

The Condition of Northern Ireland's Areas of Special Scientific Interest:

**The Results of the First Condition Assessment Monitoring Cycle
2002-2008**



Research and Development Series 08/10

A report produced by the Northern Ireland Environment Agency

The Condition of Northern Ireland's Areas of Special Scientific Interest: the Results of the First Condition Assessment Monitoring Cycle 2002-2008

This report should be cited as follows: The condition of Northern Ireland's Areas of Special Scientific Interest: the Results of the First Condition Assessment Monitoring Cycle 2002-2008. A report by the Northern Ireland Environment Agency (2008), Research and Development Series No. 08/10

For further information on this report please contact:

Paul Corbett,
Northern Ireland Environment Agency,
Conservation Science,
Klondyke Building,
Gasworks Business Park,
Lower Ormeau Rd,
Belfast,
BT7 2JA

SUMMARY

1. NIEA is committed to ensuring that 95% of the features underlying the designation of internationally important wildlife sites and Areas of Special Scientific Interest (ASSI) are in, or approaching, favourable conservation condition by 2016 (Sustainable Development Implementation Programme). This requires regular monitoring to measure achievement against the target.
2. Site quality monitoring – or condition assessment - is the process of assessing that the habitat and species interests of a designated site are meeting the objectives for which the site was declared. The Joint Nature Conservation Committee (JNCC) has co-ordinated monitoring effort (known as Common Standards Monitoring) amongst the UK Conservation Agencies.
3. NIEA initiated a programme of condition assessment in 2002. The six-year rolling programme has been designed so that each feature on each designated site can be assessed and reported on at least once during the 6-yearly cycle. Condition assessment is intended as a rapid means of site quality monitoring and its application involves the recording in the field of a few carefully chosen attributes. At the same time, results must be reliable and repeatable.
4. In March 2008 the first full cycle was completed, allowing a comprehensive assessment of the condition of the ASSI network to be made. In total, 916 ASSI qualifying features have been assessed from 195 ASSIs, with earth science features making up 12% of the total, habitats 34% and species 54%. The results show that around two thirds of the features on ASSIs are in favourable condition. However, a significant proportion (slightly less than one third) is in unfavourable condition.
5. Some trends between feature types can be identified. Virtually all of the earth science features assessed to date are in favourable condition. The majority (over three-quarters) of species features on ASSIs are in favourable condition. In contrast, for habitat features around 44% are in favourable or unfavourable recovering condition, leaving over half unfavourable. These trends are reflected in the corresponding statistics for European sites, with a high proportion of SPA

features favourable, while many SAC features (i.e. mostly habitats and non-bird species) are unfavourable.

6. Reasons for unfavourable condition on ASSIs vary. Inappropriate grazing levels, changes in agricultural practices, the presence of invasive species, drainage activities and water quality are some of the factors which influence condition. Some features are more susceptible to certain factors than others. It should be noted that many of the features that require some form of active management - such as grazing or mowing – to maintain their condition are unfavourable.

7. In some cases, only minor adjustments to existing management will be required to ensure that the conservation condition of the feature begins to recover. However, there are some features and sites where the issues are less straightforward to deal with, and a few of these may involve either expensive solutions, or protracted negotiations with large numbers of landowners.

8. Figures for the UK as a whole are broadly comparable when all features are combined together (72% favourable compared to 69% for NI). However, there is a significant difference for habitats, where the proportion of features in unfavourable condition is higher for NI (i.e. 34% for UK compared to 56% for NI).

9. It is not suggested that sites in NI have deteriorated since they were designated. Favourable condition describes the desired state of an interest feature, and not its condition at the time of declaration. During the initial work prior to ASSI designation, it was clear that many of the sites were not being managed in the appropriate way.

10. Restoring ASSIs to favourable condition will be a challenging task. Changes in the wider countryside are likely to reduce some of the pressures on ASSIs, but a targeted campaign to persuade landowners to join agri-environment schemes is also urgently required.

1. INTRODUCTION – THE NEED FOR MONITORING

The Sustainable Development Implementation Programme commits NIEA to ensuring that 95% of the features underlying the designation of internationally important wildlife sites and ASSIs are in, or approaching, favourable conservation condition by 2016. It will not be possible to measure achievement against this target without regular monitoring.

Site monitoring is divided into two broad categories:

- i. **Site integrity/compliance monitoring** is essentially a check that the site is still 'intact' and has not been significantly modified since its declaration. It includes checks to ensure that there are no infringements, either of notifiable operations or management agreements where these are in place.
- ii. **Site condition assessment** is designed to detect more subtle changes, both natural and as a result of human activity. NIEA initiated a six-year rolling programme of site condition assessment in 2002 and the first full cycle was completed in March 2008. Thus a comprehensive assessment of the condition of the ASSI network can be made.

2. THE DEVELOPMENT OF CONDITION ASSESSMENT

2.1 Condition assessment is the process of assessing that the habitat and species interests of a designated site are meeting the objectives for which the site was declared. As a result, the terms "condition assessment" and "conservation objectives" have become almost synonymous. The *objectives* list the attributes (characteristics of the interest feature that can be used to describe its condition) and associated targets. Condition assessment is the actual *process* of monitoring features against the targets prescribed in the conservation objectives.

2.2 After the attributes have been measured, it is possible to assign the feature to one of the agreed reporting categories. These can be broadly broken down into favourable or unfavourable (i.e. meeting targets or failing them). The process of identifying features, setting objectives and undertaking condition assessment, is generally referred to as Common Standards Monitoring (CSM).

2.3 JNCC has taken the lead in harmonising monitoring effort amongst the UK Conservation Agencies as part of its responsibility to ensure that common standards are maintained in the UK. The three main drivers have been:

- (a) Government commitment that the condition of the designated site series should be reported on;
- (b) a requirement under the Habitats Directive to report on the status of listed habitats and species, including their condition on *Natura 2000* sites;
- (c) and most importantly of all, to assess if the management of sites is effective.

Each of the UK Agencies is now committed to the process, since there is both a clear policy requirement and a practical need to monitor the condition of their designated sites. The launch of the UK Common Standards Monitoring Guidance Manual in February 2004 demonstrated the commitment of the agencies to the process.

3. CONDITION ASSESSMENT IN NI

3.1 After several years working with the other agencies in the development of conservation objectives and the trialing of condition assessment across a range of habitats as part of the UK CSM process, NIEA initiated a full programme of condition assessment in 2002. The six-year rolling programme has been designed so that each feature on each designated site can be assessed and reported on at least once during the agreed 6-yearly cycle.

3.2 Condition assessment is intended as a rapid means of site quality monitoring. The actual field methods used to determine condition are of major importance to the end result. The intention has been to produce methods that are relatively straightforward and quick to undertake in the field. However, accuracy and repeatability are critical, and these should not be sacrificed for speed and ease of use. To serve their purpose, the results must truly reflect the condition of the feature in an unbiased way - i.e. they should be capable of being carried out by different observers, over different time periods, yet still produce consistent results.

3.3 This is particularly important as each of the country agencies has adopted different approaches to carrying out the work. In England, most condition assessments are undertaken by staff based in the local offices. SNH has made extensive use of contractors to complete the work. CCW has a specialist unit responsible for monitoring on SACs and it is likely that this approach will be extended to include SSSIs. NIEA is using a combination of all these elements – undertaking a proportion of the work directly within Conservation Science to ensure maximum consistency of results; using specialist contractors where in-house expertise is lacking or insufficient (for example, some aquatic habitats, bryophytes and invertebrate groups); and involving regional staff where appropriate.

3.4 NIEA also makes use of other sources of data to undertake condition assessments. For example, regular seal counts and long-established bird counts (the latter undertaken as part of the WeBS programme) provide data for many of the SPAs and ASSIs. In addition, it is likely that obligations under the Water Framework

Directive will require an extensive monitoring programme for freshwater and marine habitats which we should be able to draw upon in the future.

3.5 The actual application of condition assessment in the field involves the recording of a few carefully chosen attributes. Targets are normally assessed using a regular grid or structured walk, although some of the attributes (for example extent) can be assessed more accurately using recent aerial photographs, where these are available. Surveyors generally stop at a series of pre-determined points and work through the attributes and targets, making notes on each for that point. These points are not intended to provide a rigorous statistical sample, but simply as a means of ensuring that the assessment covers a representative area of the feature and avoids bias. In NI, we have used GPS units to ensure accurate location (and subsequent re-location) of sample points.

4. RESULTS

4.1 The ASSI Programme is ongoing and NIEA is still in the process of extending the ASSI network. Since the monitoring cycle began, over 60 new ASSIs have been declared, taking in over 100 additional features. These sites have been excluded from the first monitoring cycle, although they will be included in subsequent monitoring rounds.

4.2 The full six-year cycle was completed in March 2008, enabling a comprehensive assessment of the condition of the ASSI network to be made. In total, 916 ASSI qualifying features have been assessed from 195 ASSIs, with earth science features making up 12% of the total, habitats 34% and species 54%. Thus, species make up a very significant proportion of the total feature list, and more detailed analysis shows that birds represent a large part of these (i.e. 69% of all species features). The representation of these feature types across the ASSI series is significant when interpreting the results. This is because the different types each have typical favourable/unfavourable characteristics, as will become apparent in the discussions below.

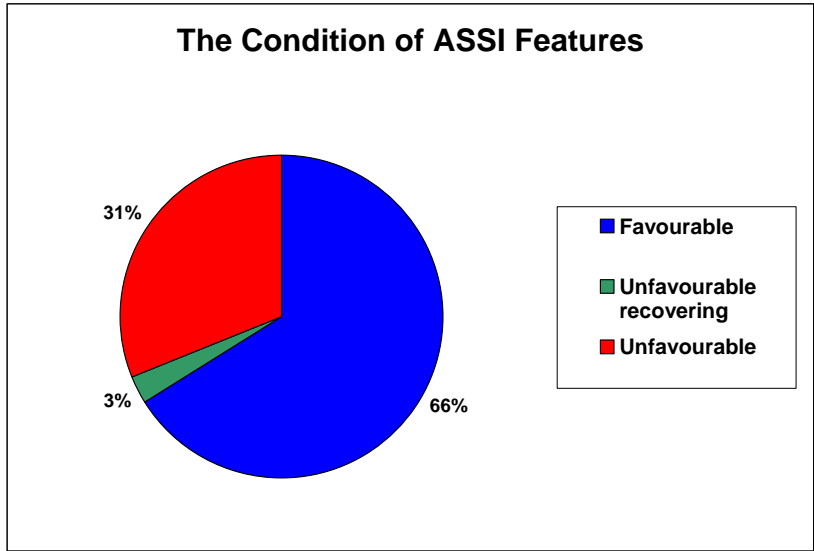
4.3 Results are classified into 3 main categories – favourable, unfavourable and unfavourable recovering. The latter category requires some explanation. Many habitats and species that are unfavourable will take time to recover to favourable condition, even when the appropriate management is in place. This may be because of very poor condition in the past, or inherently slow ecological processes – for example, woodlands may take decades or even centuries for the full range of structural features to develop. Unfavourable recovering has therefore been recognised as an “acceptable” condition, and this is reflected in the Public Service Agreement (PSA) target for England and Wales (set by Defra) that 95% of SSSI land should be in favourable or recovering condition by 2010. The same logic has been reflected in drawing up the comparable target for NI.

4.4 However, it is clear that it is difficult to make a judgment on trend in condition during the first round of monitoring. Only after the second monitoring cycle will a

definitive trend in feature condition become apparent. Although we have made some tentative assessments based upon an understanding of the management factors that influence habitats and species, our general assessment is that few features can be reliably assigned to the recovering category at this stage.

4.5 In the six year period since the monitoring programme began, 916 features have been assessed. The results show that around two thirds of the features are in favourable condition. However, a significant proportion (slightly less than one third) of the features on ASSIs is in unfavourable condition (see below).

ALL ASSI FEATURES	Favourable	Unfavourable recovering	Unfavourable	TOTAL
Number of Features	606	26	284	916
Percentage	66.2%	2.8%	31.0%	



5. DISCUSSION OF RESULTS

5.1 The results are more informative when the features are considered in more detail, as some feature-types have a more marked tendency to be in favourable condition than others.

(i) Earth Science Features

Virtually all of the earth science features assessed are in favourable condition.

EARTH SCIENCE FEATURES	Favourable	Unfavourable	TOTAL
Number of Features	111	3	114
Percentage	97.4%	2.6%	

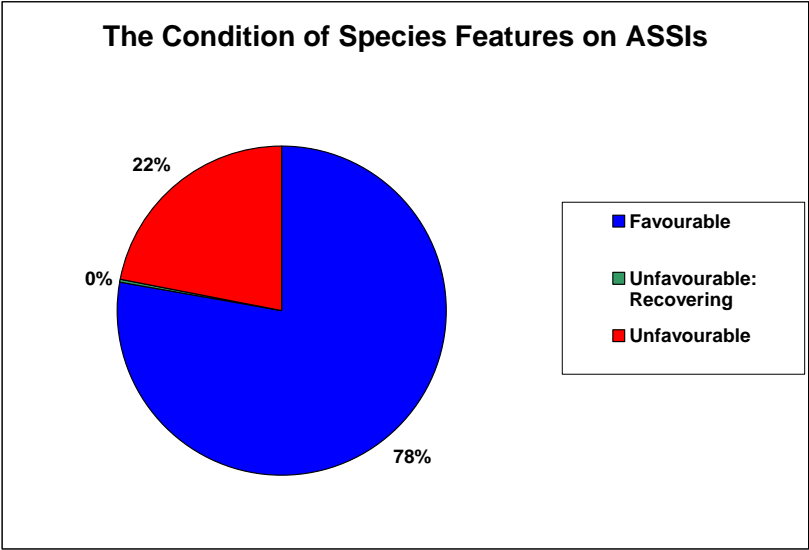
These results confirm our expectations, as the bulk of the Earth Science programme to date has focused on exposure localities, which tend to be relatively robust. In many cases, little or no management is required to maintain the feature in favourable condition; other sites may simply involve ensuring that exposed rock faces are not obscured by vegetation. However, it should be noted that some of the earth science features proposed for future ASSI declaration are more vulnerable to management activities. Thus, as further sites are added to the ASSI network, the relative proportion of favourable to unfavourable features may well change.

(ii) Species Features

The results for species show more variability, although still a relatively high proportion (i.e. 78%) of features is in favourable condition.

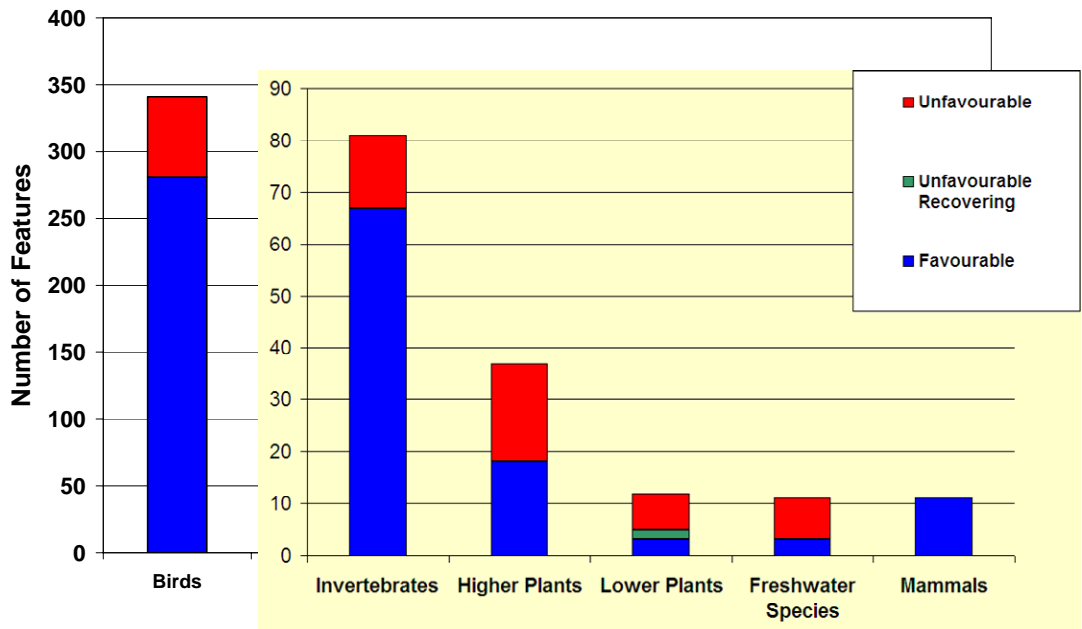
SPECIES FEATURES *	Favourable	Unfavourable recovering	Unfavourable	TOTAL
Number of Features	383	2	108	493
Percentage	77.7%	0.4%	21.9%	

* Note that seal counts and much of the bird monitoring are undertaken on a yearly basis as part of regular counts. However, the formal assessment against attributes and targets is completed only once per cycle.



These figures conceal considerable variation between species-groups. The majority of bird features on ASSIs are in favourable condition, while some other species-groups – notably plants and freshwater species - have a much higher proportion in unfavourable condition (see Figure below).

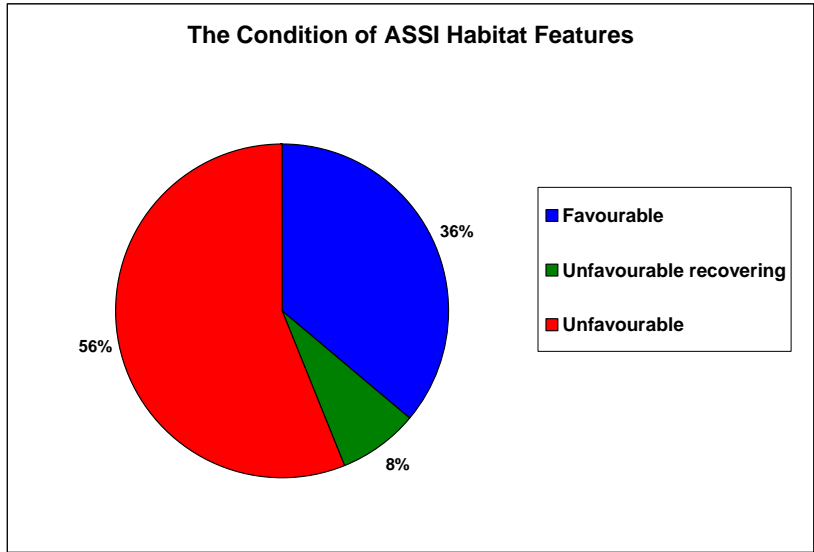
Condition of ASSI Features by Species Grouping



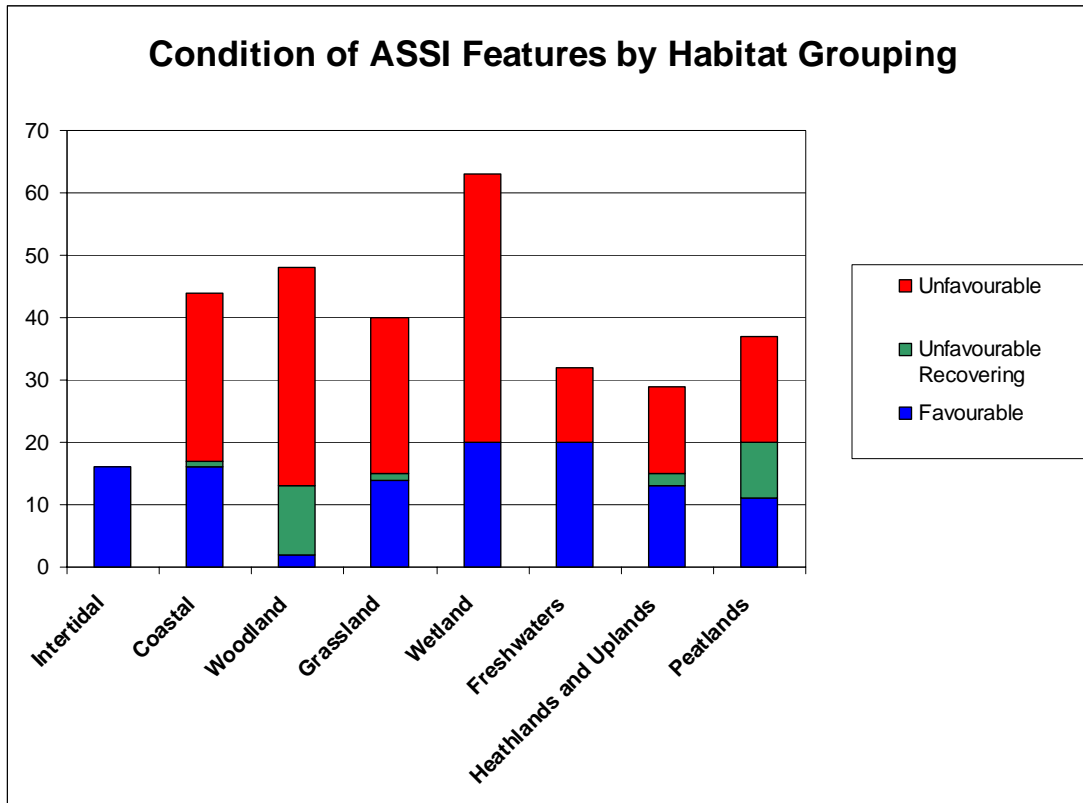
(iii) Habitat Features

The results for habitat features show a very different pattern compared to birds and earth science features. More than half of these are in unfavourable condition (see below).

HABITAT FEATURES	Favourable	Unfavourable recovering	Unfavourable	TOTAL
Number of Features	112	24	173	309
Percentage	36.2%	7.8%	56.0%	



The proportion of favourable to unfavourable features shows great variation across habitats, from intertidal habitats which are all favourable, to woodland, wetland (fens), grassland and coastal habitats, where the majority of features are unfavourable (see below).



(iv) European Features

The trends described above are reflected in the corresponding statistics for European sites – i.e. SPAs and SACs. This is not surprising, as ASSI designation generally underpins the *Natura* 2000 series in NI. Thus the ASSI features generally represent the underlying features on which the assessment of the European features has been based. For example, the Magheraveely Marl lakes SAC includes six individual ASSIs, and the assessment of the condition of the qualifying features is based upon the combined results from these six individual sites.

A high proportion – 83% - of SPA features (i.e. bird) is favourable, while over half of SAC features (i.e. mostly habitats and other species) is unfavourable (see below).

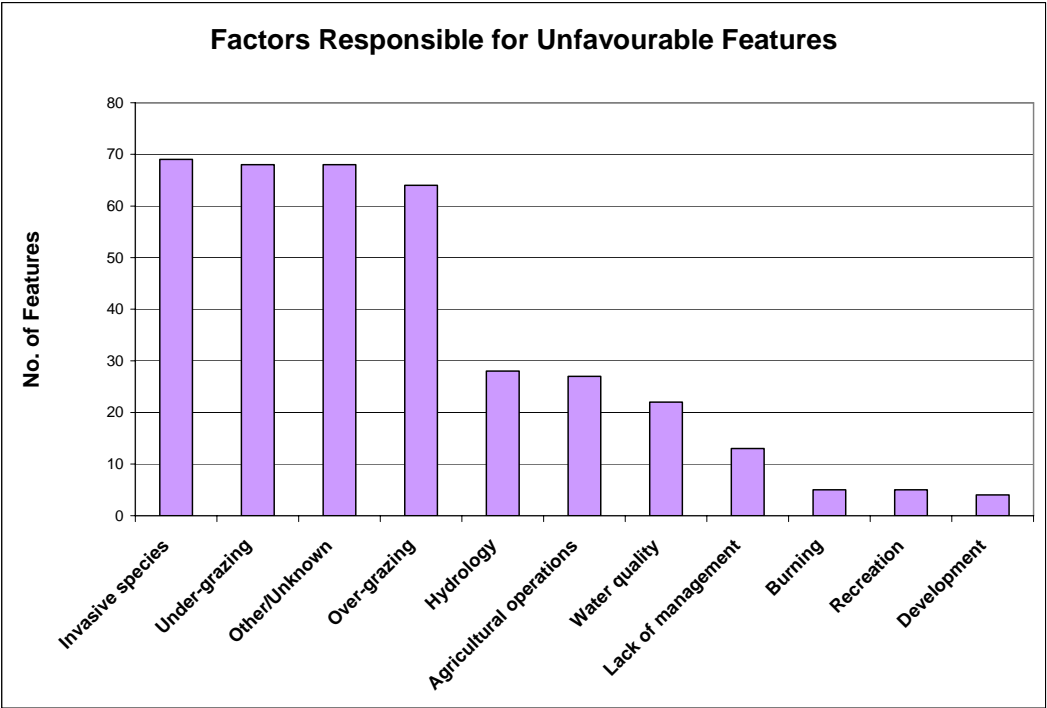
SPA FEATURES	Favourable	Unfavourable recovering	Unfavourable	TOTAL
Number of Features	44		9	53
Percentage	83.0%		17.0%	

SAC FEATURES	Favourable	Unfavourable recovering	Unfavourable	TOTAL
Number of Features	58	14	75	147
Percentage	39.5%	9.5%	51.0%	

6. REASONS FOR UNFAVOURABLE CONDITION

6.1 Reasons for unfavourable condition vary. For some features, inappropriate management - particularly overgrazing - is the primary factor responsible for unfavourable condition. In contrast, a number of features – particularly fens and coastal dunes - are threatened by a lack of management, leading to rank growth and scrub encroachment. Some habitats suffer from particular problems or management issues. For example, the abundance of invasive exotic species such as Sycamore is often the reason for unfavourable condition on woodland ASSIs. Hydrological impacts (e.g. drainage) and water quality (especially eutrophication) affect many of our wetland and freshwater features. For some features – particularly birds – we are either not sure what the cause of unfavourable condition is, or believe that it may reflect factors that are outside the influence of the site designation – such as wider bird migratory movements (recorded as “Other/Unknown” below).

6.2 Perhaps of most concern is the fact that many features which require some form of active and sympathetic management to maintain their interests – such as grazing or mowing - are in unfavourable condition.



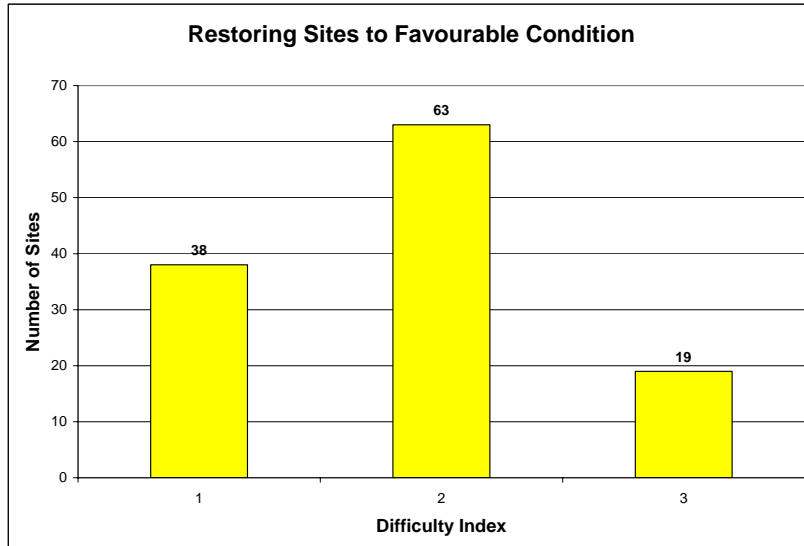
7. RESTORING TO FAVOURABLE CONDITION - MANAGEMENT IMPLICATIONS

7.1 At the outset of this section, it should be noted that favourable/unfavourable status is assigned for each feature across the site as a whole. So although a feature may be classed as favourable, it is possible that some areas of the site may actually be in poor condition, and could benefit from changes in management. Similarly, a feature classed as unfavourable may have some parts that are in good condition. Nevertheless, unfavourable condition provides a focus for those sites where changes in management are most urgently required.

7.2 We have undertaken some basic analysis of the potential management implications of achieving favourable condition for the bulk of the ASSI network. This analysis has been based at the level of site, rather than individual feature level, since management is generally undertaken on a site basis. Assigning condition to sites rather than features is not as straightforward as it may appear initially; multi-feature sites often have some features favourable and others unfavourable, depending upon the interests and the factors that influence them. In such cases, we have made an assessment of the site as a whole, based upon the condition of what we consider to be the most “significant” feature(s). Although this is not the ideal way of looking at the data, it is useful in providing a general view of the likely management implications of achieving favourable condition for individual sites.

7.3 Clearly, the management measures to restore favourable condition are site-specific. In some cases, only minor adjustments to existing management will be required to ensure that the feature begins to recover. However, in a number of cases, the issues are less straightforward and will either require expensive solutions, or involve protracted negotiations, or both. We have undertaken an analysis of the likely difficulty of addressing the issues that are currently causing unfavourable condition.

7.4 Three broad categories have been identified, based upon such factors as the number of landowners involved, and the management changes required (see below).



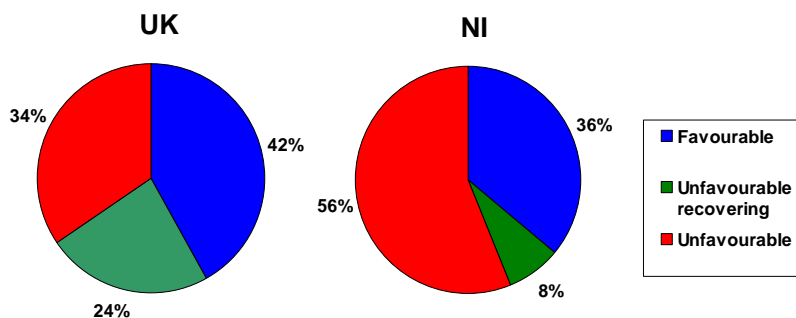
We estimate that a high proportion of unfavourable sites can be restored comparatively easily with only minor alterations to current management, through such measures as changes to existing management agreements, or the entry of the land into DARDNI agri-environment schemes (Index Value 1). A number of sites are likely to pose more serious problems or take longer to resolve, generally because larger numbers of landowners are involved, or because of difficulties in securing favourable management – e.g. re-introduction of grazing to some fens. These have been assigned an Index Value of 2. A relatively small number of sites present more intractable problems, either because there are very large numbers of landowners involved, or because of particular ecological processes or conditions (Index Value 3). For example, water quality is one of the most difficult issues to address, since in many cases, pollution may be from diffuse rather than point sources.

8. CONCLUSIONS

8.1 The conclusion is that a significant proportion of the features for which ASSIs have been designated in NI is in unfavourable condition and to date shows no evidence of recovery.

8.2 In this context, it is important to note that the rest of the UK also has a significant proportion of unfavourable SSSI features. In 2006, JNCC published results compiled from data collected by each of the UK Country Agencies (*Common Standards Monitoring for Designated Sites: The First Six Year Report*). This shows that 28% of features on SSSIs/ASSIs are in unfavourable condition (comparable NI figure is 31%). However, there is a much more significant difference in the relative condition of habitats, with the UK figure for unfavourable habitats being 34%, compared to 56% in NI (see below).

HABITAT CONDITION IN UK AND NI



8.3 This discrepancy between NI and the rest of the UK needs some consideration. In the first instance, it is worth stressing the point that favourable condition describes the desired state of an interest feature, and not its condition when the site was designated. ASSIs are selected as the “best” examples of particular features, and not on the basis of their condition *per se*. Indeed, favourable condition is a recent

concept and the historically declared ASSIs and their features were not selected against these new standards.

8.4 It is also important to note that there is no suggestion that the sites have deteriorated since they were designated. During the initial ASSI survey work, it was clear that many sites were not being managed in the appropriate way. It is difficult to assess trends when the relevant baseline data is unavailable, but anecdotal evidence suggests that virtually all of the features and sites that are currently unfavourable were unfavourable at the time of declaration.

8.5 Given the historical legacy of a large number of unfavourable sites, it is hardly surprising that the NI figure for unfavourable condition is higher than the comparable percentage for the UK as a whole. Most SSSIs have been afforded protection for a much longer period than ASSIs. The results are therefore disappointing, but not unexpected.

8.6 However, the figures do raise the issue of how effective ASSI designation has been in securing sympathetic management. It is important to remember that the original declarations were often made to protect habitats and sites under imminent threat. Had it not been for ASSI declaration, many of these sites would probably have been severely damaged or destroyed altogether. With a few notable exceptions, ASSI declaration has protected sites from a wide range of damaging activities, such as peat cutting on bogs, clearance of woodland, ploughing up of grasslands, drainage of wetlands, etc. What ASSI declaration has not managed to achieve yet, are the more subtle shifts in management required to bring the majority of selection features on all designated sites into favourable condition.

8.7 Developments in the wider countryside – such as CAP reform and DARDNI's agri-environment schemes, Water Framework Directive, Nitrates Directives, etc. - will undoubtedly contribute to easing pressures on most designated sites. However, NIEA will need to invest a considerable part of its own resources, and to work constructively with other partners, to achieve the long-term targets for designated sites.

ISSN 1367-1979 (Print)
ISSN 1751-7796 (Online)

Northern Ireland Environment Agency
Klondyke Building
Cromac Avenue
Gasworks Business Park
Belfast BT7 2JA
T. 0845 302 0008

Our aim is to protect, conserve and promote the
natural and built environment for the benefit of
present and future generations.

