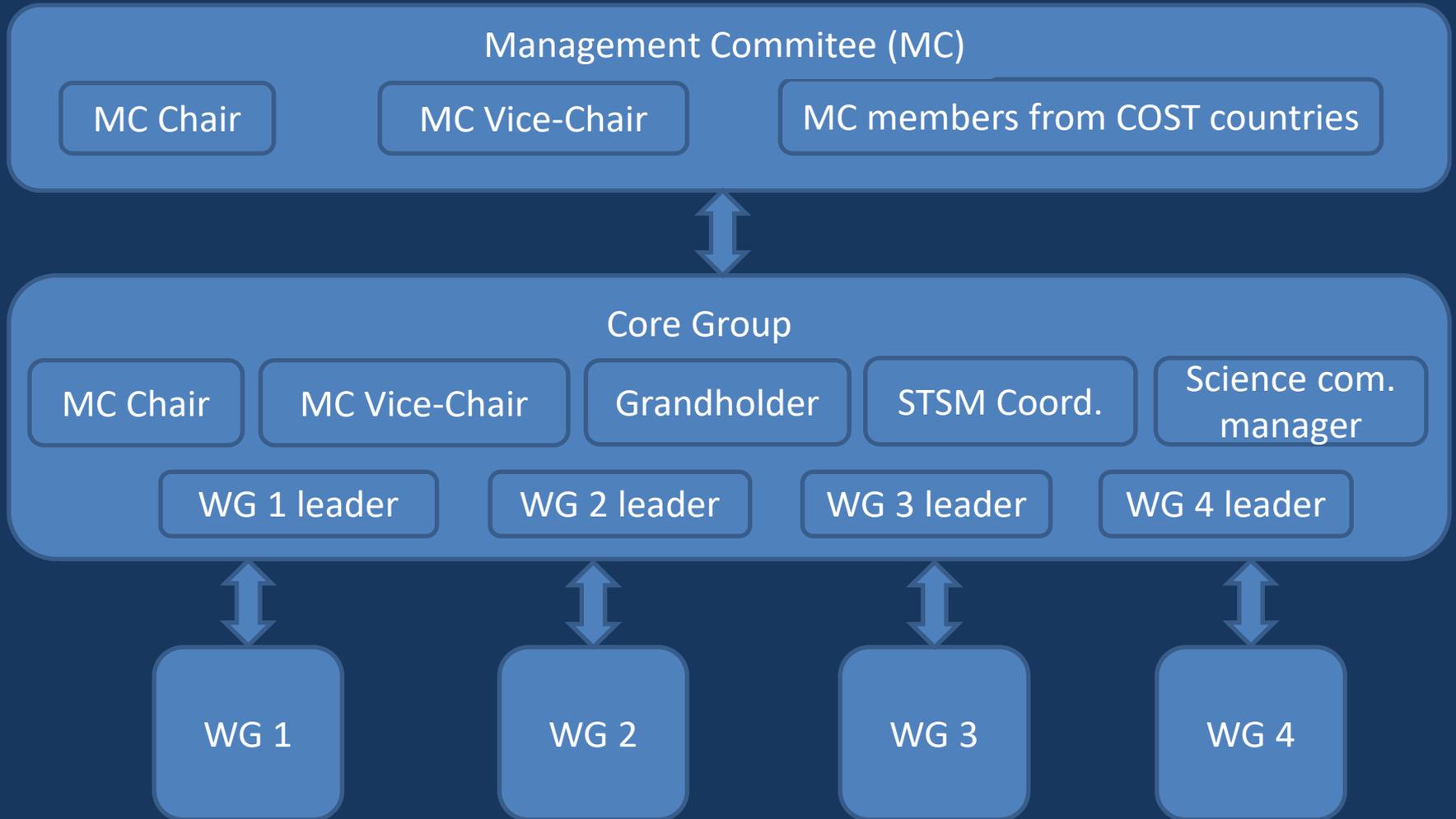


The challenge

- Environmental contaminants create € multi-bn costs to human and wildlife health
- EU objective (7EAP) - a non-toxic environment
- EU chemicals regulations – assess risk, impose risk mitigation measures (restrict/ban)
- Need biomonitoring data to:
 - enhance chemical risk assessment
 - enhance assessment of effectiveness of regulations
 - provide early warning of emerging contaminant problems



structure





Objectives

Use raptors as sentinels of environmental contamination to answer three questions:

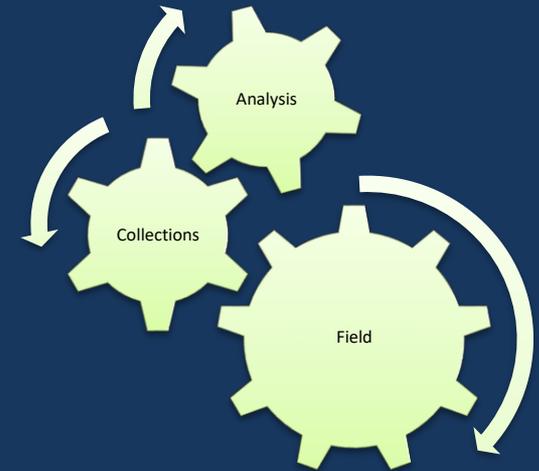
- 1) are European and relevant global and regional **chemicals laws** and **conventions** effective in reducing environmental exposure to contaminants
- 2) what are the environmental risks of specific chemicals
- 3) are there emerging contaminant problems needing remedial action?

Research Coordination

- Assessing current capacities for pan-European raptor **biomonitoring** with a focus on current capabilities to detect temporal and spatial trends in contaminant exposure focussing on **selected contaminants**, and on identifying key areas of weakness. Developing a framework for a European Raptor Biomonitoring Scheme
- Provide a framework for a distributed European Raptor Specimen Bank for contaminant monitoring and expanding existing **collections**.
- Develop a framework, standards and protocols for a European Raptor Sampling Programme. Standards and protocols will ensure harmonised sampling methods and harmonised recording of relevant field data.



The three 'Arenas'



- **Analysis**

- labs, ecotoxicologists

⇒ WG 1 & 2

- **Collections**

- NHMs, ESBs, other collections

⇒ WG 3

- **Field**

- field ornithologists/ecologists,
raptor conservationists

⇒ WG 4

WORKING GROUPS 1&2

“Analysis ARENA”

research coordination and capacity building through networking and collaboration among ecotoxicologists, collaborating laboratories and regulators



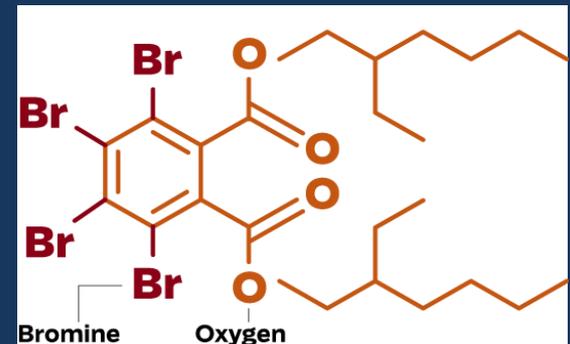
WG1&2 “Analysis ARENA”

- Assessing current capacities for pan-European assessment of contaminant exposure
- Linking researchers and analytical laboratories
- Pilot framework (pan-European assessment and reporting of trends in exposure)
- Providing guidance on integration with regulatory risk assessments and effectiveness evaluations



WG1&2: Develop framework for European Raptor Biomonitoring Scheme

- Identify appropriate priority species
- Identify sample matrices for measurements
- Piloting joint assessment (proof of concept)



WG1&2: POISONING OF RAPTORS IN EUROPE



ALEXANDRU IOAN CUZA
UNIVERSITY of IAȘI



MUZEUL NATIONAL
DE ISTORIE NATURALA
GRIGORE ANTIPA

EUROPEAN RAPTOR BIOMONITORING
FACILITY
COST ACTION 16224



Spain
France
Germany
UK
Greece

*Workshop on
Forensic Wildlife Toxicology
18-19 November 2019*

Croatia
North Macedonia,
Albania
Serbia
Romania



*"Grigore Antipa" National Museum of Natural History
Bucharest, Romania*

WG1&2: POISONING OF RAPTORS IN EUROPE

BUCHAREST 2019

- Understanding how approaches to investigations vary between countries (necropsy, forensic and analytical methods)
- How legal regulations on wildlife poisoning vary between countries and how this impacts diagnostic investigations
- Gaps in the knowledge and the constraints to the diagnosis of poisonings will be identified
- The potential to form an informal network between participating laboratories, including the aims and functioning of any such network.



WORKING GROUP 3

“Collection ARENA”

- constructing a *meta-database* of existing raptor specimens
- stimulating expansion of raptor collections



Collections – Context

- **ESBs**
 - Few have raptor samples, recent years/decades only
 - Designed for contaminant monitoring
 - Potential for more ESBs to bank raptor samples
- **NHMs**
 - Large collections (skins, bones and eggs) from most regions of Europe, 18th century to modern times.
 - Not designed for contaminant monitoring – but with new methods can extend contaminant monitoring over space and time
 - Many NHMs also collect and store contemporary raptor samples.
- **Wildlife/Raptor Research Institutions**
 - Raptor samples available from many years
 - Stored for contaminant monitoring



Develop a framework to link and expand existing collections and propose new regional collections

WG3 Objectives

Capacity building through networking and collaboration among ecotoxicologists and raptor collections (NHMs, ESBs, Res Inst)



and stimulating expansion of raptor collections

WG 3 - achievements

- Review of existing raptor collections in Europe (116 collections)
- Identification of priority species for collections to store for pan-European contaminant monitoring (with WGs 1&2 and WG4)
- Guidelines on shipping of samples (addressing legal constraints)
- Design framework for a meta-database on existing raptor specimens
- Development of a network of over 100 collections across Europe and supply of many hundreds of samples to ERB Facility Proof of Concept and LIFE APEX demonstration studies

WORKING GROUP 4

“FIELD ARENA”



Assess current field capacities; Develop framework, standards and protocols for a **European Raptor Sampling Programme (ERSamP)**

Role of the FIELD ARENA

Structure for collecting the right samples

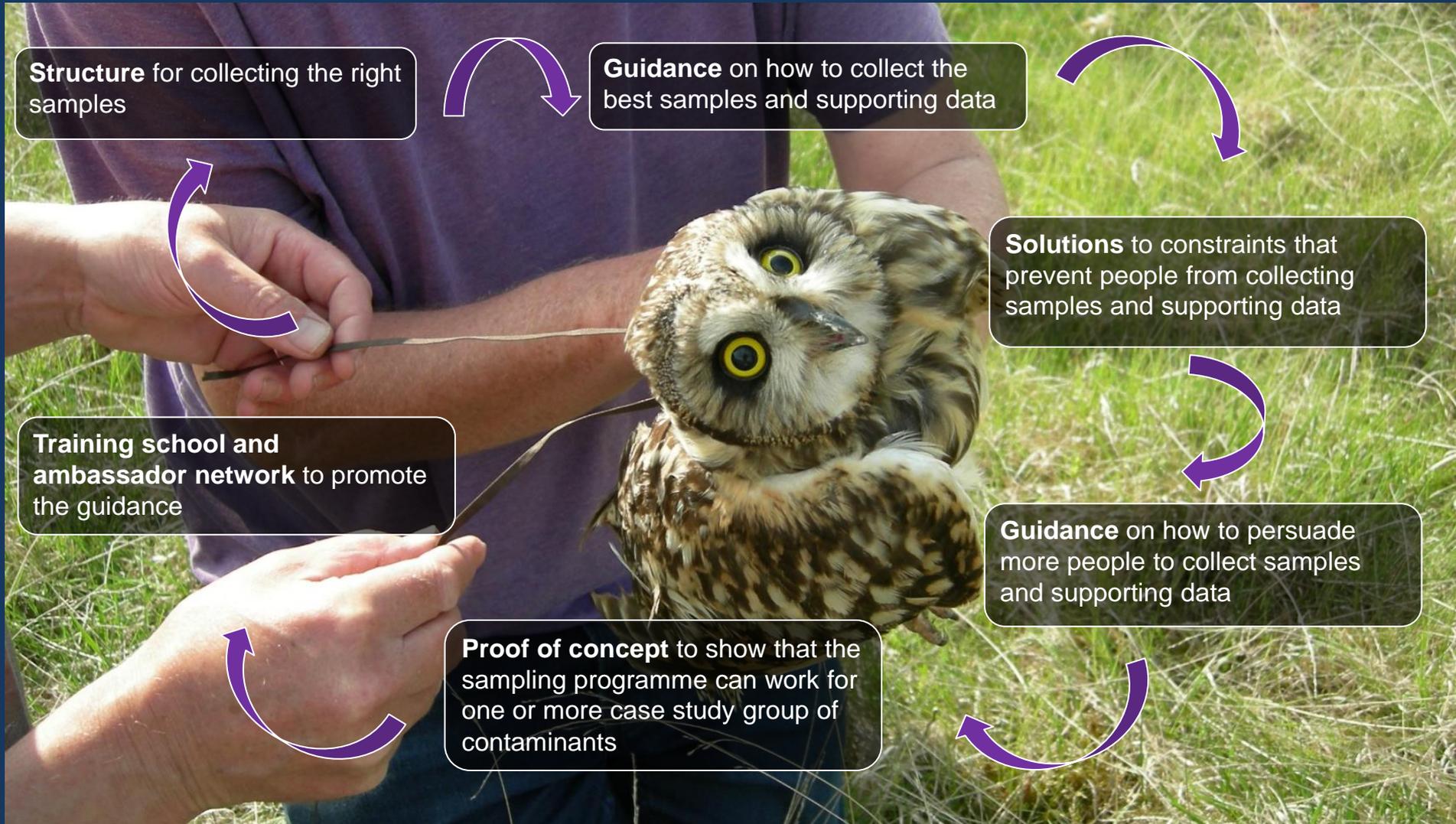
Guidance on how to collect the best samples and supporting data

Solutions to constraints that prevent people from collecting samples and supporting data

Training school and ambassador network to promote the guidance

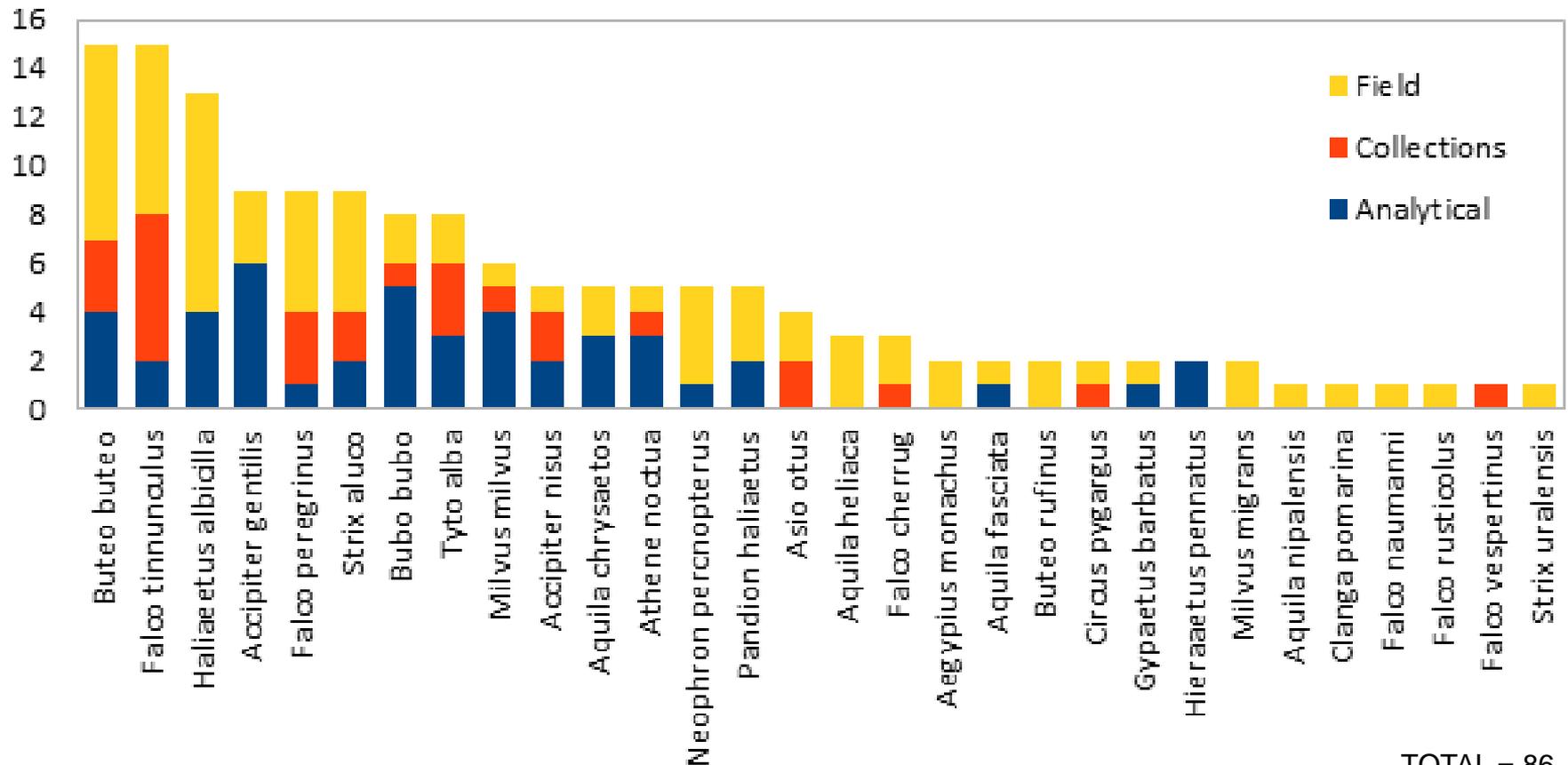
Guidance on how to persuade more people to collect samples and supporting data

Proof of concept to show that the sampling programme can work for one or more case study group of contaminants



SURVEY – THE MOST MONITORED SPECIES INDICATED BY WORKSHOP PARTICIPANTS

- Top species mentioned:**
- 1—Common buzzard (15)
 - 2—Common kestrel (15)
 - 3—White-tailed eagle (13)
 - 4—Goshawk (9)
 - 5—Peregrine falcon (9)
 - 6—Tawny owl (9)
 - 7—Eagle owl (8)
 - 8—Barn owl (8)



TOTAL = 86

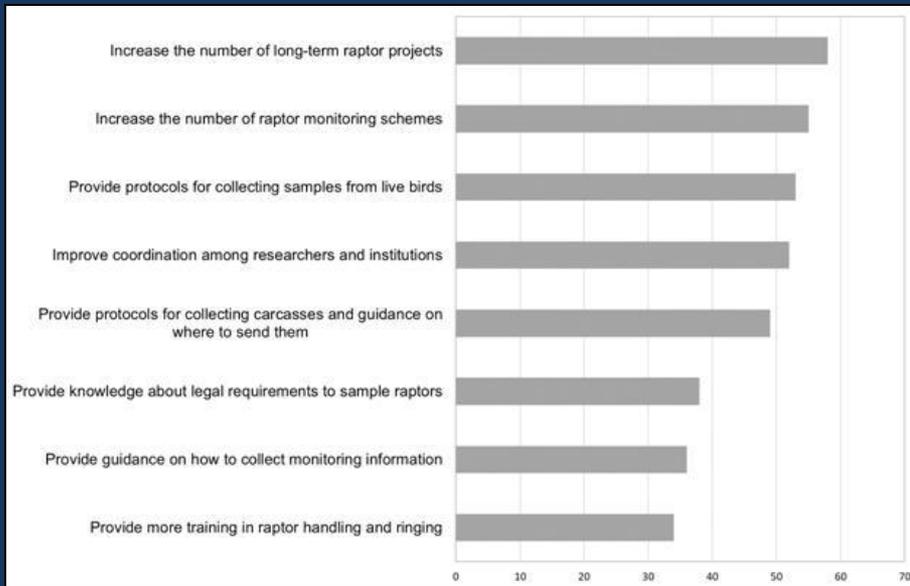
Involving participants in the field

- Optimising and simplifying protocols for samples from live birds and collection of dead birds
- Motivation of and communication with field researchers
- Training and support people involved in field work

ERBFacility Raptor Advice Hub

The ERBFacility Raptor Advice Hub features ten icons representing different topics:

- Raptor identification, ageing and sexing
- How to monitor raptors
- How to share your monitoring data
- Information on legislation / permits / licensing / wildlife crime
- How to get people involved in raptor research
- Training opportunities & skills sharing hub
- Species-specific guidance
- How to collect samples
- How to submit samples for analysis
- What can we analyse and where?



Frequency of the most important constraints for sampling raptors identified by respondents

The value of contextual data to contaminant studies – Tawny Owl proof of concept example

Virtual Short-term Scientific Mission in WG4



Urška Ratajce (SI), Rui Lourenço (PT), Al Vrezec (SI),
Chris Wernham (UK), Silvia Espin (ES), Pablo Sánchez Virosta (ES), Simon Birrer (CH), Dani Studler (CH)

"Tawny owl at night", by BVA, licensed under CC BY-SA 2.0



PROOF OF CONCEPT

Results of the survey of samples of priority raptor species across Europe

- **General objective:** Test the capacity of the European Raptor Biomonitoring Facility for pan-European monitoring in raptors.
- **Specific objective:** Test the capacity to assess spatial variation in contaminant residue levels across Europe, based on a 100 km x 100 km grid.

Focal contaminants

- SGARs
- Mercury
- Lead

selected species

Tawny owl (*Strix aluco*)



Matrix

Liver

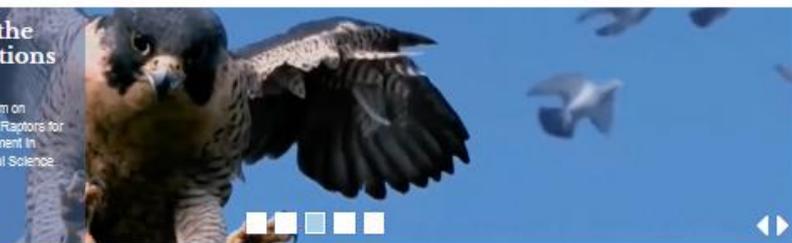




New film on the role of collections available!

See the new ERBFacility film on Contaminant Monitoring in Raptors for Better Chemicals Management in Europe - the Role of Natural Science Collections

[READ MORE](#)



Welcome

Welcome to the European Raptor Biomonitoring Facility COST Action ([CA16224](#))

We are an open network of researchers and practitioners working towards coordinated Europe-wide monitoring of contaminants in raptors (birds of prey) with a view to supporting the implementation of EU chemicals regulations and thereby reducing chemical risks to raptors themselves, to the wider environment and to human health.

If you are interested to join us, please see the [Join page](#).



White-tailed eagle *Haliaeetus albicollis*, Mull - Jacob Spinks - CC by 2.0 via Wikimedia Commons

Forthcoming Events

Latest News

ERBF newsletter
7 October 2021

Call for STSM/VM for WG3 Collections Arena published - deadline 17 September 2021
5 September 2021

Film: Processing Raptor Carcasses for Contaminant Monitoring
23 February 2021

Film: Contaminant Monitoring in Raptors for Better Chemicals Management in Europe - The Role of Collections
23 February 2021

Film introducing ERBFacility
23 February 2021

Virtual WG3 meeting held on The Role of Collections for Contaminant Monitoring in Raptors Across Europe - State of Play and Next Steps
23 February 2021

Sign up to our RSS feed to receive news items direct to your desktop, (RSS feed reader required).



Latest Tweets

ERBF Facility
ERBF Facility - welcomes interest to join the COST Action from suitably qualified and experienced researchers and practitioners. Visit [ERBFacility.eu](#).



Oct 18, 2021

ERBF Facility
ERBF Facility is an open network working towards coordinated Europe-wide monitoring of contaminants in raptors with a view to supporting the implementation of EU chemicals regulations and thereby reducing chemical risks to raptors, the wider environment and human health.