

## **INTERIM ADVICE NOTE 130/10**

### **Ecology and Nature Conservation: Criteria for Impact Assessment**

#### ***Summary***

This advice provides guidance on the criteria for the assessment of the potential impacts of road projects on nature conservation resources.

#### ***Instructions for Use***

This document is supplementary to the extant (1993) advice provided in DMRB Volume 11, SECTION 3 Part 4 'Ecology and Nature Conservation'. It will be withdrawn when this latter guidance is republished.

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**Annex A: Ecology and Nature Conservation: Criteria for Impact Assessment' on English DBFO Schemes.**

## 1. Introduction

### 1.1 Outline

There have been considerable developments in the area of the assessment of 'Ecology and Nature Conservation' since the publication of DMRB Volume 11, SECTION 3 Part 4 in 1993. These have included the publication of guidance on resource valuation and significance criteria, within DMRB Volume 11 SECTION 2 and topic specific advice provided within the 'Transport Analysis Guidance' (DfT) and 'Guidelines for Ecological Impact Assessment in the United Kingdom' (Institute of Ecology and Environmental Management, 2006).

While the existing advice in DMRB Volume 11 SECTION 3 Part 4 advocates determination of the relative value of nature conservation resources and definition of the significance of impacts, there is an absence of specific advice or criteria. Such criteria are therefore developed for individual projects.

DMRB Volume 11 SECTION 2, Part 5 presents a framework for the development of significance criteria based around consideration of resource value, the magnitude of impacts and the significance of effects. This Interim Advice Note (IAN) provides supplementary guidance, on the application of such significance criteria for use in the assessment of the potential impacts of road projects on nature conservation resources.

### 1.2 Relationship

Advice in DMRB Volume 11 SECTION 3 Part 4 'Ecology and Nature Conservation' continues to provide the framework for assessment of potential impacts of roads projects on nature conservation resources.

### 1.3 Implementation

This IAN should be used forthwith on all projects for the assessment, design, construction, operation and maintenance of motorway and all-purpose trunk roads in England except where procurement of works has reached a stage at which, in the opinion of the Highways Agency, its use would result in significant additional expense or would delay progress (in which case the decision must be recorded in accordance with Highways Agency procedures).

## 2 Interim criteria for ecology and nature conservation impact assessment

### 2.1 Scope

Advice in this IAN is presented in three tables which provide illustrative examples of:

- resource valuation;
- characterisation of ecological impacts; and
- determination of 'significance of effects'.

This IAN should be read in conjunction with DMRB SECTIONS 1 and 2, which set out general principles for the environmental assessment process.

### 2.2 Process

Current advice in DMRB Volume 11, SECTION 3, Part 4 remains relevant, and project specific assessment methodologies should not be developed. However, it is appropriate for project teams to use professional judgment to adapt the illustrative examples of Resource Valuation (Table 1) and Significance of Effects (Table 3) and to utilise the "Characterisation of Ecological Impacts" (Table 2).

The development of these significance criteria can be informed by consideration of aspects of the 'Transport Analysis Guidance' (DfT) and informed by 'Guidelines for Ecological Impact Assessment in the United Kingdom' (Institute of Ecology and Environmental Management, 2006). Neither of these approaches in isolation is considered directly appropriate.

It is important to recognise that while Scoping or Simple Assessments should seek to identify and value nature conservation resources, they are intended to focus further study on those resources that have the potential to be associated with significant effects. This process requires the identification and selection, of nature conservation resources, based on value and the potential for significant negative impacts. Professional judgement should be used to develop project specific value and magnitude thresholds in agreement with the Statutory Environmental Body (SEB) to ensure subsequent assessment work is sufficiently targeted. Typical magnitude criteria descriptors are provided in Table 2.2 of DMRB Volume 11, SECTION 2, Part 5, which can be adapted focussing on effects on favourable conservation status and/or integrity. It is important to note that full Characterisation of Ecological Impacts is not expected to take place at this level of assessment. Reporting should therefore reflect nature conservation resource values and conclusions relating to the potential for significant effects or their absence.

Where potential significant effects are identified above the agreed value and magnitude thresholds, Detailed Assessment is appropriate, and consideration should be given to "Characterisation of Ecological Impacts" (Table 2) for each receptor and an overall conclusion that identifies the "Significance of Effects" (Table 3) of the project.

Project teams are reminded that project-specific valuation and assessment criteria should be set out in any scoping exercise and be subject to appropriate consultation.

### 2.3 Resource Valuation

Environmental assessment work should focus on determining the value of nature conservation resources (ie those nature conservation features present within the Study Area), and assessing whether projects are likely to have significant effects.

Table 1 illustrates a hierarchical approach to resource valuation that takes account of the other sources of references, but does not specifically align with any single published methodology. The application of such examples will continue to rely on professional judgement by individuals with sufficient relevant expertise; (see DMRB Volume 0, SECTION 2, Part 1, Appendix E for the 'Project Roles and Indicative Competency Requirements' for Environmental Coordinator/Environmental Manager). It is particularly important that the Statutory Environmental Body (SEB) supports any such judgement and that any decisions are recorded. It should be noted that where a nature conservation resource has value at more than one level, its overriding value is that of the highest level.

The role of professional judgement and consultation with SEBs is particularly relevant where areas of habitat are not in themselves designated. PPS9 (ODPM, 2005) for example, indicates that ancient woodlands should be considered to be important natural habitats, as such reference should be made to published selection criteria such as JNCC (1998) when undertaking resource valuation of undesignated areas of ancient woodland.

Such judgement will also be relevant for those species or habitats which are the subject of specific legislative protection or control for reasons other than those related to nature conservation value, this includes welfare or road safety considerations. Except where there is a clear potential for significant effects, these resources should not form the principle focus of any assessment, they should however be considered alongside the environmental assessment process and reported accordingly.

#### **2.4 Characterisation of Ecological Impacts**

Where Detailed Assessment of specific receptors is considered appropriate, the potential impacts on these receptors should be described and assessed in detail. Table 2 illustrates an approach to the characterisation of ecological impacts in place of a reliance on impact magnitude. Together, the characteristics of ecological impacts, including magnitude, inform the determination of impact significance within Detailed Assessment. This approach takes account of the other sources of references, but does not specifically align with any single published methodology.

**Table 1: Resource Valuation**

<p><b>International or European Value:</b> Natura 2000 sites including: Sites of Community Importance (SCIs); Special Protection Areas (SPAs); potential SPAs (pSPAs); Special Areas of Conservation (SACs); candidate or possible SACs (cSACs or pSACs<sup>1</sup>); and Wetlands of International Importance (Ramsar sites).</p> <p>Biogenetic Reserves, World Heritage Sites and Biosphere Reserves.</p> <p>Areas which meet the published selection criteria for those sites listed above but which are not themselves designated as such<sup>2</sup>.</p> <p>Resident, or regularly occurring, populations of species which may be considered at an International or European level<sup>3</sup> where:</p> <ul style="list-style-type: none"> <li>• the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; or</li> <li>• the population forms a critical part<sup>4</sup> of a wider population at this scale; or</li> <li>• the species is at a critical phase<sup>5</sup> of its life cycle at this scale.</li> </ul>
<p><b>UK or National Value:</b> Designated sites including: Sites of Special Scientific Interest (SSSIs); Marine Protected Areas (MPAs) including Marine Conservation Zones (MCZs); and National Nature Reserves (NNRs).</p> <p>Areas which meet the published selection criteria eg JNCC (1998) for those sites listed above but which are not themselves designated as such<sup>6</sup>.</p> <p>Areas of key/priority habitats identified in the UK Biodiversity Action Plan (BAP), including those published in accordance with Section 41 of the Natural Environment and Rural Communities Act (2006) and those considered to be of principal importance for the conservation of biodiversity<sup>7</sup>.</p> <p>Areas of Ancient Woodland e.g. woodland listed within the Ancient Woodland Inventory<sup>8</sup>.</p> <p>Resident, or regularly occurring, populations of species which may be considered at an International, European, UK or National level<sup>9</sup> where:</p> <ul style="list-style-type: none"> <li>• the loss of these populations would adversely affect the conservation status or distribution of the species at this scale; or</li> <li>• the population forms a critical part<sup>10</sup> of a wider population at this scale; or</li> <li>• the species is at a critical phase<sup>11</sup> of its life cycle at this scale.</li> </ul>

<sup>1</sup> pSACs are sites which have been formally advised to UK Government but have not yet been submitted to the European Commission. These sites should be valued at a European level on the basis that they meet the relevant selection criteria for a SAC but are not yet designated as such.

<sup>2</sup> Valuation to be made in consultation with SEB.

<sup>3</sup> Valuation to be made in consultation with the SEB. Such species include those listed within Council Directive 79/409/EEC on the conservation of wild birds or animal/plant species listed within Council Directive 92/43/EEC.

<sup>4</sup> Valuation to be made in consultation with the SEB. Such populations include sub-populations that are essential to maintenance of metapopulation dynamics eg critical emigration/immigration links between otherwise discrete populations.

<sup>5</sup> Seasonal activity or behaviour upon which survival or reproduction depends.

<sup>6</sup> Valuation to be made in consultation with SEB.

<sup>7</sup> Valuation to be made in consultation with SEB as such listings do not in themselves indicate intrinsic value, but instead indicate a conservation priority.

<sup>8</sup> Valuation to be made in consultation with SEB, and with use of professional judgement as listing does not in itself indicate intrinsic nature conservation value.

<sup>9</sup> Valuation to be made in consultation with the SEB as such listings do not in themselves indicate intrinsic value. Such species include those listed within Council Directive 79/409/EEC on the conservation of wild birds or animal/plant species listed within Council Directive 92/43/EEC.

Species which may be considered at the UK or National level means: birds, other animals and plants which receive legal protection in the basis of their conservation interest (those listed within Wildlife and Countryside Act 1981 (as amended), Sch. 1, 5 and 8); species listed for their principal importance for biodiversity (in accordance with the Natural Environment and Rural Communities Act 2006 Section 41 [England]; and priority species listed within the UKBAP or species listed within Red Data Books.

<sup>10</sup> Valuation to be made in consultation with the SEB. Such populations include sub-populations that are essential to maintenance of metapopulation dynamics eg critical emigration/immigration links between otherwise discrete populations.

<sup>11</sup> A seasonal activity or behaviour upon which survival or reproduction depends.

**Regional Value:**

Areas of key/priority habitats identified in the Regional BAP (where available); areas of key/priority habitat identified as being of Regional value in the appropriate Natural Area Profile (or equivalent); areas that have been identified by regional plans or strategies as areas for restoration or re-creation of priority habitats (for example, South West Nature Map); and areas of key/priority habitat listed within the Highways Agency's BAP.

Resident, or regularly occurring, populations of species which may be considered at an International, European, UK or National level<sup>12,13</sup> and key/priority species listed within the HABAP where:

- the loss of these populations would adversely affect the conservation status or distribution of the species at this scale; or
- the population forms a critical part<sup>14</sup> of a wider population; or
- the species is at a critical phase<sup>15</sup> of its life cycle.

**County or Unitary Authority Area Value:**

Designated sites including: Sites of Nature Conservation Importance (SNCIs); County Wildlife Sites (CWSs); and Local Nature Reserves (LNRs) designated in the county or unitary authority area context<sup>16</sup>.

Areas which meet the published selection criteria for those sites listed above but which are not themselves designated as such<sup>17</sup>.

Areas of key/priority habitats identified in the Local BAP; and areas of habitat identified in the appropriate Natural Area Profile (or equivalent).

Resident, or regularly occurring, populations of species which may be considered at an International, European, UK or National level<sup>18,19</sup> where:

- the loss of these populations would adversely affect the conservation status or distribution of the species across the County or Unitary Authority Area; or
- the population forms a critical part<sup>20</sup> of a wider population; or
- the species is at a critical phase<sup>21</sup> of its life cycle.

**Local Value:**

Designated sites including: Local Nature Reserves (LNRs) designated in the local context<sup>22</sup>.

Trees that are protected by Tree Preservation Orders (TPOs).

Areas of habitat; or populations/communities of species considered to appreciably enrich the habitat resource within the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.

<sup>12</sup> Valuation to be made in consultation with the SEB. Such species include those listed within Council Directive 79/409/EEC on the conservation of wild birds or animal/plant species listed within Council Directive 92/43/EEC.

<sup>13</sup> Valuation to be made in consultation with the SEB as such listings do not in themselves indicate intrinsic value. Such species include those listed within Council Directive 79/409/EEC on the conservation of wild birds or animal/plant species listed within Council Directive 92/43/EEC. Species which may be considered at the UK or National level means: birds, other animals and plants which receive legal protection in the basis of their conservation interest (those listed within Wildlife and Countryside Act 1981 (as amended), Sch. 1, 5 and 8); species listed for their principal importance for biodiversity (in accordance with the Natural Environment and Rural Communities Act 2006 Section 41 [England]; and priority species listed within the UKBAP or species listed within Red Data Books.

<sup>14</sup> Valuation to be made in consultation with the SEB. Such populations include sub-populations that are essential to maintenance of metapopulation dynamics eg critical emigration/immigration links between otherwise discrete populations.

<sup>15</sup> A seasonal activity or behaviour upon which survival or reproduction depends.

<sup>16</sup> Valuation to be made in consultation with county ecologist or equivalent, with reference made to the criteria for designation.

<sup>17</sup> Valuation to be made in consultation with county ecologist or equivalent.

<sup>18</sup> Valuation to be made in consultation with the SEB. Such species include those listed within Council Directive 79/409/EEC on the conservation of wild birds or animal/plant species listed within Council Directive 92/43/EEC.

<sup>19</sup> Valuation to be made in consultation with the SEB as such listings do not in themselves indicate intrinsic value. Such species include those listed within Council Directive 79/409/EEC on the conservation of wild birds or animal/plant species listed within Council Directive 92/43/EEC. Species which may be considered at the UK or National level means: birds, other animals and plants which receive legal protection in the basis of their conservation interest (those listed within Wildlife and Countryside Act 1981 (as amended), Sch. 1, 5 and 8); species listed for their principal importance for biodiversity (in accordance with the Natural Environment and Rural Communities Act 2006 Section 41 [England]; and priority species listed within the UKBAP or species listed within Red Data Books.

<sup>20</sup> Valuation to be made in consultation with the SEB. Such populations include sub-populations that are essential to maintenance of metapopulation dynamics eg critical emigration/immigration links between otherwise discrete populations.

<sup>21</sup> A seasonal activity or behaviour upon which survival or reproduction depends.

<sup>22</sup> Valuation to be made in consultation with county ecologist or equivalent, with reference made to the criteria for designation.

**Table 2: Characterisation of Ecological Impacts**

Resource	Proposed activity, biophysical change, related to receptor structure and function	Characterisation of Impact	Mitigation proposals	Summary of characterisation
Resource Ref:	Construction Phase, Operation Phase or Decommissioning Phase Impacts			
Description:	Biophysical Change <sup>27</sup> :	SI:	Mitigation:	Residual Impacts:
Nature Conservation Value <sup>23</sup> :		PO:	Quantification/Measure:	
Policy & Legal Context <sup>24</sup> :		CO:	Mechanism for Delivery:	Confidence of predictions
Integrity/ Conservation Status <sup>25</sup> Factors/ Criteria <sup>26</sup> :		EC:		
		SZ:		
		RE:		
		DU:		
			TF:	
<b>Key</b> SI (Sign): Positive (beneficial (+ve)) or Negative (adverse (-ve)) PO (Probability of Occurring): Certain, Probable, Unlikely CO (Complexity): Direct, Indirect, Cumulative EC (Extent): Area measures and percentage of total (e.g. area of habitat/ territory lost) SZ (Size): Description of level of severity of influence (e.g. complete loss, number of animals affected) RE (Reversibility): Reversible or Not Reversible (can the effect be reversed, whether or not this is planned) DU (Duration): Permanent (P) or Temporary (T) in ecological terms. Where differing timescales are determined in relation to the life-cycle of the receptor, these should be defined. TF (Timing and frequency): Important seasonal and/or life-cycle constraints and any relationship with frequency considered.				

<sup>23</sup> This is the value assigned to the resource using the guidance provided in the Resource Valuation table and through consultation with the SEB, as appropriate.

<sup>24</sup> This includes the policies and legislation that are relevant to the resource.

<sup>25</sup> These terms are defined in HD 44/09.

<sup>26</sup> The description of the resource may be related to relevant published evaluation criteria such as SSSI selection criteria (JNCC, 1998).

<sup>27</sup> These are the changes to the resource that would occur as a result of the impact.



## 2.5 Significance of Effects

Table 3 illustrates an approach to relating significant impacts on receptors at different levels of value, taken from Table 2, to the overall 'significance categories' used by other topic areas. This approach takes account of other sources of references, but does not specifically align with any single published methodology. Application will continue to rely on professional judgement by individuals with sufficient relevant expertise (see DMRB Volume 0, SECTION 2, Part 1, Appendix E for the 'Project Roles and Indicative Competency Requirements' for Environmental Coordinator/Environmental Manager). Within this overall approach, it is important to recognise project specific circumstances and to ensure that the decisions that are made to fit individual projects into this overall approach are clearly laid out and explained, and are supported by the Statutory Environmental Body (SEB). This should be agreed during scoping.

**Table 3: Significance of Effects**

<b>Significance Category</b>	<b>Typical Descriptors of Effect (Nature Conservation)</b>
Very Large	An impact on one or more receptor(s) of International, European, UK or National Value. NOTE: only adverse effects are normally assigned this level of significance. They should be considered to represent key factors in the decision-making process.
Large	An impact on one or more receptor(s) of Regional Value. NOTE: these effects are considered to be very important considerations and are likely to be material in the decision-making process.)
Moderate	An impact on one or more receptor(s) of County or Unitary Authority Area Value. NOTE: these effects may be important, but are not likely to be key decision-making factors.
Slight	An impact on one or more receptor(s) of Local Value. NOTE: these effects are unlikely to be critical in the decision-making process, but are important in enhancing the subsequent design of the project.
Neutral	No significant impacts on key nature conservation receptors. NOTE: absence of effects, or those that are beneath levels of perception.

### **3 Withdrawal Conditions**

This IAN will become obsolete and will be withdrawn when existing advice on “Ecology and Nature Conservation” within DMRB Volume 11 SECTION 3 Part 4, dated 1993, has been updated and published.

#### **4 Contacts**

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## 5 Bibliography

Council Directive 92/43/EEC of 21<sup>st</sup> May 1992 on the conservation of natural habitats and of wild fauna and flora. *Official Journal* L206, 22/07/1992.

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Institute of Ecology and Environmental Management (2006). *Guidelines for Ecological Impact Assessment in the United Kingdom*. Winchester: IEEM.

JNCC (1998). *Guidelines for Selection of Biological SSSIs*. Peterborough: JNCC.

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Wildlife and Countryside Act (1981) (as amended).

**Annex A: Ecology and Nature Conservation: Criteria for Impact Assessment' on English DBFO Schemes.**

When used on DBFO Projects this standard is to be amended as follows:

<b>Para No.</b>	<b>Description</b>
1.3	Delete section and insert "Not used"