

# Marine Scotland

The protection of Marine European Protected Species  
from injury and disturbance

Guidance for Scottish Inshore Waters



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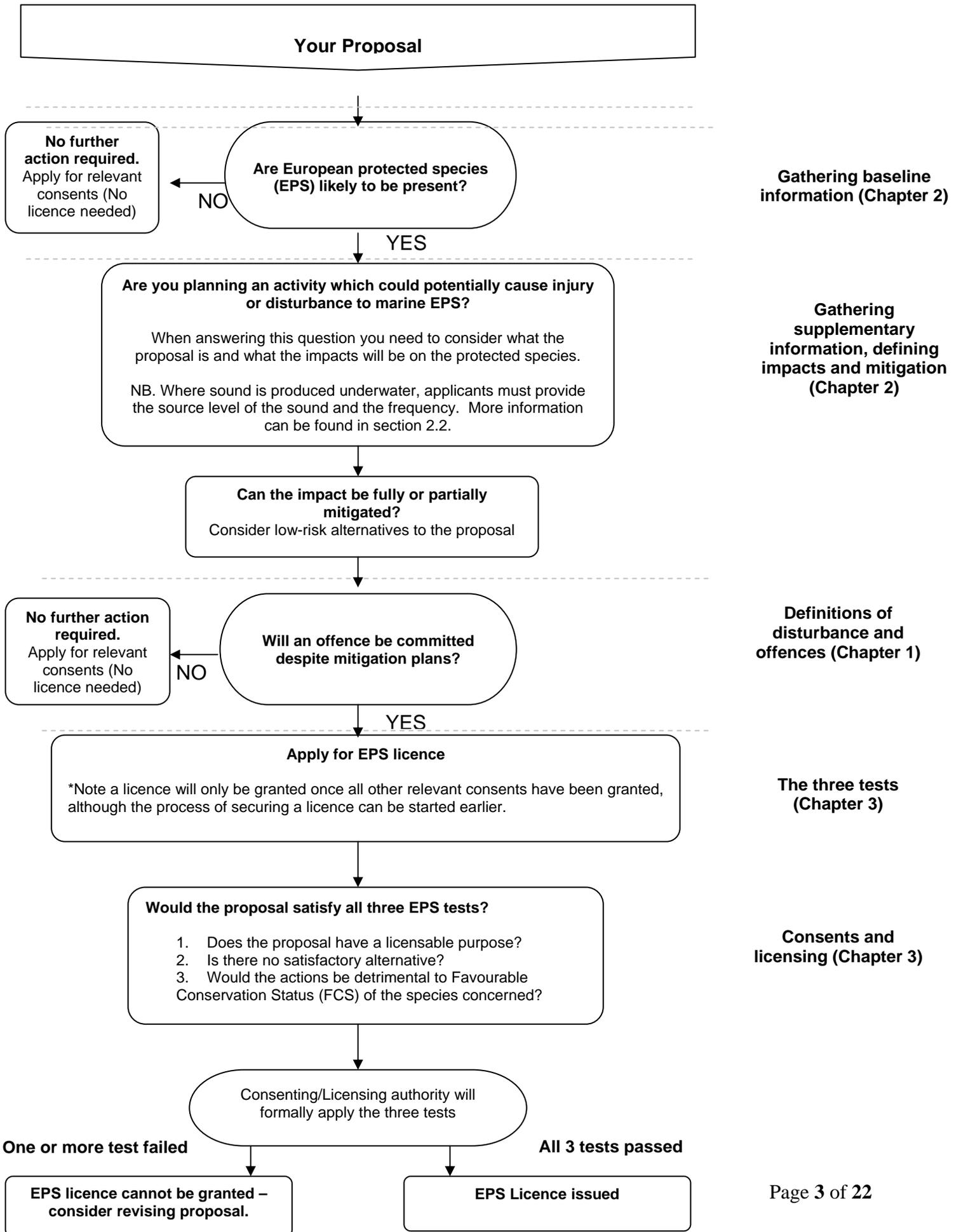
This document has been prepared by Scottish Government in partnership with  
Scottish Natural Heritage

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**Flowchart showing the decision-making process**  
Please refer to the relevant chapter of the guidance



## Introduction

Scottish inshore waters are internationally important for many cetaceans with at least 23 species of whales, dolphins and porpoise occurring in this area. Some activities in the marine environment may kill, injure or disturb cetaceans, which are European Protected Species (EPS); therefore this guidance has been created to help avoid or minimise this risk.

### Purpose of this guidance

This guidance provides advice for marine users who are planning to carry out an activity in the marine environment which has the potential to deliberately or recklessly kill, injure or disturb a marine EPS. The guidance can also be used by regulators, nature conservation agencies, enforcement authorities and competent authorities when considering whether an activity will cause or has caused death, injury or disturbance to a marine EPS. It has been prepared by Scottish Government (SG) in partnership with Scottish Natural Heritage (SNH).

In particular, this guidance is intended to help the reader assess:

- a) the likelihood of an offence being committed (as an incidental result of a lawful activity);
- b) if this can be avoided or minimised; and
- c) where this cannot be avoided or minimised, whether the activity could go ahead under licence.

#### What are European Protected Species?

These are species which are listed in Annex IV(a) of the Habitats Directive whose natural range includes any area in Scottish inshore waters. They include all species of cetaceans (whales, dolphins and porpoises), marine turtles and the Atlantic sturgeon.

In addition, the guidance includes advice on, and examples of, the interpretation of *disturbance*, and what is meant by *deliberate* and *reckless* actions as cited in The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) (hereafter 'the Habitats Regulations') and how to assess the likelihood of disturbance and injury.

Disturbance and injury have the potential to occur as a result of consented activities in the marine environment. However, the effective adoption of good practice guidelines (for example, see the [JNCC website regarding advice to offshore industry on seismic survey, piling and explosives use](#)) and, where necessary and possible, of alternatives and/or mitigation measures as agreed with the Marine Scotland Licensing Operations Team (MS-LOT), should in many cases reduce that risk of disturbance or injury occurring.

This guidance reflects a precautionary approach given the uncertainties surrounding the issue of disturbance and marine EPS. We will review it regularly to take account of:

- continued and improved surveillance and monitoring methods and protocols;
- a better understanding of the impacts of activities on marine EPS;
- an increased knowledge of the ecology of marine EPS in Scottish waters;
- any future legislative changes; and
- new industries and technologies.

We will also consider feedback from users on the usefulness and applicability of the guidance.

### Why do we require guidance for Scottish inshore waters?

In Scottish inshore waters (within 12 nm of the coast), offences relating to the protection of marine EPS are provided for under the Habitats Regulations (please refer to Box 1) which prohibits the *deliberate* and *reckless* capture, injury, killing and disturbance of marine EPS. The guidance in this document relates to these regulations.

Regulation 39 (1) (a) of the aforementioned regulations sets out offences that relate to a number of specific circumstances in which EPS are injured/disturbed and include an offence of harassment of EPS. Furthermore, due to the differing strategies of cetaceans and the small amount we know about them, Regulation 39 (2) gives them additional protection from disturbance by providing that it is an offence to *'deliberately or recklessly disturb any dolphin, porpoise or whale (cetacean).'* This offence only applies in Scottish waters. (See Box 1 in Section 1).

For information on the protection of marine EPS in English and Welsh waters and the UK offshore area, please contact the relevant nature conservation agency or administration.

### **Species focus**

The focus of this guidance is mainly on cetacean species since these are the most common marine EPS occurring in Scottish waters. As such, from this point forward the guidance will refer only to cetaceans (with the exception of the legislation section). Nevertheless, the guidance can also apply to other marine EPS such as some species of marine turtles and the Atlantic sturgeon.

### **Limitations of the guidance**

The guidance in this document is not a legal interpretation, but provides a view from the Scottish Government on, amongst other matters, the legislative context of the subject matter. It is for the Courts to interpret and to apply the law. We have made every effort to ensure the accuracy of the information contained in this document as at the time of publication. You should check for any changes in the law and for fuller details you should refer to the current legislation. You are advised to obtain independent legal advice in relation to your rights and responsibilities under the Habitat Regulations and other legislation.

### **Contact**

If you any queries regarding the guidance please direct them to:

Marine Planning & Policy Division  
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Victoria Quay  
Edinburgh  
EH6 6QQ

Email: [Marine Environment Team@scotland.gsi.gov.uk](mailto:Marine_Environment_Team@scotland.gsi.gov.uk)  
Telephone: 0131 244 0727

# 1. The Legislative Context

## 1.1. The Habitats Regulations in relation to marine EPS in Scotland

The Habitats Regulations 1994 implement certain requirements of the European Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna) in Great Britain. Animals listed in Annex IV(a) of the Habitats Directive, whose natural range includes any area in Great Britain, are also listed in Schedule 2 of the Habitats Regulations as European protected species (EPS) of animals. They are species of European Community interest in need of strict protection (refer to the introduction for the definition of marine EPS).

### Box 1 – Legislation in Scottish inshore waters

The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)

**Regulation 39 (1)** makes it an offence —

*(a) deliberately or recklessly to capture, injure, or kill a wild animal of a European protected species;*

*(b) deliberately or recklessly –*

*(i) to harass a wild animal or group of wild animals of a European protected species;*

*(ii) to disturb such an animal while it is occupying a structure or place which it uses for shelter or protection;*

*(iii) to disturb such an animal while it is rearing or otherwise caring for its young;*

*(iv) to obstruct access to a breeding site or resting place of such an animal, or otherwise to deny the animal use of the breeding site or resting place;*

*(v) to disturb such an animal in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species to which it belongs;*

*(vi) to disturb such an animal in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young; or*

*(vii) to disturb such an animal while it is migrating or hibernating.*

Due to the differing lifestyles of cetaceans and the small amount we know about them, the law gives them further protection through an additional disturbance offence.

**Regulation 39(2)** provides that it is an offence to –

*deliberately or recklessly disturb any dolphin, porpoise or whale (cetacean).*

Considerations to exempt from the requirement of these species protection provisions are available in certain specified circumstances, provided that:

- there is a licensable purpose;
- there are no satisfactory alternatives;
- the actions authorised will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in their natural range.

**An application for a licence will fail unless all of the three tests are satisfied.**

Section 3 of this guidance provides more detailed information on the licensing process.

For more information on the above regulations please refer to the Scottish Government Guidance at <http://www.scotland.gov.uk/Resource/Doc/1221/0050637.pdf> and the Scottish Natural Heritage website: [www.snh.gov.uk/protecting-scotlands-nature/protected-species/legal-framework/habitats-directive/euro/](http://www.snh.gov.uk/protecting-scotlands-nature/protected-species/legal-framework/habitats-directive/euro/).

## 1.2 Definitions and rationale for interpretation of the deliberate and reckless disturbance offences

The definitions shown below for the terms ‘deliberate,’ ‘reckless’ and ‘disturbance’ are the views of the Scottish Government as to what might constitute an offence in a range of situations for a range of species. The guidance does not constitute legal advice. If you require an interpretation of the law you should seek your own legal advice. This guidance may help the relevant authorities and the courts when deciding on appropriate enforcement action.

### 1.2.1 What constitutes disturbance?

Article 12(1)(b) of the Habitats Directive provides:

*(i) ‘Member States shall take the requisite measures to establish a system of strict protection for the animal species listed in Annex IV(a) in their natural range, prohibiting:’ among other things, the (b) ‘deliberate disturbance of these species, particularly during the period of breeding, rearing, hibernation and migration.’*

‘Disturbance’ for the purpose of Article 12(1)(b) of the Habitats Directive covers a wide range of impacts. What activities could cause ‘disturbance’ for the purpose of Article 12(1)(b) depends on the nature of the particular activity and the impact on the particular species. ‘Disturbance’ is not defined in the Habitats Regulations, however, when considering what constitutes disturbance for the purpose of Article 12(1)(b), the following matters should be taken into account.

‘Disturbance’ in Article 12(1)(b) should be interpreted in light of the purpose of the Habitats Directive to which this Article contributes. In particular, Article 2(2) of the Directive provides that measures taken pursuant to the Habitats Directive must be designed to maintain or restore protected species at favourable conservation status<sup>i</sup>.

The following considerations also govern the approach to Article 12(1)(b)<sup>ii</sup>:

- a. Article 12(1)(b) affords protection specifically to species and not to habitats;
- b. The prohibition relates to the protection of ‘species’ not ‘specimens of species.’
- c. Although the word ‘significant’ is omitted from Article 12(1)(b) in relation to the nature of the disturbance, that cannot preclude an assessment of the nature and extent of the negative impact and ultimately a judgement as to whether there is sufficient evidence to constitute a ‘disturbance’ of the species
- d. It is implicit that activity during the period of breeding, rearing, hibernation and migration is more likely to have a sufficient negative impact on the species to constitute prohibited ‘disturbance’ than activity at other times of the year.

Article 12(1)(b) is transposed into domestic legislation by Regulations 39(1) and (2) of the Habitats Regulations 1994. Therefore, when considering what constitutes ‘disturbance’, thought should be

<sup>i</sup> See Box 7

<sup>ii</sup> As laid out in *Morge (FC) v Hampshire County Council (Respondent) UKSC, para 19*.

given to Regulation 39(1)(b) which provides a number of specific circumstances in which EPS can be disturbed and which can potentially have an impact on the status of the species (see Box 1).

This list is not exhaustive, and disturbance that could be considered an offence may occur in other circumstances and therefore be covered under Regulation 39(2) of the Habitats Regulations which states that it is an offence to '*deliberately or recklessly disturb any dolphin, porpoise or whale (cetacean)*'.

Due to the complexities of interactions between activities, species and local circumstances, it is impractical for this guidance to consider every permutation and state where an offence is or is not likely to occur. It is for the Courts to assess whether an offence has been committed as a result of an activity. However, by examining the intentions behind the Habitats Directive and other sources of information on disturbance (for example, the European Commission '[Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC](#)' and the '[Scottish Marine Wildlife Watching Code](#)') it is possible to find examples of what types of disturbance might be more likely to constitute an offence under the Habitats Regulations.

### 1.2.2 Species-by-species approach

When determining what constitutes disturbance, the Commission Guidance emphasises the importance of a species-by-species approach. It provides that '*different species will have different sensitivities or reactions to the same type of disturbance which has to be taken into account in any meaningful protection system. Factors causing disturbance for one species might not create disturbance for another. Also, the sensitivity of a single species might be different depending on the season or on certain periods in its lifecycle<sup>iii</sup>.*'

The Habitats Directive specifies the periods of rearing, breeding, hibernation and migration as being particularly sensitive periods in the context of disturbance. The Commission Guidance recognises that:

- Species are very different ecologically, biologically and behaviourally so a species-by-species approach is needed to determine in detail the meaning of disturbance.
- '*The intensity, duration and frequency of repetition of disturbances are important parameters when assessing impact on a species<sup>iv</sup>.* Many forms of disturbance will have very little detectable impact on marine wildlife; however, several factors can transform what appears to be minor into significant disturbance<sup>v</sup>.
- A case-by-case approach means that there is a need to reflect carefully on the level of disturbance to be considered harmful, taking into account the specific characteristics of the species concerned and the situation.

As part of the species-by-species approach, consideration should be given to the rarity and favourable conservation status of the species in question and the impact of the disturbance on the local population of a species. For example, disturbance of species that are declining in number is likely to be more harmful than disturbance of species that are increasing in number. The Commission Guidance on the strict protection of animal species states that '*in order to assess disturbance, consideration must be given to its effect on the conservation status of the species at population level and biogeographic level in a Member State. An activity which does not have an effect on the conservation status of the species, however, could still constitute disturbance<sup>vi</sup>.*

Following is an interpretation on the meaning of 'disturbance' as defined in the [Scottish Marine Wildlife Watching Code \(SMWWC\)](#) (refer to Box 2), as well as guidance on deliberate or reckless disturbance in particular circumstances.

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<sup>iii</sup> II.3.2.a) para 37 of the Commission Guidance

<sup>iv</sup> II.3.2.a) para 37 of the Commission Guidance

<sup>v</sup> Excerpt from the Scottish Marine Wildlife Watching Code

<sup>vi</sup> See *Morge (FC) (Appellant) v Hampshire County Council (Respondent)* [2011] UKSC, para 21.

## Box 2 - Scottish Marine Wildlife Watching Code

Launched in 2006 as a requirement of the Nature Conservation (Scotland) Act 2004, the Scottish Marine Wildlife Watching Code is primarily concerned with minimising disturbance. Although primarily aimed at the wildlife watching industry, the definition of disturbance within the Code is relevant for other activities as well. Within the scope of the Code, disturbance has been defined as ***'The result of direct or indirect interaction with people that changes the behaviour of any animal or changes the environment, which in turn affects the well-being or survival of an animal in the short, medium or long-term.'***

This might include for example:

- Direct injury (collisions, propeller damage).
- Changes in distribution.
- Excessive use of energy and eventually loss of condition caused by continual or repeated avoidance or flight.
- Disruptions of communication, migration, breathing, breeding, nursing, feeding or resting.
- Increased vulnerability of an individual or population to predators or physical stress.
- Damage to habitat.

It is important to note that many forms of disturbance will have little detectable impact on marine wildlife. However, several factors can transform what appears to be minor into significant disturbance:

- Repeated disturbance.
- Disturbance associated with a large number of activities.
- Disturbance at sensitive times or in sensitive places.

### 1.2.3 What does Regulation 39(2) mean in practice?

Regulation 39(2) of the Habitats Regulations provides further protection to cetaceans through an additional catch-all disturbance offence which states that *'subject to the provisions of [Part III of the Regulations, it is an offence to deliberately or recklessly disturb any dolphin, porpoise or whale (cetacean)'*. The purpose of this regulation is to provide cetaceans with protection at all times regardless of the circumstances of the mammal at the time of the disturbance in question and, thus, it goes beyond the specific disturbance circumstances set out in Regulation 39(1)(b).

It is important to note, however, that in order to commit an offence under regulation 39, the impact on the species must be certain or real. The activity concerned must have a "negative or adverse" impact on the conservation status of the species. In all cases it is always for the prosecutor to assess whether the disturbance in question is such that criminal proceedings ought to be raised.

### 1.2.4 What is a significant effect on local distribution or abundance of a species?

Regulation 39(1)(b)(v) specifies disturbance which is likely *'to significantly affect the local distribution or abundance of the species to which it belongs.'* The Commission Guidance suggests that, 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. Although the effect of the disturbance does not need to be permanent, it would need to have a significant effect at the time to fall within Regulation 39(1)(b)(v) of the Habitats Regulations.

In the offshore marine environment, there will usually be adjacent areas for marine EPS to move to that are within the natural range of their populations, and hence compensate for the loss of, or

displacement from, a particular area of habitat<sup>vii</sup>. This cannot be assumed to be the case for inshore waters where the coastline could act as a physical barrier to other areas. Nor can it be assumed that displaced animals will fare as well in some other part of their range, since adjacent areas might be already populated, potentially resulting in increased competition, or might be of lower habitat quality. This would occur, for example, if a number of animals became displaced from an area used frequently, for a period longer than they would normally be absent. ***The significance of the duration of the potential displacement would have to be assessed on a case-by-case basis, depending on the spatio-temporal patterns of the species occurrence in the area affected.***

### **1.2.5 What constitutes *deliberate* disturbance?**

Article 12(1)(b) of the Habitats Directive has been considered by the European Court of Justice. The Commission Guidance (paragraph 33) therefore proposes the following definition:

*‘Deliberate’ actions are to be understood as actions by a person who knows, in 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. It goes without saying that negligence is not included in the meaning of ‘deliberate’.*

Put more simply, a deliberate disturbance is an intentional act knowing that it will or may have a particular consequence, namely disturbance of the relevant protected species. So, anyone carrying out certain activities which they consider likely to cause disturbance of cetaceans could very well be committing an offence under the Habitats Regulations.

### **1.2.6 What constitutes *reckless* disturbance?**

There is considerable case law on what constitutes ‘recklessness’ and ultimately only a court can definitively decide whether a particular action was reckless. Recklessness would appear to arise:

- if a person was aware of the likelihood that disturbance would result from his actions, but proceeded with the action with gross indifference as to its consequences; or
- if a person undertook an action in circumstances where any reasonable person could be expected to have foreseen the potential for disturbance but proceeded without regard to the consequences.

**The definitions of ‘deliberate’ and ‘reckless’ outlined here apply equally to the offences of deliberate and reckless injury and deliberate and reckless killing of EPS.**

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<sup>vii</sup> It should be noted that the movement of populations over a considerable distance would result in excessive use of energy and/or physical stress.

## 2. Cetacean risk assessment approach – a staged process

This chapter provides guidance on how to assess and manage the risk of causing injury or disturbance to cetaceans as a result of activities at sea or on the coast. This guidance acknowledges that the information available to undertake a risk assessment for the offences in the Habitat Regulations may be insufficient in many cases and that it may be difficult to ascertain whether or not a causal link exists between your activity and potential offences. This might be due to difficulties in:

- identifying particular injuries/cause of death;
- observing and interpreting cetacean behaviour;
- relating disturbance to effects on vital rates (e.g. reproductive rates);
- accounting for the combination of anthropogenic pressures on populations (i.e. cumulative effects); and
- distinguishing effects from inherent natural variability.

For example, a displacement of a large number of animals could be part of a generalised species/population distribution shift that could be caused by factors other than disturbance. Marine users should focus on the assessment and management of potential risk by considering practicable and proportionate alternative methods or locations to the activity, applying mitigation and following good practice guidelines.

The flow-chart (at the beginning of this document) summarises the decision-making process and illustrates a sequential series of steps that should be followed to determine whether an offence will be committed under Regulations 39(1) or (2) of the Habitat Regulations. The following sections provide additional, more detailed, information on each step in the assessment process. The onus is on persons responsible for activities to make sure they undertake the required steps and if necessary, seek relevant approvals before they start their activity.

It should be noted that a case-by-case approach is needed when assessing the likely impact of an activity on EPS. This is because the specific characteristics of both the *activity* and the *species* (and populations) potentially affected will be relevant to whether an offence could be committed.

### 2.1 Stage 1 – Gathering baseline information

#### 2.1.1 Are cetaceans likely to be present and how do they use the area?

Before you start your activity you need to determine how EPS are using the area. This information will help you to assess the potential impacts of your proposal. Collate the following baseline information, where available:

- Occurrence of cetaceans in the area – What cetaceans occur in your area? What is the frequency of occurrence?
- Distribution of cetaceans in the area – What is their spatial and temporal distribution (e.g. are there any seasonal patterns in their usage of the area)?
- Behaviour of the species present in the area – What are they using the area for (e.g. breeding, feeding, moving through to other areas)?

It is likely that areas of greater cetacean abundance and known foraging activity will require careful consideration by the developer.

It is suggested that marine users start the review of the baseline using existing information on cetaceans. A good starting point is the JNCC **Atlas of cetacean distribution in north-west European waters** (<http://www.jncc.gov.uk/page-2713>) which provides maps of species occurrence at a coarse scale and some details on the spatial-temporal distribution and relative abundance of the most common cetacean species.

Other sources of information on EPS distribution include:

- Small Cetaceans in the European Atlantic and North Sea (SCANS-II) (<http://biology.st-andrews.ac.uk/scans2/>)
- Cetacean Offshore Distribution and Abundance in the European Atlantic (<http://biology.st-andrews.ac.uk/coda/>)
- Marine Spatial Plans and Regional Local Guidance may have information on cetacean populations in specific areas <http://www.scotland.gov.uk/Resource/Doc/295194/0096885.pdf>
- Scottish Government <http://www.scotland.gov.uk/Topics/marine/marineenergy>
- Department of Energy and Climate Change (DECC) Strategic Environmental Assessment <http://www.offshore-sea.org.uk/site/>,
- Seawatch Foundation ([www.seawatchfoundation.org.uk](http://www.seawatchfoundation.org.uk))
- Whale & Dolphin Conservation (<http://www.wdcs.org>)
- Hebridean Whale and Dolphin Trust (<http://www.whaledolphintrust.co.uk>)
- Cetacean Research and Rescue Unit (<http://www.crru.org.uk>)
- Cetacean chapter of the *Mammals of the British Isles* (2008)<sup>viii</sup>
- Local Record Centres ([www.brisc.org.uk/Sources.php](http://www.brisc.org.uk/Sources.php)) for additional records of marine EPS presence.

In addition, Marine Scotland Science and SNH may be able to give more site specific information on the likelihood of cetacean presence.

A lack of data and/or literature on cetaceans in an area does not mean an absence of cetaceans, but is probably due to a lack of survey effort in the area. Many proposals will require additional data to be acquired, for example to fill gaps in knowledge or to provide information at a more appropriate scale. This requirement will ultimately depend on the scale, nature and duration of the proposal.

### 2.1.2 Gathering supplementary information

Where there is insufficient information from existing data sources on EPS, the collection of additional data may be required to aid the assessment and mitigation process. The requirement for any survey work will depend on the activity proposed (e.g. size, extent, duration, potential impacts) and the information already gathered through the baseline data collection. A lack of data is not necessarily sufficient justification for concluding that there will not be the potential for death, injury or disturbance.

The need for additional data and/or survey effort should be discussed with Marine Scotland. SNH may also advise on methods and overall data collection strategies, but any queries should go through the normal consent procedures route. A draft SNH commissioned report entitled '[Guidance on survey and monitoring in relation to marine renewables deployments in Scotland](#)' is available on the SNH website and may help with gathering any supplementary information. Although this is aimed at the marine renewables industry, the guidance is also relevant and useful for other marine industries.

## 2.2 Stage 2 – Defining impacts and mitigation measures

Once you have established that cetaceans are present in the area of the proposed activity, you should consider whether your activity could potentially result in injury or disturbance. This can be a difficult process, but with sufficient information on cetacean presence/movement and the activity itself, potential impacts can be identified.

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<sup>viii</sup> Evans, P. G. H. 2008 Cetacea. In *Marine Mammals of the British Isles*

Two main factors have the potential to cause death or injury to an animal, resulting in an offence:

- physical contact; and
- anthropogenic sound (noise)

It is important to note that, in most cases, mitigation measures are effective in the prevention of injury or death to cetaceans.

While the likelihood of injury can be relatively easy to determine, disturbance is not so straightforward and will be based on a number of factors including:

- The spatial and temporal distribution of the animal in relation to the activity.
- Any behaviour learned from prior experience with the activity
- Similarity of the activity to biologically important signals (particularly important in relation to activities creating sound).
- The motivation for the animal to remain within the areas (e.g., food availability)

Box 3 provides information on some examples of disturbance and what it may mean to EPS.

Since noise can potentially cause disturbance to cetaceans, marine users should be aware that where their activity introduces sound to the marine environment, Marine Scotland (Licensing Operations Team) will require detailed information on the source level of the sound and its frequency. Furthermore, it is likely that noise propagation modelling will be required to determine the range at which disturbance might occur therefore marine users should discuss their proposals with Marine Scotland (Licensing Operations Team). Further information can be found in Box 6.

### 2.2.1 Assessing the likelihood of potential impacts on cetaceans

The information collected through the desk study and dedicated surveys, where required, should provide a basis for determining whether there is potential for disturbance/injury to cetaceans from the proposed activity. The following factors should be considered:

- The type of activity
- Duration and frequency of the activity
- Extent of the activity
- Timing and location of the activity
- Other known activities in the area at the time.

With the provision of the above information relating to the activity in question, consideration should be given to the potential impacts associated with the activity:

- **Type of impact** - Will the proposed activity result in the killing or injury of individuals; disturbance of a species; or changes in distribution or abundance?
- **Magnitude of impacts** – The number of individuals of a species which could potentially be affected by the activity, and to what extent will they be affected? How will distribution change?
- **Duration and frequency of the impact** – Will the effects be permanent or temporary, and if the latter, for how long will they last?
- **Spatial extent and intensity of impact** – How big and/or how loud?
- **Timing of impact** – Is it likely to occur when greater numbers of species are present or when young, more vulnerable animals are present? Can it be changed to reflect changes in distribution?
- **Location of impact** – Will it block a channel or create a barrier to regular movement? Will it drive animals towards a coastline (i.e. entrapment)?

- **Temporal changes of impact** – Will impacts change over time, e.g. impacts during different phases of construction of a development and those following completion. What will the long-term impacts be?
- **Cumulative impacts** – Are there any other known activities taking place in the vicinity of the proposed activity either spatially or temporally? The effects of a single activity may not be sufficient to cause injury or disturbance under the regulations but in combination with other activities in the area, the effects of the activity could reach levels that have the potential to negatively affect cetaceans.
- **Is mitigation possible?** – For example, different development scales or designs and different installation methods, placing the activity in an alternative area, and spatial-temporal restrictions.

### **Box 3. Disturbance of cetaceans**

#### **How do I know if disturbance of cetaceans occurs?**

Although wide scale displacement or abandonment of an area can be relatively easy to detect, other forms of disturbance can be difficult to determine, particularly if animals appear to do nothing or are even attracted to the source of impact. For example, if prey sources are unusually abundant, many cetaceans will tolerate a greater level of noise in order to forage in a particular area (e.g. a harbour entrance). This does not mean that they will tolerate additional pressures or that they are not 'unharmful' by that particular impact. In addition, many studies have shown that cetaceans, like humans, are very individual in their behaviour – thresholds for one individual may not be the same for the rest of the species and signs of disturbance can vary. Some examples of the consequences of disturbance are:

- Changes in (direction or speed of) swimming or diving behaviour
- Bunching together or females shielding calves
- Changes in breathing patterns
- Changes in vocalisation
- Aggression, agitation or panic behaviour
- Certain surface behaviours such as tail slashes and trumpet blows
- Moving out of an area previously occupied

The Scottish Marine Wildlife Watching Code (SMWWC) provides additional information on signs of disturbance exhibited by cetaceans, and particularly sensitive times of year.

#### **What disturbance to a cetacean may mean**

Changes in behaviour like those described above may not appear to be detrimental in the short-term. The long-term consequences, however, are not yet well understood, but could be significant. Additionally, the effects may be minor in isolation, but may become significant in accumulation. The following are some of the potential problems that may be caused by disturbance:

- Displacement from important feeding areas.
- Disruption of feeding.
- Disruption of communication, migration, breeding, nursing, feeding, resting and other social behaviours.
- Abandonment of preferred breeding or calving sites.
- Changes to regular migratory pathways to avoid areas of human interaction.
- Increased vulnerability of an individual or population to predators or physical stress.
- Increased risk of injury or mortality.
- Excessive use of energy leading to loss of condition (caused by continual or repeated avoidance or flight).

## 2.2.2 Activities in Scottish inshore waters that may cause death, injury or disturbance to cetaceans

Certain activities in marine and coastal areas may kill, injure or disturb cetaceans, potentially through creating noise, increased collision risk and physical barriers to movement. The scale and likelihood of impacts will be determined by the location, time of year and nature of the activity. Furthermore, it is important to remember that some terrestrial developments may also have impacts (particularly noise) that could affect marine species. Many developments may involve a number of different elements of which all or some may lead to disturbance.

The following activities have the potential, in certain situations, to be associated with the disturbance, injury and/or killing of cetaceans:

- Seismic and other geophysical/geotechnical surveys
- Construction works (including pile driving, rock dumping, cable and pipe laying)
- Marine renewable energy generation
- Military sonar
- Drilling
- Shipping and vessel movement
- Decommissioning activities involving the use of explosives
- Explosive use
- Recreational activities, including marine wildlife watching
- Acoustic deterrent devices
- Maintenance of navigational channels
- Research on cetaceans

It should be noted that there may be other marine activities that are not included in the list which may be associated with injury or disturbance of marine EPS. Marine users should therefore consider the potential impact of their activity when reading this guidance and consult Marine Scotland as necessary. For further information on the above activities, the reader can refer to the draft JNCC guidance on the *Protection of marine European Protected Species from deliberate injury, killing and disturbance* which provides literature on the spatio-temporal extent of each activity and potential impacts, where available. Box 4 provides information on some potential impacts associated with these marine activities.

### **Box 4 Potential impacts associated with these marine activities**

The types of impacts that may occur include the following:

- Direct injury (e.g., collision, entanglement, hearing damage)
- Disturbance and displacement
- Exclusion from foraging areas
- Barrier effect
- Habitat loss or degradation
- Indirect effects on prey
- Changes in distribution
- Disruption of communication, migration, breathing, breeding, nursing, feeding or resting
- Excessive use of energy leading to loss of condition (caused by continual or repeated avoidance or flight)
- Increased vulnerability of an individual or population to predators or physical stress

### 2.2.3 Alternatives and/or mitigation measures

Where there is evidence that an activity will result in disturbance or injury of marine EPS, lower risk alternatives to the proposal should be considered. These could include different development scales or designs and different methods, placing the activity in an alternative area, and spatial-temporal restrictions. Activities should be timed and located, as much as possible, to avoid periods and areas where marine EPS could be present, or at least present in high densities. However, in many cases this is likely to be difficult to achieve given the unpredictable nature of cetacean distribution and abundance. Nevertheless, in some situations, suitably locating activities both spatially and temporally could be sufficient to reduce the likelihood of impact and subsequent offence. Where alternatives are sought, consideration must be given to the impact on other protected species/habitats. A consideration of possible alternatives should also include details on the characteristics of alternative methods and equipment, highlighting their availability and feasibility. This is particularly important if an EPS licence is to be applied for because, as part of the licensing process, the applicant will have to demonstrate why lower risk alternatives have been discounted.

Mitigation measures should be put in place whenever there is concern that an activity is likely to cause an offence, and should be proportionate to the risk of injury or disturbance. The [JNCC website on advice for offshore industries](#) provides good practical guidelines for specific activities. It is considered that these guidelines currently represent best practice and adherence to the guidelines should reduce the risk of an injury offence. The [Scottish Marine Wildlife Watching Code](#) also provides a source of information on best practice with respect to vessel movement, and Box 5 provides some examples of mitigation measures applied in previous applications.

If, despite following guidelines, disturbance or injury/death within the meaning of the Regulations does occur and is proven, then the preventative and precautionary actions that were taken would likely be relevant to the question of whether the action was 'deliberate' or 'reckless'. The efficacy of some of the mitigation measures set out in the guidelines has not been fully tested, but these are based on reasonably conservative assumptions and efforts are underway to assess how effective they are in reducing the risk.

#### **Box 5. Some examples of mitigation measures that should be considered:**

- Changing the project design or method, or in exceptional circumstances the scale.
- Technological measures for reducing noise (e.g. bubble curtains, pile sleeves, etc.).
- Spatial and temporal flexibility e.g. avoid siting devices in particularly sensitive areas (e.g. migration routes, feeding and breeding areas) and avoid activities that affect sensitive species.
- Minimise use of high noise emission activities (e.g. piling, percussive drilling, blasting with explosives).
- Use of observation (trained Marine Mammal Observers (MMO)) and warning systems (e.g. Passive Acoustic Monitoring (PAM)) with feedback to control activity.
- Implementation of relevant SNH/JNCC or other guidance as appropriate.
- Implement 'soft start' for piling and other noisy activities, where possible.
- Adherence to the Scottish Marine Wildlife Watching Code.

Other mitigating measures are available and the list will increase as new technologies develop and suitable measures should be discussed with Marine Scotland.

## 2.3 Stage 3 – Production of a cetacean risk assessment

Having gathered appropriate literature and survey data, considered potential impacts and identified what mitigation you can do, all this information will then need to be summarised in a Cetacean Risk Assessment. This plan/assessment should identify whether an offence is still likely to occur, and if so, consider the tests needed for an EPS licence. A good risk assessment will often make the process of applying for your licence much easier. Please note that the risk assessment is likely to require a quantitative noise assessment. Factors which should be considered within a risk assessment can be found in the following information Box 6 on marine noise.

### Box 6. Information on cetaceans and underwater noise

Many forms of marine life, particularly cetaceans, use sound as their primary sense, for navigation, finding food and communication. Therefore they could be affected by the noise and vibration resulting from a range of marine activities. Cetacean species can be classified into three functional hearing groups based on auditory sensitivity:

Low Frequency (7 Hz – 22 kHz), all baleen whales e.g. humpback whales, minke whales

Medium Frequency (150 Hz – 160 kHz), e.g. dolphins and killer whales

High Frequency (200 Hz – 180 kHz), e.g. harbour porpoises

Certain sounds such as drilling, explosive use, pile driving, sonar and acoustic deterrent devices may therefore not be heard by all cetacean species, or at least not heard with the same loudness. The degree of sensitivity contributes to the potential of a disturbance or injury offence. Auditory injury is deemed to have occurred when there is a permanent shift in the hearing threshold of cetaceans. Note that auditory injury can result from very loud noises, even if they are not within the frequency range of the animal (i.e. they can't be heard by the animal but may still damage the structure of their ears).

Southall *et al.* (2007) propose precautionary noise exposure criteria for injury. Those criteria are currently the best available and their use is recommended. When compiling a risk assessment, a section specifically detailing noise assessment must be included. This should cover:

- a. **Duration and frequency of the activity**, as increased exposure is more likely to cause a disturbance offence.
- b. **Intensity and frequency of sound and extent of the area where injury/disturbance thresholds could be exceeded**, as chronic noise exposure increases the risk of a disturbance offence.
- c. **Combination effects – the presence of other concurrent, preceding or subsequent activities**, activities may have an accumulative effect increasing the risk of disturbance.
- d. **Species specific noise criteria as outlined by Southall et al (2007)** use of these criteria aids in risk assessment when EPS are identified in a proposed area of activity.
- e. **Mitigation measures**, there may be measures that limit the noise levels, duration and frequency of the activity, thus reducing risk.

### 3. The licence assessment process

Once you have undertaken your cetacean risk assessment, you will now be at a stage to determine your need for a licence. It is expected that many activities at sea will not require a licence to exempt them from regulations 39(1) and (2) of the Habitat Regulations since there may be suitable mitigation to reduce the potential for injury and/or disturbance. However, if, despite the use of alternatives and/or mitigation measures, an activity remains likely to result in injury, death or disturbance of marine EPS, the activity may still be able to go ahead under licence.

Any licence application (under regulation 44 (2)) will necessitate a detailed assessment of whether the licence should be granted. The licence assessment will comprise three tests to ascertain: 1) whether the licence is to be granted for one of the purposes specified in the Regulations; 2) whether there are no satisfactory alternatives to the activity proposed (that would avoid the risk of offence); and 3) that the licensing of the activity will not be detrimental to the maintenance of the population of the species concerned at a Favourable Conservation Status. The licence assessment will be carried out by Licensing Operations Team (Marine Scotland) using the information provided by the developer and advice from Marine Scotland Science (MSS) and Scottish Natural Heritage (SNH).

Marine EPS licences for Scottish inshore waters are issued by Scottish Ministers<sup>ix</sup> or Scottish Natural Heritage<sup>x</sup> depending on the purpose. Under regulation 49(15) of the Offshore Marine Regulations (OMR) it is Scottish Ministers who have the function of granting licences in the Scottish offshore marine area except in relation to certain reserved matters. The flowchart at the beginning of this document illustrates the licensing process. Potential applicants should contact the Licensing Operations Team (Marine Scotland) for advice on applying for an EPS licence.

#### 3.1 The three EPS tests

A licence derogating from the strict protection afforded to EPS will only be granted if your application passes each of the three tests found in the Habitats Regulations. The licence application form asks you (the developer) to consider each of the three tests to aid the licensing authority in assessing your application. Information on how to apply for a licence can be found at the following websites: [Scottish Natural Heritage](#) and [Marine Scotland](#).

The tests are:

##### **1. The licence application must relate to one of the purposes referred to in Regulation 44(2)**

Only activities carried out for certain 'purposes' can be licensed so that regulations 39 (1) and (2) do not apply. These purposes include 'imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences for the environment' and 'scientific and educational purposes'. Guidance on what could constitute 'imperative reasons of over-riding public interest' can be found at Section 1.3.2 of the [Guidance document on Article 6\(4\) of the 'Habitats Directive' 92/43/EEC](#).

##### **2. There must be no satisfactory alternative (Regulation 44(3)(a))**

Licences can only be granted if Marine Scotland is satisfied that there is no satisfactory alternative. The applicant will have to show, based on best available information, that

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<sup>ix</sup> Licences are issued by Scottish Ministers for commercial activities such as seismic surveying or testing, or installing renewable energy devices in inshore waters and for imperative reasons of overriding public interest which might affect cetaceans.

<sup>x</sup> Licences are issued by SNH if you are planning to carry out research on cetaceans or if the proposal is for conservation purposes in inshore waters.

alternatives were sought that would not impact on EPS and that none were found or they were not satisfactory.

While this test is part of the licence assessment, Marine Scotland will expect the applicant to provide the information required to support this assessment. The 'alternatives' to minimise the risk of injury and disturbance should therefore be considered when assessing whether an offence is likely. If no satisfactory alternative is found then an objective demonstration of why alternatives have been discounted will form part of the licence assessment stage.

The [Commission Guidance](#) on the strict protection of animal species (section III.2.2. paragraph 37) states that '*an analysis of whether there is "no other satisfactory alternative" can be considered as having three parts: What is the problem or specific situation that needs to be addressed? Are there any other solutions? If so, will these resolve the problem or specific situation for which the derogation is sought?*'

### **3. The action authorised must not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range (Regulation 44(3)(b))**

Licences can only be granted where the authorised activity will not be detrimental to the maintenance of the population of the species concerned at a Favourable Conservation Status (FCS) in their natural range. Marine users should provide the necessary information to enable an assessment to be undertaken. Please refer to Box 7 for more information on what Favourable Conservation Status means in practice.

**If detrimental, Scottish Ministers may not issue licence.**

**If not detrimental, Scottish Ministers may issue a licence, with or without conditions.**

The [Commission Guidance](#) on the strict protection of animal species provides more details on what should be considered when assessing the tests.

#### **Box 7 - What does Favourable Conservation Status mean in practice for species?**

The ultimate objective of the Habitats Directive is to ensure that the species covered reach what is called a 'Favourable Conservation Status' and that their long-term survival is deemed secure across their entire natural range within Europe. Article 1(i) of the Habitats Directive defines Favourable Conservation Status (FCS) of a species as follows:

*"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 its natural range.*

The conservation status will be taken as 'favourable' when:

- *population dynamics data on the species concerned indicates 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"*

## **3.2 Monitoring the impacts of a licence and reporting on the licence**

### **3.2.1 Monitoring**

Section III.2.4. [paragraph 59] of the Habitat Regulations states that:

*'Competent national authorities not only have to ensure that all the conditions of the derogation scheme are met before derogations are granted, but it is also recommended that they should monitor the impact of derogations and the effectiveness of compensation measures, if any, after they are implemented. This should ensure that any risk for a species arising unintentionally through the derogations (possibly in combination with other negative factors) is detected. The Directive does not explicitly provide for such monitoring. However, when advocating a proportional and flexible use of the derogation system...the framework conditions must be right to ensure that the flexible approach does not lead to undesired effects. Monitoring is a key element in this regard.'*

The Habitat Regulations place requirements on Scottish Ministers to make arrangements for the surveillance of conservation status of EPS. Monitoring the impacts of any licences will provide a record of any disturbances that are known to be a likely result of those derogations.

### **3.2.2 Reporting**

Member States do not need to consult the Commission before granting derogations but they are obliged to submit a report to the Commission every two years on the implementation of Article 16 of the Habitats Directive<sup>xi</sup>. Furthermore, Member States are required to report back to the EC every six years on the conservation status of marine EPS (see [www.jncc.gov.uk/page-4063](http://www.jncc.gov.uk/page-4063)). The licences issued will feed into this process.

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<sup>xi</sup> Article 16(2) of the Directive.

## 4. The Species – Cetaceans (and other marine EPS)

Cetaceans occur throughout Scottish inshore waters in varying degrees of frequency. Some species are found frequently inshore and in significant numbers while others are more associated with deep, offshore waters and are very seldom found in inshore waters. To reflect this, the different species have been categorised as follows:

Resident cetaceans or those regularly seen in Scottish inshore waters in significant numbers:

- Bottlenose dolphin, *Tursiops truncatus*
- Harbour porpoise, *Phocoena phocoena*
- White-beaked dolphin, *Lagenorhynchus albirostris*
- Short-beaked common dolphin, *Delphinus delphis*
- White-sided dolphin, *Lagenorhynchus acutus*
- Risso's dolphin, *Grampus griseus*
- Minke whale, *Balaenoptera acutorostrata*
- Killer whale, *Orcinus orca*

Cetaceans that do occur in Scottish inshore waters, although usually not in significant numbers:

- Sperm whale, *Physeter macrocephalus*
- Long-finned pilot whale, *Globicephala melas*
- Fin whale, *Balaenoptera physalus*
- Humpback whale, *Megaptera novaeangliae*

Vagrants or rare species – Cetaceans that are only rarely found in Scottish inshore waters:

- Striped dolphin, *Stenella coeruleoalba*
- Northern bottlenose whale, *Hyperoodon ampullatus*
- Cuvier's beaked whale, *Ziphius cavirostris*
- Sowerby's beaked whale, *Mesoplodon bidens*
- True's beaked whale, *Mesoplodon mirus*
- Sei whale, *Balaenoptera borealis*
- Blue whale, *Balaenoptera musculus*
- Beluga whale, *Delphinapterus leucas*
- Northern right whale, *Eubalaena glacialis*
- False killer whale, *Pseudorca crassidens*
- Pygmy sperm whale, *Kogia breviceps*

Other EPS that occur in Scottish waters:

- Leatherback turtle, *Dermochelys coriacea* (frequent visitors)
- Loggerhead turtle, *Caretta caretta*
- Kemp's Ridley turtle, *Lepidochelys kempii*
- Green turtle, *Chelonia mydas*
- Atlantic sturgeon, *Acipenser sturio*

