Risk analysis: a method for the identification and delineation of potential conflict areas in Natura 2000 sites – the example of agriculture and forestry in Lower Austria

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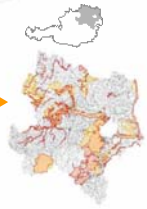
Final Conference of the Interreg III B project AlpNaTour, 19./20. Oktober 2006, Bolzano, Italy

Introduction

Habitats Directive (92/43/EWG)

Birds Directive (79/409/EWG)



Example Lower Austria:

- ✓ 20 Sites of Community Importance – SCI
- ✓ 16 Special Protected Areas – SPA

→ 22 % of the federal state-area
→ 55 protected habitats
→ 140 protected species

Problems

Example Lower Austria:

- → Huge data collection and information
- → Many projects or plans, which may have significant effects on a Natura 2000 site
- → Many risks of a deterioration of habitats and species by impacts through tourism, forestry, agriculture
- → Many (36) different sites

Preliminary work assessment of plans
process guided risk analysis

Art. 6 Habitats Directive:
…necessary measures to avoid deterioration …

project based risks (e.g. power plants, motorways)

↓

assessment system based on Art. 6 (3 and 4) Habitats-Directive

↓

ecological impact assessment incl. three stage screening system

process based risks

(e.g. modification or omission of cultivation, diffuse usages)

↓

diversity of theoretical threats because of large numbers of protected species and habitats as well as impacts by
- -agriculture and forestry
- -tourism
- -water management, etc.

→ **risk analyis**
as base for management planning

The process guided risk analysis – an analysis tool to enhance the efficiency of management planning

- The process guided risk analysis represents a cost effective tool for assessing the risk of the deterioration of protected habitats and the disturbance of protected species by diffuse impacts. The focus of management planning is directed towards high risk areas.
- This method enables managers to identify urgent management needs and can be also applied in large sites.

The process guided risk analysis as base for conservation contracts

Aim: definition of key projects based on the degree of deterioration risk of the conservation status (based on protected habitat and species as well as the Natura 2000 site)

conducted area-wide for Natura 2000 sites in Lower Austria („prototype“)

- •agricultural use (e.g.ploughing up of grassland, etc.)
- •forest use (e.g. admixture of non native tree species, etc.)
- •coverage of other problems (scrub encroachment,…)

The process guided risk analysis as base for contractual nature conservation

Method: overlapping of factors regarding the sensitivity of protected habitats and species of the site with qualitative and quantitative apects of use

Challenge:

Data & size of the site

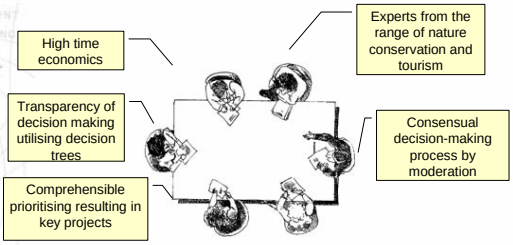
↓

Answer:

Risk analysis as moderated experts workshop

Procedure

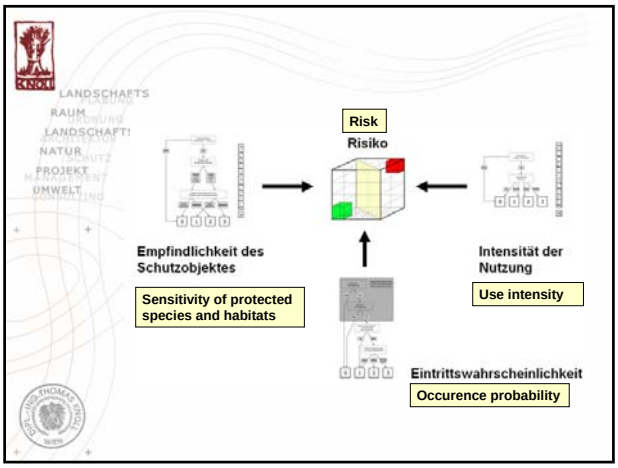
- Method: **moderated experts-workshop**

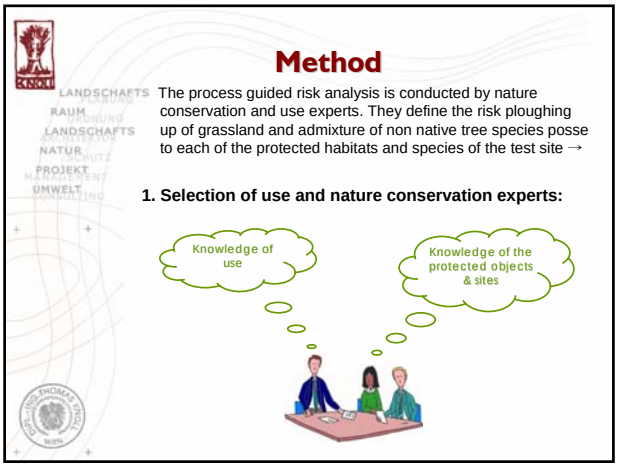


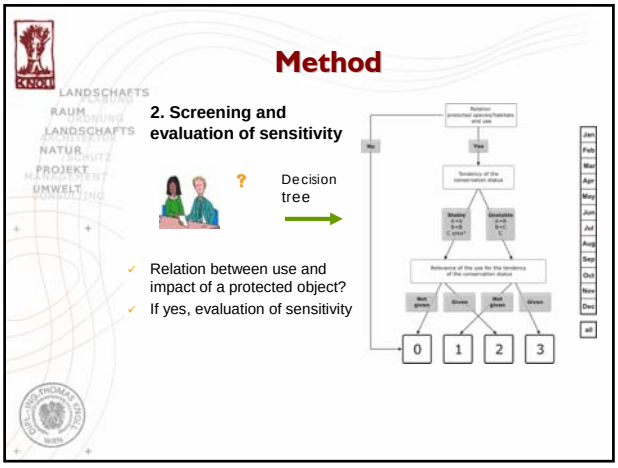
Procedure

determinantion and combination of **3 factors** to classify the risk :

- ✓ **Sensitivity** of species and habitats regarding different recreational activities (indicators for the sensitivity are the conservation status and the relevance of the specific use for the habitats and species.)
- ✓ **Use intensity**
- ✓ **Probability of occurrence** resulting from intersection of use and protected species/habitats: temporally and spatially


Risk
Risiko
Empfindlichkeit des Schutzobjektes
Sensitivity of protected species and habitats
Intensität der Nutzung
Use intensity
Eintrittswahrscheinlichkeit
Occurence probability


Method
The process guided risk analysis is conducted by nature conservation and use experts. They define the risk ploughing up of grassland and admixture of non native tree species posse to each of the protected habitats and species of the test site →
1. Selection of use and nature conservation experts:
Knowledge of use
Knowledge of the protected objects & sites


Method
2. Screening and evaluation of sensitivity
Decision tree
Relation between use and impact of a protected object?
If yes, evaluation of sensitivity
0
1
2
3

Method

3. Existence of use and evaluation of use intensity

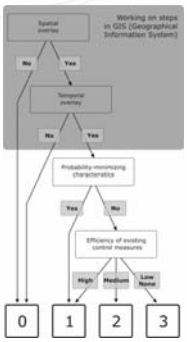
decision tree

- Existence of use in the area?
- If yes, evaluation of use intensity

Method

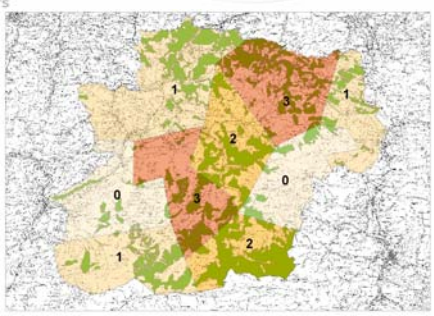
4. Evaluation of occurrence probability

decision tree



For the definition of the occurrence probability, factors used by the experts to define the use intensity, are not to be stated again.

Risk analysis
Overlapping sensitivity/use intensity

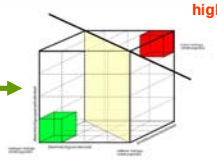


Results

The results of the risk analysis show whether there is a high, medium or low risk for a future deterioration. The focus of management planning is directed towards areas with a high risk ➔ key projects

Workshop with control function

Argumentation and defense of evaluations



high risk

low risk

List of key projects

Results Natura 2000 sites Lower Austria

As a result of the risk analysis, the risk of the deterioration of the conservation status of each protected habitat or species in the area can be assessed by combining the determined values of sensitivity, use intensity and occurence probability.

Number of key projects to prevent a possible deterioration of the conservation status and thus a violation of the Habitats and Birds Directive. If possible, measures for more than one protected habitat and species were summed up in one key project.

14 key projects forestry

13 key projects agriculture

4 education projects

Results Natura 2000 sites Lower Austria

Examples key project agriculture:

- Meadows Strudengau scrub encroachment
- Meadows Machland and selected species

Examples key projects forestry:

- Oak-beech forest Strudengau
- Forest project admixture non-native trees species „protected habitats and species outside the national park“

Examples education projects:

- Lower Austrians freshwater mussels
- Bats project Wienerwald

Example result education project

Key project protection of species „ unique species“

Aims:

Conservation and promotion of Helicopsis striata austriaca (Österreichische Heideschnecke) and Ligularia sibirica (Sibirischer Goldkolben)

Measures Helicopsis striata austriaca

Securing and promotion of appropriate habitats

Conservation project to revive or create appropriate habitats and vegetation structures and corridors in the surrounding areas of the actual distribution

Measures Ligularia sibirica

Securing of the wetland charakter

Conservation of the open space charakter

Management and promotion of monitoring

Outlook risk analysis tourism

Project AlpNaTour:

Tourism and recreation in Natura 2000 sites

The risk analysis is conducted for non-regulated recreation and tourism uses in the alpine space :

- Diffuse movement in the landscape (walking, hiking, dog walking, collecting, jogging, nordic walking)
- Cycling
- Mountain biking
- Riding
- Climbing
- Off-slope skiing
- Ski touring
- Snowshoeing
- Cross-country skiing
- Water sports (canoeing, kajaking, rafting paddling and surfing, sailing)
- Bathing and diving
- Aviation (hang gliding/paragliding)

Test site: Ötscher-Dürrenstein

Differences between the process guided risk analysis for tourism and for agriculture/forestry

Factor use intensity

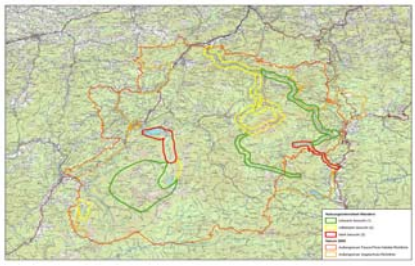
✓Use intensity is varying within the Natura 2000 site

✓Generally and because of certain influences such as accesabilty, distance to cities, infrastructure and so on, the use intensity is more difficult to determine and to classify

→ **the use areas are marked in the map directly**

→ **visitor density (visitor/ha/d) as decision criteria and support manual**

Use intensity hiking in the test site of Ötscher-Dürrenstein



Green areas: low intensity

Yellow areas: medium intensity

Red areas: high intensity

Results of the process guided risk analysis tourism