

Impact of Noise on the Marine Environment – a Regulatory Perspective



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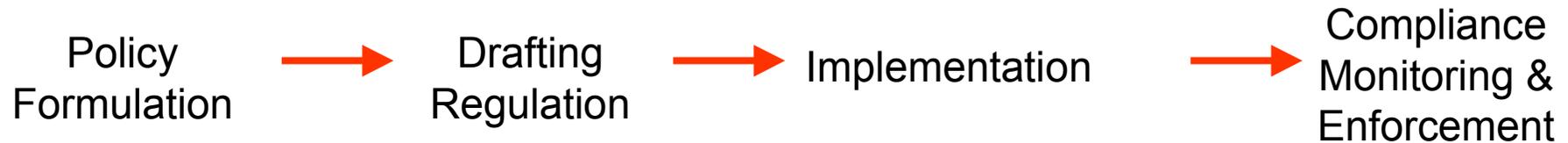
Over-arching Objective



Minimise the Impact of Oil and Gas Activities & Offshore Windfarms on the Marine Environment

Scope of EDU/OED

Responsibility:



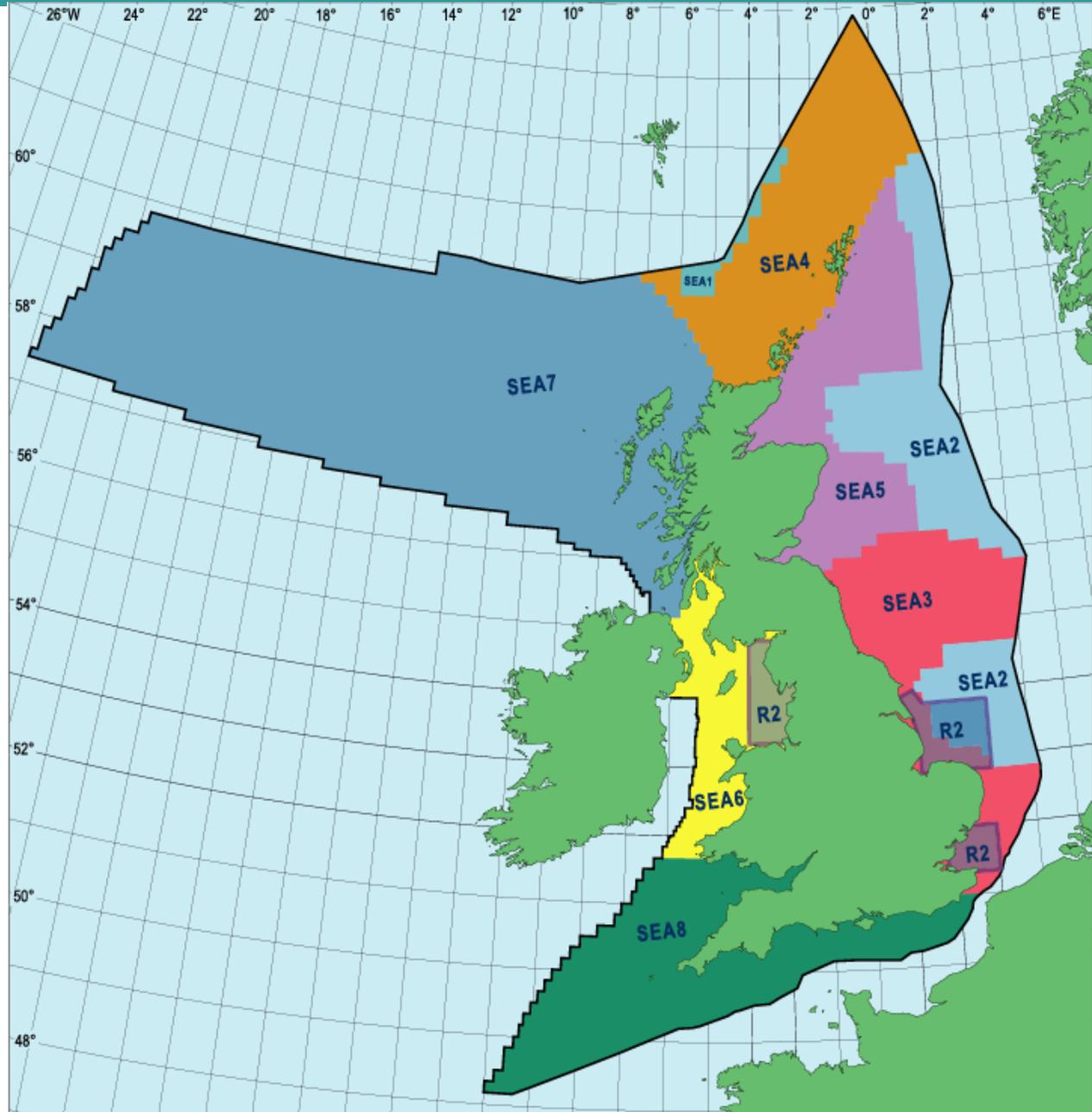
Activities Regulated:



How does DTI Regulate the Impact of Noise on the Marine Environment?

- **Strategic Environmental Assessment**
- **Plan level Appropriate Assessment**
- **Development / Site Specific Assessment**
 - Petroleum Act 1998
 - Offshore Petroleum Activities (Conservation of Habitats) Regulations 2001 (as amended 2007)
 - Offshore Petroleum Production and Pipe-lines (Assessment of Environmental Effects) Regulations 1999

DTI SEA Areas



Cetaceans - example distributions

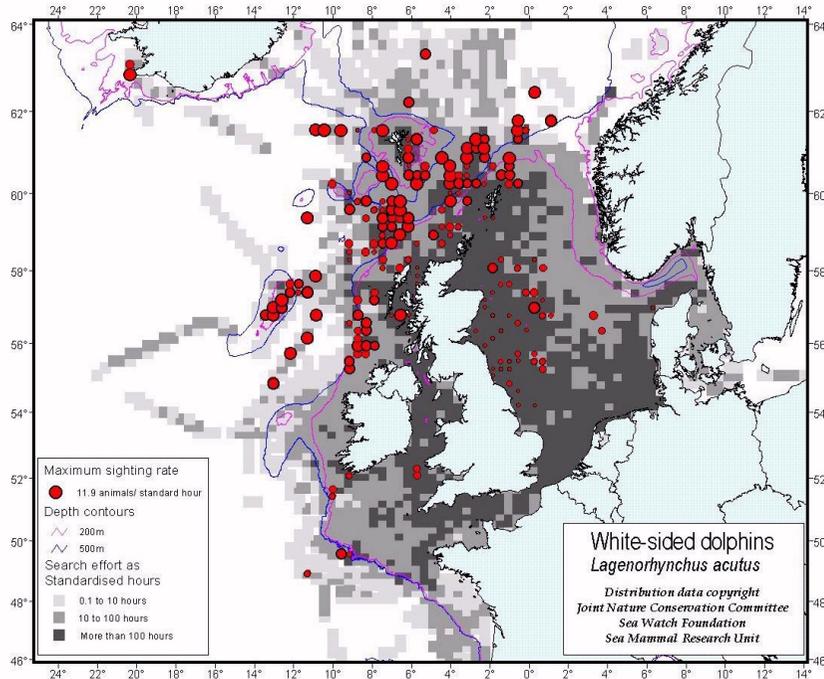


Figure 9. Sightings rates (numbers per standard hour) of Atlantic white-sided dolphins reproduced from Reid et al. (in press). Data collected over a 20 year time period, all months, from numerous platforms. Search effort (hours of observation) is indicated by shaded squares, sightings rates by red circles with area proportional to rate. Gross corrections for the effect of sea state have been applied.

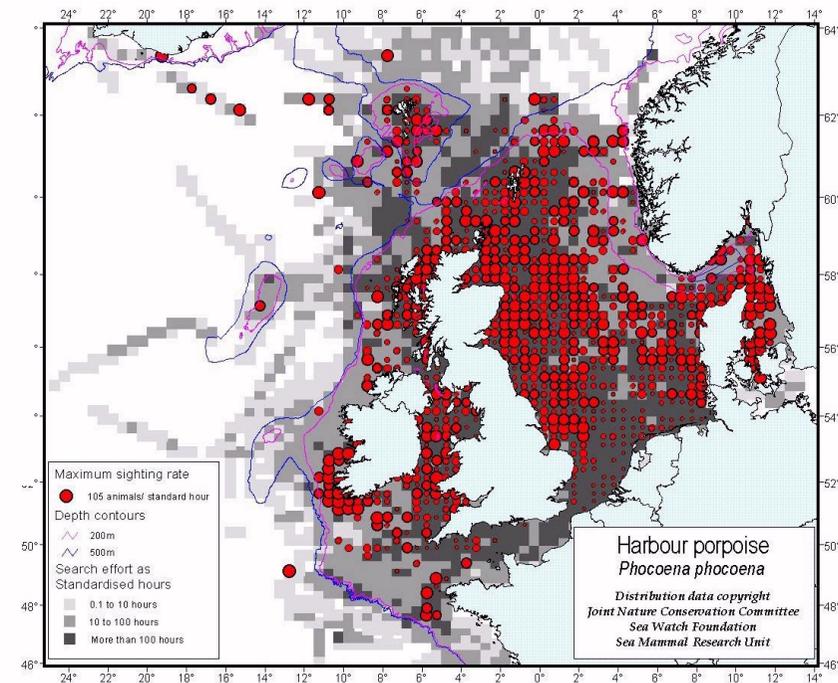
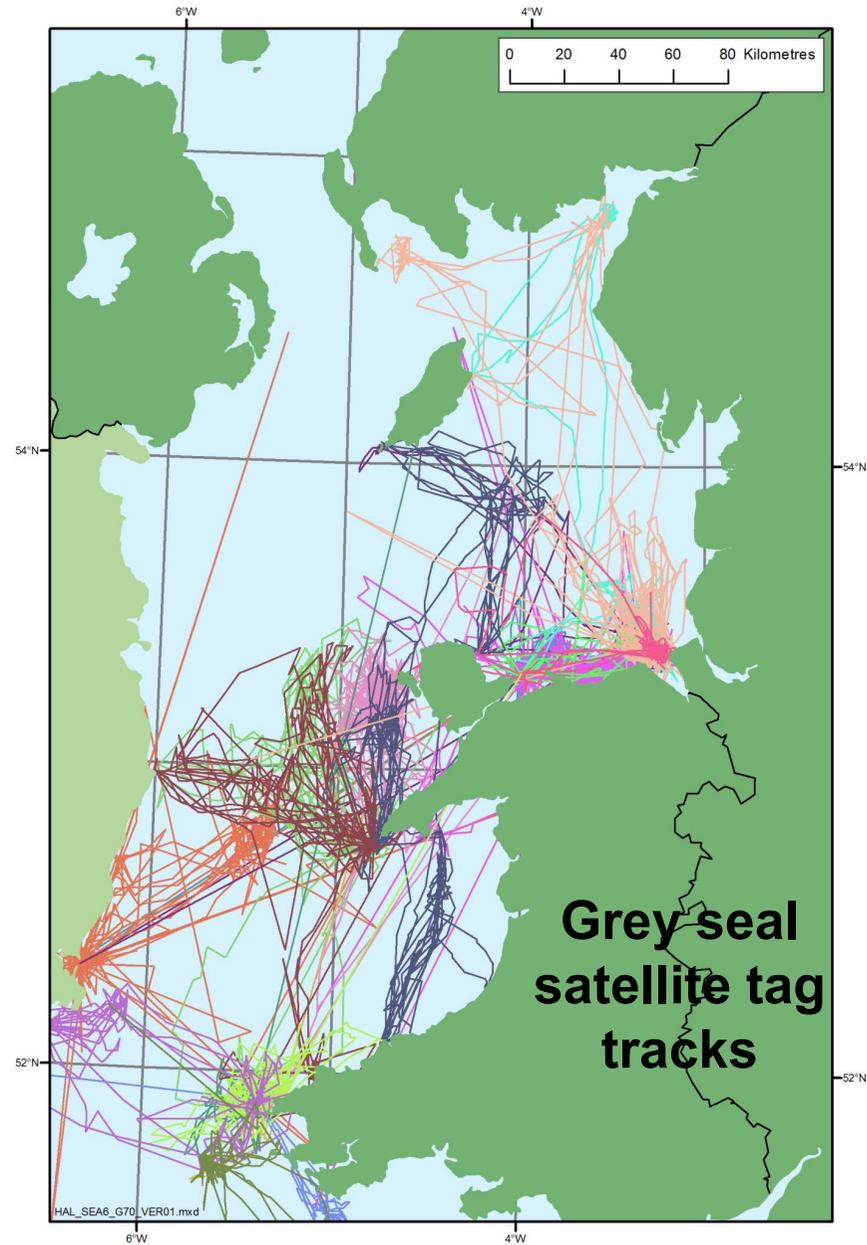
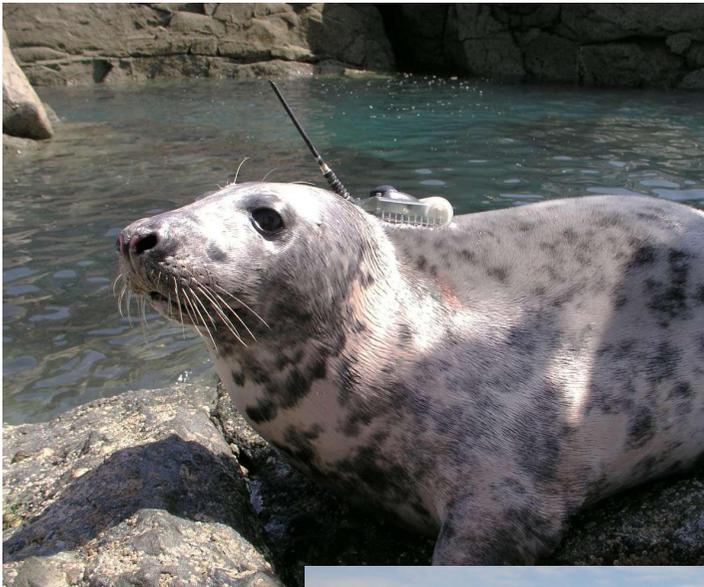
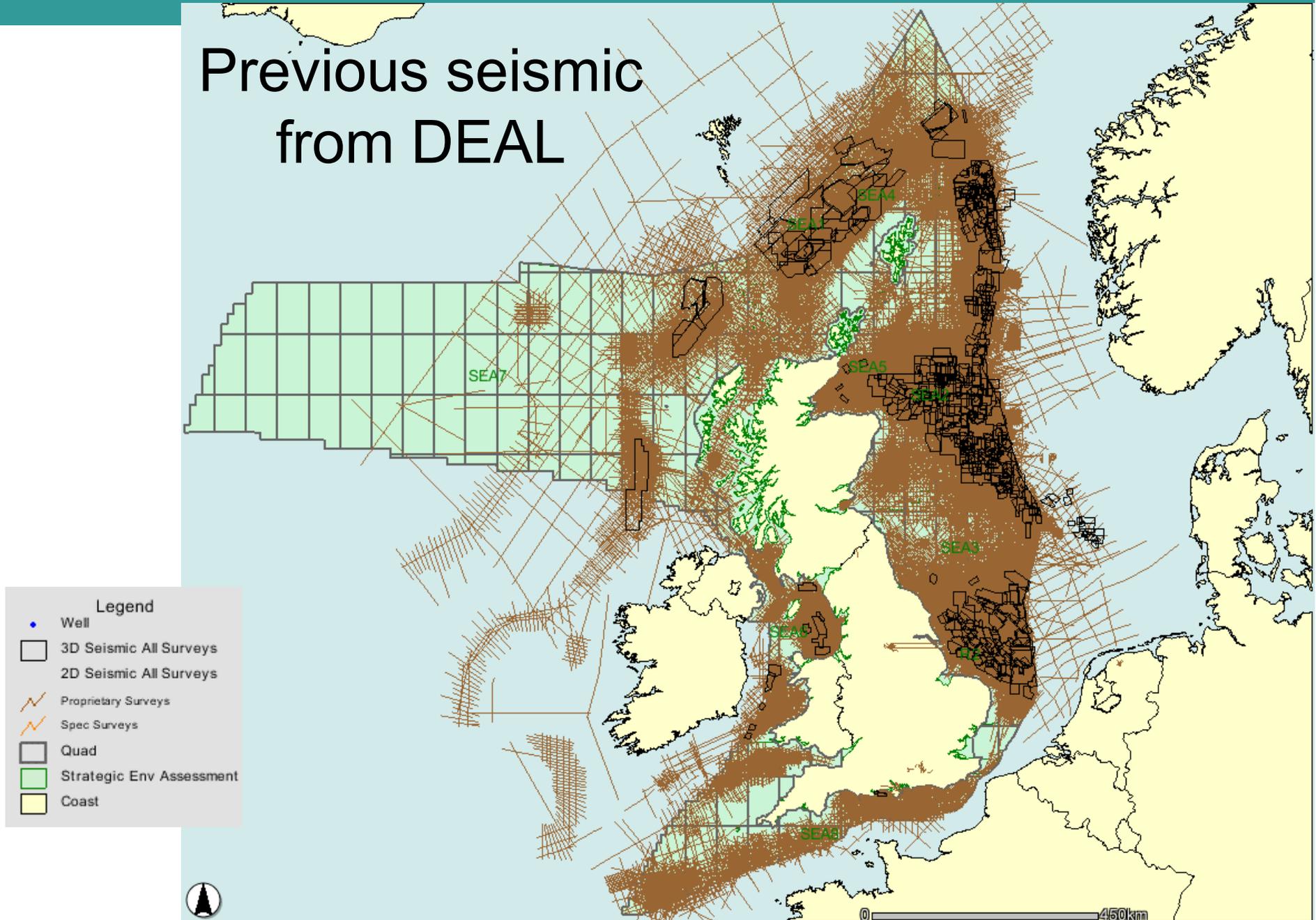


Figure 5. Sightings rates (numbers per standard hour) of harbour porpoises reproduced from Reid et al. (in press). Data collected over a 20 year time period, all months, from numerous platforms. Search effort (hours of observation) is indicated by shaded squares, sightings rates by red circles with area proportional to rate. Gross corrections for the effect of sea state have been applied.

Seal tagging (SMRU)



Previous seismic from DEAL



The Offshore Petroleum Activities (Conservation of Habitats) Regulations 2001 (as amended 2007)

Regulation 4 requires written consent from the Secretary of State for “prospecting or carrying out geological surveys by physical or chemical means” or drilling for the purposes of geological information about the strata, i.e. seismic surveys and shallow boreholes (<350m deep)

2007 amendments close a loop hole which previously meant seismic surveys within 12nm only required notification

Activities Requiring Consent

- Seismic surveys (2D, 3D, 4D, VSP)
- High resolution seismic site surveys
- Magnetic surveys
- Gravity surveys
- Borehole seismic
- Shallow drilling

PON14 Application

- DTI consults statutory consultees:
 - Joint Nature Conservation Committee (JNCC)
 - Fisheries Research Services, Marine Laboratory (FRS) – Scottish Waters
 - Centre for Environment, Fisheries, Aquaculture Science (CEFAS) – English and Welsh Waters
- Applicant has to notify a list of other consultees
- Application to be accompanied by an Environmental Assessment when the activity proposed is in sensitive areas, e.g. West of Shetland, Cardigan Bay, English Channel, Moray Firth, St George's Channel

PON 14 Application Typical Contents

- A description of the proposed activities
- A review of relevant regulations
- An overview of environmental characteristics and sensitivities in the area with a focus on those of relevance to the activity
- Consideration of effects, principally acoustic disturbance but also including vessel interactions
- Assessment of transboundary and cumulative effects
- Proposed mitigation and controls

PON14 Consent

Aim

- To protect against injury & ensure disturbance is minimised
- Condition of Consent that JNCC Guidelines must be followed at all times for all seismic and high resolution site surveys
- Consent may require use of marine mammal observers, depending on sensitivity of area & in certain sensitive areas use of Passive Acoustic Monitoring (PAM) may be recommended

Sources of Advice

- DTI Guidance Notes for Industry
 - Guidance notes for oil and gas surveys and shallow drilling
 - Block specific spatial or temporal constraints, both at:
<http://www.og.dti.gov.uk/environment/index.htm>
- JNCC Guidance Notes for Industry
 - Guidelines for minimising acoustic disturbance to marine mammals from seismic surveys can be found: <http://www.jncc.gov.uk>

Post Survey Reporting

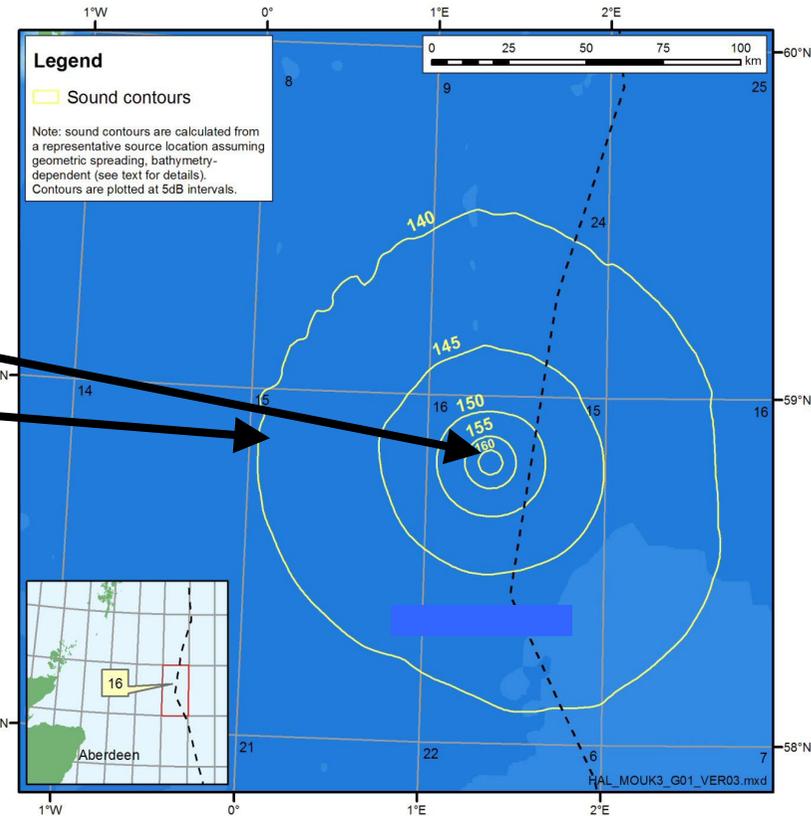
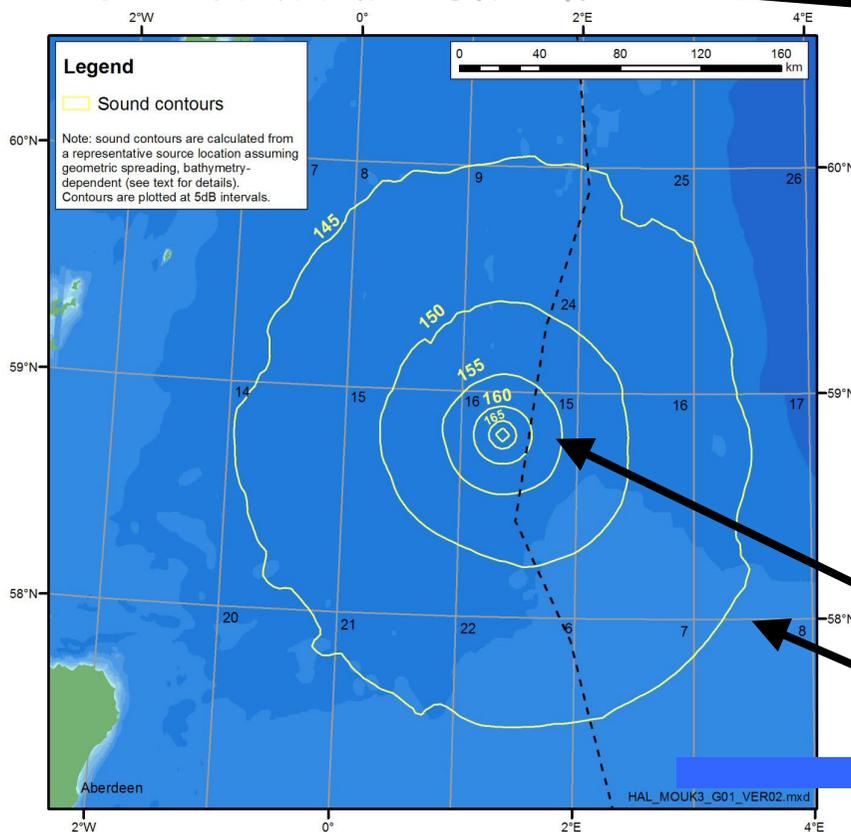
- **PON14 Close-Out Form**
 - Must be completed for seismic and high resolution seismic site surveys
- **JNCC Marine Mammal Observer (MMO) Returns:**
 - Location of survey
 - Nature of airgun (frequency, intensity, firing interval)
 - Record of all occasions when airgun used including the duration of watch beforehand and soft start
 - Marine mammal sightings
 - Any difficulties in implementing guidelines
- **JNCC Yearly Report**
 - Compiled in attempt to draw conclusions regarding disturbances
 - Periodic scientific publications

Reducing sound propagation

Effective source size 224.8dB re
1 μ Pa @ 1m rms

160db contour 4km radius

145db contour 36.7km



Effective source size

233.5dB re 1 μ Pa @ 1m rms

160db contour 14.6km radius

145db contour 122.9km

Conclusions

- The potential effects of seismic and other underwater noise on cetaceans (& other fauna) remains a significant area of uncertainty & issue of importance for offshore industries
- Mitigation measures including updated JNCC Guidelines, use of PAM, use of consent procedure to manage cumulative effects & provide some degree of protection from acute effects
- Research & Development - funded via DTI & Joint Initiatives (RAG, COWRIE, OGP etc)
- Policy changes will be informed primarily by science, international agreements and legislation