



# Mapping and Assessment of Ecosystems and their Services – MAES support to EU Biodiversity Policy

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# This workshop:

*Biodiversity policy in the EU*

*Scientific support to the biodiversity policy  
(establishment of a science policy interface  
MAES)*

*Examples of research outputs for policy support*

# EU Biodiversity policy

## EU Biodiversity Strategy

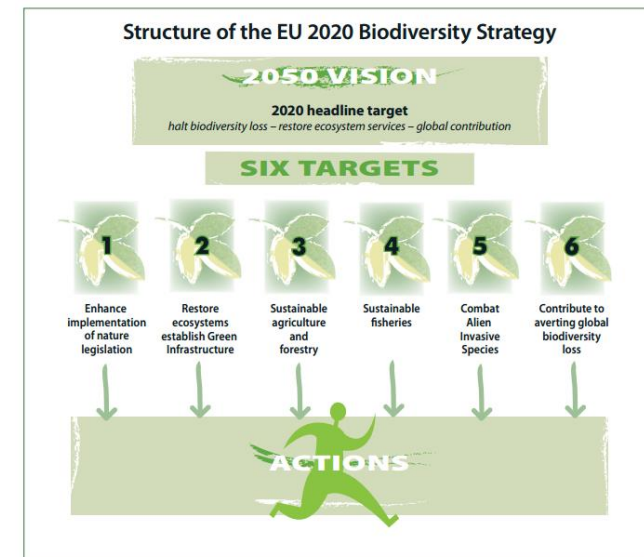
→ Halt the loss of biodiversity and ecosystem services in the EU and globally

### Target 2

→ Maintain ecosystem services and restore ecosystems

### Action 5

→ **Map and Assess Ecosystems and their Services (MAES)** in the entire EU territory; economic valuation; develop natural capital accounts



# MAES working streams

## Member States

- Mapping and assessment at national scale
- Work is ongoing in many countries

## MAES working group

- MAES reports provide guidance
- Thematic pilots to test the guidance

## ENV Support contracts (MESEU/TRAIN/T2)

- Contracts DG ENV
- Guidance and training at MS level

## ESMERALDA

- Horizon 2020
- Flexible approach to mapping and assessment

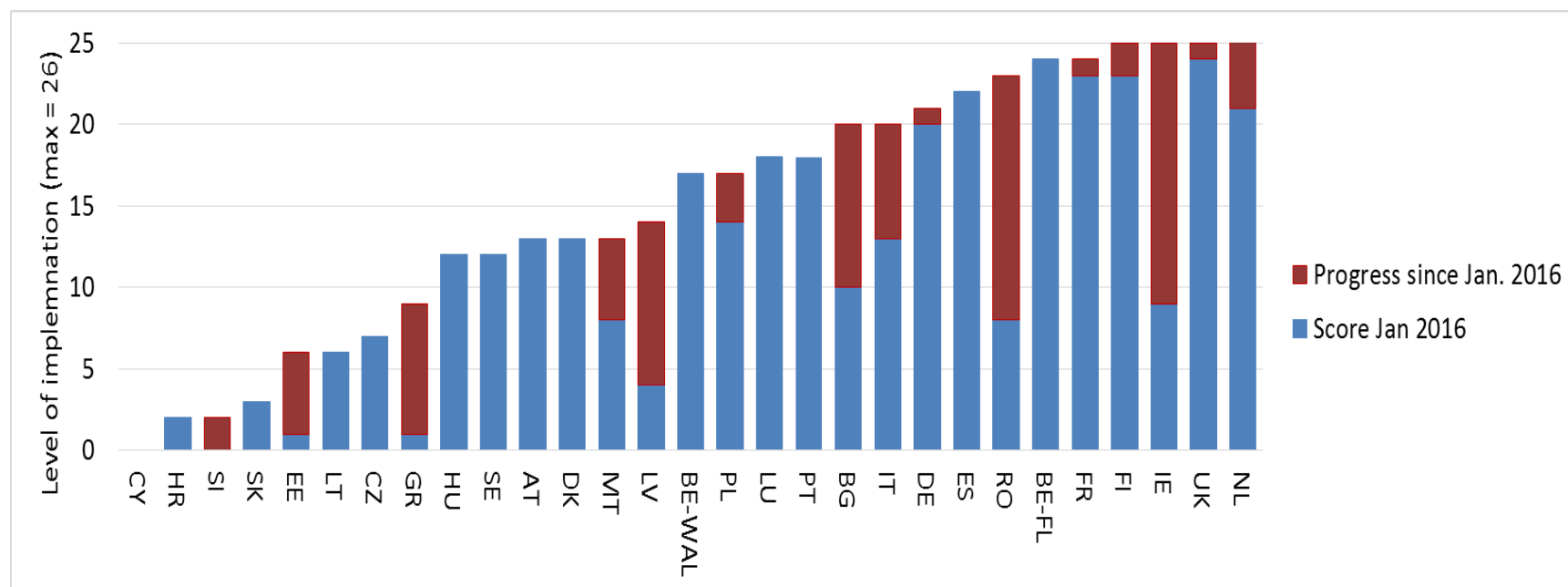
## IPBES

- Regional assessments

## KIP-INCA

- Integrated system of Natural Capital Accounts
- Depends heavily on MAES inputs

# Successful implementation in EU Member States



**Source:** ESERALDA project ([www.esmeralda-project.eu](http://www.esmeralda-project.eu)); deliverable 2.2: Ecosystem service mapping and assessment gaps in EU member states and recommendations to overcome them; status update reported to the 11<sup>th</sup> MAES meeting of 8 March 2016; MS reports available on <http://biodiversity.europa.eu/maes>

# MAES working group oversees the implementation of Action 5

Research community  
H2020 projects

[www.esmeralda-project.eu](http://www.esmeralda-project.eu)

European Commission,  
European Environment Agency

Cities and regions  
Stakeholders

EU Member States  
and other countries



## **TASKS of the Working group**

1. *Guidance for Member States*
2. *Common ecosystem assessment pilots*
3. *EU wide assessments*

# 1. Guidance documents (MAES reports)

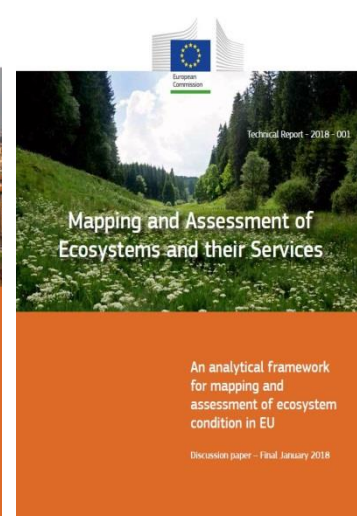
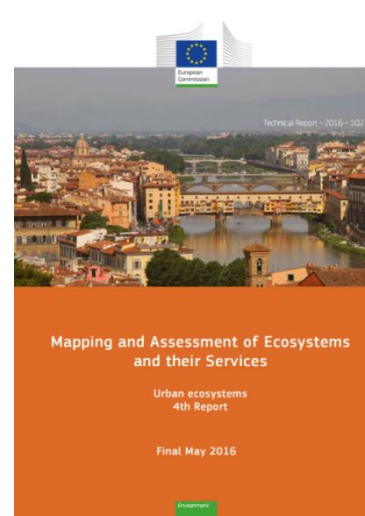
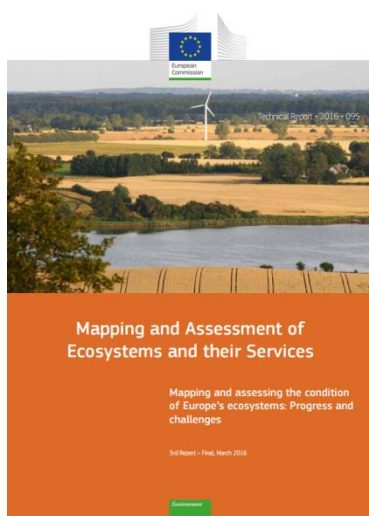
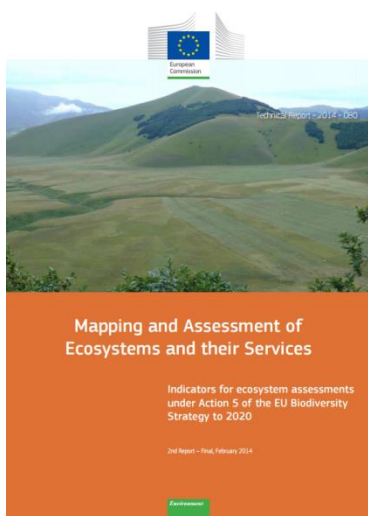
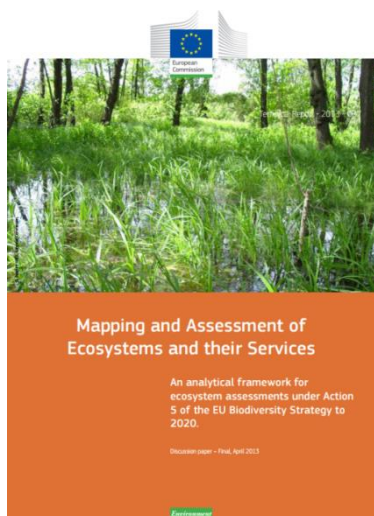
Conceptual framework and typologies

Indicators for ecosystem services

Ecosystem condition assessment

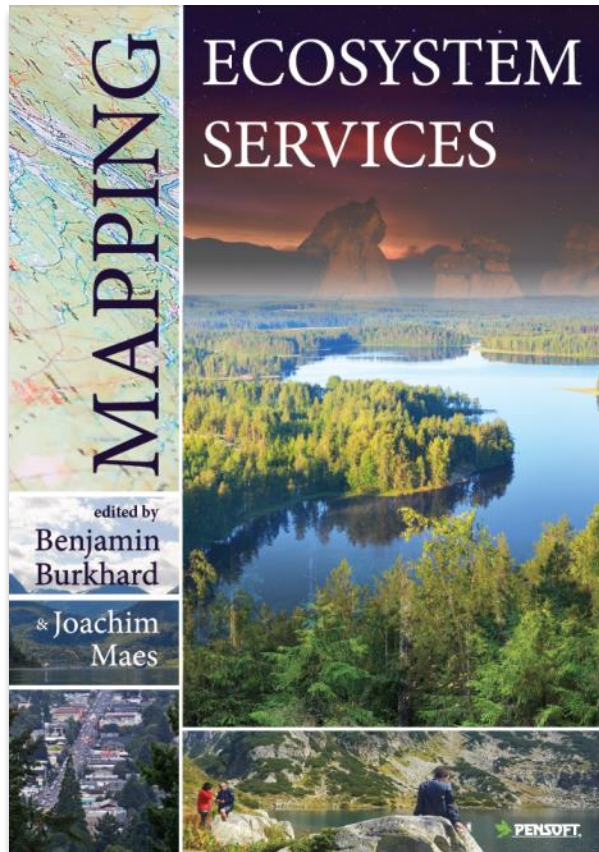
Urban ecosystems

Indicators for ecosystem condition



<http://biodiversity.europa.eu/maes>

# 1. Guidance documents (ESMERALDA)

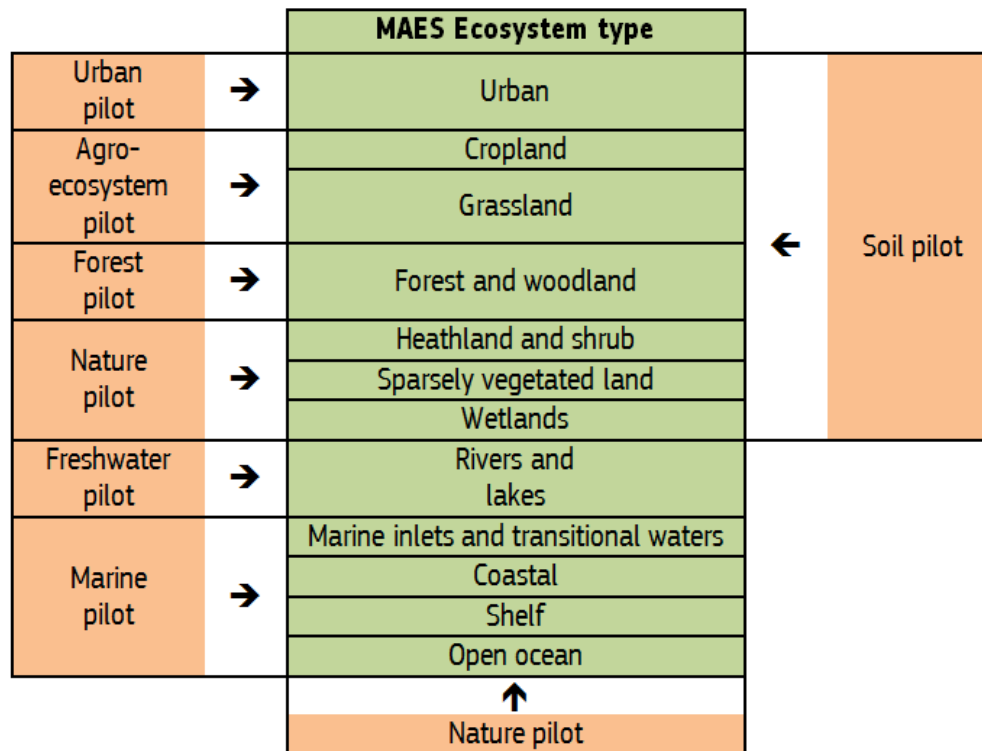


Theory and practice of mapping and quantifying ecosystem services

- Mapping techniques
- Different methods and approaches
- Scales, tiers
- Uncertainty
- Applications and case studies

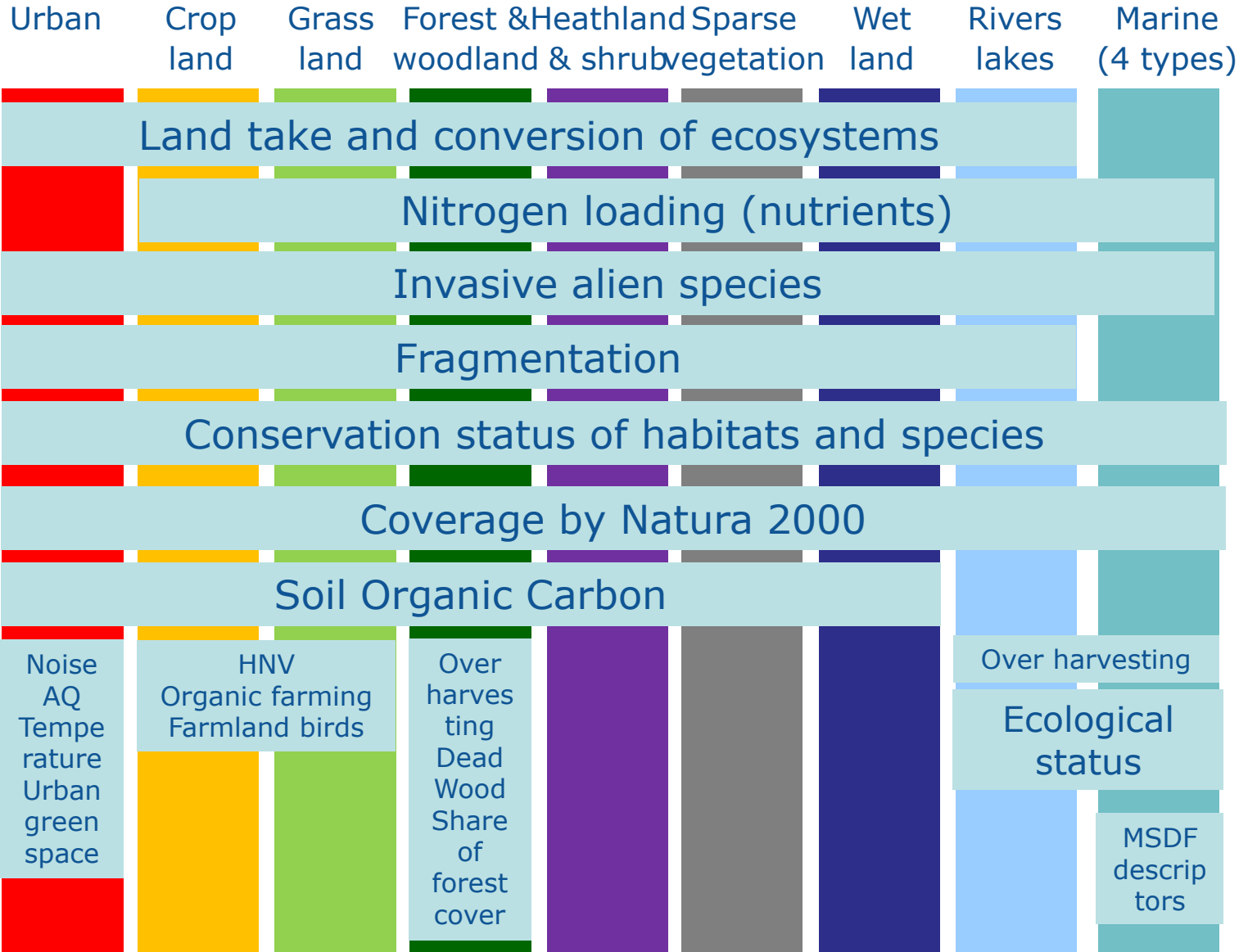


## 2. Ecosystem assessment pilots



Organisation of the MAES work into **pilots** (pools of expertise) and **ecosystem types**

# Key indicators



# Links to other indicator frameworks and ensuring policy relevance

→ Streamlined with 19 specific (environmental) policies or existing indicator frameworks of the European Commission

→ SEBI: Streamlined European Biodiversity Indicators

→ AEI: Agri-Environment Indicators

→ MSFD descriptors

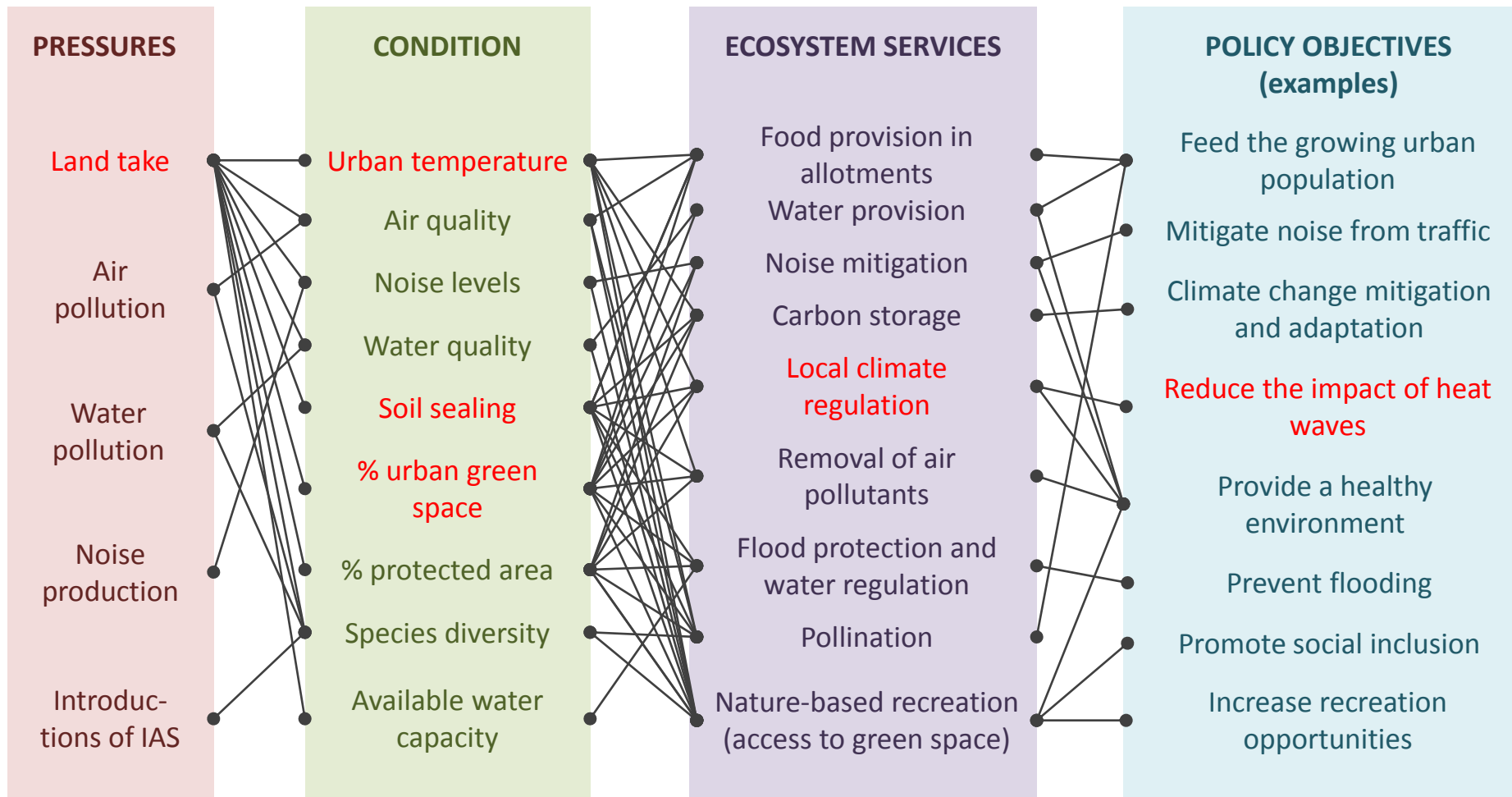
→ Sustainable development goals



# Policy narratives



## Example: Urban ecosystems

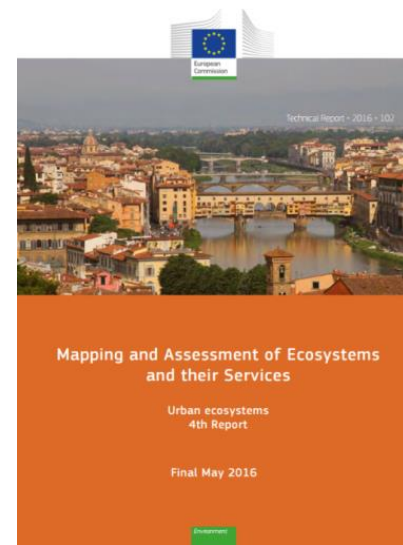


# Example: Urban pilot: testing the MAES framework with 10 cities

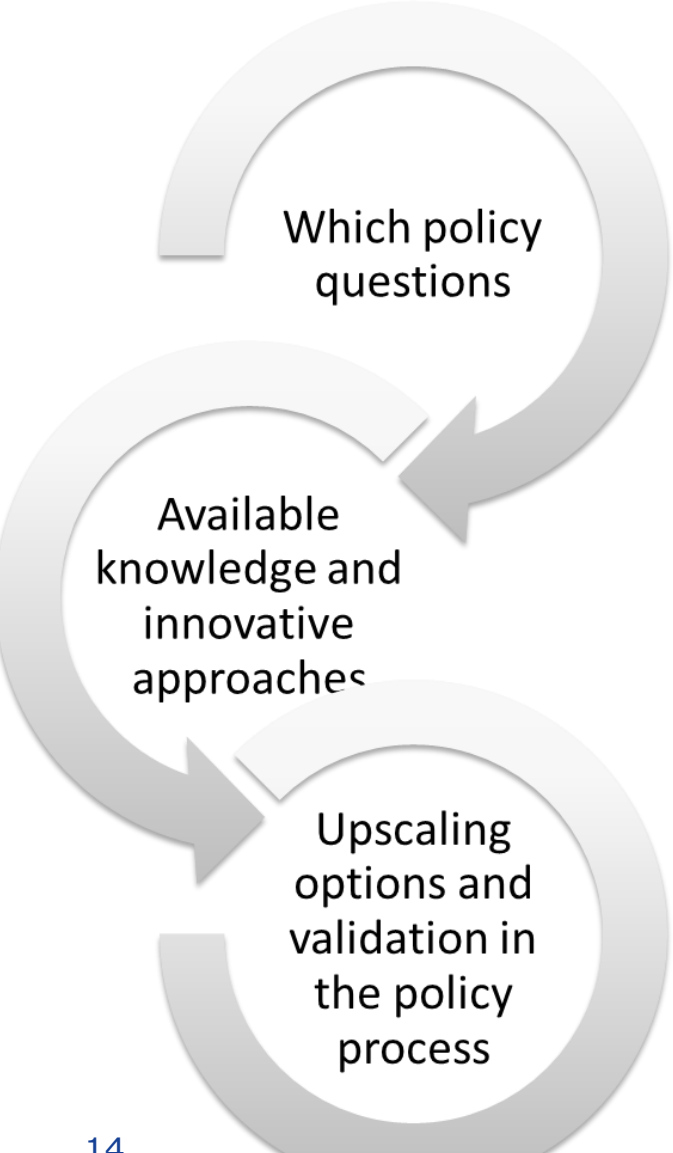
**Key outcome 1:** Cities are more likely to have a policy on green space if there is such a policy at higher governance level

**Key outcome 2.** 17% of the Natura 2000 network falls inside Europe's functional urban areas.

**Key outcome 3:** Scientists and cities created jointly a framework for assessing the condition and ecosystem services of urban green space



# EnRoute approach



Which policy questions

Available knowledge and innovative approaches

Upscaling options and validation in the policy process

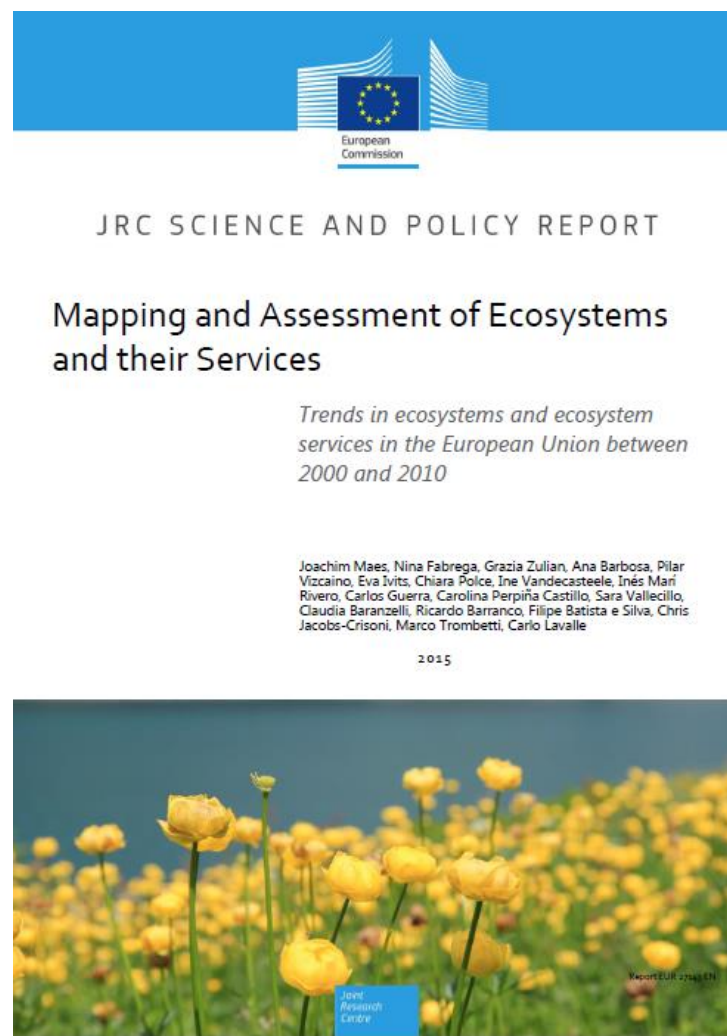
**EnRoute cities formulate key policy questions**

**EnRoute scientists map and assess indicators of urban green space and ecosystem services**

**Comparing outcomes between cities and across scales**

# 3. EU wide ecosystem assessments

- EEA + JRC + ENV:  
Analysis of trends,  
causes, needs for  
policy and actions
- BISE as entry point for  
knowledge collected by  
MAES and updates by  
countries

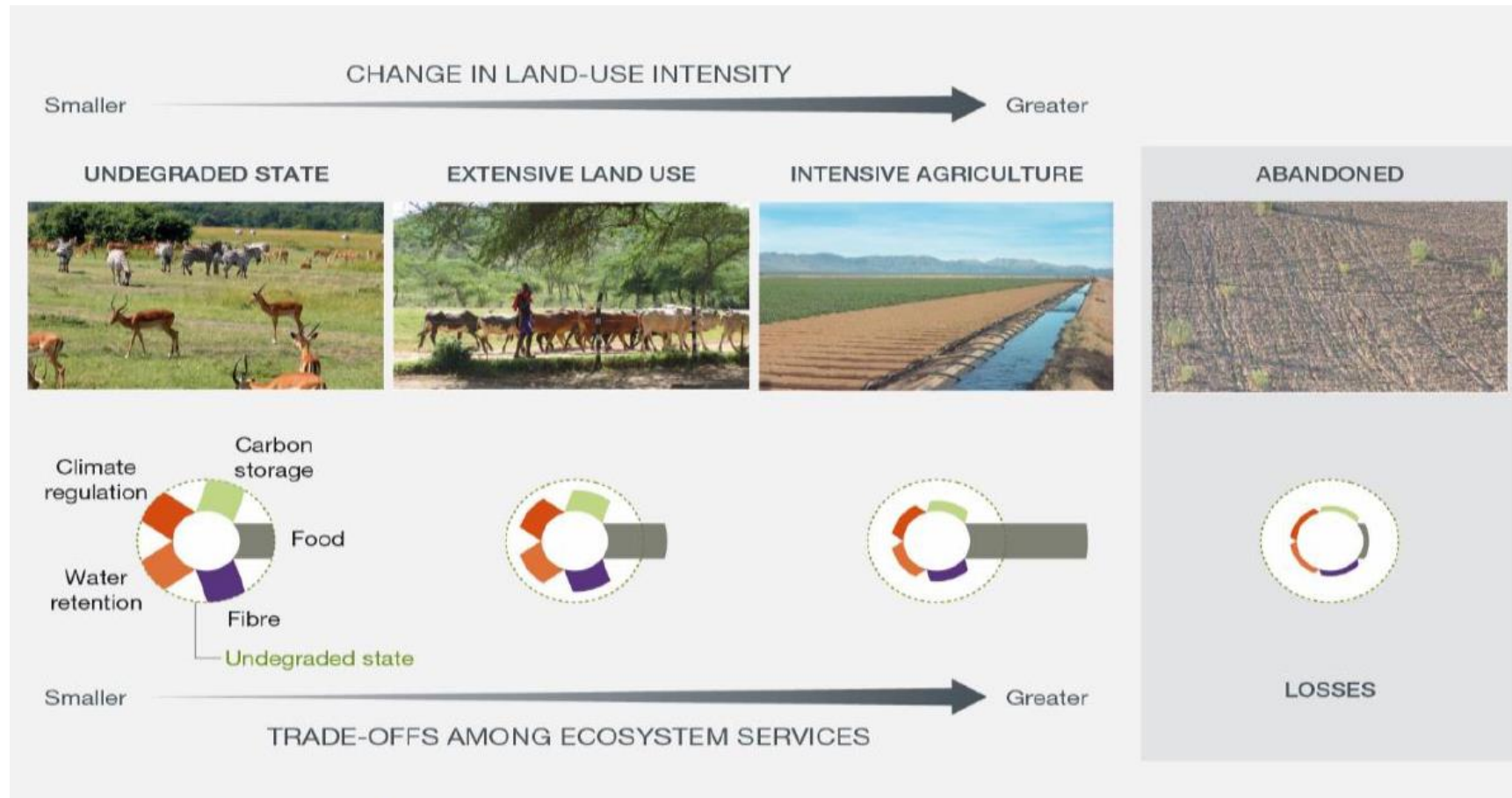


# Policy uses

- Put different policy options/actions in an ecosystem perspective
- Assess how policy actions have an impact on ecosystem condition
- Assess the present situation; where to take action to enhance ecosystem condition and services (GI/restoration agenda)
- Link ecosystem based approaches to other policies (e.g. CAP)
- Provide a common framework for ecosystems under legally defined status definition and ecosystems not covered under legislation



# Land use intensity and ecosystem services



Source: Adapted from Van der Esch et al. (2017).<sup>6</sup>

# Conclusions

- Action 5 and MAES have been instrumental in generating, boosting, scaling up and harmonising mapping and assessment activities at national and regional scale
- Solid MAES community establishing across MS
- 2018-2019: ecosystem assessment / natural capital accounts

## Next steps

- 2018: Testing the 'horizontal' framework (policy narratives) with case studies (e.g. pollinators)  
  
Testing the 'vertical' framework (specific ecosystems and services) with indicators
- 2019: An integrated ecosystem assessment (including ecosystem services) to support post-2020 Biodiversity policy framework



*Thanks for your attention!*