

Seismic Surveys and Marine Mammal Observers

by Zoe Crutchfield¹

The Joint Nature Conservation Committee (JNCC) is the forum through which the three country conservation agencies - the Countryside Council for Wales, English Nature and Scottish Natural Heritage - deliver their statutory responsibilities for Great Britain as a whole, and internationally. These responsibilities, known as special functions, contribute to sustaining and enriching biological diversity, enhancing geological features and sustaining natural systems.

One way in which JNCC fulfils the special functions is working with the Department of Trade and Industry (DTI) as a statutory consultee for oil and gas operations including reviewing applications for all geophysical and geological surveys otherwise known as seismic surveys. The procedures that operators must follow before carrying out a seismic survey has recently changed from a notification to a consent process due to the implementation of the EU Habitats Directive. The EU Habitats Directive states that "Member states shall take the requisite measures to establish a system of strict protection for the animals listed in Annex IV. Prohibiting deliberate disturbance of these species' deterioration or destruction of breeding sites or resting places." All species of cetacean are listed in Annex IV of the EU Habitats Directive.

For oil and gas activities the EU Habitats Directive is implemented in the United Kingdom Continental Shelf (UKCS) through "The Offshore Petroleum Activities (Conservation of Habitats) Regulations 2001". The DTI has also produced a "Draft Guidance Note for Industry - Guidance Notes for Geological Surveys and Shallow Drilling". In summary, operators must submit a Petroleum Operations Notice Number 14 (known as a PON 14) to the DTI and be granted a consent before carrying out a geophysical or geological survey. The PON 14 will include information about the location and type of survey to be undertaken and, if necessary, an environmental assessment of these activities. The DTI will circulate the PON 14 to their statutory consultees who are given an opportunity to comment as to whether a survey should be consented, consented with conditions, or not consented. Using this advice and their expertise the DTI will then decide whether a seismic survey should be allowed to proceed.

Within the Draft Guidance Note produced by the DTI it is stated that as a condition of consent, "the JNCC Guidelines [for minimising acoustic disturbance to marine mammals from seismic surveys] must be followed at all times for all seismic surveys' and "At the end of each survey the operator should submit a report of the survey and the marine mammal observations." The JNCC guidelines include procedures for using marine mammal observers (MMO) onboard geophysical and

geological surveys and a soft start procedure to be used before firing of airguns from seismic vessels.

MMO are employed by the operators of seismic vessels to aid in the implementation of the JNCC guidelines. Each MMO should have attended the JNCC MMO Training Course and should be the most appropriately qualified and experienced MMO available to an operator. In sensitive areas a trained cetacean biologist or highly experienced MMO should always be employed. Dedicated MMO should be employed only for the purpose of implementing the JNCC Guidelines and should not have other duties onboard seismic vessels. In UKCS the JNCC will recommend to the DTI that any survey using airguns greater than those onboard a site survey (usually around 200 cubic inches) should have one dedicated MMO onboard. In the summer months when daylight hours increase, north of 57 °N two dedicated MMOs should be onboard each seismic vessel.

The soft start process is a precautionary approach which, in theory, should allow any marine mammals in the vicinity of a seismic source time to leave an area before full source levels are reached. Beginning at least thirty minutes before the starting of seismic sources, the MMO should carefully make a check from a suitable high observation platform to see if there are any marine mammals within 500 metres of the seismic source. The JNCC also encourages the use of acoustic detection methods to check for the presence of marine mammals. If marine mammals are present the soft start of the seismic source should be delayed until they have moved away (the delay should be for at least twenty minutes after the last sighting of a marine mammal). Following completion of the pre start-up observations and any necessary delays, where equipment allows, the seismic source should be built up slowly from a low energy start-up to full power. This should take at least twenty minutes but no more than forty minutes and is achieved by starting with the smallest airgun in the array and gradually adding in the other airguns. There should be a soft start every time the airguns are used even if no marine mammals have been seen.

After the survey a report detailing marine mammals sighted, the methods used to detect them, any problems encountered and suggestions for improving the guidelines should be submitted to the JNCC. Standard data collection forms are available from the JNCC in order to complete this report. The information supplied by the MMO is first assessed by the JNCC to ensure that all operators have complied with the JNCC guidelines. The data on marine mammal sightings and behaviour are further analysed and data and conclusions reported on a yearly basis in the JNCC Marine Mammal Observation report series.

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FURTHER INFORMATION

Draft DTI Guidance notes for procedures for geological surveys and shallow drilling under the Offshore Petroleum Activities (Conservation of Habitats) Regulations 2001 are available from:

- <http://www.og.dti.gov.uk/environment/consultations.htm>
JNCC Guidelines for minimising acoustic disturbance to marine mammals from seismic surveys and JNCC reports from marine mammal observations are available from:
- <http://www.jncc.gov.uk/marine/seismicsurvey/default.htm> or for further information please contact:
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