NPWS

Slyne Head Peninsula SAC (site code: 2074)

Conservation objectives supporting document -Marine Habitats

> Version 1 January 2015

Introduction

Slyne Head Peninsula SAC is designated for the marine Annex I qualifying interests of Large shallow inlets and bays and Reefs (Figures 1 and 2). The Annex I habitat Large shallow inlets and bays is a large physiographic feature that may wholly or partly incorporate other Annex I habitats including reefs within its area.

BioMar surveys of Mannin Bay were carried out in 1994 and 1995 (Picton and Costello, 1997). In 2006 a survey of sensitive subtidal benthic communities was undertaken at this site (MERC, 2006). The intertidal was sampled in 2011 (MERC, 2012a) and subtidal surveys were carried out in 2010 and 2011 (Aquafact, 2011a, Aquafact, 2011b and MERC, 2012b)

Aspects of the biology and ecology of Annex I habitats are provided in Section 1. The corresponding site-specific conservation objectives 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 Slyne Head Peninsula SAC, eight community types are recorded. The Annex I habitats in which they are recorded is presented in table 1 and a description of each community type is given below.

	Hab	itats
	Large shallow inlets	Reefs (1170)
	and bays (1160)	110
Intertidal sand with Enchytraeidae	1	
community complex	·	
Mobile intertidal sand with polychaetes	✓	
community complex		
Zostera-dominated community complex	\checkmark	
Maërl-dominated community complex	\checkmark	
Subtidal sand with polychaetes and	1	
bivalves community complex	v	
Subtidal sand with Kurtiella bidentata	1	
community complex	v	
Intertidal reef community complex	✓	✓
Laminaria-dominated community complex	✓	\checkmark

 Table 1
 The community types recorded in Slyne Head Peninsula SAC and their occurrence the Annex I habitats for which the site is designated.

Estimated areas of each community type within each 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 Slyne Head Peninsula 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 SAND WITH ENCHYTRAEIDAE COMMUNITY COMPLEX

This intertidal community complex occurs in Mannin Bay east of Ballyconneely Village and along the shore from Mannin More to Knock. It occurs at the western margins of the site in False Bay and Dooloughan and in the south of the site west of Aillebrack and in Ballyconneely Bay (Figure 3).

The sediment of this community is sand (1.9% to 76.4% very fine to fine sand; 18.9% to 52.2% medium sand). Fine to medium sand is the predominant sediment type throughout the community with the exception of the area east of Ballyconneely Village where the sediment is coarser (48.0% to 68.5% coarse to very coarse sand and 10% to 14% gravel).

This community is distinguished by oligochaetes of the family Enchytraeidae and the amphipods *Talitrus saltator* and *Deshayesorchestia deshayesii* (Table 2). In general, it has low species diversity and abundances, however, Enchytraeidae are recorded in very high abundances in Mannin Bay, east of Ballyconneely. The increased abundance of Enchytraeidae is associated with the coarser sediment described above.

The isopod *Eurydice pulchra* is also recorded from this community.

Distinguishing species of the Intertidal sand with Enchytraeidae community complex	
Enchytraeidae indet.	Deshayesorchestia deshayesii
Talitrus saltator	Eurydice pulchra

 Table 2 Distinguishing species of the Intertidal sand with Enchytraeidae community complex.

MOBILE INTERTIDAL SAND WITH POLYCHAETES COMMUNITY COMPLEX

This intertidal community complex is recorded in Mannin Bay on the shore at Ballyconneely Village, at the western margin of the site in False Bay and east of Slyne Head from Ballinaleama to Keerhaunmore. It is recorded in the southern extreme of the site in Bunowen Bay and Ballyconneely Bay (Figure 3).

The sediment of this community complex is that of fine to medium sand (24.4% to 89.0% fine sand and 7.0% to 62.2% medium sand). In Bunowen Bay, the sediment is coarse with the coarse sand fraction ranging from 19.9% to 33.7%.

The distinguishing species of this community complex are the polychaetes *Capitella* sp., *Malacoceros fuliginosus*, *Pygospio elegans*, *Spio martinensis*, *Scoloplos* (*Scoloplos*) *armiger* and *Scolelepis* (*Scolelepis*) *squamata*. The distribution and relative abundances of these species is variable within the complex, with four of them (*Capitella* sp., *Scoloplos* (*Scoloplos*)

armiger, *M. fuliginosus* and *P. elegans*) not being recorded from Mannin Bay. In Ballyconneely Bay, *S. martinensis* is present in low abundances but is locally very abundant north of the slipway at Bunowen Bay. *Scolelepis* (*Scolelepis*) *squamata* occurs in low abundances in False Bay and in the south of the site at Keerhaunmore (Table 3).

Distinguishing species of the Mobile intertidal sand with polychaetes community complex	
<i>Capitella</i> sp.	Pygospio elegans
Malacoceros fuliginosus	Spio martinensis
Scolelepis (Scolelepis)	Scoloplos (Scoloplos)
squamata	armiger

 Table 3 Distinguishing species of the Mobile intertidal sand with polychaetes community complex.

ZOSTERA-DOMINATED COMMUNITY COMPLEX

This subtidal seagrass community is recorded in the south of Mannin Bay in water depths of between 3m and 10m. The most extensive area of the community occurs in the southeast of Mannin Bay, between Mannin Rocks and the shore off Mannin More Village (Figure 3). It cooccurs with maërl at the northern and western fringes of this large bed and also around Ardillaun Island.

The density of the sea grass *Zostera marina* is variable and is generally described as being abundant (12 individuals per m^2) to frequent (6-11 individuals per m^2).

The species associated with this complex include the polychaetes *Spio filicornis* and *Polycirrus* sp., the bivalve *Kurtiella bidentata*, unidentified nematodes and nemerteans (Table 4). In general *K. bidentata*, *Polycirrus* sp. and the nemerteans occur in low abundances within the community complex; however, off the coast at Knock, *K. bidentata* is recorded in high abundances and east of Curhownagh *Polycirrus* sp. is moderately abundant. *S. filicornis* and unidentified nematodes in the main are recorded in very high abundances throughout this community complex.

In the extensive beds in the southeast of Mannin Bay, the anemone *Anemonia viridis* is abundant while the crustacean *Necora puber* and the brown alga *Chorda filum* are recorded as frequent. The anemone *Anthopleura ballii*, the gastropod *Gibbula magus* and the crustacean *Pagurus bernhardus* also occur here.

Species associated with the Zostera-dominated community	
complex	
Zostera marina	Anemonia viridis
Spio filicornis	Necora puber
<i>Polycirrus</i> sp.	Chorda filum
Kurtiella bidentata	Anthopleura ballii
Nematoda spp.	Gibbula magus
Nemertea spp.	Pagurus bernhardus

Table 4 Species associated with the *Zostera*-dominated community complex.

MAËRL-DOMINATED COMMUNITY COMPLEX

This subtidal community occurs extensively throughout the inner reaches of Mannin Bay in water depths of between 0m and 12m and extends to the shore at Mannin Beach (Figure 3).

Mannin Bay is one of two known localities in Ireland where four species of the free-living red calcareous algae (maërl), *Lithothamnion corallioides, Lithophyllum dentatum Lithothamnion fasciculatum* and *Phymatolithon calcareum,* are known to co-occur. Within Mannin Bay the most prolific living maërl beds are recorded to the west of Mannin Beach in shallow (<8m) sheltered conditions. The seagrass *Zostera marina* occurs amongst the live maërl gravel here.

Within this site maërl exists in a number of forms; it can consist largely of living maërl (>80%) or largely of dead maërl (>80%) or equal mixtures of both living and dead maërl. It occurs in some places with coarse and medium sand; it also occurs as dunes.

The species associated with the complex include the bivalve *Goodallia triangularis*, unidentified nematodes and the polychaetes *Lumbrineris gracilis* and *Spirobranchus lamarcki*, all of which occur throughout the complex (Table 5). The anemone *Anemonia viridis* is abundant here. The red alga *Corallina officinalis*, the green alga *Ulva* sp., the cnidarians *Haliclystus auricula* and *Anthopleura ballii*, the gastropods *Turritella communis* and *Gibbula cineraria*, the polychaete *Lanice conchilega*, the crustaceans *Pagurus bernhardus* and *Maja squinado* are also recorded here.

The burrowing holothurian Neopentadactyla mixta is recorded to the west of Mannin Rocks.

Species associated with the Maërl-dominated community	
complex	
Lithothamnion corallioides	Haliclystus auricula
Phymatolithon calcareum	Pagurus bernhardus
Goodallia triangularis	Maja squinado
Lumbrineris gracilis	Gibbula cineraria
Spirobranchus lamarcki	Lanice conchilega
Anemonia viridis	<i>Ulva</i> sp.
Corallina officinalis	Lithophyllum fasciatum
Turritella communis	Lithophyllum dentatum
Anthopleura ballii	Neopentadactyla mixta

Table 5 Species associated with the Maërl-dominated community complex.

SUBTIDAL SAND WITH KURTIELLA BIDENTATA COMMUNITY COMPLEX

This community complex occurs extensively in the outer reaches of Mannin Bay from Knock in the south to Curhownagh in the north and it extends eastwards to the inner reaches of the bay (Figure 3).

The sediment of this community complex is sand (15% to 88% very fine to fine sand, 2.3% to 67.8% medium sand). The sediment south of Curhownagh Point is coarser due to the presence of maërl fragments; gravel here ranges from 23.0% to 29.0%.

The distinguishing fauna of this community complex are the bivalves *Kurtiella bidentata* and *Thyasira flexuosa* and the polychaetes *Nephtys* sp., *Eteone longa* and *Galathowenia oculata* (Table 6). Their distribution within the complex is variable, with all species having the highest abundances in the central area of Mannin Bay. *Kurtiella bidentata* and *Galathowenia oculata* are also recorded in high abundance in Mannin Creek.

The polychaete Sabella pavonina is also recorded in Mannin Creek.

Distinguishing species of the Subtidal sand with Kurtiella	
bidentata community complex	
Kurtiella bidentata	Galathowenia oculata
Thyasira flexuosa	<i>Nephtys</i> sp.
Eteone longa	

 Table 6 Distinguishing species of the Subtidal sand with Kurtiella bidentata community complex.

SUBTIDAL SAND WITH POLYCHAETES AND BIVALVES COMMUNITY COMPLEX

The community complex is recorded at the outer reaches of Mannin Bay at the western margins of the site in depths of between 10m and 26m (Figure 3).

The sediment of this community type is that of sand, with medium sand accounting for the greatest proportion of the sediment fractions over most of the area (ranging from 8.3% to 58.7%). In the south of the bay, in the vicinity of Carrickawollawaun and the Mullaunacrick Rocks, the sediment is coarser with up to 62.6% gravel being recorded.

The distinguishing species of this community are the polychaetes *Armandia polyophthalma*, *Glycera oxycephala* and *Nephtys cirrosa*, the bivalves *Goodallia triangularis* and *Angulus pygmaeus*, unidentified nemerteans and the scaphopod *Antalis entalis* (Table 7). The distribution of these species within the community complex is variable and they are recorded in low to moderate abundances. The bivalves *Angulus pygmaeus* and *Goodallia triangularis* occur in the highest abundance in areas of coarser sediment, while *Antalis entalis* is recorded from areas with a higher proportion of fine material.

Distinguishing species of the Subtidal sand with polychaetes and bivalves community complex	
Armandia polyophthalma	Nemertea spp.
Glycera oxycephala	Nephtys cirrosa
Goodallia triangularis	Antalis entalis
Angulus pygmaeus	

 Table 7 Distinguishing species of the Subtidal sand with polychaetes and bivalves community complex.

INTERTIDAL REEF COMMUNITY COMPLEX

This community complex occurs extensively throughout the site and in an exposure regime that ranges from exposed to sheltered shores. Exposed reef is recorded from all shores of Mannin Bay with the exception of Mannin Creek, here the reef is sheltered. Sheltered reef is also recorded in the salt lake north of Ballyconneely Village and in hard ground between Bunowen Bay and Ballyconneely Bay in the south of the site. Moderately exposed reef occurs in Ballyconneely Bay and on the eastern shore of Bunowen Bay. Exposed reef is recorded on hard ground from the quay at Aillebrack west to the shore at Tonacurra (Figure 3).

On exposed shores, the substrate is predominantly steeply sloping bedrock, elsewhere it is that of flat or sloping bedrock.

The species associated with this community complex include the brown algae *Pelvetia canaliculata*, *Ascophyllum nodosum*, *Fucus vesiculosus* and the barnacles *Chthamalus* sp. and *Semibalanus balanoides*. *P. canaliculata* occurs on all reef exposures while *A. nodosum* and *F. vesiculosus* occur on moderately exposed and sheltered reefs and *Chthamalus* sp. and *Semibalanus balanoides* occur on exposed and moderately exposed reef (Table 8).

The gastropod *Patella* sp. occurs on exposed shores, the brown algae *Fucus spiralis* is found on sheltered shores. On exposed to moderately exposed shores, the brown algae *Laminaria digitata*, *Saccharina latissima*, *Saccorhiza polyschides* and *Himanthalia elongata* and the gastropod *Nucella lapillus* are recorded.

The brown alga *Ascophyllum nodosum* var. *mackii* is recorded on sheltered reef from the north side of Mannin Creek. This ecad¹ is only recorded in Ireland from two other locations.

Species associated with the Intertidal reef community	
complex	
Pelvetia canaliculata	Laminaria digitata
Ascophyllum nodosum	Saccharina latissima
Fucus vesiculosus	Saccorhiza polyschides
<i>Chthamalus</i> sp.	Saccorhiza polyschides
Semibalanus balanoides	Himanthalia elongata
Patella sp.	Ascophyllum nodosum var. mackii
Fucus spiralis	

Table 8 Species associated with the Intertidal reef community complex.

LAMINARIA-DOMINATED COMMUNITY COMPLEX

This community complex is recorded throughout the site but is most extensive at the outer reaches of Mannin Bay between Crowneen Rock and Knock Rocks in the south of the bay and Illaunrush and Curhownagh Point in the north of the bay (Figure 3). It is recorded at depths of between 0m and 14m.

The exposure regime is that of exposed to moderately exposed reef and the substrate is a mosaic of bedrock, cobbles and boulders.

The species associated with this community are the kelp *Laminaria hyperborea*, encrusting calcareous red algae, the red alga *Dilsea carnosa* and other unidentified foliose red algae (Table 9). *L. hyperborea* and encrusting calcareous red algae occur throughout the

¹ ecad - A type of plant which is altered by its habitat and possesses nonheritable characteristics

community; *D. carnosa* and unidentified foliose red algae are recorded to the west of Errislannan Point, northwest of Knock and southwest of Curhownagh.

Species associated with the Laminaria-dominated	
com	munity complex
Laminaria hyperborea	foliose red algae
encrusting calcareous red algae	Dilsea carnosa

Table 9 Species associated with the Laminaria-dominated community complex.

Where the density of *Laminaria hyperborea* is reduced or spatially variable, the community becomes dominated by the brown alga *Halidrys siliquosa*, the echinoderms *Marthasterias glacialis*, *Asterias rubens* and *Luidia* sp., the sponge *Cliona* sp., Devonshire cup coral *Caryophyllia (Caryophyllia) smithii*, the anemones *Urticina* sp. and *Cerianthus lloydii* and the red alga *Delesseria sanguinea*.

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.

- 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.
- 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 Large shallow inlets and bays in Slyne Head Peninsula SAC, which is defined by the following list of attributes and targets

Target 1	The permanent habitat area is stable or increasing, subject to natural
	processes.
•	This habitat also encompasses the Annex I habitat Reefs. Targets for this
	habitat should be addressed in its own right.
•	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	Maintain the extent of the Zostera-dominated and maërl-dominated
· a.got _	community complexes, subject to natural processes.
	community complexes, subject to natural processes.
•	Zostera- and maërl-dominated community complexes are considered to be
	keystone communities that are of considerable importance to the overall
	ecology and biodiversity of a habitat by virtue of their physical complexity, e.g.
	they serve as important nursery grounds for commercial and non-commercial
	species.

 Any significant anthropogenic disturbance to the extent of these community complexes should be avoided.

- An interpolation of the likely distribution of these community complexes is provided in figure 3. The areas given below are based on spatial interpolation and therefore should be considered indicative:
 - Zostera-dominated community complex 33ha

- Maërl-dominated community complex - 261ha

Target 3	Conserve the high quality of <i>Zostera-</i> dominated community complex, subject
Target 5	
	to natural processes.
•	It is important to ensure the quality as well as the extent of the Zostera-
	dominated community complex is conserved. For example, shoot density can
	provide an indication of the habitat quality as well as giving information on the
	habitat complexity and refuge capability; all important components in
	maintaining the structural and functional integrity of the habitat.
•	Within this SAC, the density of <i>Zostera</i> in 2006 was estimated to range from
	abundant to frequent on the DAFOR scale (semi-quantitative abundance
	measure).
	Any significant anthropogenic disturbance to the quality (i.e. shoot density) of
	this community should be avoided.
Target 4	Conserve the high quality of the maërl-dominated community complex,
Talyer 4	
	subject to natural processes.
	Every effort should be made to avoid any death to living maërl.
•	Any significant anthropogenic disturbance to the quality of the maërl-
	dominated community (i.e. volume of live maërl, thallus structure) should be
	avoided.
Target 5	Conserve the following community types in a natural condition: Intertidal sand
	with Enchytraeidae community complex; Mobile intertidal sand with
	polychaetes community complex; Subtidal sand with polychaetes and
	bivalves community complex; Subtidal sand with <i>Kurtiella bidentata</i>
	community complex; Intertidal reef community complex and the Laminaria-
	dominated community complex.
	dominated 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 3.
- The estimated areas of these communities given below are based on spatial interpolation and therefore should be considered indicative:
 - Intertidal sand with Enchytraeidae community complex 14ha
 - Mobile intertidal sand with polychaetes community complex 11ha

- Subtidal sand with polychaetes and bivalves community complex 288ha
- Subtidal sand with Kurtiella bidentata community complex 574ha
- Intertidal reef community complex 159ha
- Laminaria-dominated community complex 14ha
- 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 contextspecific 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.

Objective To maintain the favourable conservation condition of Reefs in Slyne Head Peninsula 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 of this habitat 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 2.
•	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 3Conserve the following community types in a natural condition: Intertidal reef
community complex and the *Laminaria*-dominated 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 3.
- 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 350ha
 - Laminaria-dominated community complex 220ha
- 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 contextspecific 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 (2011a). Reef Investigations in Mannin Bay (Slyne Head Peninsula cSAC Site Code: IE002074) Co. Galway. Produced by Aquafact on behalf of Marine Institute in partnership with National Parks & Wildlife Service.
- Aquafact (2011b). Subtidal Benthic Investigations in Mannin Bay (Slyne Head Peninsula cSAC - Site Code: IE002074) Co. Galway. Produced by Aquafact on behalf of Marine Institute in partnership with National Parks & Wildlife Service Aquafact.
- MERC (2006). Survey of sensitive subtidal benthic marine communities in Slyne Head Peninsula SAC, Clew Bay Complex SAC, Galway Bay Complex SAC. Carried out by MERC on behalf of National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.
- MERC (2012a). Intertidal Benthic Survey and Intertidal Reef Survey of Slyne Head Peninsula SAC and Slyne Head Peninsula SPA. Carried out by MERC on behalf of Marine Institute in partnership with National Parks & Wildlife Service.
- MERC (2012b). Subtidal Sediment and Subtidal Reef Survey of Slyne Head Peninsula SAC and Slyne Head Peninsula SPA. Carried out by MERC on behalf of 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.

Figure 1. Extent of Large shallow inlets and bays in Slyne Head Peninsula SAC

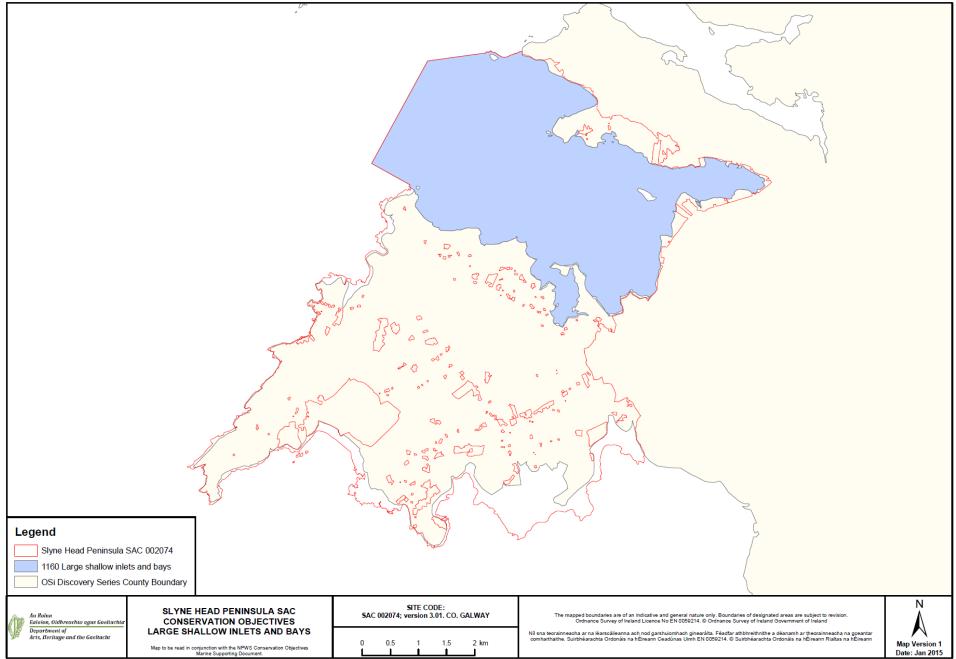


Figure 2. Extent of Reefs in Slyne Head Peninsula SAC

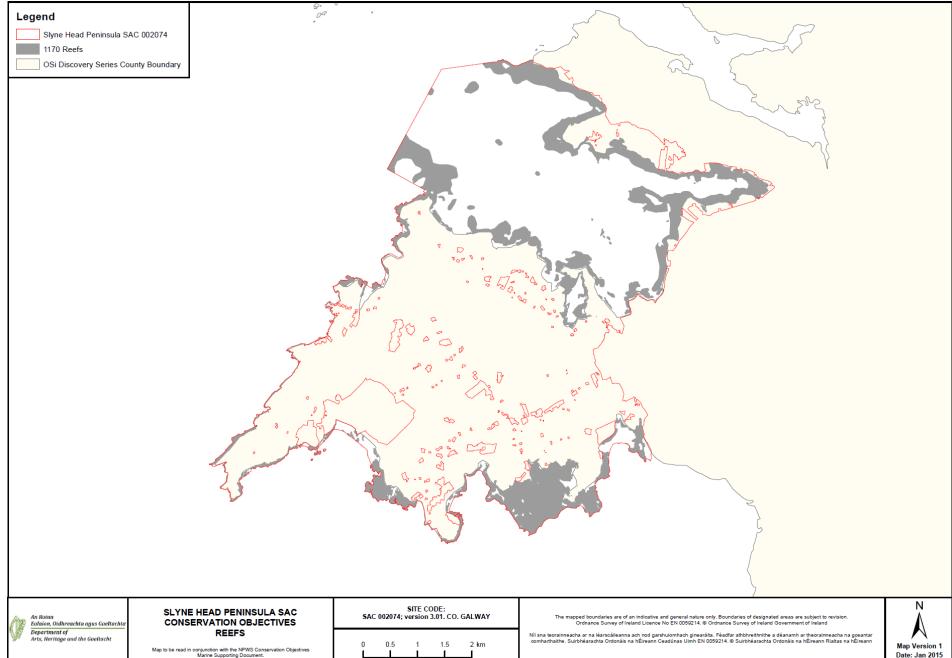


Figure 3. Distribution of community types in Slyne Head Peninsula SAC

