Ecosystem Accounting in Germany- Current State and Challenges

Simon Felgendreher
Federal Statistical Office Germany
Structure of the Ecosystem Accounts

Sources: Own illustration following SEEA EA (2021)

Federal Statistical Office (Destatis)
Structure of the Ecosystem Accounts

- **Ecosystem Area**
  - at municipal level
  - change matrix
  - includes marine areas

- **Basis for Condition and Services Accounts**

- **Use of the new national Ecosystem Classification**

Sources: Own illustration following SEEA EA (2021)

Federal Statistical Office (Destatis)
Ecosystem Classification

National Aggregation and Reporting

National Ecosystem Divisions
- A04 Semi-natural open areas

National Ecosystem Groups
- A04.1 Natural or extensively used grassland

National Ecosystem Classes
- A04.11 Heathland

Base of the Ecosystem Extent Account

International Aggregation and Reporting

CLC Classes
- 322 Moors and heathland

CLC Broad Classes
- 32 Shrub and herbaceous vegetation associations

CLC Main Classes
- 3 Forest and seminatural areas

EUNIS Habitat Types Lev. 2
- F4(S4) Temperate shrub heathland

MAES Type Level 2
- Heathlands and Shrubs

EUNIS Habitat Types Lev. 1
- F(S) Heathland, Scrub and Tundra

IUCN Ecosystem Functional Groups
- T3.3 Cool temperate Heathlands

IUCN Biomes
- T3 Shrublands and shrubby woodlands

IUCN realms
- T Terrestrial

ECT
Ecosystem Extent Account

Ecosystem Classification

Data sources

Classification Algorithm

GIS
Ecosystem Extent Account

Ecosystem Classification

Data sources

Accounting tables

Ecosystem Atlas

Methodological Report (incl. ecosystem profiles)

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Structure of the Ecosystem Accounts

- Characteristic properties of the ecosystems
- Monitoring of the stability and integrity of the ecosystem
- Basis for Services Accounts

Sources: Own illustration following SEEA EA (2021)

Federal Statistical Office (Destatis)
# Ecosystem Condition Typology

<table>
<thead>
<tr>
<th>A Abiotic</th>
<th>Physical</th>
<th>AP 1</th>
<th>Soil Moisture</th>
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<tbody>
<tr>
<td>Chemical</td>
<td>AC 1</td>
<td>Soil organic carbon</td>
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</tr>
<tr>
<td>AC 2</td>
<td>pH-value in soil</td>
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</tr>
<tr>
<td>AC 3</td>
<td>Ground level ozone</td>
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<td></td>
</tr>
<tr>
<td>AC 4</td>
<td>Particulate matter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Biotic</td>
<td>Compositional</td>
<td>BC 1</td>
<td>Characteristic bird species</td>
</tr>
<tr>
<td>Structural</td>
<td>BS 1</td>
<td>Tree cover density</td>
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</tr>
<tr>
<td>Functional</td>
<td>BF 1</td>
<td>Normalized Difference Vegetation Index (NDVI)</td>
<td></td>
</tr>
<tr>
<td>BF 2</td>
<td>Vegetation period</td>
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<td></td>
</tr>
<tr>
<td>L Landscape</td>
<td>L 1</td>
<td>Fragmentation*</td>
<td></td>
</tr>
<tr>
<td>L 2</td>
<td>Connectivity*</td>
<td></td>
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</tr>
<tr>
<td>L 3</td>
<td>Diversity*</td>
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</tr>
<tr>
<td>Pressure Indicator</td>
<td>P 1</td>
<td>Area harmed by fire</td>
<td></td>
</tr>
<tr>
<td>P 2</td>
<td>Area harmed by storm</td>
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<tr>
<td>Management Indicator</td>
<td>M 1</td>
<td>Share of protected area</td>
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<tr>
<td>Ancillary Data</td>
<td>Z 1</td>
<td>Precipitation</td>
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<tr>
<td>Z 2</td>
<td>Temperature</td>
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<tr>
<td>Z 3</td>
<td>Transpiration</td>
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</tbody>
</table>

*Methodological work ongoing and not finalized*

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14.03.2023
Ecosystem Accounting in Germany

Ecosystem Condition Account

- Ecosystem Extent Account
- Ecosystem Condition Typology
- Accounting tables
- Ecosystem Atlas (selected maps)
- Methodological Report

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Conclusion

❖ Accounts relying on a wide range of data sets

❖ Scarce data on biota and biodiversity

❖ Remote sensing data
  ❖ Continuous and reliable data provision necessary

❖ Water ecosystems
  ❖ Reliance on data of established monitoring systems
Thank you!

Federal Statistical Office
65180 Wiesbaden
Germany

www.destatis.de
www.destatis.de/kontakt

Contact Person
Simon Felgendreher
simon.felgendreher@destatis.de

Phone +49 228 99 643-8187