



Ecosystem service assessment: the concept

Edgars Bojārs, Baltic Environmental Forum-Latvia



[Grassland] ecosystem – a complex with many interactions

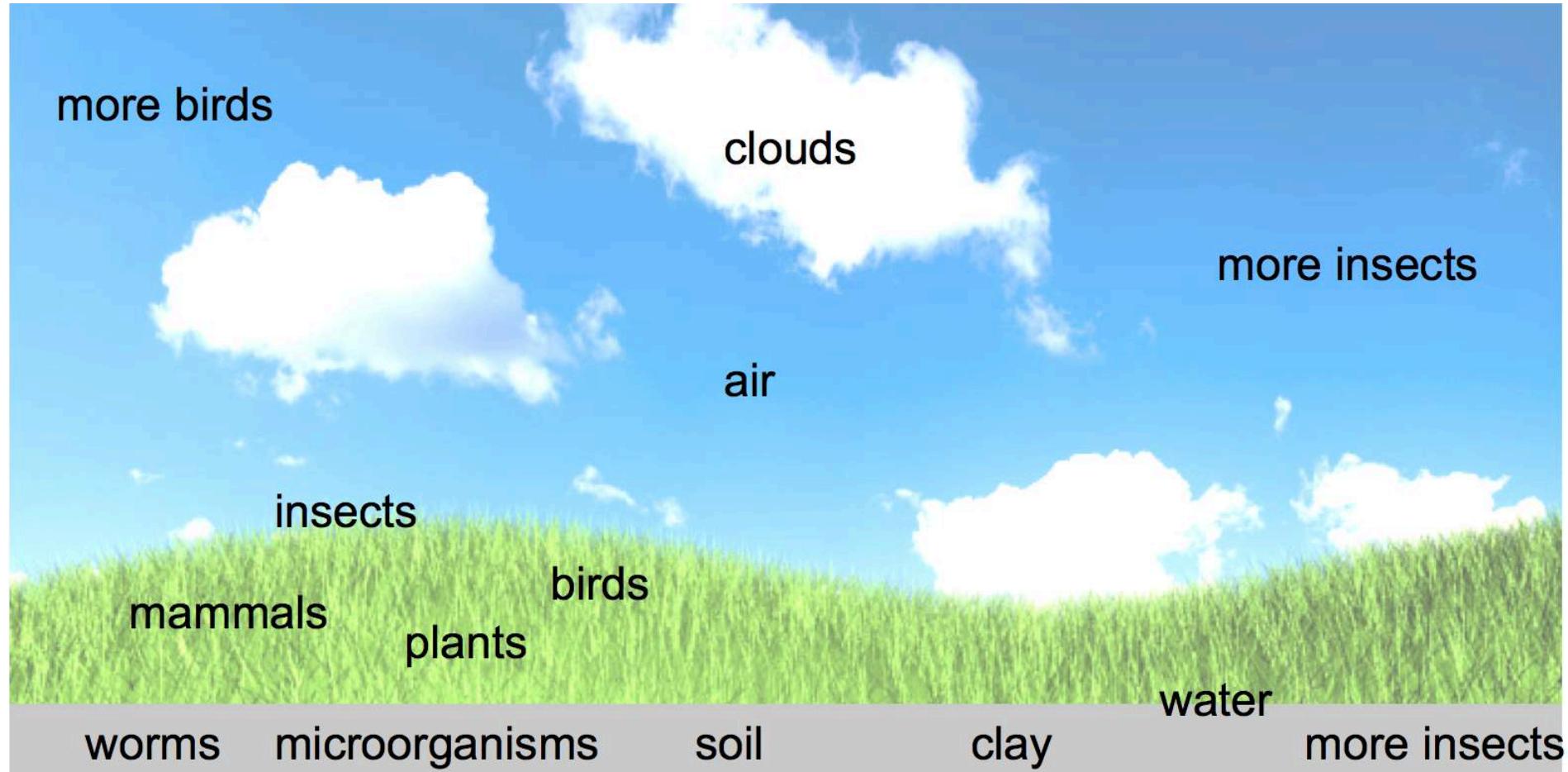


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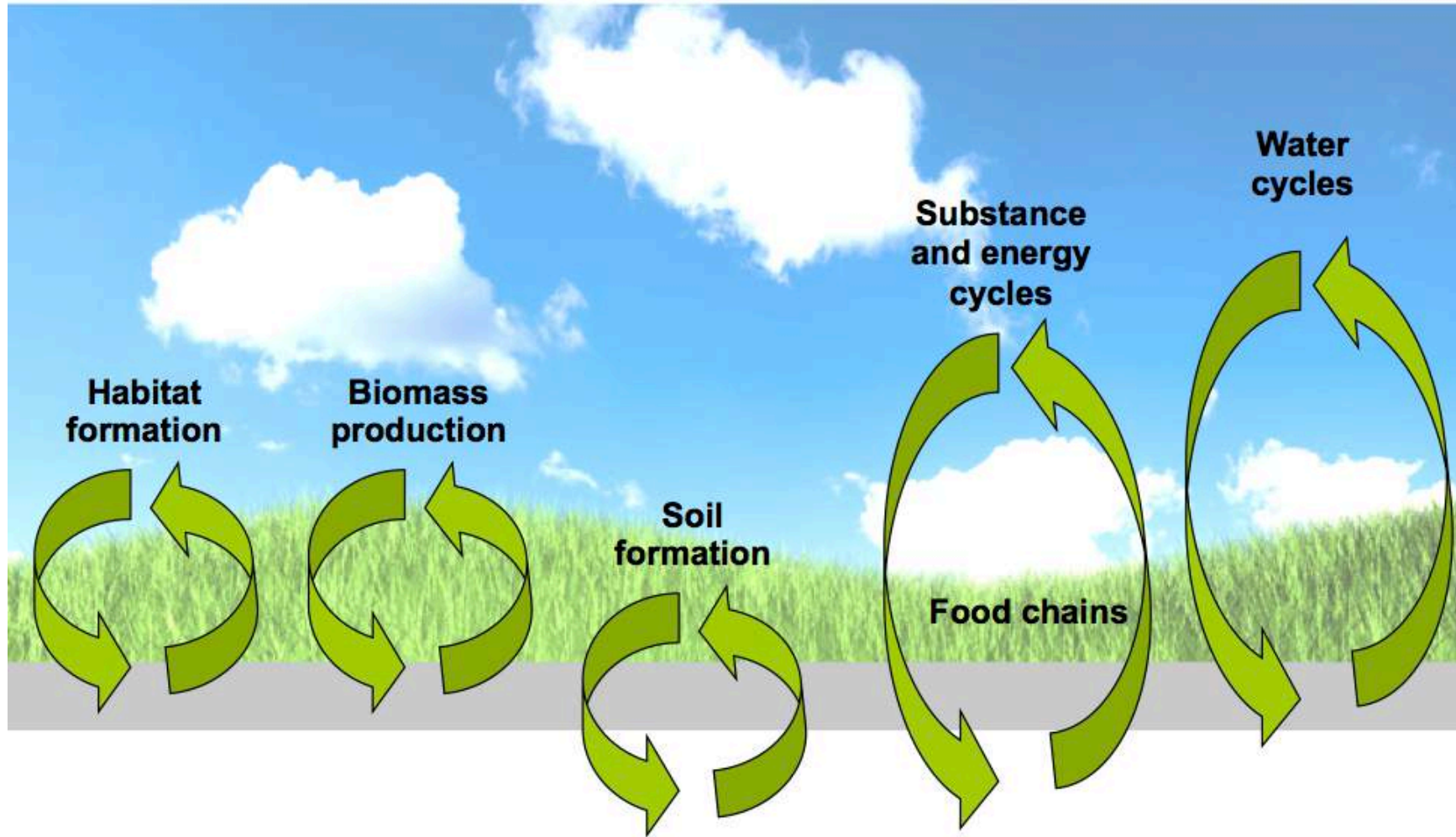
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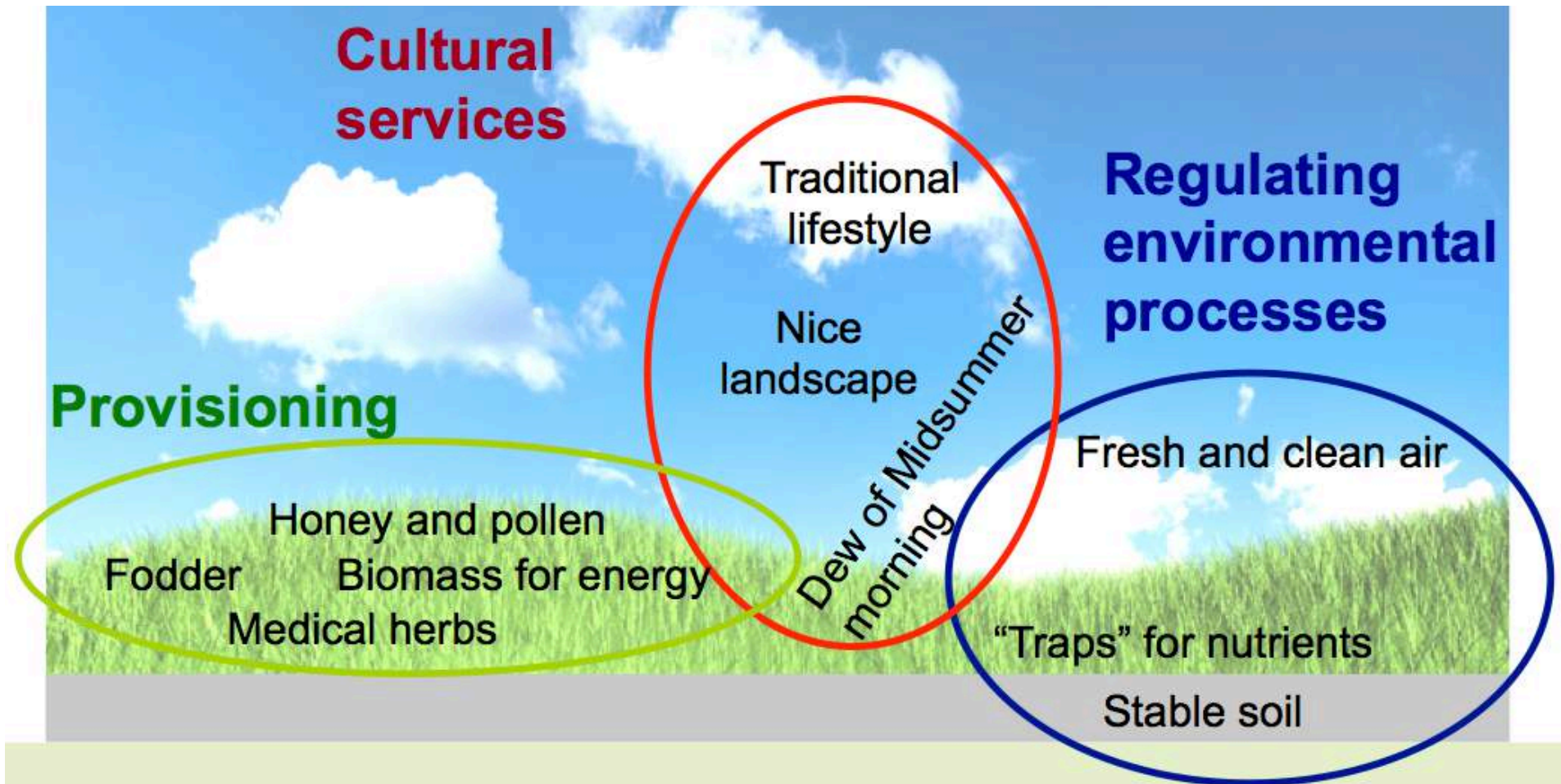
...and many components



...and many processes



...and goods for humans



Ecosystem services

- ✓ Ecosystem services are all the benefits that ecosystems provide to humans;
- ✓ Many are «tangible»;
- ✓ And we even do not think about the others as serving people existence.



Potential/Flow/Demand

- ✓ **Potential** ES services could be used (grass biomass for energy)
- ✓ **Flow** - actual ES services being obtained from the area (grass biomass for fodder)
- ✓ **Demand** of ES used in an area, not considering where they are actually provided (energy consumption)



In opposite to classical nature conservation,
the concept of Ecosystem Services is **anthropocentric**
= it is based on the ecosystem as **the foundation for
human existence**




Valuation of Ecosystem Services (I)

- ✓ The way how to show importance of ecosystem in human life to the society («biodiversity+»)
- ✓ Supporting instrument for planning the use of an area



Valuation of Ecosystem Services (II)

✓ Valuation could be in

- physical units – grass biomass ...t/per ha/ a year
- monetary value – grass biomass  /per ha/a year
- scores – from “1” to “5”



We save on “artificial” solutions by maintaining Ecosystem Services!

- ✓ Flood risk: dam or floodplain meadow?
- ✓ Fodder: fertilised or natural grassland?



But: natural ecosystem does not necessarily provide more/better services than human modified systems!

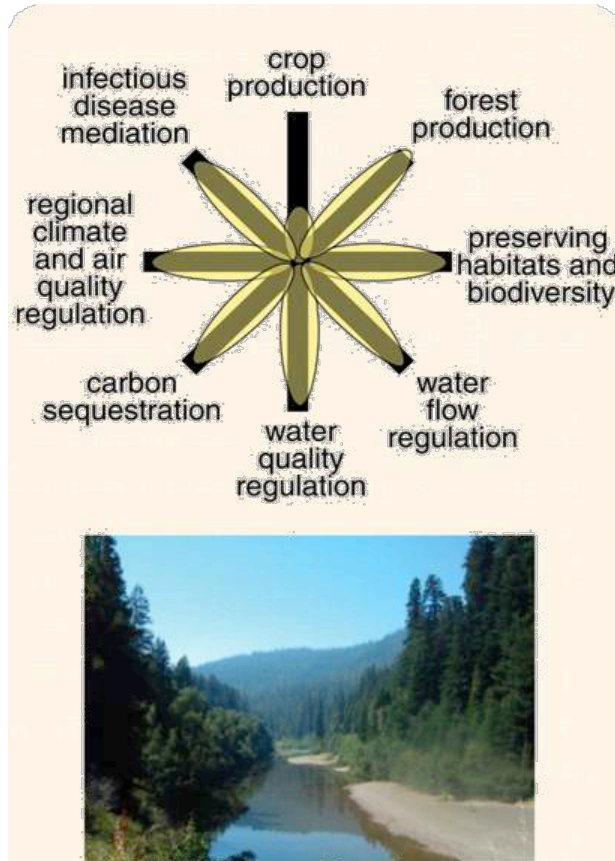


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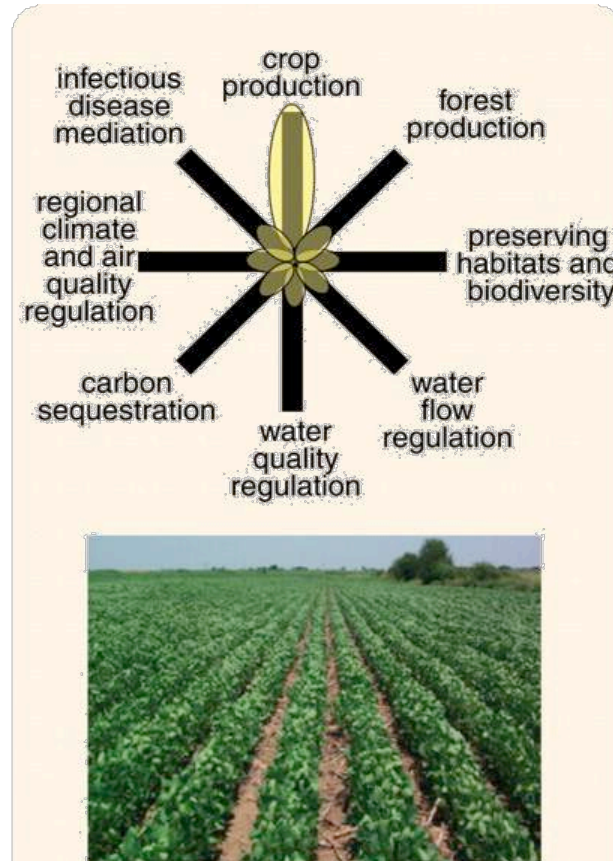
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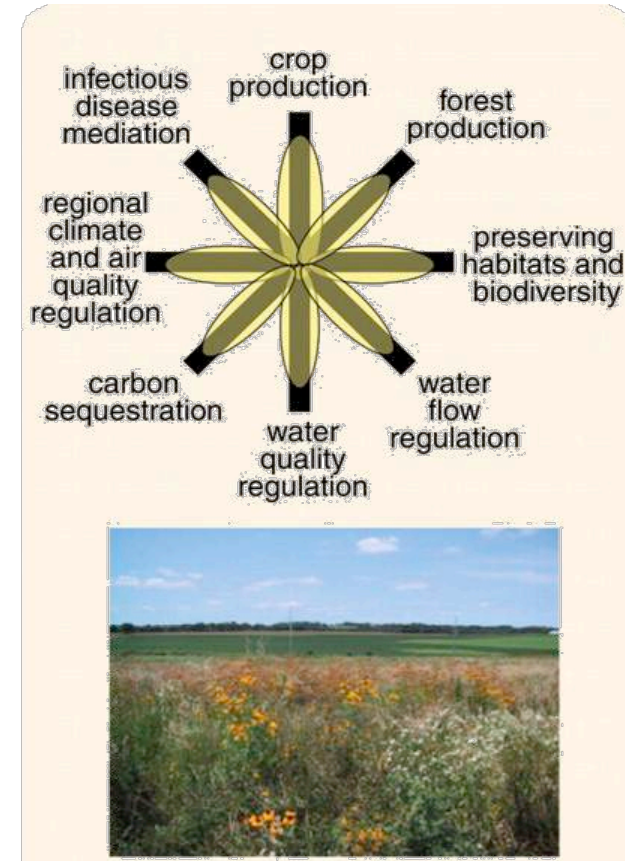
Ecosystem Service trade-offs



Natural system



Intensive cropland



Cropland mixed with seminatural grassland



Different grasslands = different contributions to ES



**Flood-
plains** →
flood
protection



**Slopes of
ravines** →
erosion
control

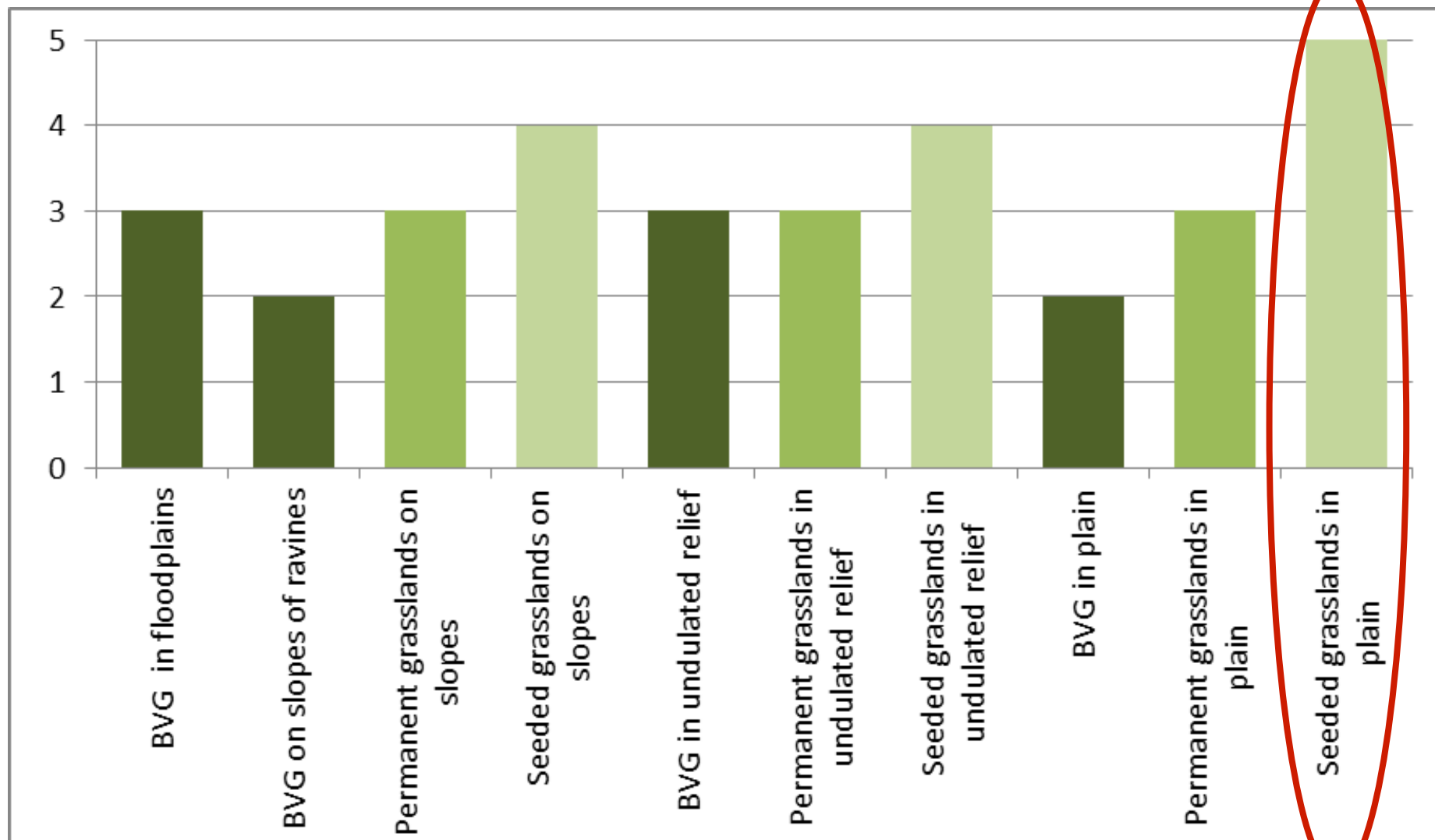


Plains →
fodder

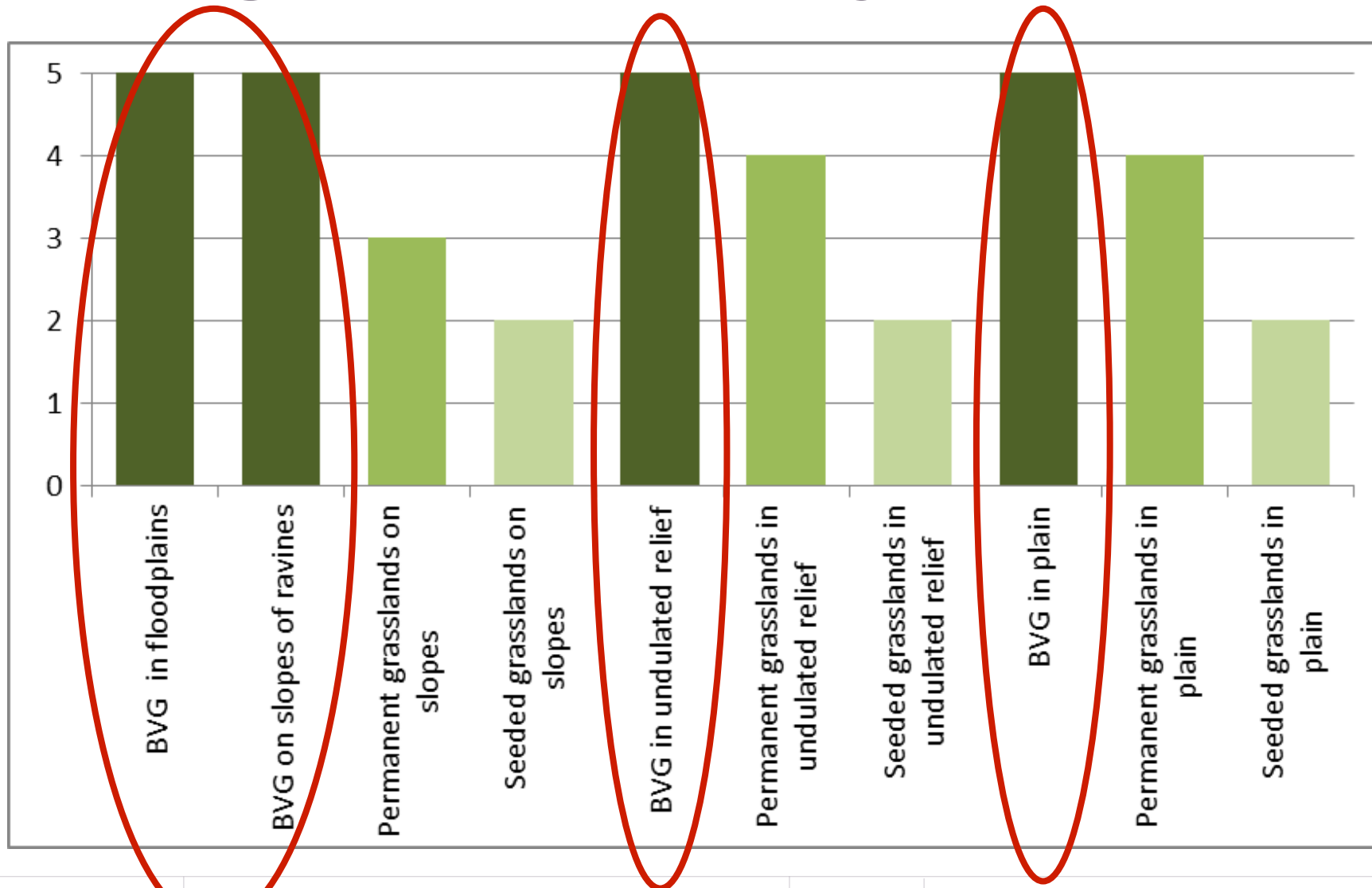


**Undulated
relief** →
scenic
landscape

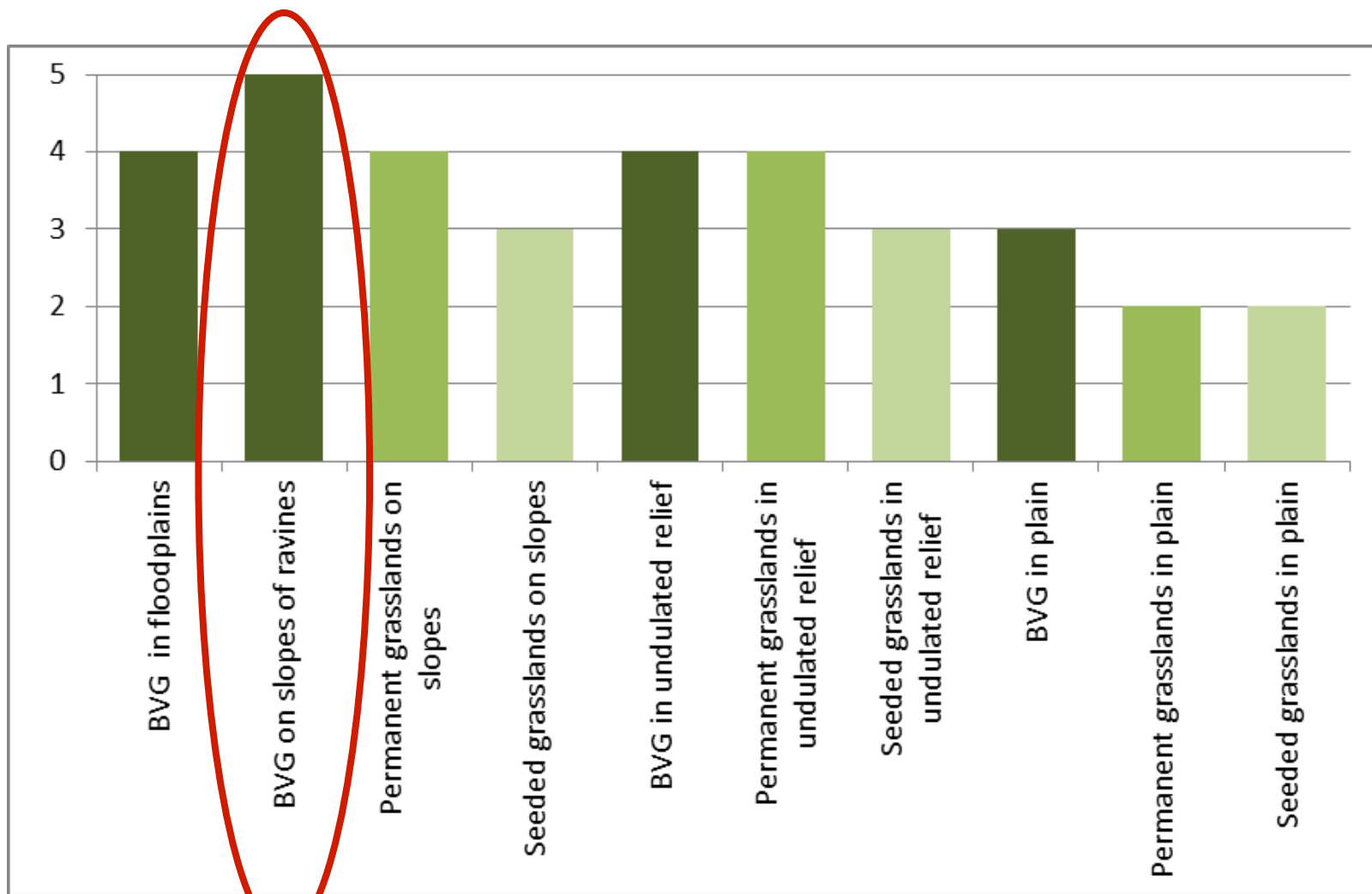
Sigulda Municipality: biomass for fodder



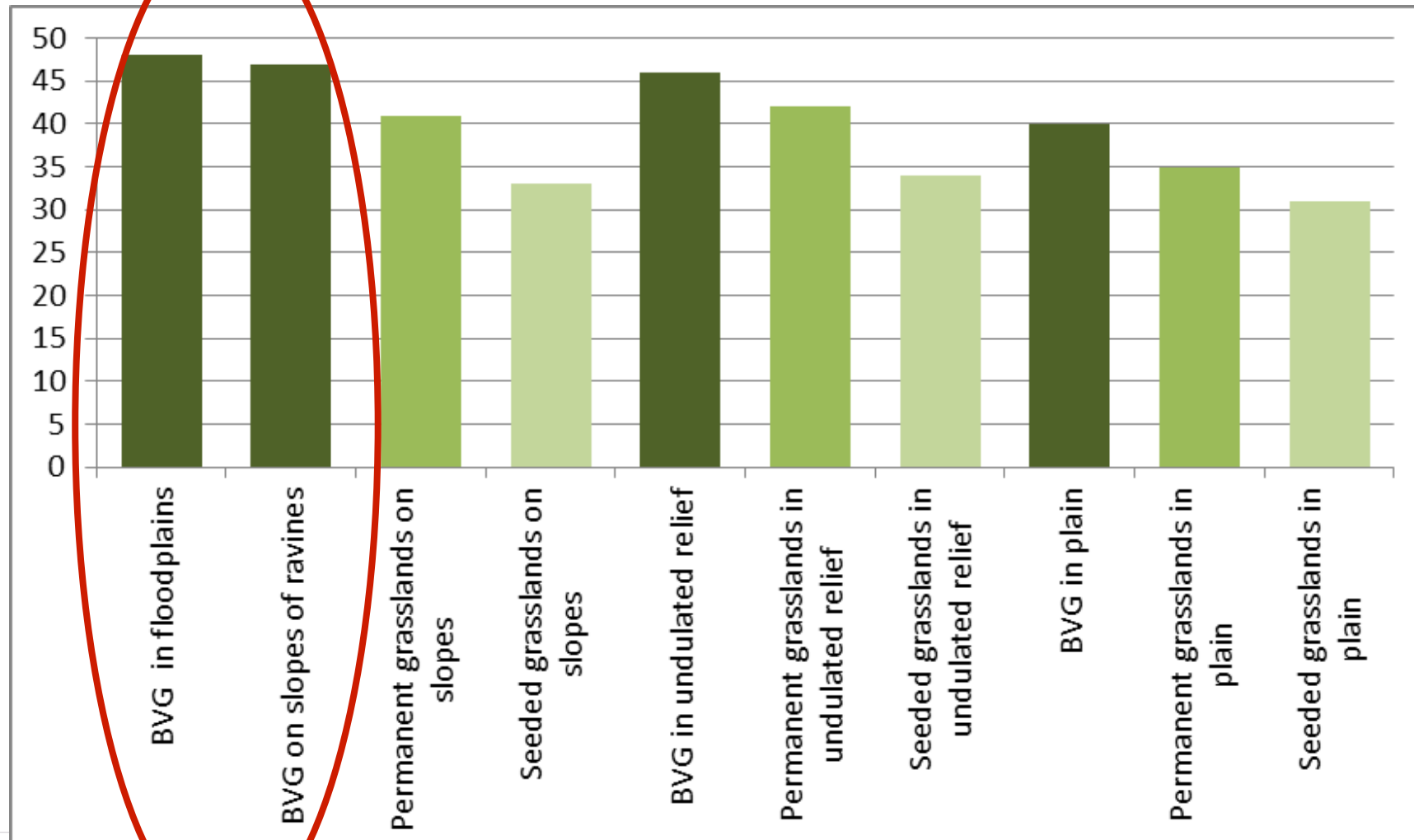
Sigulda Municipality: pollination



Sigulda Municipality: landscape aesthetic value



Sigulda Municipality: overall score



The concept of Ecosystem Services lays also on politicians' tables



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EU Biodiversity Strategy to 2020 (I)

✓ 2020 headline target:

Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.



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EU Biodiversity Strategy to 2020 (II)

✓ **Target 2: By 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15 % of degraded ecosystems.**

Action 5: Improve knowledge of ecosystems and their services in the EU: Member States, with the assistance of the Commission,

- **will map and assess** the state of ecosystems and their services in their national territory **by 2014**.
- **will assess the economic value** of such services, and promote the integration of these values into accounting and reporting systems at EU and national level by 2020.



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