

A Habitats Translocation Policy for Britain

**Joint Nature Conservation Committee on behalf of
The Countryside Council for Wales, English Nature and Scottish Natural Heritage**

A Habitats Translocation Policy for Britain

**Joint Nature Conservation Committee in conjunction with
The Countryside Council for Wales, English Nature and Scottish Natural Heritage**

Drafted by I.F.G. McLean, JNCC
on behalf of the Inter-agency Translocations Working Group

Members of the Inter-agency Translocations Working Group, who have participated for at least a period of time since its inception, comprise: Prof. M. Crawley (Joint Committee), Prof. W. Heal (Joint Committee), Prof. F. Last (Joint Committee), Dr. M. Howe (Countryside Council for Wales), Dr. R. Mitchell (English Nature), Dr. A. Douse and Dr. S. Ward (Scottish Natural Heritage), Dr. I. McLean (JNCC Support Unit).

A Habitats Translocation Policy for Britain

Contents

1. Executive summary.....	2
2. Introduction.....	4
3. Aims.....	5
4. Previous initiatives on biological translocations in Britain	6
5. Key conservation issues in relation to habitats translocations	6
6. Legal issues concerning habitats translocations	8
7. Conservation policy for habitats translocations.....	9
8. Future data collection and reporting mechanisms	11
9. References and further reading	13
ANNEX 1: DEFINITIONS OF TERMS USED.....	15

1. **Executive summary.**

The numbered paragraphs follow the respective numbered sections of the policy.

2. **Introduction.** In response to the launch of the Convention on Biological Diversity at the Rio 'Earth Summit', Target 36 of *Biodiversity the UK Action Plan* (Anon., 1994) is to "Update and publicise guidelines on translocations, re-establishments, introductions and re-stocking". This publication comprises part of these conservation guidelines, for those activities relating to habitats translocations. Related translocations issues concerning non-native species are dealt with by the *Review of non-native species policy* (Anon., 2003), while *A Policy for Conservation Translocations of Species in Britain* (JNCC, 2003) addresses the movement of native species for conservation purposes. Habitats translocation is defined here as the movement of assemblages of species, mainly plants, (typically including the substrates, such as soil and water, on and in which these species occur) from their original site to a new location. Available information shows that it is not possible to move species assemblages without substantial changes taking place in the structure of the habitat and its species composition, thus rendering the translocation unsuccessful.

3. **Aims.** The four principal aims of this habitats translocation policy are to maintain British wildlife in favourable conservation status, to reduce the number of proposals to translocate high quality habitats, to ensure proper scrutiny of any habitats translocations put forward for habitat restoration and to improve monitoring of the results of habitats translocations.

4. **Previous initiatives on biological translocations in Britain.** The history of previous initiatives to review biological translocations in Britain is summarised briefly, with references to selected policy and review documents.

5. **Key conservation issues in relation to habitats translocations.** Habitats translocation has been proposed as a means of saving wildlife from areas threatened by development. These translocations have been portrayed by some as a means of reducing the impact of developments (mitigation), whereas in reality they can only partly make amends for developments (as incomplete compensation). Habitats translocation has also been proposed as a tool for restoring degraded habitats, which requires further research and additional guidelines. This research should include experimental investigations to discover the causes of changes in assemblages after translocation, as well as comparing the outcomes of habitats translocations with the predictions made at the outset by advocates of such translocations.

6. **Legal issues concerning habitats translocations.** Existing wildlife legislation does not contain provisions for habitats translocations, the main legal instruments reside within planning law (Town and Country Planning Act, 1990). Planning inquiries decide which sites should be protected from

developments and where habitats translocations can be used in partial compensation for those developments that are allowed to proceed.

- 7. Conservation policy for habitats translocations. The translocation of habitats is considered by the statutory conservation agencies not to be an acceptable alternative to *in situ* conservation.** The statutory conservation agencies will continue to make the strongest possible case against translocating habitats from within SSSIs and from ancient habitats (or other areas with significant biodiversity interest) elsewhere. The principal reasons why habitats translocations are not an acceptable substitute for conserving biodiversity in its original location are summarised under seven headings. The role of habitats translocations for restoring degraded habitats is considered, with the emphasis upon avoiding translocation from SSSIs and other significant sites. Approval of habitats translocation for habitats restoration should be contingent upon demonstrating a net gain for biodiversity as a result of the proposal.
- 8. Future data collection and reporting mechanisms.** Habitats translocations should be systematically recorded and the results reported regularly to ensure that proper monitoring is carried out, with the results available to inform future work. There is the need to agree who should be responsible for setting standards for habitats translocations and for making best use of the results.

2. Introduction

- 2.1 **The ‘Earth Summit’ at Rio de Janeiro in June 1992 was a major event in the development of environmental awareness globally.** An important result of the summit was the launch of the Convention on Biological Diversity, signed by over 150 countries. In response to the Convention, the United Kingdom published *Biodiversity the UK Action Plan* in January 1994 (Anon., 1994), which contained accounts of UK biodiversity and included 59 targets (commonly referred to as “the 59 steps”). Under the heading of *Species*, target 36 states the need to “Update and publicise guidelines on translocations, re-establishments, introductions and re-stocking”. The Joint Nature Conservation Committee, in conjunction with the Countryside Council for Wales, English Nature and Scottish Natural Heritage, has prepared *A Habitats Translocation Policy for Britain* as one of two policy publications to be the conservation guidelines to deliver this target, the other being *A Policy for Conservation Translocations of Species in Britain*, JNCC (2003). It is intended that these guidelines, having been developed in consultation with others, will contribute towards delivering targets of the UK Biodiversity Action Plan (UKBAP). The geographical scope for this policy is Great Britain (England, Scotland and Wales); Northern Ireland is being dealt with separately.
- 2.2 **Habitats translocation** is here defined as the movement of assemblages of species, particularly plants (typically including the substrates, such as soil or water, on and in which these species occur) from their original site to a new location. Definitions of the terms used in this policy mostly follow Bullock *et al.* (1997) and are given in Annex 1, p. 15. The policy relates primarily to terrestrial habitats, where most habitats translocations have been conducted. Translocating habitats has been a controversial activity from a conservation viewpoint because on occasion it has been proposed as an alternative to *in situ* (=in the original location) biodiversity conservation. **Translocation** is a general term, which is defined here as the transfer by human agency of any organism(s) from one place to another. **The primary objective of *A Habitats Translocation Policy for Britain* is to establish a policy framework and appropriate procedures to assess proposals for habitats translocations that will enable decisions to be taken as to which proposals should be implemented.** This policy publication has been drafted from the perspective of conserving our characteristic biodiversity for future generations, although it is recognised that there are other statutory, commercial and land-managing interests that have legitimate concerns over policy guidelines and legislation in this area.
- 2.3 Habitats translocations have been put forward as part of development proposals, to move wildlife habitats to new locations away from sites identified for possible development. They have also been suggested as a means of restoring degraded habitats as part of conservation

schemes. There is limited published information on the success or otherwise of attempts to translocate habitats, but the **available information shows that it is not possible to move assemblages of species together without substantial changes taking place in the structure of the habitat and in its species composition thus rendering the translocation unsuccessful with respect to sustaining the original flora and fauna** (Bullock *et al.*, 1997; Gault, 1997; Parker, 1995). There is also little guidance on good practice to employ when translocating habitats, with even the better guides to conservation techniques including relatively little information (for example, see Sutherland, 2000). Byrne (1990) reviewed experience, case examples and methods prior to 1990, while a review currently in preparation for the Highways Agency as a best practice guide will bring together what is currently known about techniques for translocating habitats in Britain (Anderson, 2003).

3. Aims

- 3.1 The conservation aims of this policy are to achieve favourable conservation status for native and characteristic wildlife, with self-sustaining or appropriately managed habitats and species assemblages. This should be delivered by taking account of the diverse actual and potential wildlife value of different areas, while the UK Biodiversity Action Plan (UKBAP) provides the implementation mechanism for agreeing and delivering general and specific action plans and targets.
- 3.2 This habitats translocations policy seeks to contribute to the conservation of Britain's biodiversity heritage by reducing the number of proposals to move high quality habitats of conservation importance. This will be achieved by protecting our designated sites (SSSI) and ancient habitats, with their constituent assemblages or communities, *in situ*, free from the threat of translocation to accommodate development proposals.
- 3.3 This policy recognises that habitats translocation can contribute towards habitat restoration schemes in some circumstances, but such proposals need very careful scrutiny to avoid damaging donor sites. This policy aims to raise standards for habitat restoration by stating that habitats translocations should only be approved as part of restoration schemes after there has been a careful comparison with alternative methods, including use of appropriate management to facilitate natural colonisation and succession processes.
- 3.4 This policy aims to improve the acquisition of knowledge resulting from habitats translocations. The policy endorses the value of careful monitoring post translocation at recipient sites, with the results to be made available via existing means of sharing information, notably the National Biodiversity Network.

4. Previous initiatives on biological translocations in Britain

- 4.1 In 1979 A Working Group on Introductions, set up by the UK Committee for International Nature Conservation, reported (Anon., 1979); its report is often referred to as the *Linn Report* after the Chairman of the Working Group (Ian Linn). Subsequently, Wildlife Link commissioned a report which included conservation guidelines for species introductions and re-introductions (Stubbs, 1988 *Towards an Introductions Policy*). The NCC then considered an internal Board Paper drafted by the Chief Scientist Directorate in 1990 which made a number of policy recommendations, though these were not publicised externally.
- 4.2 The current phase of work by the statutory conservation agencies began in 1995, when a review of biological translocations was commissioned from ITE. The outcome of this review was published as Bullock *et al.* (1997). In 1996, the Joint Nature Conservation Committee agreed that translocations are a strategic priority for biodiversity conservation, and that a consistent policy approach should be developed on behalf of the statutory conservation agencies in GB. In 1997, an Inter-agency Translocations Working Group was established to review current policy and practice, and to consider how these may be improved. The outcome of the discussions of this Translocations Working Group, together with a synopsis of recent reviews of translocations, was issued as a JNCC consultation document in August 2001 (McLean, 2001). This 2001 consultation document has now been revised in the light of the comments received from the 2001 consultation.
- 4.3 Those aspects of the JNCC consultation document concerning translocation of native species for conservation have been revised and published separately as *A Policy for Conservation Translocations of Species in Britain* (JNCC, 2003). Those aspects relating to habitats translocations within the JNCC consultation document are presented here in this policy publication. Detailed technical background is not included in this policy, and only selected references are given in order to simplify presentation of the key points. The references cited include more extensive background material as well as additional technical information, notably the extensive review by Bullock *et al.* (1997). The non-native species aspects of the 2001 JNCC consultation document are being taken forward by the Defra review of non-native species policy (Anon., 2003).

5. Key conservation issues in relation to habitats translocations

- 5.1 **Habitats translocations have been proposed as offering a solution when an area recognised as of importance for wildlife is threatened by development.** From the point of view of a developer, habitats

translocation is an attractive solution because it can be cheaper and more convenient to move the habitat than to proceed with the development elsewhere. Thus transport, housing and industrial development interests are greatly affected by policies and practices concerning habitats translocation. The response by conservationists to habitats translocation is most strongly negative for those sites which are of high conservation interest (internationally important or of SSSI quality) for their habitats and species. Even for sites of more local interest, opposition to habitats translocation is strong from conservationists because of the poor track record of sustaining the original quality of translocated habitats, coupled with their dislocation from their ecological and historical context. This has resulted in strongly opposing views on the merits and role of habitats translocation, between conservationists on one side and developers on the other.

- 5.2 **Proposals for translocating habitats have increased recently in Britain**, typically as part of development proposals affecting sites of known or potential importance for wildlife. In these circumstances, habitats translocation has been portrayed as a means of **mitigating** (in the sense of seeking to reduce the impact) damaging developments, by moving the conservation interest affected to a new “safe” location. However, experience shows that habitats translocation is, at best, merely a means of achieving partial **compensation** (in the sense of seeking to make amends for the impact) for development. The available evidence (as reviewed by Bullock *et al.* (1997)) indicates that habitats translocations have not been successful in maintaining the characteristic biodiversity of the assemblage that is moved, and so the practice is regarded as damaging by statutory and voluntary conservation organisations and many academic researchers. This was the clear view that emerged from discussions at the June 1997 Joint Committee meeting and from subsequent meetings of the Inter-agency Translocations Working Group. Bullock *et al.* (1997) summarise much of the factual background to habitats translocations in Britain, while Jefferson *et al.* (1999) review in detail the experience relating to translocation within a grassland site in Devon (Brocks Farm). There are circumstances where translocations of individual species may require the associated movement of other species and associated substrate material, but the scale of habitats translocation will typically be much larger in terms of the range of species and amount of substrate to be moved.
- 5.3 **Habitats translocation has also been suggested as a tool to assist the restoration of degraded habitats.** The rationale here is that moving samples of habitats from areas rich in biodiversity to places where biodiversity has been lost through development, intensive land management or pollution, will help to accelerate re-colonisation by assemblages of typical species. The problems with this approach are twofold: first, there will be damage to the donor site, and second, the process of translocation will result in changes to the assemblage of

species moved, so that the original interest will not persist unchanged in its new location. Therefore, habitats translocation for restoration projects should only be carried out after a thorough prior assessment of the likely losses and gains involved. Nevertheless, there are situations where the restrained and selective use of habitats translocation may help to restore degraded habitats, at least partly by resulting in the establishment of additional species characteristic of the habitat concerned. This is particularly the case for early successional stage habitats, which depend upon intensive management or disturbance to retain their biological interest. Heathland restoration has been investigated widely, including the use of experimental trials of alternative techniques (for an earlier review of this topic see the handbook by the Environmental Advisory Unit, 1988). In most situations, however, relying on a combination of natural colonisation, initiation of appropriate management regimes and judicious species translocation (as a tool for the re-establishment of characteristic species where there is evidence that they will not return soon), will be the best restoration strategy. Where species translocation is employed it should comply with the guidance given by JNCC (2003).

- 5.4 **There needs to be further research and debate concerning the use of habitats translocation for habitats restoration.** Before further guidelines or policies are developed we need more evidence on the outcomes of habitats translocations in different circumstances. Carefully designed experiments to test the stability of desired assemblages following translocation, and to identify the causes of instability and change, are needed to complement the information derived from monitoring. There is also the need to compare the results from monitoring the condition of translocated habitats with the predictions of the outcomes of habitats translocations. These predictions should be made by the proponents of habitats translocations and at the outset before they have commenced. New guidelines should be developed to capture current knowledge and to ensure the adoption of best practice for habitats translocation for restoration purposes; the country agencies (Countryside Council for Wales, English Nature and Scottish Natural Heritage) will work in partnership with other organisations to agree such guidelines and to adopt them within the context of fulfilling the objectives of UKBAP.

6. Legal issues concerning habitats translocations

- 6.1 **Existing wildlife legislation does not contain provisions for habitats translocations.** The Wildlife and Countryside Act, 1981 and the CROW Act, 2000 do not contain provisions for habitats translocations. The legal basis for habitats translocations has varied between cases, including public inquiry commitments, planning conditions set when a development has been approved, developments consequent upon an Act of Parliament, development orders, or agreements made between

developers and local authorities or conservation agencies. There have been planning inquiries concerning SSSIs where habitats translocation has been proposed by developers as a means of moving the conservation interest and hence allowing a development to proceed. In some cases such translocation has occurred (for example, Hockley Meadow and Twyford Down agreed as a consequence of the M3 development near Winchester; see Anderson (2003) for a summary of this and other schemes). However, other development proposals involving habitats translocations have not been approved. For example, in an important judgement regarding Brocks Farm SSSI, Devon, the Planning Inspector found in favour of English Nature and against a proposal to move an area of grassland from within the SSSI (see Jefferson *et al.*, 1999). This is a welcome decision from a conservation perspective and provides a valuable precedent for future inquiries considering the merits of habitats translocations as purported mitigation for planned development.

- 6.2 Where habitats translocations are carried out to meet planning conditions, or to meet planning obligations under Section 106 of the Town and Country Planning Act, 1990 (referred to as Section 106 Agreements), it is important that Local Authorities use qualified and competent ecologists to assess compliance with the terms of conditions and agreements. Such compliance assessment, as well as long term monitoring of the projects, should be reported upon to the parties involved and the results made publicly available to inform others of the progress and outcome of each project.

7. Conservation policy for habitats translocations

- 7.1 **The translocation of habitats is considered by the statutory conservation agencies not to be an acceptable alternative to *in situ* conservation. The statutory conservation agencies will continue to make the strongest possible case against translocating habitats from within SSSIs and from ancient habitats (or other areas with significant biodiversity interest) elsewhere.** Translocation of habitats cannot reproduce the essential environmental conditions and the ecological processes, for example, migration, grazing and predation, which determine the composition of the original plant and animal communities. The available evidence shows that species in translocated habitats change their relative abundance over time, as well as being separated from their ecological, historical and cultural context. **Thus, the intrinsic conservation value of translocated habitats is not sustained after the disruptions caused by their removal, transport and placement on a new site.** Bullock *et al.* (1997) review much of the available evidence and cite references that demonstrate the problems with habitats translocations. These include the effects of weather conditions after translocation, or damage resulting from vandalism, which cannot be predicted or dealt with effectively.

7.2 For these reasons SSSIs should not be subjected to translocation in whole or in part, and for other areas where there is significant wildlife interest, such as ancient habitats (including ancient woodland, wetland or grassland, for example) and those critical habitats occupied by species of conservation significance (protected species, UKBAP priority species or Red Data Book species), there should also be a strong presumption against translocation of habitats. Habitats translocation is expensive to undertake, has uncertain outcomes, and should be viewed only as a measure of last resort in partial compensation for damaging developments.

7.3 Where habitats translocations are undertaken to attempt to compensate for the damaging effects of developments, or to increase (or decrease) the biodiversity of an area, monitoring the results (paid for by the proponents of the proposal) must take place. Such monitoring is needed to assess the nature and extent of the changes which take place within the translocated area, for example, in the abundance of different species. For monitoring to be effective, there must be detailed studies prior to translocation as well as for several years afterwards. The length of time that monitoring is required will depend upon the habitats and species involved and to an extent upon the results of the monitoring (for example, upon the speed and kind of ecological changes observed). The results of monitoring should also be used to guide the management of the translocated habitats in order to improve the prospects of sustaining their characteristic biodiversity.

7.4 **In support of this conservation policy the following points are the principal reasons why habitats translocations cannot be an acceptable substitute for *in situ* conservation of sites with significant biodiversity present.**

- All ancient habitats are fragile, are not transferable and cannot be re-created in short timescales.
- Some species cannot be translocated due to their size (e.g. ancient trees) or their fragility (e.g. many specialised animals).
- Many animals depend upon mosaics of habitats that are difficult or impossible to move in combination with each other, hence they are unlikely to survive in their new location.
- The species composition of assemblages changes as a result of the disturbance resulting from the translocation process.
- Structure and physical conditions will be different in the new location (geology, soil conditions, hydrology, aspect and topography etc.).
- The history of specific locations (which results in distinctive assemblages of species found in particular locations) cannot be re-created.
- The historical, cultural and other human associations with the original location are severed.

7.5 **The role of habitats translocations for habitats restoration.** The practical limitations in moving species assemblages, coupled with the damage caused to donor sites (see p.7), restrict the opportunities for using habitats translocation as an acceptable technique for restoring degraded habitats. The potential benefits for the habitat in need of restoration should be weighed against any possible damage to areas of higher existing conservation interest that are possible donors. **In summary, SSSIs and other conservation sites should never be translocated (in whole or in part) for habitat restoration purposes, while areas known to comprise ancient habitats should also not be translocated, and there should also be a strong presumption against translocating habitats from other areas where there is significant biodiversity interest.** This equates to the policy for SSSIs, other conservation sites and ancient habitats, that they should not be translocated as an alternative to *in situ* conservation (see section 7.1 above, p.9). Other candidate donor sites should be assessed on a case by case basis, with the need to demonstrate clear benefits for the restoration sites that exceed any damage to donor sites; in other words there should be a net gain for biodiversity conservation as a result of the translocation. By adopting this principle and approach, this habitats translocation policy will contribute towards delivering UKBAP targets, by supporting those activities that sustain characteristic biodiversity.

8. **Future data collection and reporting mechanisms**

8.1 **Until now there has not been a clear and generally agreed mechanism for collecting data on habitats translocations;** although there have been some projects that have reviewed experience and compile data for habitats translocations in Britain (Anderson, 2003; Byrne, 1990; Gault, 1997), these have had to rely upon accessing a wide variety of sources. Collecting such data consistently, and making full use of the resulting information, is essential in order to learn from past activities and to take decisions in future with the help of a more extensive body of evidence.

8.2 **Habitats translocations should be systematically recorded and the results reported regularly.** Assessments of the outcomes of habitats translocations should be based upon careful long-term recording, because results over short timescales will not predict the eventual condition of the areas translocated. The results from this recording should be reported via the National Biodiversity Network (NBN), which also brings together the results from local and national biological recording schemes as well as other sources of environmental data and information. This will require co-ordination by an organisation (or consortium) yet to be determined. The data collection protocols for recording habitats translocations need to be agreed by those organisations that authorise, fund or otherwise support these activities for conservation or for other purposes. These protocols will need to be

explicit with respect to who is responsible for recording and reporting results of habitats translocations, so that a rigorous and consistent approach is maintained to assessing their outcomes. Where the required standard of work is not achieved this should be reported to identify those responsible. Regular reports of the results from habitats translocations will help to ensure that monitoring is carried out where required, including when this is a condition of granting planning permission for a development. Hitherto, such monitoring has sometimes lapsed prematurely, leading to a loss of information about the outcome of the habitats translocation and a lack of information to guide habitats management.

- 8.3 **Setting standards for carrying out habitats translocations, for gathering data before and after each operation, and for interpreting and reporting the results is an important role that has not yet been agreed and allocated to any organisation(s).** This role should be established, after due consultation and agreement, to improve standards of work, to enable proper follow up recording of results for those cases where habitats translocation is used, and to evaluate the outcomes so that there is a better understanding of what habitats translocations achieve. It is probable that the standard-setting role will need to be shared between conservation organisations, environmental organisations who manage data and information on the occurrence of species and habitats and those bodies involved with the establishment and setting of scientific and professional standards in ecology.

9. References and further reading

- Anderson, P. (2003) *A Review of Habitat Translocation*. Construction Industry Research and Information Association, London.
- Anon. (1994) *Biodiversity: the UK Action Plan*. HMSO, London.
- Anon. (2003) *Review of Non-native Species Policy*. Report of the working group. Defra, London.
- Bullock, J.M., Hodder, K.H., Manchester, S.J. and Stevenson, M.J. (1997) *Review of information, policy and legislation on species translocation*. JNCC Report 261. Joint Nature Conservation Committee, Peterborough.
- Byrne, S. (1990) *Habitat transplantation in England. A review of the extent and nature of the practice and the techniques employed*. Peterborough, Nature Conservancy Council.
- English Nature (1993) *Roads and nature conservation. Guidance on impacts, mitigation and enhancement*. English Nature, Peterborough.
- Environment Advisory Unit, University of Liverpool. (1988) *Heathland restoration: a handbook of techniques*. British Gas, Southampton.
- Gault, C. (1997) *A Moving Story - species and community translocation in the UK: a review of policy, principle, planning and practice*. WWF-UK, Godalming.
- IUCN (1987) *The IUCN position statement on translocation of living organisms*. IUCN Gland, Switzerland.
- Jefferson, R.G., Gibson, C.W.D., Leach, S.J., Pulteney, C.M., Wolton, R. and Robertson, H.J. (1999) *Grassland habitat translocation: the case of Brocks Farm, Devon*. English Nature Research Reports no. 304, Peterborough.
- JNCC (2003) *A Policy for Conservation Translocations of Species in Britain*. Joint Nature Conservation Committee, Peterborough.
- McLean, I.F.G. (Ed.) (2001) *Biological Translocations: A Conservation Policy for Britain*. Consultation Draft. Joint Nature Conservation Committee, Peterborough.
- Nature Conservancy Council (1988) *Habitat translocation and the safeguard of semi-natural habitats*. Nature Conservancy Council, Peterborough. NCC draft guidance note.
- Nature Conservancy Council (1990) *Review of NCC policy on species translocations in Great Britain*. Paper to the Board of Directors, BD P90 21. (In Confidence).

Parker, D.M. (1995) *Habitat Creation – a Critical Guide*. English Nature, Peterborough.

Sutherland, W.J. (2000) *The Conservation Handbook: research, management and policy*. Blackwell Science, Oxford.

ANNEX 1: DEFINITIONS OF TERMS USED

The definitions of the terms used are taken from Bullock *et al.* (1997), with comments or additions where appropriate.

Compensation To seek to make amends for a proposed action, such as the development of a site rich in biodiversity; for example, by creating a new area of habitat where some of the species affected may be able to colonise.

Donor site Site from which translocated organism(s) originates. ‘Donor population’ can be used in the same sense.

Establishment The formation of a self-sustaining population of the translocated species, race or GMO, *i.e.* some of the organisms survive to produce offspring. Another definition requires only that some organisms survive. The former definition can be termed ‘permanent establishment’ and the latter can be ‘temporary establishment’.

Habitats translocation

The translocation of assemblages of species, particularly plants, typically including the substrates, such as soil and water, on and in which these species occur, from their original site to a new location.

Introduction The deliberate or accidental release of an organism(s) into the wild in areas (*e.g.* country, region, site, etc.) where the species or race is not native. The term applies to translocations within the UK or into the UK from other countries (development of NCC, 1990 and IUCN, 1995 guidelines). The term also applies to the release of GMOs into the wild.

In situ In the original location.

Mitigation To seek to reduce the impact of a proposed action, such as the development of a site rich in biodiversity; for example, by modifying the development proposals in such a way that high quality habitats are damaged or destroyed to a lesser extent.

Non-native Not native. A species or race that does not occur naturally in an area; *i.e.* it has never occurred there or its dispersal into the area has been mediated by humans. As the converse to ‘native’, species colonising an area in historic times, since the Neolithic or since the last glaciation are commonly described as non-native. A non-native population is one which occurs outside the particular area.
Synonyms: Non-indigenous, Alien, Exotic.

Organism A single living individual of any of the five kingdoms - Animalia, Plantae, Fungi, Protista or Monera - in any life-stage (*i.e.* including seeds,

spores, fertilised eggs, etc. and gametes). We will not use this term in the ambiguous taxonomic sense used in previous definitions.

Recipient site **Site where translocated organism(s) is released.**

Synonyms: Release site, Receptor site.

Re-establishment **Where a reintroduction results in establishment.**

Translocation **A general term for the transfer by human agency of any organism(s) from one place to another (based on NCC 1990).**