Planner’s Dilemma

How to handle birds and bats in the planning process of wind farms – examples, problems and possible solutions from Germany
Introduction

- European and national nature conservation legislation demand a thorough consideration of birds and bats in the course of locating, planning and realization of sites for wind energy turbines.

- There are still many debates and uncertainties how to find suitable locations for wind farms and how to deal with possible impacts on birds and bats

- **Causes:**
  - Gaps in scientific knowledge about impacts
  - Lack of standardized and clearly impact-focused planning approaches

Aim of the talk: to give some suggestions how to adequately integrate the bird and bat issues into the planning process
Planer’s Dilemma – How to handle Birds and Bats in the Planning Process of Wind Farms

Structure
- Introduction
- Collision risk
  - Disturbance and Displacement
  - Habitat loss
  - Bats
  - Location
  - SSS-Specificity
  - Regional level
  - Community level
  - Project level
- Conclusion

Collision risk
Species mainly affected:
Raptors and gulls

Herring Gull

Red Kite
## Collision risk

Raptors and Gulls comprise about 65% of all registered collision victims in Europe

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Data base Tobias Dürr; 10 May 2012
Species mainly affected: waders and waterbirds (difference between breeding and roosting season)

**Disturbance and Displacement**

- Breeding Lapwings and their distance to wind turbines in Hinrichsftehn 2001-06
- Roosting Lapwings and their distance to wind turbines in Hinrichsftehn 2001-05

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Main impact: collision, especially in late summer and autumn, species mainly affected are the genus *Nyctalus* and *Pipistrellus*

Habitat loss may play role in forests (roosting sites)

Displacement seems to be unimportant
To avoid major conflicts wind farms should not be placed at (PERCIVAL 2005, DREWITT & LANGSTON 2006):

1. Locations with a high density of birds of prey
2. Locations with a high density of birds with a high collision risk and a low reproduction rate
3. Locations where high numbers of breeding and roosting birds could be displaced.
4. Locations with high activity of collision sensitive bat species, especially during migration.
5. Locations in close vicinity to important roosts of collision sensitive bat species

**Consequence: „Data, data, data“**
The **SSS-Specificity** (Bevanger 2011):

1. **Site**
2. **Species**
3. **Season**

Each location is unique!

All steps in the planning process should be adapted to the SSS-Specificity of the individual planning case (survey methods and effort, mitigation measures, siting of turbines etc.)

Scoping is particularly important.

**Problem:** How to integrate this concept into the spatial planning levels and into any standardization effort.
Depending of the federal state there are mainly three different approaches in Germany to deal with the planning of wind farm locations on the regional level:

- Final determination of wind farm sites with exclusion effect
- Determination of suitable wind farm sites without exclusion effect
- Leave it to the community level
Precondition to be able to identify suitable areas for wind farms which have significantly fewer conflicts than the excluded areas: comparable data over the whole planning area

Planner’s dilemma: mostly you don’t have such data

Consequence: you are just not able to identify the most suitable areas as you can’t compare conflicts due to lack of data

White-tailed sea eagles in Schleswig-Holstein 2011 (www.projektgruppeseeadlerschutz.de)

But what about Red kites or bats?
Possible solutions:

- Regional planning must not be exhaustive, proposed wind farm areas should be modifiable, other areas should be open for planning on the local scale.

- Regional planning only identifies No-Go-areas (like breeding areas of eagles, valuable landscapes, wetlands, protected areas etc.) and leaves major parts of the region open for planning on the local scale.
Common procedure in Lower Saxony (without exhaustive regional planning):
Identify the most suitable areas for wind farms in the community on the basis of comparable and comprehensive data

**First step:** location concept with regard to housing settlements, infrastructure, protected areas etc.
= identifying the No-Go-areas

**Second step:** data collection in the remaining possibly suitable areas (birds, bats, landscape)

**Third step:** evaluate the data and choose one or more wind farm areas with little conflicts in a political and public debate
Example:
Selection of wind farm location on the basis of 2 year’s data about feeding and roosting sites of wintering geese with national importance.
Community level

**Obvious problem:** wind farm areas might be chosen which should have been avoided from a regional perspective because the community doesn´t have any well suited area, but wants to have a wind farm

**Possible solution:** neighbouring communities could cooperate without creating an area too big to collect the necessary data
Example from Australia: BAM-Plan
(Bat and avifauna management plan)

A comprehensive strategy for management and the prevention of bird and bat losses on the basis of pre- and post-construction surveys

‡ if post-monitoring detects any significant impact, specific habitat enhancement is implemented
Project level - Mitigation

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- Micro-siting based on detailed investigations
- Temporal turbine shut down (bats)
- Monitoring
Conclusion

- Each planning case has its own SSS-specificity
- Hierarchic planning system must be adaptive enough to account for that
## Conclusion

- Early identification of No-Go-Areas on a regional level, optional proposals for suitable wind farm areas being modifiable at the community level

- Comprehensive data gathering on the community level based on local location concepts; cooperation of neighbouring communities may be favourable; comprehensible selection of suitable locations

- Detailed investigations and monitoring on the project level (if appropriate)
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Conclusion
Thank you very much!

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