

# Ornithological Impacts: Addressing the Information Deficit

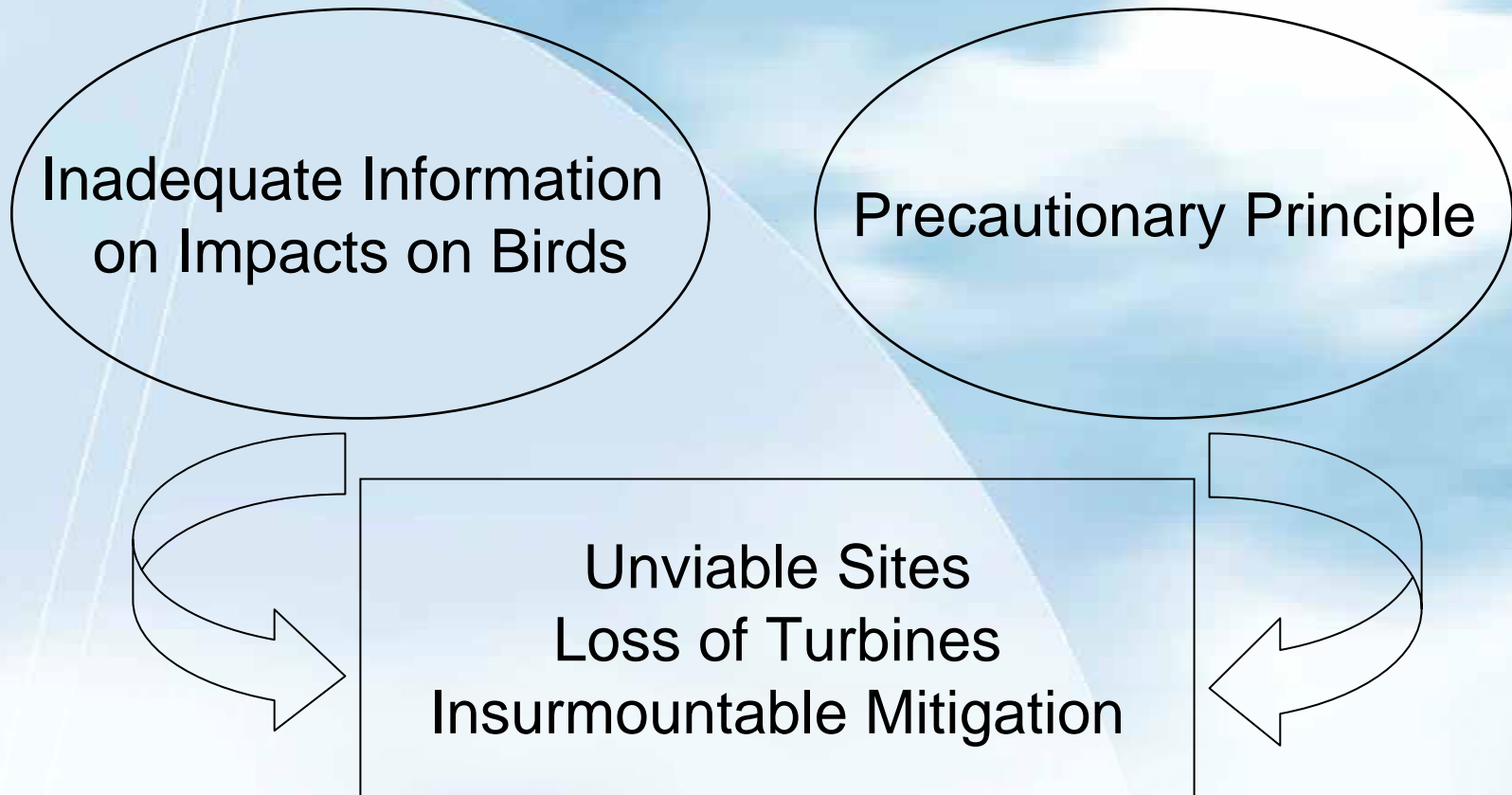


David MacArthur (MIEEM), Ecologist  
ScottishPower, Renewables and Major Projects

# Agenda

- The Need For Research
- Research Priorities
- Review Progress
- Barriers to Research
- Recommendations

# The Need For Research



- Research will help find solutions to obstacles

# The Need For Research - SNH

- ‘There is a need to develop this information base... for each species commonly the subject of wind farm EIA’ (para 28. SNH August 06)
- ‘Such information will be the key, both to SNH and the industry, to understanding the residual effects of wind farms on the natural heritage, particularly on bird species, and to understanding the effectiveness of mitigation measures’. (para 36. SNH August 06)

# Precautionary Assumptions: Example

Species	Effect	Precautionary Assumption
Hen Harrier	Foraging Disturbance	500 metre displacement
	Collision	95 to 98% avoidance
Merlin	Foraging Disturbance	250 metres displacement
	Collision	95-98% avoidance

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# Research Priorities

- SNH guidance lists species commonly the subject of ESs from which research priorities may be derived

Species on Table 1a ( SNH, August 2006)

Red Throated Diver	Red Kite	Black grouse
Black Throated Diver	Hen Harrier	Golden Plover
Whooper Swan	Goshawk	Dunlin
Greylag goose	Golden Eagle	Curlew
Pink-footed goose	Osprey	Green shank
Greenland WF goose	Merlin	Short Eared Owl
Barnacle Goose	Peregrine Falcon	

- So what research is underway?

# Review of Progress

## Beinn an Tuirc Eagle Monitoring

- 6<sup>th</sup> year of research
- Eagle/windfarm interaction



## Cruach Mhor Hen Harrier & Short eared Owl

- 3<sup>rd</sup> year of research
- Nest sites, adult and juvenile flight activity

# Review of Progress

## Black Law, Beinn an Tuirc, Cruach Mhor

- Blanket bog & heathland restoration monitoring
- Assessing the effectiveness of mitigation measures.



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# Review of Progress

- Red Kite, Golden Plover (Braes of Doune)
- Red Throated Divers (Orkney)
- Merlin: Whitelee Wind farm
- Upland waders: 9 windfarm and 9 reference sites

Red Throated Diver (2)	Red Kite (1)	Black grouse
Black Throated Diver (1)	Hen Harrier (2)	Golden Plover
Whooper Swan	Goshawk	Dunlin
Greylag goose	Golden Eagle (2)	Curlew (2)
Pink-footed goose	Osprey	Green shank
Greenland WF goose	Merlin (1)	Short Eared Owl (1)
Barnacle Goose	Peregrine Falcon	

- What are the Barriers to Research?

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# Barriers to Research

Lack of Sample Sites – Catch 22!

- Solutions?
  - Habitat Management (Cruach Mhor, Beinn an Tuirc)
  - Turbine shut-down Conditions



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# Barriers to Research

## Planning Conditions – miss critical issues

- SNH Guidance Advises Focus on issues ‘critical in the determining process’.
- Problem of Interpretation?

## Methodologies – not optimal

- Consider other methods in addition to BACI.
- Standardise Methodological Design.

# Summary of Barriers to Research

- Various Barriers to Gathering Information on Impacts
- Not all of them are easy to overcome
  - Risks too high – Designated Sites.
- Some easier to overcome
  - Inappropriate Planning Conditions.
  - Unsuitable Methodologies.

# Recommendations

- **Detailed Guidance Required**
  - Priority Species / Habitats for Investigation;
  - Key Research Questions;
  - Recommended Standard Methodologies for experimental design and data analysis.
- **Benefits**
  - Solutions to obstacles
  - Optimise use of Sustainable Green Energy

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*Climate Change*

*Time is running out*

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