

# **Mitigation Models under the Habitats Directive & Marine Bills:**

## **Key Actions**

# MacArthur Green Ltd

- Ecology and Environmental Economics
- Successful integration of ecological and economic issues
- Provide **ecological services** through out a development's life cycle
- Overarching Environmental Policy capability



# SUMMARY

Interaction between  
Natura/MPA/EPS  
&  
Marine Renewables

Precautionary Approach of  
Habitats Directive and Marine Bills

Novelty of Technologies

High uncertainty over ecological  
impacts

## ■ Two mitigation models:

### 1) High uncertainty / low efficiency model:

- Damaging to marine industry

### 2) Low uncertainty / high efficiency model

- Requires integrated monitoring and mitigation strategies.
- Must be commercially and technically viable.

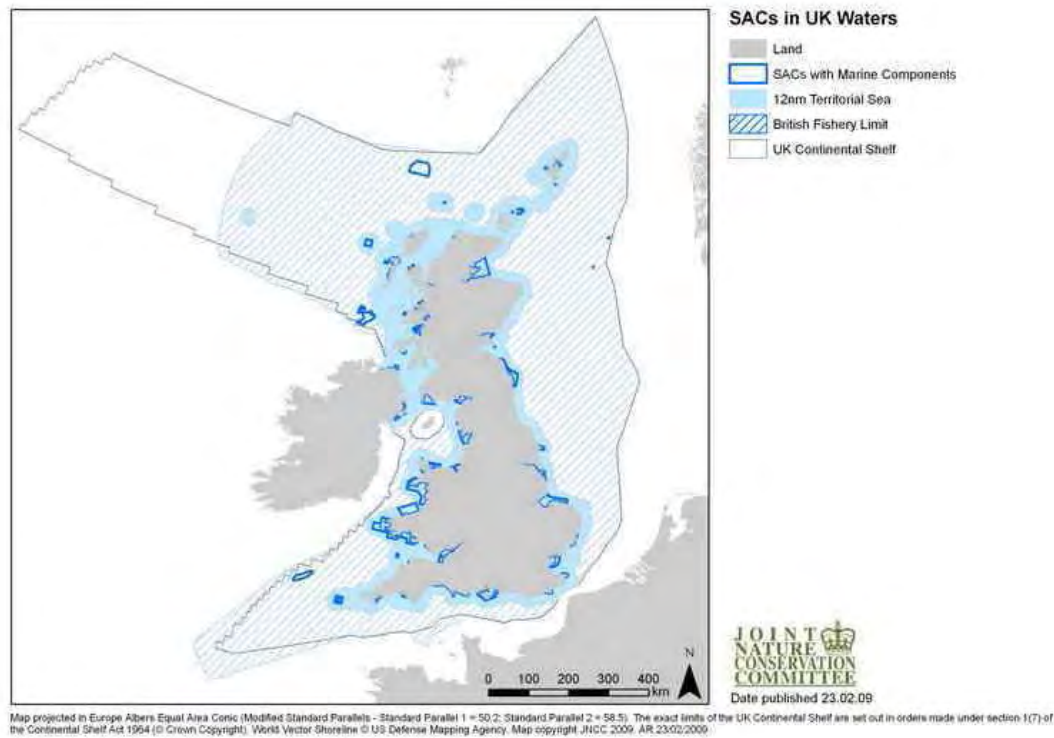
# AGENDA

- Why is an interaction likely?
- What are the policy tools for dealing with this interaction?
- What mitigation models are possible within these tools?
- Key actions requiring attention.

# Why is an Interaction Likely?

## ■ Natura 2000 Marine Sites

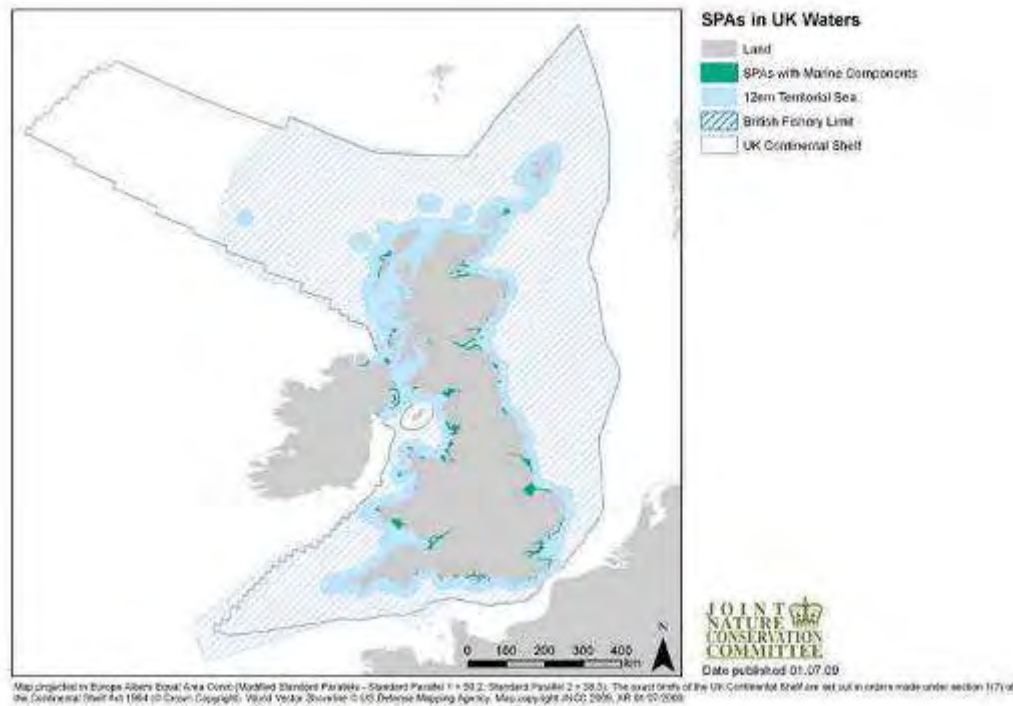
- 81 SACs with Marine Components
- Cover 2% of UK sea area
- Further inshore and offshore SAC designations progressing



# Why is an Interaction Likely?

## ■ Natura 2000 Marine Sites

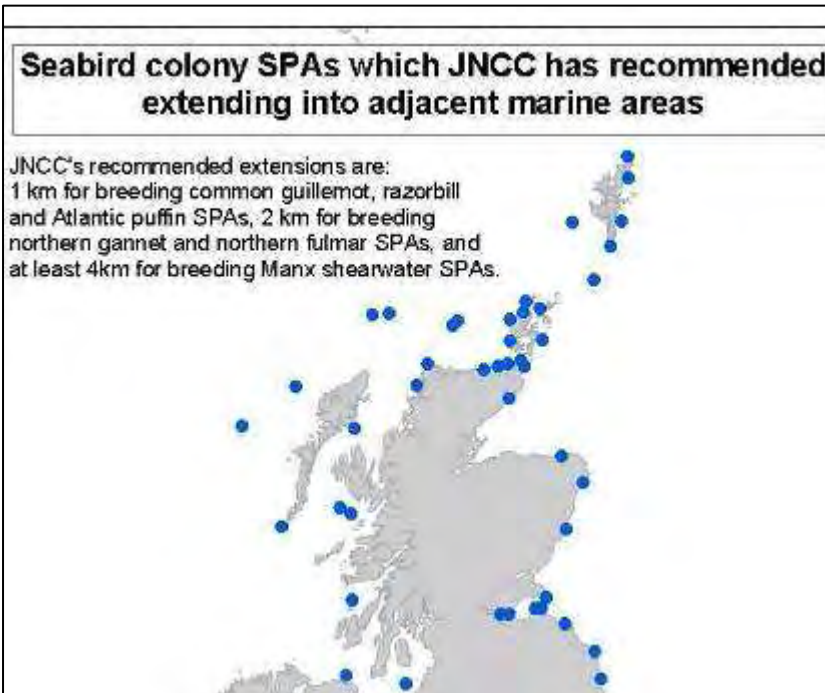
- 73 SPAs with Marine Components
- Cover around 2.5% of UK territorial sea area



# Why is an Interaction Likely?

## ■ Natura 2000 Marine Sites

- 31 SPA Sea bird colony extensions (now classified)
- Pipeline: a) further colony extensions, b) offshore aggregations, c) inshore non-breeding aggregations:
- Recommendations to be made in 2009-12?



# Why is an Interaction Likely?

## ■ Marine Protected Areas

### ■ Marine Bill (Scotland)

- Network of Marine Protected Areas

### ■ Marine and Coastal Access Bill

- Network of Marine Conservation Zones

### ■ OSPAR MPA guidelines (OSPAR, 2005):

- Around **14-20%** of the UK continental shelf area will require protection (including Natura 2000 sites)

# Why is an Interaction Likely?

- **European Protected Species**
- Article 12 of the Habitats Directive & Regulation 39 (1a-b) of the Habitat Regulations:
  - Offence to deliberately or Recklessly Capture, Kill, Disturb



# Why is an Interaction Likely?

## ■ Marine Renewable Development to Increase

- 5GW (2007) to 35-40GW (2020)
- 2000 new 5MW turbines offshore (HM Government, 2008)

## ■ Scotland

- Scottish Offshore Wind: around 6GW in Territorial Waters
- Marine Energy Road Map Scenarios: 0.5GW to 2GW by 2020



# Why is an Interaction Likely?

Extensive Natura + MPA Designations

Scale and Location of Marine Renewables Development

Highly Mobile Nature of Species

Requirement for Projects to consider Impacts when Within and out with Sites

Ubiquitous EPS

**High likelihood of Interaction / conflict**

# Which Policy Tools Deal with this?

- Article 6(3) & 6 (4) of the Habitats Directive
  - Regulations 48 and 49 of the Conservation Regulations
  - Stage 1: Screening
  - Stage 2: Appropriate Assessment
  - Stage 3: Assessment of Alternative Solutions
  - Stage 4: Assessment where no Alternative Solutions Exist and Adverse Impacts Remain
- Section 72 of Marine Bill and Section 125 of Marine and Coastal Access Bill: Similar to Habitats Directive's Framework

# Which Policy Tools Deal with this?

- Key issue with Policy Tools:



- Mitigation needs to be undertaken on a precautionary 'realistic worst case scenario' basis.
- Likely to result in high inefficiencies
- Hinder the development of the Renewables Industry

# What Mitigation Models are Possible?

## 1) **High Uncertainty / Low Efficiency Model**

*Pre-development precautionary mitigation (PPM)*

- Potentially damaging to renewables industry

## 2) **Low Uncertainty / High Efficiency Model**

*Post-development informed mitigation (PIM)*

- Most Efficient

# What Mitigation Models are Possible?

## ■ Low Uncertainty / High Efficiency Model: PIM

- Applicable to wildlife populations such as birds and mammals
- Populations are renewable 'flow resources' and impacts are incremental – occurring over a period of time.
- Creates Opportunity to:
  - Deploy the device;
  - Monitor the Impacts; and
  - base Mitigation on **True Impacts** rather than Precautionary Estimate.

## ■ Acceptable within the Habitats Directive's Framework –

**Provided that Suitable Monitoring and Mitigation Frameworks are implemented.**

# Key Actions

## ■ Define Biologically Significant Effect

(need to establish acceptable level of impact)

- Permitted Biological Removal Models?
- Population Viability Analysis?
- For Regulators to Define.

## ■ Develop Integrated Monitoring and Mitigation Packages

- Must be reliable (be able to detect specific impacts)
- Commercially & Technically viable
- Industry and regulators need to work in partnership

# Any Questions?



  
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