The deliberate disturbance of marine European Protected Species
Interim guidance for English and Welsh territorial waters and the UK offshore marine area

By

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Introduction

Status of this document
The interim guidance presented in this document will be further developed in the coming months. The final guidance (planned to be ready in April 2008) and any future reviews of that guidance will be subject to public consultation. These future reviews will be carried out when necessary to make sure the guidance remains relevant and appropriate, as knowledge of the species and of the impacts of certain activities improves, as feedback on the efficiency of implementation, mitigation and enforcement arises, and as the results of surveillance and monitoring become available.

Why guidance?
Amendments to the Conservation (Natural Habitats &c.) Regulations 1994 (i.e. the Habitats Regulations, HR) and the new Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (the Offshore Marine Regulations, OMR) came into force on 21 August 2007. Both Regulations have a revised definition of disturbance and the OMR extend the offence to areas of UK jurisdiction beyond 12 nm. It is now an offence (in Regulation 39(1)(b) of both the HR and the OMR) to deliberately disturb wild animals of a European Protected Species (EPS, see below) in such a way as to be likely significantly to affect: a) the ability of any significant group of animals of that species to survive, breed, or rear or nurture their young; or b) the local distribution or abundance of that species. In Scottish territorial waters the disturbance offence is different and the interim guidance in this document is not applicable.

In addition, neither the amended HR nor the OMR contain the ‘incidental result’ defence for activities that disturb EPS – a defence against the charge of deliberate disturbance was available under the HR if the disturbance occurred as an incidental result of an otherwise lawful activity and could not have reasonably been avoided. A consequence of this change is that guidance is needed for those carrying out activities in the marine environment, to help determine when an offence might be committed and, if appropriate, when a wildlife licence might be required. This guidance will need to include species-specific guidance, best-practice guidelines, and will be developed over the next few months involving the nature conservation agencies from all parts of the UK (to be out for public consultation early in 2008). Our interpretation of the disturbance offence in relation to the Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2007 (covering Scottish territorial waters) will also form part of the final guidance. In the interim, this document aims to provide our initial guidance in interpreting the law from the point of view of nature conservation, so

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1 Please refer to Part 3 of the OMR, regulation 33 - “Application of offences in Part 3”.

2 The Conservation (Natural Habitats, &c.) Regulations 1994 (HR) have been amended twice. Firstly, in relation to Scotland, by the Conservation (Natural Habitats, &c) Amendment (Scotland) Regulations 2007 (SSI 80/2007) which came into force on 15th February 2007. The Conservation (Natural Habitats, &c) (Amendment) Regulations 2007 (SI 1843/2007), which came into force on 21st August 2007, made similar, but not identical, amendments in relation to England and Wales. The guidance in the present document predominately concentrates on the HR as they apply in England and Wales.
that developers can best assess the likelihood of committing an offence and how can it be avoided, and if a wildlife licence is required.

This interim guidance concentrates on providing assistance with interpretation of the three main elements of the disturbance offence, for marine EPS:

1) what is deliberate disturbance;
2) what are significant effects on the ability of the species to survive, breed, or rear or nurture their young, and what is a significant group of animals; and
3) what are significant effects on the local distribution or abundance of a species.

Limitations of the guidance
This guidance does not form part of the ‘law’, is not binding in nature, nor is it meant to provide a legal interpretation of the Regulations. Rather, it is the Joint Nature Conservation Committee’s (JNCC) advice on the interpretation of Regulation 39(1)(b). Those considering activities that may disturb EPS may wish to seek their own legal advice.

The guidance in this document deals only with the offence of disturbing a marine EPS, and it should be borne in mind that where actions may result in other offences being committed, such as the killing, injuring or taking of a marine EPS, or the damage to or destruction of breeding sites or resting places, it will necessary to consider how these offences can also be avoided and whether a wildlife licence is required.

For terrestrial EPS please refer to the advice from the relevant nature conservation agency.
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1. The disturbance offence

1.1. The offence

The amended HR and the new OMR came into force in 2007 and contain a revised disturbance offence. Regulation 39(1)(b) of both the HR and the OMR state that a person commits an offence if he:

(b) deliberately disturbs wild animals of any such species [i.e. a European Protected Species] in such a way as to be likely significantly to affect –
   (i) the ability of any significant group of animals of that species to survive, breed, or rear or nurture their young; or
   (ii) the local distribution or abundance of that species.

Marine EPS include all species of cetaceans, all species of marine turtles, the sturgeon (*Acipenser sturio*) and the otter (*Lutra lutra*).

This definition of disturbance incorporates two elements adapted from the Habitats Directive Article 12 guidance document produced by the European Commission (European Commission, 2007). The first element is that disturbance must be likely to significantly affect the ability of any significant group of animals to survive, breed, or rear or nurture their young. For the purpose of this guidance, subsequent references to ‘adversely affect’ should therefore be taken to mean ‘significantly affect the ability to survive, breed, or rear or nurture their young’. The second element is that the disturbance must be likely to significantly affect the local distribution or abundance of the species. For disturbance to occur, either of these conditions must be met.

1.2. Wildlife licences

The onus is on the developer or person (entity) carrying out an activity to present an assessment of the likelihood of committing a disturbance offence, using the guidance in this document to assess the risk; to consider the need for mitigation measures; and to decide whether to apply for a wildlife licence (see Appendix I). When assessing the risk of an activity disturbing a marine EPS and whether a wildlife licence might be needed, the following points should be considered:

- The likelihood that marine EPS occur in the area of potential disturbance impact of the activity;
- The likelihood that a significant group of animals of a marine EPS will be adversely affected by the activity;
- The likelihood that the local distribution or abundance of a marine EPS will be significantly affected by the activity;
- The characteristics of the activity and potential factors of disturbance;
- The mitigation measures in place to avoid committing an offence.

If there is a risk, which cannot be removed or sufficiently reduced by the taking of mitigation measures, then a wildlife licence may be granted by the regulatory authorities for a number of categories of activities or “purposes”, as set out in Regulation 44(2) of the HR and Regulation
49(6) of the OMR. These purposes include “imperative reasons of over-riding public interest” and “scientific and educational purposes”, which could be relevant for many activities that involve the risk of deliberate disturbance of marine EPS. Licences can, however, only be issued where there is no satisfactory alternative and where the activity will not be detrimental to the maintenance of the populations of the species concerned at a FCS in their natural range (Regulations 44(3) and 49(7), respectively).

It is expected that the majority of activities will not require a wildlife licence, since their potential for disturbance will fall below the threshold of the offence in the Regulations (significant effects), or because mitigation measures can be put in place to minimise the likelihood of a disturbance offence. The flow chart in Appendix I summarises how the process of assessing the risk of committing an offence and determining the need for a wildlife licence will now operate.

1.3. Definitions and interpretation

**Deliberate**
The Habitats Directive Article 12 guidance (European Commission, 2007) states that the disturbance covered by Article 12(1)(b) must be deliberate and not accidental. The term ‘deliberate’ has been considered in two European Court of Justice cases (C-103/00 and C-221/04) relating to the operation of the Habitats Directive. The guidance states “the court seems to interpret the term ‘deliberate’ in the sense of conscious acceptance of consequences” (European Commission, 2007). The term ‘deliberate’ therefore has to be interpreted as going beyond ‘direct intention’. The Habitats Directive Article 12 guidance then draws on the approach taken by the Court, to propose the following definition: “deliberate actions are to be understood as actions by a person who knows, in the light of the relevant legislation that applies to the species involved, and the general information delivered to the public, that his action will most likely lead to an offence against a species, but intends this offence or, if not, consciously accepts the foreseeable results of his action”. Although there is no domestic case law defining the term in the UK, under regulation 2(2) of the HR (regulation 2(3) in the OMR) expressions used in the Regulations are considered to have the same meaning as in the Directive. ‘Deliberate’ action is thus wider than what we usually understand to be ‘intentional’ action under English and Welsh law.

**Significant group of animals**
The amended HR and the OMR provide some guidance as to the interpretation of the word ‘significant’ in Regulation 39(1)(b)(i), in that Regulation 39(12) states that ‘significant’ means significant in relation to the objectives of the Habitats Directive. Regulation 39(13) also requires courts to have regard to any guidance given by the appropriate nature conservation body as to the criteria for determining whether a group of animals is significant. Relevant guidance in this document would therefore be expected to be taken into account during any court proceedings.

The strict protection obligations under Article 12 of the Habitats Directive should aim to fulfil the overall aim of the Directive described in Article 2 (to which they contribute). Consequently, the protection measures should contribute to the maintenance, at **favourable conservation status** (FCS), of Annex IV species, while taking into account economic, social and cultural requirements and regional and local characteristics. FCS can be described (in the species context) as a situation where a species is doing well in terms of quality (e.g.
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reproductive success, age-structure) and quantity (stable or increasing size) and has good prospects of continuing to do so in the future (see Appendix II).

A ‘significant group’ cannot easily be defined, and may vary between species; this is considered below. This part of the offence would include the disturbance of a single animal, but only where that would significantly affect the ability of a significant group of animals to survive, breed or rear or nurture their young. In practice, this seems unlikely, unless it is a critically endangered species with very few individuals left (e.g. northern right whale). It also seems unlikely that disturbance of an individual would significantly affect the local distribution or abundance of a species.

Local distribution or abundance
Even though the legislation itself does not provide a definition of ‘local distribution or abundance’, this should also be considered in the context of the objectives of the Habitats Directive, since all strict protection measures applied to EPS should aim to fulfil the objectives of maintaining and restoring populations of species at FCS in their natural range. ‘Local’ therefore needs to be considered in the context of the natural range of the populations of a species; the movement patterns of animals in those populations; and, particularly, the natural variability in distribution and abundance within their natural range.

2. Assessing the likelihood of a disturbance offence

2.1. Disturbance that has an ecological impact

The Habitats Directive Article 12 guidance (European Commission, 2007) states that ‘it would also seem logical that for disturbance of a protected species to occur a certain level of negative impact which is likely to be detrimental must be involved’. Disturbance covers a whole range of activities. At the lower end of the scale is the disturbance of a single individual outside the most sensitive seasons (breeding, rearing, hibernation and migration), and this would be very unlikely to constitute an offence under the HR or the OMR. At the upper end might be disturbance of large groups that would cause the permanent disappearance (extirpation) of a local population of a rare species. The question is when the threshold of ‘significant effects’ is reached.

Although not legally binding, the Habitats Directive Article 12 guidance (European Commission, 2007) is helpful because it makes it clear that, in their view, disturbance must have some ecological impact, and that ‘trivial’ disturbance, such as scaring away a wolf from entering an enclosure of sheep in order to prevent damage (their example), should not be considered as disturbance under Article 12. The Commission’s guidance further states that “any disturbing activity that affects the survival chances, the breeding success or the reproductive ability of a protected species or leads to a reduction in the occupied area should be regarded as a ‘disturbance’ in terms of Article 12”, and this was used during the drafting of the amendments to the HR and the new OMR to better define the level of disturbance which should constitute an offence, with a view to excluding ‘trivial’ disturbance that had less than a certain level of negative impact on the protected species. This exclusion of trivial disturbance is important. Disturbance has therefore been interpreted as an action that has a significant effect on the ability to survive, breed, rear or nurture young, of a significant group of animals of a species; or as having a significant effect on a species’ local distribution or abundance. Thus the offence is only intended to catch ‘significant disturbance’.
2.1.1. The need for a case-by-case approach

A species-by-species approach is needed to determine whether a proposed activity is likely to result in the disturbance offence being committed. Different species will have different sensitivities or reactions to the same type of disturbance, which have to be taken into account in any meaningful protection system. In addition, the species FCS assessment should also be taken into consideration (see appendix IV). Disturbance could have negligible effects on a population that is doing well in terms of quality (e.g. reproductive success, age-structure) and quantity (stable or increasing size) and has good prospects of continuing to do so in future; but it could have significant effects on a small population with an ‘unfavourable’ assessment that might face many other pressures. When the species FCS assessment is ‘unknown’, a cautious approach is recommended. The sensitivity of a single species to disturbance may also be different depending on the season or on certain periods in its life cycle, and Article 12(1)(b) takes this into account by stressing that disturbance should be prohibited particularly during sensitive periods including breeding, rearing and migration.

A case-by-case approach is needed when assessing the likely impact of an activity. The Habitats Directive Article 12 guidance (European Commission, 2007) states that ‘the intensity, duration and frequency of repetition of disturbances are important parameters when assessing the possible impact of disturbance on a species’. Thus a single act may fall below the threshold of ‘significant disturbance’, but a repetition of the same act may result in the threshold being reached, resulting in ‘significant disturbance’. Additionally, the impact of an activity may not be significant in isolation, but may become significant if other activities in the area are also disturbing the same individuals or other individuals of the same population.

Any assessment of the likelihood of ‘significant disturbance’ needs to take into account the best available information and data on the species, and the potential impacts of activities, recognising the limitations and uncertainty of the assessment and using the precautionary principle in a proportionate manner (e.g. more cautious when the FCS assessment is “unknown”). The risk assessment process should also help to identify gaps in knowledge and foster data collection to reduce uncertainty. For example, there is ongoing research into the potential effects of disturbance of cetaceans by industrial noise, but we are as yet far from establishing the direct links between the disturbance and significant effects.

2.2. When is an activity likely to significantly affect the ability of any significant group of animals of that species to survive, breed, or rear or nurture their young?

The threshold for the first parameter of the deliberate disturbance offence is that it is likely to significantly affect the ability of any significant group of animals to survive, breed or rear or nurture their young. This section therefore summarises the general advice of JNCC, NE, the Countryside Council for Wales (CCW) and Scottish Natural Heritage (SNH) on the interpretation of a significant group of animals (for marine EPS), as referred to in Regulation 39 (of the HR and OMR).

Determining when the ability to survive, breed, or rear or nurture their young is likely to be significantly affected by disturbance is very difficult for marine EPS, particularly cetaceans. For cetaceans, direct responses to disturbance have included moving away from an area for a period of time, diving behaviour changes (e.g. reduced surfacing time), vocalisation changes and separation of mothers and calves. These are short-term behavioural responses, however, it does not imply that these changes will have some ecological impact – i.e. that would
significantly affect the ability of a significant group of animals to survive, breed, or rear or nurture their young (or significantly affect the local distribution or abundance of that species). Indirect responses to disturbance could include disruption of feeding, nursing, mating and socialising, displacement from important feeding areas, displacement of preferred breeding or calving sites, lowered reproductive success, changes to regular migratory pathways, stress, and increased susceptibility to injury and mortality. These are more subtle and will be separated in time and space from the direct behavioural responses and the potential causes, and will therefore be difficult to differentiate from natural variability. In long-lived, slow-breeding animals, such as cetaceans, the effects of these responses on the viability of populations could take many years to detect.

There is limited evidence linking disturbance to significant adverse effects on cetacean species and their populations. The only generally agreed link so far is the impact of some mid-frequency (3 – 10 kHz) sonars on the survival of some beaked whale species (e.g. Frantzis 1998; Jepson et al. 2003), which could potentially come within the offence in the HR and OMR if significant groups were affected. In addition, recent research is showing that the viability of some coastal bottlenose dolphin populations is likely to be jeopardised by the repeated exposure of individual animals to boat interactions (e.g. Bejder et al. 2006, Lusseau et al. 2007). The likelihood of causing ‘significant disturbance’ should be assessed based on the best possible available information on the impact of the specific potential disturbance factor on the species concerned. In cases where there is evidence of short-term behavioural responses of animals to disturbance but not on the longer-term impairment of their ability to survive, etc, caution should be used and mitigation measures put in place if a significant group of animals is likely to be exposed to the disturbance factor. Potential factors of disturbance that have been identified include certain types of loud sounds, changes in water quality, changes in the nature of the habitat (e.g. loss of feeding areas) and physical obstruction. If effective mitigation measures are not available, the proposed activity might be eligible for a wildlife licence.

A review of the evidence on the occurrence of different levels of response to different potential factors of disturbance will be provided in the final guidance. In the interim, the assessment of the risk of an ecological impact needs to be carried out on a case-by-case basis, as is currently the case under existing procedures.

Any biological definition of what constitutes a significant group of animals must take into account the local abundance of the species (i.e. the percentage of the whole population occurring in a certain area at a certain time) and its FCS assessment (i.e. favourable/unfavourable/unknown). Two other parameters that must be considered in order to assess the number of animals that are likely to become exposed to the potential disturbance are: the species grouping behaviour (e.g. if it forms tight aggregations or the individuals are spread over wide areas, and any regional or seasonal variations); and the circumstances in which the disturbance takes place (e.g. time of the year, and the spatial and temporal range of the impact).

Determiniation of a significant group will therefore depend on the size of the population of that species. Coastal bottlenose dolphins, for example, can form small and relatively geographically isolated populations of 100-200 individuals, and a group of five to ten animals

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3 “Population” is defined here as a group of individuals of the same species living in a geographic area at the same time that are (potentially) interbreeding (i.e. sharing a common gene pool) following article 12 guidance. See appendix II.
could be considered as significant. For harbour porpoises, the most abundant marine mammal species in UK and adjacent waters, a significant group of animals is likely to be much larger, and could be over one thousand individuals (it should be noted that, for marine EPS, the term ‘group’ is being interpreted as number of animals potentially affected, and the animals do not necessarily need to be in close proximity or engaged in a similar activity).

For species that tend to be solitary when not breeding, which is the case for the sturgeon and turtles occurring in the UK, the spatial and temporal extent of the activity would probably need to be large enough to be likely to affect a considerable proportion of the overall population for there to be a risk of a significant group being affected. For example, in circumstances where a significant proportion of the population could pass through the area of the impact of disturbance during the course of the activity, there could potentially be a risk of disturbing a significant group. However, JNCC is not aware of any area where this occurs or is likely to occur in the UK. Cetacean species, by contrast, form groups of various sizes, depending on the species, their behaviour (e.g. feeding or travelling), the time of the year and the region. Even when not closely associated or engaged in a common activity, if one individual of a species is sighted in an area it is likely that other animals are in the proximity. The gregarious behaviour of cetaceans therefore makes them more vulnerable to disturbance, as significant groups of animals could potentially be affected by shorter-term activities with smaller ranges of impact.

The conservation status of the species (FCS assessment) must also be taken into consideration. A distinction must be made between species for which the FCS was assessed as ‘favourable’ and those for which the FCS was assessed as ‘unknown’ or ‘unfavourable’ (see appendix IV). The number of animals exposed to disturbance that would constitute a significant group would differ for two species with similar population sizes but different FCS assessments. This is because disturbance could have negligible effects on a group of animals from a population that is doing well in terms of quality and quantity (and has good prospects of continuing to do so in future) but it could have significant effects on a similar sized group of a population with an ‘unfavourable’ assessment that might face many other pressures. Thus, in order to assess whether a group that is likely to be exposed to disturbance can be considered a significant group or not, the following thresholds would be used: a) 1% of the best available population estimate, where the FCS was assessed as ‘unknown’ or ‘unfavourable’; b) 5% of the best population estimate, where the FCS was assessed as ‘favourable’ estimate.

For species that are social breeders, significant groups probably occur frequently, as most of the breeding females in a population will gather in one place during the breeding season. For cetaceans, this sort of behaviour is uncommon, and only certain species seem to form large breeding aggregations (e.g. Eastern Pacific grey whales breeding off the coastal waters of Baja California and the southern Gulf of California), and these species are not known to occur

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4 Again, “population” is defined here as a group of individuals of the same species living in a geographic area at the same time that are (potentially) interbreeding (i.e. sharing a common gene pool) following article 12 guidance. See appendix II.

5 The 1% threshold comes from the way the UK has assessed the species’ FCS, i.e. if the species declined more than 1% a year it is considered to be in ‘unfavourable’ status. If 1% of the population is likely to be exposed to potential disturbance then mitigation measures should be put in place or a wildlife licence issued, since if this percentage of the population had, for example, its survival or reproduction affected then it could potentially be detrimental to the population to which the animals belong to (although not necessarily affecting the species FCS status otherwise the activity would not be able to go ahead in any circumstance).
in the UK. In addition, it is difficult to identify which (if any) biological activities might render cetaceans more vulnerable to particular disturbance factors, or what periods might be more sensitive. For turtle species and the sturgeon, breeding aggregations do not occur in the UK.

2.2.1. Criteria to be considered

In order to assess the likelihood of a ‘significant group of animals’ being adversely affected the following criteria should be taken into consideration:

- The likelihood of potential disturbance factors and their impact on the species concerned;
- The best and most recent estimate of the minimum size of the population\(^3\) to which the animals in an area belong, taking into consideration possible geographically ‘isolated’ populations, e.g. coastal bottlenose dolphins (see Appendix III);
- Grouping patterns (i.e. spatial cohesion, group size) and spatio-temporal variation;
- The species FCS assessment in UK (see Appendix III); and
- How many animals of each species are there likely to be in the area and time affected by the disturbance, and what percentage of the population might this represent (use the 1% and 5% thresholds mentioned above, and if the number of affected animals is above the relevant threshold then it should be considered a significant group).

Developments should also be timed and located, as far as possible, to avoid periods and areas where ‘significant groups’ of animals of a marine EPS could be present.

2.3. When is an activity likely to significantly affect the ‘local distribution or abundance’ of the species?

The threshold for the second element of the deliberate disturbance offence is that it is likely to significantly affect the ‘local distribution or abundance’ of the species. This section therefore summarises the general advice of JNCC, NE, CCW and SNH on the interpretation of ‘local distribution or abundance’ (for marine EPS), as referred to in Regulation 39.

For a significant effect on the local distribution or abundance of a species to occur, disturbance would need to produce more than a transient effect and result in a deviation from the natural variability in the spatio-temporal distribution of the species and its populations’ abundance within their natural range. This is because deviation from natural variability could result in the loss of a significant proportion of feeding areas, potentially affecting the balance of the animals’ energy budgets. In practice, however, it will be very difficult to separate what constitutes a natural change from a human-induced one when considering marine EPS, particularly cetaceans. Natural range and local distribution and abundance are difficult parameters to define and measure for cetaceans, as they are highly mobile animals and their distribution varies considerably in time and space and is influenced by both natural and anthropogenic factors. In the species-specific section (section 4) a literature-based summary will be provided (to be developed by the end of October 2007). This will include known natural ranges of populations and information relating to individuals' home ranges, together with evidence of high and persistent usage of certain areas and an idea of natural variability for some of the species (where this information is available).
In contrast with terrestrial mammals, where there might not be adjacent alternative sites for the animals to move to (lack of connectivity between habitats), there will usually be adjacent areas for marine EPS to move to that are within the natural range of their populations. It is therefore likely that the cessation of the disturbance might result in the species eventually returning to an area that had been abandoned if that was an established high-usage area. In cases where the animals would not return, it would still be very difficult to prove a link between the disturbance and their disappearance from that area. For example, frequent or prolonged underwater noise from seismic surveys in an area of sea could theoretically result in the permanent abandonment of the area by a species previously abundant in the area (although there is no evidence that this would occur). However, it would still be difficult to show that disturbance within the terms of Regulation 39 had occurred, as the animals of that species could be found more abundant elsewhere within their natural range, or the relocation could be part of a generalised distribution shift for the population. The relocation could, therefore be related to factors other than disturbance (e.g. the harbour porpoise distribution shift in the North Sea; and the decline in the bottlenose dolphin utilisation of the Moray Firth Special Area of Conservation (SAC) due to an expansion of their range along the Scottish east coast, rather than as a result of a decline in the abundance of the population). Nevertheless, to minimise the risk that the local distribution and abundance of a species could be significantly affected, certain factors should be taken into consideration, such as evidence for permanent displacement of a species from an area caused by potential disturbance factors; whether the affected area constitutes a large proportion of an essential habitat; and the context of the impact in terms of other potential disturbances within their natural range. For example, disturbance that displaced a species from a large proportion of its natural range, taking account of any seasonal changes, would be likely to be considered as significant.

2.3.1. Criteria to be considered

To assess whether the local distribution or abundance of a species would be likely to be significantly affected by the disturbance, the following criteria should be considered:

- The distribution and abundance (relative or absolute) of the species and its populations in their natural range in UK and adjacent waters;
- The spatial (10s, 100s, 1000s of km) and temporal (seasonal and between years) variability in the distribution and abundance of a species and its populations;
- Species-specific movements (home range patterns) and their magnitude;
- Evidence of species displacement from the area of impact of an activity (distinguishing temporary from permanent);
- The context in terms of other potential disturbances in the natural range of the species and its populations; and
- The area likely to be impacted by the activity (does it include a large proportion of the feeding habitat used by a population, or a large proportion of a migratory corridor used by a population?).
3. Marine EPS – Species-specific guidance

It should be noted that NE and CCW have published species-specific guidance for otters, and they are not, therefore, covered in this guidance.

3.1. Cetaceans (dolphins, porpoises and whales)

Detecting change beyond natural variability is very difficult for cetacean species. Cetaceans are wide-ranging and difficult to observe, and there is insufficient data linking human activities to cetacean disturbance and to its long-term effects at the species, population or even individual levels. For most species there is also insufficient data on the population genetic structure, or on the demographics and natural variability in behaviours, distribution and abundance. The consequences of disturbance at the population level require the understanding of the causal mechanisms between the several stages of the response to disturbance, and, in most cases, this is little known (National Research Council, 2005). The first stage relates to the activity itself and characterising the factors of disturbance, which can be carried out mostly without difficulty (e.g. the frequency and duration of a sound source). The second stage relates to linking the source of disturbance to short-term changes in, for example, diving behaviour, vocalisation patterns, etc, for which there is some evidence (Miller et al. 2000; Nowacek et al. 2001; Constantine et al. 2004; Stone et al. 2007) The third stage relates to the effects of those short-term changes on life-functions (e.g. survival, migration, feeding), and there the evidence starts to decrease, although there is some on the consequences of persistent short-term behavioural changes on life-functions (Jepson et al. 2003, Bejder et al. 2006, Lusseau et al. 2006). The fourth stage relates to how these can affect population vital rates (i.e. rates of occurrences such as mortality and reproduction that affect changes in the size and composition of a population) and this is unknown.

Cetaceans occur throughout UK waters, some species are more frequently found on the continental shelf or in deep water, while others occur both inshore and offshore. Appendix III lists all cetacean species in Annex IV (to the Habitats Directive) that occur in UK waters. The draft Favourable Conservation Status (2007 reporting round under Article 17) for all species (except those rare and vagrant for which assessment were not made) is included as well as population size estimates where these are available. For cetaceans, the draft FCS assessments (only carried out for species occurring frequently in UK waters) resulted in approximately half of all the species assessed being considered as ‘favourable’, while for the other half the conservation status was assessed as ‘unknown’ (mainly as a result of the fact that either there were no recent population estimates that encompassed a species natural range in UK and adjacent waters, and/or there was no evidence to assess trends in population abundance). Activities that are likely to be relevant to this guidance will have the potential to affect more than one species of cetacean.

Different species have different energy requirements and balance their energy budgets at different scales. Smaller species (dolphins and porpoises) must balance their energy budgets on a scale of days while large baleen whales use a 1-year cycle during which they carry out migrations to high latitudes to feed in the summer and then fast for the rest of the year at lower latitudes, often engaging in breeding behaviours. Disturbance that displaced such a whale from its feeding grounds for a large proportion of the feeding season could therefore have serious consequences on its survival and breeding success. In the UK no such areas have been identified for baleen whales; in fact, areas containing habitats that are essential for a
species’ survival and reproduction (i.e. SACs) have, so far, only been identified for the bottlenose dolphin.

3.1.1 Common species in UK waters
(Sections 3.1.1 and 3.1.2 will be expanded by the end of October 2007)

To contain: background information in relation to the criteria in 2.2.1 and 2.2.2; examples of when there would be a likely risk of significant disturbance; and references to literature.

Bottlenose dolphin
Harbour porpoise
Common dolphin
White-beaked dolphin
White-sided dolphin
Risso’s dolphin
Killer whale
Pilot whale
Sperm whale
Minke whale
Fin whale

3.1.2. Less common species in UK waters

Beaked whales
Other baleen whales
Other toothed whales (inc. dolphins)

3.2. Turtles

It is unlikely that any activity in the UK would cause significant disturbance to turtles. Five species of marine turtle are listed in Schedule 2 of the HR and Schedule 1 of the OMR. The leatherback turtle *Dermochelys coriacea* is the only species considered to be a regular visitor around the British Isles albeit a rare one. UK waters are not currently considered to be part of the normal geographical range of any other turtle species. Therefore the leatherback is the only species that should be considered. Leatherback turtle records make up over 90% of all identified sighting and stranding records (ca. 60 turtles per year); it is the only species that exhibits physiological adaptations to allow it to function in temperate waters, such as those around the UK. Leatherbacks feed exclusively on jellyfish and other gelatinous zooplankton which form ephemeral aggregations in space and time; these turtles do not simply migrate between their tropical nesting site and a single foraging area but consistently cruise the oceans in search of new foraging opportunities exploring also the northern latitude waters which offer a rich jellyfish habitat and thus occasionally enter UK waters. Given the apparent low density of leatherbacks within UK waters, their highly migratory nature and the lack of evidence towards a ‘local’ genetic population, it is highly unlikely that a significant group of animals would be adversely affected or that their local abundance or distribution would be significantly affected.

3.3. Sturgeon *Acipenser sturio*
The European sturgeon migrates along the Atlantic coast of Europe from the Bay of Biscay to the Bristol Channel and the North Sea. However, because of the small size of the population, *A. sturio* is now a rare visitor to Northern European waters. The last known areas for European sturgeon reproduction are in France, in the Garonne and Dordogne rivers.

It is unlikely that any activity in the UK would cause significant disturbance to the sturgeon. Factors that could potentially cause significant disturbance include habitat degradation (particularly spawning grounds and nursery areas) and physical obstacles to migration. Since the sturgeon is not currently known to breed in UK waters, the first factor is highly unlikely to occur in practice, while the second would only come within the scope of Regulation 39 if an activity had the potential to adversely affect a group of animals and was present in a large enough area and over a large enough period of time to expose a considerable proportion of the overall population to the disturbance. Given the size and connectivity of the marine environment compared to terrestrial habitats, and the very low density of *A. sturio* in UK waters, it is very unlikely that a significant group of animals would be adversely affected, or that their local abundance or distribution would be significantly affected.

4. The Activities

In order to assess the risk of committing a disturbance offence, the characteristics of the proposed activity and the associated potential disturbance factors need to be taken into account, in addition to species related information.

4.1. Factors with the potential to cause disturbance of marine EPS

The main factors with the potential to cause disturbance of marine EPS include:
1. sound;
2. changes in water quality, including introduction of contaminants in foodwebs;
3. physical obstruction, including collision;
4. changes in habitat, such as loss of feeding areas (this can be a direct effect of an activity or a secondary effect of noise).

The consequences of any of these factors in terms of the potential to cause ‘significant disturbance’ will greatly depend on the temporal and spatial characteristics of the activity (e.g. prevalence).

The following activities might involve one or more factors of potential disturbance (numbers following the activity correspond to the factors listed above):
- Acoustic deterrent (or harassment) devices (the use of) – 1
- Aggregate extraction – 1,2
- Aircraft noise – 1
- Construction works (e.g. cable and pipe laying) – 1,2
- Decommissioning, including well abandonment – 1
- Dredging – 1,2
- Drilling – 1
- Dumping and discharges (e.g. rock dumping) – 1,2
- Explosive use -1

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*In the UK, it is highly unlikely that any changes in habitat would occur, with the possible exception of SACs, since these areas are considered to contain habitats that are essential for a species’ survival and reproduction.*
• Naval sonar – 1
• Pile driving (e.g. offshore windfarm construction) – 1
• Recreational activities (e.g. jet-skis) – 1,3
• Research on cetaceans – 1,3
• Seismic and other geophysical surveys – 1
• Shipping or vessel movements – 1,3
• Wet renewables (e.g. tidal stream) – 1,3
• Whale-watching (both commercial and recreational) – 1,3

Note that if disturbance occurs during actions that were for the purpose, and in the course of, ‘sea fishing’, the defendant shall not be taken deliberately to have caused ‘significant disturbance’ where he did not intend that disturbance to occur and had taken reasonable steps to comply with requirements of relevant Community instruments (HR Regulations 39(14) to (16), OMR Regulations 39(9) to (11)).

A review will be carried out of the published evidence, or the lack of evidence, of disturbance to cetaceans. A distinction will be made between short-term behavioural responses, biologically significant effects and population effects, and the review is scheduled for completion by the end of October 2007.

4.2. Characteristics of the activity in relation to factors with the potential to cause disturbance

In order to assess the likelihood that an activity may adversely affect a significant group of animals or the likelihood that it may significantly affect the local distribution and abundance of a marine EPS, the following criteria should be considered, in addition to the species-related criteria:

- Factors with the potential to cause disturbance (e.g. sound, obstruction, etc – see above) and likely impacts during all stages of the activity;
- Scale of the activity, i.e. intensity (e.g. sound) and extent (e.g. how large is the area potentially affected);
- Prevalence of potential disturbance factors, i.e. duration and frequency of the activity;
- Timing of the activity in relation to species-specific temporal patterns of abundance (e.g. seasonal / tidal changes) in the potential area of impact (see 3.2.1.);
- Interaction with other ongoing, potentially disturbing, activities that could affect the species/populations in their natural range;
- The local context, i.e. comparison with the degree of disturbance already present in the area from existing ongoing human activity; and
- Mitigation measures to be put in place and their potential to reduce the risk of disturbance.

4.3. Best-practice guidelines

The JNCC Guidelines for minimising acoustic disturbance to marine mammals from seismic surveys (http://www.jncc.gov.uk/page-1534#1785) are now widely used by the oil and gas industry. Other best-practice guidelines exist, for example, for wildlife watching, Scottish Marine Wildlife Watching Code (http://www.marinecode.org/), Dolphin Space Programme (http://www.dolphinspace.org/), WiSE scheme (http://www.wisescheme.org/), and for offshore windfarm development (http://www.defra.gov.uk/wildlife-
The deliberate disturbance of marine European Protected Species – Interim Guidance
countryside/ewd/windfarms/windfarmguidance.pdf). The final guidance to be produced on the disturbance offence will include guidelines for all activities with the potential to cause disturbance, in order to inform those involved of possible mitigation measures and means of lowering the risk of committing an offence, hence protecting the species.

The adoption of those guidelines will minimise the risk of committing an offence (see Appendix I). If, despite all precautions, ‘significant’ disturbance does unexpectedly occur then the preventative and precautionary actions that have been taken will be relevant to the question of whether the action was ‘deliberate’. However, it must be recognised that, in some cases, the risk to protected species may mean that the activity cannot be undertaken. Those considering activities that may disturb EPS may wish to seek their own legal advice.
5. References


6. Appendices

Appendix I - Context to the disturbance offence

The offence of intentionally disturbing wild animals was first introduced in the UK in section 9 of the Wildlife and Countryside Act 1981 (‘WCA’), and applied to the species listed on Schedule 5 to the Act within territorial waters, i.e. <12nm. Section 9 of the WCA was subsequently amended by the Countryside and Rights of Way Act 2000 (CRoW) to include both intentional and reckless disturbance. Under the Act, disturbance is generally only an offence if the disturbed animal is occupying a structure or place which it uses for shelter or protection. However, this limitation does not apply to whales and dolphins (or basking sharks). In addition, disturbance is not defined or qualified in any way, so it does not imply ‘significant’ effects and covers the disturbance of individuals in all cases.

In 1994, a similar but slightly wider offence was introduced by the HR transposing Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) in England and Wales, and in Scotland. The HR prohibited deliberate disturbance of a European Protected Species (EPS, - a species in Annex IV to the Habitats Directive whose natural range includes any area in Great Britain) wherever it occurred with the 12nm limit. Marine EPS include all species of cetaceans, all species of marine turtles, the sturgeon (Acipenser sturio) and the otter (Lutra lutra). All of these species are also protected under the WCA (‘Schedule 5 species’) as amended by CRoW.

The existence of two separate and different disturbance offences in the WCA and the HR/OMR presents a challenge in terms of interpretation and application. Neither regime can be dismissed as they both operate in rather different ways. The offence in the WCA (<12nm) applies to individual animals, but only in places of shelter or protection (except whales, dolphins and basking sharks), and is subject to an “incidental disturbance defence” in the marine environment where the disturbance was an incidental result of a lawful operation and could not reasonably have been avoided. The offence in the HR (<12nm) and the OMR (>12nm) only applies to disturbance which has significant effects (‘significant disturbance’), and would seem unlikely to apply to individuals in practice (see section 1.3 on the definition and interpretation of significant group of animals), and it is not subject to an “incidental disturbance defence”.

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Appendix II - Application process

(Onus on developer to present an independent assessment of the likelihood of committing a disturbance offence, using the JNCC guidance for assessing the risk and considering the use of any mitigation measures; onus on the developer to consider applying for a wildlife licence)

(Proposal and risk assessment to be considered by licensing agencies with advice from nature conservation agencies)

*‘significantly disturb’ – means disturb in such a way as to constitute an offence under Regulation 39 of the Regulations, i.e. “disturb in such a way as to be likely to significantly affect that ability of any significant group of animals of that species to survive, breed or rear or nurture their young, or likely significantly to affect the local distribution or abundance of that species.”*
Appendix III - Definition of the ‘Favourable Conservation Status’

in Article 1(i) of the Habitats Directive:
"conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory referred to in Article 2. The conservation status will be taken as 'favourable' when:
- population* dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis."

* ‘Population’ is defined here as a group of individuals of the same species living in a geographic area at the same time that are (potentially) interbreeding (i.e. sharing a common gene pool).
## Appendix IV - Common cetacean species in Annex IV occurring in UK and adjacent waters
- Draft Favourable Conservation Status assessment and best available population estimate (see [http://www.jncc.gov.uk/page-4063](http://www.jncc.gov.uk/page-4063))

<table>
<thead>
<tr>
<th>Latin name</th>
<th>Common name</th>
<th>FCS assessment</th>
<th>Population estimates (UK and adjacent waters)</th>
<th>Other relevant population estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Balaenoptera acutorostrata</em></td>
<td>Minke whale</td>
<td>Favourable</td>
<td>16,395 (UK and adjacent waters – shelf only)</td>
<td>c.80,000 - Northeast Atlantic stock (IWC 2004)</td>
</tr>
<tr>
<td><em>Balaenoptera physalus</em></td>
<td>Fin whale</td>
<td>Favourable</td>
<td>30,000 (eastern and central North Atlantic)</td>
<td></td>
</tr>
<tr>
<td><em>Delphinus delphis</em></td>
<td>Common dolphin</td>
<td>Unknown</td>
<td>Unknown (100,000s)</td>
<td></td>
</tr>
<tr>
<td>* Globicephala melas*</td>
<td>Long-finned pilot whale</td>
<td>Unknown</td>
<td>Unknown (10,000s)</td>
<td></td>
</tr>
<tr>
<td><em>Grampus griseus</em></td>
<td>Risso’s dolphin</td>
<td>Unknown</td>
<td>Unknown (100s, 1,000s)</td>
<td></td>
</tr>
<tr>
<td><em>Lagenorhynchus acutus</em></td>
<td>White-sided dolphin</td>
<td>Unknown</td>
<td>Unknown (10,000s)</td>
<td></td>
</tr>
<tr>
<td><em>Lagenorhynchus albirostris</em></td>
<td>White-beaked dolphin</td>
<td>Favourable</td>
<td>22,400 (UK and adjacent waters – shelf only)</td>
<td></td>
</tr>
<tr>
<td><em>Orcinus orca</em></td>
<td>Killer whale</td>
<td>Unknown</td>
<td>Unknown (1,000s)</td>
<td></td>
</tr>
<tr>
<td><em>Phocoena phocoena</em></td>
<td>Harbour porpoise</td>
<td>Favourable</td>
<td>328,200 (UK and adjacent waters – shelf only)</td>
<td>Moray Firth - 129 [95% CI = 110-174]; Cardigan Bay - 213 [95% CI = 183-279]</td>
</tr>
<tr>
<td><em>Physeter macrocephalus</em></td>
<td>Sperm whale</td>
<td>Unknown</td>
<td>Unknown (1,000s)</td>
<td></td>
</tr>
<tr>
<td><em>Tursiops truncatus</em></td>
<td>Bottlenose dolphin</td>
<td>Favourable</td>
<td>8,000 (UK and adjacent waters – shelf only)</td>
<td>(some evidence of regional population structure)</td>
</tr>
</tbody>
</table>
Appendix V - List of abbreviations

CCW – Countryside Council for Wales
CRoW - Countryside and Rights of Way Act 2000
EIA - Environmental Impact Assessment
EPS – European Protected Species
FCS – Favourable Conservation Status
HR – Habitats Regulations
JNCC – Joint Nature Conservation Committee
NE – Natural England
OMR – Offshore Marine Regulations
SAC - Special Areas of Conservation
SNH Scottish Natural Heritage
WCA – Wildlife and Countryside Act