

NPWS

**Black Head-Poulsallagh Complex SAC
(site code: 0020)**

**Conservation objectives supporting document -
Marine Habitats**

**Version 1
February 2014**

Introduction

Black Head-Poulsallagh Complex SAC is designated for the marine Annex I qualifying interests of Reefs and Submerged and partially submerged caves (Figures 1 and 2).

Intertidal and subtidal reef surveys were undertaken in 2011 (MERC, 2012a and MERC, 2012b) and a BioMar survey of this general area was carried out between 1994 and 1996 (Picton and Costello, 1997). These data were used to determine the physical and biological nature of this SAC.

The distribution and ecology of intertidal or subtidal seacaves has not previously been the subject of scientific investigation in Ireland and the extents of very few individual caves have been mapped in detail. Analysis of the imagery from the Department of Communications, Marine and Natural Resources coastal oblique aerial survey yielded some information concerning the expected location of partly submerged seacaves in Black Head-Poulsallagh Complex SAC (Figure 2). There is no additional information available concerning the likely distribution of permanently submerged seacaves in the site at present. Whilst surveys undertaken in the UK indicate the structure and functions of seacaves are largely influenced by hydrodynamic forces and water quality, no such information is yet available for Ireland.

Aspects of the biology and ecology of the Annex I habitat 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 Black Head-Poulsallagh Complex SAC, three community types are recorded. Their occurrences within the Annex I habitats are presented in table 1; a description of each community type is given below.

	Annex I Habitats	
	Reefs (1170)	Submerged or partly submerged seacaves (8330)
Intertidal reef community complex	✓	
<i>Laminaria</i> -dominated community complex	✓	
Subtidal reef community		✓

Table 1 The community types recorded in Black Head-Poulsallagh Complex SAC and their occurrence the Annex I habitats for which the site is designated.

Estimated areas of each community type within the Annex I habitat, based on interpolation, is 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 Black Head-Poulsallagh Complex 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 is recorded throughout the site from its very north eastern extreme to its most southerly point (Figure 3).

The exposure regime here is that of exposed to moderately exposed reef. The substrate is gently sloping, stepped limestone pavements over most of the site but at Black Head the shore is narrow and very steeply stepped. Hard substrate extends almost continuously along the shore within the SAC with the exception of two beaches with mobile sand and low numbers of species at Fanore and Poulmagrahaun.

This high diversity community has a large number of species associated with it, including *Fucus serratus* and *Himanthalia elongata*. The former species occurs in more moderately

exposed shores while the latter occupies more exposed lower shores. On the upper rock surfaces of the lower shore foliose red algal including *Lomentaria articulata*, *Osmundea pinnatifida*, *Corallina officinalis*, *Cryptopleura ramosa*, *Phyllophora crispa* and *Palmaria palmata* and coralline algal species occur. Vertical and steeply sloping faces are much pitted with infauna in crevices and holes and some patchy sponge, hydroid and ascidian epifauna. The gastropods *Littorina neritoides* and *Littorina saxatilis*, *Patella vulgata*, *Patella depressa*, *Littorina littorea*, *Gibbula cineraria*, *Nucella lapillus*, the anemone *Actinia equina*, the sponges *Hymeniacidon perlevis* and *Halichondria panacea* and the barnacles *Semibalanus balanoides*, *Chthamalus stellatus* and *Chthamalus montagui* are recorded as frequent or abundant throughout the complex. A variety of lichens (*Verrucaria maura*, *Verrucaria mucosa*, *Lichina pygmaea* and *Lecanora atra*) can be found in more exposed areas of the shore.

Within the rock pools the coralline algae *Jania rubens* is recorded as abundant while encrusting coralline algae, the red algae *Nemalion helminthoides* and the anemone *Actinia equina* are also recorded. The brown algae *Himanthalia elongata*, *Laminaria digitata* and *Dictyota dichotoma* occur in some of the deeper permanent rock pools.

Species associated with the Intertidal reef community complex	
<i>Fucus serratus</i>	<i>Audouinella</i> sp.
<i>Osmundea osmunda</i>	<i>Cladostephus spongiosus</i>
<i>Himanthalia elongata</i>	<i>Palmaria palmata</i>
<i>Phyllophora crispa</i>	<i>Cladophora</i> sp.
<i>Chondrus crispus</i>	<i>Bifurcaria bifurcata</i>
<i>Osmundea pinnatifida</i>	<i>Actinia equina</i>
<i>Dumontia contorta</i>	<i>Nassarius incrassata</i>
<i>Cryptopleura ramosa</i>	<i>Xenodice</i> sp.
<i>Jania rubens</i>	<i>Littorina neritoides</i>
<i>Dictyota dichotoma</i>	<i>Littorina saxatilis</i>
<i>Lomentaria articulata</i>	<i>Littorina littorea</i>
<i>Corallina officinalis</i>	<i>Littorina neglecta</i>
<i>Ulva</i> sp.	<i>Gibbula umbilicalis</i>
<i>Codium</i> sp.	<i>Gibbula cineraria</i>
<i>Ceramium</i> sp.	<i>Semibalanus balanoides</i>
<i>Plocamium cartilagineum</i>	<i>Patella pellucida</i>
<i>Sabellaria alveolata</i>	<i>Patella ulyssiponensis</i>
<i>Golfingia vulgaris</i>	<i>Patella vulgata</i>

<i>Obelia geniculata</i>	<i>Patella depressa</i>
<i>Membranoptera alata</i>	<i>Mytilus edulis</i>
<i>Dynamena pumila</i>	<i>Paracentrotus lividus</i>
<i>Electra pilosa</i>	<i>Nucella lapillus</i>

Table 2 Species associated with the Intertidal reef community complex.

LAMINARIA-DOMINATED COMMUNITY COMPLEX

This community complex is recorded throughout the site from Black Head in the north to its southern extreme. It occurs as a narrow band of steeply sloping bedrock, in depths of between 0m to approximately 20m (Figure 2). The exposure regime here is that of exposed reef.

Vertical cliffs are recorded in the vicinity of Black Head and also to the east of this point; where they occur, the rock face is relatively smooth and without crevices, ledges and overhangs.

Species associated with this community complex include the kelp species, *Laminaria digitata*, *Laminaria hyperborea*, *Alaria esculenta* and *Saccorhiza polyschides*, coralline algae and an understory of foliose and filamentous red algae. The anemone *Urticina felina* commonly occurs within pits and crevices. The brown algae Ectocarpaceae and *Elachista* sp., the bryozoan *Electra pilosa*, the molluscs *Helcion pellucidum* and *Gastrochaena dubia* are also recorded here (Table 3).

Species associated with the <i>Laminaria</i>-dominated community complex	
<i>Laminaria digitata</i>	Ectocarpaceae indet.
Corallinaceae indet.	<i>Urticina felina</i>
<i>Laminaria hyperborea</i>	<i>Gastrochaena dubia</i>
<i>Saccorhiza polyschides</i>	<i>Electra pilosa</i>
<i>Alaria esculenta</i>	<i>Helcion pellucidum</i>
<i>Elachista</i> sp.	Red algae indet.

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

SUBTIDAL REEF COMMUNITY

While no survey was undertaken of the sea caves at this site it is likely that the community within them would reflect the fauna of the surrounding reef community but extending deeper than the *Laminaria*-dominated community. It is likely that this community would to be dominated by sponges and anthozoans.

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 Black Head-Poulsallagh Complex 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.
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- 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.
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- 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 and *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 - 87ha
 - *Laminaria*-dominated community complex - 454ha
- 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.

Objective To maintain the favourable conservation condition of Submerged or partially submerged sea caves in Black Head-Poulsallagh Complex SAC, which is defined by the following list of attributes and targets

Target 1 The distribution of sea caves occurring in the site is stable, subject to natural processes.

- The distribution of all sea caves in this SAC has not yet been fully evaluated (Figure 2).
- This target refers to activities or operations that propose to permanently remove sea cave 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 sea cave habitats.
- Early consultation or scoping with the Department in advance of formal application is advisable for such proposals.

Target 2 Human activities should occur at levels that do not adversely affect the ecology of sea caves at the site.

- This target relates to proposed activities or operations that may result in the deterioration of key resources (e.g. water quality) that are likely to drive or influence community structure of sea caves in the site. In the absence of complete knowledge on these elements in this site, such considerations should be assessed where appropriate on a case-by-case basis.

Bibliography:

MERC (2012). Intertidal Reef Survey of Black Head-Poulsallagh Complex. Carried out by MERC on behalf of the Marine Institute in partnership with National Parks & Wildlife Service.

MERC (2012). Subtidal Reef Survey of Black Head-Poulsallagh Complex. Carried out by MERC 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.

Figure 1. Extent of Reefs in Black Head-Poulsallagh Complex SAC

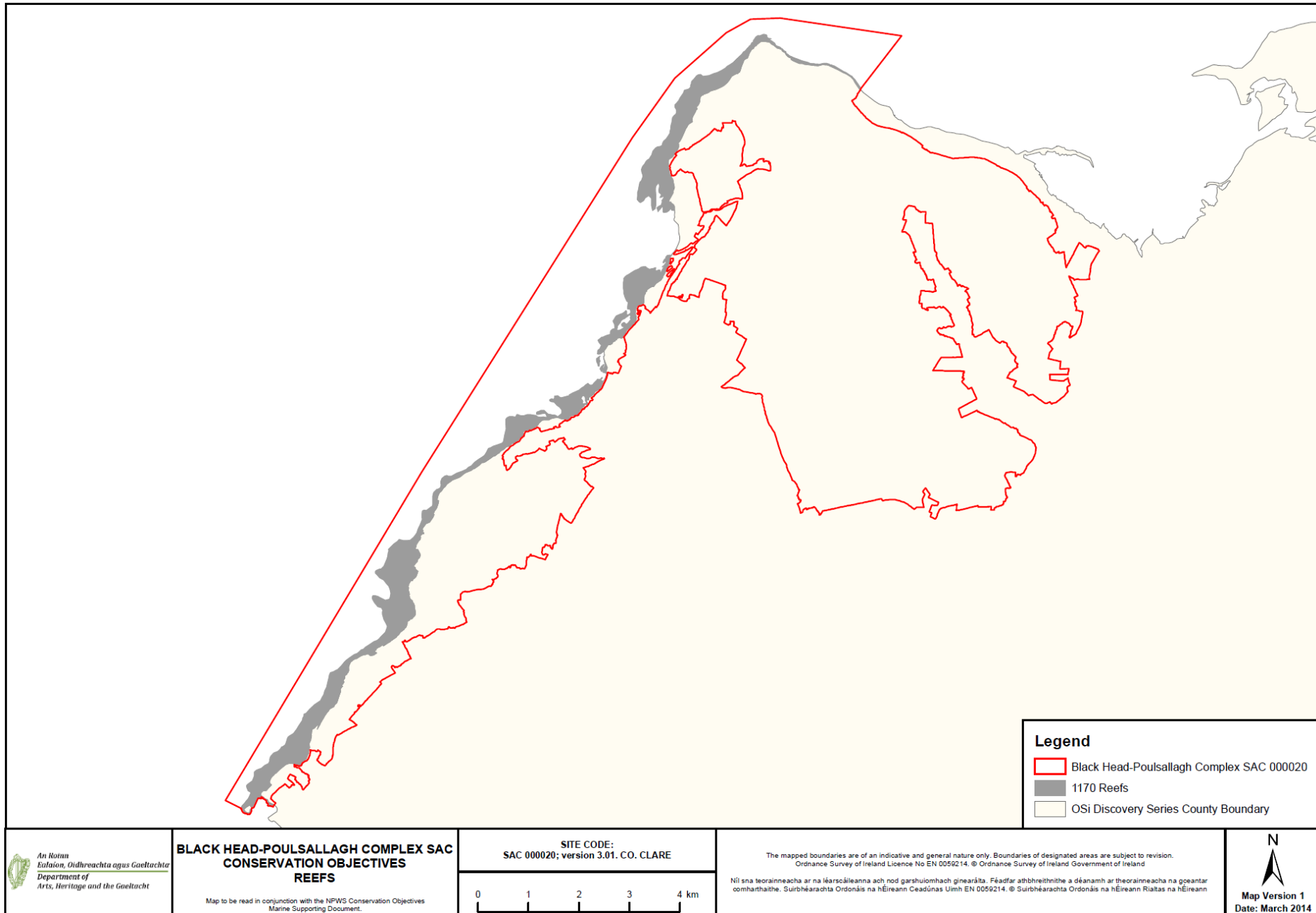


Figure 2. The expected distribution of sea caves in Black Head-Poulsallagh Complex SAC

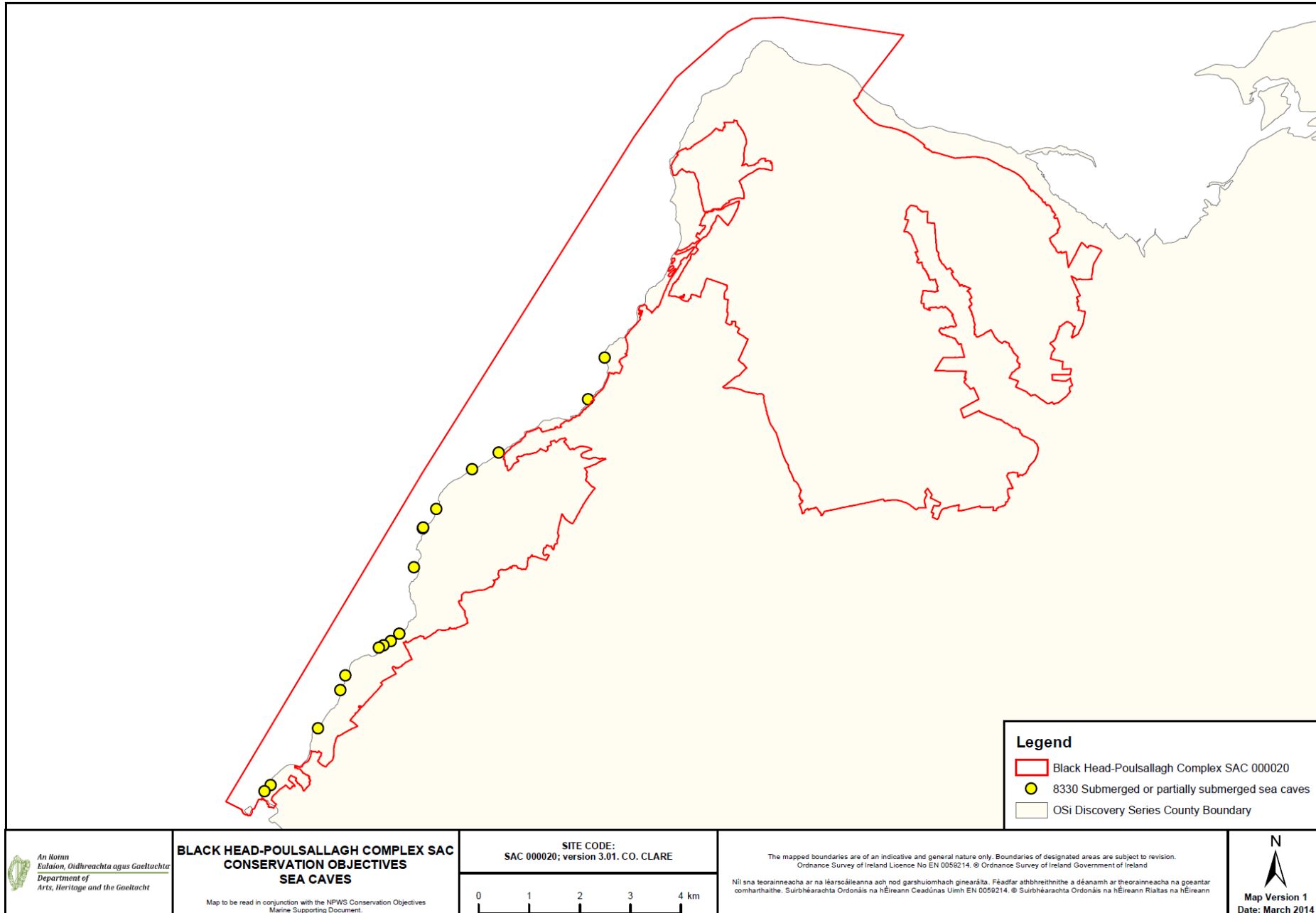


Figure 3. Distribution of community types in Black Head-Poulsallagh Complex SAC

