Bird Sensitivity Map:
to provide locational guidance for onshore wind farms in Scotland

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for birds • for people • for ever

Talk Outline

- Introduction
- How the map was created
- Policy context
- Map Applications

Introduction

- **Climate change poses the single biggest threat to birds and other wildlife (Thomas *et al*., 2004).**
- **Wind energy plays a valuable role in contributing towards tackling climate change.**

Introduction

- Wind farms can have negative effects on birds (Langston & Pullan, 2003; Drewitt & Langston, 2006):
  - Collision
  - Disturbance displacement
  - Habitat loss
  - Barrier effects

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  - Disturbance displacement
  - Habitat loss
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- Careful location is key to minimising these effects!

Bird Sensitivity Map

- Scotland has the highest number of proposed wind farms in the UK.
- Their wind resource has led to many of these being in the uplands.
- Scotland's upland habitat contains important numbers of many Annex 1 bird species.
- Many of these species are widely dispersed, so it is not sufficient to rely on the designated sites network to protect them.

Bird Sensitivity Map

The map aims to:

- **Facilitate wind farm development in appropriate locations across Scotland;**
- **Protect bird species of conservation concern;**
- **Reduce resource waste.**

The Map

- The map is ***indicative*** and does not replace the need for Environmental Impact Assessment.
- Intended to help guide decision makers in the early stages of the planning process.
- Based on best available information.
- Data deficiency means it cannot be comprehensive.
- Based primarily on the locations of breeding birds.

Mapped Species

Stage 1. Data Collation

- Distributional data were collated for each species:
- Usually national survey data, for a few species regional datasets were collated.
- Mapping units varied: nests, territory centres, breeding lochs, roost locations.
- Age of survey varied: most recent surveys used.
- Coverage was close to comprehensive for most species.

Stage 2. Literature review for each species

EXAMPLE: Golden Eagle

RIN model (McGrady *et al*., 1997, 2002):

Golden Eagles spent:

50% of time within **2.5km** of the nest: HIGH SENSITIVITY

97% of time within **6km** of the nest: MEDIUM SENSITIVITY

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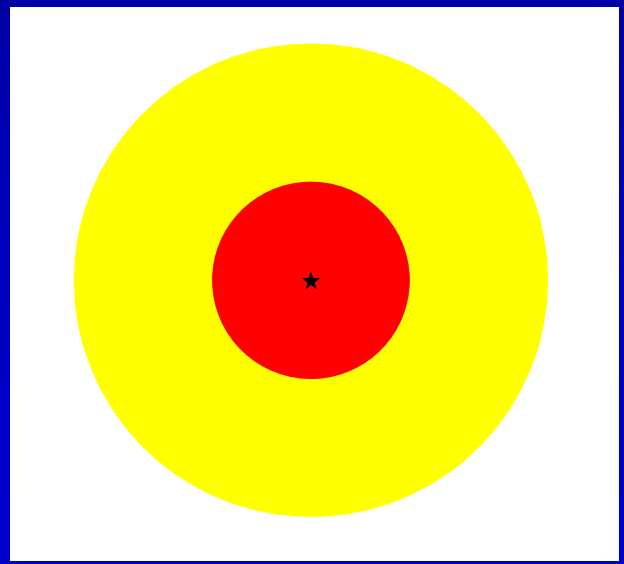

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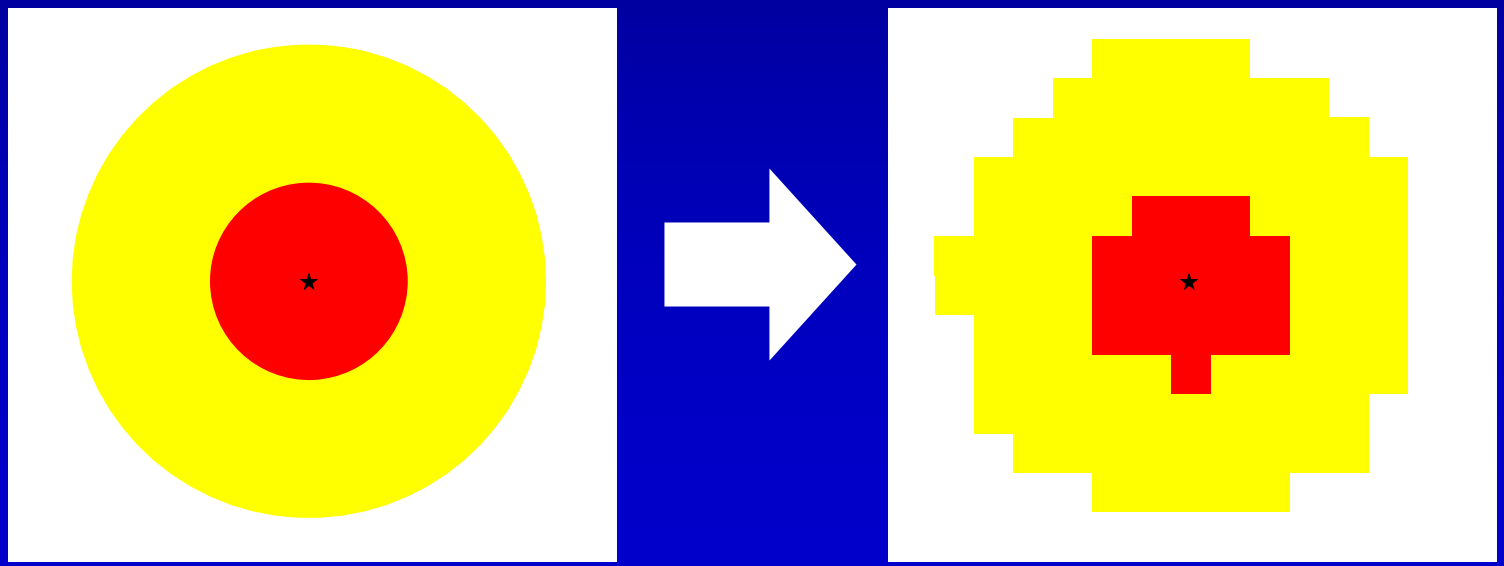


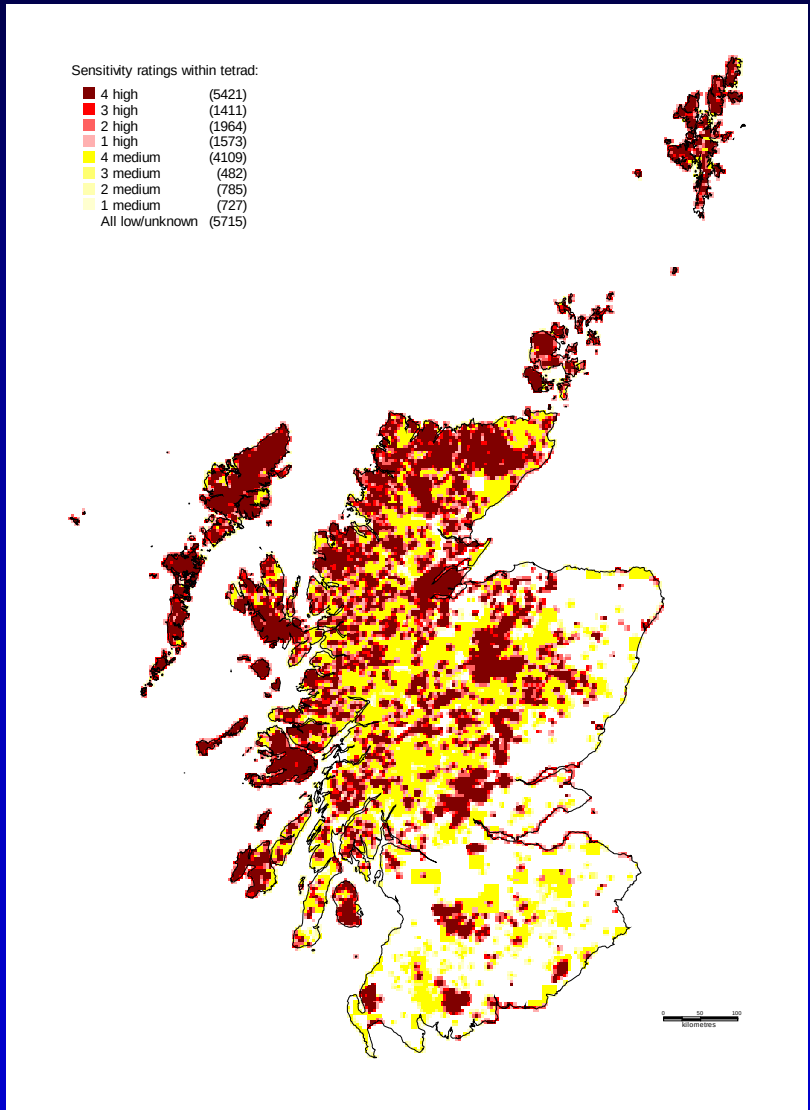
Stage 4: Creation of combined map

- **Single species maps were then amalgamated by selecting the highest sensitivity rating for each 1km square.**

Bird Sensitivity Map

Number of 1km squares with sensitivity rating of:

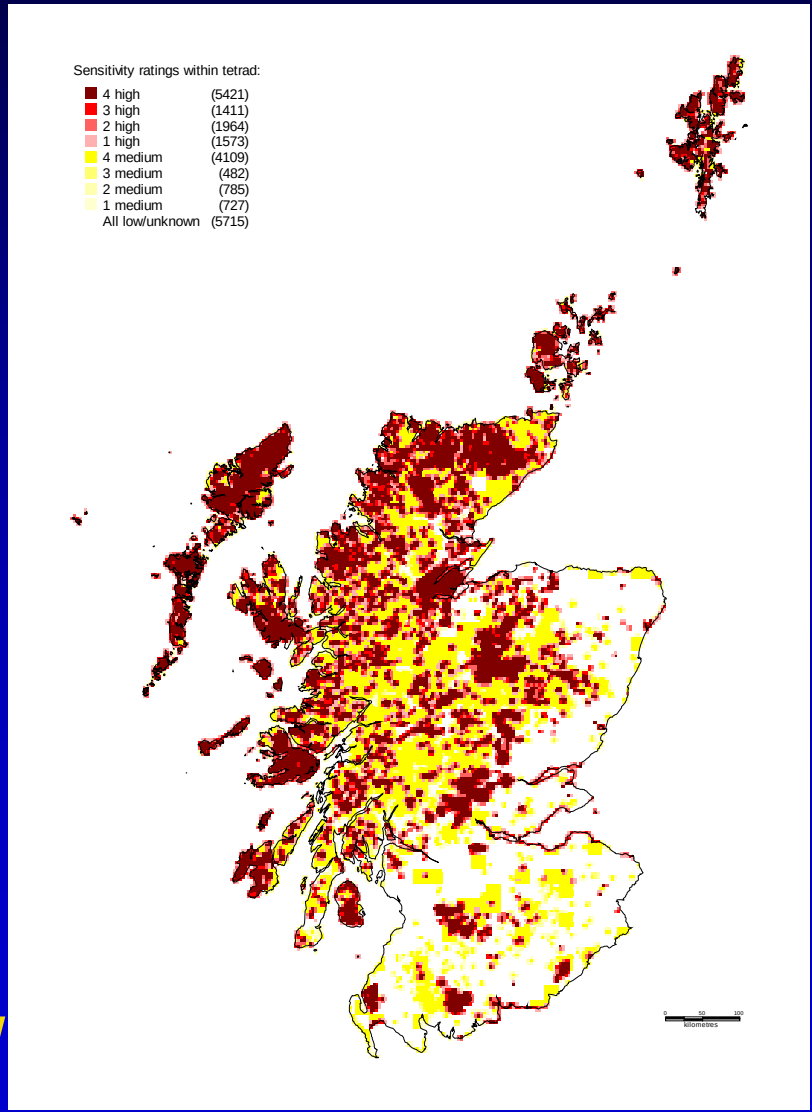
- **High: 37%**
- **Medium: 31%**
- **Low/unknown: 32%**



Bird Sensitivity Map

Number of 1km squares with sensitivity rating of:

- **High: 37%**
- **Medium: 31%**
- **Low/unknown: 32%**
  - **= 26 813 1km squares**
  - **= 215 GW**
- **Scottish 2020 target: 6GW**



Why did we produce this map?

- **SNH Strategic Locational Guidance (2001)**
  - 10km square scale
  - Data from Atlas of Breeding Birds 1988-91
  - Eight Annex 1 species mapped

- **RSPB and SNH agreed there was a need to produce a more comprehensive map based on the most up to date data.**

- **Inform a changing renewable energy policy context.**

Draft SPP6: Renewable Energy Policy

Local Authorities are required to:

- **Establish a local contribution for renewable energy.**
- **Identify broad areas of search for onshore wind farms where projects will be supported.**
- **Indicate areas or sites where it is judged that proposals for wind farms should be avoided.**

Case Study: Highland Council Renewable Energy Strategy

- A strategy was produced to guide location of all renewables, including onshore wind.
- Preferred areas for major/national onshore wind farms were identified, by modelling factors such as:

  wind speed; cost; distance from grid; visibility.
- Bird sensitivity ratings were incorporated into these models.

Acknowledgements

- Scottish Natural Heritage
- The Scottish Raptor Study Groups
- Joint Nature Conservation Committee
- Rare Breeding Birds Panel
- Bean Goose Action Group
- Capercaillie Biodiversity Action Plan Steering Group
- Perthshire Black Grouse Study Group

Reference

Bright *et al.* (2006) Bird Sensitivity Map to provide locational guidance for onshore wind farms in Scotland.
RSPB Research Report No. 20.
http://www.rspb.org.uk/scotland/policy/index.asp

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