

NPWS

Ballyness Bay SAC (site code: 1090)

**Conservation objectives supporting document -
Marine Habitats**

**Version 1
April 2014**

Introduction

Ballyness Bay SAC is designated for the marine Annex I qualifying interests of Mudflats and sandflats not covered by seawater at low tide and Estuaries (Figures 1 and 2). At this site the Annex I habitat mudflats and sandflats partly overlaps with the Annex I habitats Estuaries within its area.

Intertidal surveys were undertaken in 2006 (Aquafact, 2006) and 2011 (MERC, 2012a) and a subtidal survey was carried out in 2011 (MERC, 2012b) and these data were used to determine the physical and biological nature of this SAC.

Aspects of the biology and ecology of the 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 Ballyness Bay, two community types are recorded. Their occurrence within the Annex I habitats is presented in table 1; a description of each community type is given below.

Community Type	SAC Annex I Habitats	
	Estuaries (1130)	Mudflats and sandflats not covered by seawater at low tide (1140)
Coarse sediment to sandy mud with oligochaetes and polychaetes community complex	✓	✓
Mobile sand community complex	✓	✓

Table 1 The community types recorded in Ballyness Bay SAC and their occurrence in the Annex I habitats.

Estimated areas of each community type within the Annex I habitats, 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 Ballyness Bay 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.

COARSE SEDIMENT TO SANDY MUD WITH OLIGOCHAETES AND POLYCHAETES COMMUNITY COMPLEX

This community complex is recorded on the sheltered embayments of Binanea Strand and Ballyness Strand and along the upper shore from Gortahork north to Ronaghmore (Figure 3). It is largely intertidal but extends into the shallow subtidal with the embayments.

The sediment within the complex varies from coarse sediment to sandy mud. Coarse sediments are limited to the upper shore where gravel represents the major proportion of the sediment fractions (ranging from 45.2% to 52.1%). Fine sand and silt-clay range from 9.1% to 25% and 4.4% to 15.4% respectively; the remaining fractions each constitute less than 9% of the sediment. Over the remainder of the complex the sediment is that of muddy sand with fine

sand ranging from 36.2% to 37.8%, very fine sand from 22.5% to 50.6% and silt-clay from 10.4% to 35.3%; coarser material is negligible (<2.5%).

The distinguishing species of this community are oligochaetes of the family Enchytraeidae, *Tubificoides benedii* and *Heterochaeta costata*, the polychaetes *Pygospio elegans*, *Hediste diversicolor* and *Capitella* sp. and unidentified nematodes (Table 2). *T. benedii* and unidentified enchytraeids are recorded in moderate to low abundances throughout the complex. *P. elegans*, *H. costata*, *H. diversicolor*, *Capitella* sp. and nematodes are not uniformly distributed throughout the complex. *P. elegans*, *Capitella* sp. and the nematodes occur in low abundances but are not recorded from the coarse sediments on the upper shore of inner Binanea Strand. Nematodes are locally abundant in the sandy mud on Binanea Strand. *H. costata* occurs in variable abundances in coarse sediments but is not recorded from areas of sandy mud. *H. diversicolor* occurs in moderate to low abundances but is not recorded from the sandy mud in Binanea Strand. Enchytraeidae occur in low abundances throughout the complex

The polychaetes *Eteone longa* and *Arenicola marina* and the bivalve *Scrobicularia plana* are not uniformly distributed within the complex. *E. longa* and *A. marina* occur in low abundances but are not recorded from the coarse sediments on the upper shore of inner Binanea Strand. *S. plana* is not recorded in Ballyness Strand to the south of Ronaghmore; it occurs in low abundances elsewhere.

The amphipod *Corophium arenarium* is locally abundant on Binanea Strand and is also recorded in low abundances on Ballyness Strand to the south of Ronaghmore. The bivalve *Cerastoderma edule* is recorded in low abundances on Ballyness Strand and on the upper shore to the north of Gortahork. The bivalve *Ruditapes decussatus* and the shore crab *Carcinus maenas* are recorded from the sandy mud in Binanea Strand.

On the upper shores where the sediment is coarse, the brown alga *Fucus* sp. occurs on larger cobbles.

Distinguishing species of Coarse sediment to sandy mud with oligochaetes and polychaetes community complex	
<i>Tubificoides benedii</i>	Enchytraeidae indet.
<i>Pygospio elegans</i>	<i>Heterochaeta costata</i>
<i>Hediste diversicolor</i>	<i>Capitella</i> sp.
Nematoda indet.	

Table 2 Distinguishing species of the Coarse sediment to sandy mud with oligochaetes and polychaetes community complex.

MOBILE SAND COMMUNITY COMPLEX

This community complex is recorded extensively within this site, from the exposed beaches at the northern end of the site into Ballyness Bay and as far south as Gortahork (Figure 3). It extends from the intertidal to the shallow subtidal to a depth of 2m.

The substrate is that of medium to fine sand, these fractions constitute between 78.1% and 99.3% of the sediment here. Gravel and silt-clay are negligible, representing less than 1.1% and 0.6% respectively.

This community complex in general has low species diversity and abundances and is distinguished by the bivalve *Angulus tenuis*, the polychaete *Scolelepis (Scolelepis) squamata*, the amphipod *Urothoe brevicornis* and oligochaetes of the family Enchytraeidae (Table 3). These species are not uniformly distributed throughout the complex. *A. tenuis* and *U. brevicornis* generally occur in low abundances within Ballyness Bay. *S. (Scolelepis) squamata* occurs in low abundances to the north of Black Rock, in the central area of Machaire Uí Robhartaigh beach and to the east of Errarooley. Enchytraeidae are recorded in low abundances on the beach at Errarooley and to the north of Black Rock; they are locally abundant on the western end of Machaire Uí Robhartaigh beach.

At the mouth of the bay at Finlays Bar the bivalve *Mytilus edulis* and the amphipod *Bathyporeia pelagica* are recorded in moderate abundances. The sand eel *Ammodytes tobianus* is also recorded here.

Distinguishing species Mobile sand community complex	
<i>Angulus tenuis</i>	<i>Scolelepis (Scolelepis) squamata</i>
<i>Urothoe brevicornis</i>	Enchytraeidae indet.

Table 3 Distinguishing species of the Mobile sand 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 Mudflats and sandflats not covered by seawater at low tide in Ballyness Bay 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.
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- This target refers to activities or operations that propose to permanently remove habitat from a 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	Conserve the following community types in a natural condition: Coarse sediment to sandy mud with oligochaetes and polychaetes community complex and Mobile sand community complex.
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- A semi-quantitative description of these community types has been provided in Section 1.
- An interpolation of their likely distribution is provided in figure 3.
- The estimated areas of these community types within the Mudflats and sandflats not covered by seawater at low tide habitat given below are based on spatial interpolation and therefore should be considered indicative:
 - Coarse sediment to sandy mud with oligochaetes - 120ha
 - Mobile sand community complex - 570ha
- 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 Estuaries in Ballyness Bay 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.
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- This habitat also encompasses the Annex I habitat of Mudflats and sandflats not covered by seawater at low tide. In such areas, the specific targets for that Annex I habitat will address requirements within the Annex I habitat Estuaries.
- This target refers to activities or operations that propose to permanently remove habitat from a 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	Conserve the following community type a natural condition: Coarse sediment to sandy mud with oligochaetes and polychaetes community complex.
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- A semi-quantitative description of these community types has been provided in Section 1.
- An interpolation of their likely distribution is provided in figure 3.
- The estimated area of these community types within the Estuaries habitat given below is based on spatial interpolation and therefore should be considered indicative:
 - Coarse sediment to sandy mud with oligochaetes and polychaetes community complex - 12ha
 - Mobile sand community complex -3ha
- Significant continuous or ongoing disturbance of communities should not exceed an approximate area of 15% of the interpolated area, 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 (2006). A survey of Intertidal mudflats and sandflats in Ireland. Produced by Aquafact on behalf of the National Parks & Wildlife Service.

MERC (2012a). Intertidal Benthic Survey of Ballyness Bay SAC. Carried out by MERC on behalf of the Marine Institute in partnership with National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.

MERC (2012b). Subtidal Benthic Survey of Ballyness Bay SAC. Carried out by MERC on behalf of the Marine Institute in partnership with National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.

Figure 1. Extent of Mudflats and sandflats not covered by seawater at low tide in Ballyness Bay SAC

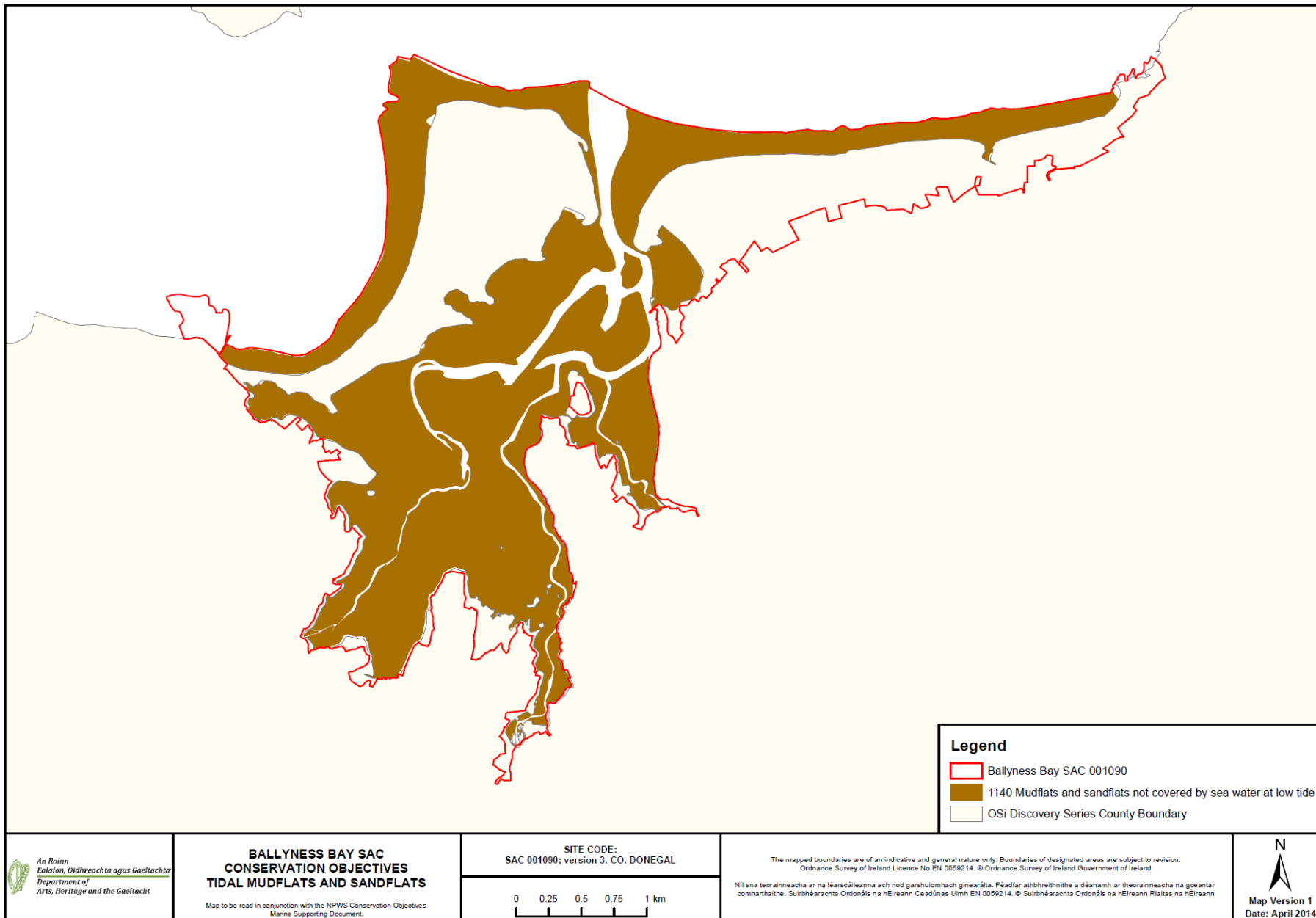


Figure 2. Extent of Estuaries in Ballyness Bay SAC

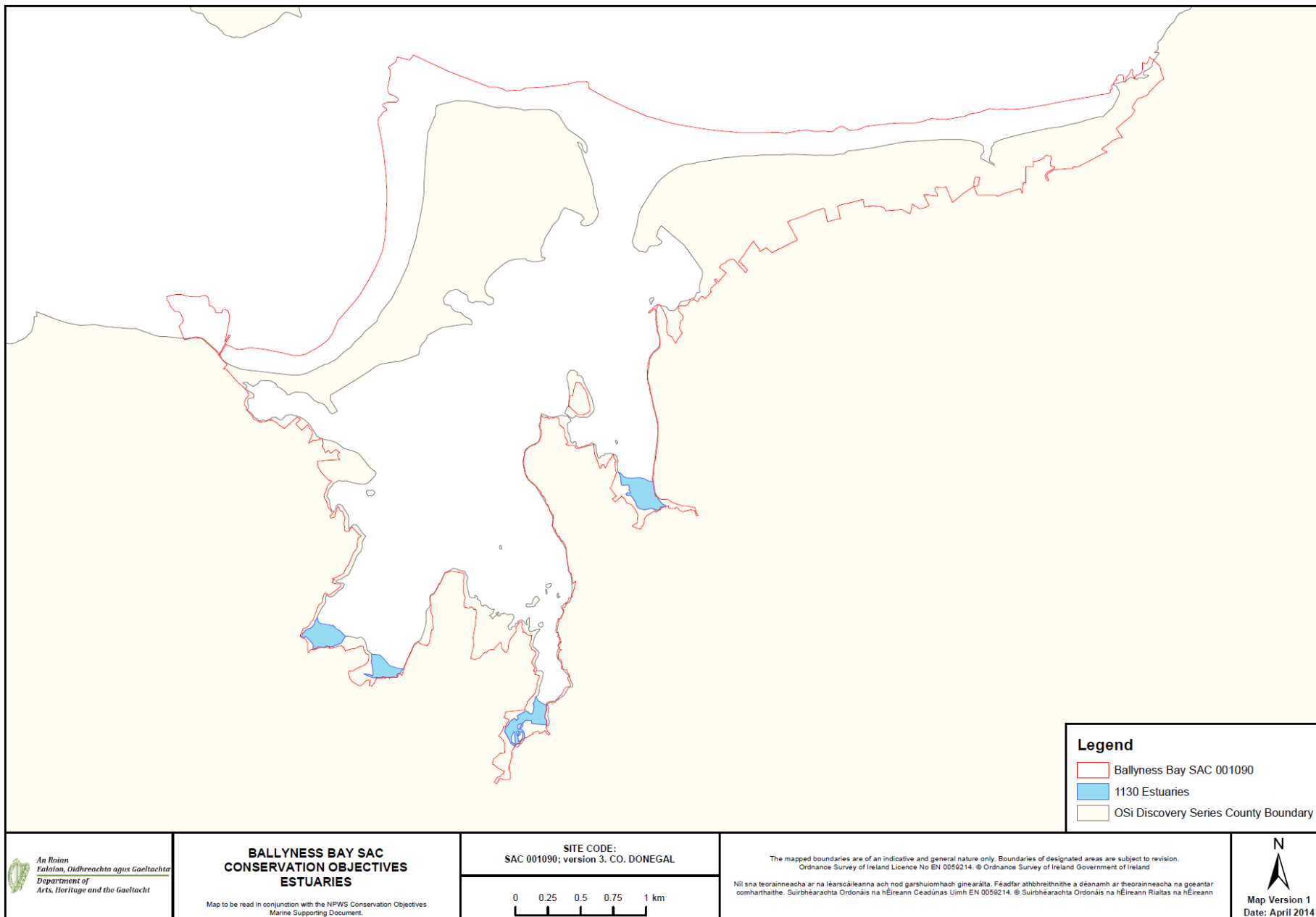


Figure 3. Distribution of community types in Ballyness Bay SAC

