### **EUROPAB**®N

Europa Biodiversity Observation Network

EuropaBON: Designing a biodiversity monitoring system for Europe

Henrique M. Pereira

26 May 2021, EuropaBON 1st Stakeholder Workshop



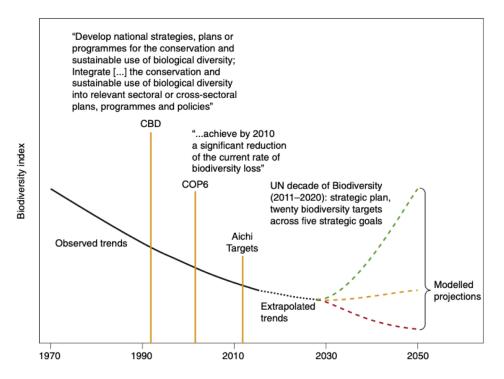




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### The biodiversity challenge



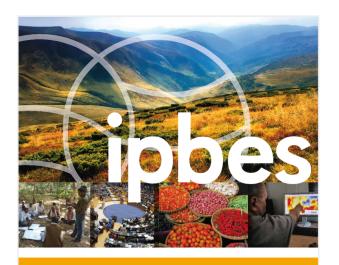


Climate change, biodiversity, food security, deforestation and land degradation go together. We need to change the way we produce, consume and trade. Preserving and restoring our ecosystem needs to guide all of our work. We must set new standards for biodiversity cutting across trade, industry, agriculture and economic policy

Ursula von der Leyen

#### The monitoring challenge

- Biodiversity change has complex spatial scaling patterns and temporal dynamics
- Biodiversity monitoring data is still very sparse in time and space and covers only some taxa
- Limited use of models and scenarios in biodiversity trend analysis and policy support
  - Opportunities for innovation!



The methodological assessment report on SCENARIOS AND MODELS OF BIODIVERSITY AND ECOSYSTEM SERVICES

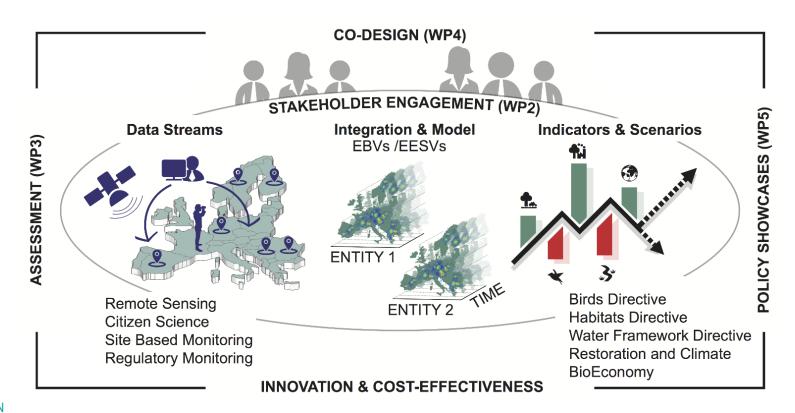


# The SC5-33-2020 Call: Monitoring ecosystems through research, innovation and technology

- Many EU policies rely on the supply of regularly updated biodiversity data
- The challenge is therefore to harness scientific advances and bring together various actors to strengthen current efforts and devise a cost-effective approach to monitoring combining in-situ, space and air-born monitoring
- The action should design an EU-wide framework for monitoring biodiversity and ecosystem services



#### The EuropaBON project



# The Essential Biodiversity Variables approach

- Integration of multiple data streams and biodiversity observations in open platforms
- Data-model fusion to produce biodiversity change variables across space, time and biological entities
- Indicator analysis possible at multiple levels of spatial aggregation



#### Primary observations

Earth observations from in situ surveys, structured monitoring, citizen-science and space missions











Opportunistic observations Structured sampling

red Ecolo ng observ

Ecological Air observatories

Airborne RS surveys

Satellite RS

#### EBV-ready FAIR data

Processed and standardized data mobilized into openaccess infrastructures and data centers



In situ data in standard

RS of biological phenomena

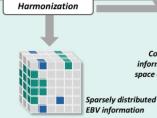


RS of drivers

3

**EBV** data cubes

Analysis-ready information about states of biodiversity accross space and time



Model-based integration

Contiguous information in space and time ibuted ion Location

4

Downstream EBV information

EBV products streamed for science applications, observation networks and policy assessments





Synthesis:



Report: Local to global assessments

GEO BON Data Portal

EBV-based change indicators

### A network of actors in EuropaBON

#### Stakeholder Consultancy Group













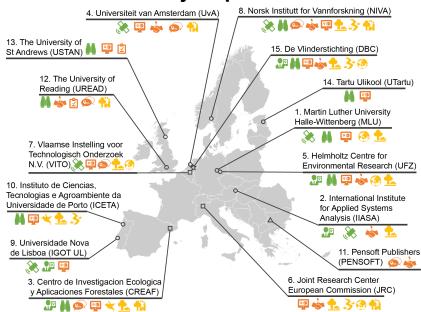






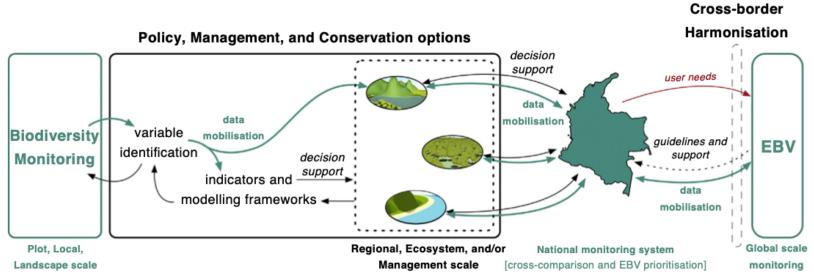


#### **Project partners**



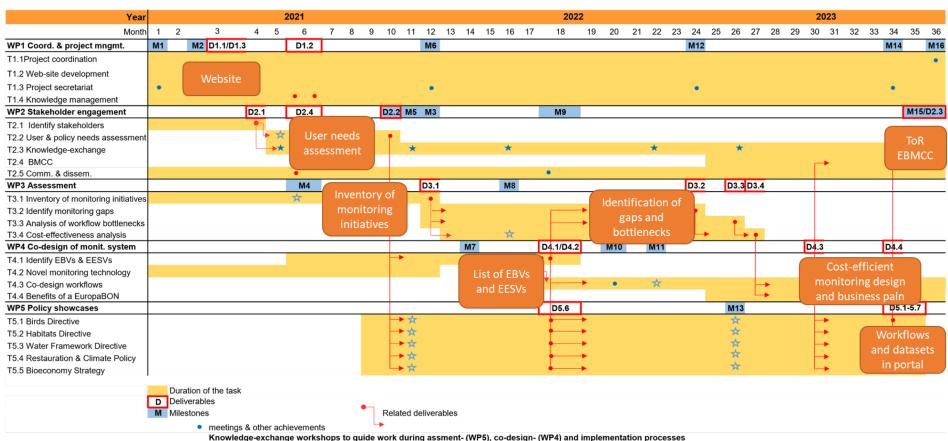


#### Assessing user and policy needs for biodiversity monitoring



Current Opinion in Environmental Sustainability

### The work plan



Workshops planned as part of T2.3

Knowledge-exchange workshops (may be executed in the various tasks, location of star indicates for which task they will be executed)

#### The 1st stakeholder workshop

- Day 1 conference
  - Policy needs: Europe and national
  - Assessment of existing monitoring
  - Designing EBV workflows
- Day 2 workshop
  - General user and policy needs
  - Assessment of data providers
- Day 3 workshop
  - Co-design of EBV wishlist
  - Overcoming gaps and bottlenecks t





## THANK YOU!



