Disturbance and protected species: understanding and applying the law in England and Wales

A view from Natural England and the Countryside Council for Wales

Section 1: The disturbance offence

1. Context

The offence of intentionally disturbing protected species occupying places used for shelter or protection was first introduced in section 9 of the Wildlife and Countryside Act 1981 ('WCA') and applied to species listed on Schedule 5 to the Act. A similar but slightly wider offence was introduced by the Conservation (Natural Habitats &c.) Regulations 1994 ('the Habitats Regulations'), which prohibited deliberate disturbance of a European Protected Species wherever it occurred. Section 9 of the WCA was later amended by the Countryside and Rights of Way Act 2000 to include both intentional and reckless disturbance.

Disturbance is a term of wide meaning, which could capture many kinds of acts. It is not defined in WCA 1981 and an absolute definition of the term is not possible. It must be interpreted by the courts, which will decide each case on its facts. No domestic case-law on the subject exists. The guidance in this document is not a legal interpretation, but provides a view from the Countryside Council for Wales and Natural England as to what might constitute disturbance in a range of situations for a range of species. This guidance may help the Police, the Crown Prosecution Service and the courts when deciding on appropriate action and contains Natural England's and CCW's advice on the interpretation of 'significant group of animals', as referred to in regulation 39(13) of the Habitats Regulations. Those considering activities that may disturb protected species may wish to seek their own legal advice.

This advice deals only with the offence of disturbing a protected species, but it should be borne in mind that other offences, such as killing or injuring protected species or damaging or destroying their breeding or resting places may occur at the same time.

2. Current legal situation and interpretation

The table below lists all vertebrates that are currently (2007) protected by one or both pieces of legislation for the disturbance offence. Some invertebrates are also protected, but these are not covered here. All European Protected Species, the subset of Habitats Directive Annex IV species occurring naturally in Great Britain, are also protected by the WCA and it is the species protected by both these pieces of legislation that are the principal subject of this guidance. For species protected only under the WCA (basking shark, burbot, pine marten, red squirrel, walrus, water vole), the law has not changed significantly and the guidance in section 2.2 should be followed.

Vertebrates protected from intentional or reckless disturbance under the WCA 1981 ('Schedule 5 species')		**Vertebrates protected from deliberate disturbance under the Habitats Regulations 1994 ('European Protected Species').**
Basking shark*		
Bats (all species)		Bats (all species)
Burbot *(extinct in UK)*		
Whales, dolphins and porpoises*		Cetacea (all species)
Common dormouse		Common dormouse
Great created newt		Great crested newt
Marine turtles (all UK species)		Marine turtles (all species)
Natterjack toad		Natterjack toad
Otter		Otter
Pine marten		
Red squirrel		
Sand lizard		Sand lizard
Smooth snake		Smooth snake
Sturgeon		Sturgeon
Walrus		
Water vole		
Wildcat		Wildcat

* The limitation to 'while occupying places of shelter or protection' does not apply to the basking shark, whales or dolphins (although it does to porpoises and the sturgeon).

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

The Habitats Directive, Article 12, obliges Member States to prohibit deliberate disturbance of Annex IV species in their natural range, particularly during the period of breeding, rearing, hibernation and migration. Guidance on the interpretation of Article 12 requirements has recently been issued by the European Commission[1]. With respect to disturbance, this emphasises the need for a case-by-case approach and points out 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*'. The guidance also states that '*the intensity, duration and frequency of repetition of disturbances are important parameters when assessing the possible impact of disturbance on a species*'. Although not legally binding, this guidance from the Commission 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.

This guidance has been used during the amendment of the Habitats Regulations to better define the level of disturbance which should be criminalised, with a view to excluding 'trivial' disturbance: that is, disturbance with less than a certain level of negative impact on the protected species. This exclusion of trivial disturbance is particularly important in practice, now that the 'incidental result of a lawful operation' defence is no longer available in the Regulations.

[1] http://forum.europa.eu.int/Public/irc/env/species_protection/library?l=/commission_guidance/final-completepdf/_EN_1.0_&a=d

The amended legislation now states (in regulation 39(1)) 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.

This offence incorporates two elements adapted from the Article 12 guidance document. The first is that disturbance must be likely to have a significant adverse effect on the animals involved; and the second is that the disturbance must significantly impact on the local distribution or abundance of the species. For disturbance to occur, either one of these conditions must be met. In addition, part of the amended offence refers to '*any significant group of animals'*.

The amended Regulations give some guidance as to the interpretation of the word 'significant' in regulation 39(1)(b)(i) above ('significant group of animals'). Regulation 39(12) states that 'significant' means significant in relation to the objectives of the Habitats Directive. Regulation 39(13) requires courts to have regard to any guidance given by the appropriate nature conservation body as to the criteria for determining whether a group is significant. The latter means that relevant guidance in this document should be taken into account during any court cases.

Although a 'significant group' cannot easily be defined, and may vary between species (see later), the construction of this limb of the offence clearly excludes individual animals from its scope. The only circumstances in which the deliberate disturbance of an individual could be an offence is if it significantly affects the ability of an significant group of animals to survive, breed, or rear or nurture their young, or significantly affects the local distribution or abundance of that species. In practice, this seems unlikely.

The disturbance offence could also apply to repeated disturbance, as described in the Article 12 guidance. Thus a single act may fall below the threshold of biologically meaningful disturbance, but a repetition of the same act to the same individuals may result in the threshold being reached, resulting in biologically meaningful disturbance. Although the Directive refers to the prohibition applying 'particularly during the period of breeding, rearing, hibernation and migration', the use of the term 'particularly' cannot easily be accommodated explicitly within domestic legislation, which thus prohibits disturbance at any time. However, the disturbance offence refers to effects on survival, breeding or rearing young, so the requirements of the Directive are suitably reflected .

Deliberate disturbance of European Protected Species can be licensed by Natural England or the Countryside Council for Wales for a number of purposes, set out in regulation 44. These include 'imperative reasons of over-riding public interest', which could cover the deliberate disturbance of these species during development operations. Licences can only be issued where there is no

satisfactory alternative and where the action authorised will not adversely affect the conservation status of the species involved.

2.1.1. What constitutes deliberate disturbance?

The term 'deliberate' has been considered in two European Court of Justice decisions relating to the operation of the Habitats Directive[2]. The Article 12 guidance draws on these 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) expressions in the Habitats Regulations 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, and is more akin to recklessness, though is not necessarily to be equated with that concept (see 2.2.1)

Deliberate disturbance covers a whole continuum of activities. At the lower end of the scale is the deliberate disturbance of a single individual outside the most sensitive seasons (breeding, rearing, hibernation and migration); this would probably not constitute an offence under the Regulations. At the upper end might be disturbance of large groups or colonies that caused the disappearance of a local population of a rare species. Further guidance is given in the sections on individual species or species groups.

2.1.2. What is a significant group of animals?

The threshold for the first limb of the deliberate disturbance offence is that it significantly affects the ability of a significant group of animals to survive or breed. Any biological definition of what constitutes a significant group of animals must take into account the local abundance of the species, its behaviour and the circumstances in which the disturbance takes place. For species that are social breeders, such as bats, significant groups probably occur frequently as most of the breeding females in a population will gather in one place during the summer breeding season. Similarly, species that gather to utilise some limited resource, such as newt breeding ponds or bat hibernation sites, may also form significant groups on a seasonal basis. Species that tend to be solitary, such as dormice, otters or smooth snakes probably never form significant groups of adults, but a mother with dependent young could constitute such a group, particularly if the species is rare in the area. Some marine species, such as dolphins, form social groupings of various sizes throughout the year. In all cases, determining whether such groups are 'significant' would be helped by some reference to the size of the population in the area.

[2] Judgement of 30 January 2002, Commission v Greece, Case C-103/00, ECR p.1147 and judgement of 18 May 2006, Commission v Spain, case C-221/04, ECR p.4515, paragraph 69.

2.1.3. What is a significant effect on local distribution or abundance?

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. For this to occur, it seems likely that the disturbance would have to be repeated over a period of time. For example, repeated disturbance to a colony of bats occupying a site for breeding or hibernation could cause the colony to abandon that site. If there are no alternative sites nearby for the bats to move to, the disturbance could be considered to have affected the local distribution or abundance of the population. Similarly, frequent or prolonged underwater noise from seismic surveys in an area of sea could cause the abandonment of the area by cetaceans, or installing bright lights over a newt breeding pond could cause the newts to abandon the pond. Although, in all these cases, the effect of the disturbance is unlikely to be permanent (because cessation of the disturbing activity will probably result in the species eventually returning to the area), the disturbance did have a significant effect at the time and so will be covered by the Regulations.

2.2 Wildlife and Countryside Act 1981

Because the offences in the amended Habitats Regulations and section 9 of the WCA do not completely match up, European Protected Species retain some protection under the latter legislation by being included in Schedule 5 (protected species) in respect of certain of the offences under section 9.

Species	**Applicable sections**
All terrestrial species	9(4)(b) and (c) and (5)
Whales (all species)	9(4A) and (5)
Dolphins	9(4A) and (5)
Porpoises	9(5)
Turtles	9(4)(b) and (c) and (5)

The offences covered in section 9 are:

> (4) Subject to the provisions of this Part, a person is guilty of an offence if intentionally or recklessly -
>
> (a) he damages or destroys any structure or place which any wild animal on Schedule 5 uses for shelter or protection;
>
> (b) he disturbs any such animal while it is occupying a structure or place which it uses for shelter or protection; or
>
> (c) he obstructs access to any structure or place which any such animal uses for shelter or protection.
>
> (4A) Subject to the provisions of this Part, if any person intentionally or recklessly disturbs any wild animal included in Schedule 5 as
>
> (a) a dolphin or whale (Cetacea)
>
> (b) a basking shark (Cetorhinus maximus)
>
> he shall be guilty of an offence.

Section 9(5) deals with offences relating to sale and advertising and is not covered here.

In relation to s.9(4)(b) and 9(4A), points to note are that:

- Disturbance must be intentional or reckless. Both these terms have an established legal meaning.
- Disturbance is 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 the basking shark, whales and dolphins, which are covered by s.9(4A).
- Disturbance is not defined or qualified in any way, so it does not have to be 'significant' and could apply to disturbance of individuals.

2.2.1. What is intentional or reckless disturbance?

Based on case law, the word 'intentionally' should be interpreted as follows:
(a) a result is intended when it is the actor's purpose; or
(b) a court may infer that a result is intended, though it is not desired, when
    (i) the result is a virtually certain consequence of the act; and
    (ii) the actor knows that it is a virtually certain consequence.

In the case of the latter part of this definition, a court could convict if the prosecution could show that the action was virtually certain to cause disturbance and that the defendant knew this to be the case. This can be compared with the Article 12 guidance, which suggests that an act is deliberate if the outcome would 'most likely' lead to an offence.

The concept of recklessness, as understood by the courts, has varied over the years. Current legal opinion, based on a case in 2004, favours a 'subjective' approach, where the court must consider the defendant's appreciation of risk. A useful definition, taken from the Law Commission's Draft Criminal Code, is that a person acts recklessly with respect to-

(i) a circumstance when he is aware of a risk that exists or will exist;
(ii) a result when he is aware of a risk that it will occur;

and it is, in the circumstances known to him, unreasonable to take the risk. This definition cannot be considered as final.

2.2.2. Defences

The WCA retains the defences that were recently removed from the Habitats Regulations, so it is a defence to a charge of disturbing a Schedule 5 species that the action took place within a dwelling-house or that the act was the incidental result of a lawful operation and could not reasonably have been avoided. For bats only, these defences cannot be relied on, except in the living-area of a dwelling-house, unless CCW or Natural England have been notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the method to be used.

The disturbance of Schedule 5 species can be licensed by the appropriate authority under section 16 of the WCA, but the licensing purposes do not include development. To be lawful, any intentional or reckless disturbance of Schedule 5 species during development must therefore be covered by one of the defences referred to here.

3. Operating the legislation in a coherent fashion

The existence of two separate disturbance offences in two separate legislative frameworks presents a challenge of interpretation and application. Neither can be dismissed as they both operate in rather different ways. The offence in the Regulations does not apply to non-significant disturbance and seems unlikely to apply to individuals, but is licensable for development purposes. The offence in the WCA applies to individual animals, but only in places of shelter or protection (except whales, dolphins and basking sharks), is not licensable for development, but is subject to two important defences.

Note that this guidance deals specifically with the offence of disturbance. Where actions may result in other offences being committed, such as killing, injuring or taking or damage to or destruction of breeding sites or resting places, it will necessary to consider a) how these offences can also be avoided or minimised and b) if a licence is required.

We can consider some common scenarios where the deliberate or intentional disturbance of species protected under both pieces of legislation may occur.

3.1 Disturbing species for scientific, educational or conservation purposes

Visiting known places of shelter or protection, such as entering known bat roosts to monitor or study bats, or checking dormouse nest boxes or tubes, is likely to disturb specimens in residence and may thus be deliberate, intentional or reckless disturbance. Although the number of individuals disturbed may not result in the type of effects covered by the offence in the Regulations, it is more likely to be an offence under the WCA. We advise that anyone carrying out activities of this type should be licensed by CCW or Natural England. We will issue licences under both pieces of legislation, as at present. Further guidance is given in the species specific sections below.

Disturbing individuals of EPS may also occur during habitat management for conservation purposes. A licence can be issued to allow this under the conservation derogation. Note that the activity licensed need not be for the benefit of the species for which the licence was issued (e.g. it could be for the conservation of another endangered species). The applicant must demonstrate that the two licensing “tests” (conservation status and no satisfactory alternative) are met. For example, work to improve the condition of a degraded habitat at a given site might predictably disturb great crested newts; a licence to allow disturbance can be issued under the conservation derogation so long as there is no satisfactory alternative and the licensed activity would not have a negative impact on the conservation status of great crested newts. The applicant would need to show there is a genuine conservation need for the works; this derogation cannot be used for works not resulting in a positive outcome for wild plants or animals.

3.2 Disturbing species during the course of major development

If protected species are likely to be deliberately disturbed by development operations, the activity can be licensed by Natural England or the Welsh Assembly Government under the overriding public interest purpose of the

Regulations if the necessary criteria are met. If the degree of deliberate disturbance is considered to fall below the threshold for the Regulations, no licence under this legislation is necessary, but the disturbance may still be an offence under the WCA. In this case, no licence can be issued, as there is no appropriate purpose, and the developer must consider whether the 'incidental result' defence is applicable. Developers may wish to seek professional advice and guidance as to how they can operate under this defence. For bats, the defence cannot be relied on unless CCW or Natural England have been notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the method to be used. In cases where a licence to disturb bats is issued under the Regulations, this may be taken to fulfil the notification requirement.

3.3 Disturbing species during the course of other works or habitat management

Some activities, such as repairs or alterations to buildings, as well as some types of land management activity, such as gardening, farming or forestry, may not come within the licensing purpose of 'overriding public interest' or not meet the 'no satisfactory alternative' test and so may not be licensable under the Regulations.

Our advice is that in these circumstances every effort should be made to carry out the activity in a way that avoids disturbing protected species. Should protected species, nevertheless, be disturbed, preventative and pre-cautionary actions 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 at all.

If the action would result in an offence under the WCA, the 'incidental result' defence may be available where all appropriate steps are taken to avoid disturbing the protected species, though CCW or Natural England should be consulted in the case of bats (see also note in point 3 about other offences).

Section 2: Species-specific advice on disturbance

1. Bats

A brief literature review (Appendix 1) suggests that the following factors may be important when making a decision about the impact of a disturbing event on bats.

Time of year

Bats are particularly vulnerable to disturbance during hibernation, when arousal affects their ability to survive the winter, and during the breeding season, when they are gathered in maternity colonies where disturbance may cause a decline in breeding success. Repeated disturbance may also cause the abandonment of traditional sites. Outside these times, bats are probably less vulnerable as they tend to be less colonial and any loss of weight caused by disturbance when they are torpid is probably replaceable, as insect food is available. Disturbance of swarming sites and harems during the mating season may fall somewhere between these two extremes.

Relative impact of disturbance	**Activity/time of year** (exact timing varies between species)
High	Hibernation (October - April), Maternity colonies (May - August)
Medium	Mating sites (September - November). Swarming sites (August - October)
Low	Pre-breeding (March - April), Pre-hibernation (September - October)

Number of disturbances

A single disturbance of small groups of bats (see below for discussion of 'significant group') seems unlikely to affect the local distribution or abundance of the species, though it could have a small impact on the survival of the individuals involved. However, multiple disturbances of the same individuals at the same site are likely to have an additive impact in either reducing individual survival or in causing the abandonment of traditional roost sites. Disturbing large numbers of bats could affect the survival or breeding success of a large number of individuals and have an impact on local distribution or abundance by causing the abandonment of maternity or hibernation roosts.

Relative impact of disturbance	**Repetition of disturbing event**
High	Frequent (e.g. daily or weekly)
Medium	Occasional (e.g. fortnightly or monthly)
Low	Once or twice per season

Rarity and conservation status of the species

Although all bats receive the same legal protection, the significance of disturbance, in terms of impact on local populations, depends on the conservation status of the species disturbed. Individuals of a rare species, or those that form small maternity colonies, are more significant to the population than individuals of common species. Similarly, disturbance to individuals from species that are declining in numbers is likely to be more significant than disturbance to individuals of species that are increasing in numbers. Lesser horseshoe bats appear to be increasing in numbers at

present, but their habit of roosting hanging free within the roosts renders them particularly vulnerable to disturbance. Although brown long-eared bats are frequently encountered in buildings, colony size is small compared to common and soprano pipistrelles and there is concern that population trend may be decreasing. Taking these factors into account suggests the following:

Relative impact of disturbance	Species affected
High	Barbastelle, Bechstein's bat, greater horseshoe, lesser horseshoe, grey long-eared bat, Nathusius' pipistrelle
Medium	Myotis (all except Bechstein's), serotine, noctule, Leisler's, brown long-eared bat
Low	Common pipistrelle, soprano pipistrelle

1.1 Significant groups

This section contains Natural England's and CCW's general advice on the interpretation of 'significant group of animals', as referred to in regulation 39(13) of the Habitats Regulations.

As bats are, at times, colonial animals and often share limited resources, such as hibernation sites, significant groups probably occur more frequently than is the case for some other species.

In the case of maternity sites, breeding females rarely occur individually, but colonies can be highly variable in size, ranging from perhaps 10 individuals (e.g. serotine, barbastelle) up to more than 1000 (soprano pipistrelle). Given this colonial habit and the fact that colonies might comprise the entire female population for an area, we suggest that any maternity groups of bats (pregnant or lactating) are significant in terms of the local population.

Hibernation sites containing more than 50 bats are rare nationally and so certainly constitute significant groups of animals. However, sites used by fewer bats may also be critically important for local populations, which depend on such sites during periods of cold weather, so we suggest that sites used on a regular and predictable basis by even 5-10 individuals are significant. Given the difficulty of locating and accurately counting crevice dwelling bats in hibernation, any assessment of the significance of disturbance at a hibernation site should attempt to account for the expected underestimate.

Some underground sites are also used by swarming bats in the autumn. Large numbers of bats from a wide geographic area will travel to autumn swarming sites, so these could also be considered to be significant groups of bats. The species of bats using such sites changes with the season. Disturbance at such sites could have implications on the reproductive success and genetic health of population, particularly for rarer bats species.

At other times of year, large aggregations of roosting bats are relatively rare, but the guidelines give above should allow some assessment of the significance of any aggregation.

1.2 Scenarios

Works should be timed to avoid the periods when "significant groups" of bats may be present and where the impact of disturbance would be "significant". The recommended times shown in the table below should be modified in the light of site-specific species information. For example, some species, most notably long-eared bats and lesser horseshoes, tend to remain in summer sites until well into autumn or even winter, so care may be needed when drawing up works timetables where these species are present. However it is also possible that the period of works may be extended if the way in which the bats use the site is well understood.

Bat usage of site	**Optimum period for carrying out works (some variation between species)**
Maternity	1st October – 1st May
Summer (not a proven maternity site)	1st September – 1st May
Hibernation	1st May – 1st October
Mating/swarming	1st November – 1st August

Optimum season for works in different types of roosts (The Bat Mitigation Guidelines, Mitchell-Jones, 2004)

Some examples are given below of the likely impacts of some frequently undertaken activities.

Note. This guidance deals specifically with the offence of disturbance. Where actions may result in other offences being committed, such as injuring, killing, taking, damage to or destruction of breeding sites or resting places, it will necessary to consider a) how these offences can also be avoided or minimised and b) if a licence is required.

1.2.1. Property maintenance and renovations

For renovations to buildings, this would usually mean carrying out works before the bats have formed nursery colonies in the spring and after the period when the colonies have dispersed in late summer or autumn. In practice the period of occupancy by significant groups of bats can vary greatly between sites and between species. Where there is information about the seasonal occupancy of a building, works should be timed to avoid the periods when bats are expected to be present in significant numbers. If there is no information on use of the building, the times above should be used as a guide. It would be prudent to consider allowing as much of a margin from either end of the optimum period as possible, but this will depend on the type and scale of the works and the flexibility of the timetable.

If, despite all precautions, disturbance does unexpectedly occur then, in relation to the WCA, the incidental result defence may be available. In relation to the Habitats Regulations, preventative measures may result in limiting the impact of the disturbance such that it is not significant enough to come within the offence in regulation 39. Where the disturbance is still sufficiently significant to cause an offence (e.g. because the breeding success of a significant group is significantly affected) then it is unlikely to be seen to be 'deliberate' where available guidance had been followed and preventative measures put in place that had reduced the

risk of significant disturbance to such an extent that it was considered very unlikely.

In the case of works to a dwelling house, the onus would be on the householder to consult the appropriate authority beforehand. Natural England or CCW would provide advice on minimising the risk of disturbing bats.

The work would also have to be carried out in such a manner as to minimise the risk of committing other offences. Carrying out the work when bats are least likely to be present minimises the risk of killing or injuring.

Under the Regulations, damage to, or destruction of a roost site is a strict liability offence, i.e. it does not have to be deliberate, accidental acts are covered too. The objective of this prohibition, as described on p47 of the European Commission's Article 12 guidance[3], is to safeguard the continued ecological functionality (CEF) of the breeding site or resting place. Thus building maintenance or renovation operations that do not adversely affect the CEF of a bat roost would be possible, provided appropriate precautions are taken. For example, roof maintenance operations could be undertaken at a time when fewest bats are present (usually spring or autumn), provided care is taken not to damage or destroy roost entrances or alter the environment of the bats' favoured roost areas. This approach would permit the majority of building maintenance operations whilst maintaining the CEF of the roost. Natural England or CCW can provide advice on an appropriate approach.

Where maintenance work is essential (e.g. because the building would otherwise be unsafe) and the CEF of the roost may be adversely affected, it may be possible to obtain a licence issued under the purpose in regulation 44(2)(e) of "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences for the environment". Of course, even where it is shown that the work comes within the purpose in 44(2)(e)), it will still be necessary to show that there are no alternative options available and that the conservation status of the species concerned will not be adversely affected. The same licensing considerations would also apply to works of a more substantial nature that may affect the CEF of an existing bat roost.

1.2.2. Survey and monitoring

Disturbance of bats during survey and monitoring should be undertaken following best practice guidance to minimise detrimental effects on the species. Licences are issued by Natural England and CCW for scientific or educational purposes - reg 44(2)(a); for ringing or marking, or examining any ring or mark on wild animals - reg 44(2)(b) and for conserving wild animals - reg 44(2)(c).

NE and CCW will continue to issue licences for survey and monitoring under both the WCA and the Habitats Regulations. This will ensure that bat workers and surveyors will be licensed to disturb significant groups as well as individual bats (which remains an offence under the WCA). It is important for the benefit of

[3] http://forum.europa.eu.int/Public/irc/env/species_protection/library?l=/commission_guidance/final-completepdf/_EN_1.0_&a=d

bat conservation to ensure that bat workers and consultants are able to carry out their legitimate activities whilst remaining within the law.

1.2.3. Major development (including disruption to flightpaths / foraging areas

Many major developments will involve the risk of committing offences other than disturbance, e.g. loss of roost sites, and should be carried out under a licence issued by NE or WAG under regulation 44(2)(e). Even if the work is to be done under licence, it is good practice to use methods to avoid disturbance in the first instance, e.g. by timing works to avoid sensitive periods. Where this is not possible, the aim should be to minimise any detrimental effects.

Where a major development may result in disturbance, but there is little or no risk of other likely offences being committed, the developer or their ecologist may wish to consult CCW or Natural England to discuss whether the disturbance is likely to be considered significant and therefore to be carried out under licence, or to explore possible mitigation measures. For example, in one case, lighting was proposed for a footpath near a main flight route from an important bat colony. This could constitute significant disturbance of the bats because the likely effect of the lighting would be that a significant group of bats would stop using their usual flight path and use a less safe alternative. In this case the lighting design was altered so that the canopy remained unlit and disturbance of the bats avoided.

Appendix 1
Brief review of the effects of disturbance on bats

There is very little literature about the effects of disturbance on bats. The only experimental study focusing specifically on this issue is by Speakman et. al. (1991). This measured the effect of stimuli such as noise, light, temperature change and tactile disturbance on hibernating bats in captivity and concluded that, in this situation, only tactile stimuli were significant as they invariably caused the bat to arouse, thus increasing its energy expenditure. This experimental result is supported by the studies of Krzanowski (1961), Stebbings (1969) and Fenton (1970) who all reported weight loss in hibernating bats that were handled. Speakman et. al. calculated that a single arousal event utilised sufficient stored fat to enable the bat to hibernate for as much as 500 hours.

The behavioural response of bats to disturbance under natural conditions is not well documented, perhaps because it is difficult to measure and is not amenable to an experimental approach. Some evidence that disturbance of hibernating bats can result in behavioural changes comes from studies of the response of bats to a reduction in human access to hibernation sites. Such data have usually been reported in terms of the number of bats in a site before and after grilling. For example, Gaisler & Chytil (2002) counted lesser horseshoe bats in a cave in the Czech Republic and noted a decrease in numbers when the grille was broken and an increase in numbers when the gate was repaired and researchers adopted less invasive study techniques. Although the data cannot be compared directly with a control site, the increase in numbers under a low-disturbance regime is persuasive. Similar findings have been widely reported leading to the conclusion that human disturbance is a major cause of site abandonment by hibernating bats (see Daan 1980). An interesting approach was taken by Thomas (1995), who reported a significant increase in bat activity, as measured by activity loggers, in a hibernation site in the hours following a visit when bats were not handled. This suggest that bats are influenced by disturbance even if they do not arouse immediately. There is some evidence from hibernation studies to suggest that the longer bats have been in a torpid state the more sensitive they are to arousing stimuli.

As one of the most colonial mammal groups, bats are also vulnerable to disturbance during the breeding season, when they form maternity colonies in suitable sites. Sites are generally chosen in areas away from human disturbance, usually in parts of buildings with low levels of human activity such as roof voids, suggesting that human activity is avoided. Closely approaching maternity colonies causes bats to fly within the roost and repeated disturbance will cause the bats to abandon the site. The high conservation value of bats and the desire not to cause roost abandonment has meant that quantifying the effects of disturbance has not been the subject of scientific studies.

Autumn swarming at underground sites probably has an important reproductive function. Such sites used for swarming may be important for gene flow among bats originating from different colonies. Large numbers of bats from a wide geographic area will travel to such sites and, as with other roost sites, it is likely that bats are faithful to swarming sites (Parsons et al, 2003). The effects of disturbance at such sites has not been investigated, but it follows that disruption to swarming behaviour

could have significant implications, particularly for rare species, species on the edge of their range, or fragmented populations.

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2. Otters

2.1 Background

Otters are wide ranging, nomadic and mainly nocturnal animals. They occupy large home ranges and utilise a wide variety of habitats including rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs. Otters are found along the coast and at estuaries where fresh water is available. They will use different areas at different times of the year to take advantage of seasonal availability of food, such as breeding amphibians. Travelling routes and resting places can lie hundreds of metres from watercourses. Otters are found throughout the UK, but are much more likely to be encountered in some areas than others.

During the day, otters may utilise resting sites, or holts, which can be identifiable structures such as tunnels, hollows at the base of trees, piles of timber, etc. However they also use patches of dense undisturbed habitat, such as scrub thickets, rough grassland or reed beds. Here, the precise resting place may be difficult to discern and each may only be used infrequently.

Birth takes place in a natal den, or holt, either above or below ground. The den will typically lie within in a larger “breeding area” that will include a large area of undisturbed habitat where the cubs can play, a good food supply in close proximity and will be free from the risk of flooding. Although a natal den can be used over several years, in large breeding sites a different natal den may be used each year (Liles, 2003). The female gives birth to up to four cubs and most births occur during the winter and spring. They cubs remain with the mother for nearly a year before dispersing, spending the first three months or so at the natal den.

2.2 Disturbance offences

This section contains Natural England’s and CCW’s advice on the interpretation of ‘significant group of animals’, as referred to in regulation 39(13) of the Habitats Regulations.

For the disturbance offence under the Habitats Regulations, it is reasonable to consider that only a mother and her cub/s would constitute a “significant group” of otters, as social groups of otters are not likely to occur outside the period when the cubs are with the mother.

In practice, it is difficult to determine whether there is a breeding otter in a particular area. There may be little outward evidence at or near an otter shelter to indicate that it is a natal den. Often the only proof of breeding is the sighting of a mother and cubs, or the presence of different–sized otter footprints. Sightings are rare where otters are not common and the field signs can be short-lived.

Where proposed activities affect an area of habitat that provides the conditions necessary for breeding, even if there is no direct evidence, it is prudent to assess the impact of the proposal on breeding otters. In many cases, possible disturbance can be avoided by cordoning off areas of suitable habitat. Further details on the guidance given can be found in Raynor (2006).

An assessment of the likely significance of disturbance should consider :

- The status of otter populations in the region. The impact of disturbance on the local otter population is expected to be greater in parts of the country where otters occur at lower densities and in areas being re-colonised.

- How an individual proposal relates to other potentially disturbing or damaging activities within a river catchment, which, in isolation may not be problematic, but collectively may have an impact on otter populations.

- The scale of the development or proposed activity and the likely impacts (in the case of construction projects this should consider both during the construction period and thereafter). Habitat loss, rather than disturbance is more likely to affect the local abundance or abundance of the species, but the increase in disturbance of a large-scale development could render an area unsuitable for breeding and should be considered.

- The local context, i.e. how does the proposed new activity compare with the degree of disturbance already present in the area from existing on-going human activity?

2.2.1. Developments

Works or other activities that can be expected to cause significant disturbance to otters should only proceed after the appropriate licence has been issued by CCW/ WAG or Natural England (see 3 above). In some cases, a licence may not be necessary, provided adequate safeguards are in place.

Disturbance during construction work should be avoided by declaring an area within 30m of an otter shelter out of bounds to everyone at all times. Before any work starts on site, this protection zone should be fenced-off and clearly demarcated using coloured tape or fencing. This will protect the shelter during the construction phase and, if necessary, form the basis for the provision of enhanced cover thereafter. Vegetation should not be cleared from this area.

If breeding is suspected, or where construction work is already underway when the shelter is discovered, work should normally be suspended until it can be demonstrated that either (a) breeding is not in fact occurring at the site, or (b) the cubs are sufficiently old (mobile) for alternative sites to be used elsewhere. If it is not practical or possible to suspend works, a much larger protection zone should be specified of between 100 and 200m from the holt.

The exact size of this protection zone will be influenced by local circumstances and may need to be larger than this. Both these measures are designed to avoid disturbance to otters, thereby avoiding the need for a licence. However, in exceptional circumstances where there are imperative over-riding reasons to continue working and risk disturbance, provisions exist within the licensing system to facilitate this. It may be necessary to protect a larger area if the effects of disturbance in the long term need are likely to deter otters from using the shelter again (see below).

2.2.2. Recreation

Dog-walking along river banks, intensive angling activity and motorised water sports are some of the recreational activities that are considered most likely to cause disturbance to otters. The effects are likely to be most pronounced where the activity takes place close to key areas of otter usage, such as important foraging areas, or where activities take place in areas that had been relatively undisturbed.

It is difficult (and probably largely meaningless) to prescribe specific 'safe' distances that should apply in every case, as local circumstances will come into play, however, some recommended guidelines are given below.

New paths along river banks etc should be designed to avoid known otter shelters. Paths should preferably be re-routed away from the river bank by at least 30m from the site of the shelter. A range of options for managing access away from sensitive sites can be considered, e.g. directional signage and making use of natural and man-made barriers, however, a balance must be sought between the ideal and what is likely to be achievable in terms of visitor management.

Avoiding disturbance to breeding areas must be regarded as paramount and a suite of specific visitor management measures are likely to be required here including, perhaps, significant path diversions (>100m). The presence of key otter paths linking breeding sites with foraging areas will also have an influence on the location of any new routes.

Existing paths that pass close to otter shelters are unlikely to be problematic, unless significantly increased levels of activity or changes in visitor activity patterns are anticipated. Increases in human and dog activity close to the river early in the morning and late in the evening are more likely to affect otter behaviour than at other times of the day.

Strategic planning is often needed to ensure that one bank of a river or parts of a lake shore remain unaffected when opening new areas up for recreational activity.

Otters continue to be protected from intentional or reckless disturbance by the WCA, but this is limited to when they are occupying places of shelter or protection. Protection from prosecution for disturbing otters in such situations could be through possession of an appropriate licence, or under one of the defences in the WCA. For surveys, CCW and Natural England will continue to issue licences under scientific and educational purposes where disturbance may be caused. Further guidance on when a licence is advisable is available from these organisations.

References

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3. Dormice

This section contains Natural England's and CCW's advice on the interpretation of 'significant group of animals', as referred to in regulation 39(13) of the Habitats Regulations.

Dormice are generally found in woodland habitats, but also occupy hedgerows and scrub. They live at low densities, with a maximum pre-breeding density in optimum habitat of about 10 individuals per hectare, though pre-breeding densities of 2-4 individuals per hectare would be more usual. During hibernation, dormice build individual woven nests of grasses under litter or moss on the woodland floor, where they remain throughout the winter. During the summer, dormice spend the day in nests built in tree holes or in undergrowth, such as bramble. Pairs of adults, or even occasionally three adults, may sometimes be found in these nests, but it seems unlikely that such a small group would meet the definition of a 'significant group'. Female dormice give birth to litters of between 4 and 8 babies, which receive extended maternal attention for up to 8 weeks. A female and dependent young is the largest group of dormice likely to occur and in areas where dormice are scarce, deliberately disturbing such a group in its nest, or the female on its own, to the extent that the female abandoned her young is likely to pass the threshold of disturbance under the Habitats Regulations. Evidence from nest-box studies suggests that occasional brief disturbance, such as that associated with monthly nest-box checks, does not result in abandonment, so the level of disturbance would clearly have to exceed this to be considered 'significant'.

Dormice continue to be protected from intentional or reckless disturbance by the WCA, but this is limited to when they are occupying places of shelter or protection. Protection from prosecution for disturbing dormice in such situations could be through possession of an appropriate licence, such as a scientific (survey) licence, or under one of the defences in the WCA.

4. Amphibians

4.1 Background

Two European Protected Species of amphibian are currently listed on Schedule 2 to the Habitats Regulations: great crested newt *Triturus cristatus* and natterjack toad *Bufo calamita*. The pool frog *Rana lessonae* is also listed on Annex IV(a) and was reintroduced to England in 2005, having become extinct in the 1990s, and may be added to Schedule 2 in due course; given that it currently occurs only at one site it will not be considered further here.

4.2 Evidence for impacts of disturbance

There are no published studies specifically addressing the effect of disturbance on *T. cristatus* or *B. calamita*. Guidance presented below is therefore based on a combination of (a) inferences from studies of other amphibians, and (b) judgments based on the ecology of these two species, which are relatively well investigated.

Despite a considerable amount of concern about, and research into, amphibian declines in recent years, there is very little published evidence on disturbance. For example, Edgar (2002) found no studies in a review of the literature on disturbance in amphibians. We may conclude from this that in general, direct disturbance is not considered a major threat. However, some studies do show that in particular circumstances, direct human disturbance can be important. For example, there were adverse effects on the Iberian frog *Rana iberica* at both the individual and population levels (Rodríguez-Prieto & Fernández-Juricic, 2005). The frogs responded to human approaches by fleeing their core habitat (stream banks), and repeated visits substantially reduced core habitat use. Sites closer to recreational areas had lower frog abundance. The mechanism of disturbance in that study, approaches during daylight, would however have little relevance to *T. cristatus* or *B. calamita* as neither tend to be active by day in places where they could be easily affected; it may have more relevance to *R. lessonae*.

Based on the limited published evidence for disturbance impacts, and current knowledge of *T. cristatus* and *B. calamita* ecology, the following factors are likely to be important when making a decision about the impact of a disturbing event:

Time of year

The impact of disturbance is likely to be highest during the peak breeding season (typically March to May for *T. cristatus* and April to June for *B. calamita*), since a reduction in breeding activity could have long-term consequences for the population. Disturbance during hibernation (typically October to March, though emergence times vary considerably) could also have an adverse effect, notably if it involves exposing the animals to adverse weather conditions, or causing them to become active. Female common toads *B. bufo* have lower body condition and reduced survival when there are warmer winters (Reading, 2006), presumably because they are more active than normal, and thus expending resources, during the hibernation period. However, very few types of activities would be expected to cause disturbance during hibernation as the amphibians bury themselves underground or under refuges.

Number and duration of disturbance events
A single, brief disturbance of an individual or small numbers of amphibians is unlikely to have any adverse effect. A single event that lasts a long time, or multiple brief events, would be of greater concern.

Impact on behaviour
The effect of the disturbance event on behaviour is critical. Of minimal concern would be retreat for a short period (say <30 min) into a refuge, such as litter layer at the pond base or a burrow in a sand dune. Of more concern would be disturbance that causes a longer term reduction in, or modification of, feeding, courtship, mating, dispersal or foraging behaviour. For example, for *T. cristatus* a substantial, sustained reduction in male lekking behaviour and female egg-laying could be significant, while for *B. calamita* a substantial, sustained reduction in male calling could be significant.

4.3 Significant groups

This section contains Natural England's and CCW's general advice on the interpretation of 'significant group of animals', as referred to in regulation 39(13) of the Habitats Regulations.

Breeding aggregations of adult *T. cristatus* or *B. calamita* may be considered significant groups. These occur within and (for *B. calamita*) around the immediate margin of breeding ponds. *B. calamita* uses a narrow range of pond types, normally very shallow, ephemeral and with minimal vegetation. Almost all sites are on sand dunes, heathland or upper saltmarsh. Virtually all breeding ponds for this species are known and mapped (Beebee & Buckley, 2001); they are also mapped digitally on the Rare Herpetofauna Database, maintained by The Herpetological Conservation Trust, and locations are available on the NBN gateway (www.searchnbn.net) at varying resolutions depending on access rights. *T. cristatus* has a much broader range of breeding ponds. Preferred ponds are typically 50-300m^2 in surface area, with no or minimal shading on the south side, no fish, abundant macrophyte cover, and close to other suitable ponds. The locations of only a small proportion (probably <5%) of all breeding sites are recorded for this species, though the general distribution is well understood. The NBN gateway is the best national source of data, with Local Record Centres and Amphibian and Reptile Groups often having additional data. For both species, a given breeding pond may not be used in some years due to it having reduced suitability (eg as a result of shading or fish colonisation), but the amphibians may use it again in subsequent years.

These species may also form significant groups during hibernation, if they aggregate in a small part of a site. Typically this would be in underground burrows, under refuges or piled materials, or in small underground crevices.

Significant groups may also form during dispersal (notably immigration to and emigration from the breeding pond) and, less commonly, during foraging.

The following table may be used as guidance on the number of individuals that may constitute a significant group.

Species	Number of adults in local population	Number of individuals constituting significant group
B. calamita	Low: area supporting population of ≤ 20 adults	≥ 2 adults
	Medium: area supporting population of 21-50 adults	≥ 5 adults
	High: area supporting population of > 50 adults	≥ 10 adults
T. cristatus	Low: peak adult count ≤ 10	≥ 5 adults
	Medium-large: peak adult count > 10	≥ 10 adults

4.4 Scenarios

Note. This guidance deals specifically with the offence of disturbance. Where actions may result in other offences being committed, such as injuring, killing, taking, damage to or destruction of breeding sites or resting places, it will necessary to consider a) how these offences can also be avoided or minimised and b) if a licence is required.

Timing: Work should be timed to avoid periods when significant groups of amphibians may be present and where the impact of disturbance would be significant. General optimal times are given in the table below, though note that local timings and precise use of site may dictate some deviation.

Use of works area	Optimal period for carrying out works
Breeding	November-January
Hibernation	May-September
Dispersal	November-January
Feeding	November-January

Conservation management

Common habitat operations for both species include pond creation and aquatic and bankside vegetation removal. Scrub removal, intensive grazing, removal of common amphibians and pond shallowing may be done for *B. calamita*. Deepening silting ponds is commonly done for *T. cristatus.* These activities, if undertaken at appropriate times of the year, are extremely unlikely to result in significant disturbance. Where a management operation is likely to result in significant disturbance but would result in overall benefits to the population as a whole, then a licence can be applied for the purpose of conservation. Such a licence could also be applied for to allow significant disturbance caused during habitat management undertaken to benefit other (EPS or non-EPS) animals or plants; in such a case it would need to be shown that there would be no detrimental effect on the population of *B. calamita* or *T. cristatus*.

Survey

Night-time torch counts are a common method for surveying both species. This will typically involve a degree of temporary disturbance to some animals, because newts or toads will often retreat to cover to escape the torch beam.

Some animals freeze when illuminated, while others appear to carry on behaving normally. There is evidence that higher power torch beams cause a greater amount of scattering among *T. cristatus* (Sewell et al, in prep). However, such flight behaviour has no effect at the individual or population level so long as it is confined to short periods. For both species, long term studies that involve this and more invasive techniques do not show any negative effects of repeated but brief disturbance. Lifting refuges is commonly used for both species, and similarly only causes temporary disturbance. Hence, standard torchlight and refuge surveys are unlikely to constitute significant disturbance. However, these methods do involve intentional or reckless disturbance in contravention of section 9 of the Wildlife and Countryside Act 1981. Those carrying out these activities may choose to consider whether the 'incidental result defence' is available for their activity or apply for a licence under the Act.

Most other common survey methods for both species - bottle-trapping, netting and pitfall-trapping – also involve taking the species and so would be licensable anyway. Searching for eggs of *T. cristatus* involves taking, while most spawn string surveys for *B. calamita* would not so no licence would generally be required for the latter.

Development activities
Some development activities will cause disturbance, and in most cases may result in other offences being committed under the Habitats Regulations and the Wildlife and Countryside Act 1981 (as amended). In such cases, the developer should request that their licence allows disturbance in addition to the other licensable activities, though it is good practice to reduce the amount of disturbance as far as practical. Significant disturbance in a development context might include the following:

- Erection of structures that pose significant barriers to dispersal (eg buildings, fences or walls)
- Lighting that substantially illuminates breeding pond at night during the breeding season
- Erection of structures that cause excessive shading of breeding pond
- Major increase in extended night-time visits to breeding sites at night during breeding season.

4.5 References

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5. Reptiles

5.1 Background

Two terrestrial European Protected Species of reptile are currently listed on Schedule 2 to the Habitats Regulations: sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*. Five species of marine turtle are also listed on Schedule 2: loggerhead turtle *Caretta caretta*, green turtle *Chelonia mydas*, Kemp's Ridley turtle *Lepidochelys kempii*, hawksbill turtle *Eretmochelys imbricata* and leatherback turtle *Dermochelys coriacea*. Of these, the *D. coriacea* is by far the most frequently recorded in British waters, with much smaller numbers of *C. caretta* and only very occasional reports of the other three species.

5.2 Evidence for impacts of disturbance

There is no published study specifically investigating the effects of disturbance on the terrestrial European Protected Species of reptiles. For marine turtles, there are studies of disturbance at nesting beaches (eg Waayers et al 2006), but as none of these species breeds in British waters this is of little relevance.

Guidance presented below is therefore based on a combination of (a) inferences from studies of other reptiles, and (b) judgments based on the ecology of the species concerned.

There is a modest evidence base on the impact of direct disturbance on reptiles generally. This may be due to the difficulty of studying disturbance in wild reptiles, but it is also at least partly because disturbance has rarely been considered an important threat to conservation status. In the few specific studies undertaken, disturbance by people is known to cause a retreat response and/or increased time spent concealed by some snakes (Parent and Weatherhead, 2000; Burger, 2001, 2007). It is reasonable to assume that if such behavioural responses were frequent or prolonged, reduced survival or reproductive success might result, but this has not yet been investigated in most species. There are indications that direct disturbance by humans can have negative population level effects for wall lizards *Podarcis muralis* and Western whip snakes *Hierophis viridiflavus* (Ficetola et al, 2007). Though not subject to thorough investigation, there is anecdotal evidence from volunteer surveyors that human disturbance of adders *Vipera berus* can result in population reduction (eg Baker et al, 2004).

Disturbance was found to have a negative impact on foraging behaviour in *L. vivipara* (Avery, 1993). When captive lizards were subjected to movement and noise, their respiration frequency increased while the probability of responding to prey decreased. Edgar (2002) surmised that the effect of human disturbance might be similar to that of poor weather conditions, in which reptiles frequently become less active and seek refuge for longer periods. Reduced basking opportunities for gravid female *L. agilis* may reduce hatching success and hatchling survival (Olsson and Shine, 1997); similarly, a correlation between poor weather and body condition was found in adders *Vipera berus* (Lindell, 1997).

In a review of the literature on disturbance in British reptiles, Edgar (2002) suggested that environmental stress, which could include direct disturbance,

might have an effect on lizards and snakes through immunosuppression. Environmental stress has been shown to result in increased parasite infection levels in *L. vivipara* (Oppliger et al 1998), which is closely related to *L. agilis*. Increased parasite burdens can reduce survival through reduced body condition, reproduction and antipredator mechanisms.

There is little published information on disturbance of marine turtles away from nesting beaches. However, conservation practitioners generally advise against activities in core foraging areas, that might cause turtles to cease feeding or leave such areas (e.g. National Marine Fisheries Service and U.S. Fish and Wildlife Service, 1998).

Based on the limited published evidence for disturbance impacts, and current knowledge of reptile ecology, the following factors are likely to be important when making a decision about the impact of a disturbing event:

Time of year
For terrestrial species, the impact of disturbance is of most concern during courtship and mating, typically April-June, and (for *L. agilis*) during the egg-laying period, typically April to June. A reduction in breeding activity could have long-term consequences for the population. Disturbance during hibernation (typically October to March, though emergence times vary considerably) could also have an adverse effect if it results in poor body condition on emergence; this might be the case if the animals were exposed to cold temperature or were caused to become active during winter. However, very few types of activities would be expected to cause disturbance during hibernation as the reptiles bury themselves underground or under refuges.

For marine turtles, virtually all passage through British waters occurs from June-October. Disturbance during this period may be significant as turtles are likely to be actively foraging (Houghton et al, 2006).

Number and duration of disturbance events
A single, brief disturbance of an individual or small numbers of reptiles is unlikely to have any adverse effect. A single event that lasts a long time, or multiple brief events, would be of greater concern.

Impact on behaviour
The effect of the disturbance event on behaviour is critical. Of minimal concern would be retreat for a short period (say <30 min) into a refuge. Of more concern would be disturbance that causes a longer term reduction in, or negative modification of, feeding, courtship, mating, thermoregulation, dispersal or foraging behaviour. For example, for *L. agilis* or *C. austriaca* a substantial reduction in basking several weeks prior to egg-laying or parturition (respectively) might result in reduced reproductive success.

5.3 Significant groups

This section contains Natural England's and CCW's general advice on the interpretation of 'significant group of animals', as referred to in regulation 39(13) of the Habitats Regulations.

Female *L. agilis* may aggregate during the egg-laying period around sun-exposed bare sand patches, often on track edges or south-facing slopes, banks and dunes. This may be considered a significant group. These species may also form significant groups during hibernation, if they aggregate in a small part of a site. Typically this would be in underground burrows, under refuges or piled materials, or in small underground crevices.

Marine turtle distribution in British waters is non-random, with turtles apparently choosing areas supporting high densities of their jellyfish prey. Given the size and connectivity of the marine environment compared to terrestrial habitats, and the apparent low density of turtles, definition of significant groups is problematic.

The following table may be used as guidance on the number of individuals that may constitute a significant group.

Species	**Number of adults in local population**	**Number of individuals constituting significant group**
L. agilis	≤ 10	2 adults, 2 immatures, or 5 hatchlings
	> 10	5 adults, 5 immatures, or 15 hatchlings
C. austriaca	≤ 10	2 adults, 2 immatures, or 5 neonates
	> 10	5 adults, 5 immatures, or 15 neonates
Marine turtles (all EPS)	[N/A as difficult to estimate on current knowledge]	2 adults or immatures

5.4 Scenarios

Note. This guidance deals specifically with the offence of disturbance. Where actions may result in other offences being committed, such as injuring, killing, taking, damage to or destruction of breeding sites or resting places, it will necessary to consider a) how these offences can also be avoided or minimised and b) if a licence is required.

Timing: Work should be timed to avoid periods when significant groups of reptiles may be present and where the impact of disturbance would be significant. General optimal times for terrestrial species are given in the table below, though note that local timings and precise use of site may dictate some deviation. For marine turtles, activities would be unlikely to have an impact if undertaken from November to May.

Use of works area	**Optimal period for carrying out works**
Courtship & mating	July-February
Egg-laying or parturition	November-May
Hibernation	May-September
Dispersal	October-March
Feeding	October-March

Conservation management
Common habitat operations for both terrestrial species include scrub clearance, bracken control, tree felling, firebreaking, sand patch creation and heather mowing. These operations have the potential to cause occasional, low-level disturbance, but if undertaken sensitively at certain times of the year they are unlikely to result in significant disturbance as covered by defined in the Regulations. Particular care should be taken when carrying out the following conservation management operations on a large scale close to reptile populations: tree clearance, land re-profiling, burning, mowing, cutting and forage harvesting. The extent of potential disturbance of such activities will depend on the local circumstances. Where significant disturbance is likely, a licence should be applied for under the conservation derogation.

No specific conservation management is undertaken for marine turtles in British waters.

Survey
Most common survey activities for terrestrial reptiles involve minor disturbance, resulting in short-term retreat behaviour. This is unlikely to constitute significant disturbance as covered by the Regulations. Surveys that are more likely to involve significant disturbance include those that require repeated (say >10 times per season) or sustained (say >3h per day) visits at close (say <5m) proximity to favoured emergence, courtship, mating and egg-laying areas, during relevant periods. Surveys that involve minor intentional or reckless disturbance, could result in a breach of section 9 of the WCA. Those carrying out these activities may choose to consider whether the 'incidental result defence' is available for their activity or apply for a licence under the Act.

Surveys for marine turtles are only likely to cause significant disturbance if the animal is forced to leave foraging areas for long periods. For most survey methods this is unlikely to occur.

Development activities
Some development activities will cause disturbance, and, in many cases, other offences too, e.g. damage to resting places. In such cases, the developer should request that their licence allows disturbance in addition to the other licensable activities, though it is good practice to reduce the amount of disturbance as far as practical. Significant disturbance in a terrestrial development context might include the following:

- Erection of structures that pose significant barriers to dispersal (eg buildings, fences or walls)
- Erection of structures that cause substantial shading of egg-laying areas for *L. agilis*.
- Major increase in extended daytime human movements close (say <5m) to *L. agilis* breeding sites during April-July.

5.5 References

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