

A systematic review of threats in permanent grassland cultural ecosystem services

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Introduction: Definitions

Cultural ecosystem services

„the non-material benefits for people and their well-being from recreational and aesthetic experience, spiritual and educational values“

MEA, 2005



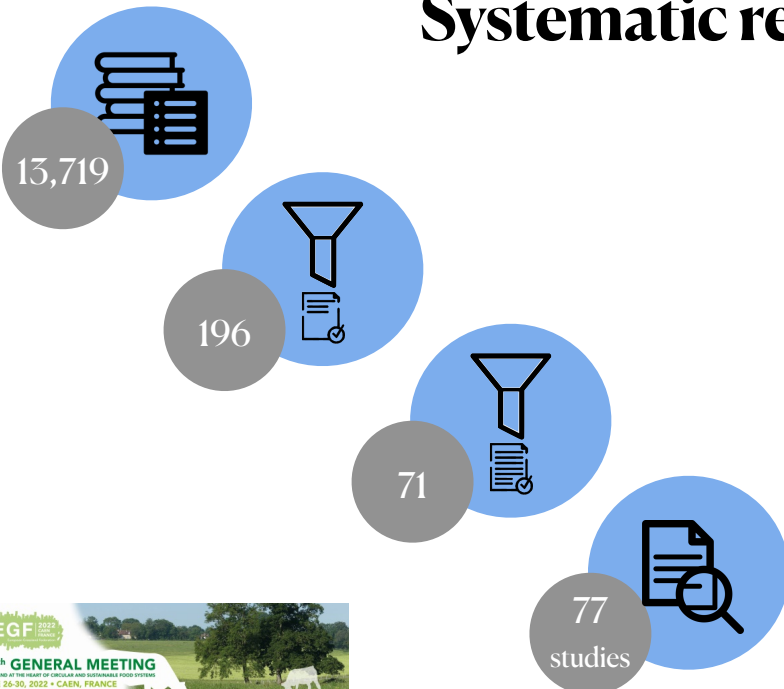
Introduction: Definitions

„Threats“

„threats not only impact beneficial ecosystem services but may also be caused by their usage“ Pellaton et al., 2022



Systematic review



- Underlying causes
- Direct threats
- Consequences
- Suggested solutions



Results: Threats to CES

Underlying causes



Socio-economic
- lack of profitability
- lack of motivation



Institutional
- regulations (+/-)
- privatisation



Demographic
- emigration
- ageing population



Climate change



Results: Threats to CES

Direct threats



Land-use & management change



Social attitude



Industrial activities

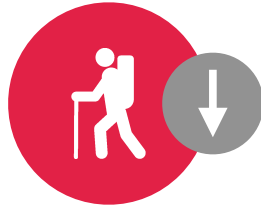


Natural threats

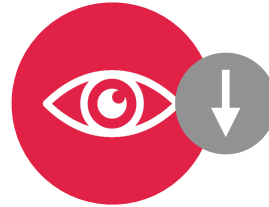


Results: Threats to CES

Consequences



Reduced appeal for recreation

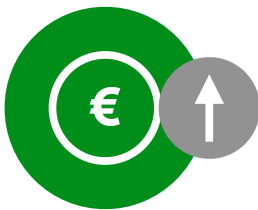


Loss of landscape aesthetics



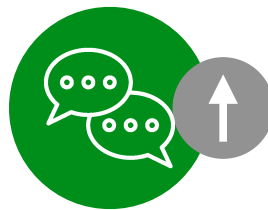
Results: Threats to CES

Suggested solutions



Economic

- Financial support
- Income diversification
- Sustainable tourism



Communication

- Transfer of knowledge
- Education
- Cooperation of stakeholders



Infrastructural

- Improved access
- Artificial snowing
- Recreational „furniture“



Results: Threats from CES

Underlying causes



Demand for recreation



Economic
- Tourism becoming more profitable than agriculture



Results: Threats from CES

Direct threats



Tourism



Hiking (trampling)



Skiing disturbance



Recreational vehicles



Tourist infrastructure

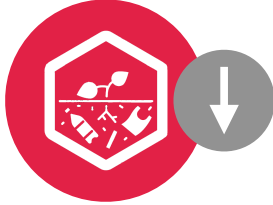


Hunting / souvenirs



Results: Threats from CES

Consequences



Degradation

- biomass, species,
soil



Biodiversity loss

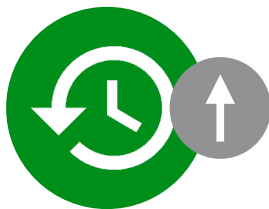


Loss of
(traditional)
cultural landscape



Results: Threats from CES

Suggested solutions

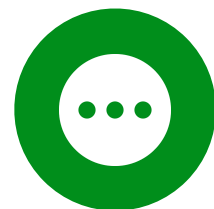


Restoration



Regulation

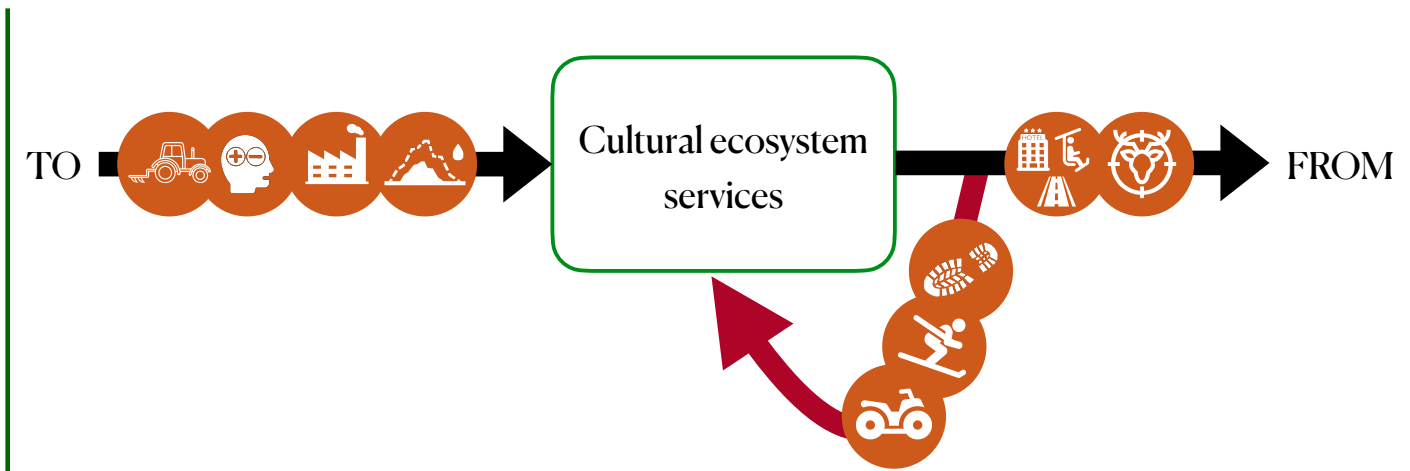
- Limiting visitors
- Protecting sensitive areas
- Land-use planning



many others
(all infrequently
mentioned)



Discussion



Conclusion

- Rural development and incorporation of traditional knowledge
- Knowledge gaps regarding climate change, shifts in recreational demand with pandemic
- Implementing solutions to help reconnect people with nature to ensure future human well-being



If you are interested...

the full version has been accepted in *Ambio* earlier this month:

Pellaton et al. 2022. *Cultural ecosystem services in European grasslands: A systematic review of threats*

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Reference:

MEA (Millenium Ecosystem Assessment). 2005. *Ecosystems and human well-being: Scenarios*. Washington DC: Island Press.

