


# EuMon databases and characteristics of European biodiversity monitoring

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 EuMon – EU-wide monitoring methods and systems of surveillance for species and habitats of Community interest – EuMon Conference: 28.- 30. January 2008



## Why databases on biodiversity monitoring activities in Europe ?

- **CBD: "Hold biodiversity decline by 2010"**  
...data for assessment of this target
- **EU: Evaluation of status of Natura 2000 sites**  
...standard site-based methods and comparable data
- **EU: Directives require reporting on state and trend of distribution and population size for Directive species and their habitats (surveillance of conservation status)**  
...integration of existing monitoring data for assessment  
...launching of monitoring activities to fill gaps

- DATA AVAILABILITY
- BIOLOGICAL COVERAGE
- SPATIO-TEMPORAL COVERAGE
- CURRENT PRACTICES
- GAP IDENTIFICATION

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## Which needs for these databases?

- **Existing monitoring schemes: who is doing what? how? what for?**
- **Internet portal**
- **Identification of average practices**


DaEuMon



 EuMon – EU-wide monitoring methods and systems of surveillance for species and habitats of Community interest – EuMon Conference: 28.- 30. January 2008



## Where to find the databases?

 EuMon – EU-wide monitoring methods and systems of surveillance for species and habitats of Community interest – EuMon Conference: 28.- 30. January 2008



## What information has been collected?

➤ **Online questionnaires: 33-37 questions (+ contact info)**

**5 sets of questions:**

(1) **reasons for monitoring** (aims, funding)

(2) **biodiversity coverage**

- ✓ **biological target** (species, taxa, habitat, env. quality var.) – EUNIS
- ✓ **biological measures** (0/1, N, CMR, phenol., age struct.)
- ✓ **space** (country, geographical scope, area)
- ✓ **time** (frequency, duration)
- ✓ **causes of change**

## What information has been collected?

(3) **Monitoring design**

- ✓ **representativity of data** (cf. choice of sites, experimental design)
- ✓ **measurement error and precision** (cf. replication)

(4) **Monitoring effort** (incl. manpower)

- ✓ **nb of samples** / time and space
- ✓ **time spent per visit**
- ✓ **Nb of participants** (professionals & volunteers)

(5) **Costs**

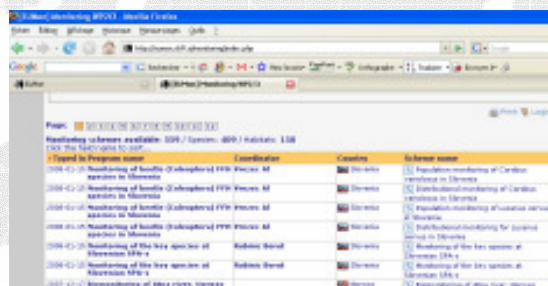
## How was information collected?

➤ **Distribution of the questionnaire**

- **All EU and neighbours**
- **> 3000 questionnaires distributed** (e-mail, flyers, conferences, networks, etc.)

➤ **Internal validation of entries**

➤ **Online database**



Project	Coordinator	Subject matter
2004-01-01 Monitoring of butterfly (Colubrophora) FFW (Species: All)	Germany	Population monitoring of Common butterfly in Germany
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## DaEuMon coverage

➤ **Database content**

**559 schemes: 409 for species + 150 for habitats**

**48 129 persons: 7 749 professionals + 40 380 volunteers**

**Volunteer involvement: 87% for Species, 15% for Habitats**

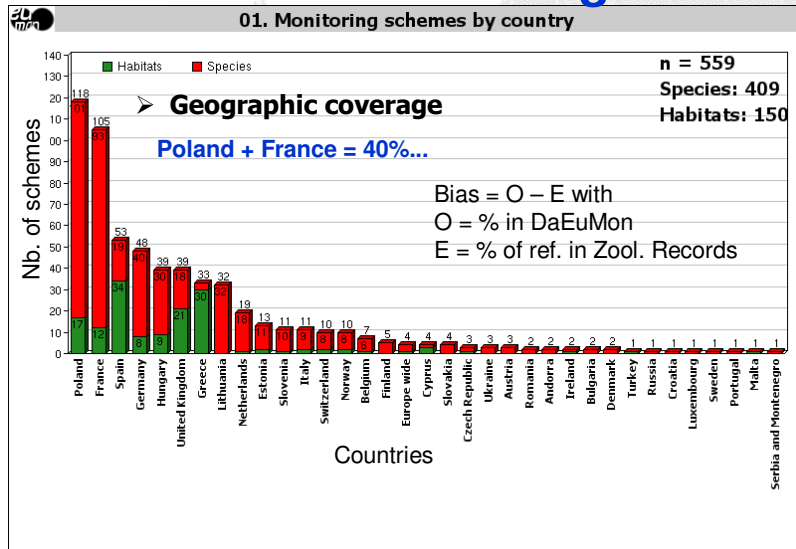
**246 331 sites**

**326 830 person.days of fieldwork per year (for Species)**

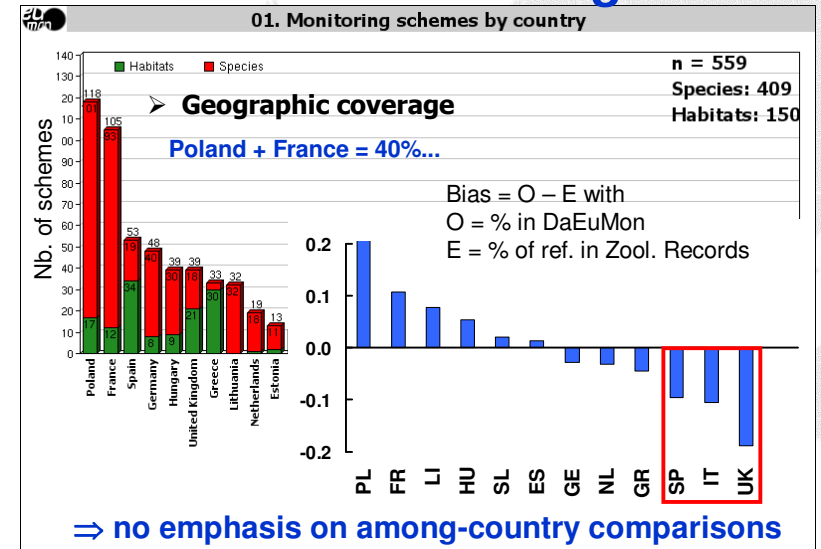
**4 Millions € per year (for Species)**



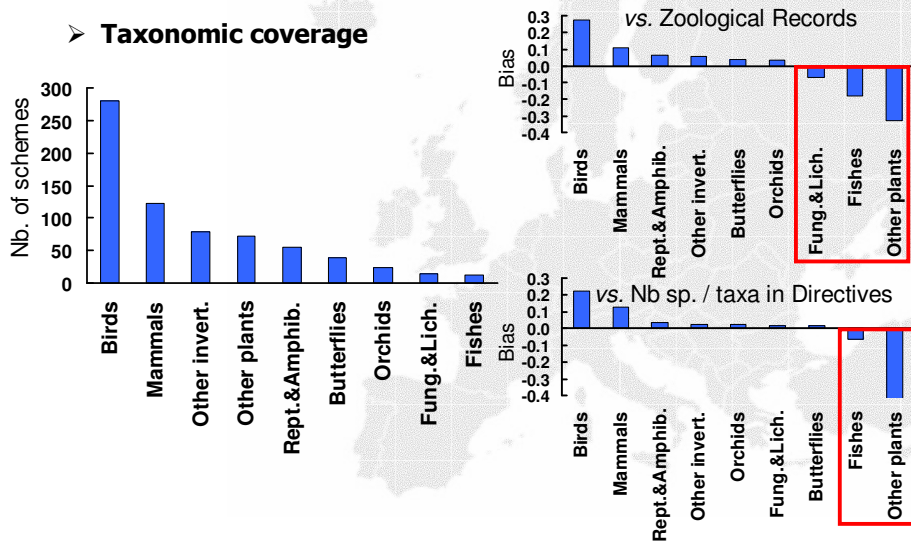
# DaEuMon coverage



# DaEuMon coverage



# DaEuMon coverage



# What the databases can be used for?

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# How to use the databases?

## Average practices

...which may not be the ideal practices

...compared across taxa, causes of change, % of volunteers, costs, etc

## Gaps

...variations in coverage across taxa, spatial scope, countries, etc

**What could be done?**

## Potential networks: integration of schemes

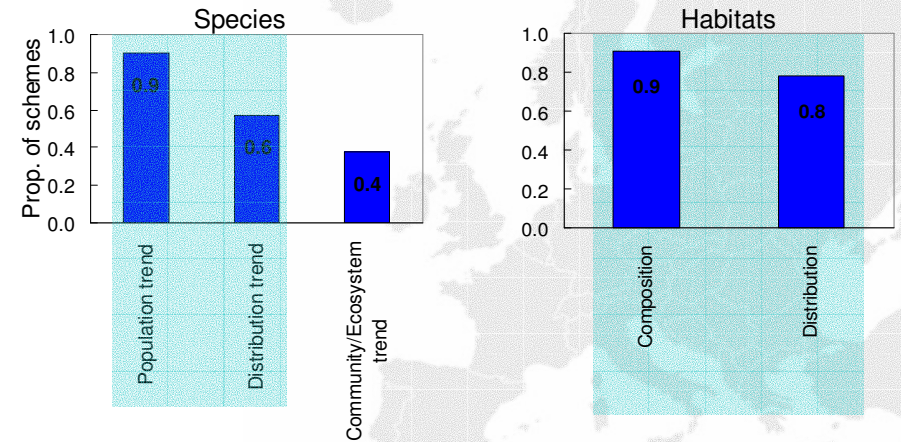
...to combine similar or complementary information

To **find partners & expertise**

To **increase precision, coverage, generality and understanding**



# What are the aims of monitoring?

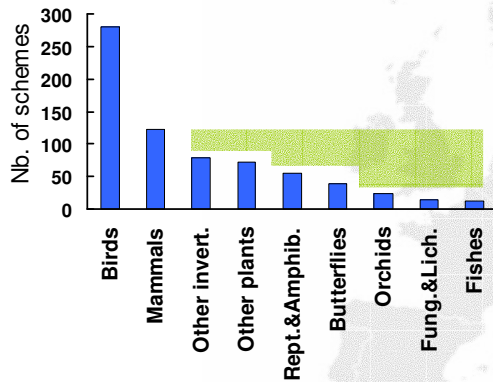


Need: "State and trends in distribution and population size of species & their habitats"

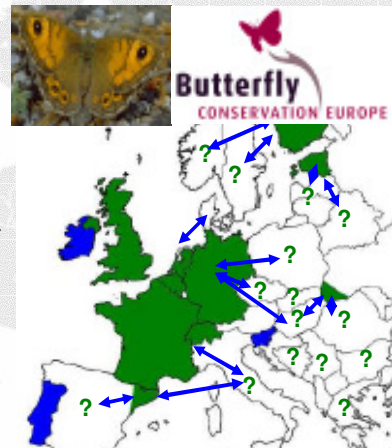


# Which taxa are under-monitored?

**Taxonomic gaps:**  
Schemes to be launched?



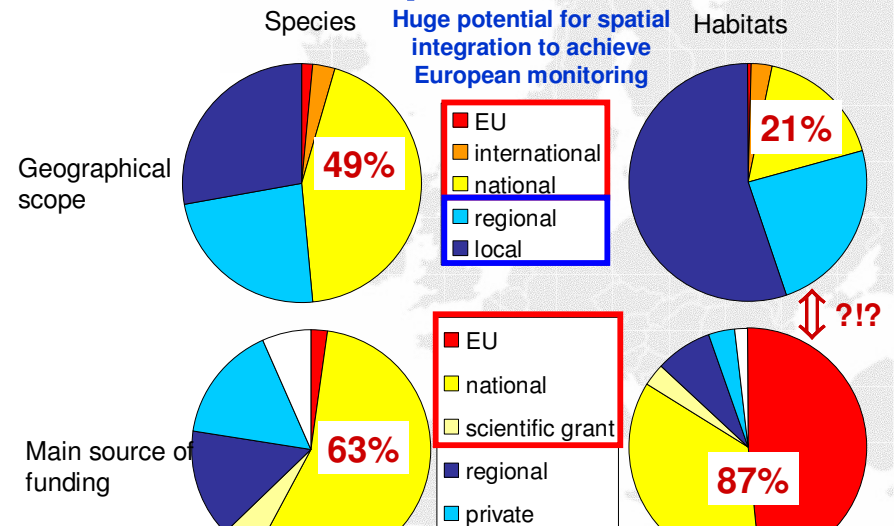
**Geographic gaps:**  
Schemes to be launched?



from van Swaay et al. submitted



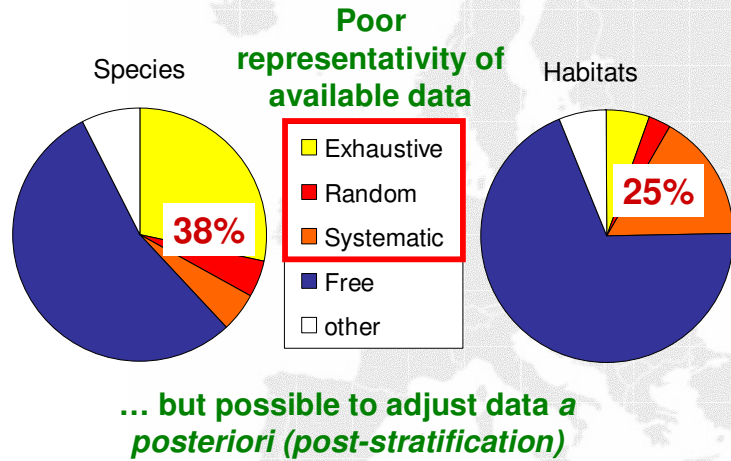
# At what spatial scale?



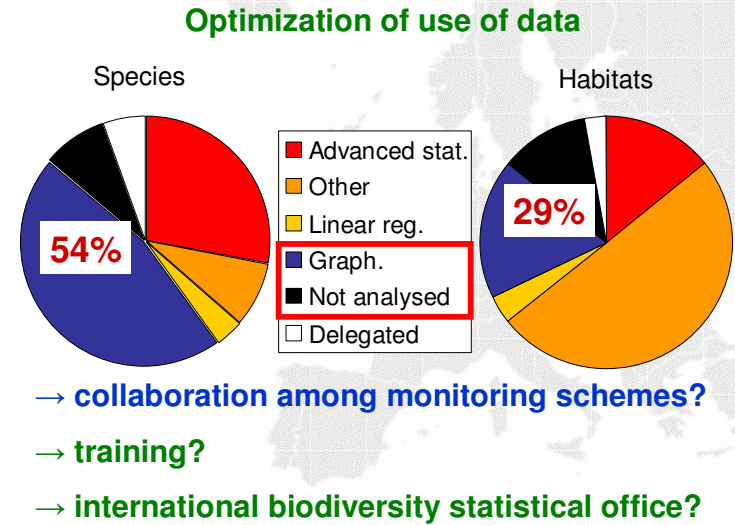
- ✓ Few fundings at large geographical scope
- ✓ Incoherence between scope and funding source for habitats



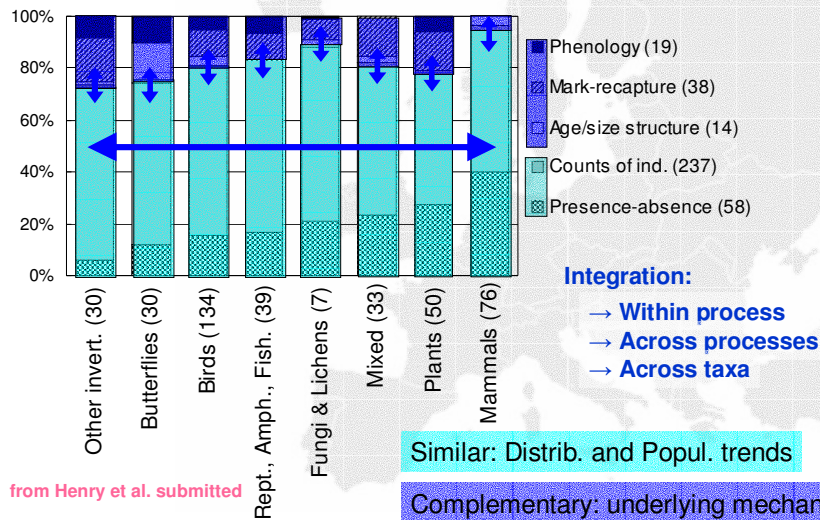
# Are monitoring data **representative**?



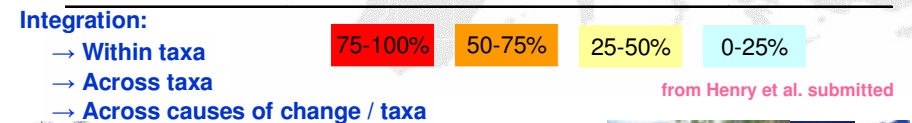
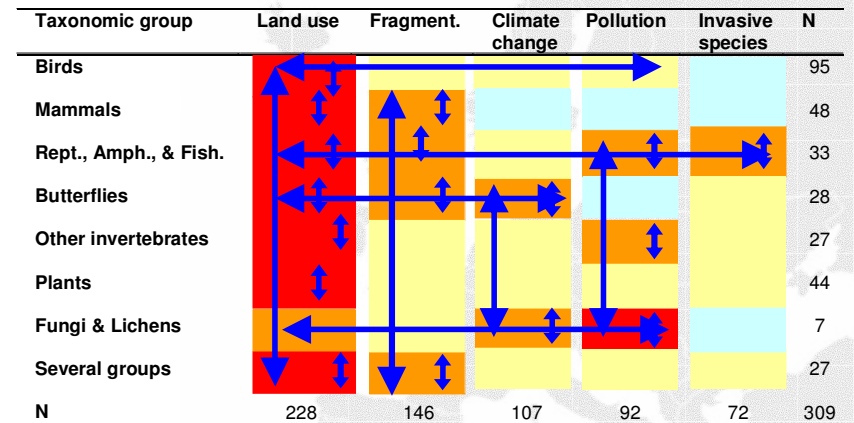
# How data are **analysed**?



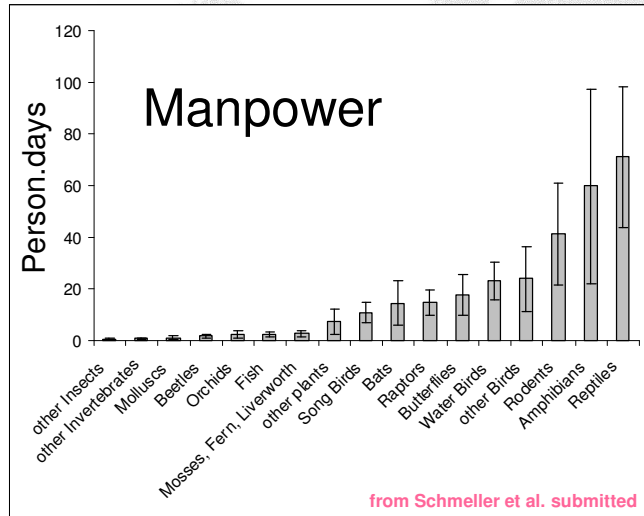
# What biological process per taxa?



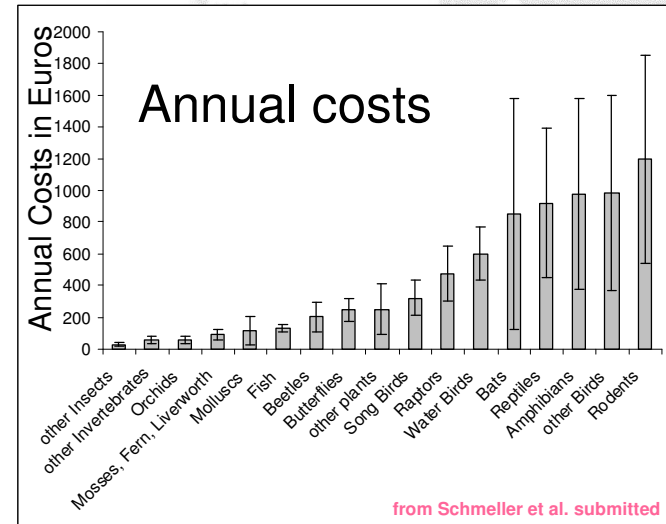
# Which **taxa** for which **cause of change**?



## How much manpower does it take?



## How much does it cost?



## 1<sup>st</sup> example of use of DaEuMon:



## Overview of Raptors monitoring in Europe

"Development of an EU Raptor Monitoring Network", Oct. 2006, Italy

P-Y Henry, J-B Mihoub, F Johannot, R Julliard

## Sampling designs for Raptors monitoring

### ➤ Choice of monitored sites:

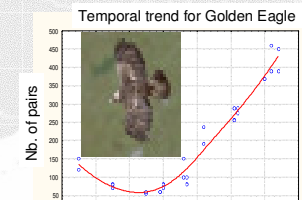
**Representativity = 46%** of schemes

but

**31% monitor all sites where the species occurs**

### ➤ Temporal design:

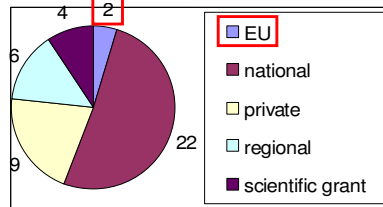
**88% monitor each year** whereas for **long-lived species**, the year-frequency could be minimised



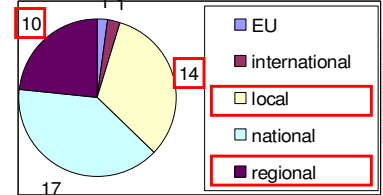
⇒ **monitoring effort could be optimised (e.g. other species)**

# Funds and coverage of Raptors monitoring schemes

Poor funding by EU ? Or funding via Member States ?



Restricted geographical scope of monitoring schemes



65% local or regional scope: good opportunity to integrate these local schemes in large-scale schemes



# 2<sup>nd</sup> example of use of DaEuMon:



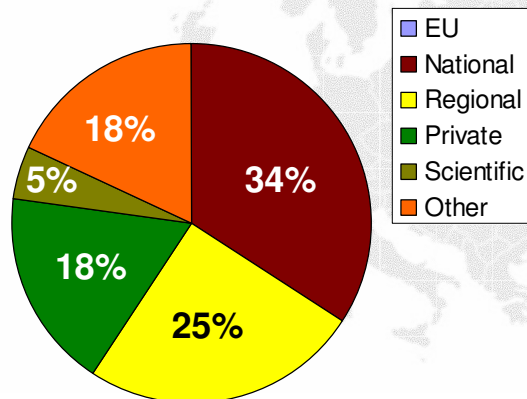
# Monitoring Amphibians and Reptiles in Europe

"14th European Congress of Herpetology", Jul. 2007, Portugal

D S Schmeller, B Bauch, P-Y Henry, K Henle

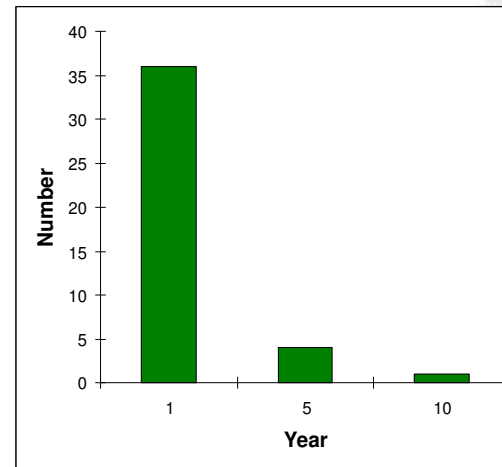
# Monitoring Herpetofauna

Funding source **NO EU-Funding!**



# Monitoring Herpetofauna

Between year frequency



87% of schemes monitor each year, whereas for long-lived species, a lower year-frequency could be considered





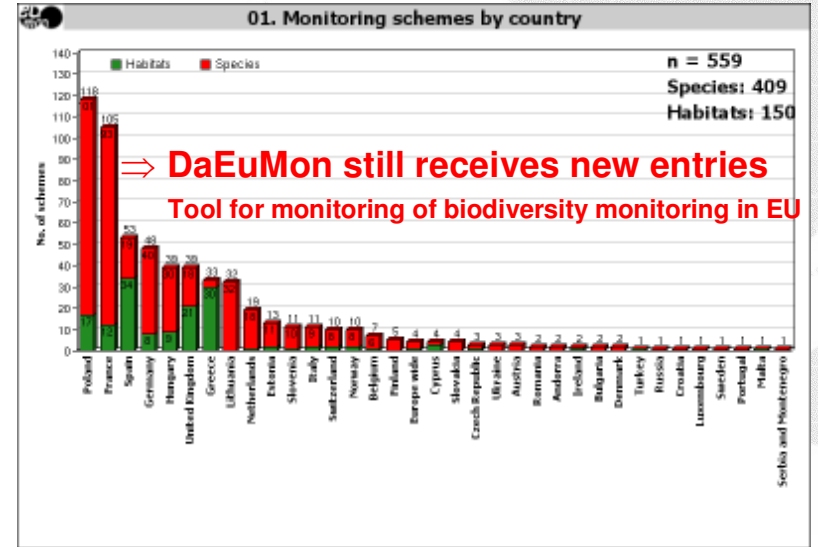
# Future of DaEuMon

EU MON Portal

EU MON in a nutshell

days hours minutes seconds  
**0853 03 23 1** left until the Year 2010

# Databases



EuMon – EU-wide monitoring methods and systems of surveillance for species and habitats of Community interest – EuMon Conference: 28.-30. January 2008



Thanks to all the contributors  
 to the EuMon Database  
 (and to EuMon colleagues)

– the past, the present, and the future ones

Give it all for an efficient  
 biodiversity monitoring

