Introduction to the role and overall aims of WG1 & 2

- Richard Shore – Igor Eulers (WG1)
- Antonio García-Fernández – Rafael Mateo (WG2)

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WHY MONITOR?

- Detect environmental hazard
- Understand nature and drivers of trends (time/ space)
- Assess risk and need for intervention
- Validate fate and assessment models
- Assessment of mitigation
- Evidence regulation working

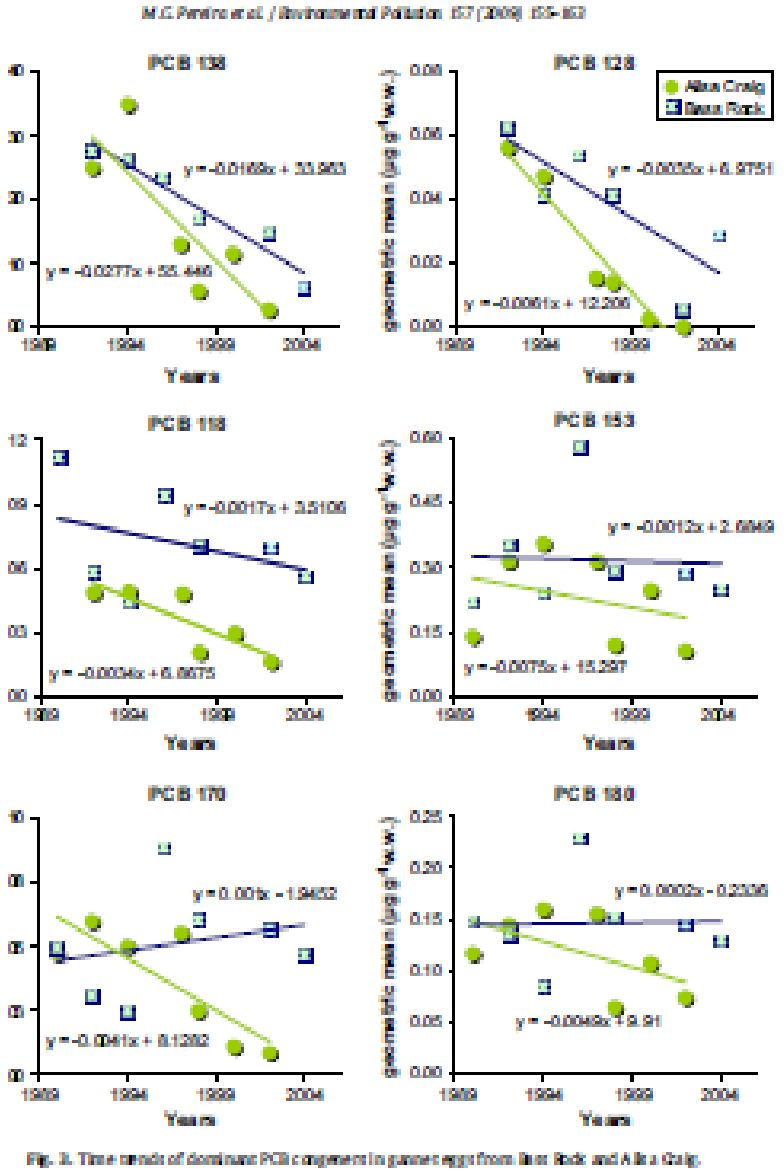

Fig. 3. Time trends of dominant PCB congeners in guillemot eggs from Isle Rock and Alisa Craig.

Introduction to the role and overall aims of WG1 & 2

Cost Proposal and Memorandum Of Understanding

- EU law aims prevent and limit negative impacts of chemicals on **human health** and **the environment**.
- The presence of contaminants in the environment continues to impose very high costs on **human and wildlife health**

Risk Analysis, Vol. 16, No. 6, 1996

A Perspective on the Risk Assessment Process for Endocrine-Disruptive Effects on Wildlife and Human Health*

Robert J. Kavlock[1,3] and Gerald T. Ankley[2]

1996

Statement from the work session on chemically-induced alterations in sexual development:

the wildlife/human connection.[1]

Wingspread Conference Center
Racine, Wisconsin
July 1991.

1991

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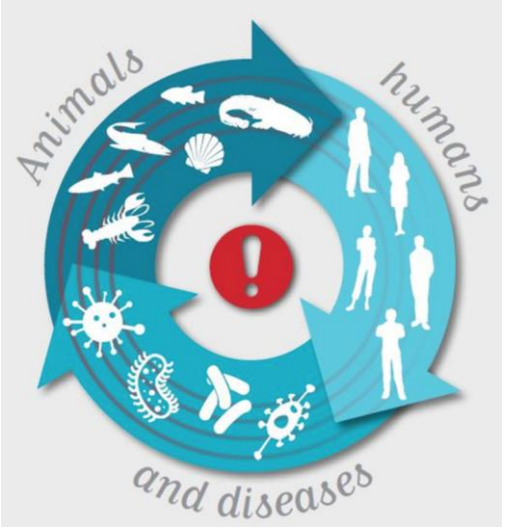

A collaborative, multi-sectorial, and trans-disciplinary approach with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.

World Health Organization

Health Topics

One Health

September 2017

www.onehealthinitiative.com

Introduction to the role and overall aims of WG1 & 2

Cost Proposal, Memorandum Of Understanding

3 needs
- (1) Enhancing evaluation of the effectiveness of regulation
- (2) Enhancing reliable risk assessment of chemicals.
- (3) Providing early warning of emerging contaminant problems

ERBFacility aims to meet these 3 needs → **using raptors as sentinels of environmental contamination**

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BUILDING ON EURAPMON LEGACY

- Inventory of current monitoring - contaminants, species, matrices (Gomez-Ramirez et al. 2014)
- Inventory of which raptor species are being monitored (Vrezec et al 2012)
- Identified best sample types and methods for monitoring different compounds (Espin et al. 2016)

Environment International 67(2014) 12–21

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An overview of existing raptor contaminant monitoring activities in Europe

P. Gómez-Ramírez [a,*], R.F. Shore [b], N.W. van den Brink [c], B. van Hattum [d], J.O. Bustnes [e], G. Duke [f], C. Fritsch [g], A.J. García-Fernández [a], B.O. Helander [h], V. Jaspers [i,j], O. Krone [k], E. Martínez-López [a], R. Mateo [l], P. Movalli [d], C. Sonne [m]

RAP EU NOW

Research and Monitoring *for* and *with* Raptors in Europe

Ecotoxicology
DOI 10.1007/s10646-016-1636-8

Tracking pan-continental trends in environmental contamination using sentinel raptors—what types of samples should we use?

S. Espín[1,2] · A. J. García-Fernández[1] · D. Herzke[3] · R. F. Shore[4] · B. van Hattum[5,16] · E. Martínez-López[1] · M. Coeurdassier[6] · L. Eulaers[7,14] · C. Fritsch[6] · P. Gómez-Ramírez[1] · V. L. B. Jaspers[7,8] · O. Krone[9] · G. Duke[10] · B. Helander[11] · R. Mateo[12] · P. Movalli[13] · C. Sonne[14] · N. W. van den Brink[15]

Accepted: 11 February 2016

State of the Art

Gómez-Ramírez et al. 2014. *Environment International* 67: 12–21. OPEN ACCESS
EURAPMON overview on Inventory studies on raptors.

- **Schemes/Countries**
  - 52 schemes over the last 50 years
  - Approx. 50% running for more than 20 years
  - 15 countries (mainly western European) with active schemes
- **Contaminants**
  - Legacy persistent organic compounds (OCP and PCBs)
  - Metals/metalloids
  - (In at least 6 countries: flame retardants, ARs, and fungicides)
- **Species** (each in 6–10 countries).
  - Common buzzard Buteo buteo
  - Common kestrel Falco tinnunculus
  - Golden eagle Aquila chrysaetos
  - White-tailed sea eagle Haliaeetus albicilla
  - Peregrine falcon Falco peregrinus
  - Tawny owl Strix aluco
  - Barn owl Tyto alba
- **Samples**
  - Feathers
  - Eggs

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Introduction to the role and overall aims of WG1 & 2

ERBFacility Work Groups 1 & 2 (WG1&2)

- **WGs 1 and 2,** targeted at stakeholders in the '**analytical arena**', address objectives **R1** and **C1**, delivering proof of concept of pan-European contaminant assessments with raptors, frameworks for pan-European raptor biomonitoring, a network of analytical labs, and trial joint assessments and reporting.

  - **Objectives R: R**esearch coordination objectives
  - **Objectives C: C**apacity building objectives and thus deliver the ERBFacility.

Monitoring priority contaminants, PPPs and biocides with raptors

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WG1 AND WG2 –KEY OBJECTIVES

Objective R1: To assess current capacities for pan-European raptor biomonitoring and develop a framework for a European Raptor Biomonitoring Scheme (ERBioMS), using priority raptor species and deliver proof on concept for pan-European assessment of contaminant exposure trends (and, where feasible, effects) in raptors.

- Focus on current capabilities to detect temporal and spatial trends in contaminant exposure and key areas of weakness (in the absence of coordination)

- Develop an ERBioMS framework capable of delivering pan-European surveillance and monitoring of key pollutants (EU chemicals law and relevant global and regional conventions)

WG1 AND WG2 –KEY OBJECTIVES

Objective C1: To build analytical capacities ("analysis arena") by developing networking and collaboration among ecotoxicologists and collaborating laboratories, as well as regulators and administrators.

- Collaborative work on objective R1
- Piloting joint assessment and reporting *(deliver proof of concept*)
- Develop *guidance* on how to integrate assessments with those of relevant regulatory bodies (e.g. ECHA, EFSA, UNEP)…….ie explore how to mesh with key stakeholders needs

WG1 and WG2: Monitoring priority contaminants, PPPs and biocides with raptors

WHY TWO WORKING GROUPS?

- WG1 focuses on REACH 'priority contaminants such as Hg and Pb, and engages in particular REACH, Minamata (Hg) and Convention on Migratory Species (Pb) stakeholders
- WG2 focuses on PPPs, biocides and NSAIDs and engages stakeholders in EU PPP, Biocides and Medicinal Products law
- Tasks divided as involve different contaminants and hence different laws/policies, agencies (WG1 is largely ECHA-related, WG2 largely EFSA-related) and, sometimes, researchers
- WGs will work closely together
  - common approaches
  - read-across (between types of compounds)
  - share ideas and methodologies

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WG1&2 TASKS: T1.1, T2.1 (Months 1-24)

Assess current capacities for pan-European raptor biomonitoring (assessment of exposure trends and, where feasible, effects) for 4-6 prioritised contaminants

Candidates contaminants for review include:

(i) PCBs, FRs, and PFAS,
(ii) Toxic heavy metals (Hg and Pb)
(iii) Biocides (SGARs)
(iv) Veterinary drugs: Parasiticides, NSAIDs and livestock antibiotics

WG1 and WG2 TASKS: T1.2, T2.2 (Months 18-36)

Develop framework for European Raptor Biomonitoring Scheme (ERBioMS) using priority species and matrices

- Identify appropriate species (and read across methods for species within trophic guilds)
- Identify sample matrices based on (Espin et al 2016)
- Identify scientific methodology
- Relate to WG3 and WG4 (logistics)

WG1 and WG2 TASKS: T1.3, T2.3 (Months 12-48)

Deliver a network of collaborating laboratories capable of delivering pan-European surveillance and monitoring

- Develop an agreed list of priority compounds/compound groups
- Assess potential for monitoring using species and matrices selected by task
- Establish the scope of activities that could be undertaken and timeliness, quality control and potential for sample exchange between laboratories and collections

WG1 and WG2 TASKS: T1.4, T2.4 (Months 36-42)

Carry out pilot joint assessments and reporting for proof of concept

- Post-mortem collation of data including visceral gout
- Poisoning network
- Key chemical monitoring
- Relate to WG3 and WG4 (logistics)

WG1 and WG2 TASKS: T1.5, T2.5 (Months 30-48)

Deliver training and guidance in pan-European surveillance and monitoring using raptors

- Refine technical specs for ERBioMS, for assessment of priority contaminants, PPPs etc
- Training School: Contaminant monitoring with raptors
- Development, with key stakeholders, proof of concept reporting frameworks