

NPWS (2011)

Raven Point Nature Reserve SAC (site code: 0710)

**Conservation objectives supporting document
-marine habitats**

**Version 1
August 2011**

Introduction

Raven Point Nature Reserve SAC is designated for the Annex I qualifying interest Mudflats and sandflats not covered by sea water at low tide (Figure 1).

Data derived from an intertidal survey undertaken in 2008 was used to determine the physical and biological nature of the site. This facilitated the development of site-specific conservation objectives that will allow Ireland deliver 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 below.

Section 1: Principal Benthic Communities

Within the Raven Point Nature Reserve SAC four community complexes occur namely Sand dominated by polychaetes community complex; Estuarine muds dominated by polychaetes and crustaceans community complex; Mixed sediment community complex and Fine sand with *Spiophanes bombyx* community complex. These community types are described below.

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 the Raven Point Nature Reserve SAC identified a series 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.

SAND DOMINATED BY POLYCHAETES COMMUNITY COMPLEX

This community complex extends from Curracloe Channel around The Raven Point to the northern boundary of the site (Figure 2).

The sediment is that of medium to fine sand with these fractions comprising 96% of the sediment composition.

The polychaetes *Pygospio elegans*, *Scoloplos armiger* and *Spio martinensis* occur in moderate abundances here with the bivalve *Angulus tenuis* being frequently recorded (Table 1).

Distinguishing species of the Sand dominated by polychaetes community complex	
<i>Pygospio elegans</i>	<i>Scoloplos armiger</i>
<i>Spio martinensis</i>	<i>Angulus tenuis</i>

Table 1 Distinguishing species of the Sand dominated by polychaetes community complex.

ESTUARINE MUDS DOMINATED BY POLYCHAETES AND CRUSTACEANS COMMUNITY COMPLEX

This community complex is recorded from the Curracloe Channel to western boundary of the site (Figure 2).

The sediment of this community complex is largely that of mud (>60%) with a very low gravel content (ranging from 0% to <1.5%). The sediment may be classified as sandy mud to slightly gravely sandy mud.

The distinguishing species of this community complex are typical of estuarine communities in general. The polychaete *Hediste diversicolor* and the crustacean *Neomysis integer* are commonly present here. The crustaceans *Gammarus locusta* and *Crangon crangon*, the polychaetes *Polydora cornuta* and *Heterochaeta costata* and the oligochaete *Enchytraeidae* indet. are also frequently recorded from this complex (Table 2).

Distinguishing species of the Estuarine muds dominated by polychaetes and crustaceans community complex	
<i>Hediste diversicolor</i>	<i>Neomysis integer</i>
<i>Polydora cornuta</i>	<i>Gammarus locusta</i>
<i>Enchytraeidae</i> indet.	<i>Crangon crangon</i>
<i>Heterochaeta costata</i>	<i>Corophium volutator</i>
<i>Pygospio elegans</i>	<i>Streblospio shrubsolii</i>

Table 2 Distinguishing species of the Estuarine muds dominated by polychaetes and crustaceans community complex.

In addition to the above communities, the following community complexes also occur within this SAC but outside the Annex I habitat for which the site is designated.

MIXED SEDIMENT COMMUNITY COMPLEX

This subtidal community complex is recorded at this site southwest of the Curracloe Channel in depths of between 0m and 2m (Figure 2). The sediment is that of sand (>70%) with varying gravel (5% to 18%) and mud (<19%) fractions.

This community has low numbers of species and individuals; it is distinguished by the presence of the anthozoan *Actinia equina* and the bivalve *Mytilus edulis* as well as the polychaete *Lanice conchilega* (Table 3). The occurrence of these epifaunal species with infaunal species reflects the mixed nature of the sediment here.

Distinguishing species of the Mixed sediment community complex	
<i>Actinia equina</i>	<i>Mytilus edulis</i>
<i>Lanice conchilega</i>	

Table 3 Distinguishing species of the Mixed sediment community complex.

FINE SAND WITH *SPIOPHANES BOMBYX* COMMUNITY COMPLEX

This subtidal community complex occurs in the channels to the west of The Raven Point and from The Raven Point northwards to the boundary of the site. It is recorded at depths of 2m to 4m. The substrate is largely that of fine sand with varying amounts of medium sand (ranging from 3.8% to 62.8%), mud and gravel fractions are low (< 2.5%).

The polychaete *Spiophanes bombyx* occurs in moderate abundance throughout this area while the polychaetes *Nephtys kersivalensis*, *Glycera tridactyla* and *Aphelochaeta* sp. and the crustacean *Gastrosaccus spinifer* are also consistently recorded here (Table 4).

Distinguishing species of the Fine sand with <i>Spiophanes bombyx</i> community complex	
<i>Spiophanes bombyx</i>	<i>Glycera tridactyla</i>
<i>Nephtys kersivalensis</i>	<i>Gastrosaccus spinifer</i>
<i>Aphelochaeta</i> sp.	<i>Nephtys cirrosa</i>
<i>Corophium sextonae</i>	<i>Bathyporeia elegans</i>

Table 4 Distinguishing species of the Fine sand with *Spiophanes bombyx* 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. The Department of the Environment, Heritage and Local Government has prepared general guidance on the completion of such assessments (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) 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 the Annex I habitat 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 Raven Point Nature Reserve 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 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	The following community types should be maintained in a natural condition: Sand dominated by polychaetes community complex; Estuarine muds dominated by polychaetes and crustaceans 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 Mudflats and sandflats not covered by seawater at low tide habitat given below are based on spatial interpolation and therefore should be used with a degree of caution:
 - Sand dominated by polychaetes community complex - 65ha
 - Estuarine muds dominated by polychaetes and crustaceans community complex - 8ha

- 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.

Figure 1 Extent of Annex I habitat Mudflats and sandflats not covered by seawater at low tide in Raven Point Nature Reserve SAC

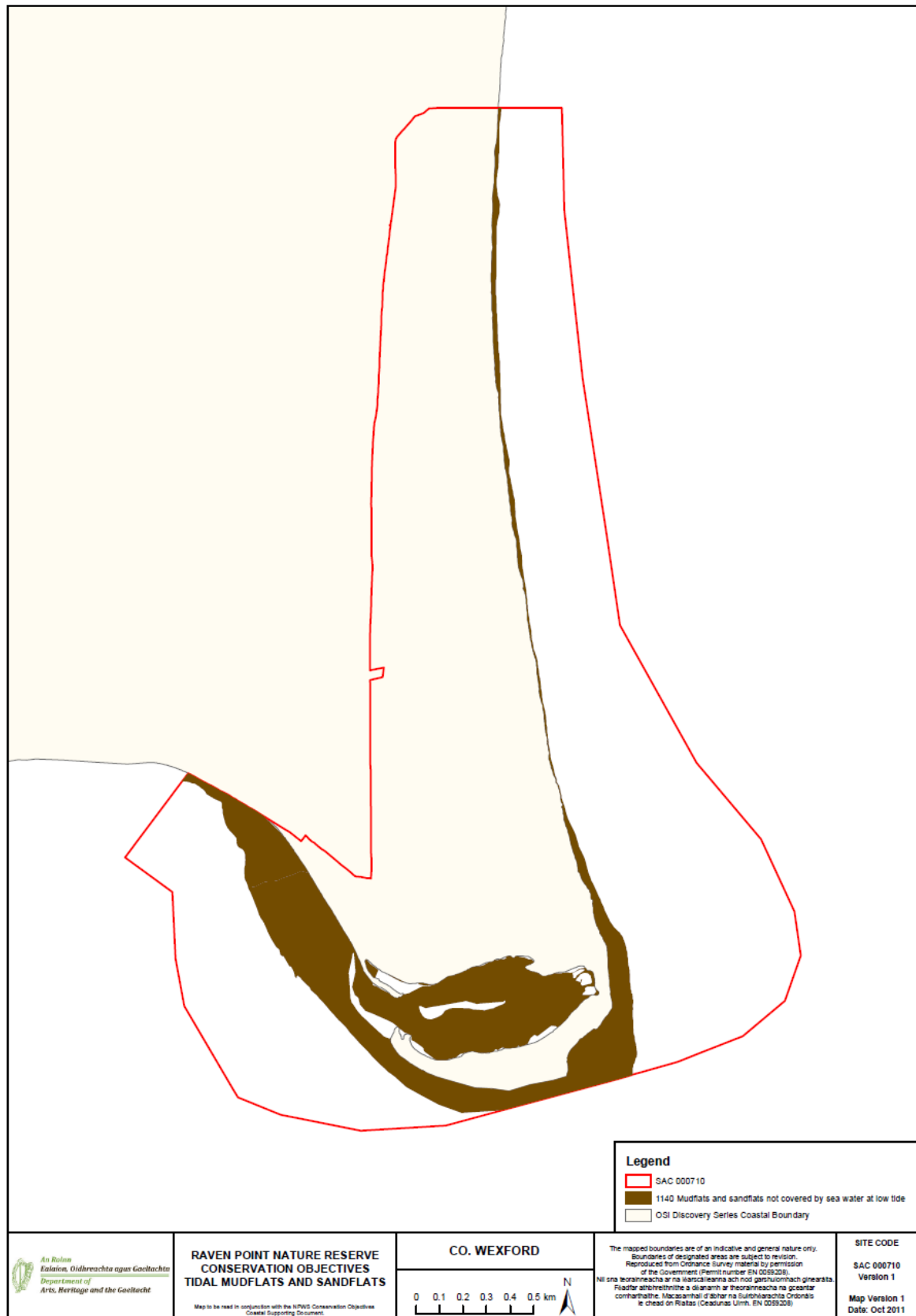


Figure 2 Broadscale community distribution in Raven Point Nature Reserve SAC

