


<p>European Sites Guidance</p> <p>Internal Guidance to decisions on ‘site integrity’: A framework for provision of advice to competent authorities</p>	
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1.0 Aim

One of the roles of English Nature as the statutory nature conservation body is to provide advice to competent authorities on the scope and conclusions of appropriate assessments required under the Conservation (Natural Habitats &c.) Regulations 1994. Our understanding of site ‘integrity’ underpins our advice and it is important that we have clear agreement of what is meant by this term and a consistency of approach across English Nature when offering advice. The purpose of this guidance is to provide a framework within which to provide advice to competent authorities regarding the concept of ‘site integrity’

2.0 Background

In accordance with the Conservation (Natural Habitats &c.) Regulations 1994, competent authorities are required to make an appropriate assessment where there is likely to be a significant effect on a European site, as a result of plans or projects that are not considered to be necessary for the management of the site. In light of the conclusions of the assessment, and subject to there being no alternative solutions and imperative reasons of over-riding public interest why it should proceed, they can only agree to the plan or project after having ascertained there will be **no adverse effect on the integrity of the European site.**

In addition to the advice required by in accordance with Regulation 48, competent authorities are also obliged to review all relevant decisions in respect of plans or projects made prior to the Habitats Regulations or to the site concerned becoming a European site under Regulation 50. English Nature has a key role in the provision of advice throughout this review process and the decisions regarding integrity to be taken as part of any appropriate assessments. Such advice needs to be well founded and consistent.

3.0 Defining Integrity

When considering integrity it is important to refer back to the Habitats Directive itself, since all terms in the Directive should be defined in the context of delivering Favourable Conservation Status (FCS). Article 1 provides a definition of FCS.

For habitats,

- their range and area must be stable or increasing,
- the species structure and functions necessary for long term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the status of the typical species is considered to be favourable.

For species,

- the population dynamics data on species indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats,

- the natural range is stable and likely to continue to be, and there is and will probably continue to be a sufficiently large habitat to maintain its population on a long term basis.

Article 1b then goes on to describe ‘*natural habitats*’ as “terrestrial or aquatic areas distinguished by geographic, abiotic and biotic features, whether entirely natural or semi-natural”. A definition of site integrity, should reflect that each site should function so as to contribute to FCS across the Natura 2000 network.

Integrity is considered at a site level, and the most commonly used definition is found in PPG9 where it is defined as:

“The coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or levels of populations of the species for which it was classified”

EC guidance⁽¹⁾ builds on this and makes the following further points about site integrity. It states that the focus of site integrity is on the specific site, thus it is not allowed to destroy a site or part of a site on the basis that the conservation status of the habitat type and species it hosts will anyway remain favourable within the territory of the Member State. It goes on to provide further guidance which states that a site can be described as having a high degree of integrity where:

- the inherent potential for meeting its conservation objectives are realised,
- the capacity for self-repair and self-renewal under dynamic conditions is maintained and,
- a minimum of external management of the site is required.

Therefore, when looking at ‘the integrity of the site’, it is important to take into account a range of factors, including the possibility of effects manifesting themselves in the short, medium and long-term. In a dynamic context ‘integrity’ can be considered as a site having a sense of resilience and ability to evolve in ways that are favourable to conservation.

Joint EA/EN/CCW guidance⁽²⁾ on application of the Habitats Directive refers to an adverse effect on integrity as “likely to be one that prevents the site from maintaining at least the same contribution to favourable conservation status (FCS) as it did at the time of designation”. This statement has caused confusion with regards the extent to which a site can be restored beyond its condition at the time of its designation/classification. However the key words within the statement are ‘at least’ which provide the scope, where appropriate, for restoration where the site was not considered to be in a condition, at the time of designation, which enables it to contribute to the FCS of the habitat or species for which it has been classified. This interpretation is supported throughout the Directive which repeatedly refers to maintenance *or restoration*. If the Directive was written with the intention of simply maintaining sites in their condition at the time of selection or classification, on the assumption that this would be sufficient to enable favourable conservation status to be achieved, then the word ‘restoration’ would not have been necessary.

4.0 A Framework for Provision of Advice

It is important to stress that this framework is not intended to be prescriptive but to provide a common thought-process that is comprehensive and consistent.

4.1 Integrity of Site Checklist

A simple, pragmatic checklist for assessing likely effect on integrity is provided below. This has been derived from the provisions of the Habitats Directive as outlined above, and is supported by existing UK case studies. The EC has published a similar ‘integrity of site’ checklist, which is listed as appendix 2. The checklist below should be used to identify if there is a potential mechanism through which an adverse effect on integrity may occur. Further site-specific factors would then need to be considered, in particular in the case of dynamic coastal sites.

Has the appropriate assessment shown:

- 1. That the area of annex I habitats (or composite features) will not be reduced?**
 - 2. That there will be no direct effect on the population of the species for which the site was designated or classified?**
 - 3. That there will be no indirect effects on the populations of species for which the site was designated or classified due to loss or degradation of their habitat (quantity/quality)?**
 - 4. That there will be no changes to the composition of the habitats for which the site was designated (eg reduction in species structure, abundance or diversity that comprises the habitat over time)?**
 - 5. That there will be no interruption or degradation of the physical, chemical or biological processes that support habitats and species for which the site was designated or classified?**
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If the answer to *all* of these questions is ‘Yes’ then it is reasonable to conclude that there is not an adverse effect on integrity. If the answer is ‘No’ to *one or more* of the questions then further site-specific factors as listed in 4.2-4.7 need to be considered in order to reach a decision. The theoretically derived checklist above is supported by the consideration of actual case studies, as outlined in Table 1 below, and the definition of integrity used in each case.

Checklist criteria	Supporting Case Studies
1. The area of annex I habitats (or composite features) will not be reduced	<i>Harwich Harbour (see International Case Report *)</i> Adverse effect on integrity was “the direct loss of inter-tidal habitats as result of reduction in tidal range and the accelerated rate of erosion”.
2. No direct effect on the population of Annex II species (on or across the site)	<i>Largie Estate, Tayinloan - definition of adverse effect on integrity (see appendix 1 for further details).</i> The integrity of the site was related to the “sustainability of the local population of Greenland White fronted Geese”.
3. No indirect effects on the populations of Annex II species due to loss of their habitat (quantity/quality) in the long term	<i>Barksore Marshes (See international case report * for further details)</i> The inspector declared that the permanent loss of 16.5% of grazing marsh in SPA “was not an insignificant proportion: and [was] aware of no policy guidance to suggest that even smaller losses (say 5% or 1%) of a valued habitat type within an SPA should be regarded as being acceptable. Habitats can be as much affected by a number of small losses as by one major reduction.”
4. No changes to the composition of the habitats. (eg reduction in species structure, abundance or diversity that comprises the habitat over time.)	<i>Claypit Woods</i> In this case the “use of woods for combat games would have a significant effect on the achievement of the conservation objectives implied by its designation as a cSAC.” Since the damage caused by trampling might harm long-term future of the woodland by impeding natural regeneration.
5. No interruption or degradation of the physical, chemical or biological processes that support habitats and species for which the site was designated.	<i>Manor Farm Dilham - (see appendix 1 for further details)</i> In this case the “depression in the chalk piezometric levels would reduce the supply of basic oligotrophic water to the fen and therefore the extent of that supply’s influence. Abstraction would be harmful to the ‘critical functioning of the alkaline fen, and as such would have an adverse effect on integrity. <i>Loch Poll -</i> <ul style="list-style-type: none"> • SPA designated for black throated divers which need oligotrophic conditions. Effect on integrity was determined as “the change in nutrient status from oligotrophic to mesotrophic.”

Table 1: Supporting Case Studies for derived integrity checklist

The key further site-specific factors that need to be considered when forming judgements on integrity in individual cases are listed below, and each is then considered in more detail in subsequent sections:

- Scale of impact
- Long term effects and sustainability
- Duration of impact and recovery/reversibility
- Dynamic systems
- Conflicting feature requirements
- Off-site impacts
- Uncertainty in cause and effect relationships and a precautionary approach.

A series of case studies are provided as appendix 1, which provide examples of many of the issues considered within this paper. In particular they provide further clarity of the precautionary principle and how far it should be applied in accordance with the Habitats Regulations.

4.2 Scale of impact and integrity

The scale of any impact is an important factor in reaching a conclusion over whether it is possible to ascertain no adverse effect on site integrity. It is not possible to provide specific criteria on scale but there are certain key factors which should be taken into account. Consider the following example;

Q: An outfall pipe discharging into a 1000ha estuarine SPA site (designated for over-wintering waders) has been shown to dramatically reduce the benthic invertebrate diversity across an area of 50m² around the outfall. There are no toxic components within the discharge, but the benthic invertebrate community is an important prey source for the birds. Would this alone constitute a foreseeable risk of adverse effect on the integrity of the site?

A: As the site is SPA only, then due to the scale of the area affected, together with the fact that there is not a mechanism for toxic effects and that there are still invertebrates present (of a limited diversity) within the 50m² area, the bird populations the site is capable of supporting are not realistically affected by the outfall. Therefore, although from the integrity checklist it has not been shown that “That there will be no interruption or degradation of the physical, chemical or biological processes that support habitats and species for which the site was designated”, the scale of actual impact is negligible and there would be no adverse effect on site integrity.

This is not to say that indirect mechanisms of impact would not represent a threat to the integrity of the site if the scale were sufficient (eg: multiple discharges of this magnitude across a site acting in combination). As a contrast to the example above therefore, consider the following;

Q: An estuary designated as an SPA for over-wintering birds is partially covered (40%) by *enteromorpha* mats from March until October. The sediments under the mats are anoxic and benthic invertebrate communities are significantly reduced, recent research has shown that although the mats die off in October, it takes several months for the benthic communities to recover. What are the implications for site integrity?

A: There is a clear indirect mechanism for impact upon the designated features. Diversity of benthic invertebrates is listed as an attribute of the favourable condition table and although the mats may not be present for much of the winter, the pro-longed impacts on the benthic community will reduce the long-term capacity of the site to support the bird populations for which it was designated. It would not be possible to ascertain no adverse effects on site integrity.

From the examples above, it is clear that scale of impact is important when considering site integrity. The key factors to consider with regards scale are outlined below:

- Is the feature itself directly affected? Any direct loss of a designated feature would serve to reduce either the area of a key habitat or the population of a key species. When considering loss of

designated features it is necessary to distinguish between permanent loss of a feature (eg: through construction of a building) and reversible loss of a feature (eg: through invasion of scrub). The issue of scale is of particular relevance in cases of reversible loss (because in the case of permanent loss, it is the irreversibility that is crucial). For example, we may be able to conclude no adverse effect on integrity in the case of a small temporary loss of a feature whilst being unable to conclude no adverse effect on integrity in the case of an equivalent permanent loss of that feature.

- If the feature is indirectly affected, would the scale of the impact be sufficient to prevent the site from sustaining the habitat, complex of habitats and/or levels of populations of the species for which it was classified? If so then it would not be possible to demonstrate no adverse effect on site integrity.
- The location of the impact and the rarity of features affected is also an influencing factor with regards scale. For example, if the small area impacted contains key/pristine habitat (ie: limestone pavement which was only present in isolated patches elsewhere, or an important roost site within an SPA), then the scale may be more significant than for a similar impact in a less ecologically rich part of the site. It is useful therefore when considering scale to take into account the proportion of a feature directly or indirectly affected rather than the proportion of a site.

4.3 Duration of impact and recovery/reversibility

The duration of any impact(s) and the potential for recovery/reversibility are important factors to consider when determining whether it is possible to demonstrate no adverse effect on integrity. The following key points need to be worked through:

- What is the anticipated duration of any potential impact (as opposed to the duration of the plan or project)? The issue of duration should also be considered with reference to the issue of scale. For example a conclusion of no adverse effect on integrity may be able to be reached in the case of a small-scale effect from which the site/feature can quickly recover.
- Is recovery possible and if so would it be natural recovery or would management be required?
- What is the timescale of any anticipated recovery (for example vegetated shingle habitats take thousands of years to form and recovery times would be of this magnitude, other habitats may be expected to recover within a year)? The longer the recovery time the more difficult it will be to demonstrate no adverse effect on integrity.
- Is there any uncertainty regarding whether recovery will take place?

4.4 Long-term impacts and biological-lag

There are mechanisms for impact which may not manifest themselves through evidence of damage on site in the short term. Examples include impacts associated with atmospheric deposition, exceedance of water quality standards and changes to the high-flow regime in rivers. Impacts of this type are often difficult to attribute directly to effects on the features, however they are linked to site integrity. Several of the indicators on the integrity checklist can be linked to long-term impact mechanisms.

Decisions relating to integrity in such cases need to be based upon best available information and professional judgement. Certain environmental standards (eg: critical loads and environmental quality standards) are set for ecosystem protection. Unless there are specific reasons why the standard is not appropriate to the site/feature in question, and assuming the issue of scale has been considered, then exceedance of any such standard would represent a threat to the integrity of the site. It would not generally be possible to ascertain no adverse effect on site integrity in such circumstances.

Note of Caution:

With certain environmental standards, such as critical loads, we must have sufficient confidence that the level is actually exceeded. Any assumptions or errors in modelling approaches need to be refined as far as possible (and ground-truthed where appropriate) before a conclusion is recorded

4.5 Conflicting feature requirements

There are circumstances where a given environmental condition may be beneficial to one feature whilst being detrimental to another. For example managing degraded lowland raised mire whilst maintaining scrub & trees for nightjar. The key step in these situations is to consider whether the activity is directly connected with or necessary to the management of the site? If so then the Habitats Regulations apply no further and the issue of integrity is not relevant. If however a plan or project is not necessary for the management of a site, but happens to have an incidental benefit for a feature, this should not be considered as mitigation for any negative effects on another feature. Under such circumstances any mitigation would need to offset the damage to the feature affected.

4.6 Off-site Impacts

There is a difference between an off site impact which affects a population/habitat whilst it is on the site (eg: discharges into a watercourse upstream of the site) and an off-site impact which affects a mobile species whilst it is off site (eg: impacts on migrating salmon passing through an estuary to return to their designated river). This section considers the latter and is therefore limited to consideration of designated mobile species such as birds and migratory fish.

The impacts on the mobile designated features of a site should be considered not only within the site boundary but also off site. **Any** impact to the designated species (or habitat upon which they are dependent) which causes a significant decline in the size, distribution, structure or function of the population **within** the designated site, should be considered to have an adverse effect on the integrity of the site. However, a clear link needs to be made between the population being impacted and that of the population within the designated site. Off-site impacts are considered in further detail in a separate guidance note ⁽⁵⁾. Two relevant case studies (Islay and Blundell Sands) are provided in appendix 1:

4.7 Dynamic Sites

Coastal sites are more dynamic than terrestrial sites and are often subject to relatively rapid changes in both their physical characteristics and their wildlife interest. There are circumstances where plans or projects that *are not* 'directly connected with or necessary for the management of the site', but are either compatible with or supportive of a site's structure and function, can lead to changes in the distribution and abundance of those populations and habitats (or changes in physical and/or biological processes) for which the site was notified. In such circumstances discretion needs to be exercised in arriving at any judgement on adverse effect on integrity.

5.0 A Precautionary Approach to Site Integrity

In accordance with the Conservation (Natural Habitats &c.) Regulations, a conclusion of no adverse effect on the integrity of the European site has to be reached before a plan or project can be affirmed/consented. This is a precautionary approach which works on the basis that if a judgement is reached that there is a foreseeable risk of adverse effects on site integrity, then a conclusion of "no adverse effect on integrity" cannot be reached. Advice provided must be reasonable and based upon information attributing foreseeable risk of a causal effect. For example, with regards evidence being 'lacking' then this evidence must have been looked for and related hypotheses need to have been clearly tested as far as reasonably possible within the appropriate assessment. Steps to prevent the risks materialising then need to be put into place as necessary within a legally enforceable framework. This is highlighted by the Lord Nimmo Smith judgement of the Cairngorms railway case (see appendix 1 for further details) when the judge provided the statement below.

I do not accept that this means that there must be an absolute guarantee that the integrity of the site will not be adversely affected. There can never be an absolute guarantee about what will happen in the future, and the most that can be expected of a competent authority or SNH is to identify the potential risks so far as they may be reasonably foreseeable in light of such information as can reasonably be obtained, and to put in place a legally enforceable framework with a view to preventing these risks from materialising.

6.0 Integrity and Favourable Condition

- Site integrity is considered in the context of potential adverse effect of a ‘plan or project’ on a European site (SAC, cSAC or SPA) following an appropriate assessment of the implications of that plan or project for the site;
- Whereas the condition is determined by carrying out a condition assessment at the unit level of a SSSI.

In practice, however where there is a situation that an adverse effect on integrity is reasonably foreseen by an ‘appropriate assessment’ and the plan or project is implemented, and the predicted results occur, then the condition of the site must be considered to be affected, and be thus unfavourable. The condition may in some cases become unfavourable recovering rather than something worse.

In the context of regulation 50, sites may currently be recorded as unfavourable and this may, or may not be due to the activities which are subject to review. Similarly a ‘plan or project’ may be adversely affecting the integrity of a site which is currently recorded as ‘favourable’ in a previous condition assessment, because (at the time) the assessment did not consider all matters related to points 1 to 5 above.

7.0 References

- (1) EC Guidance “Managing Natura 2000 sites: The provisions of Article 6 of the Habitats Directive 92/43/EEC” April 2000.
- (2) EA/EN/CCW Guidance document: “EU Habitats and Birds Directive Handbook – Policy, procedures and guidance for Agency permissions and activities: assessing new plans, projects and reviewing existing permissions.”
- (3) EC Guidance “Assessment of Plans and projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC” November 2001.
- (4) Philp, C. Research on-going, 2004.
- (5) EN guidance note: Off site impacts on designated features and site integrity, Jan 2004.

Appendix 1: Case studies to principles discussed in the paper

WWF -UK Ltd and RSPB v Secretary of State for Scotland (Cairngorms case) 1998

Example of: precautionary principle

A competent authority is not required to provide an absolute guarantee that the integrity of a European site will not be adversely affected. In the face of a potential risk that is reasonably foreseeable in the light of information that can reasonably be obtained, they are required to put in place a legally enforceable framework with a view to preventing those risks from occurring. This does not seem to be advocating absolute precaution but precaution in the face of a reasonably foreseeable risk.

ADT Auctions Ltd v Secretary of State for environment, Transport and the Regions and Hart District Council 2000

Example of: precautionary principle

The proposed development was for housing adjacent to Thames Basin Heaths pSPA. The judge agreed with a Planning Inspector's finding that there were too many factors associated with the proposed development which would pose real or potential threat to the integrity of the Annex I Bird Habitat on the pSPA to warrant permission being granted. A real as opposed to hypothetical risk was identified. In these circumstances the judge identified the approach required by Regulation 48(5) as being relevant "both when the decision maker is satisfied the proposed development will adversely affect the site's integrity and when he is undecided whether it will or not."

Water Resources Act appeal, Manor Farm, Dilham, Norfolk 2001

Example of: precautionary principle, long term impacts.

The main issue was the impact of increased abstraction on alkaline fen habitat on the Broads cSAC. The inspector identified the purpose of an appropriate assessment as "to ascertain that the proposed abstraction would not have an adverse impact on the integrity of the alkaline fen" whilst referring to the Cairngorms case and recognising that his did not imply absolute certainty. Although there was no absolute proof of a causal link between the abstraction and the water supply at the fen surface, the inspector was satisfied that the evidence presented identified a potentially serious threat to the integrity of the fen. He rejected the appeal on the basis that he could not ascertain no adverse effect on the integrity of the site and relying on the ADT Auctions case ("I should reject the proposal if either I believe that the integrity would be harmed or if I am undecided")

Proposed erection of wind turbines at Bowmore, Islay 1999

Example of: off-site impacts, precautionary principle, long term impacts.

The development site was close to (approx 500m) but outside an SPA important as a roost site for Greenland white-fronted geese. A risk of the geese colliding with turbines as they attempt to pass through the development site on their way to and from feeding areas was identified. Predictions were put forward as to the levels of mortality due to collision, together with avoidance rates. The inspector felt unable to conclude that confidence could be placed in the avoidance rates suggested by the applicants as they were neither site nor species specific. This, despite the fact that throughout the world only one goose, of another species, had ever been found to have been killed as a result of collision with a windfarm. The inspector found the precise impact of the development to be uncertain due to reasonable doubt as to the level of goose fatalities. That doubt and the effect that fatalities on the scale predicted as possible would have did not, the inspector felt, enable him to be satisfied that an adverse effect on the site would be avoided. The existence of reasonable doubt as to the level of fatalities and thus to the potential effect of the development on the integrity of the SPA suggested to the inspector a situation where the precautionary principle might be applied.

Application for sand extraction from the Ribble estuary 2001.

Example of: the precautionary principle, indirect effects.

The proposal was to extract sand from the beach foreshore at Southport, within the Ribble and Alt Estuaries SPA and adjacent to the Sefton Coast cSAC. The effect mainly in issue, from a conservation point of view, was the erosion of intertidal SPA habitat that would be stimulated or aggravated as an indirect effect of the extraction. The inspector identified that Regulation 48(5) did not require a state

of absolute certainty but went on to say: "There must be some evidence for the adverse effect contended." He also identified a relationship between Regulation 48(5) and the precautionary principle more generally "which requires that a real risk should not be discounted because of lack of full scientific certainty". He was not convinced however on the balance of the evidence available to him that there was a real risk to the integrity of the site and felt able to ascertain to the degree of certainty required that there would be no adverse effect "as far as is reasonably foreseeable in the light of such information as can reasonably be obtained".

Planning Application, Blundell Sands:

Example of: Off site impacts, precautionary principle.

The case involved a planning application for a development which would have involved the loss of permanent, seasonally wet pasture. This pasture affected was not within the classified SPA but approximately 1.2 km away from the main designated feeding areas. It was agreed by a planning inspector in this case, adopting a precautionary approach, that due to the reduction in available feeding habitat to the population of birds for which the site was classified the possibility of the integrity of the SPA being adversely affected could not be precluded.

Appendix 2: Integrity Checklist from EC guidance document ⁽³⁾.

Conservation Objectives	
<i>The plan or project has the potential to:</i>	Yes/No
Cause delays in progress towards achieving the conservation objectives of the site?	
Interrupt progress towards achieving the conservation objectives of the site?	
Disrupt those factors that help to maintain the favourable conditions of the site?	
Interfere with the balance, distribution and density of key species that are indicators of the favourable condition of the site?	
Other Indicators	
<i>The plan or project has the potential to:</i>	Yes/No
Cause changes to the vital defining aspects (eg: nutrient balance) that determine how the site functions as a habitat or ecosystem?	
Change the dynamics of the relationship (between, for example, soil and water or plants and animals) that define the structure and function of the site?	
Interfere with predicted or expected natural changes at the site (such as water dynamics or chemical composition)	
Reduce the area of key habitats?	
Reduce the population of key species?	
Change the balance between key species?	
Reduce diversity of the site?	
Result in disturbance that could affect population size or density or the balance between key species?	
Result in fragmentation?	
Result in loss or reduction of key features (eg: tree cover, tidal exposure, annual flooding etc.)	