

DEAD ISLAND BOG SAC  
UK0030323

# CONSERVATION OBJECTIVES

## Document Details

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## Revision History:

Version	Date	Summary of Changes	Initials
V1	June 2013	Internal working document	PC
V2	Nov 2014	Complete review	RMK

## 1. INTRODUCTION

EU Member States have a clear responsibility under the Habitats and Birds Directives<sup>1</sup> to ensure that all habitats and species of Community Interest are maintained or restored to Favourable Conservation Status (FCS). Natura 2000 sites have a crucial role to play in achieving this overall objective since they are the most important core sites for these species and habitats. Each site must therefore be managed in a way that ensures it contributes as effectively as possible to helping the species and habitats for which it has been designated reach a favourable conservation status within the EU.

To ensure that each Natura 2000 site contributes fully to reaching this overall target of FCS, it is important to set clear conservation objectives for each individual site. These should define the desired state, within that particular site, of each of the species and habitat types for which the site was designated.

Once a site has been included in the Natura 2000 network, Member States are required to implement, on each site, the necessary conservation measures which correspond to the ecological requirements of the protected habitat types and species of Community Interest present, according to Article 6.1 of the Habitats Directive. They must also prevent any damaging activities that could significantly disturb those species and habitats (Article 6.2) and to protect the site from new potentially damaging plans and projects likely to have a significant effect on a Natura 2000 site (Article 6.3, 6.4).

Conservation measures can include both site-specific measures (i.e. management actions and/or management restrictions) and horizontal measures that apply to many Natura 2000 sites over a larger area (e.g. measures to reduce nitrate pollution or to regulate hunting or resource use).

In Northern Ireland, Natura 2000 sites are usually underpinned by the designation of an Area of Special Scientific Interest (ASSI) under the Environment (NI) Order 2002 (as amended).

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<sup>1</sup> 92/43/EEC and 2009/147/EC (codified version of Directive 79/409/EEC as amended)

## 2. ROLE OF CONSERVATION OBJECTIVES

Conservation Objectives have a role in

- Conservation Planning and Management – guide management of sites, to maintain or restore the habitats and species in favourable condition
- Assessing Plans and Projects, as required under Article 6(3) of the Habitats Directive - Habitats Regulations Assessments (HRA) are required to assess proposed plans and projects in light of the site's conservation objectives.
- Monitoring and Reporting – Provide the basis for assessing the condition of a feature, the factors that affect it and the actions required.

## 3. DEFINITION OF FAVOURABLE CONSERVATION STATUS

Favourable Conservation Status as defined in Articles 1(e) and 1(i) of the Habitats Directive:

The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- Its natural range and areas it covers within that range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable as defined in Article 1(i).

For species, favourable conservation status is defined in Article 1(i) as when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and;
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and;
- there is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis.

### 3.1 DEFINITION OF FAVOURABLE CONDITION

Favourable Condition is defined as “the target condition for an interest feature in terms of the abundance, distribution and/or quality of that feature within the site”.

The standards for favourable condition (Common Standards) have been developed by JNCC and are applied throughout the UK. Achieving Favourable Condition on individual sites will make an important contribution to achieving Favourable Conservation Status across the Natura 2000 network.

### 4. SITE INFORMATION

COUNTY: LONDONDERRY

GRID REFERENCE: C932054

AREA: 54.5 ha

### 5. SUMMARY SITE DESCRIPTION

Dead Island Bog is a lowland raised bog lying in a shallow interdrumlin hollow within the Lower Bann valley.

Special features include a large, intact core of deep peat, which exhibits a wide range of characteristic vegetation and structural features. These include shallow pools and a well-developed hummock and lawn complex. Typically, the vegetation is characterised by ericoid dwarf shrubs and other associated species. The bog surface is permanently wet and supports a dense and diverse cover of *Sphagnum* bog-mosses.

Notable species include *Sphagnum imbricatum*, forming several small, hummocks scattered over the surface, and Great Sundew *Drosera longifolia* in several of the pools.

A triangular-shaped internal soak on the eastern flank of the bog provides an additional feature of interest. The soak is marked by a distinct change in the vegetation structure and composition. Cranberry *Vaccinium oxycoccus* is notable here, scattered over the surface of the *Sphagnum* mat.

Disturbance to the bog has been confined to machine cutting and occasional burning on both the intact core and cutover margins.

Further details of the site are contained in the ASSI Citation and Views About Management statement, which are available on the NIEA website ([www.doeni.gov.uk/niea](http://www.doeni.gov.uk/niea)).

## 5.1 BOUNDARY RATIONALE

The boundaries of the area use permanent man-made features around the periphery. The boundary includes all intact lowland raised bog and associated semi-natural habitats, including cutover bog and Birch scrub.

## 6. SAC SELECTION FEATURES

Feature type	Feature	Global Status	Size/ extent/ population
Habitat	Active raised bog	B	36.9 ha
Habitat	Degraded raised bog still capable of regeneration	D	17.6 ha

*Table 1. List of SAC selection features. Those with global status A-C will be referred to in ANNEX I.*

The global status is an expert judgement of the overall value of the site for the conservation of the relevant Annex I habitat. Sites have been graded A, B or C - in the UK these gradings have been interpreted as follows:

**A** - Sites holding outstanding examples of the habitat in a European context.

**B** - Sites holding excellent stands of the habitat, significantly above the threshold for SSSI/ASSI notification but of somewhat lower value than grade A sites.

**C** - Examples of the habitat which are of at least national interest (i.e. usually above the threshold for SSSI/ASSI notification on terrestrial sites) but not significantly above this. These habitats are not the primary reason for SACs being selected.

**D** - Habitat present but not of sufficient extent or quality to merit listing as SAC feature.

There is therefore a distinction between the principal features for which sites have been selected (those graded A or B) and those which are only of secondary interest (those graded C). This is a useful distinction but it is important to note that all three grades are qualifying SAC interest features.

Click [here](#) to go to the Natura 2000 Standard Data Form for Dead Island Bog SAC.

## 6.1 ASSI SELECTION FEATURES

### Dead Island Bog ASSI

Feature Type	Feature	Size/ extent/ population
Habitat	Lowland Raised Bog	54.5 ha

Table 2. List of ASSI features.

## 7. CONSERVATION OBJECTIVES

The *Conservation Objective* for this site is:

***To maintain (or restore where appropriate) the active raised bog to favourable condition.***

For each SAC feature, there are a number of component objectives which are outlined in the table below. These include a series of attributes, measures and targets which form the basis of *Condition Assessment*. The results of this will determine whether the feature is in favourable condition or not. The feature attributes and measures are found in the attached annex.

## 8. SAC/ASSI SELECTION FEATURE OBJECTIVE REQUIREMENTS

SAC Feature	Global Status	Component Objective
Active raised bog	B	Maintain the extent of intact lowland raised bog and actively regenerating raised bog vegetation.
		Maintain and enhance the quality of the lowland raised bog community types including the presence of notable species.
		Seek to expand the extent of actively regenerating raised bog vegetation into degraded (non-active) areas of cutover bog.
		Maintain the diversity and quality of other habitats associated with the active raised bog, e.g. acid grassland, fen and swamp, especially where these exhibit natural transition to the raised bog.
		Maintain the hydrology of the raised bog peat mass.
		Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for lowland raised bog rehabilitation.

## 9. ADDITIONAL ASSI FEATURE OBJECTIVE REQUIREMENTS

ASSI Feature	Component Objective
Lowland Raised Bog	Maintain the extent of intact lowland raised bog.
	Seek to expand the extent of actively regenerating raised bog.
	Maintain the hydrology of the raised bog peat mass.

## 10. MANAGEMENT CONSIDERATIONS

### ***Ownership***

The site is owned by 43 owner/occupiers.

### ***Adjoining Land Use***

The land surrounding the site is intensively managed agricultural land in silage and grazing.

## 11. MAIN THREATS, PRESSURES AND ACTIVITIES WITH IMPACTS ON THE SITE

Both on-site and off-site activities can potentially affect SAC/ASSI features. The list below is not exhaustive, but deals with the most likely factors that are either affecting Dead Island Bog, or could affect it in the future. Although Active Raised Bog is the qualifying SAC feature, factors affecting ASSI features are also considered.

**NOTE - Carrying out any of the Notifiable Operations listed in the ASSI schedule could affect the site.**

### ***Peat Cutting***

There has been extensive hand cutting for many years around the periphery. This has encroached significantly into the intact surface of the raised bog. Along the edge of the intact, the cut peat face can be 3m high in places, resulting in local desiccation to the adjacent intact surface. Although the old hand cuttings now support either actively regenerating bog vegetation or birch/willow scrub, there has been localised mechanised peat cutting carried out within the former in recent years particularly at the southern end of the site. In a number of instances mechanised cutting had encroached onto the remaining intact surface of the bog. Peat cutting at the time of designation was seen as very problematical.

**ACTION: No peat cutting within the SAC.**

### ***Burning***

Burning of the vegetation has taken place occasionally, the most recent and extensive burn is evident over most of the northern half. Excessive burning will tend to reduce the cover of *Sphagnum* mosses and ericaceous species, increasing the proportion of *Molinia caerulea* and *Trichophorum cespitosum*. In addition, structural diversity will be reduced.

**ACTION: No burning within the SAC.**

### ***Drainage***

The intact dome remains largely intact but does have a few active and occluded drains dissecting its surface as does the cutover, however these are not presently assessed to be a threat to the sites hydrological integratory. Any drains that are

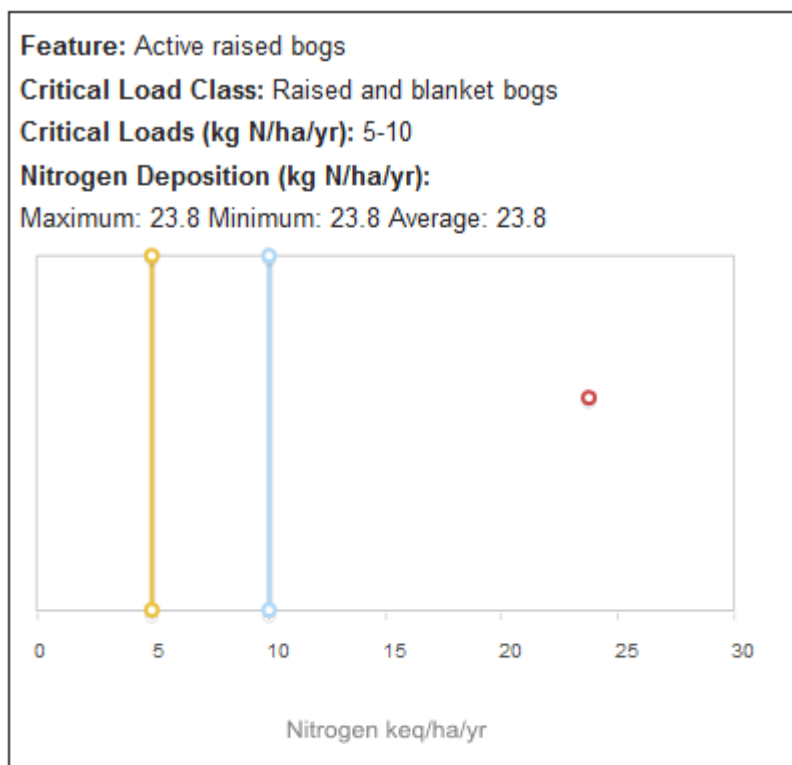


currently carrying water away from the peat mass should be identified and blocked. Note that drainage works outside of the site's boundaries could potentially impact upon the bog's hydrology.

**ACTION: Block active drains where appropriate.**

### ***Nitrogen Deposition***

Excess nitrogen deposition can favour the growth of competitive plants and lead to changes in ecosystem structure or function and to a reduction in biodiversity. National scale studies show the potential adverse effects of excess nitrogen on natural and semi-natural habitats to be widespread across the UK. Lower and upper critical loads have been calculated for Dead Island Bog SAC.



(Source: Air Pollution Information System (APIS) website- [www.apis.ac.uk](http://www.apis.ac.uk))

**ACTION: Seek to maintain or where necessary, restore concentrations and deposition of air pollutants to at or below the site-relevant critical load.**

### ***Changes to surrounding land use***

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development, may be detrimental to the SAC.

**ACTION: Reduce the risk of surrounding agricultural intensification by encouraging the adjacent owner/occupiers to enter into agri-environment schemes. Use Habitats Regulations Assessments (HRAs), through the planning process, to minimise any development risks adjacent to the SAC.**

### ***Scrub Encroachment***

Tree and scrub growth is locally extensive within the cutover bog but set back from the periphery of the intact. Any further scrub encroachment into the actively regenerating cutover areas, or onto the intact surface is undesirable.

**ACTION: Monitor further scrub encroachment (where it occurs) and take remedial action if required. Remove any invasive exotic species, such as Rhododendron as a matter of urgency.**

### ***Grazing***

Lowland raised bogs are not suitable for grazing, as the surface is fragile and easily damaged by poaching.

**ACTION: Fences around the periphery of the bog should be maintained to prevent grazing occurring on the site.**

### ***Fly-tipping***

There was a few localised incident of fly-tipping in the cutover area of the bog, but generally there is no dumping problem associated with the site.

**ACTION: Remove all evidence of past fly-tipping. If localised fly-tipping does occur, it should be removed as soon as possible to help prevent any further incidences of dumping.**

### ***Climate Change***

Northern Ireland faces changes to its climate over the next century. Indications are that we will face hotter, drier summers, warmer winters and more frequent extreme weather events.

**ACTION: When developing SAC management plans, the likely future impacts of climate change should be considered and appropriate changes made.**

## **12. MONITORING**

Monitoring of SACs takes place on using two monitoring techniques.

**Site Integrity Monitoring (SIM)** is carried out to ensure compliance with the ASSI/ SAC Schedule. The most likely processes of change will either be picked up by SIM (e.g. dumping, burning, turf cutting, grazing etc.) or will be comparatively slow (e.g. gradual degradation of the bog and associated habitats through desiccation).

These longer-term changes will be picked up by monitoring of the feature via **Site Condition Assessment** - this is carried out on a rolling basis to pick up subtle changes in the condition of the feature.

The method for Site Condition Assessment was agreed by the relevant JNCC-led Lead Co-ordination Network although the methodology has been modified to reflect individual site attributes in Northern Ireland.

## 12.1 MONITORING SUMMARY

- **Monitor the integrity of the site (SIM or Compliance Monitoring)**  
Complete boundary survey. Ensure that there has been no peat cutting, dumping or burning carried out within the SAC boundary. This SIM should be carried out once a year.
- **Monitor the condition of the site (Condition Assessment)**  
Monitor the key attributes for the active raised bog. This will detect if the active raised bog is in favourable condition or not. See Annex 1 for SAC Features.

The favourable condition table provided in Annex 1 is intended to supplement the conservation objectives only in relation to management of established and ongoing activities and future reporting requirements on monitoring condition of the site and its features. It does not by itself provide a comprehensive basis on which to assess plans and projects, but it does provide a basis to inform the scope and nature of any Habitats Regulations Assessment (HRA) that may be needed. It should be noted that completion of a HRA is a separate activity to condition monitoring, requiring consideration of issues specific to individual plans or projects.

### 13. REFERENCES

Cooper, A., McCann, T. and Rogers, D. (2009). Northern Ireland Countryside Survey 2007: Broad Habitat Change 1998-2007. Northern Ireland Environment Agency Research and Development Series No.09/06

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## ANNEX 1

### Feature 1 SAC - Active raised bog

(\* = primary attribute. One failure among primary attributes = unfavourable condition)

Attribute	Targets/Limits	Method of Assessment	Comments
* Area of intact surface (ha)	Maintain the extent of intact bog surface at 36.9ha.	Visual estimate in 2x2 plots and across the intact raised bog using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Any loss of the current intact area is unacceptable. The active raised bog communities include M18 <i>Erica tetralix-Sphagnum papillosum</i> raised and blanket mire community and M2, the <i>Sphagnum cuspidatum/recurvum</i> bog pool community dominated by <i>S. cuspidatum</i> .
* Area of actively regenerating cutover bog (ha)	Maintain the current extent of actively regenerating cutover bog. This area should be extended where possible.	Visual estimate in 2x2 plots and across the intact raised bog using a combination of aerial photographs, SIM and Condition Assessment structured walk.	There should be no loss in extent of actively regenerating bog to scrub encroachment or further peat cutting.
* Area of mosaic communities and associated habitats	Maintain associated mosaic communities and habitats.	Visual estimate across the ASSI using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Repeat monitoring using condition assessment, SIM, and aerial photographs should indicate whether mosaics and associated habitats have changed or been lost.

Dwarf-shrub height	Average ericoid height should be 15–35cm.	Visual estimate in 2x2 m plots.	
* Bare Peat (%)	Peat cutting or drainage should not damage the intact surface of the active raised bog. Bare peat should occupy < 5% of the total area of the active raised bog.	Visual estimate in 2x2m plots	
* Pool/hummock system extent and diversity	The extent and diversity of the raised bog pool system must be at least maintained. Permanent pools containing any of the species listed below within a 10 m radius of the plot should be recorded. <i>S. cuspidatum</i> , <i>S. denticulatum</i> <i>S. magellanicum</i> , <i>Drosera, anglica</i> , <i>D. intermedia</i> , <i>Menyanthes trifoliata</i> .	Visual estimate within a 10m radius of plots <u>and</u> across the feature using a combination of aerial photographs and Condition Assessment structured walk.	Pool systems do not always occur on lowland raised bog systems. However, where they do occur, they are a very important micro-topographical feature of bog surface and their extent and condition should be maintained.

<p>* <i>Sphagnum</i> cover/abundance (% cover and frequency)</p> <p>Active Peat Formation (DAFOR)</p>	<p>Ombrotrophic <i>Sphagnum</i> moss species should have a minimum cover of 33% over at least 66% of the intact lowland raised bog surface.</p> <p>Thick, hummock forming species of sphagnum should be at least occasional.</p> <p>Species present should include a mixture of both thin species: - <i>S. capillifolium</i> and <i>S. tenellum</i> and the thick hummock forming species: - <i>S. papillosum</i> and <i>S. magellanicum</i> at least occasional over the surface.</p>	<p>Visual estimate in 2x2m plots.</p> <p>Visual estimate in 2x2m plots.</p>	<p>A constant <i>Sphagnum</i> moss cover is indicative of active peat formation and is dependent on the maintenance of a high water table. <i>Sphagnum</i> moss is therefore used to measure the hydrological integrity of the intact bog surface.</p>
<p>* Ericaceous cover (%) and frequency of <i>Erica tetralix</i> (DAFOR).</p>	<p>Ericoid cover should be maintained between 40% and 60% of the intact bog surface.</p> <p><i>Erica tetralix</i> should be at least present over a minimum 66% of the intact lowland raised bog surface.</p>	<p>Visual estimate in 2x2m plots</p>	<p>A mono-dominant sward of <i>Calluna vulgaris</i> may suggest that the surface of the intact bog is drying out – i.e. the water table is too far below the surface of the bog.</p>
<p>* Graminoid cover (%)</p>	<p>Graminoid cover should be maintained between 10 and 40 %.</p>	<p>Visual estimate in 2x2m plots</p>	

* Frequency and % cover of scrub/tree encroachment on any active peat surface (DAFOR and % cover)	Scrub/tree encroachment should be no more than rare on the intact raised bog surface or in the actively regenerating cutover areas.  Mean cover should be less than 2%.	Visual estimate within a 10 m radius of plots and across the active peat surface using aerial photographs and Condition Assessment structured walk.	If scrub/tree species are more than rare on any active peat surface, scrub control should be carried out.
* <i>Rhynchospora alba</i> abundance (% cover)	<i>Rhynchospora alba</i> cover should be less than 10%.	Visual estimate in 2x2m plots	<i>Rhynchospora alba</i> only occurs as a natural component of the bog vegetation around pool systems. A high frequency of this species over the intact surface of the bog may be a consequence of excessive burning.
* <i>Myrica gale</i> abundance (% cover)	<i>Myrica gale</i> cover should be less than 10%.	Visual estimate in 2x2m plots	
* Management - Burning (% cover)	Signs of recent burning should occupy less than 5% of the intact raised bog surface and the actively regenerating cutover areas.  Recent burning is represented by areas burnt within the last two years.	Visual estimate in 2x2 m plots <u>and</u> across the active bog surface using a combination of aerial photographs and Condition Assessment structured walk.	



* Management - Grazing (% cover)	Signs of grazing (poaching/dung) should be no more than rare on the intact raised bog surface and the actively regenerating cutover areas.	Visual estimate in 2x2 m plots.	The frequency of droppings, the extent of poaching, uprooting of dwarf shrubs, invasion by <i>Juncus squarrosus</i> etc. and the presence of grazing induced <i>Calluna vulgaris</i> growth forms indicate moderate and heavy grazing.
Indicators of Local Distinctiveness			
* Presence of rare or scarce species specific to the site. <i>Sphagnum austinii</i> <i>Sphagnum fuscum</i> <i>Sphagnum pulchrum</i> <i>Utricularia spp.</i> <i>Andromeda polifolia</i>	Locally distinctive species recorded for the site should be at least present along the length of the Condition Assessment structured walk.  If these species are not recorded on any one visit, it does not automatically make the site unfavourable.	Visual estimate.	

**Frequency -**

**1-20% = Rare**

**21-40% = Occasional**

**41- 60% = Frequent**

**> 60% = Constant**