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European Biodiversity Partnership

Biodiversa+
Science Policy Forum

REC

This meeting is being recorded, the recording and slides will be shared on the Biodiversa+ website and Youtube channel

16th of April from 1.30 to 5.30 pm EEST

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General introduction

By Hanna Zetterberg, Forum Moderator

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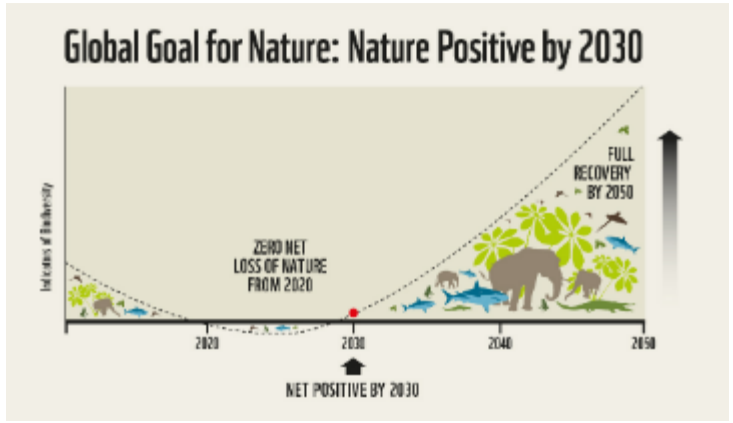
Science Policy Forum

How to strengthen and harmonise biodiversity monitoring across scales in support of the GBF

Magnus Tannerfeldt
Co-chair Biodiversa+

Kunming – Montreal Global Biodiversity Framework

'a package deal' *'truly global framework'* *'30 x 30'*



Convention on Biological Diversity

ipbes
Science and Policy for People and Nature

United Nations Convention to Combat Desertification

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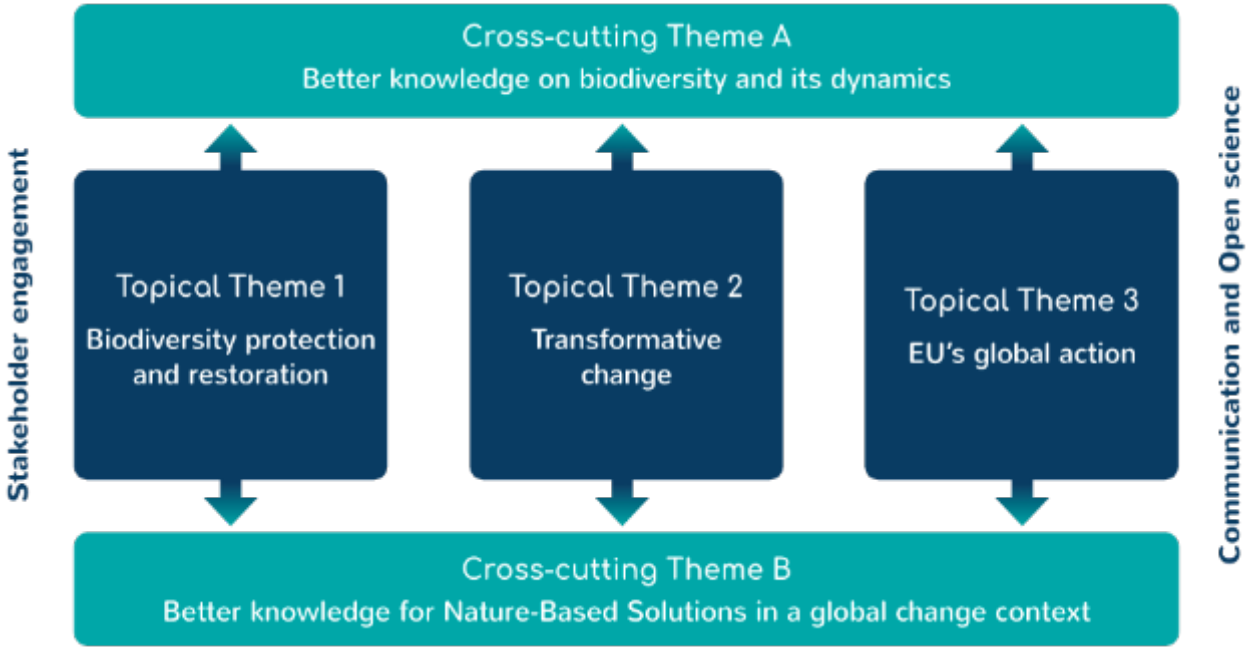
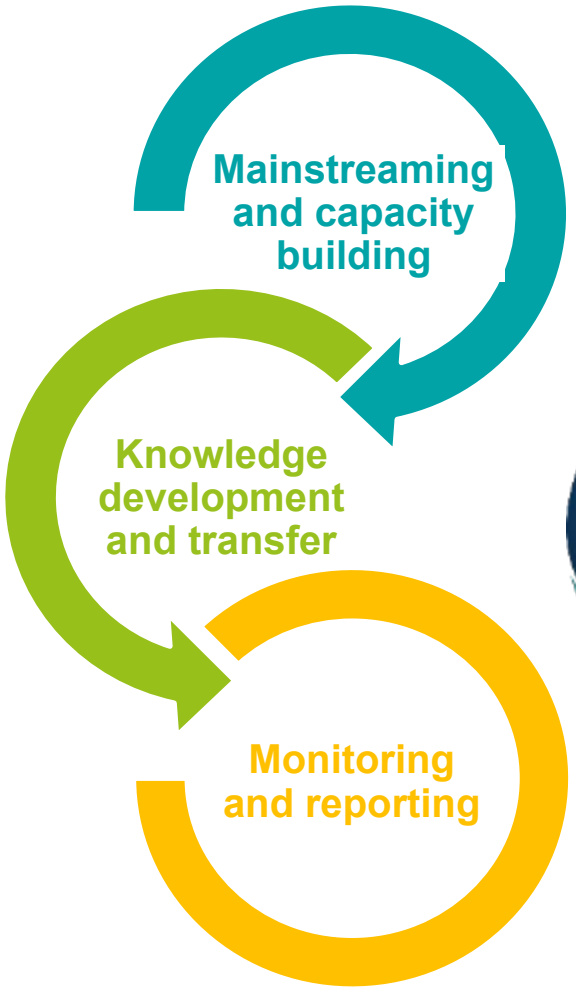
European Biodiversity Strategy 2030

Biodiversa+
Strategic Research & Innovation Agenda



Biodiversa+ and the GBF: Role & Added value



Convention on Biological Diversity

THE BIODIVERSITY PLAN
For Life on Earth

Biodiversa+ partners

Research actors
→ Ministries for research
→ Research funding organisations

Policy actors
→ Ministries for the environment
→ Environmental protection agencies

41
Countries

83
Partners

+800 M€
Overall budget

165 M€
EU Contribution

83
Partners

41
Countries

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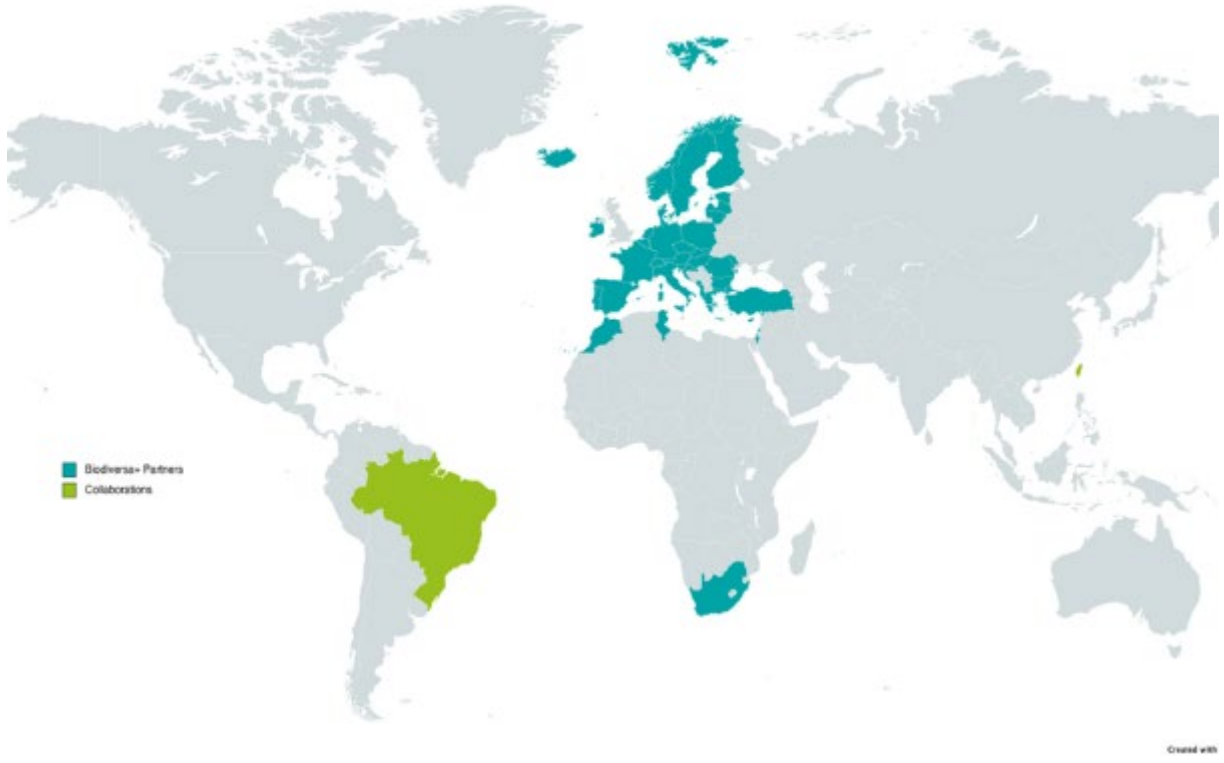

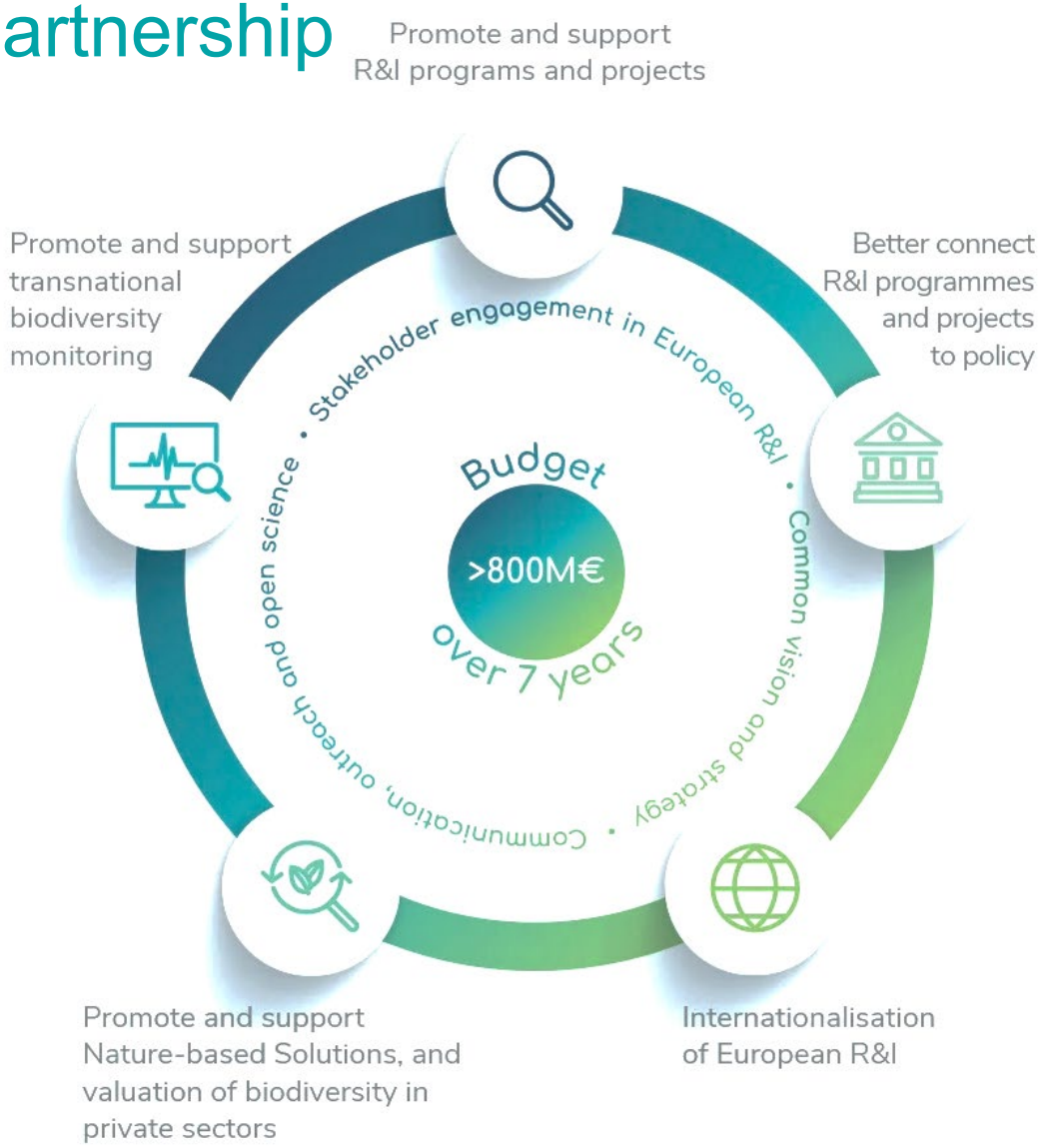

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Biodiversa+ the European Biodiversity Partnership

- **Funding research**
- **Mobilisation** of national agencies and ministries
- **Co-design of national and European observation centres** (with EuropaBON, GBIF, EEA & KCBD)
- **Biodiversity monitoring pilots**
- **Guides and reports**
  Mapping of resources, data interoperability, citizen science, strategic recommendations, etc

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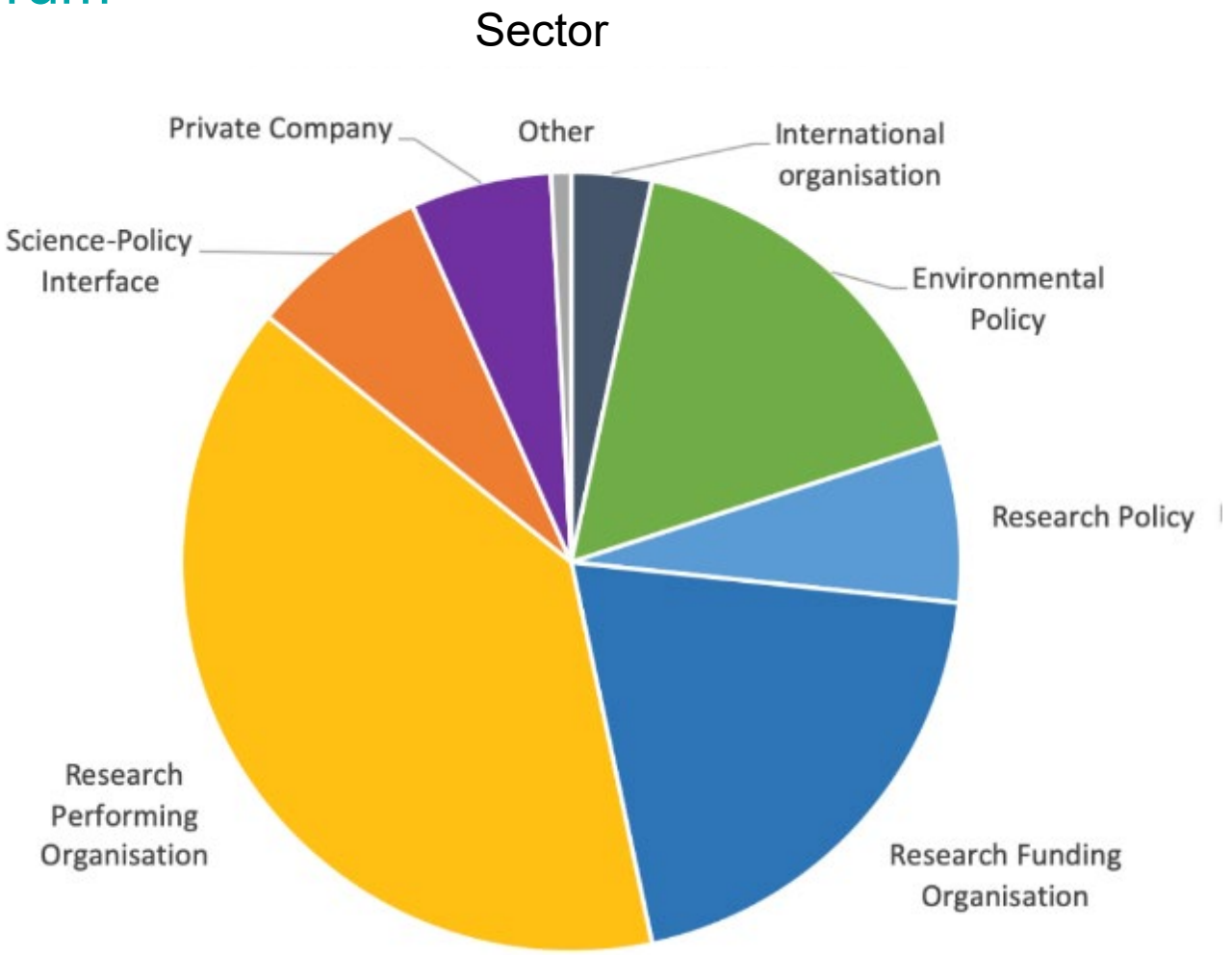
the European Union

Participants of the Science policy forum

120
registered participants on site

153
registered online participants



Strengthen and harmonise biodiversity monitoring across scales in support of the GBF

Connecting science and policy

- Learn more about the **Global Biodiversity Framework** and specifically biodiversity monitoring
- Explore **tools to strengthen and harmonise biodiversity monitoring schemes in Europe**
- Learn from **national experiences of biodiversity monitoring programmes**
- Hear from **biodiversity projects** how they co-design with stakeholders to **generate knowledge**

Biodiversa+ 2024 Tallinn events

16th of April

Science Policy Forum on the Global Biodiversity Framework

17th of April

Kick-off meeting of the 33 BiodivMon projects

18th of April

BiodivMon Clustering workshop + Monitoring centres workshop

#BiodivMonTallinn

Posting about the Science-Policy Forum on social media?

Don't forget to tag @BiodiversaPlus

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Biodiversity monitoring needs in support of the Kunming-Montreal Global Biodiversity Framework (GBF)

By Jillian Campbell, CBD Secretariat

Monitoring the Biodiversity Plan

Note there is a series of webinars between 9 April and 11 May on the monitoring framework:
https://www.cbd.int/conferences/indicators-ahteg/webinars

Decision 15/6 – Annex 1

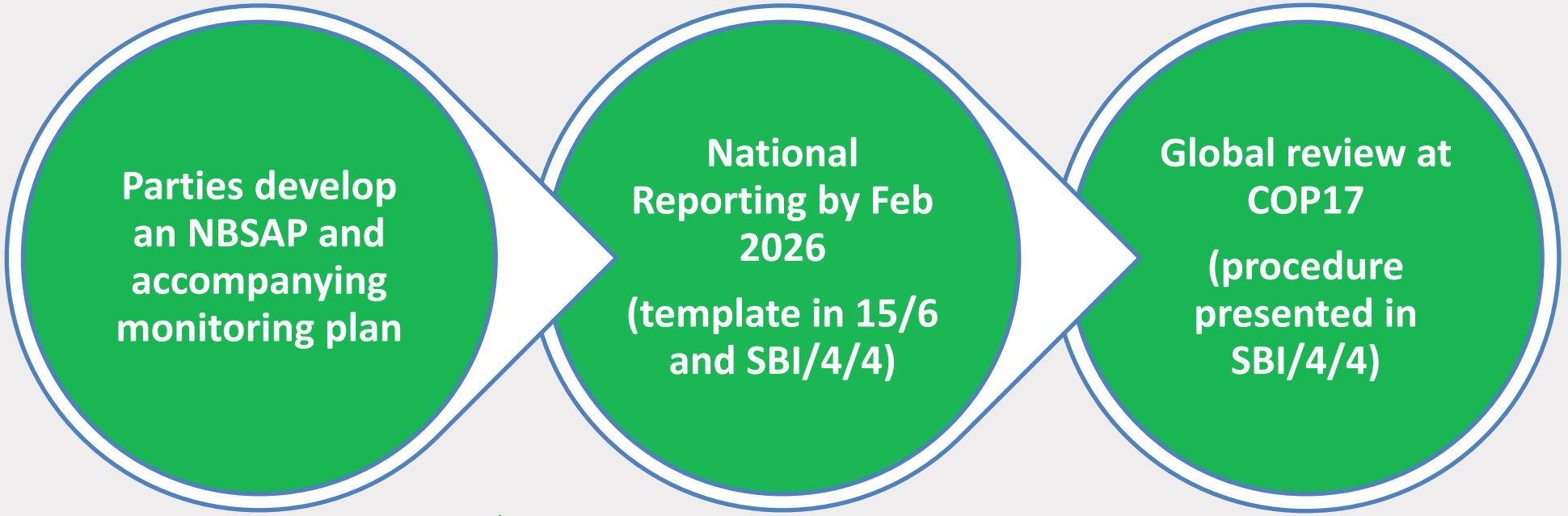
i. National targets aligned with GBF, submitted in a standardized format

ii. Concrete actions

iii. National monitoring and assessment plan

- Parties will need to submit a national target for each goal/target of the GBF
- Targets should be submitted using the on-line reporting tool on the CHM
- Parties will report on these targets in their national reports
- Party can change/adjust targets after submission

How the indicators will be used



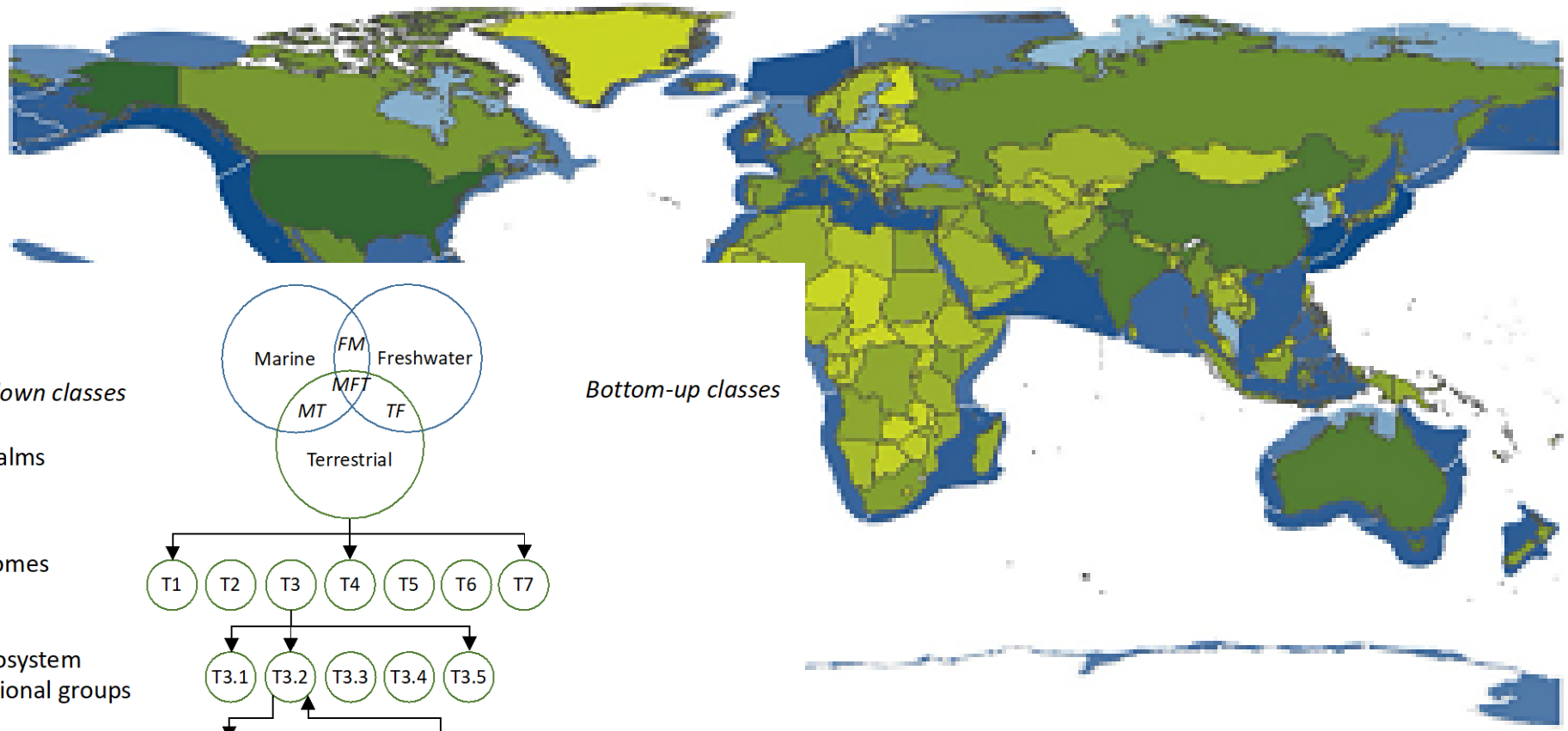
- **Encouraged to use headline indicators as well as other relevant indicators (see dec 15/6)**

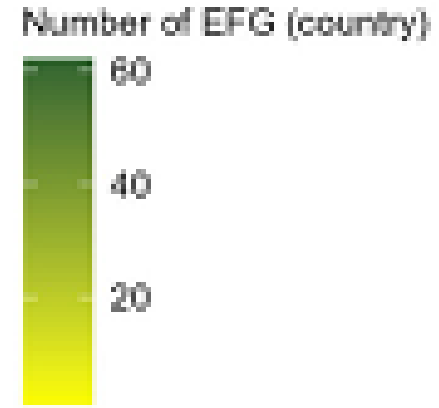
- **Headline and binary indicators are part of the reporting template**
- Parties may report headline indicator data using national sources or global estimates
- Other indicators are optional, but encouraged

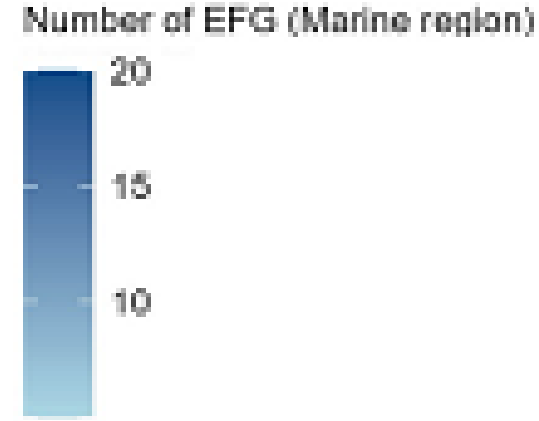
- **Analysis of progress will be based on indicators**

Global Ecosystem Typology

'Natural' ecosystem functional groups (EFG) by country and marine region

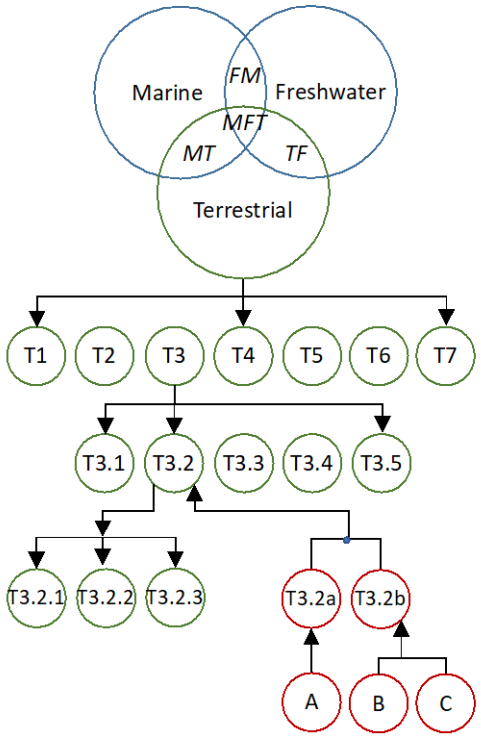






Top down classes

1. Realms
2. Biomes
3. Ecosystem functional groups
4. Biogeographic functional groups



Bottom-up classes

5. Global ecosystem types
6. Local ecosystem types

UN environment programme

Convention on Biological Diversity

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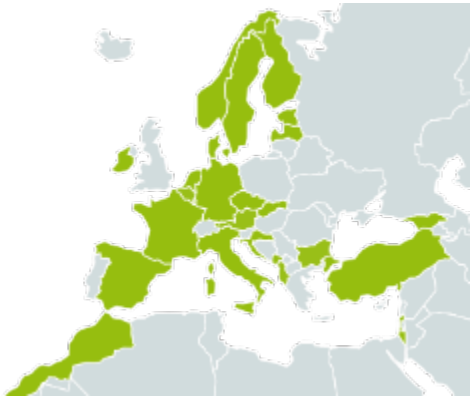
Biodiversa+ support to the harmonisation of biodiversity monitoring schemes

By Léa Riera & Marie Pierrel, French Biodiversity Agency (OFB)

Biodiversa+ activities on biodiversity monitoring



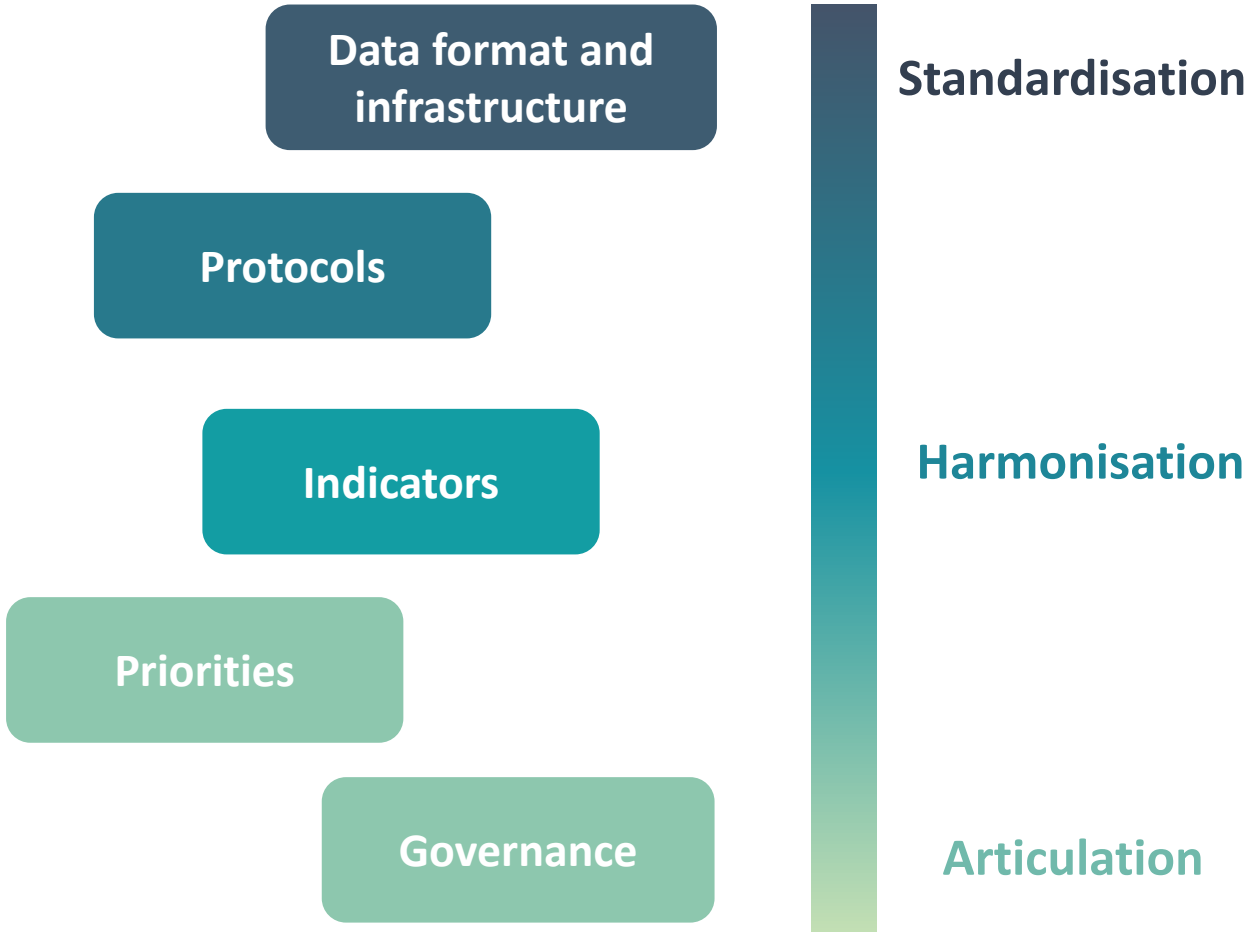
- Promoting & supporting transnational biodiversity monitoring
  - New tools & approaches for biodiversity monitoring
- Biodiversity monitoring better articulated with R&I and **policy**

Biodiversa+ activities on biodiversity monitoring

Biodiversity monitoring

*= a periodic standardised data collection of a particular set of biodiversity variables to **highlight changes** in the various forms of biodiversity (genes, taxa, ecosystems, etc.).*

Source : Guide on harmonising biodiversity monitoring protocols across scales. Biodiversa+ report



Results and ongoing work

1. Pilots

→ Operationalize and test new approaches/protocols
→ Reinforce collaboration at European level
→ Assess the deployment of a harmonised transnational monitoring scheme: **challenges and difficulties**

Biodiversa+ priorities and pilots (2023-2024)

Results and ongoing work

1. Pilots

PILOT ON BIODIVERSITY MONITORING GOVERNANCE

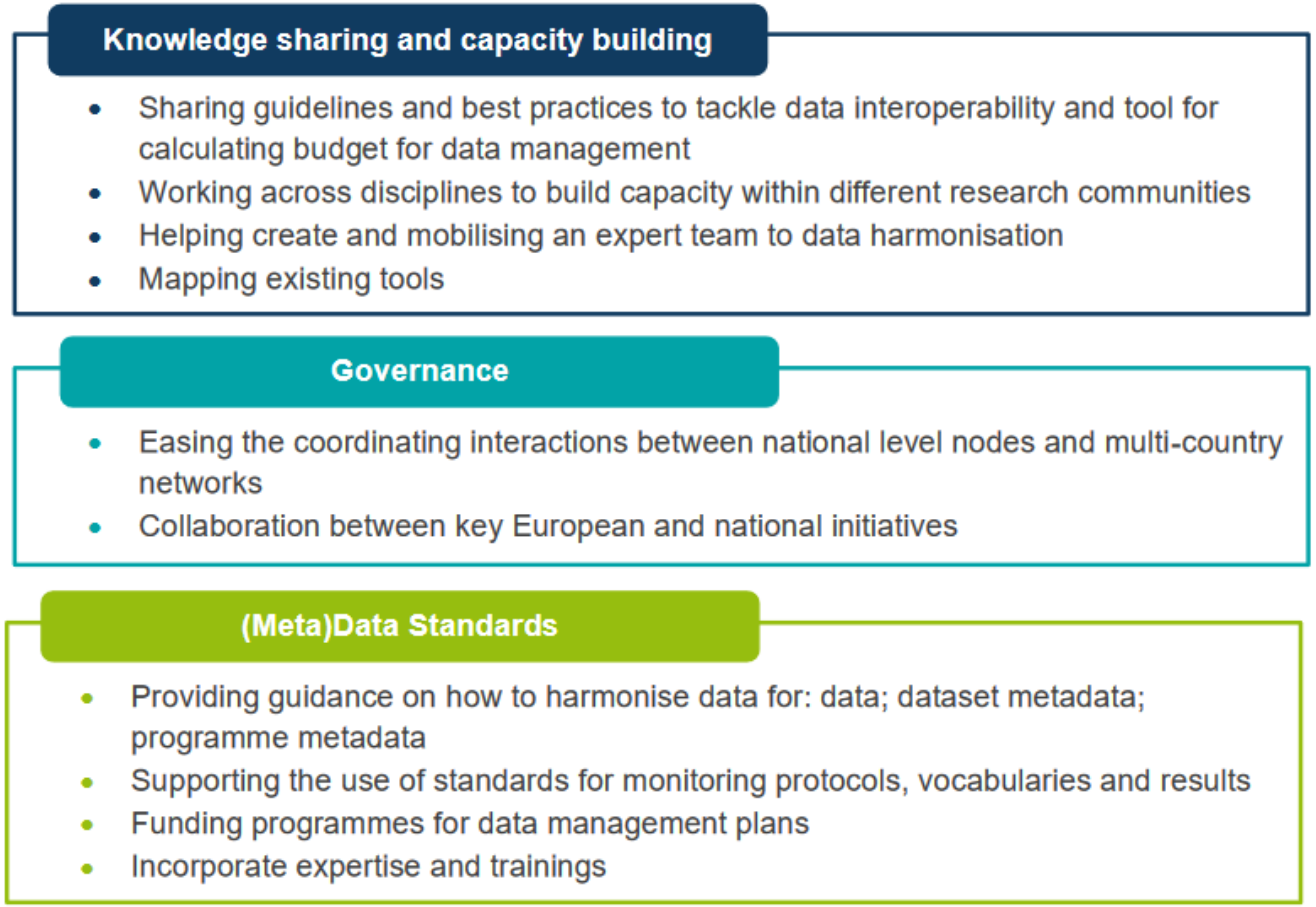
→ **Description of national governances and data management structures**

→ **Issues and bottlenecks identified by contributors:**

- Findability and accessibility of monitoring data
- Lack of financial and human resources / discontinuity of funding
- Lack of cooperation/coordination between stakeholders / lack of coherence
- Lack of long-term vision

Results and ongoing work

2. Identified requirements to meet the challenges of data interoperability

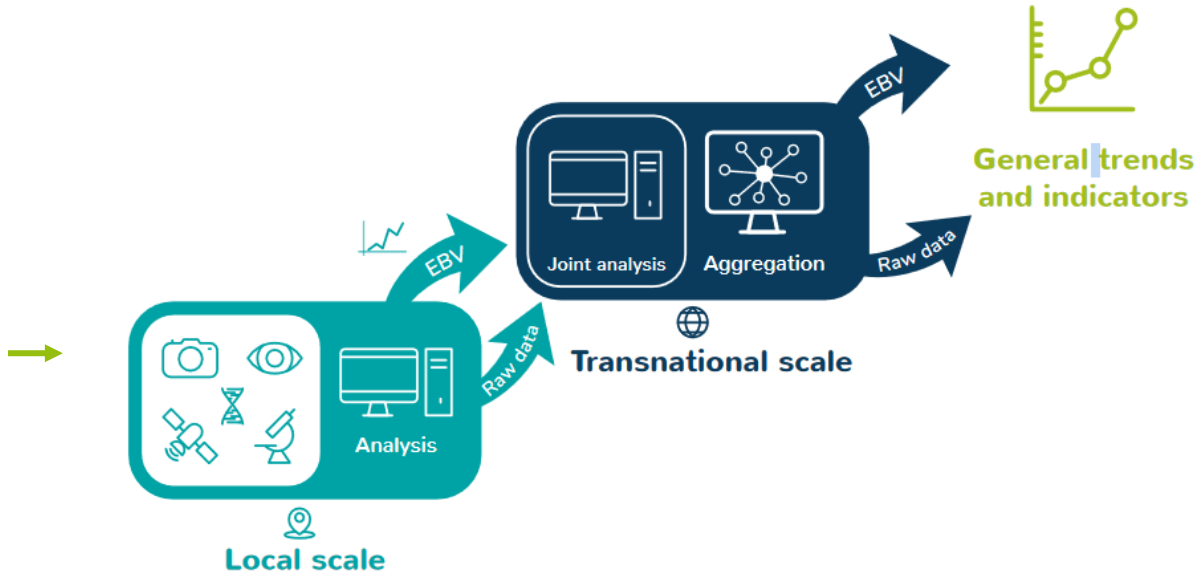


Source : Report on the harmonisation and interoperability of datasets across regions and countries. Biodiversa+ report p.25

Results and ongoing work

3. Harmonising protocols for transnational biodiversity monitoring programmes

Scale of data processing	1 strict protocol Applied everywhere in the same way	1 flexible protocol Adaptated to the biogeographical context and means of each country	Flexible protocols Different countries may use different protocols to monitor the same biodiversity entity
Global Produced raw data are gathered and treated at a transnational level	**A** Easy to implement and to compare results Inflexible to adapt to local priorities, unmotivation of local stakeholders *e.g. LUCAS soil*		
Both Produced raw data are shared to a trans-national level and treated locally in parallel for national use		**B** Satisfies local and global requirements, fils to different levels of expertise, chances to integrate new technologies Additional resouces for coordination and data processing/analysis to handle both raw datasets and EBVs *e.g. SPRING*	
Local Produced data are treated locally into EBVs, which are then shared to a transnational level			**C** Use of existing data and knowledge, boosts local motivation and sense of ownership, reduces redundancy Needs higher-scale coordination and agreement on analyses and objectives *e.g. PECBMS*



Source : Guide on harmonising biodiversity monitoring protocols across scales. Biodiversa+ report p.27

Conclusion

MONITORING

Gaps identification

Mapping of priorities

Data standardisation

Protocols harmonisation

Producing EBV to communicate results

Multi-scale governance set-up

….

Long-term work
Constantly evolving needs and demands

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Thank you !

Léa Riera and Marie Pierrel
French Biodiversity Agency (OFB)

Biodiversa+ reports on monitoring activities – Phase 1 -

Strategic biodiversity monitoring governance document (Phase 1)

→ Download the strategy

Mapping of national and sub-national organisations that fund and steer biodiversity monitoring schemes

→ Download the mapping

Report on biodiversity monitoring knowledge gaps, research & innovation priorities

→ Download the report

Report on the harmonisation and interoperability of datasets across regions and countries

→ Download the report

Report on the use of biodiversity monitoring data in private decision making

→ Download the report

Report on shared goals and priorities for biodiversity monitoring within Biodiversa+

→ Download the report

Literature survey on the harmonisation of biodiversity monitoring protocols

→ Download the report

Guide on harmonising biodiversity monitoring protocols

→ Download the guide

Shared goals and priorities for biodiversity indicators

→ Download the report

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https://www.biodiversa.eu/biodiversity-monitoring/

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Establishing the EU Biodiversity Observation Coordination Centre (EBOCC)

By Ian McCallum, International Institute for Applied Systems Analysis (IIASA)

EU Biodiversity Observation Coordination Centre (EBOCC)

Presenter: Ian McCallum, IIASA

Task Lead: Camino Liquete

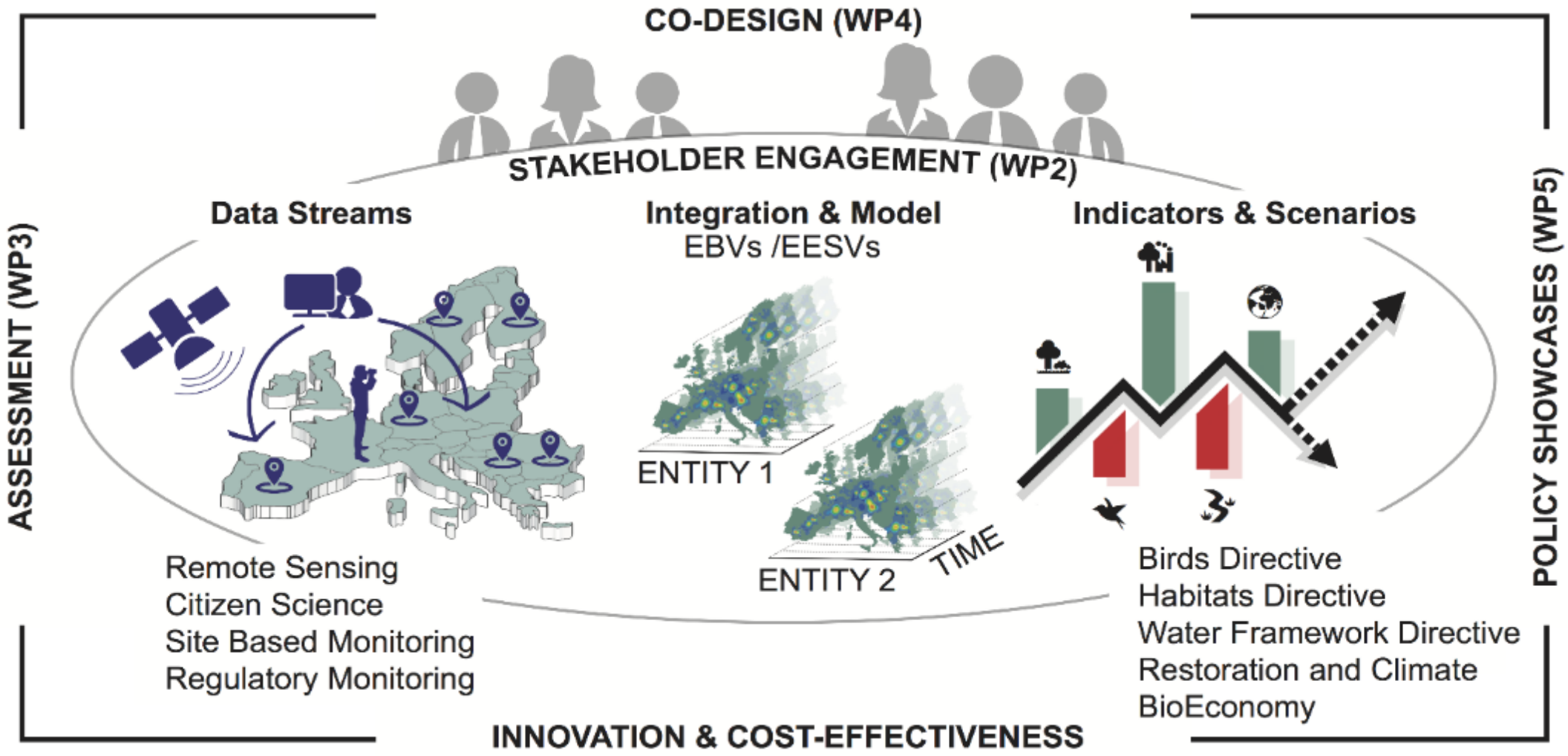
European Commission - Joint Research Centre

Biodiversa+ Science-Policy Forum
16 April 2024, Tallinn

EUROPABON Partners in collaboration with key stakeholders

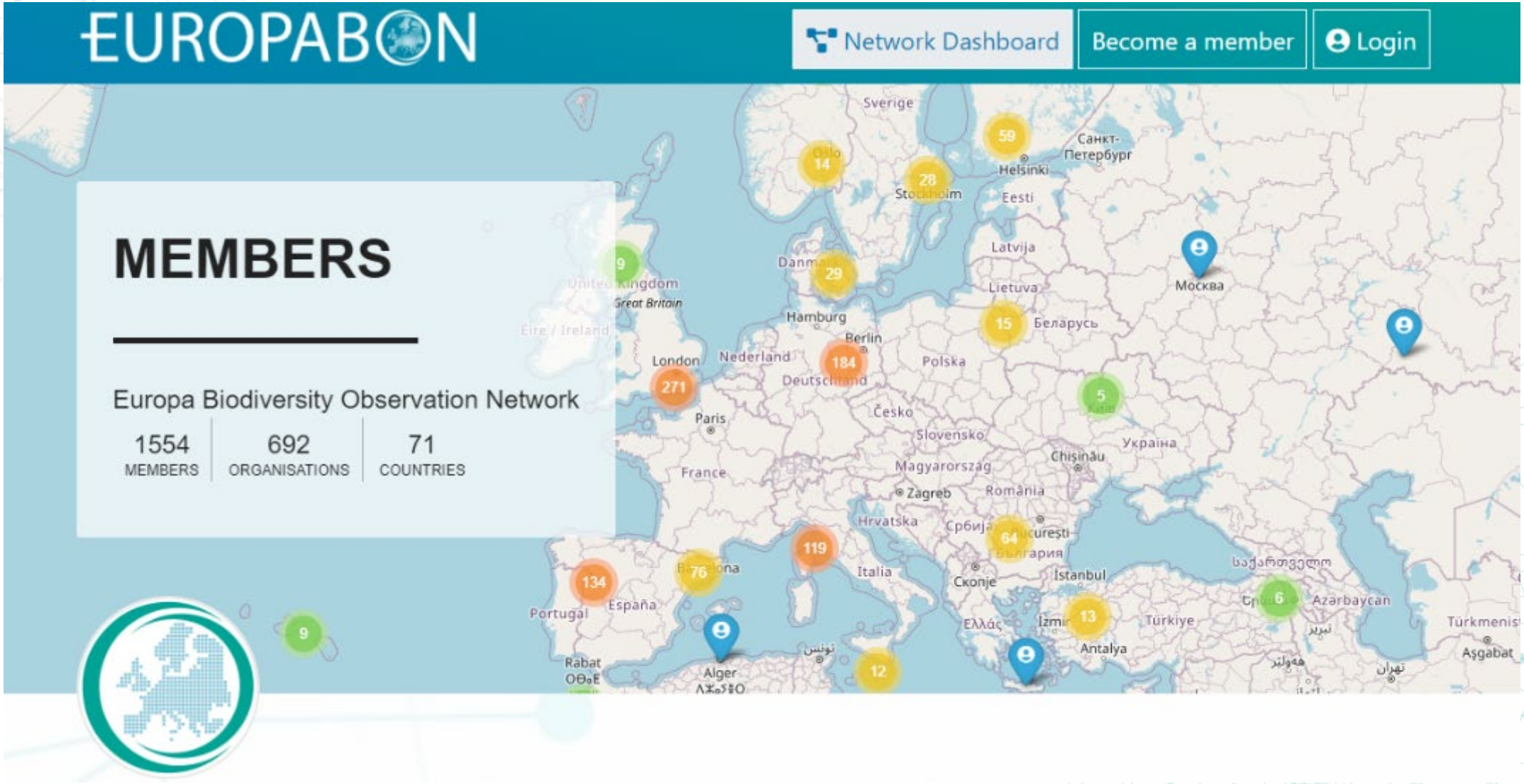
This project receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101007492.

EuropaBON



EU **B**iodiversity **O**bservation **C**oordination **C**entre (**EBOCC**)

Members Network



EU Biodiversity Observation Coordination Centre (EBOCC)

A roadmap for EU biodiversity monitoring

EUROPABON

EU Biodiversity Strategy for 2030 – monitoring mechanism & (new) biodiversity governance framework
KCBD: https://knowledge4policy.ec.europa.eu/biodiversity_en

Global Biodiversity Framework

2021 2022 2023 2024 2025 2026 2027 2028 2029 2030

EuropaBON

Co-design of a **European Biodiversity Observation Network** (what, how, when and where to monitor + added EU value)

Proposed ToR for an **EU Biodiversity Observation Coordination Centre (EBOCC)**

Testing of the network in Member States (monitoring technology and methods, harmonisation, use cases)

Establishment of the **EBOCC** and the **national biodiversity monitoring hubs**

Implementation of the network in Member States: countries use harmonised workflows for monitoring/reporting EU biodiversity

EBOCC and national hubs operational

European Biodiversity Partnership (WP2 on monitoring)

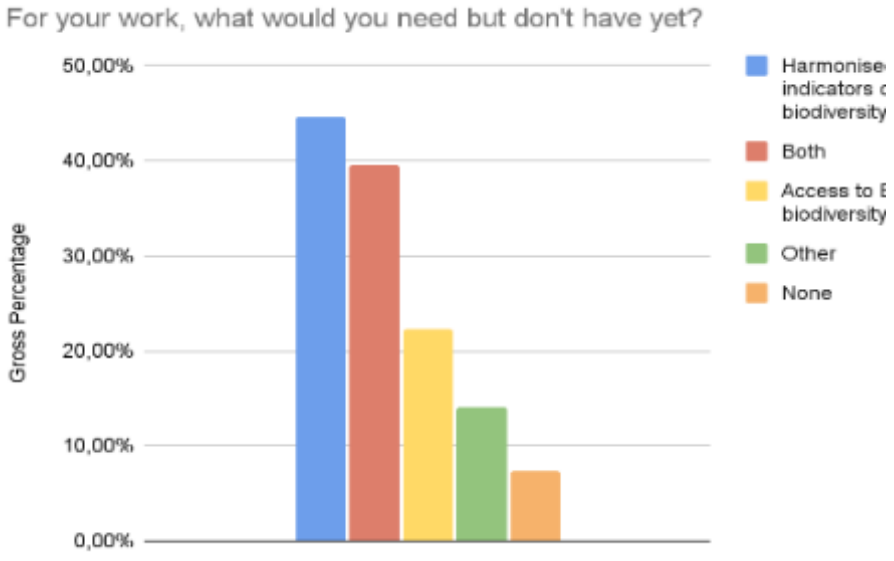
EU **B**iodiversity **O**bservation **C**oordination **C**entre (**EBOCC**)

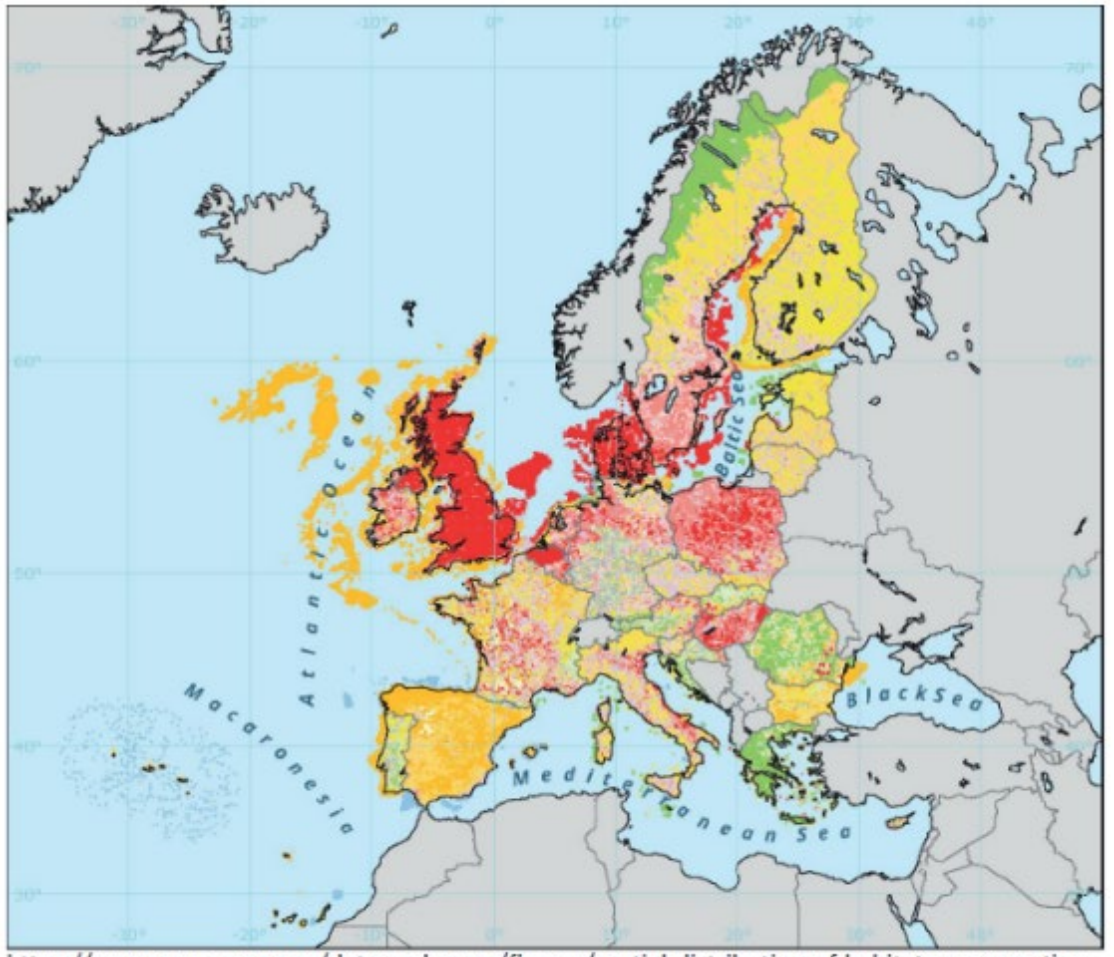
Steps followed to propose the ToR

- Desk studies: literature reviews and interviews
- Integration of results from previous EuropaBON work packages
- Costs' estimation to establish and maintain coordination activities
- A broad and all-inclusive consultation process
- Key collaborators: EEA, Biodiversa+ and GBIF

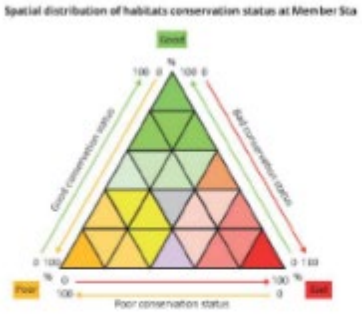
The challenges for biodiversity monitoring

- Data integration / Fragmentation
- Data access
- Sustainable financial resources & capacities
- Coverage





https://www.eea.europa.eu/data-and-maps/figures/spatial-distribution-of-habitats-conservation

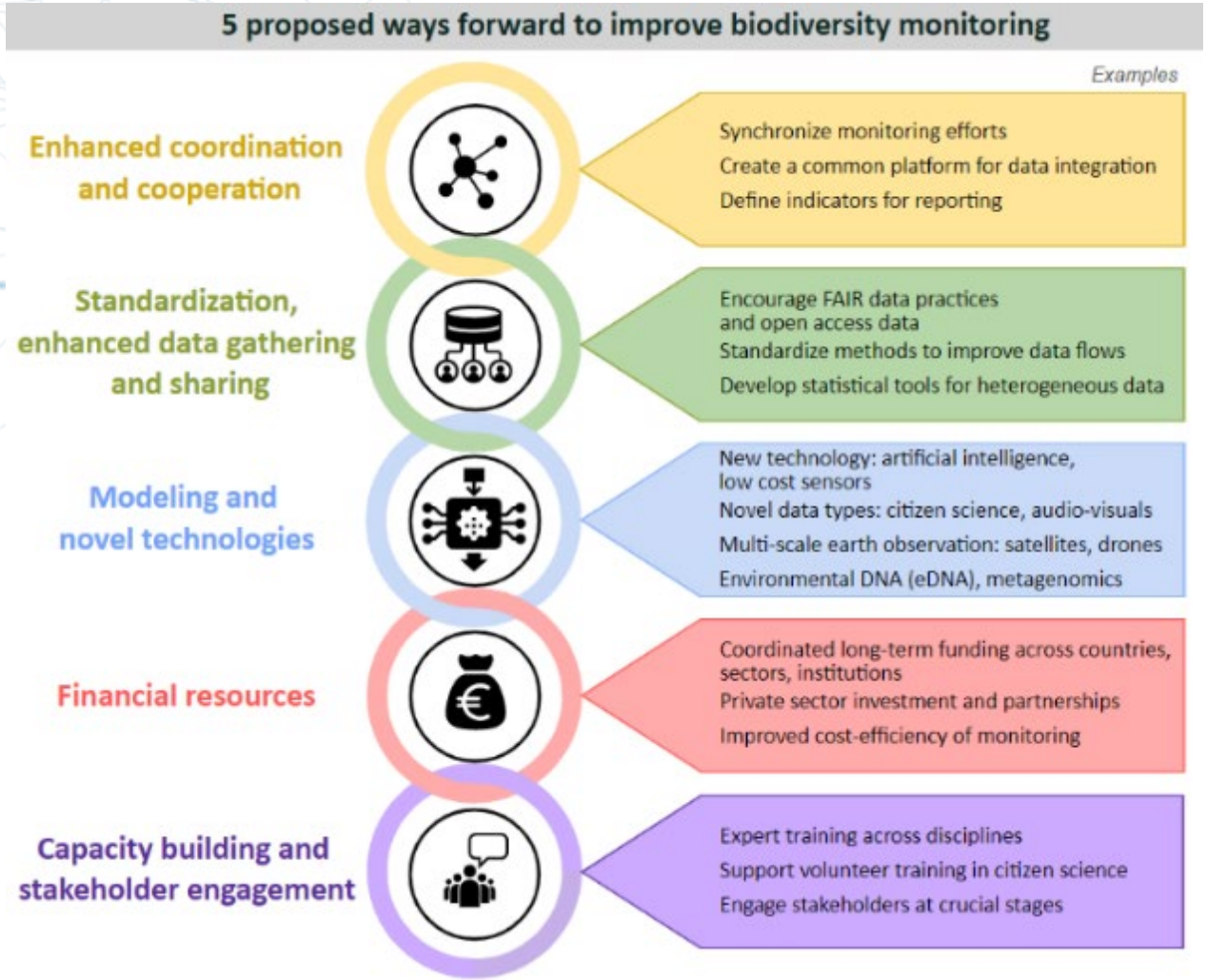


EU Biodiversity Observation Coordination Centre (EBOCC)

The challenges for biodiversity monitoring

Report on gaps and important new areas for monitoring in Europe: https://preprints.arphahub.com/article/103657/
Identification of current monitoring workflows and bottlenecks: https://preprints.arphahub.com/article/103765/
Designing EBV workflows for the for the European Biodiversity Observation Network: https://riojournal.com/article/109120/

Solution: coordination, integration, enhanced data collection



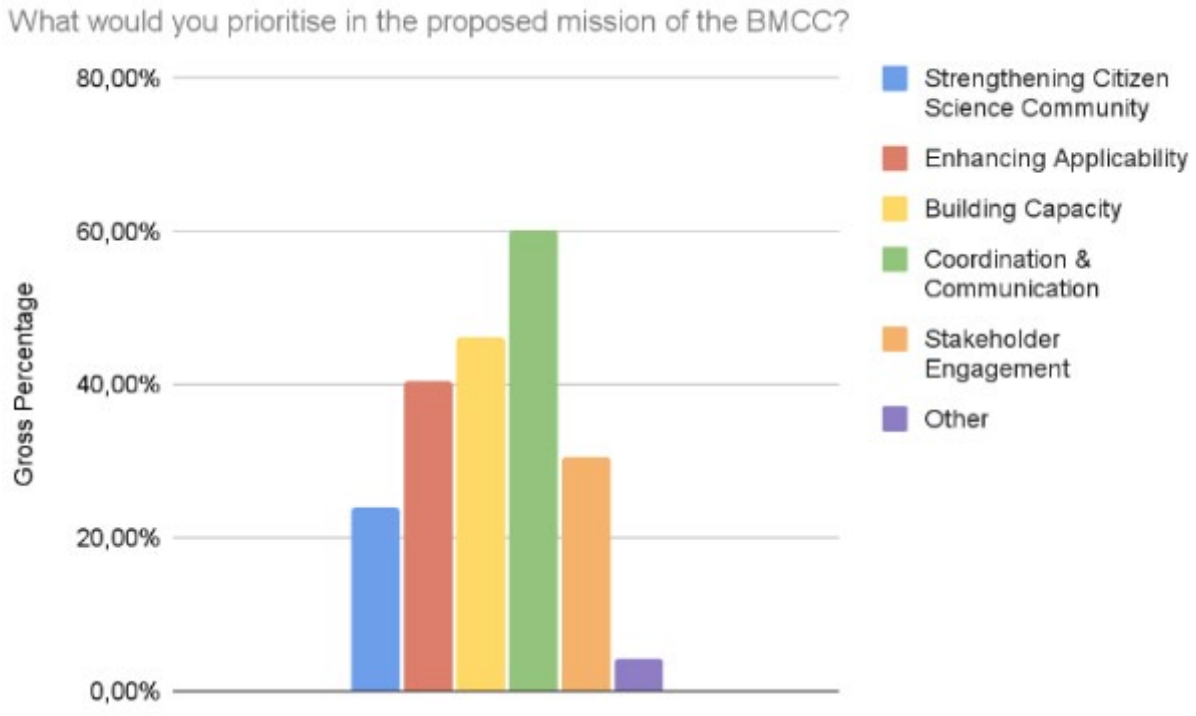
EBOCC's vision:

The EBOCC will help the EU to coordinate and streamline a system of observations, data assimilation methods, models, knowledge and capacity building efforts to deliver regular information on the state and trends of biodiversity in Europe.

EBOCC's mission

Help coordinate biodiversity-related monitoring efforts in Europe and establish a shared European biodiversity monitoring framework by:

- Supporting coordination between Member States and organizations involved in monitoring,
- Assisting them to enhance and align existing monitoring schemes and developing novel techniques.
- Integrating the results of the monitoring schemes and implementing clear data flows in ways that promote harmonisation and re-use of data.
- Analysing the information at EU level to derive policy-relevant indicators.

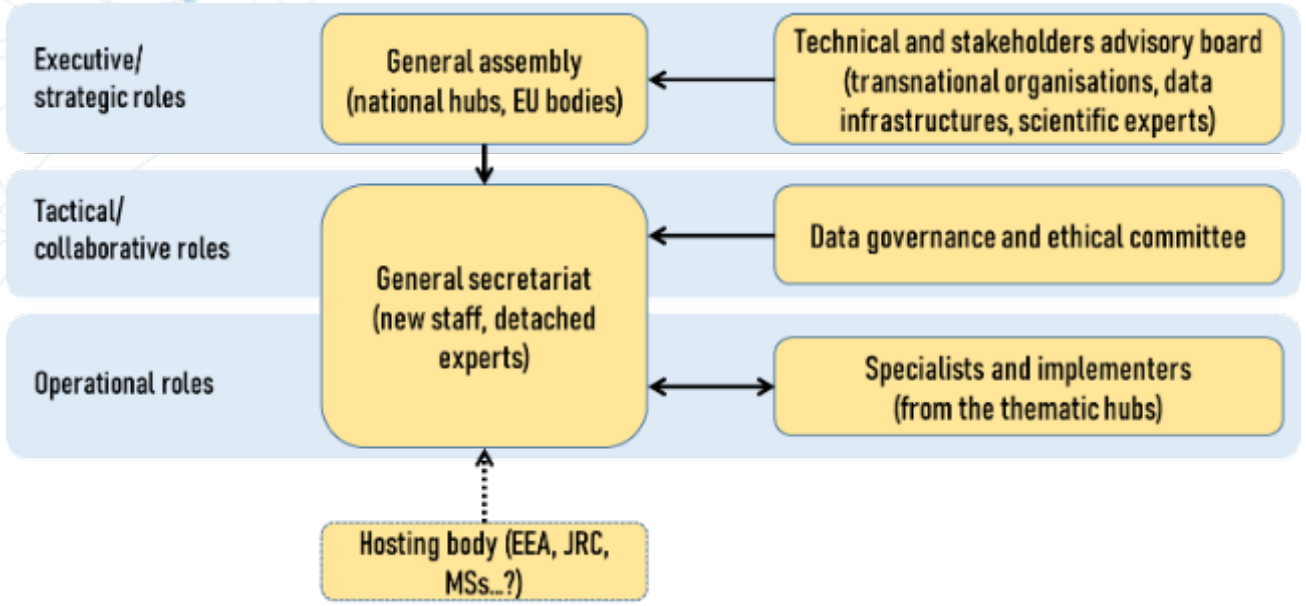


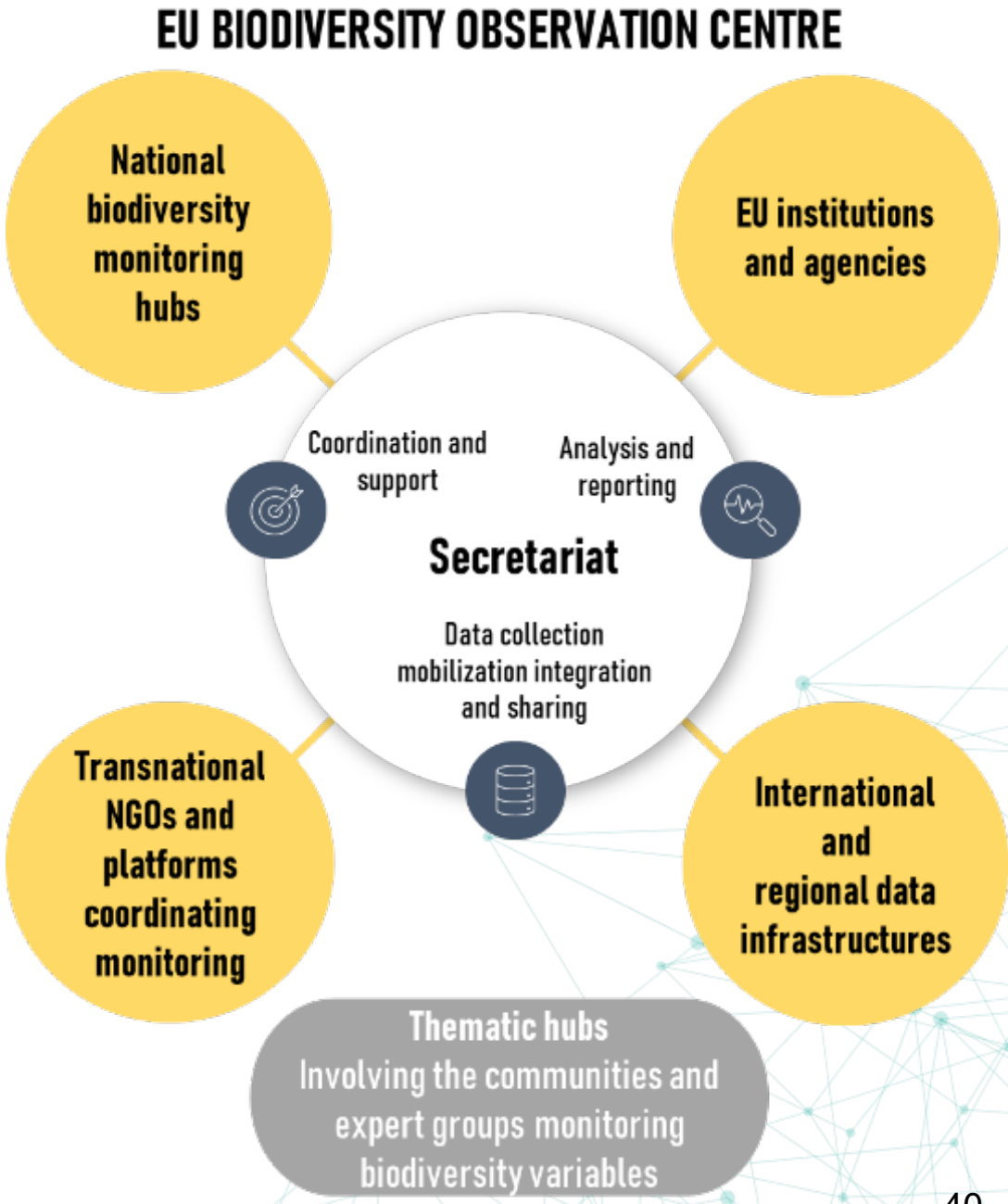
Prioritisation of tasks

Coordination and support functions	• Support coordination between Member States and institutions • Collaborate and engage with external knowledge holders • Capacity building on data exchange, analysis and standardization	• Other capacity building (e.g. data collection, design of monitoring schemes, new techniques, financing options)
Data collection, mobilization, integration and sharing	• Data mobilization, integration and harmonisation • Data infrastructure and tools • Develop data access and data sharing policies	• Improved sampling designs and standardization of data collection
Analysis and reporting to support stakeholders	• Gap analysis, both on monitored data and on information	• Statistical analysis and visualization • FAIR principles and justice/transparency

- EBOCC urgent tasks for >80 EBVs proposed by EuropaBON would cost **120M€ for 5 years**.
- **Not** part of this cost estimate: data collection + associated costs by Member States or other organisations

Governance structure





EU **B**iodiversity **O**bservation **C**oordination **C**entre (**EBOCC**)

Conclusions

- We lack crucial data on wildlife, ecosystems and the impacts of human activities, hindering efforts to track progress on EU biodiversity goals and to take informed decisions.
- The (notable) existing data is scattered and hard to use.
- The European Biodiversity Observation Coordination Centre (EBOCC) combined with national biodiversity monitoring hubs can:
  - give us the data needed to protect biodiversity
  - break down data silos to give us a clearer picture of biodiversity
  - unlock the hidden potential of existing data to track biodiversity
  - plug the holes in biodiversity monitoring programs
  - train experts to fill data gaps and develop new biodiversity monitoring programs
- EBOCC needs the right tools to succeed: a clear mission, steady funding, and a broad team to share knowledge and track progress.
- Setting up EBOCC is an investment in Europe's environment, but the long-term benefits outweigh the upfront costs.

Next steps - policy uptake

- EuropaBON's **Proposal for the terms of reference of an EU Biodiversity Observation Coordination Centre (EBOCC)** will be published end of April at https://riojournal.com/topical_collection/145/
- The **European Parliament allocated 5M€ to the preparatory action "EU Biodiversity Observation Centre"** (item PA 09 24 01). The objective is to support the development and deployment of a coordination centre for an EU biodiversity observation centre. 'Preparatory actions' introduce new initiatives that might turn into standing EU funding/policy programmes.
- **DG Environment** will implement such action through an open call for tender (*Indicative Timeline*)
  - Q2 2024 Adoption of financing decision & Publication of call for tender
  - Q3 2024 Closing date of call for tender
  - Q4 2024 Award decision
  - **From 2025 Implementation of the action for two years**

Institutional links!

- The preparatory action aims to coordinate and strengthen the collection of biodiversity monitoring data in order to make informed policy decisions at local, national, European and international levels. It focuses on the operationalization of key biodiversity variables relevant for policy and decision-making, including capacity building for taxonomic expertise and citizen science.

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home

https://europabon.org/

EU **B**iodiversity **O**bservation **C**oordination **C**entre (**EBOCC**)

THANK YOU!

EC's Knowledge Centre for Biodiversity:
https://knowledge4policy.ec.europa.eu/biodiversity_en
EC-Biodiversity-KC@ec.europa.eu

Visit our website:
https://europabon.org
Questions & feedback:
bmcc@europabon.org

EUROPABON

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Introduction on the emerging knowledge and capacity needs for biodiversity monitoring

By Matea Vukelic, UNEP World Conservation Monitoring Centre

Emerging knowledge and capacity needs for biodiversity monitoring

UN Biodiversity (CC BY 2.0)

Matea Vukelic, Policy
UNEP-WCMC

Dec 15/5 Monitoring framework for the Kunming-Montreal Global Biodiversity Framework

Headline indicators - high-level indicators, which capture the overall scope of the goals and targets; to be used for planning and tracking progress.

Global level indicators - based on binary responses to questions (under review)

Component indicators - Optional indicators that together with the headline indicators would cover all components of the goals and targets

Complementary indicators - Optional indicators for thematic or in-depth analysis

*The monitoring framework can be supplemented by additional national and subnational indicators

UN environment programme WCMC

Intersessional process to finalise the Monitoring Framework

Ad Hoc Technical Expert Group (AHTEG) on indicators

- Provide technical advice to **fill critical gaps** in the monitoring framework, and on elements of targets and goals not currently covered by any headline indicator
- Provide advice on the **wording on the list of binary questions** and provide additional explanatory information on these
- Provide **advice on the existing capacity, gaps and needs** in terms of capacity development, technology transfer and financing needs related to monitoring
- **Make available for review** by the Parties the revised **metadata for each indicator**

UN Biodiversity (CC BY 2.0)

UN environment programme WCMC

Capacity needs of Parties with respect to the Headline Indicators of the Monitoring framework of the Kunming-Montreal Global Biodiversity Framework

UN environment programme WCMC

Methodology

Online capacity needs assessment survey

- CBD Notification 2024 – 013
- February – April

Region	Responses
Africa	12
Americas	12
Asia	8
Europe	10
Oceania	2
World	44

UN environment programme WCMC

Development status of Headline Indicators

Targets on reducing threats to biodiversity

Label	Indicator	Goal/Target	Development
A.1	Red List of Ecosystems	A, 1	4
A.2	Extent of natural ecosystems	A, 1	3
A.3	Red List Index	A, 4	5
A.4	The proportion of populations within species with an effective population size > 500	A, 4	3-4*
1.1	Percentage of land and sea area covered by biodiversity-inclusive spatial plans	1	1
2.2	Area under restoration	2	2-3*
3.1	Coverage of protected areas and other effective area-based conservation measures	3	4-5*
5.1	Proportion of fish stocks within biologically sustainable levels	5	5
6.1	Rate of invasive alien species establishment	6	3
7.1	Index of coastal eutrophication potential	7	4
7.2	Pesticide environment concentration	7	1

UN environment programme WCMC

Development status of Headline Indicators

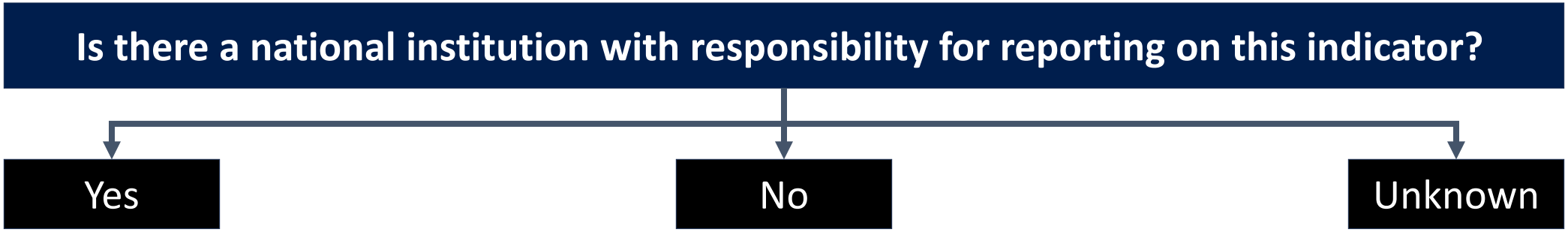
Targets on meeting people's needs through sustainable use and benefit-sharing

Label	Indicator	Goal/Target	Development
B.1	Services provided by ecosystems	B, 11	2
C.1	Indicator on monetary benefits received	C, 13	2
C.2	Indicator on non-monetary benefits	C, 13	2
9.1	Benefits from the sustainable use of wild species	9	1
9.2	Percentage of the population in traditional occupations	9	3
10.1	Proportion of agricultural area under productive and sustainable agriculture	10	4
10.2	Progress towards sustainable forest management	10	5
12.1	Average share of the built-up area of cities that is green/blue space for public use for all	12	4

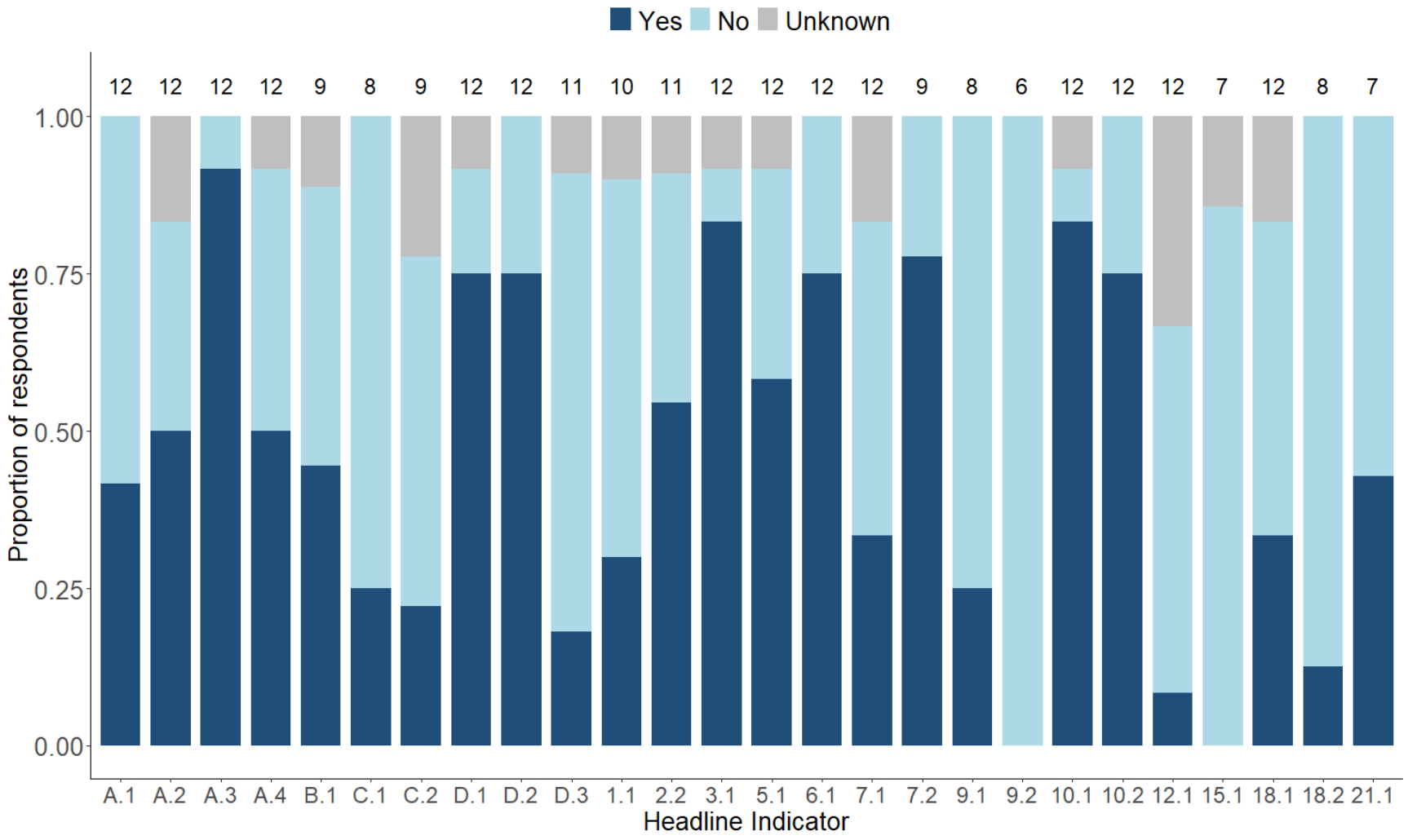
Development status of Headline Indicators

Targets on tools and solutions for implementation and mainstreaming

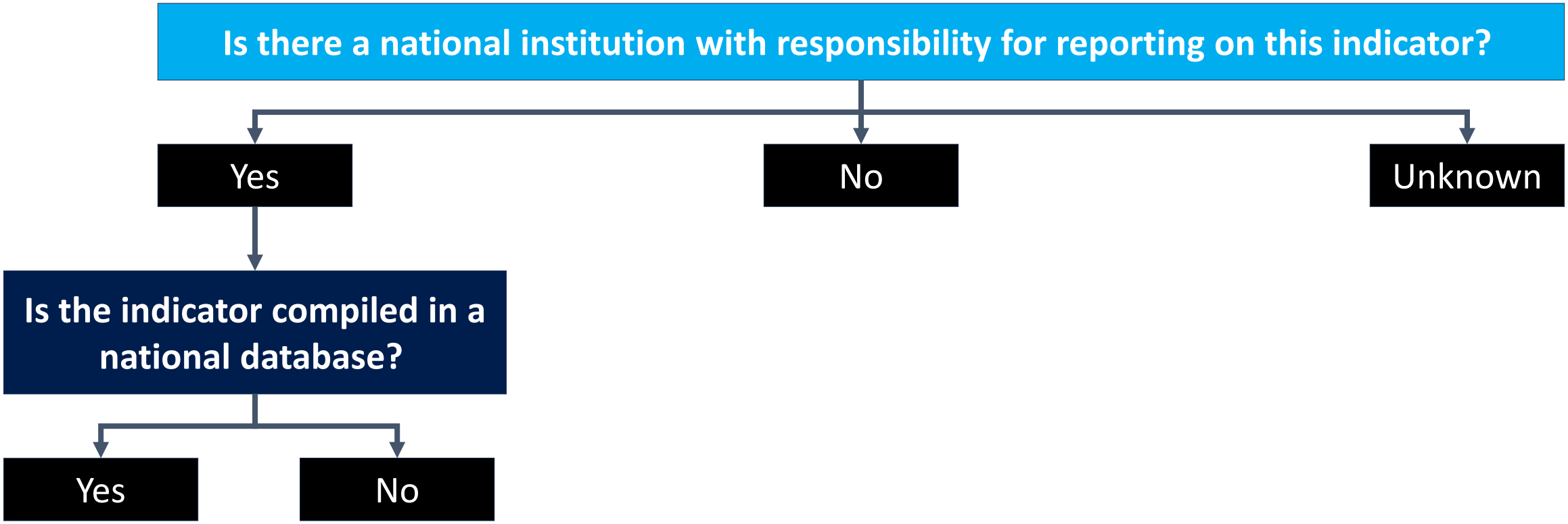
Label	Indicator	Goal/Target	Development
D.1	International public funding, including official development assistance (ODA) for conservation and sustainable use of biodiversity and ecosystems	D, 19	**TEG on financial reporting**
D.2	Domestic public funding on conservation and sustainable use of biodiversity and ecosystems	D, 19	
D.3	Private funding (domestic and international) on conservation and sustainable use of biodiversity and ecosystems	D, 19	
15.1	Number of companies reporting on disclosures of risks, dependencies and impacts on biodiversity	15.1	**1**
18.1	Positive incentives in place to promote biodiversity conservation and sustainable use	18	**TEG on financial reporting**
18.2	Value of subsidies and other incentives harmful to biodiversity that have been eliminated, phased out or reformed	18	
21.1	Indicator on biodiversity information for monitoring the Kunming-Montreal Global Biodiversity Framework	21	**2**


Is there a national institution with responsibility for reporting on this indicator?
Yes
No
Unknown

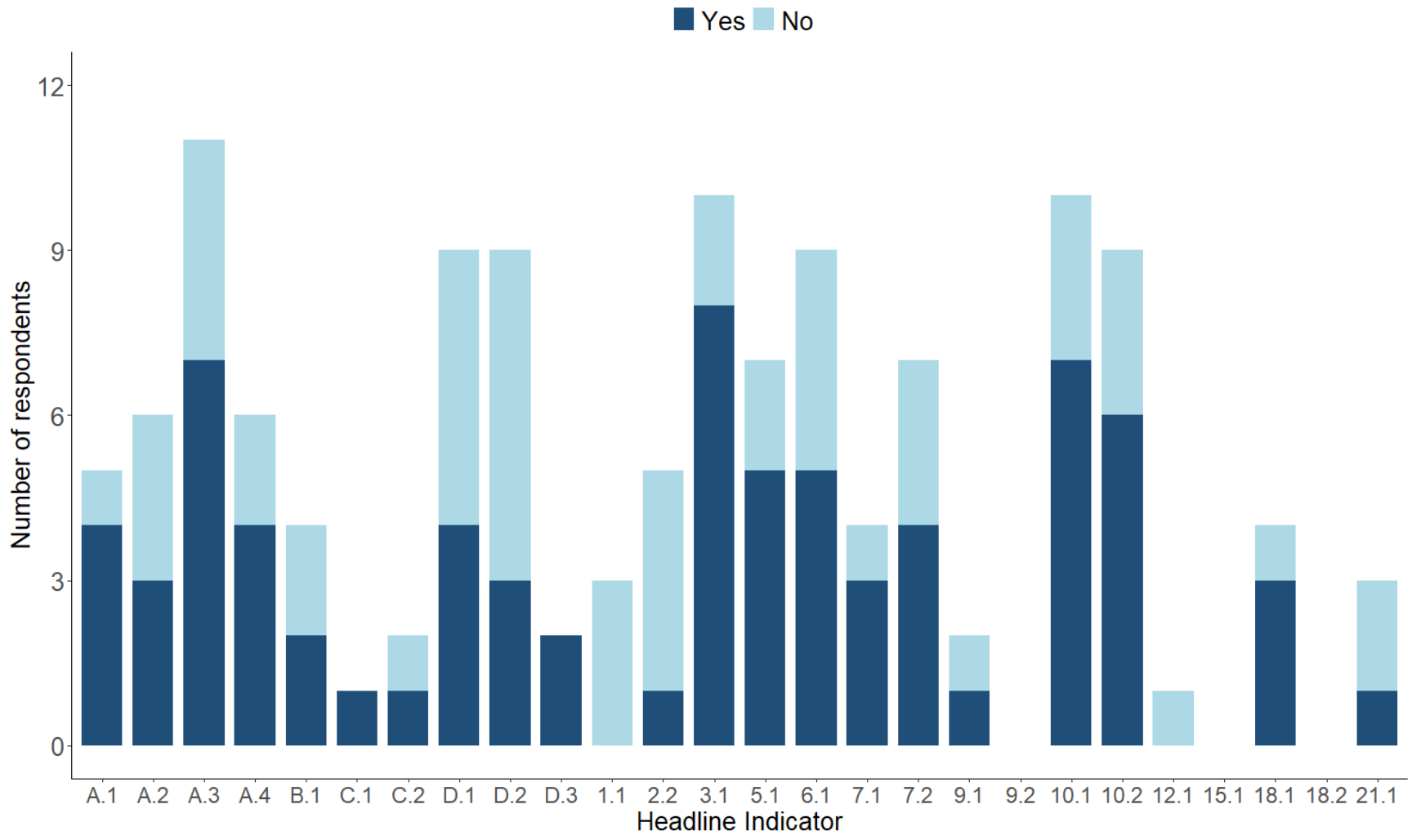
Is there a national institution with responsibility for reporting on this indicator



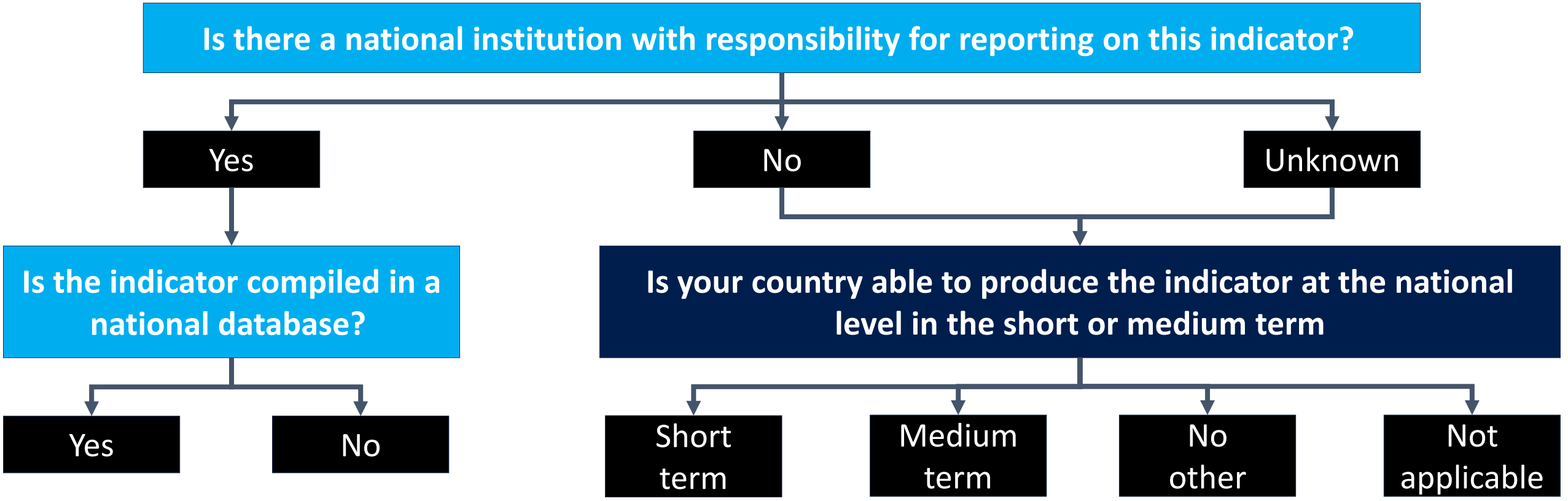
UN environment programme WCMC


Is there a national institution with responsibility for reporting on this indicator?
Yes
No
Unknown
Is the indicator compiled in a national database?
Yes
No

Is the indicator compiled in a national database

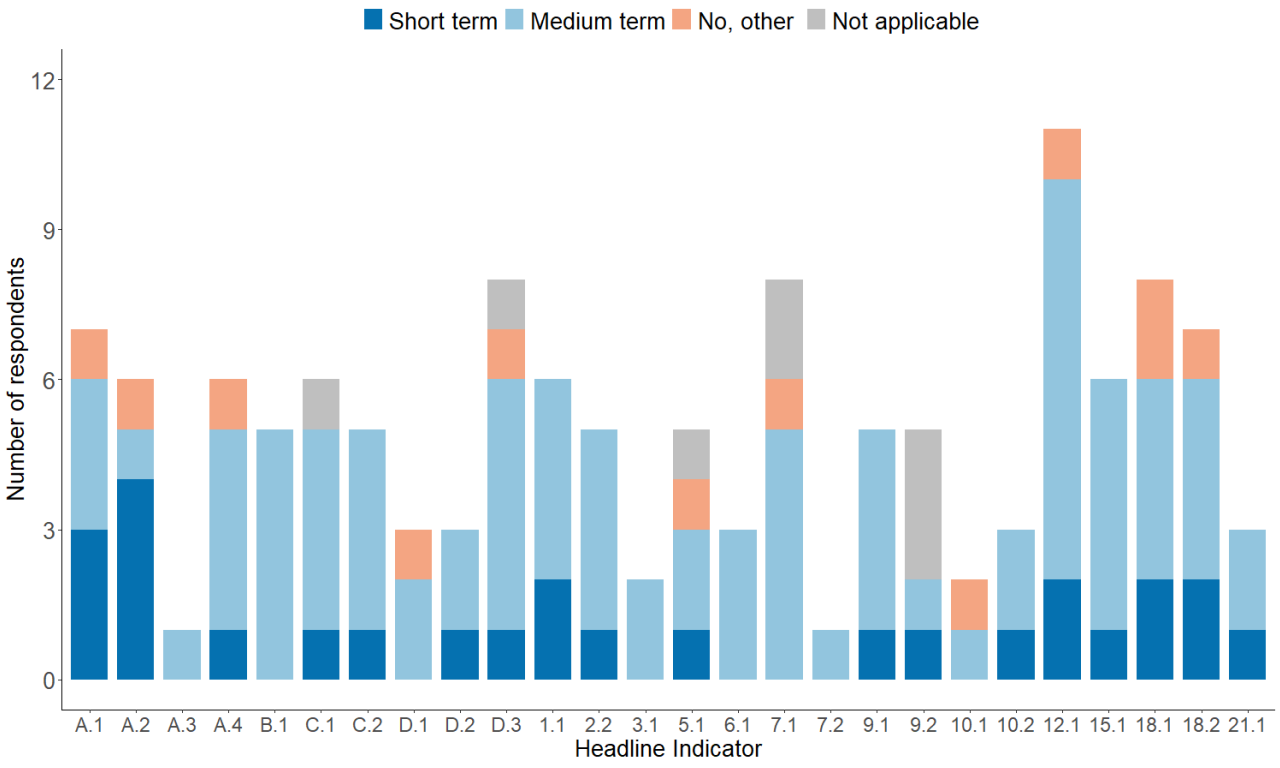


UN environment programme WCMC

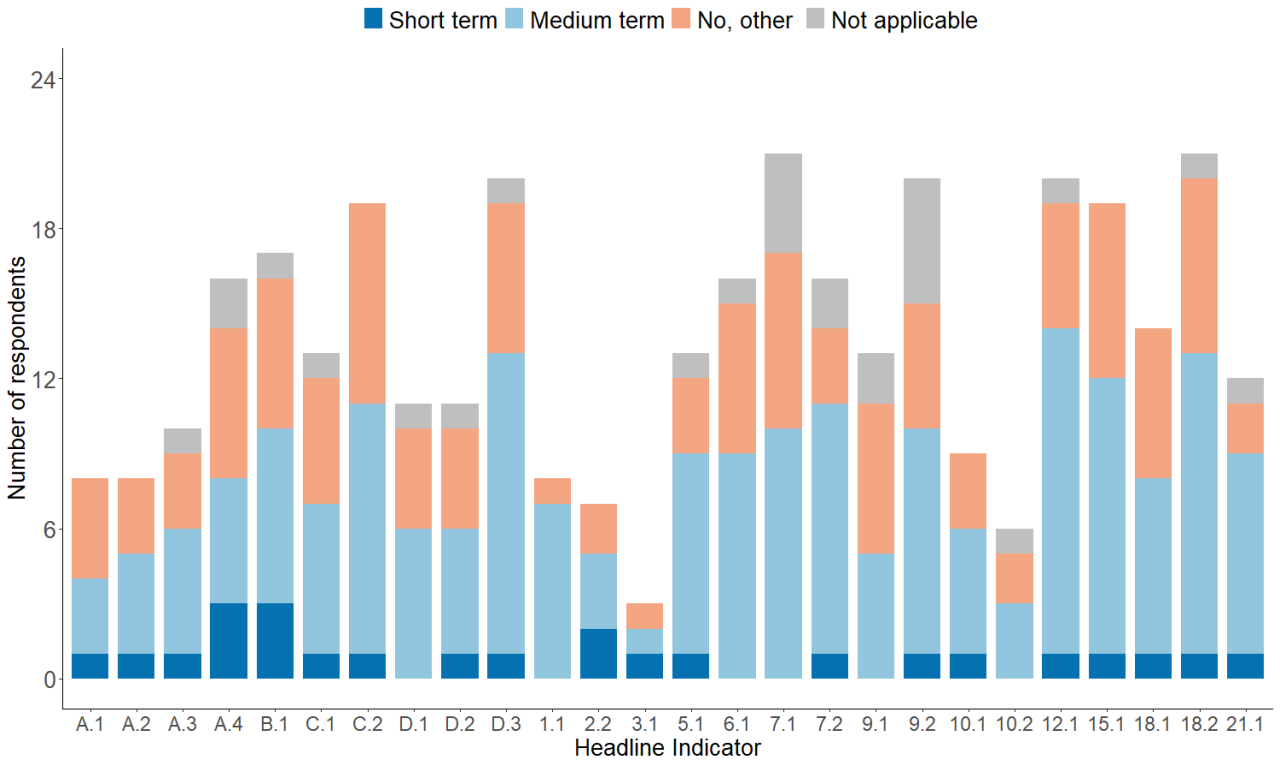

Is there a national institution with responsibility for reporting on this indicator?
Yes
No
Unknown
Is the indicator compiled in a national database?
Is your country able to produce the indicator at the national level in the short or medium term
Yes
No
Short term
Medium term
No other
Not applicable

Is your country able to produce the indicator in the short or medium term

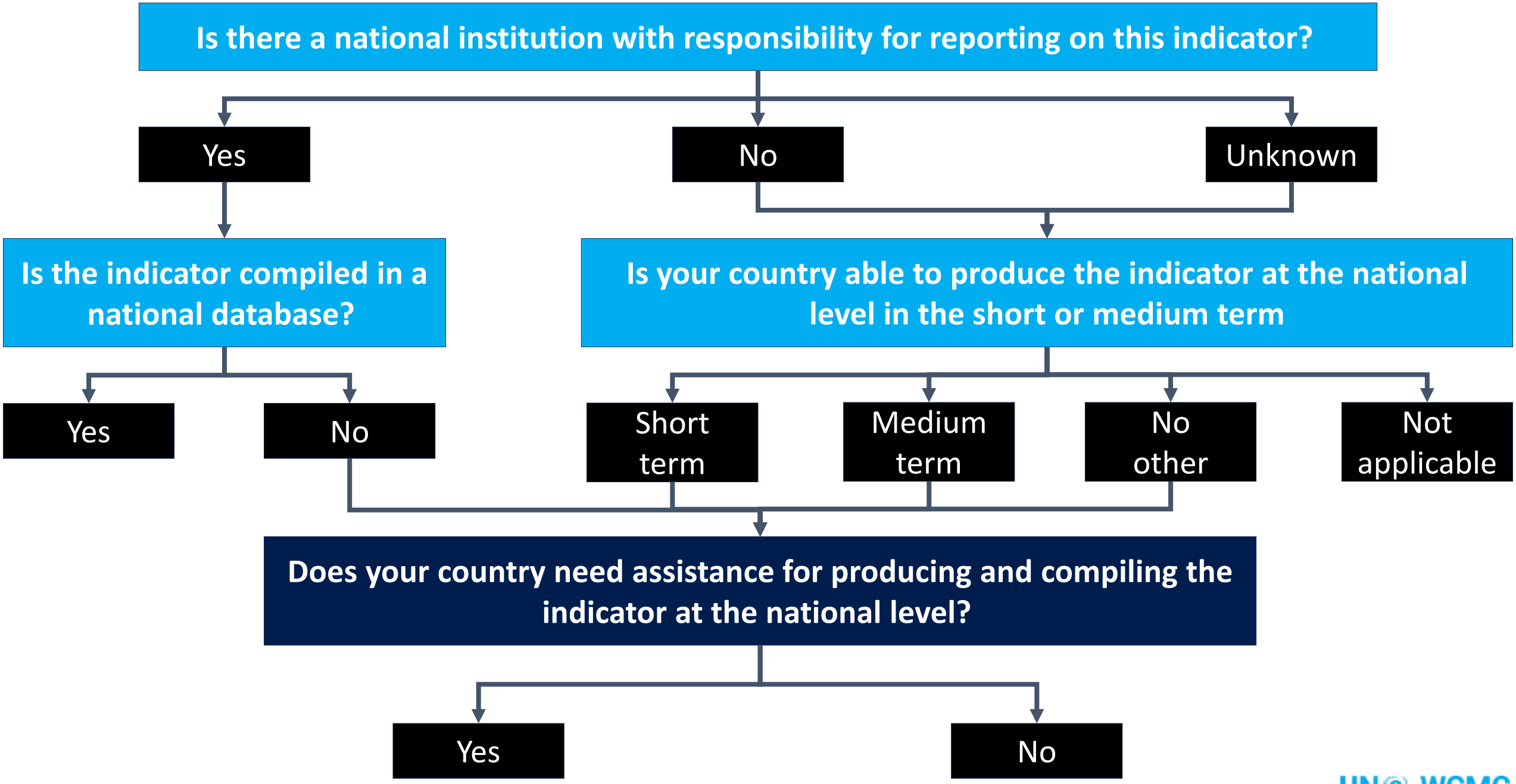
EU member states & associated countries



Other countries

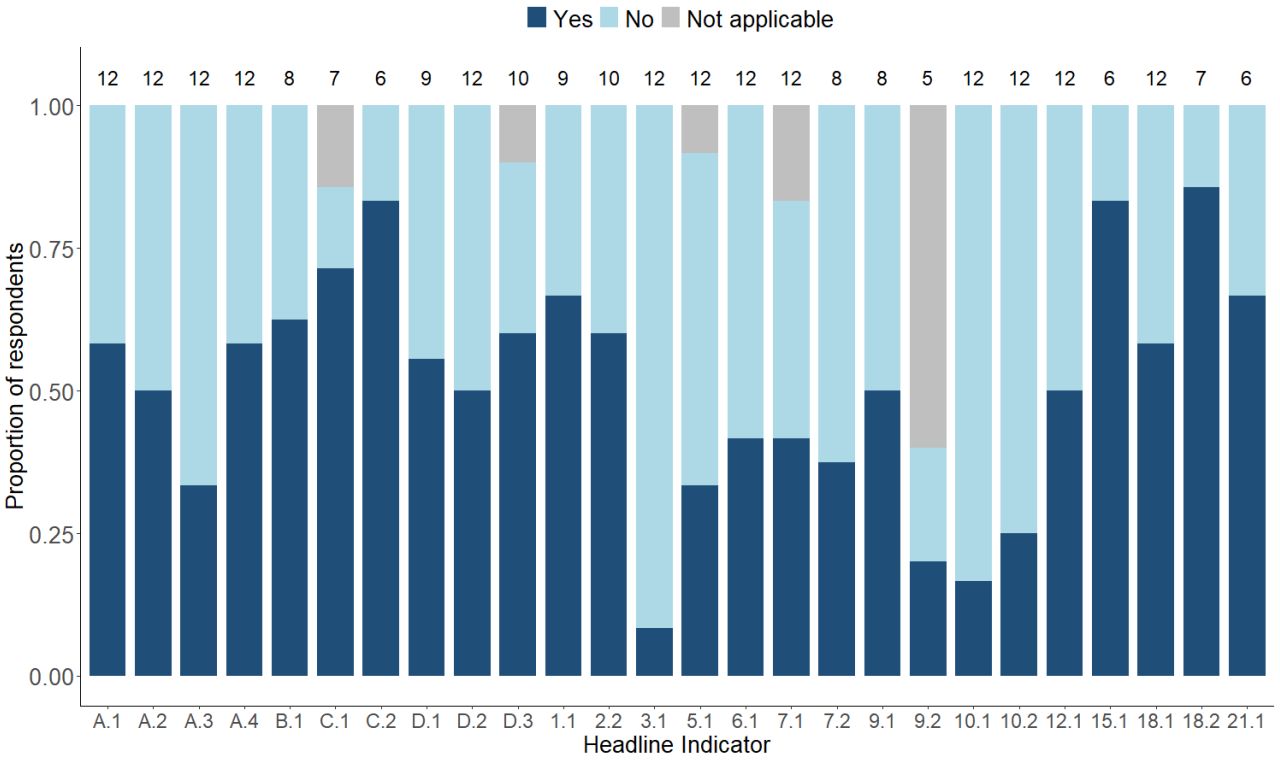


UN environment programme WCMC

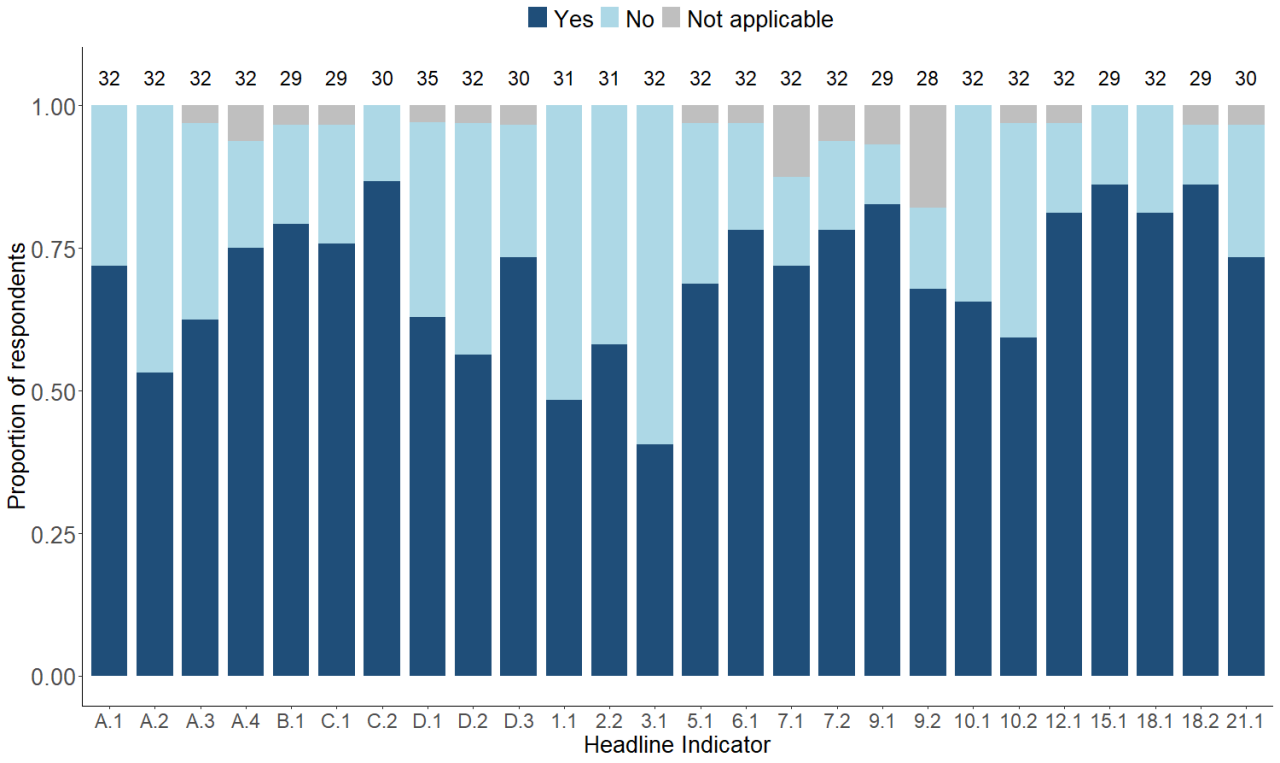

Is there a national institution with responsibility for reporting on this indicator?
Yes
No
Unknown
Is the indicator compiled in a national database?
Is your country able to produce the indicator at the national level in the short or medium term
Yes
No
Short term
Medium term
No other
Not applicable
Does your country need assistance for producing and compiling the indicator at the national level?
Yes
No

Does your country need assistance for producing the indicator at the national level

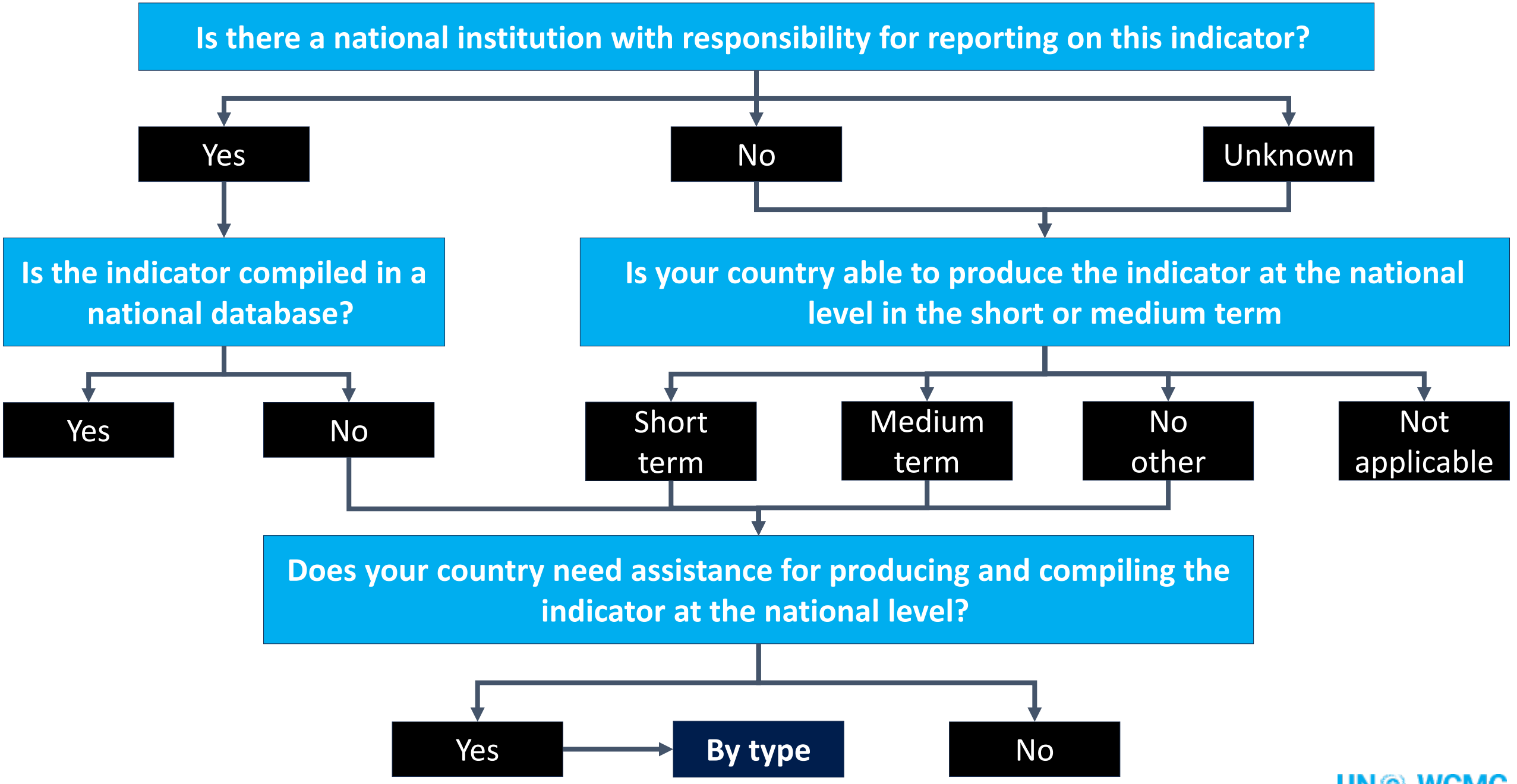
EU member states & associated countries



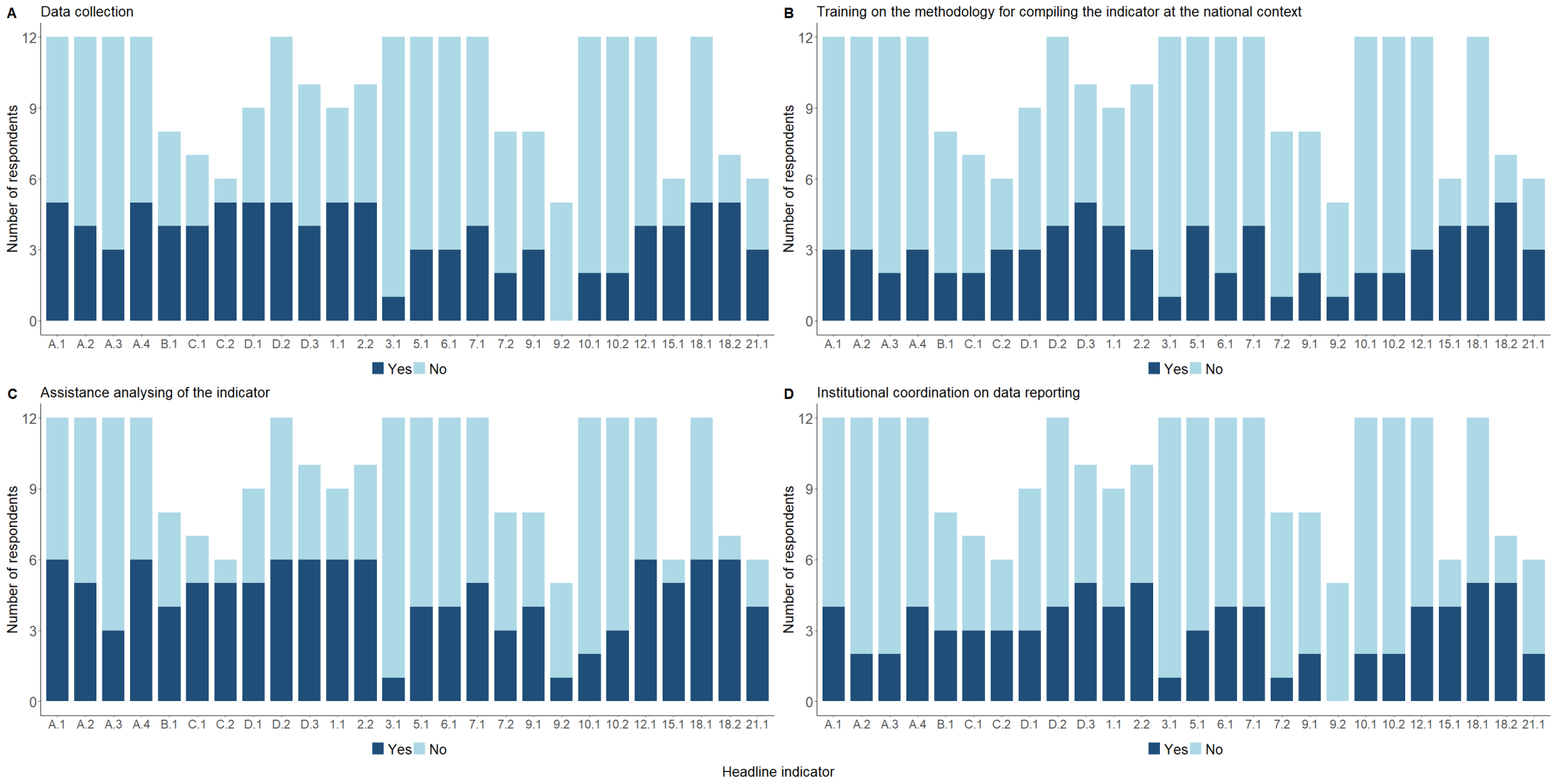
Other countries

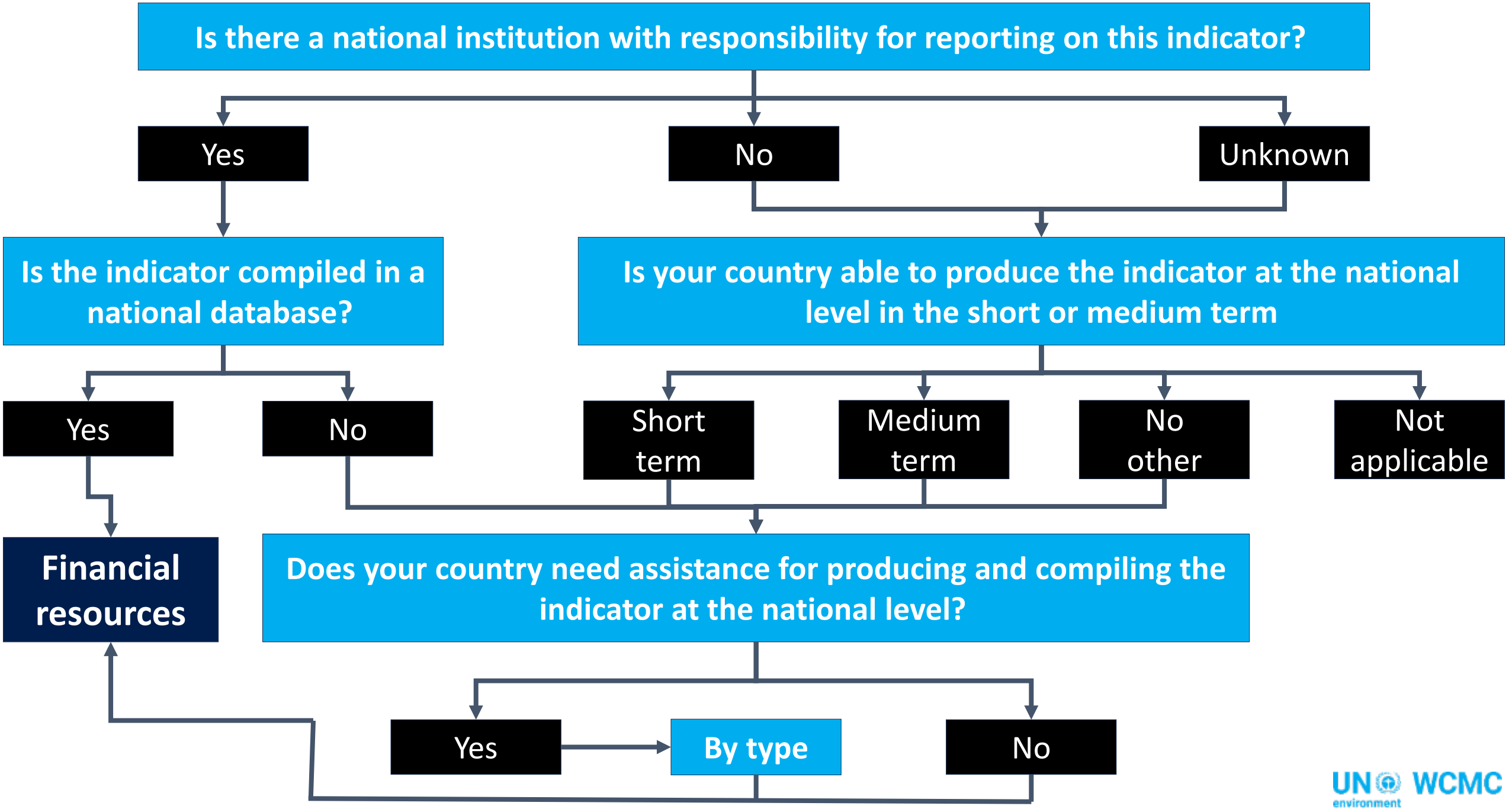


UN environment programme WCMC


Is there a national institution with responsibility for reporting on this indicator?
Yes
No
Unknown
Is the indicator compiled in a national database?
Is your country able to produce the indicator at the national level in the short or medium term
Yes
No
Short term
Medium term
No other
Not applicable
Does your country need assistance for producing and compiling the indicator at the national level?
Yes
By type
No

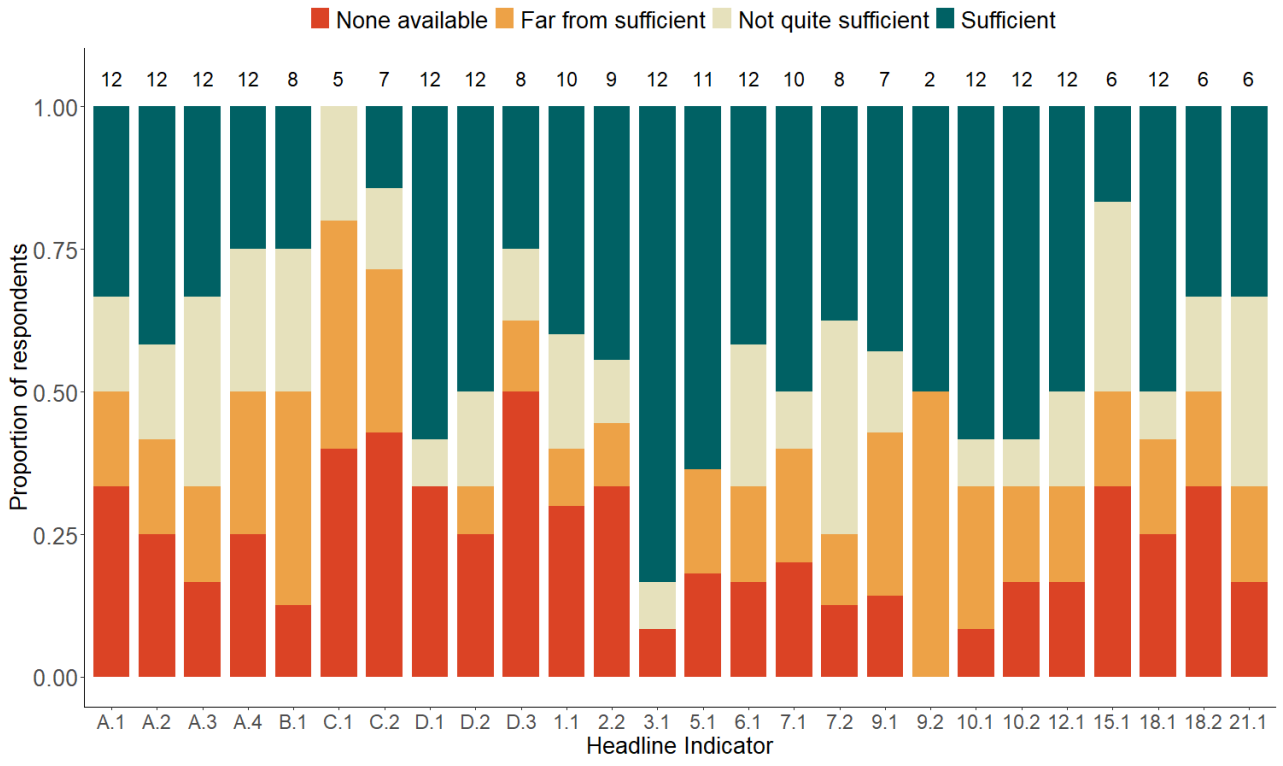
Does your country need assistance for producing and compiling the indicator, by type



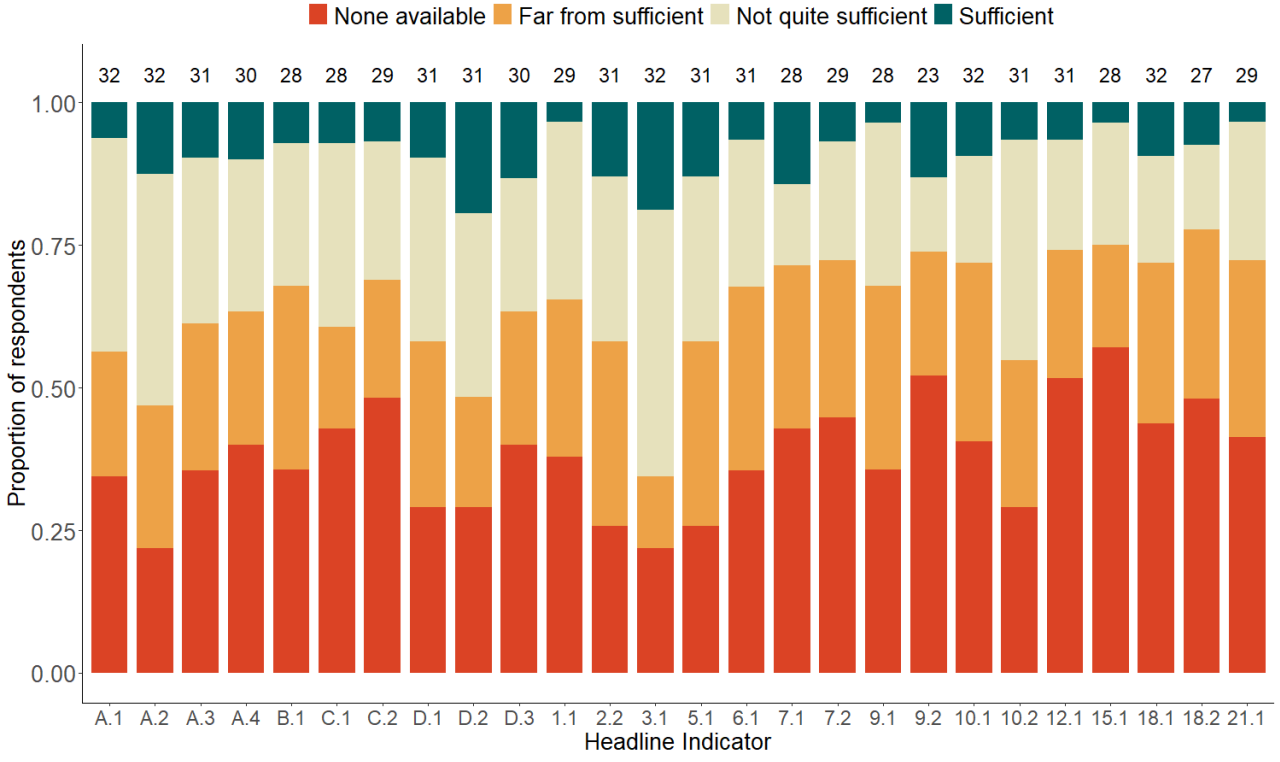

Is there a national institution with responsibility for reporting on this indicator?
Yes
No
Unknown
Is the indicator compiled in a national database?
Is your country able to produce the indicator at the national level in the short or medium term
Yes
No
Short term
Medium term
No other
Not applicable
Financial resources
Does your country need assistance for producing and compiling the indicator at the national level?
Yes
By type
No

Which situation best describes the availability of financial resources to produce the indicator

EU member states & associated countries



Other countries



UN environment programme WCMC

Key messages

- Continue to address critical gaps to improve the monitoring framework, in particular on headline indicators that do not have an existing methodology

- There is a need to mobilize resources from all sources to support national capacity-building and development and help create an enabling environment.

- We encourage key partners and stakeholders to address the capacity gaps, to utilize the adopted the Headline Indicators, including through alignment of their capacity-building and development actions with the framework, and establishment of coalitions and communities of practice

Selected tools and resources to support the effective implementation and monitoring of the Kunming-Montreal Global Biodiversity Framework

UN environment programme WCMC

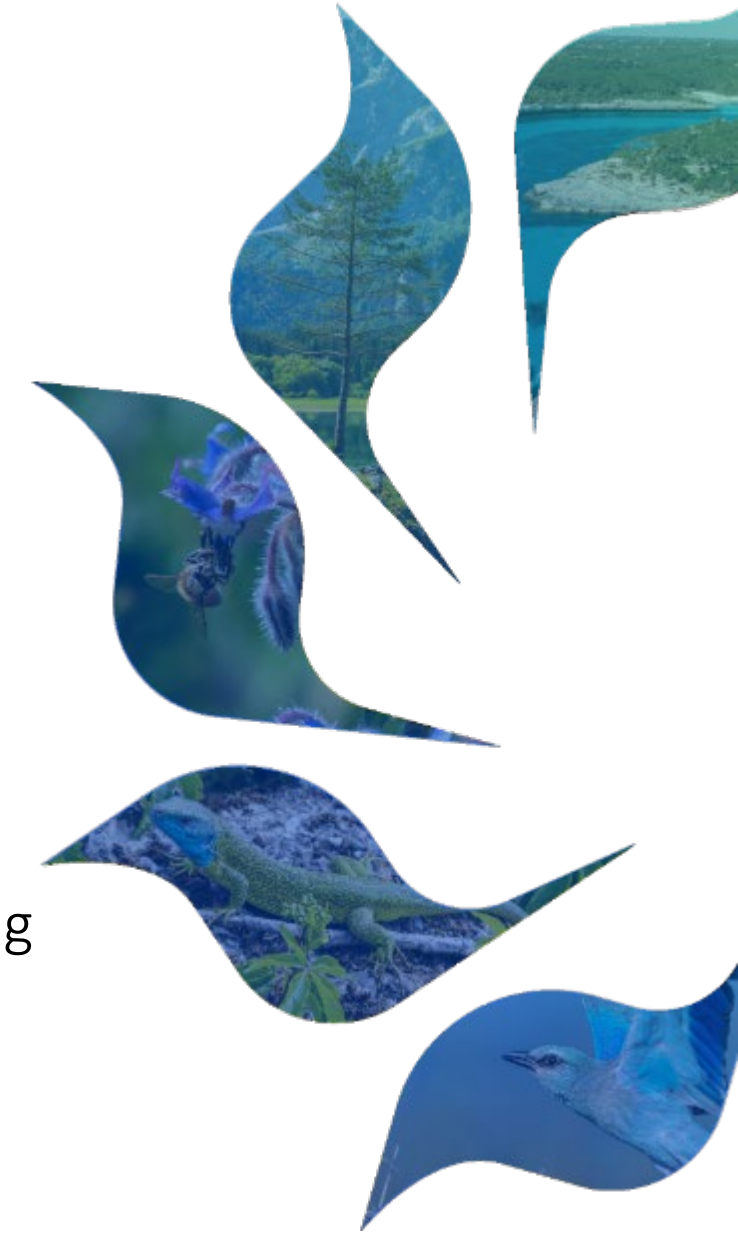
National Monitoring Support Initiative

By 2030, **Parties** to the CBD have **increased capacity, tools and systems** for biodiversity monitoring

Support of a network of national, regional and global partners

Enhance **effective monitoring and reporting** of progress towards national targets and contributions to the goals and targets of the Kunming – Montreal Global Biodiversity Framework.

CO-OPERATION FOR THE CONVENTION ON BIOLOGICAL DIVERSITY



WP3: UNEP-WCMC, Alternet, SYKE, NINA, RBINS, CER

Respond to the needs of the EU and its Member States and associated countries in translating and implementing the monitoring framework for the Kunming-Montreal Global Biodiversity Framework at the regional and national scales

Goal/target

Download CSV

Goal/target	Indicator name	Availability	Time series	Update frequency	Other MEAs/Processes	Metadata Factsheet
Goal A	A.1 Red List of Ecosystems	Available	2014 - 2025	5 years		See metadata
Goal A	A.2 Extent of natural ecosystems	In development	1992 - Present	In development		See metadata
Goal A	A.3 Red List Index	Available	1980 - 2023	Yearly	IPBES, CMS, SDG, UNCCD, SPMS, AEWA, ACAP, Raptors MOU, CITES	See metadata
Goal A	A.4 The proportion of populations within species with an effective population size > 500*	Available	1990-2010	Every 4 years	N	See metadata

Trends of headline indicators

UN environment programme WCMC

Thank you for listening!

UN Biodiversity (CC BY 2.0)

UN environment programme WCMC

Let’s take a break!

We will be back at
3.30pm EEST

BiodivMonTallinn

biodiversa+
European Biodiversity Partnership

How does the EU support the harmonisation of biodiversity monitoring schemes through policies, research and capacity building

By Caroline Pottier, Research Team Leader in the unit Green Knowledge and Research Hub, LIFE, European Commission and Bastian Bertzky, Policy Officer, European Commission – DG Research & Innovation

How does the EU support the harmonisation of biodiversity monitoring schemes through policies, research and capacity building?

Biodiversa+ Science Policy Forum on how to strengthen and harmonise biodiversity monitoring across scales in support of the GBF
Tallinn, 16 April 2024

European Commission

Caroline POTTIER, DG ENV A3

Bastian BERTZKY, DG RTD B3

Outline

- Political context (in brief)
- Support across EU institutions and initiatives
- Support through our **research** framework programmes
- Example 1: EU support to strengthen **marine** biodiversity monitoring in Europe
- Example 2: EU proposal for a regulation on a **forest** monitoring framework

EU Biodiversity Strategy for 2030: selected targets…

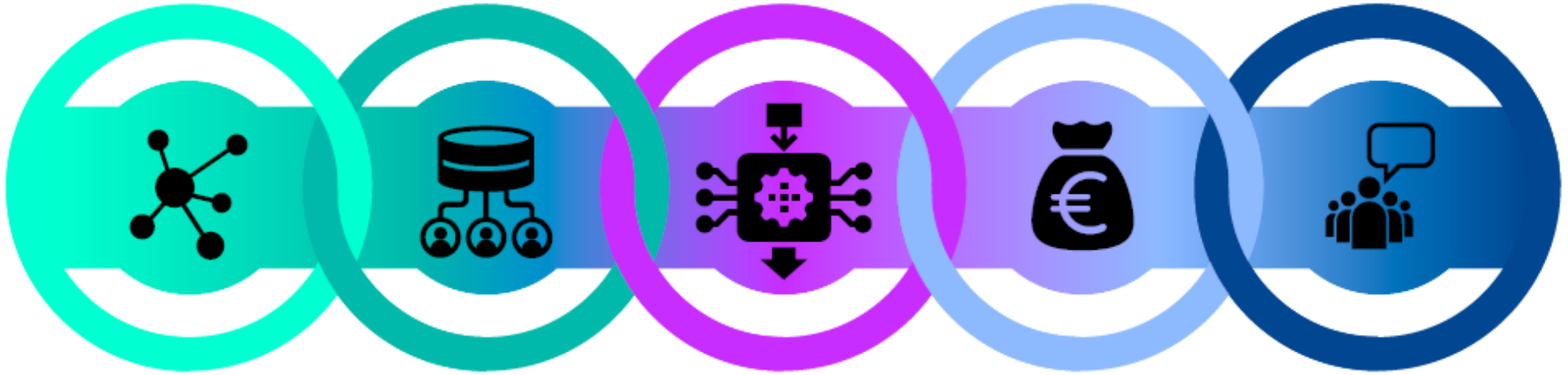
Biodiversity monitoring is essential to guide actions and assess progress towards these targets!

Biodiversity monitoring needs coming from existing EU legislation and new policy initiatives

- Monitoring under the 8th **Environment Action Programme** (common bird index, protected areas, forest connectivity)
- Monitoring and reporting under the **Nature Directives** and other EU legislation (Common Agricultural Policy, Common Fisheries Policy…)
- Proposal for an EU **Nature Restoration Law**
- EU Pollinators Initiative
- New EU Soil Strategy for 2030
- Proposal for a Directive on Soil Monitoring and Resilience
- New EU Forest Strategy for 2030
- **Proposal for a Regulation on a Forest Monitoring Framework**
- …

+ international commitments (**Global Biodiversity Framework**, various **MEAs**, etc)

How to improve biodiversity monitoring?



Source: IIASA Policy Brief #37

EUROPABON

Key actors at EU level

- **European Commission „policy DGs“** such as ENV, AGRI, MARE, RTD, GROW, MOVE… which develop and manage policies => need data for impact assessments and evaluation of policies
- DGs and EAs managing EU funds, notably Horizon Europe and LIFE
- **European Environment Agency** (EEA) & Eionet
- **Joint Research Centre** (JRC):
  - Supports the design, development, analysis and implementation of **EC-led monitoring schemes** (e.g. EMBAL, EU-PoMS, LUCAS Soil)
  - Supports continuous **intercalibration, rationalisation and improvement of national monitoring programmes** established under the Water and Marine

Better coordination & cooperation at EU level

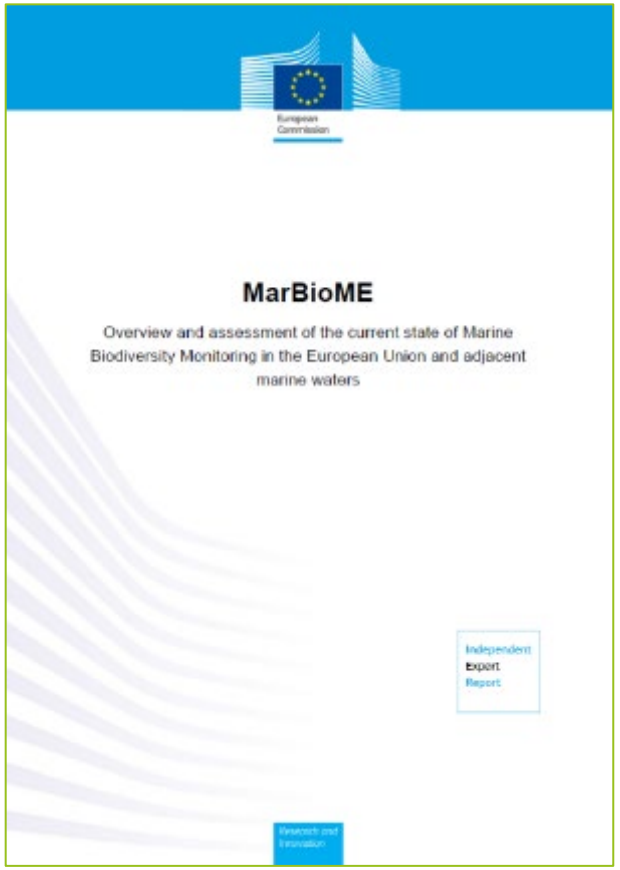
- **EU Biodiversity Platform** and its sub-groups on monitoring and assessment, pollinators, IAS, the Nature Directives, etc. => stakeholders
- **EC Knowledge Centre for Biodiversity** (KCBD) with its *ad hoc* group on biodiversity monitoring and the future 'science service'
- Co-funded **European Biodiversity Partnership** (Biodiversa+) with WP2 on biodiversity monitoring, the 33 BiodivMon projects, and 6 monitoring pilots
- **EuropaBON project** (with Biodiversa+, EEA, JRC, GBIF…) helping to design an enhanced EU-wide framework for monitoring biodiversity and ecosystem services =>

Support from Horizon 2020 & Horizon Europe

- Aim to **increase R&I funding for biodiversity** to 10% by 2026 & 2027
- Over 100 R&I projects support the implementation of the EU Biodiversity Strategy for 2030
- **Multiple calls/topics supporting biodiversity monitoring** directly and indirectly
- Support to **biodiversity research infrastructures** (e.g. LifeWatch ERIC) and links with GBIF, GEO BON, etc
- Promoting **harmonisation, standardisation and interoperability** of biodiversity monitoring data
- Promoting **open access** and **FAIR data** in general
- Promoting and supporting **citizen science**

Example 1: EU support to strengthen marine biodiversity monitoring in Europe

- **Ongoing EC initiative** to improve biodiversity monitoring across European marine waters
- **MarBioME study 2023**: “Overview and assessment of the current state of Marine Biodiversity Monitoring in the European Union and adjacent marine waters”
- Applied **EBVs & EOVs frameworks** and identified challenges, biases & gaps: e.g. data & metadata standards, open access, long-term continuity, capacity issues, institutional coordination, links…
- Follow up ongoing…



Collaborative study on marine biodiversity monitoring harmonisation (ongoing)

- Supports implementation of the EU Mission Restore our Ocean & Waters
- Collaborative 1-year study between JRC and consortium, involving key players and building on other previous and ongoing initiatives

- Aims to analyse the state of marine biodiversity monitoring and to develop a **strategy and roadmap** for an improved set-up
- Connecting with networks & stakeholders; reviewing methodologies and potential for harmonisation; reviewing data flows & repositories (e.g. interoperability, accessibility and usability)
- **2 workshops** planned in 2024:
  - The State of Marine Biodiversity Monitoring in Europe (June 4-6)
  - The Future of Marine Biodiversity Monitoring in Europe (November 5-7)

https://joint-research-centre.ec.europa.eu/scientific-activities-z/marine-biodiversity/marine-biodiversity-monitoring

Key research projects on marine monitoring

- **Sequential topics** in Horizon Europe for marine biodiversity & ecosystem services
- Call HORIZON-CL6-2022-BIODIV-01-01 launched in 2022:

Observing and mapping biodiversity and ecosystems, with particular focus on coastal and marine ecosystems - 18M€

OBAMA-NEXT – MARCO-BOLO – DiverSea develop new technologies and/or bring them to higher TRL for Essential Ocean Biodiversity Variables, new proxies / data to make a leap in observation, characterisation of ecosystems functioning, mapping

In situ & large scale to feed improved theoretical & numerical models for biotic component of ecosystems models

Uses for MPAs, MSP, ecosystem-based management, MSFD, WFD, restoration, EBSAs, carbon / nutrients / energy balance, DTO…

Contribute to the Global Biodiversity Observation Network

OBAMA-NEXT

MARCO-BOLO

DiverSea

Example 2: EU proposal for a regulation on a monitoring framework for resilient European forests

To provide **open access** to detailed, accurate and timely information on the status and trends of EU forests.

- An effective and cost-efficient forest monitoring system
- A system for mapping and localisation of forest units
- A **forest data collection framework**, combining standardised and harmonized data
- A **framework to share forest data**, make sure public accessibility of data, also in Forest Information System for Europe (FISE)
- Synergies with and support for the implementation of other key European legislation on climate mitigation and adaptation, bioeconomy, biodiversity, etc

EU proposal for a regulation on a monitoring framework for resilient European forests

Forest data that Member States should collect:

- (a) forest available for wood supply and forest not available for wood supply;
- (b) growing stock volume;
- (c) net annual increment;
- (d) stand structure;

(e) tree species composition and richness;

(f) European forest type;

(g) removals;

(h) deadwood;

(i) location of forest habitats in Natura 2000 sites;

(j) abundance of common forest birds;

(k) location of primary and old-growth forests;

(l) protected forest areas;

(m) production and trade of wood products;

(n) forest biomass for bioenergy

EU proposal for a regulation on a monitoring framework for resilient European forests

- Choice on indicators based on:
  - Monitoring done by EU Member States
  - EEA (e.g. protected forest area) and JRC
  - Research results and existing databases
  - Harmonisation with other instruments including complete alignment with the definitions in the NRL

European Environment Agency

Sources used for the proposal on forest monitoring

BOTTOMS-UP

Cooperation project gathering information on forest multi-taxon biodiversity to inform sustainable forest management

COST-CA18207

E43 – Harmonisation of national inventories in Europe: Techniques for common reporting

COST Action 2004-2008

Diabolo

Distributed, Integrated and Harmonised Forest Information for Bioeconomy Outlooks

H2020 project 2015-2019

Key messages

- **The availability of data** through **existing biodiversity monitoring schemes and databases** is decisive for choice of policy indicators.
- Need to improve **existing indicators reflecting the state of biodiversity and ecosystems**, and to build new ones. Data should notably feed models for policy evaluations and impact assessments.
- **Harmonisation of biodiversity observation data**: research projects expected to contribute. Important role of future EBOC.
- Important to consider **all levels**: global, EU, national, regional, local...; and increasing needs for the private sector.
- Not forgetting that **simplification and harmonisation** is a recurrent request!

Thank you

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#BiodivMonTallinn

Posting about the Science-Policy Forum on social media?

Don't forget to tag @BiodiversaPlus

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Panel 1 - National experiences of EPAs and MOEs on their national biodiversity monitoring programs and how they connect biodiversity monitoring schemes with latest research outcomes

With the panelists: Ian McCallum, International Institute for Applied Systems Analysis, IIASA – Julia Seeber, EURAC Research – Léa Riera, French Biodiversity Agency OFB – Abdelouahid Ezzarfi, Ministry of Higher Education, Scientific Research and Innovation

National terrestrial biodiversity monitoring framework (2023)

(more than 200 monitoring programs)

Consolidation

Increase the level of quality of answers
Robustness, precision, additional programs…

Extension

Emerging national stakes, future needs, non-binding issues

REQUIRED BASE

To meet prioritary ojectives :

- EU requirements
- Other national priorities

(e.g. soil, protected areas, overseas, national action plans…)

Thematic groups (national experts + program leaders)

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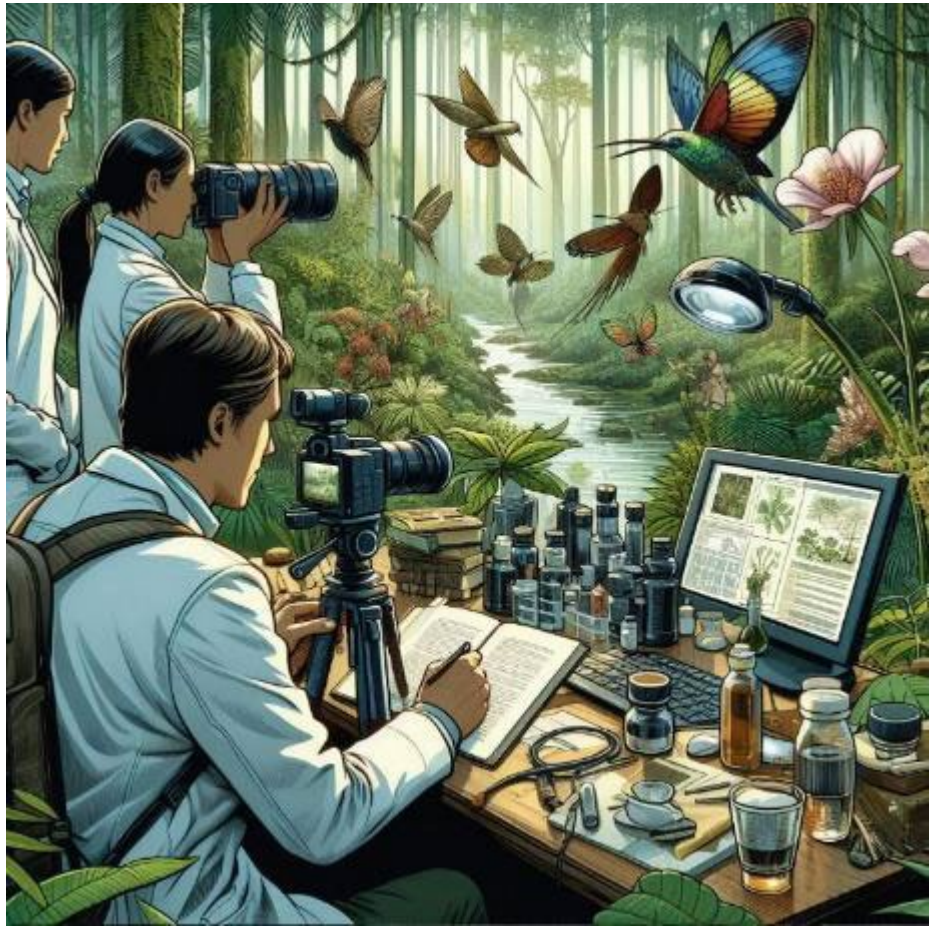
Panel 2 - Prospects from the BiodivMon projects and a past project about how they can contribute to increasing monitoring capacities and knowledge and linking with policy makers

With the panelists: Frédéric Lemaître, Biodiversa+, FRB - Florian Schneider, Institute for Social-Ecological Research - Benjamin Cretois, Norwegian Institute for Nature Research - Martin Potthof, University of Göttingen - Brett K. Sandercock, Norwegian Institute for Nature Research

Biodiversity monitoring



From MS Bing AI image generator

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European Biodiversity Partnership

Research and Innovation
on biodiversity monitoring

biodiversa+
European Biodiversity Partnership

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URBANGAIA - Managing urban biodiversity and green infrastructure to increase city resilience

URBANGAIA

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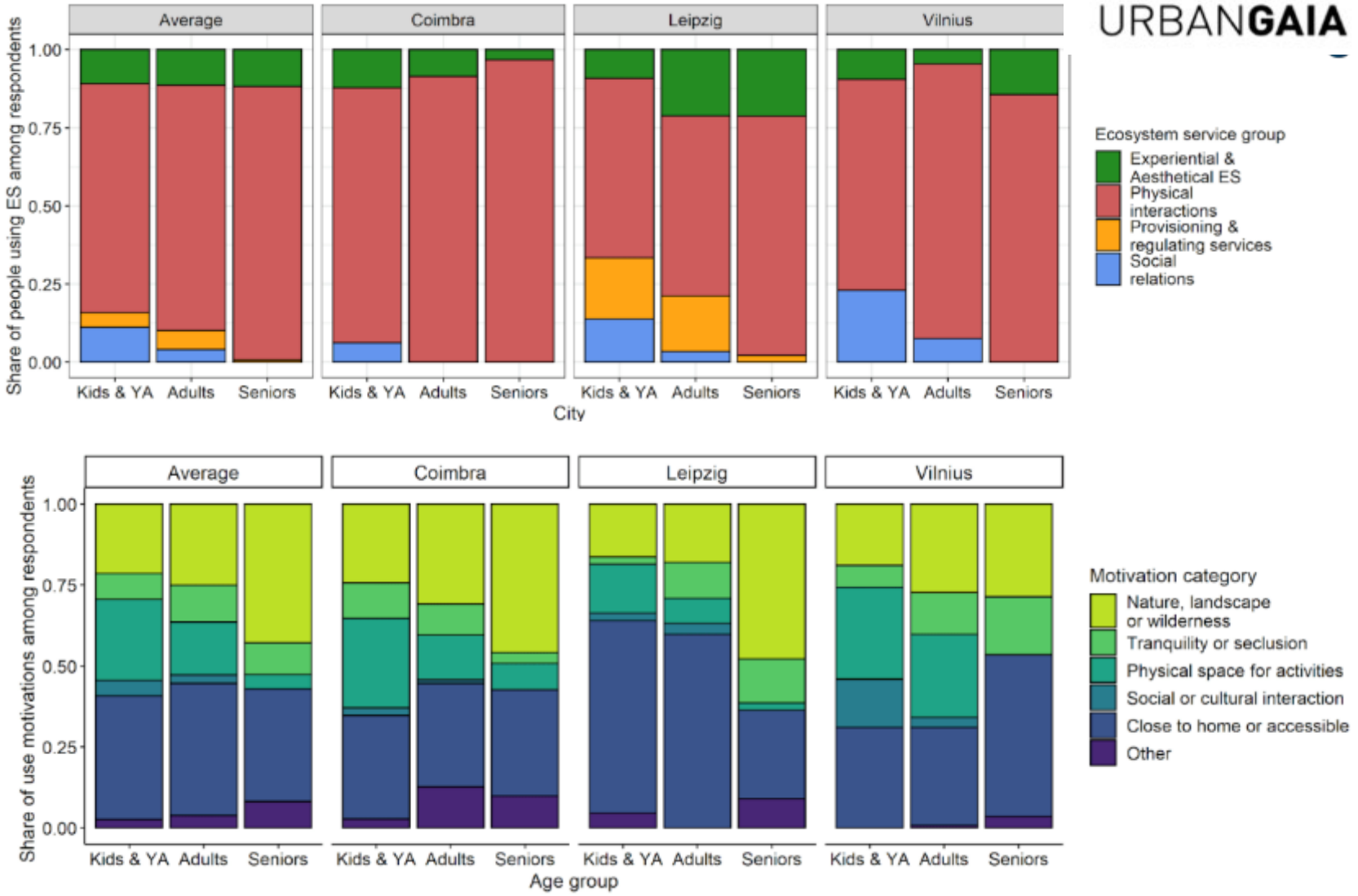
URBANGAIA - Managing urban biodiversity and green infrastructure to increase city resilience



URBANGAIA - Managing urban biodiversity and green infrastructure to increase city resilience

2020

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European Biodiversity Partnership

DIARS - Advancing the use of remote sensing in tackling the huge problem of Invasive Alien Species

DIARS validated the ability of airborne hyperspectral remote sensing data (LiDAR) to generate reliable distribution maps of *Campylopus introflexus*

C. Introflexus

DIARS - Advancing the use of remote sensing in tackling the huge problem of Invasive Alien Species

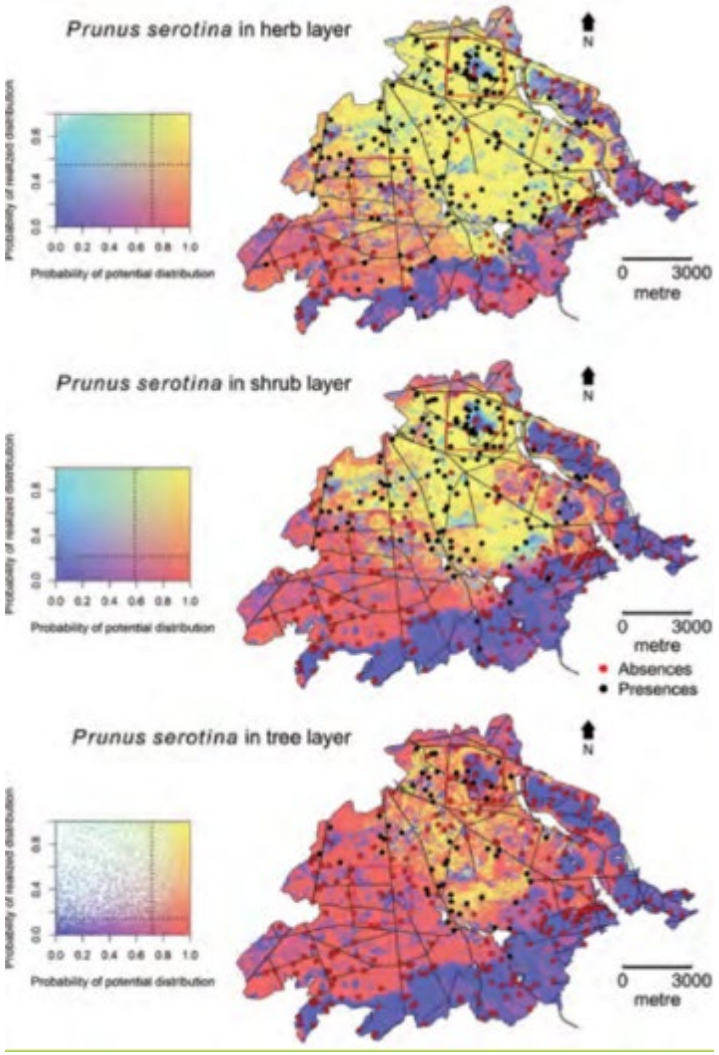

Figure: Maps of potential versus realized distributions, with invasion likeliness/risk

Hattab T. et al. (2017)

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DIARS - Advancing the use of remote sensing in tackling the huge problem of Invasive Alien Species

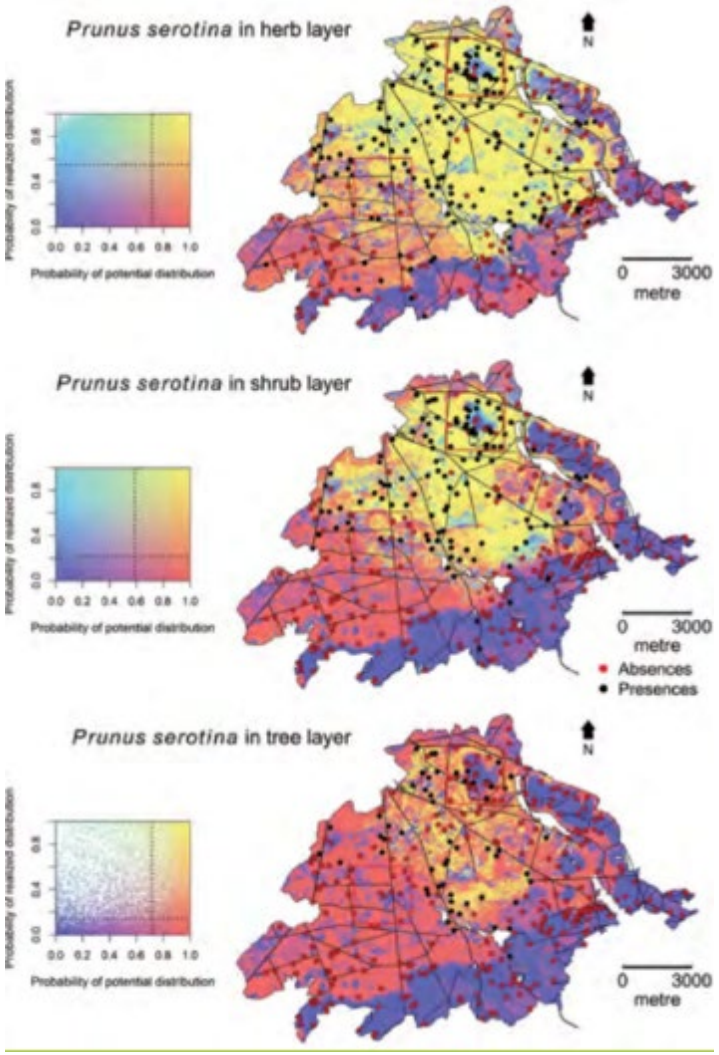

Figure: Maps of potential versus realized distributions, with invasion likeliness/risk

Hattab T. et al. (2017)

DIARS tool box
Remote sensing-based framework.

Hands-on training part of EUFAR training course

Training workshops at relevant local sites – e.g. early detection of *C. introflexus* in dunes of the Sylt island

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From MS Bing AI image generator

GLOBAM - Towards monitoring, understanding and forecasting global biomass flows of aerial migrants

BiodivMon – 33 projects for an improved transnational monitoring of biodiversity and ecosystem change for science and society

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Co-funded by the European Union

Thank you!

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