Grazing intensity and natur protection - Strategies to enhance the biodiversity of alpine pastures

Gregory Egger & Susanne Aigner, 10.12.2015
Starting position: alpine pasturing & biodiversity

High proportion fo alpine cultural landscape

High proportion of protected areas in the Alps

Trend 1: intensification of good reachable areas

Trend 2: Discontinuation of land use in remote areas
High need of management to enhance biodiversity!
Key problem:

How much land use is „acceptable“
- Biodiversity
- Natural resources
- Natural hazards
- ...

How much land use is „desired“
- farming
- Structural diversity
- Landscape – scenery
- ...

Model „GrasPre“:
Tool for modeling grazing intensity

Key question:
„Where and how much do the cattles graze?“

Input:
• Number of cattle & categories (total demand)
• Grade of attractiveness of the pasture
• Location of area
Model calibration

16 alpine pastures:
- V, T, S, St, K
- limestone- silicates
- 1.100 – 2.650 m
- 10 ha – 1.500 ha

1.556 areas
Rough pasture
Low yield

Rough pasture
Moderate yield

Rich pasture
High yield

Coca-Cola
Case study Alpe Gibau Natura 2000-Site Verwall (EU Birds Directive)

Task:

- Optimization of sheep grazing – Adaptation to EU Natura 2000 Directive and alpine pasturing
Alpe Gibau (Vorarlberg/Austria): Overview

- **Location:** Gaschurn, Verwall
- **Area:** 1000 ha
- **Grazing animals:** 174 GVE (110 cattle, 570 sheep, 25 goats)
- **Altitude:** 1.800 bis 2.600 m
- **Land managers:** Alpgenossenschaft Ibau
Problem areas - alpine pasturing:

- Spreading of heathland (Rhododendron ferrugineum)
- Few areas with rich pastures
Problem areas – Nature protection

Conflict:
Sheep pasturing of habitats of snow & black grouse
Scenario 1: increase of sheep from 570 → 855 (+ 150 %)

Consequences:
- Extrem high grazing pressure on the pastures
- Relatively moderate grazing pressure on the heathland areas - Pasture management still neccessary

„No go“ for nature protection!
Szenario 2: no sheep pasturing

Consequences:

• Cattle pasturing only on best areas
• No pasturing of heathlands
• Increase of heathland
• Long term reduction of habitat quality of snow & black grouse!
Conclusion Alpe Gibbau:

1) No increase of sheep!

2) Alpine management by shepherds!

3) Monitoring!
Final Conclusion
Enhancing the biodiversity of alpine pastures:

MEET & GREET!
Model calibration:

map

Genutzter Ertrag in %
Ist-Zustand
Gibau

model

Genutzter Ertrag in %
Modell Ist-Zustand
Gibau

+ Zwergstrauchenergieertrag
(100%=1000 MJ/NEL)