

# Forest operations and birds in Scottish forests

## - the law and good practice

### SUMMARY

Recent changes to species protection were introduced by the Nature Conservation (Scotland) Act 2004. These are introduced in the general guidance leaflet [Forest operations and wildlife in Scottish forests](#). This note gives further advice on how best to plan forestry operations and recreational activities in woodlands to avoid causing damage or disturbance to protected wild birds in Scotland. It has been prepared jointly by Forestry Commission Scotland and the Royal Society for Protection of Birds, with help from Scottish Natural Heritage.

In most cases, problems can be avoided or minimised by good planning and forest design, and awareness of the guidance here should reduce the chances of offences being committed.

### 1. INTRODUCTION

All wild birds are legally protected, but some species are considered to be more sensitive to disturbance, or are specially protected under European, UK or Scottish legislation. The focus of this guidance is on these rarer or more sensitive birds [see Box 1]. The emphasis throughout is on pragmatic measures that nonetheless take full account of the legal and conservation status of the birds involved. ***Effort to avoid or minimise disturbance should be proportionate to the status of the species, with special attention paid to the rarest, most susceptible or those with special protection.***

In many forests, although management practices may benefit bird habitats in the long term, there are real possibilities of direct and indirect disturbance from a number of forest operations such as harvesting or extraction, and also from poorly timed or located leisure and recreation activities.

The best way to avoid such disturbance, while at the same time taking opportunities for enhancing bird populations, is by ***good forest design*** and ***forward planning***. It is important to be able to demonstrate that all reasonable steps have been taken to avoid damage or disturbance and to comply with legislation and guidance.

FCS will follow this guidance in our management of the national forest estate, and will expect this guidance to be followed as a condition for approval of felling licences and grant aid and forest plans for private forests. We will also promote its use in forestry –related Environmental Impact Assessments, and in Appropriate Assessments for judging impacts of forestry proposals on sites designated as SPAs and SACs under EU Directives.

### **BOX 1. Which forest birds are priorities for avoiding damage or disturbance?**

Birds which are specially protected (legislation in **bold** below) or are conservation priorities. These include species listed in:

- **EU 'Birds' Directive 1979 (Annex 1)**
- **Wildlife & Countryside Act 1981** ["WACA 1981"] (**as amended, principally by the Nature Conservation (Scotland) Act 2004**) ["NCSA 2004"]
- The Scottish Biodiversity list as part of the Scottish Biodiversity Strategy
- UK 'Birds of Conservation Concern'.

All these species are listed in the Appendix, along with 4 other forest-nesting species which are vulnerable to disturbance (**heron, buzzard, long-eared owl, raven**). Levels of legal protection are summarised in Table 1, with further details in Box 2.

## **2. BIRDS AND THE LAW**

Box 2 and Table 1 summarise the law relevant to protecting birds in forests. More guidance on bird protection is given in 'Wild Birds & the Law - Scotland' (RSPB, 2006), as well as the general SNH guidance booklet 'Scotland's wildlife: the law and you' <http://www.snh.org.uk/publications/online/wildlife/law/law.asp>.

All wild birds, their nests and eggs are protected against intentional or reckless damage and destruction unless some specific exemption is made in the legislation, and some rare or sensitive species are also specially protected from intentional or reckless disturbance.

Other recent legislative changes include (in NCSA 2004), a duty on every public body to "further" the conservation of biodiversity, and (in the Land Reform (Scotland) Act 2003), a general right of public access to most open spaces, including forests, regulated by an agreed set of principles, the Scottish Outdoor Access Code, or SOAC.

### **BOX 2. Summary of bird protection law in Scotland relevant to forestry**

The main legislation is the Wildlife and Countryside Act 1981, as amended by the Nature Conservation (Scotland) Act 2004. These make it an offence to intentionally or recklessly kill, injure or take any wild bird, or take, **damage, destroy obstruct or interfere** with any wild birds nest, whilst being built or in use, or their eggs and young. There are some specific exceptions for specific purposes under licence (such as hunting of legal quarry species in the open season, preventing the spread of disease, assisting conservation of other species or preventing serious damage to timber).

Offences of **disturbance** relate to intentional or reckless acts affecting species listed on Schedule 1 of the WACA 1981 (as amended by NCSA 2004) during breeding (disturbance whilst they are building or using their nest or disturbance to their dependent young). There is also a new specific offence of disturbance to lekking species on Schedule 1 whilst they are lekking, which includes areas distant from nest sites (currently only capercaillie in forests).

For species on the new Schedule 1A (currently white tailed eagle only), intentional or reckless **harassment** is also made illegal away from the nest and outside the breeding season. This would include disturbance at roost sites. A new Schedule A1 lists birds whose **habitually-used nests** may not be intentionally or recklessly damaged, destroyed or otherwise interfered with when not in use (also currently white tailed sea eagle only).

Disturbance is likely to arise where forest management or recreational activities cause specially protected birds to change their behaviour with potentially adverse effects on their breeding success. In the worst case, they could desert a nest or fail to rear young successfully. Such disturbance can be intentional, reckless or accidental, and can be caused by forest managers and their agents, or by event organisers or other users of the forest.

It is necessary for managers/users to be able to show that **reasonable precautions** were taken to avoid committing the damage or disturbance, and that if it occurred, that steps were taken to **minimise or prevent** further damage or disturbance. 'Reasonable' in this context may be open to interpretation, but some general guidance on this is given below. More detailed advice for individual species should be sought from specialists (via SNH/RSPB/FCS offices – see below).

See the following diagram for an illustration of the decision process that should be followed. It is important to understand the potential impacts of your planned forest operation/activity on a species within its territory, both within your forest area and neighbouring ownerships, including forest and non-forest land.

***This guidance note provides practical guidance to help prevent or reduce damage and disturbance. It cannot be taken as a definitive interpretation of the law, which will be established by the courts.***

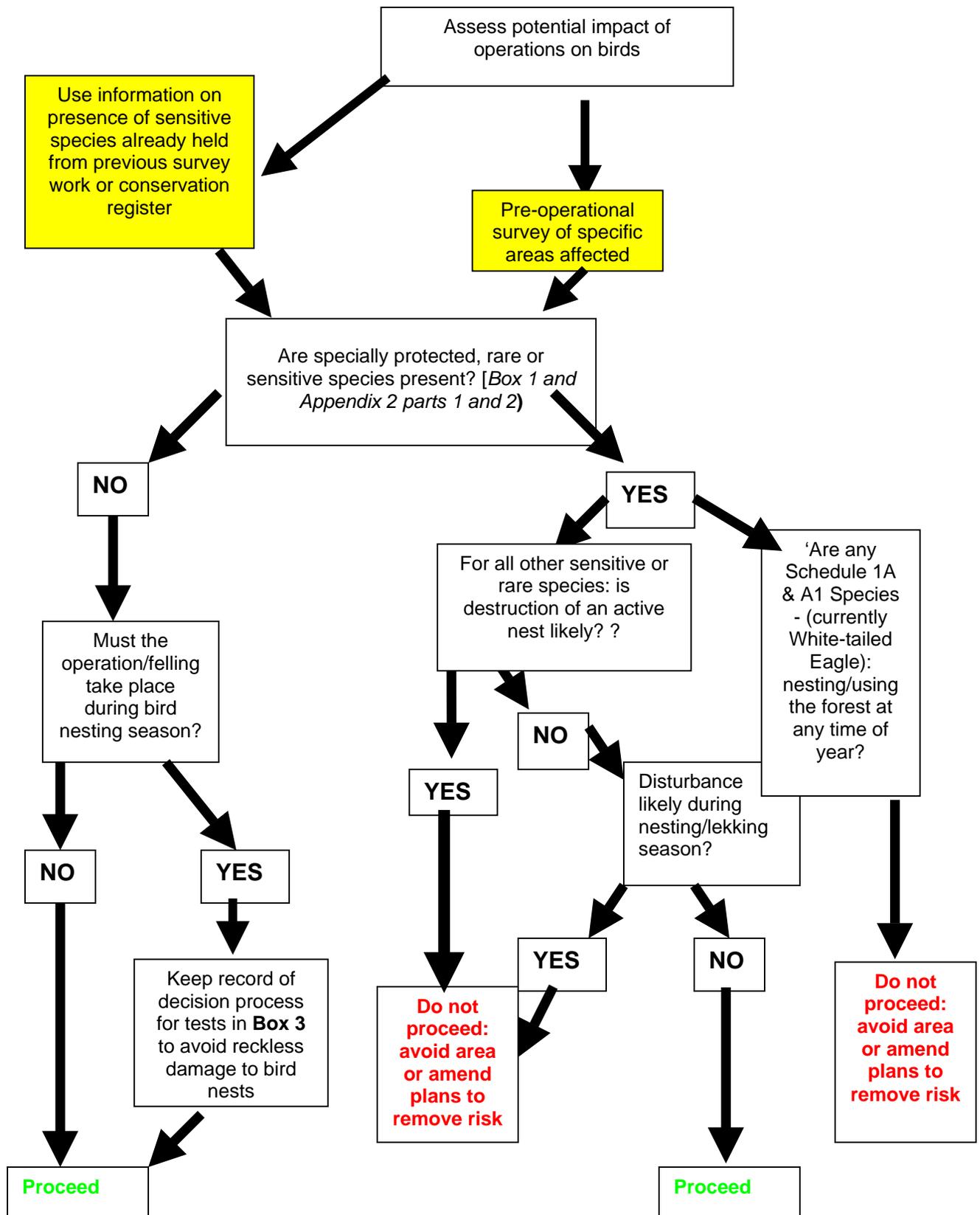
**Table 1: a summary of legal protection and conservation status of birds in Scotland**

Category of Protection for bird species:	Protection from intentional /reckless killing, or damage/ destruction of actively used nests*	Protection from intentional or reckless disturbance at the nest*	Protection of lekking birds from intentional or reckless disturbance	Protection from intentional or reckless harassment at all times and places	Protection from intentional or reckless damage of habitually used nests	Basis to prioritise protection measures in forests
Schedule 1 of WACA 1981, as amended (e.g. NCSA 2004)	Yes	Yes	Yes (so far capercaillie only**)	No	No	Sensitivity to disturbance in breeding season
Schedule 1A (as created by NCSA 2004)	No	No	No	Yes( so far W.T. Eagle only)	No	Sensitivity to disturbance all year
Schedule A1 (as created by NCSA 2004)	No	No	No	No	Yes( so far W.T. Eagle only)	Operational risks to known nest sites
Annex 1, EU 'Birds' Directive 1979	Yes	Yes (most)	No	No	No	Sensitivity to disturbance in breeding season
Other species not listed in above	Yes	No	No	No	No	Conservation status of species, plus sensitivity

\* subject to certain exceptions where the act is an incidental result of a lawful operation, and reasonable precautions have been taken – see Box 2

\*\* The only other lekking Schedule 1 species is ruff - a rare wet grassland wader very unlikely to be encountered during woodland management operations.

Fig 1. Decision process for planning forest management operations and recreational events



### 3. TYPES OF 'DISTURBANCE' AND THEIR IMPACTS

Many rare or sensitive birds will use the same small area of forest to nest in, year after year, particularly if young are regularly produced. Often only a change in habitat structure forces them to move on. Some species are more unpredictable. Therefore forest managers should combine forward planning with protocols to deal with unexpected events. Most disturbance issues relate to breeding birds, but winter roosts of some species may be relevant (especially if on designated sites), and any harassment at all of species on Schedule 1A of the WACA 1981, as amended (Box 2).

What is disturbance? There is no simple definition (see Box 2), but adverse disturbance effects - *not all of it necessarily illegal* - can come from many sources, including:

- forest operations affecting the use of an area by birds, or leading to nest loss or desertion (through disturbance impacts or through tree felling)
- recreational, commercial or educational events taking place near nesting, lekking, or traditional roost sites
- poorly planned trails and recreational zoning leading to increased public pressure in certain areas
- drawing attention to the presence of species through talk, tree marking or inappropriate interpretation.

These are considered in turn below, but beginning with the starting point that the best way to avoid disturbance, while at the same time taking opportunities for enhancing bird populations, is through good forest design and forward planning. The significance of disturbance may vary. ***The key principle is avoid impacts on survival and breeding success that may negatively affect the conservation status of the species. Rare and more sensitive species require greater protective measures.***

### 4. HOW TO AVOID DAMAGE OR DISTURBANCE TO RARE AND SENSITIVE SPECIES: FOREST SURVEY & DESIGN PLANNING

There are two stages to avoiding damage or disturbance to rarer, protected and more sensitive birds (listed in Appendix 1) – through forward planning (this section) and through operational practices (Section 5).

#### 4.1 Forest survey and planning

The first step in disturbance avoidance is to know what is present in the forest. Areas due for management within an operational plan period should be surveyed as far as possible for nests of important species. Concentrate surveys in areas where operational disturbance could be significant - areas to be felled will usually be of highest priority. Initial surveys should take place preferably one or more nesting seasons before operations are due (to give the best chance of planning to avoid problems; many raptors, for example, have traditional nest areas). If 'Schedule 1' species are known to be present, then the survey itself may require a licence from SNH. If staff with wildlife skills are not immediately available, then other competent ornithologists (holding the correct licences if appropriate – see below) may be able to undertake survey work.

Surveying well in advance allows the opportunity to zone management at the earliest possible stage.

The location of sensitive birds' nests (those species in Part 1 of the Appendix) should not be marked on forest maps or plans that have a wide circulation. This will require care in relation to various forms of publication or public consultation.

Operational site managers must refer to confidential schedules and maps and record their proposals and actions – this also requires *careful briefing of contractors*. It is best to have one person responsible for maintaining this confidential information and informing other staff and contractors as required.

The initial survey (well in advance of any operations) will indicate forest areas that should be avoided by major operations during sensitive times of the year (see Appendix). If areas are known to be used regularly by important nesting birds, it may be possible to design forest management to reduce disturbance or benefit the species; such actions may include active management, long-term retentions or zones of minimum intervention. Issues such as management timing, location, methods and mitigation can then be planned.

***As a basic principle, major operations, such as thinning and felling near known nest locations should take place outside the main nesting season.*** This is the best way to avoid committing an offence if sensitive species are known to be present. For some sensitive and specially protected species, such as white-tailed eagle, care is also needed all year round for traditionally used roost sites, as well as nesting sites. For lekking species, such as capercaillie and black grouse, there are additional special considerations required for lek sites.

### **Box 3. Protecting capercaillie at lek and nest sites: key points**

Forestry operations and known recreational activities should be avoided within 1km of known capercaillie lek sites between 1 March and 15 May. If necessary, seek expert advice on the extent of a lek. Deer control work is acceptable within 1km of leks during this period. However, stalkers must stay at least 500m from lek sites between 4am and 9am.

If a capercaillie nest is found during forestry operations, forest managers must prevent disturbance by marking an exclusion zone of 100m radius around the nest. This should be done using tape. Full guidelines can be found at [www.capercaillie-life.info](http://www.capercaillie-life.info)

For species such as crossbills, which are hard to detect and identify, and whose nests usually cannot be found, judgement should be used and harvesting and noisy operations should be avoided if possible in areas known to be used regularly by these birds during the breeding season (first five months of the year).

## **4.2 Management of potential disturbance: the role of FC Scotland and SNH**

Where forest activities, including felling and thinning, require approval by Forestry Commission Scotland, it may be necessary to demonstrate how the requirements of protected species (including potential disturbance issues) have been considered, when applying for approval.

If forest managers need to visit the vicinity of nests of specially protected birds, a *disturbance licence* must be obtained from Scottish Natural Heritage. In practice, this is required where the intention is to spend significant time close to the nests, rather than for people just passing by

incidentally. Licences will only be issued when it can be demonstrated that the applicant has the necessary skills and experience to visit nests and nesting areas safely. SNH can advise on this, but in general, visiting nest areas should be avoided. The advice or assistance of licensed FCS, SNH and RSPB staff can be requested as appropriate. In addition, there should be automatic liaison with SNH if the disturbance is likely to affect any designated site, such as SSSIs or SPAs.

### 4.3 Establishing effective disturbance free zones

The best practice of avoiding the nesting season should be followed where possible. If not, efforts should be made to adhere to the recommended safe working distances shown in the Appendix. These should be factored in to detailed operational planning and made clear to contractors. These recommendations may be revised downward, or upward, but only on the advice of skilled ornithologists with specialist knowledge of the exact circumstances. Recommended disturbance distances take into account dependent young, which after fledgling will frequent areas some distance from the nest itself.

There could be some legal issues connected with the felling of trees containing nests of common species (see Box 4).

#### **Box 4. Minimising disturbance or damage to species of birds that are not specially protected**

The **disturbance** of birds which are not specially protected (Table 1) is not an offence. However, intentional or reckless damage to, or **destruction of nests** is a potential offence. The felling of trees during the breeding season which contain nests of any wild birds could be considered an offence unless it can be shown that the felling was a lawful operation, **and** that reasonable precautions were taken to avoid the damage/destruction, (**or** it could not have reasonably been foreseen), **and** that reasonable steps to mitigate damage had been taken once it was apparent that it had or would occur. See [general guidance note on protection of wildlife in Scottish forests](#) for more background guidance on this issue.

It should be stressed however that it is not the intent of legislation to prohibit otherwise lawful activities such as forestry. Indeed thinning and felling that meets normal good practice probably has little effect on **populations** of the commoner small birds, and should benefit many species in future through diversifying their habitat.

For many practical reasons, timber harvesting and other forest operations cannot reasonably be confined to the period outside the breeding season as a general rule. **However, as for disturbance of Schedule 1 species (see Box 2), before any work commences in the breeding season it is important for each operation to ask – “is it necessary to fell these trees at this time of year”?** Unless this issue is considered seriously, such operations might be viewed as being ‘reckless’. Although some birds such as wood pigeons can nest for much of the year (and it is difficult to avoid felling trees containing nests or young), it is necessary to consider these issues beforehand, and recording evidence of how decisions were reached may be helpful.

If felling of a coupe in the nesting season (February to August) cannot reasonably be avoided, it is important to identify any reasonable **mitigating measures** such as leaving specific areas within them that are known to be particularly rich for bird nesting habitat, especially for the less common species.

Although the disturbance of non-Schedule 1 species is not illegal, it is clearly good practice to avoid it where possible. This consideration should be normal practice during operational planning. As before, minimising work in the nesting season should always be considered.

## **5. MINIMISING DISTURBANCE TO RARE AND SENSITIVE SPECIES DURING FOREST OPERATIONS**

Despite good planning and careful timing of operations, inevitably disturbance of rare or sensitive breeding birds will occur from time to time. A pragmatic approach to the issues raised will help resolve them as far as possible. Strategic forward planning of operations should be supplemented with site plans based on detailed knowledge of the ground. This section provides some comments on common issues.

### **5.1 Pre-operational checks**

Some rare species and particularly birds of prey will usually be deterred from nesting within approximately 200m of ongoing operations in early spring (see Appendix – distances could be greater than this). From February to August all areas due for thinning and felling should be checked for active nests of important birds at least two weeks before operations start. In larger forest areas this may allow machines and workers to be diverted to alternative areas and it may be possible to work around nesting areas and fell them once young have fledged and left the area. In thinning operations, forest managers need to plan felling away from trees with visible large nests and conduct this felling at times outside the nesting season (see Appendix).

### **5.2 How do I know if disturbance is occurring?**

The type and degree of disturbance to nests varies considerably between and within species, and may depend on individual site factors such as topography, crop density and background levels of human activity. Identification of the species concerned can also sometimes be difficult. In general, nests are more likely to be deserted from early in the nesting attempt to the young chick stage and increasingly less likely when well-grown young are present. The nest building and egg-laying periods are particularly sensitive times. Even if nests are not deserted, eggs may chill or be exposed to predation if adults are kept off their nests for long periods – this especially so in bad weather. The obvious indication of a bird alarming noisily or flying around near a nest means that some degree of disturbance has occurred. Some birds, however, may slip away quietly. The significance of disturbance to the ecology of individual birds is variable, but legally it is clear that a precautionary approach should be taken and it is good practice to seek advice if in doubt.

### **5.3 What do I do if I find a nest during operations?**

For specially protected 'Schedule 1' species (see Box 2 and Appendix), a tree with a nest containing eggs or young birds must not be felled while occupied, to avoid the possibility of an offence being committed - even if found immediately before harvesting work. Box 2 explains the additional protection for 'List 1A' and 'A1' species (currently only white-tailed eagle).

If operations cannot be suspended or diverted to other forest areas when an active nest of a rare species is located, then an effective and appropriate disturbance-free zone should be established around the nest – see table in Appendix. Any unfelled areas should be as large as practically possible, but certainly at least a small clump and not just an individual tree. Refer to table in Appendix and seek advice if possible. It is likely that there will be further species specific forest planning guidance developed, for example for white-tailed eagle; check the [Forestry Commission Scotland website](#).

#### 5.4 What if a nest tree is felled by accident?

If a tree containing an active nest of a specially protected species is felled, advice on what practical steps might be possible should be sought immediately by contacting the area office of Scottish Natural Heritage or RSPB Scotland; in some cases FC Scotland staff may be able to help. Correct identification is important to know what to do. In some cases, birds will return to nests if they are rebuilt on some kind of platform and left undisturbed, but this is a complex area, varying between species, and advice should be taken. A record of the incident and action taken should be kept.

### 6. MINIMISING DISTURBANCE FROM FOREST-BASED LEISURE AND RECREATION

Forest recreation activities can disturb birds and there are several ways in which disturbance offences could be committed:

	“Cause/permit” an offence	Commit the offence
Forest owner/manager	✓	✓
Event organiser	✓	✓
Participant in organised event		✓
General forest visitor		(✓)

The general forest recreational user may be in forests at any time throughout the year, but if they have no knowledge of birds present, an offence is unlikely; though they could still cause actual disturbance. The management and planning activities of the forest manager are important in relation to all access or events, as are access rights and responsibilities under Scottish Outdoor Access Code (see FCS Guidance Note: [Forest operations and wildlife in Scottish forests](#)).

#### 6.1 Events

Particular care is required in planning the location and timing of forest-based leisure events, such as music concerts, mountain bike and orienteering competitions, clay shooting days and car rallies. These irregular events can cause sudden changes in disturbance levels and may cause rare forest birds to desert their nests. Such events should be planned using the initial forest bird survey (see section 4 above), as well as reference to the forest management plan or conservation plan), and confidential schedules. If there is any doubt about likely negative impacts on rare birds contact the local area office of Scottish Natural Heritage. It is important to be able to demonstrate that disturbance issues have been considered before the events take place – both by forest managers and event organisers, so that they do not ‘cause or permit’ an offence to occur.

Participants in events cannot be expected to know what lies in their path, so the onus is on the organisers to plan the event well. If organisers researching routes find nesting species, then amendments should be made following the guidelines for forest operations above. If participants disturb a bird during an event, then as much should be done as possible to reduce the disturbance at the time, assuming some mechanism for reporting back exists.

## 6.2 Informal recreation

Most small birds, including some rare species, will tolerate frequent background levels of human presence (such as walkers without uncontrolled dogs, cyclists or horse riders) along marked trails through nesting territories without any discernible effects.

However, uncontrolled dogs can cause significant disturbance to ground nesting birds, including capercaillie, black grouse or nightjar. Where populations of such species are present, dogs should be kept under control and preferably on a lead.

For larger birds – including white-tailed eagle and capercaillie - the siting, construction/upgrade and operation of new, as well as existing recreational paths – including footpaths, bridleways and mountain bike trails - can cause disturbance. Seek advice in the planning of such infrastructure and its operation.

## 6.3 Birdwatchers and nest monitoring

These can cause disturbance. Forest managers and site staff can help reduce this by ensuring any information produced and activities planned consider the disturbance issue. Birdwatchers' codes of conduct, for example for black grouse and capercaillie, should be made available in visitor centres and interpretive boards. The message from forest managers to their visitors must be that 'patience and respect for the needs of the birds will often be rewarded with good views'. Careless talk can spread information on nesting locations rapidly. Do not leave very small retentions around nest trees, unless as a result of emergency measures during operations (above) as this can advertise the nest site.

The monitoring of bird nesting success requires planning to prevent disturbance and to ensure sound data are produced – problems can occur through uncoordinated duplicate visits to the same nests by different observers, and a licence from Scottish Natural Heritage is required to visit the nest of a Schedule 1 species. Regional co-ordination of nest monitoring and ringing is usually carried out to ensure effective local surveys which fit into national surveys and cause minimal disturbance – contact the regional RSPB office for advice on existing active projects.

## REFERENCES AND USEFUL SOURCES OF INFORMATION

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<http://www.forestry.gov.uk/forestry/hcou-4u5ges>

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### Sources of Advice

Forestry Commission Scotland Conservancy Offices  
SNH Area Offices  
RSPB Regional Offices

**APPENDIX. Nesting seasons, disturbance distances and legal status for birds found in forests (3 main categories)**

<b>Species</b> [Scottish breeding population in pairs, or best estimate for very rare species]	<b>Nesting seasons</b> (avoid work in these periods if closer than safe working distance)	<b>Safe working distances</b> (evidence level in square brackets – see notes). Probably safe for activity beyond these distances, all year	<b>Wildlife &amp; Countryside Act Schedule 1</b>	<b>Protection from intentional or reckless harassment</b> (WACA 1981: Schedule 1A under NCSA 2004) = ✓ <b>Protection of nests outwith breeding season</b> (WACA 1981: Schedule A1 under NCSA 2004) = X	<b>EU Birds Directive (1979) Annex 1</b> (see Box 2)	<b>Birds of Cons. Concern</b> (Red, Amber Green listed):  ✓ = listed on 'Scottish Biodiv. List'	<b>Comments</b>
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**1. SPECIALLY PROTECTED, SENSITIVE OR VERY RARE SPECIES**

(All species one or more of: Schedule 1, Annex 1, Red-list or Scottish Biodiversity List)

**Divided into A: REGULAR and B: SPORADIC/LOCALISED nesters**

**A: REGULARLY NESTING IN FOREST AREAS OR IN TERRESTRIAL/AQUATIC HABITATS WITHIN THEM (more than 50 pairs in Scotland)**

Red-throated diver [935]	Mid Apr – mid Jul	300-900m []	✓		✓	✓ <b>Amber</b>	On water bodies in or near forests
Black-throated diver [189]	May – Jul	300-900m []	✓		✓	✓ <b>Amber</b>	On water bodies in or near forests
Common dcooter [95]	mid May – Jul	300-800m []	✓			✓ <b>Red</b>	On water bodies in or near forests
Goldeneye [<100]	May - mid Jul	150-300m []	✓			<b>Amber</b>	Nests in tree holes/ boxes: uses lochs and rivers. WACA S.1/2
Red kite [60]	May – mid Sep	300-600m []	✓		✓	✓ <b>Amber</b>	Tree nests
Hen harrier [633]	Apr – Aug	500-1000m []	✓		✓	✓ <b>Red</b>	Avoid disturbance of communal winter roosts
Goshawk [117+]	Apr - Jul	250-450m []	✓			<b>Green</b>	Usually nests in large trees
Golden eagle [433]	mid Mar – mid Aug	750-1500m []	✓		✓	✓ <b>Amber</b>	Tree & cliff nests, forests & open areas
Osprey [168]	mid Apr – mid Aug	350-1000m []	✓		✓	✓ <b>Amber</b>	Tree nests
Merlin [800]	May - Aug	200-400m []	✓		✓	✓ <b>Amber</b>	Open ground; occasionally forest edges
Peregrine [592]	May – mid Aug	600-1000m []	✓		✓	✓ <b>Amber</b>	Cliff nests in forests
Black grouse (& leks) [3,344 lekking males]	Mid Apr – mid Aug	300-1000m from lek []				✓ <b>Red</b>	Open ground, restocks, forest edges
Capercaillie (& leks)	Apr – mid Jul (leks:)	200-1000m	✓	Lek offence – WACA 1981	✓	✓ <b>Red</b>	Illegal to intentionally

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[2,000 indivs]	Mar – May)	from lek [2]		inserted by NCSA 2004			or recklessly disturb leks
Barn owl [ ]	Mar - Oct	100-250m [ ]	✓			✓ Amber	Often in nest boxes
Short-eared owl [ ]	mid Mar - Jul	300-600m [ ]			✓	✓ Amber	Open ground and restocks
<b>Species</b>	<b>Nesting season</b>	<b>Safe distance</b>	<b>WACA</b>	<b>1A/A1</b>	<b>EU Birds Directive</b>	<b>SBL/BoC C</b>	<b>Comments</b>
Crested tit [2,400]	mid Apr – mid Jun	50-200m [ ]	✓			Green	N Scotland only, usually pine
Common crossbill [ ]	mid Feb – mid May	50-150m [ ]	✓			Green	Widespread: most forests
Scottish crossbill [300-1,250]	mid Feb – mid Jun	50-150m [ ]	✓		✓	✓ Red	Mostly Central and N/NE Highlands
<b>B: VERY RARE OR SPORADIC BREEDERS (under 50 prs in Scotland), OR HIGHLY LOCALISED WITHIN A FEW FOREST AREAS (treat with extreme sensitivity if located)</b>							
Slavonian grebe [<50]	May – Jul	150-300m [ ]	✓		✓	✓ Amber	Water bodies in/near forest, N/NW
Honey buzzard [<10?]	mid May – mid Sep	150-600m [ ]	✓		✓	✓ Amber	Mature, well-forested areas, anywhere
White-tailed eagle [31]	Feb – Aug , but susceptible to disturbance all year round, including at roost sites	500m	✓	✓ X	✓	✓ Red	(not in original Fig 1 & 2) Expanding population, spreading.
Hobby [<5]	Late May – mid Aug	180-450m [ ]	✓			Green	Could occur anywhere
Wood sandpiper [<30 ]	May - Jun	200-600m [ ]	✓		✓	✓ Amber	Wetlands near/ in forests
Nightjar [<50?]	mid May – mid Sep	50-200m [ ]			✓	✓ Red	SW Scotland mostly; rare, declining
Wryneck [1-2? or extinct]	May - Aug	150-250m [ ]	✓			✓ Red	Open woods, anywhere
Redwing [<50]	May – mid Aug	100-250m [ ]	✓			✓ Amber	Woodland/ gardens/ scrub, N/NW Highlands
Fieldfare [<5]	mid May - Jul	100-250m [ ]	✓			Amber	Could occur anywhere
Parrot crossbill [10s of pairs?]	mid Feb – mid Jun	50-150m [ ]				✓ Amber	Disturbance same as Scottish Crossbill
<b>2. OTHER VULNERABLE SPECIES (those where disturbance issues can occur)</b>							
Grey heron [ ]	Feb – early Jun	200m [ ]				Green	See Box 3; distance guess by IF

Common buzzard [ ]	Late Mar – mid-Jul	200m [ ]				Green	See Box 3; distance guess by IF
Long-eared owl [ ]	Mar - Jun	[ ]				Green	(missing from original Fig 2)
Raven [ ]	Feb - Jun	[ ]				Green	Widespread

### 3. ALL OTHER BIRD SPECIES

Many widespread and common species are included here – the remainder of species found nesting in, and using, forests. See Box 4 for general comments about reducing disturbance and damage to nests.

**Notes:**

**Evidence level for disturbance distances.** Many issues relating to disturbance of individual bird species in forest environments have either never been objectively researched or vary according to site or circumstance. In some cases, there has been relevant recent work in more open ground environments. The assessment in square brackets here gives a broad indication of this, as follows:

- [1] = scientific evidence or strong indications that the distance figure is reliable in most circumstances;
- [2] = consensus amongst most ornithologists and forest managers from practical experience that this is a safe working distance in most circumstances;
- [3] = little specific information but recommended as best precautionary distance.

**Safe working distances.** Some are still to be confirmed by SNH based on current research and review work. In general the safe working distances used should be towards the upper end of the given range early in the breeding season. There may be scope to reduce them towards the lower end of the range later in the breeding season, but take expert advice.