NPWS

Magharee Islands SAC (site code: 2261)

Conservation objectives supporting document - Marine Habitats

Version 1

December 2013

Introduction

Magharee Islands SAC is designated for the marine Annex I qualifying interest of Reefs (Figure 1).

An intertidal survey was carried out in 2009 (RPS, 2013), subtidal surveys were undertaken in 2009 and 2010 (ERM, 2010 and Aquafact, 2011) and a BioMar survey of the area was carried out in 1996 (Picton & Costello, 1997). These data were used to determine the physical and biological nature of this SAC.

Aspects of the biology and ecology of the Annex I habitat are provided in Section 1. The corresponding site-specific conservation objective will facilitate Ireland delivering on its surveillance and reporting obligations under the EU Habitats Directive (92/43/EC).

Ireland also has an obligation to ensure that consent decisions concerning operations/activities planned for Natura 2000 sites are informed by an appropriate assessment where the likelihood of such operations or activities having a significant effect on the site cannot be excluded. Further ancillary information concerning the practical application of the site-specific objectives and targets in the completion of such assessments is provided in Section 2.

Section 1

Principal Benthic Communities

Within the Magharee Islands SAC, three community types are recorded in the Annex I habitat. These are shown in table 1 and a description of each community type is given below.

Community Type	SAC Annex I Habitat
	Reefs (1170)
Intertidal reef community complex	✓
Laminaria-dominated community complex	✓
Subtidal reef community complex	✓

Table 1 The community types recorded in Magharee Islands SAC

Estimated area of each community type within the Annex I habitat, based on interpolation, are given in the objective targets in Section 2.

The development of a community complex target arises when an area possesses similar abiotic features but records a number of biological communities that are not regarded as being sufficiently stable and/or distinct temporally or spatially to become the focus of conservation efforts. In this case, examination of the available data from Magharee Islands SAC identified a number of biological communities whose species composition overlapped significantly. Such biological communities are grouped together into what experts consider are sufficiently stable units (i.e. a complex) for conservation targets.

INTERTIDAL REEF COMMUNITY COMPLEX

This community complex occurs extensively around Illauntannig, Reennafardarrig and Illaunboe and also around Minnaun and Illaunturlogh and Mucklaghbeg; it is recorded at the eastern extreme of the site at Mucklaghmore. On Inishtooskert, Illaunimmil and Gurrig Island this community occurs as a thin band on vertical or near vertical surfaces (Figure 2).

The substrate varies from sloping and flat bedrock to boulder and cobble shores in an exposure regime of exposed reef.

The brown algae *Fucus vesiculosus* and *Pelvetia canaliculata* and the barnacle *Chthamalus montagui* are recorded as abundant throughout the site, while the limpets *Patella vulgata* and *P. depressa* are commonly recorded here. The algal species *Fucus spiralis, F. serratus, Himanthalia elongata* and *Laminaria digitata* occur widely. The barnacles *Chthamalus stellatus* and *Semibalanus balanoides* are frequently recorded while the bivalves *Mytilus edulis* and *Modiolus modiolus* occur amongst the barnacles and in crevices. *Verrucaria maura* forms frequent patches on upper shore rock surfaces. Other commonly occurring algae

include *Mastocarpus stellatus, Palmaria palmata, Lomentaria articulata* and *Osmundea pinnatifida*. Where rock pools occur, they are covered by the encrusting alga *Lithothamnion* sp.; other species present in the pools include the anthozoans *Actinia equina* and *A. fragacea*, the brown alga *Leathesia difformis* and the coralline alga *Corallina officinalis* (Table 2).

Species associated with the Intertidal reef community complex	
Fucus vesiculosus	*Semibalanus balanoides*
Pelvetia canaliculata	*Modiolus modiolus*
Fucus spiralis	*Mytilus edulis*
Patella vulgata	*Mastocarpus stellatus*
Patella depressa	*Palmaria palmata*
Fucus serratus	*Lomentaria articulata*
Verrucaria maura	*Osmundea pinnatifida*
Lithothamnion sp.	*Himanthalia elongata*
Leathesia difformis	*Laminaria digitata*
Corallina officinalis	*Actinia equina*
Chthamalus montagui	*Actinia fragacea*
Chthamalus stellatus	

Table 2 Species associated with the Intertidal reef community complex.

LAMINARIA-DOMINATED COMMUNITY COMPLEX

This community complex occurs in a number of discrete areas around the Magharees Islands in depths of between 0m and 19m (Figure 2). The substrate is largely that of flat and sloping bedrock; however in areas to the north and south of Illaunboe the reef morphotype is a mosaic of cobble and boulder flats and fields with some sediment. The exposure regime is that of exposed reef.

The kelp species *Saccharina latissima* and *Laminaria hyperborea* and to a lesser extent *Saccorhiza polyschides* dominate this community complex. Generally a rich understorey of foliose red and brown algae, especially *Delesseria sanguinea* and *Desmarestia aculeata,* are present; however on some reefs where only *Laminaria hyperborea* and *Saccharina latissima* occur the understorey of red algae is sparse.

The flora associated with this complex include the red algal species *Phycodrys rubens*, *Dilsea carnosa, Callophyllis laciniata, Bonnemaisonia asparagoides, Calliblepharis ciliata, Plocamium cartilagineum* and *Polyides rotunda* and the brown algal species *Halidrys siliquosa*, *Laminaria digitata* and the green alga *Cladophora rupestris*. The fauna includes the bryozoan

Membranipora membranacea, the hydroid *Obelia geniculata*, the echinoderms *Echinus esculentus* and *Marthasterias glacialis*, the sponges *Suberites* sp. and *Cliona celata* and the polychaete *Spirobranchus triqueter* (Table 3).

The species also recorded here include the brown alga *Dictyota dichotoma*, the red alga *Acrosorium ciliolatum*, the crustacean *Balanus crenatus*, the gastropod *Calliostoma zizyphinum*, the ascidian *Sycon ciliatum* and the anemone *Urticina felina*.

Species associated with the *Laminaria*-dominated community complex	
Saccharina latissima	*Polyides rotunda*
Laminaria hyperborea	*Halidrys siliquosa*
Saccorhiza polyschides	*Laminaria digitata*
Delesseria sanguinea	*Cladophora rupestris*
Desmarestia aculeata	*Membranipora membranacea*
Phycodrys rubens	*Obelia geniculata*
Dilsea carnosa	*Echinus esculentus*
Callophyllis laciniata	*Marthasterias glacialis*
Bonnemaisonia asparagoides	*Suberites* sp.
Calliblepharis ciliata	*Cliona celata*
Plocamium cartilagineum	*Spirobranchus triqueter*

Table 3 Species associated with the *Laminaria*-dominated community complex.

The ascidians *Polycarpa scuba* and *Distomus variolosus* occur here; both of these species have a limited distribution in Ireland and Britain. *P. scuba* (*=rustica*) has only previously been recorded from the Irish Sea, English Channel and Brittany but is common on the south-east coast of Ireland; *D. variolosus* is only known in Ireland from between Galway and Tralee Bay on the west coast and the east and south-east coasts.

SUBTIDAL REEF COMMUNITY COMPLEX

This community complex is recorded extensively within this site at depths of between 0m and 50m (Figure 2).

The prevailing substrate over most of the site is that of cobble and boulder flat or field, however some variations in reef type do occur and mosaics of these reef types are also recorded within this complex. Flat and sloping bedrock is associated with the Magharee Islands and a large tract of this substrate type is recorded to the northeast of Mucklaghbeg; it also occurs in the shallow submerged rocks at the eastern side of the SAC. A mosaic of these two reef forms cobble/boulder and flat and sloping bedrock is recorded around Illauntannig

and south of Mucklaghbeg. A mosaic of cobble and boulder flat or field with sediment occurs to the northwest of Mucklaghmore.

The exposure regime is largely exposed reef, with moderately exposed reef occurring to the south of Mucklaghbeg.

Species associated with this complex include the red algal species *Delesseria sanguinea*, *Heterosiphonia plumosa, Schottera nicaeensis* and *Callophyllis laciniata*, the echinoderms *Echinus esculentus* and *Marthasterias glacialis* and the sponge *Cliona celata* (Table 4).

On exposed reef, at depths of between 19m and 28m, foliose red algae occur along with the hydroid *Sertularia argentea*; branching and cushion sponges are also commonly recorded here. The ascidian *Diazona violacea* and the sponge *Thymosia guernei* are recorded on the reef NNW of Gurrig Island; *D. violacea* is more characteristic of a deeper water axinellid sponge community. The ophiuroid, *Ophiothrix balli* and the red algal species *Plocamium cartilagineum*, *Acrosorium ciliolatum* and *Radicilingua thysanorhizans* also occur in this site.

Species associated with the Subtidal reef community complex	
Delesseria sanguinea	*Echinus esculentus*
Heterosiphonia plumosa	*Cliona celata*
Schottera nicaeensis	*Marthasterias glacialis*
Callophyllis laciniata	

Table 4 Species associated with the Subtidal reef community complex.

Section 2

Appropriate Assessment Notes

Many operations/activities of a particular nature and/or size require the preparation of an environmental impact statement of the likely effects of their planned development. While smaller operations/activities (i.e. sub threshold developments) are not required to prepare such statements, an appropriate assessment and Natura Impact Statement is required to inform the decision-making process in or adjacent to Natura 2000 sites. The purpose of such an assessment is to record in a transparent and reasoned manner the likely effects on a Natura 2000 site of a proposed development. General guidance on the completion of such assessments has been prepared and is available at www.npws.ie.

Annex I Habitats

It is worth considering at the outset that in relation to Annex I habitat structure and function, the extent and quality of all habitats varies considerably in space and time and marine habitats are particularly prone to such variation. Habitats which are varying naturally, i.e. biotic and/or abiotic variables are changing within an envelope of natural variation, must be considered to have favourable conservation condition. Anthropogenic disturbance may be considered significant when it causes a change in biotic and/or abiotic variables in excess of what could reasonably be envisaged under natural processes. The capacity of the habitat to recover from this change is obviously an important consideration (i.e. habitat resilience) thereafter.

This Department has adopted a prioritized approach to conservation of structure and function in marine Annex I habitats.

1. Those communities that are key contributors to overall biodiversity at a site by virtue of their structure and/or function (keystone communities) and their low resilience should be afforded the highest degree of protection and any significant anthropogenic disturbance should be avoided.
2. In relation to the remaining constituent communities that are structurally important (e.g. broad sedimentary communities) within an Annex I marine habitat, there are two considerations.
    2.1. Significant anthropogenic disturbance may occur with such intensity and/or frequency as to effectively represent a continuous or ongoing source of disturbance over time and space (e.g. effluent discharge within a given area). Drawing from the principle outlined in the European Commission's Article 17 reporting framework that disturbance of greater than 25% of the area of an Annex I habitat represents unfavourable conservation status, this Department takes the view that licensing of activities likely to cause continuous disturbance of each community type should not exceed an approximate area of 15%. Thereafter, an increasingly cautious approach

is advocated. Prior to any further licensing of this category of activities, an inter-Departmental management review (considering *inter alia* robustness of available scientific knowledge, future site requirements, etc) of the site is recommended.

2.2. Some activities may cause significant disturbance but may not necessarily represent a continuous or ongoing source of disturbance over time and space. This may arise for intermittent or episodic activities for which the receiving environment would have some resilience and may be expected to recover within a reasonable timeframe relative to the six-year reporting cycle (as required under Article 17 of the Directive). This Department is satisfied that such activities could be assessed in a context-specific manner giving due consideration to the proposed nature and scale of activities during the reporting cycle and the particular resilience of the receiving habitat in combination with other activities within the designated site.

The following technical clarification is provided in relation to specific conservation objectives and targets for Annex I habitats to facilitate the appropriate assessment process:

Objective **To maintain the favourable conservation condition of Reefs in Magharees Islands SAC, which is defined by the following list of attributes and targets**

Target 1	The permanent area is stable or increasing, subject to natural processes.

- The area mapped represents the minimum estimated area of reef at this site and underestimates the actual area due to the many areas of sheer and steeply sloping rock within the reef habitat.
- This target refers to activities or operations that propose to permanently remove habitat from the site, thereby reducing the permanent amount of habitat area. It does not refer to long or short term disturbance of the biology of a site.
- Early consultation or scoping with the Department in advance of formal application is advisable for such proposals.

Target 2	The distribution of reefs is stable or increasing, subject to natural processes.

- The likely distribution of reef habitat in this SAC is indicated in figure 1.
- This target refers to activities or operations that propose to permanently remove reef habitat, thus reducing the range over which this habitat occurs within the site. It does not refer to long or short term disturbance of the biology of reef habitats.
- Early consultation or scoping with the Department in advance of formal application is advisable for such proposals.

Target 3	Conserve the following community types in a natural condition: Intertidal reef community complex; *Laminaria*-dominated community complex and Subtidal reef community complex.

- A semi-quantitative description of the communities has been provided in Section 1.
- An interpolation of their likely distribution is provided in figure 2.
- The estimated areas of the communities within the Reefs habitat given below are based on spatial interpolation and therefore should be considered indicative. In addition, as this habitat contains significant areas of sheer and steeply sloping rock, the mapped community extents will be underestimated:
  - Intertidal reef community complex - 15ha
  - *Laminaria*-dominated community complex - 68ha
  - Subtidal reef community complex - 2154ha
- This target relates to the structure and function of the reef and therefore it is of relevance to those activities that may cause disturbance to the ecology of the habitat.
- Significant continuous or ongoing disturbance of communities should not exceed an approximate area of 15% of the interpolated area of each community type, at which point an inter-Departmental management review is recommended prior to further licensing of such activities.
- Proposed activities or operations that cause significant disturbance to communities but may not necessarily represent a continuous or ongoing source of disturbance over time and space may be assessed in a context-specific manner giving due consideration to the proposed nature and scale of activities during the reporting cycle and the particular resilience of the receiving habitat in combination with other activities within the designated site.

Bibliography:

Aquafact (2011). Reef Investigations in Tralee Bay and Magharee Peninsula west to Cloghane cSAC (Site Code: IE002070) and Magharee Islands cSAC (Site Code: IE02261), Co. Kerry. Produced by Aquafact on behalf of the Marine Institute in partnership with National Parks & Wildlife Service.

ERM (2010). MI benthic surveys of Natura 2000 sites: Area 1. Produced by ERM on behalf of the Marine Institute in partnership with National Parks & Wildlife Service.

Picton, B.E. and Costello M. J. 1997. The BioMar biotope viewer: a guide to marine habitats, fauna and flora in Britain and Ireland, Environmental Sciences Unit, Trinity College, Dublin.

RPS (2013). Benthic Survey Services Framework. Tralee Bay Intertidal Surveys 2009. Carried out by RPS on behalf of National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.

Figure 1. Extent of Reefs in Magharees Islands SAC

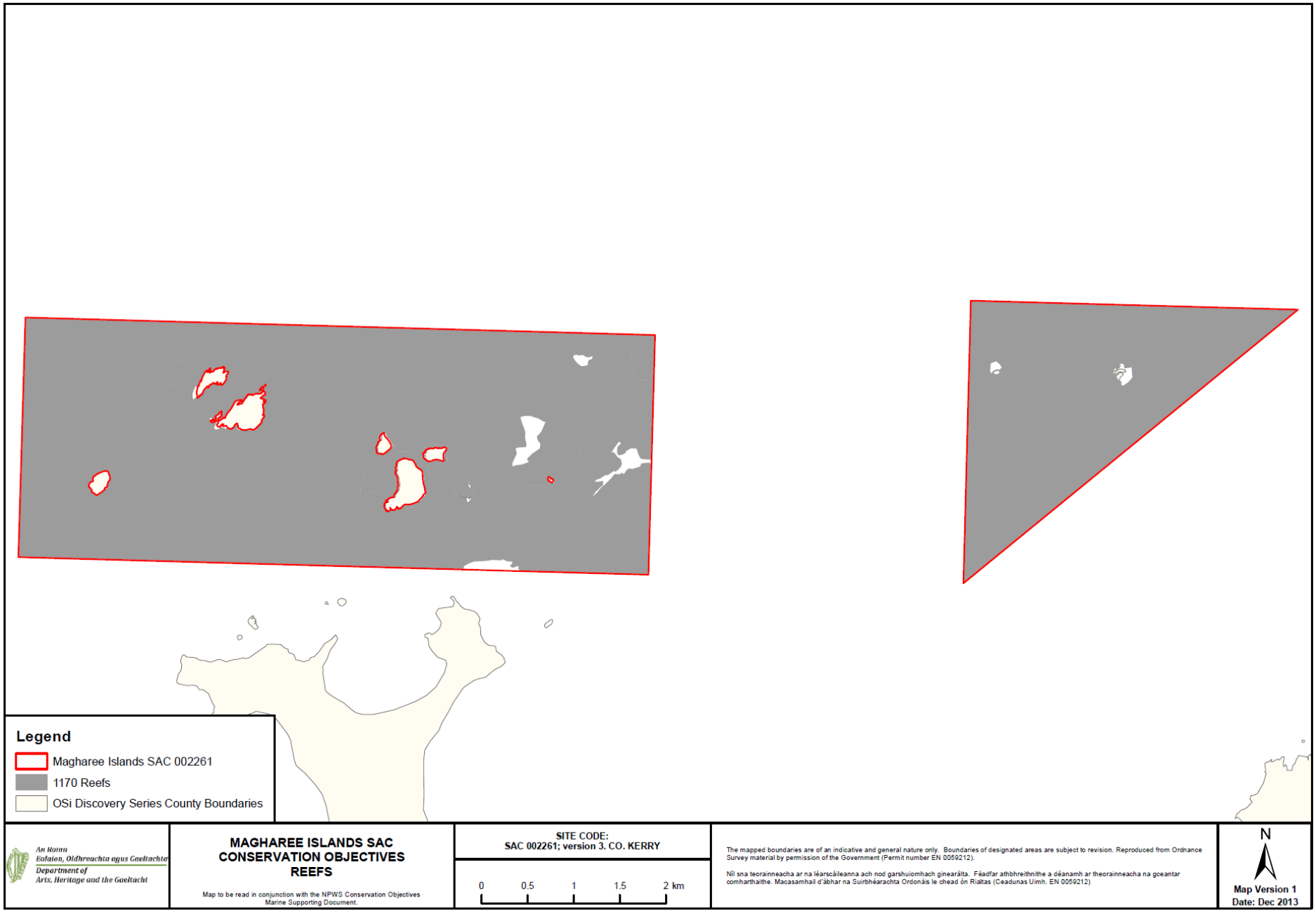

Figure 2. Distribution of community types in Magharees Islands SAC