



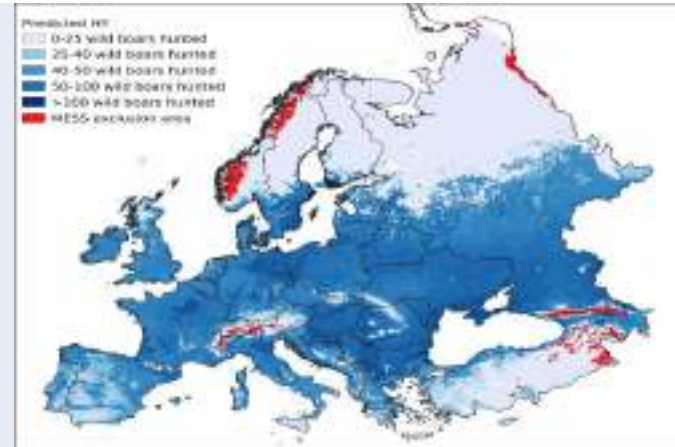
ENETWILD

THE EUROPEAN OBSERVATORY OF WILDLIFE



Tancredi Guerrasio - UNISS

- To deal with the lack of comparable data on the geographical distribution and abundance of the wildlife hosts at European scale needed to perform **risk assessments for shared emergent diseases**



Objectives



To generate and provide information and unbiased trends on population abundance for those developing, adopting, implementing and evaluating environmental policy in Europe.



To provide sound, independent guidance on methods and protocols for those involved in implementing wildlife monitoring, in close collaboration with European Institutions.



To develop a network alive for wildlife monitoring, incorporating different stakeholders, such as regional and national administrations, game, protected areas and research Institutions.



Supporting observation points, providing training and facilitating field design, data processing and analysis.

Objectives



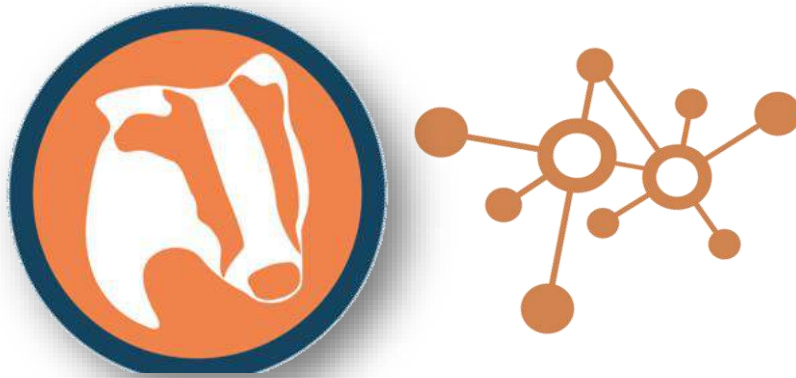
Focused on mammals but looking to integrate other taxa and ecological variables and integrated monitoring (wildlife diseases).



To improve population abundance estimation protocols, calibrating methods, incorporating information technology and citizen science.



Highlight areas and recommendations for action working, the inequalities existing in wildlife population monitoring over Europe.



I. Step by step.





1. Promoting networking applying harmonized wildlife population monitoring

Initial inclusion of different study areas representing all European countries



2. Improvement of the Observatory

Further, the design of the observatory (n° & distributions of study sites) will be optimized to provide representative unbiased estimates of population trends



3. Trend data for wildlife (terrestrial mammals)

Trend data will be openly published and a forum for partners and collaborators will address developing integrated monitoring



4. Integrated Monitoring

Wildlife monitoring integrates different taxa and ecological variables (integrated monitoring) such as wildlife diseases



- **Demonstrative: harmonized approach, sharing data and results**

- **Field laboratory**

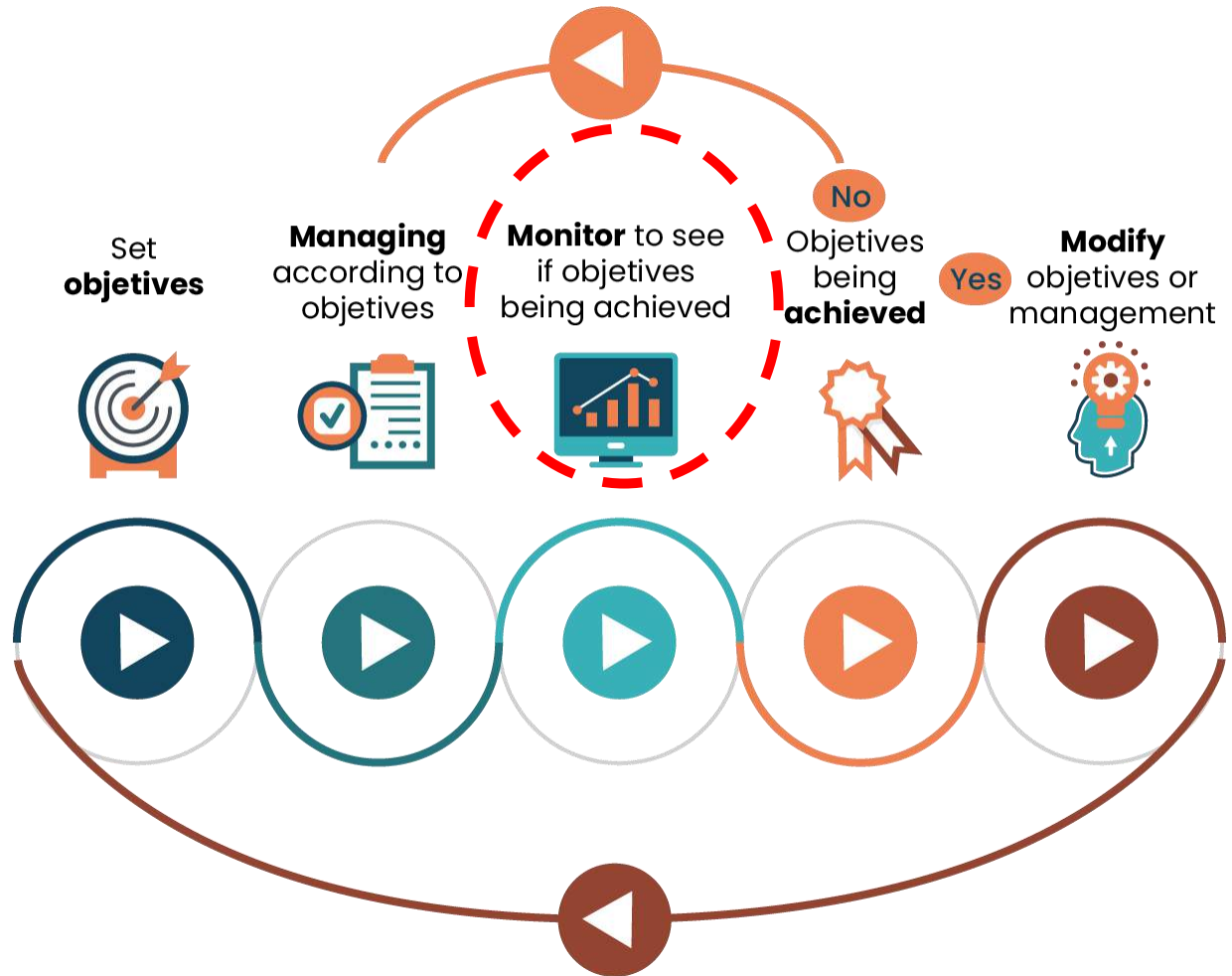
- **Training and transfer**



II. Wildlife Population monitoring for SCIENCE- management



II. Wildlife Population monitoring for SCIENCE-management





III. INTERNATIONAL SCIENTIFIC- TECHNICAL STANDARDS allowing comparisons and joint use of data





III. INTERNATIONAL SCIENTIFIC- TECHNICAL STANDARDS allowing comparisons and joint use of data

A network of observation points to harmoniously
monitor wildlife at European scale



IV. A collaborative approach





**A collaborative
approach**

- The **EOW** is open to professionals, researchers, administrations, NGOs, etc. who wish to contribute by providing at least one observation point in Europe

The EOW provides collaborators with:



- Training on the estimation of wildlife population density
- Protocols for density calculation (multi-species, multi-method: phototrapping)
- Ongoing support: study design, field implementation, data processing and analysis
- ITs & artificial intelligence for phototrapping density, available in summer 2022!
- Participation in work networks, conferences, webinars, publications



A PRACTICAL GUIDANCE ON ESTIMATION OF EUROPEAN WILD UNGULATES POPULATION DENSITY

A SELECTION OF RELIABLE PRACTICAL
METHODS FOR HARMONIZED POPULATION
MONITORING IN EUROPE

THE **ENETWILD** CONSORTIUM

MEMBER 1 BIOLOGISCHE ANSTALTEN DES LÄNDLICHEN ANWESENS AM NORDRHEIN- WESTFALEN VERBAND	MEMBER 2 FORSCHUNGS- UND ANWENDUNGS- ZENTRUM FÜR WILDLIB IM NATURHAUS KÖLN	MEMBER 3 INSTITUT FÜR WILDLIB UND NATURHAUS KÖLN	MEMBER 4 INSTITUT FÜR WILDLIB UND NATURHAUS KÖLN
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<https://wildlifeobservatory.org/>



3.3.3. Wildlife population density

Definition

By observing individuals of groups from a vantage point (e.g. plot of land), counting high and, bottom picture is possible to estimate total density by using both total count, and counts in sample areas.

Research objectives

Determine density and population structure.

Logistics

Physically more time intensive.

Advantages

In all cases, the assumption is that all animals present in an area are observed. The density of a population can be determined only by one observer. The second part of the method can be partially observed if the observation area is of the observation area and of the observation area. After this data recording, the changes over several years can be observed. In some cases, the density is estimated by using aerial photography or satellite imagery.

The main drawback of this method is that sampling error may be large and difficult to assess. For this reason, this method may be useful in comparing the relative densities of different areas. By using random plots and distance sampling (see 3.3.2) to assess the observed area, the observer can determine the coefficient of variation (CV) and provide relative density. In some knowledge, there are not one example using this method for wildlife (Petersen et al. 2015, Tieding et al. 2016).

Disadvantages

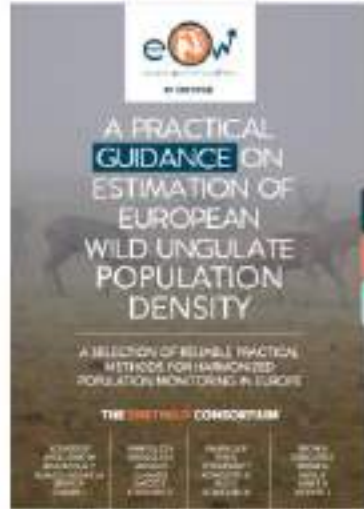
1) The first step is to select the area of observation. In some cases, the difficulty of finding the area for observation is a problem.

2) The second step is to select the area of observation. In some cases, the difficulty of finding the area for observation is a problem.





...and fourth sequence – the individual behind



A practical guidance on estimation of European wild ungulate population density

[Read](#)



Camera trapping protocol for wild boar density estimation

[Read](#)



Guides for carnivores, wild ruminants and wild boar density and abundance estimation

[Read](#)

Cards on density estimation methods



Methods for wild ungulate estimation

Direct Methods

1. Distance sampling on transects with thermographic cameras or spotlighting, and point transect
2. Vantage point counts
3. Block counts
4. Aerial counts
5. Drive counts
6. Capture-Mark-Recapture (CMR)
7. Camera trapping (CT) without individual recognition

Indirect Methods

1. Pellet counts
2. DNA: Genetic analyses to determine population size or density

Data collection: training



Report of the first annual general meeting of ENETWILD

Report of the ENETWILD workshop: "Harmonizing wild boar monitoring in North Eastern Europe: Progress meeting of the ENETWILD consortium"

Białowieża, Poland 13-14th May 2019

Report of the ENETWILD workshop on wild boar monitoring in South Eastern Europe



Report of the ENETWILD workshop: "Harmonizing wild boar monitoring in South Eastern Europe: Progress meeting of the ENETWILD consortium"

Senj, Croatia 17-18th September 2019



- Reinforced the network of international collaborators from East Europe which are willing to share expertise with ENETWILD and provide reliable data on wildlife density, abundance and distribution
- Interest in expanding collaboration to other species (carnivores and ungulates) & citizen science

Data collection (density): development and transfer of practical IT tools



Field work

AI:
automatic
Identification
spp & other
attributes

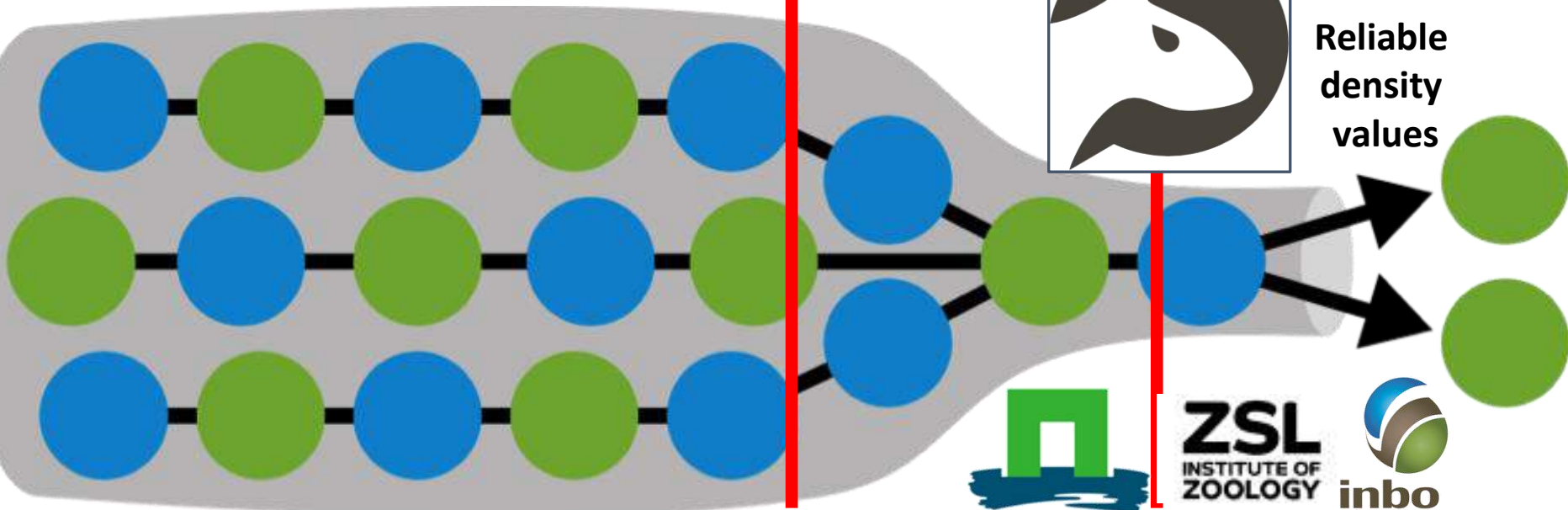
**Data
processing**

Friendly
online
interface

**Data
analysis**



**Reliable
density
values**





Implementation of the protocol

- CTs deployed for a minimum of 2 months July-Sep 22
- Field protocol based on ENETWILD guidance: min. 12 CTs 2000-4000ha.

The criteria to select the study sites

- Intensive feeding not provided (occasional feeding or baiting for hunting not problem)
- Hunting statistics recorded by event: n° animals shot, sighted and surface beaten

Data processing and density estimation

- Our goal is to make participants independent in processing and calculating density
- All images will be processed in *AGOUTI* app, where a specific project will be created for each study area



European Observatory of Wildlife

A project by:
ENETWILD

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THANK
YOU!!

@enetwild

