

SRC implementation as an element of regional climate protection planning - a landscape-related assessment

Gerald Busch/BALSA

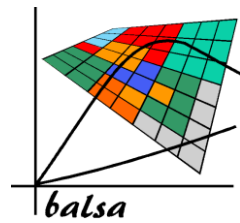
Buro for Applied Landscape Ecology and Scenario Analysis



Rationale of the project



- visualize and analyze options of SRC on **arable land**
- potential impact on landscape functions/ecosystem services
- address **regional** stakeholders and decision makers
- **discuss** findings at regional workshops
- **'landscape assessment'** project within the BEST-framework – led by Balsa/Gerald Busch

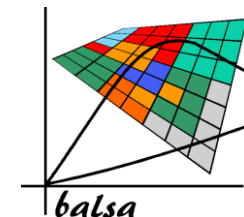


Strategies for the utilization of woody biomass as a means of sustainable regional land management

GEFÖNDERT VOM
Bundesministerium für Bildung und Forschung

FZW
Forschungszentrum Waldökosysteme der Universität Göttingen

Rationale of the BEST-TOOL



Regional policy



Regional actors

Science



- What is a feasible supply of woody biomass?
- Where are suitable areas?
- What are the ecological effects?
- What are the impacts on economic return

Conservation Planning

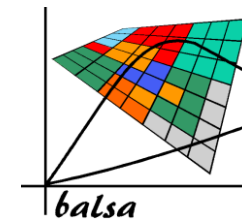


Ecology

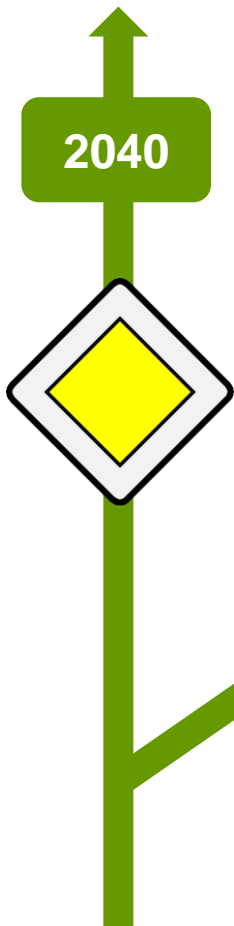


Economy

Policy goals and study area



Goettingen district



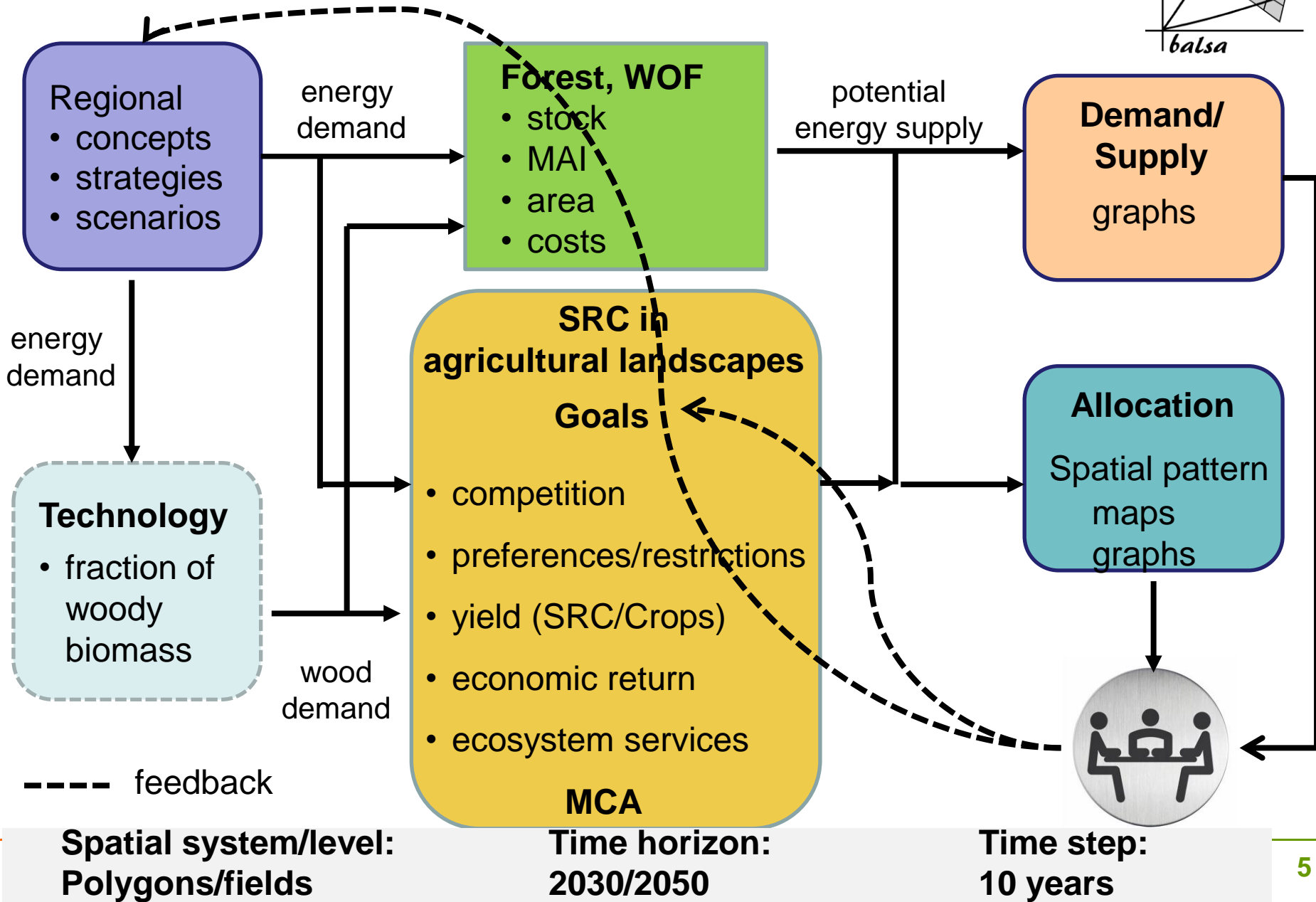
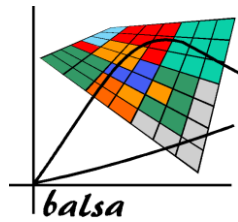
- renewables - self-sufficiency
- wind energy
- bioenergy
- solar energy
-



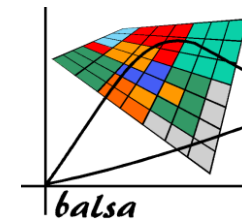
coal
oil
gas



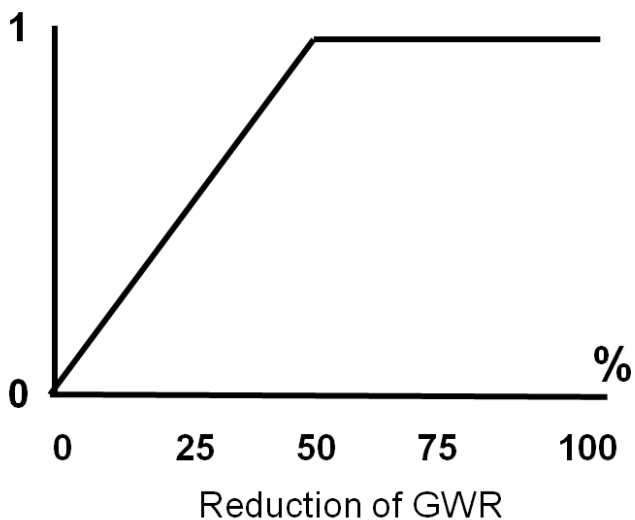
Concept of the BEST-TOOL



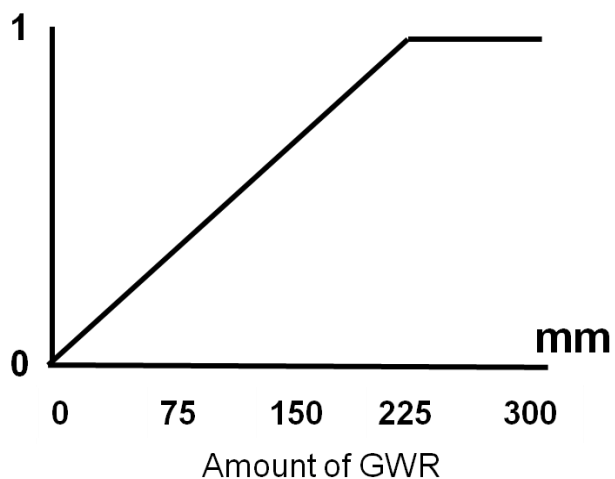
From quantitative to qualitative



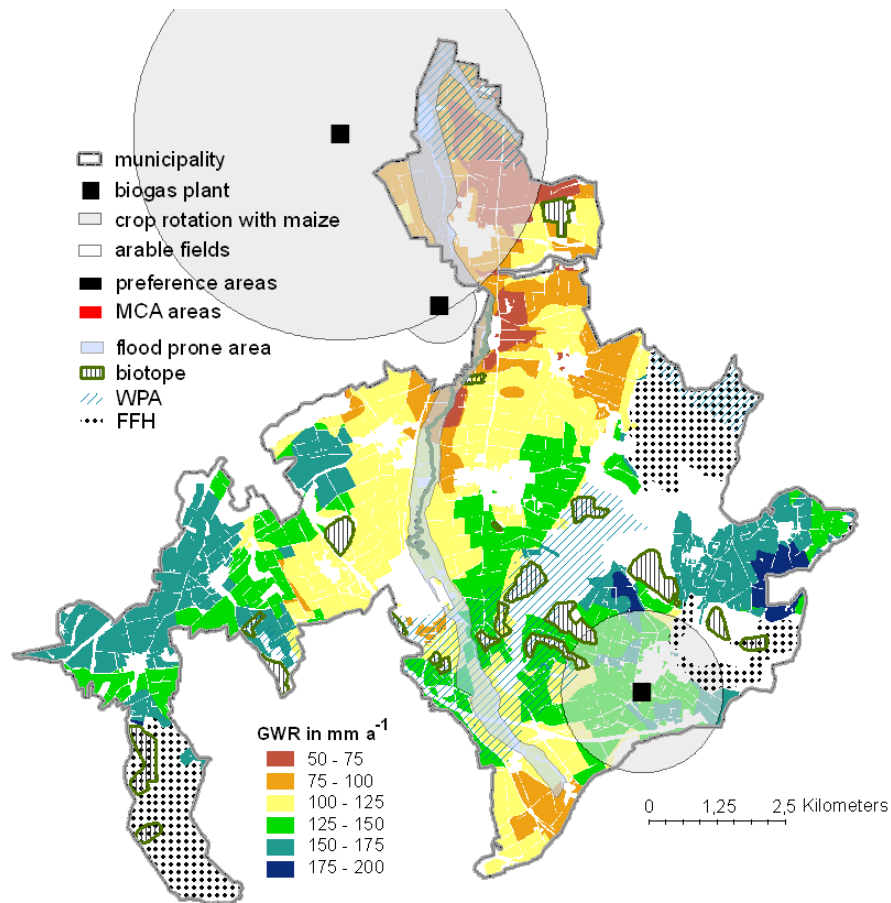
„High Reduction of GWR“



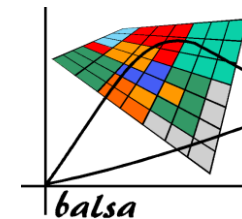
„High amount of GWR“



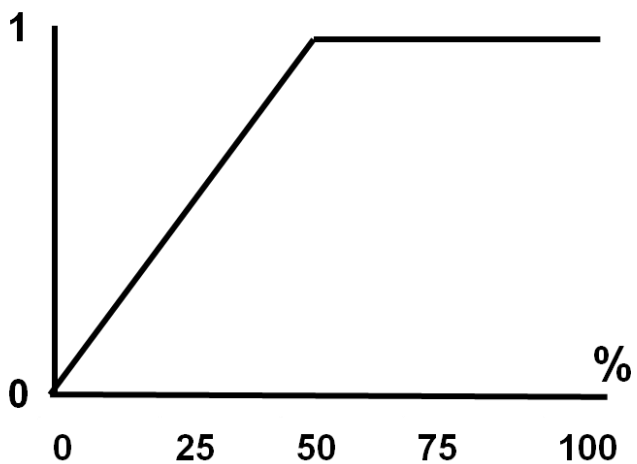
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From quantitative to qualitative



„High Reduction of GWR“

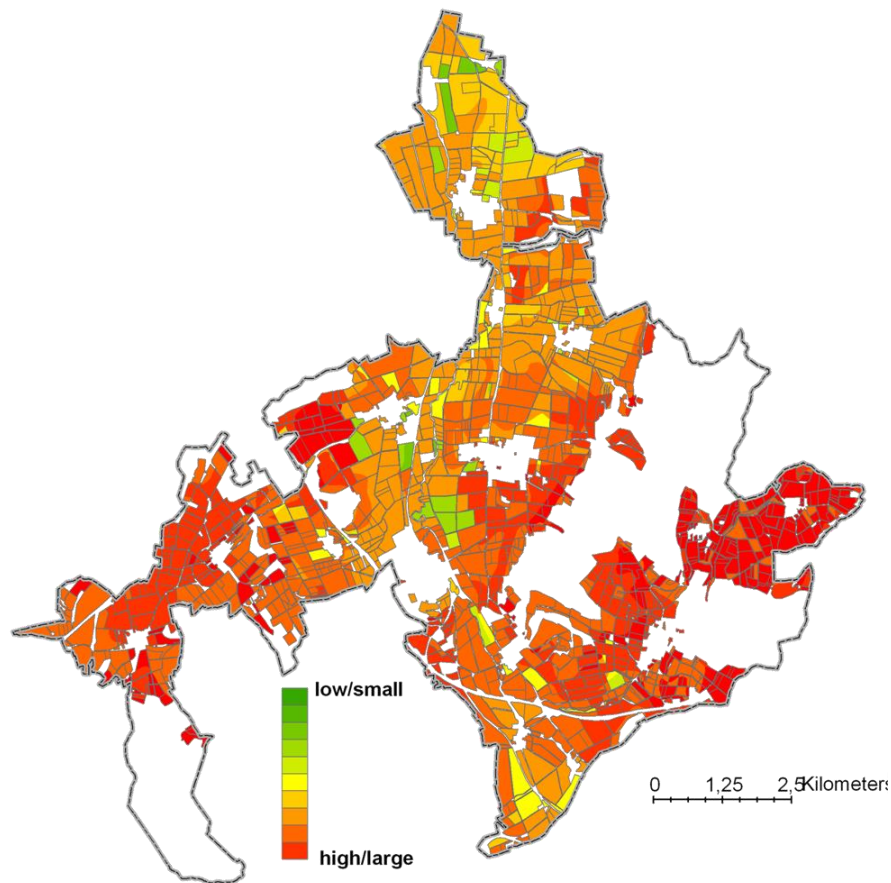


Reduction of GWR

„High amount of GWR“

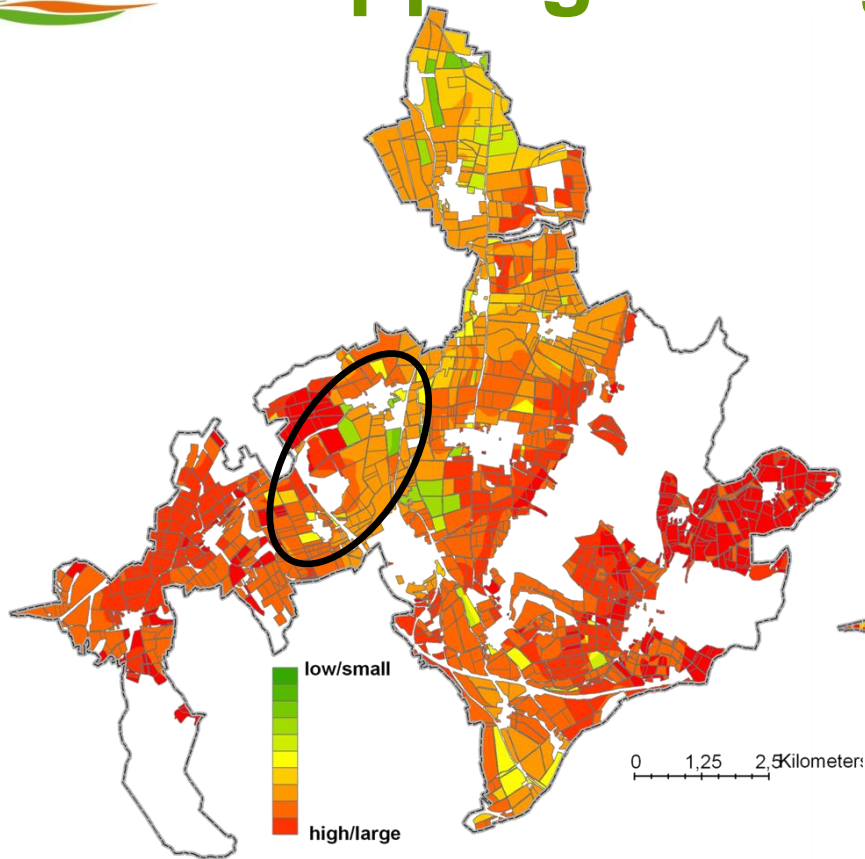
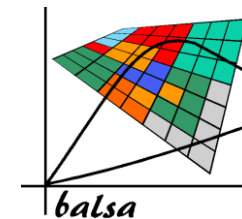


Amount of GWR



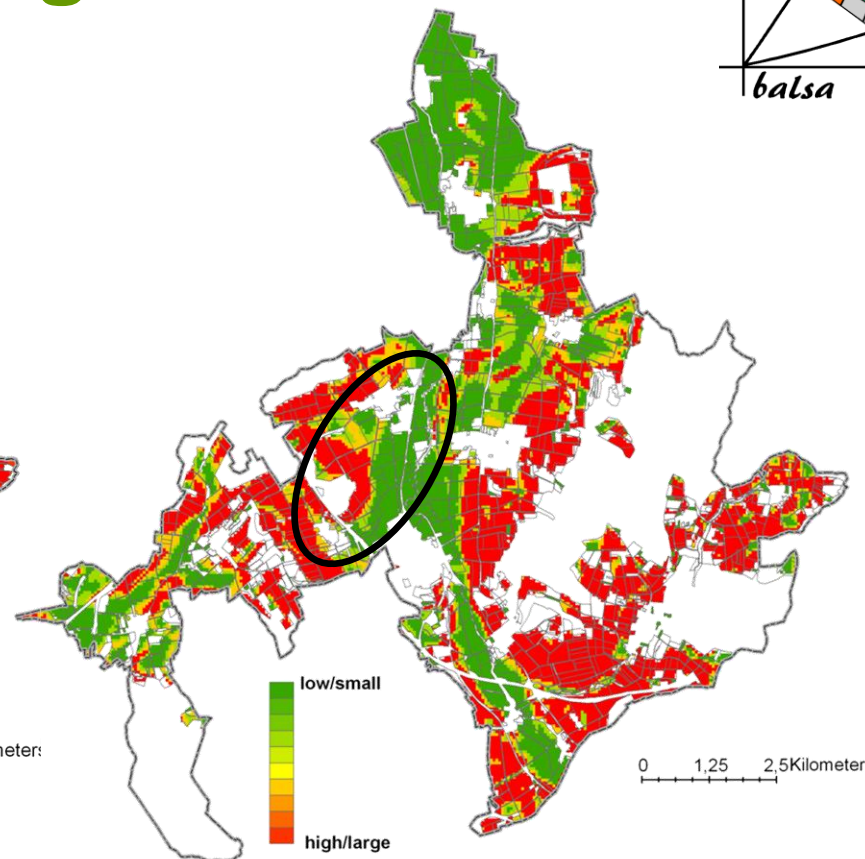
Decline of groundwater recharge

Mapping ecological effects



Reduction of GWR

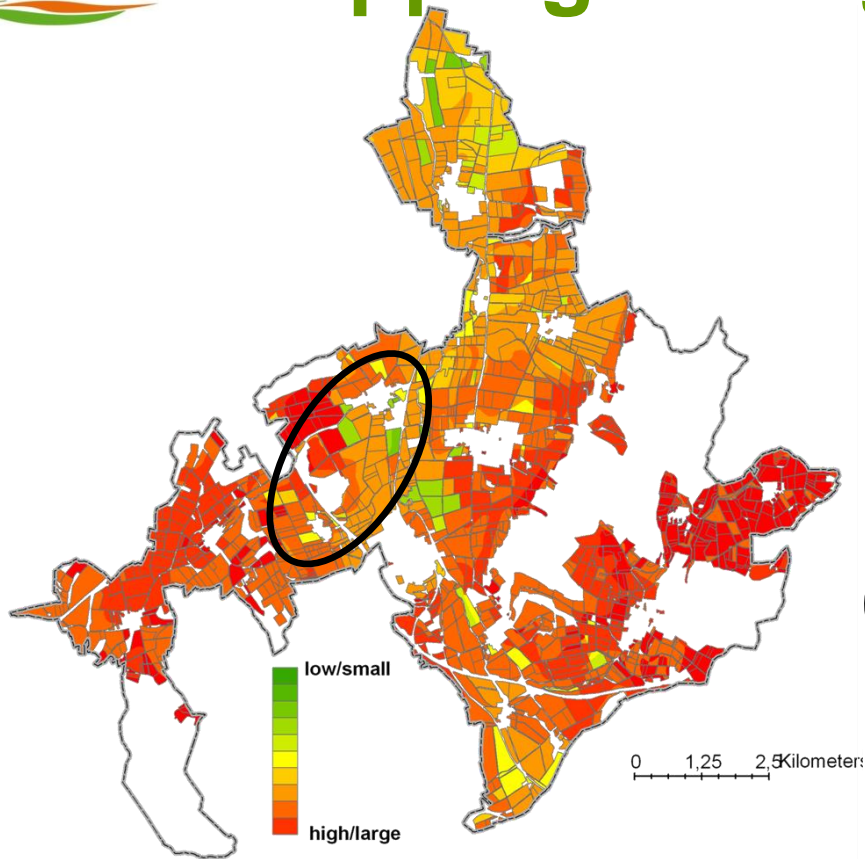
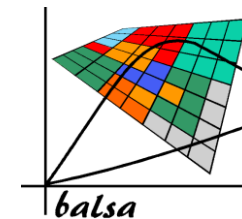
64% high to very high
1% very low to low



Disposition to water erosion

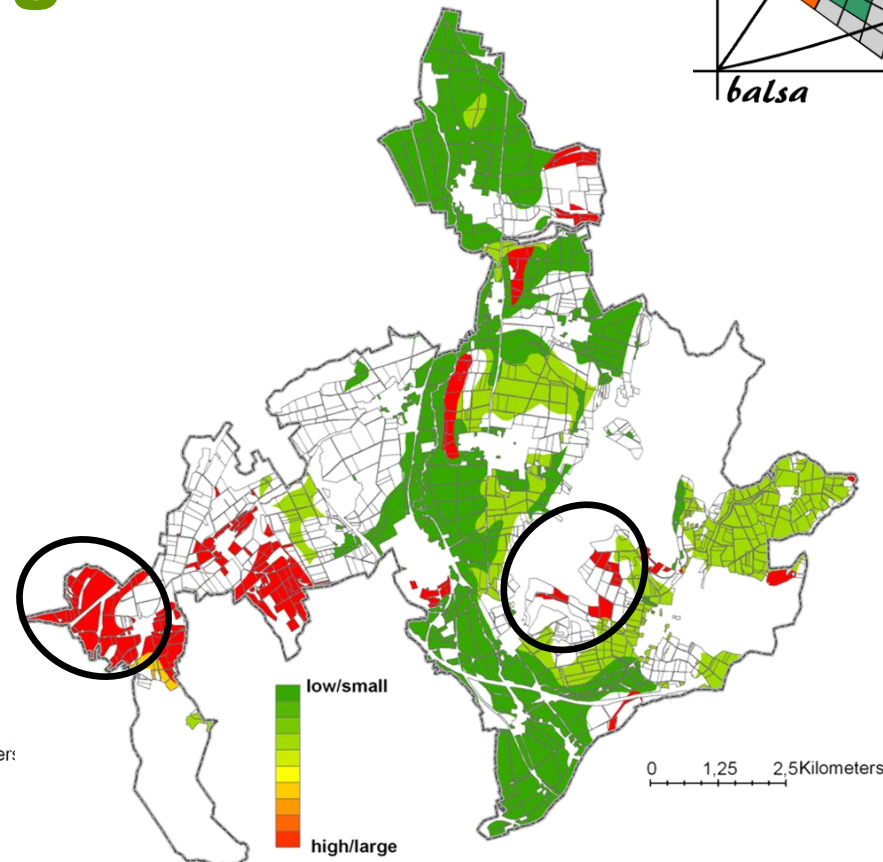
44% : high to very high (CC)
33%: very low to low

Mapping ecological effects



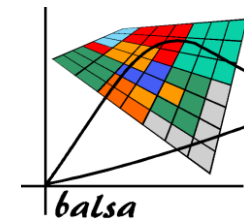
Reduction of GWR

64% high to very high
1% very low to low

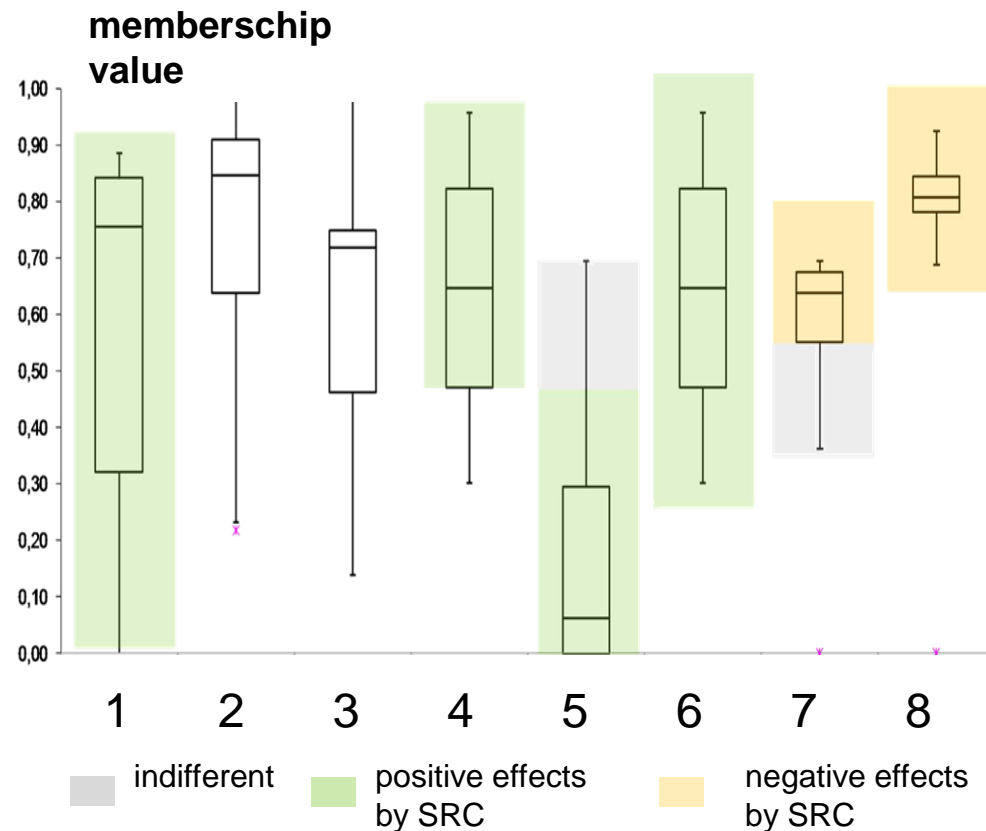
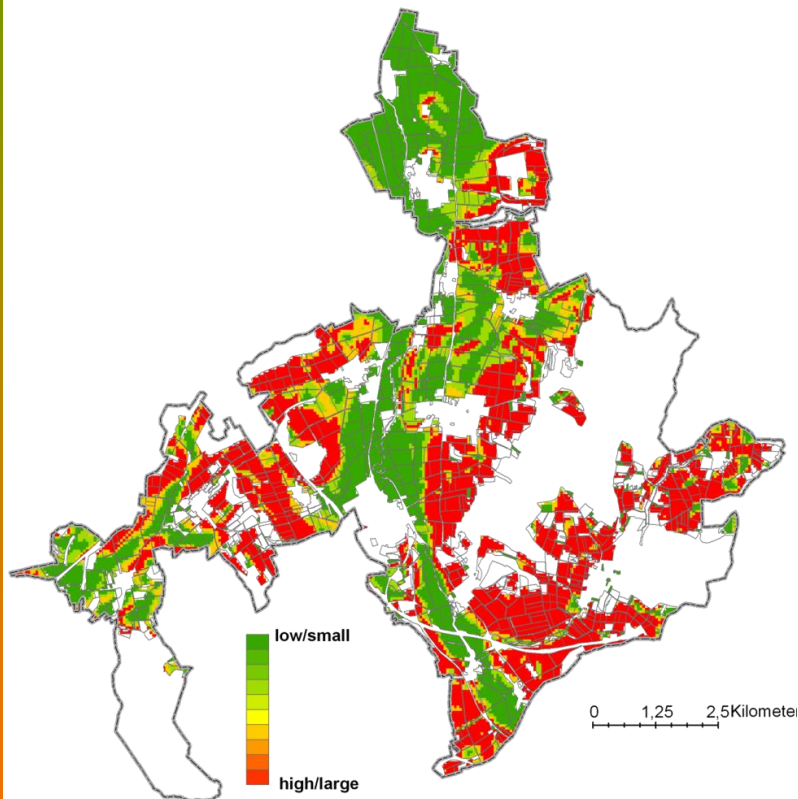


Disposition to Nitrate leaching

16% high to very high
64% very low to low



Disposition to water erosion



1 Dispo to water erosion

2 SRC Suitability <= 5 years
3 >5 years

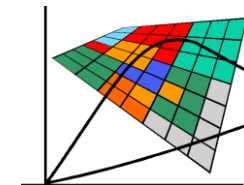
4 Low landscape complexity

5 High patch complexity

6 Dispo to Nitrate leaching

7 Impact on GWR <= 5
8 >5 years

Case study example

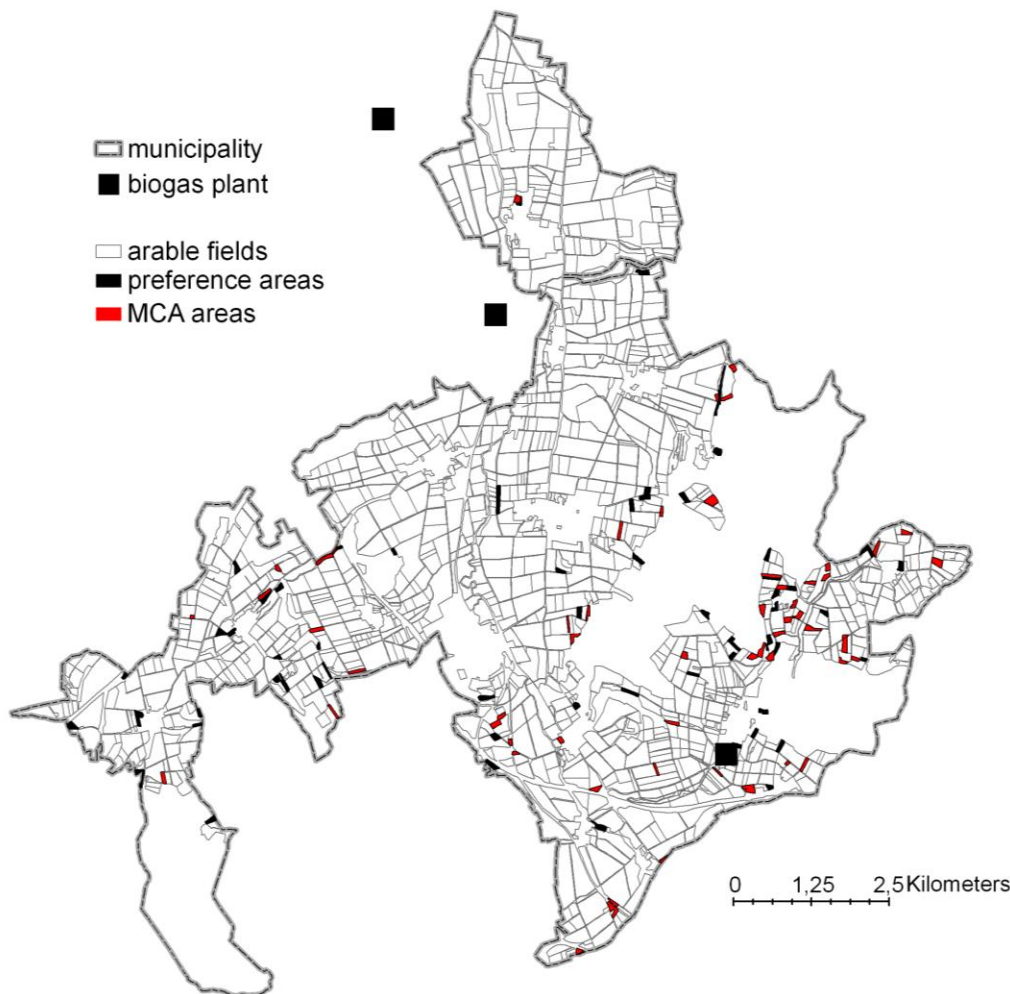
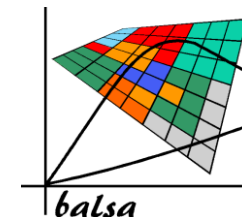


preference field plots

biogas plant heating facility
(500t dm wood chips a⁻¹)

MCA case study example

Reiffenhausen



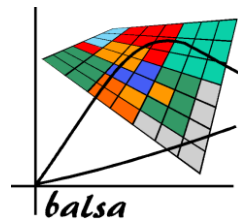
Criteria:

- Max. disposition to water erosion
- Max. SRC-productivity
- Min: difference in economic return

Procedure:

- MADM: Multi-Attribute-Decision Making
- AHP: Analytic Hierarchy Process

	MCA	Pref.
t atro ha ⁻¹ a ⁻¹	11,5	8,2
No.	60	115
Ø Difference	-90€	-160€
Ø Distance	3.5km	4.0km
Area	45ha	82ha



- A qualitative and **unified** evaluation system facilitates the comparison and the communication of ecological effects
- Potentially beneficial effects of SRC could be utilized when having a **clear agenda** of production and protection goals
- The agenda setting should be part of regional RE-strategies and/or climate proection plans - an **accompanying landuse strategy** is needed

Thank you!

