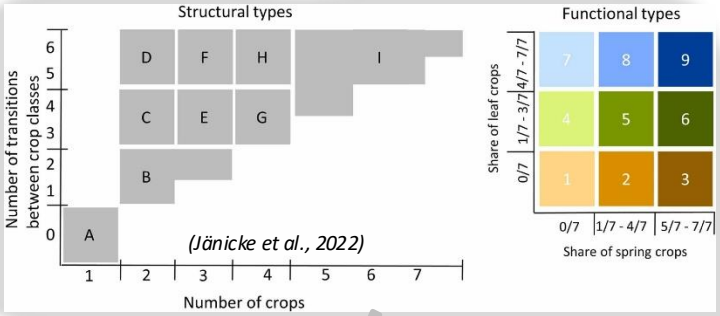
Farmland Habitat Biodiversity (152)

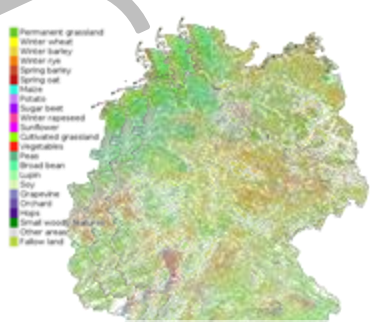
Workshop on the development of an indicator based on remote sensing data

Talie Musavi[1], Marcel Schwieder[2], Christian Levers[3], Momtchil Iordanov[1], **Matteo Marcantonio**[1], Stefan Erasmi[2] and Marijn van der Velde[1]

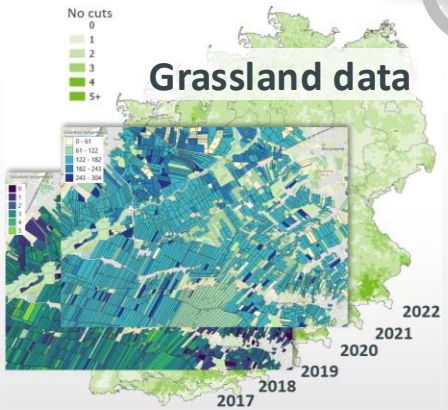
[1] European Commission Joint Research Center, Ispra, Italy
[2] Thünen Institute of Farm Economics, Braunschweig, Germany
[3] Thünen Institute of Biodiversity, Braunschweig, Germany

FHBI implementation – Germany as pilot country





Cropland data



Grassland data

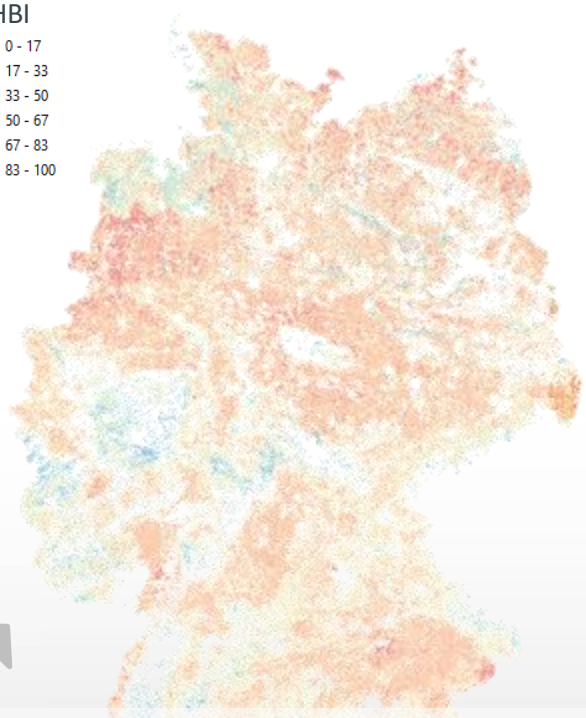
Structural type	HQV
A	1
B	
C	
D	
E	
F	
G	
H	
I	

Functional type	HQV
1	1
2	2
3	
4	
5	
6	
7	
8	2
9	1

Mowing frequency	HQV
0 -1	5
2- 3	
4 +	

Other classes	HQV
Small woody features	4
Grapevine	2
Hops	1
Orchards	2
Other areas	3

Conversion to habitat quality value



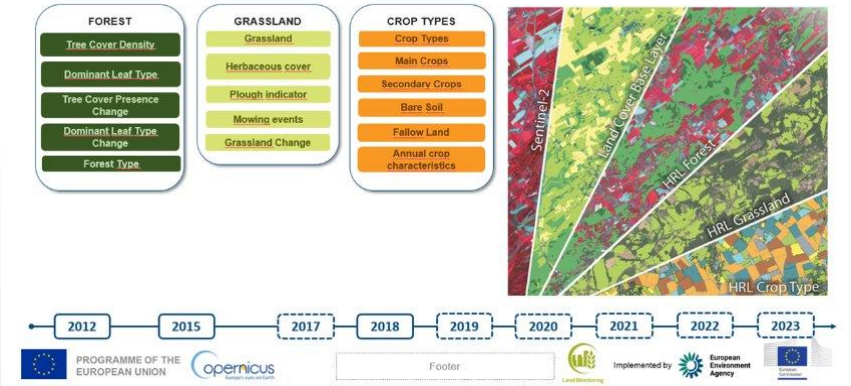
Calculate FHBI per spatial unit

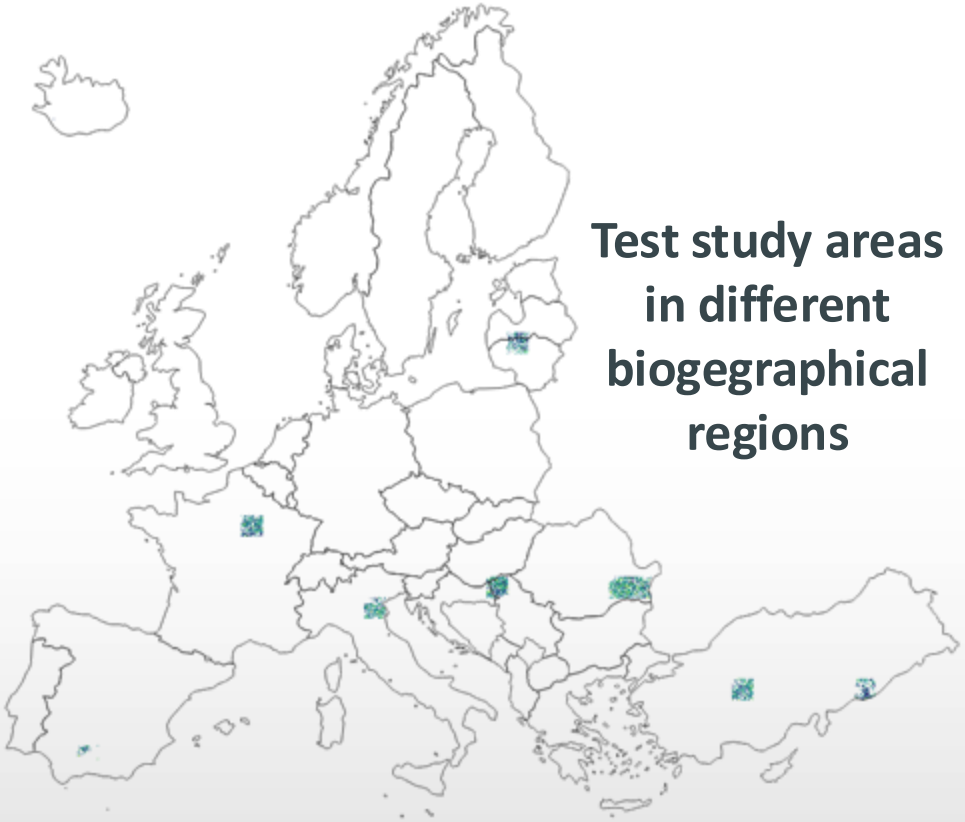
FHBI = (% Very low x 0) + (% Low x 0.25) + (% Moderate x 0.5)+ (% High x 0.75) + (% Very high x 1)

OECD, 2023

Scaling the FHBI up at continental extent

Employing next iteration of EEA Vegetation Layer Cover Characteristics (VLCC)





Test study areas in different biogegraphical regions

Overarching workshop feedback:
The current approach needs some improvements

Please rate the current state of the development!

needs improvement

59%

Nice try

22%

great step forward

19%

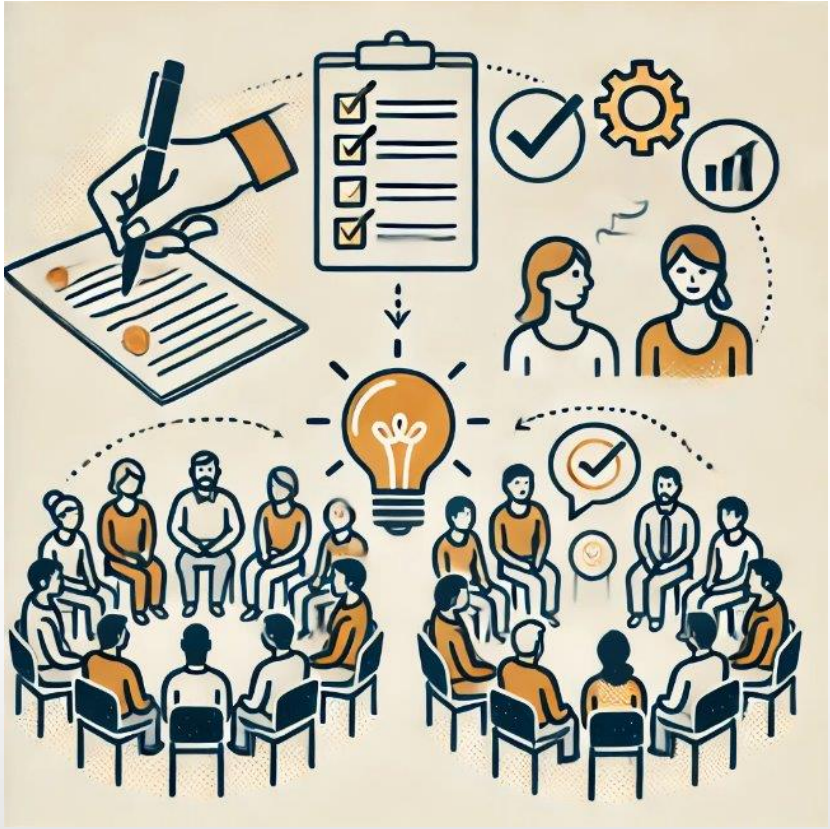
rather critical

0%

context
monitoring
good
quality
incl
biodiversity
fhbi
information
value
scale
values
spatial
great
important
policy
land
idea
use
eu
data
big
risk
crop
generalize
really
index
hard
link
consider
simple
useful
needs
countries
different
working
input
connectivity
related
level
approach
inputs
habitat
within
diversity
interesting

World Café: Round table discussion

- **Two tables, two topics**
  1. Input data & variables for FHBI mapping
  2. Linking land use to biodiversity
- **Feedback & solutions**
- **Open discussion**



Feedback from round table 1: "Input data and variables for FHBI mapping"

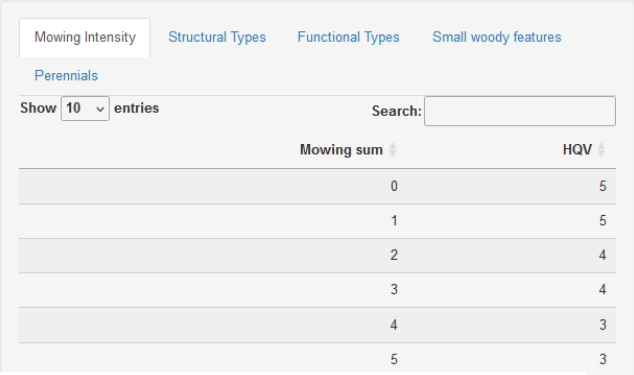
- **FHBI** should be scale depended: **from regional to continental** scale
- Wall-to-wall data as **additional input** (e.g., soil quality, water bodies, …)
- Account for the **larger landscape** beyond farmland:
  - Urban/settlements, natural areas (e.g., forests, grasslands).
- For example including measures of **spatial "awareness"**:
  - Landscape **connectivity** and **heterogeneity**.
- Output **raw information** and **additional metrics**:
  - Statistical distribution of HQVs, sub-indices, farm as aggregation unit, time period.

Feedback from round table 2: "Linking land use to biodiversity"

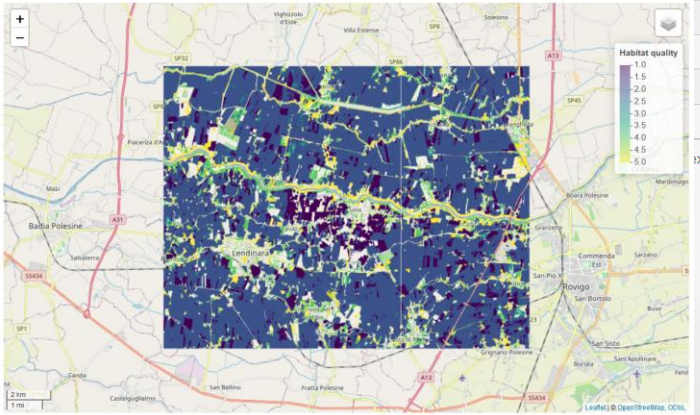
- Use in-situ **taxonomic diversity data** for index parameterisation:
  - **Reverse engineering**, parameterisation of FHBI.
- Or alternatively use **thresholds from literature** and "validate" with in-situ data (e.g., GBIF).
- FHBI needs to be targeted for **single taxa** or **functional groups**.
- Possibly linked to **Nature Restoration Regulation indicators**:
  - Farmland birds and butterflies.
- Non linear parametrisation: linear relationship of structural and functional diversity and grassland management might not always hold.

Way forward

1. **Screen feedback** from workshop:
   - What's necessary | optional | out of scope.
2. Expand **community open tools**:
   - Interactive FHBI web viewer.
   - Individual adjustment of Habitat Quality Values.
3. **Community building**:
   - Expand working group for anyone interested.
   - Contact points for partecipation:
     talie.musavi@ec.europa.eu
     marcel.schwieder@thuenen.de



Mowing Intensity | Structural Types | Functional Types | Small woody features | Perennials

Show 10 entries Search:

Mowing sum	HQV
0	5
1	5
2	4
3	4
4	3
5	3
	3
	3
	3
	3