NPWS

Sheephaven SAC
(Site code: 1190)

Conservation objectives supporting document -
Marine Habitats

Version 1

July 2014

Introduction

Sheephaven SAC is designated for the marine Annex I qualifying interest of Mudflats and sandflats not covered by seawater at low tide (Figure 1).

Intertidal survey was undertaken in 2011 (MERC, 2012) 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 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 objective and targets in the completion of such assessments is provided in Section 2.

Section 1

Principal Benthic Communities

Within Sheephaven SAC, two community types, Sand to coarse sediment with *Pygospio elegans* community complex and Sand with *Angulus tenuis* community are recorded in the Annex I habitat. A description of each community type is given below.

Estimated areas 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 Sheephaven 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.

SAND TO COARSE SEDIMENT WITH *PYGOSPIO ELEGANS* COMMUNITY COMPLEX

This community complex occurs in the intertidal and shallow subtidal in the inner part of the Back Strand west of Rinnalack Point, in the inner reaches of Ards Bay south of Rossinagor Point, on the eastern shore at the mouth of Ards Bay and in Mulroy Bay north of Island Roy and north of Carrickart (Figure 2).

The sediment of this complex ranges from sand to coarse sediment. Generally the sediment is medium to fine sand (1.6% to 43.9% medium sand and 52.5% to 86.5% fine sand) with variable amounts of very fine sand (1.9% to 35.5%). Silt-clay and coarse sediment are low (<4.5% and <2.8% respectively) while gravel and very coarse sand are negligible (<1.6% and <0.9% respectively). At Island Roy, in Mulroy Bay, the sediment is somewhat coarser (2.0% gravel, 12.6% very coarse and coarse sand, 5.7% medium sand and 26.3% fine and very fine sand) here. On the upper shore at Carrickart, in Mulroy Bay, the sediment is mixed (20.8% gravel, 7.5% very coarse and coarse sand, 10.5% medium sand, 58.2% fine and very fine sand and 3% silt-clay).

The distinguishing fauna of this community complex are the polychaetes *Pygospio elegans* and *Scoloplos* (*Scoloplos*) *armiger*, the gastropod *Peringia ulvae*, the oligochaetes *Heterochaeta costata* and the family Enchytraeidae, unidentified nematodes and the bivalve *Cerastoderma edule* (Table 1). *P. elegans* generally occurs in moderate to low abundances throughout the complex; it is locally abundant on the inner part of the Back Strand in Sheephaven Bay proper. *S.* (*Scoloplos*) *armiger*, *P. ulvae*, Enchytraeidae, *H. costata*,

nematodes and *C. edule* are not uniformly distributed throughout the community. Where they are recorded *S.* (*Scoloplos*) *armiger*, nematodes and *C. edule* occur in low abundances. *P. ulvae* generally occurs in low abundances but is locally abundant on the inner reaches of the Back Strand and Ards Strand. Enchytraeids generally occur in moderate to low abundances. *H. costata* occurs in low abundances but is locally abundant at Carrickart in Mulroy Bay.

The polychaetes *Hediste diversicolor* and *Arenicola marina* and the oligochaete *Tubificoides benedii* are also recorded within this complex. The colonial bryozoan *Bowerbankia* sp. is recorded from the shore at Island Roy in Mulroy Bay.

Distinguishing species Sand to coarse sediment with *Pygospio elegans* community complex	
Pygospio elegans	Nematoda indet.
Peringia ulvae	*Cerastoderma edule*
Enchytraeidae indet.	*Scoloplos* (*Scoloplos*) *armiger*
Heterochaeta costata	

Table 1 Distinguishing species of Mixed sediment to sand with nematodes and *Tubificoides benedii* community complex.

A variant of this community occurs on Sand Eel Strand in Sheephaven Bay proper. The sediment is coarser here (17.4% gravel, 12.8% very coarse sand, 25.9% coarse sand and 38.3% medium sand) with negligible amounts of fine sand (5.5%), very fine sand (0.1%) and silt-clay (0.03%). The bivalve *Mytilus edulis* and the amphipod *Crassicorophium crassicorne* are recorded here in low abundances.

SAND WITH *ANGULUS TENUIS* COMMUNITY

This community occurs in the intertidal and shallow subtidal of Sheephaven Bay from Tra Beg to Tra More and at Marble Hill Strand, in the outer reaches of Back Strand to just east of Rinnalack Point and in Ards Bay at Rossinagor Point; in Mulroy Bay it is recorded at the causeway to Island Roy.

The sediment of this community is largely that of mobile medium to fine sand (ranging from 9.9% to 68.2% and 20.6% to 83.0%, respectively). Coarse sand ranges 0.1% to 7.0% and very fine sand from 0.7% to 10.8%, respectively. The proportion of gravel (<2.1%), very coarse sand (<1.6%) and silt-clay (<2.3%) are generally negligible.

The distinguishing fauna of this community are the bivalve *Angulus tenuis*, the crustaceans *Eurydice pulchra* and *Haustorius arenarius* and the polychaete *Nephtys cirrosa* (Table 2). These species are not uniformly distributed throughout the community but where they occur

abundances are low. The polychaete *Scolelepis* (*Scolelepis*) *squamata* occurs in low abundances at Rossinagor Point and at the causeway in Mulroy Bay.

Distinguishing species Sand with *Angulus tenuis* community complex	
Angulus tenuis	*Nephtys cirrosa*
Eurydice pulchra	*Haustorius arenarius*

Table 2 Distinguishing species of Sand with *Angulus tenuis* community complex.

The rare hermit crab *Diogenes pugilator* is recorded from Marble Hill Strand. This represents the most northerly recorded occurrence of this species in Ireland.

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 Sheephaven 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 5	Conserve the following community types in a natural condition: Sand to coarse sediment with *Pygospio elegans* community complex; Sand with *Angulus tenuis* community.

- A semi-quantitative description of these community types has been provided in Section 1.
- An interpolation of their likely distribution is provided in figure 2.
- 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:
  - Sand to coarse sediment with *Pygospio elegans* community complex – 511ha
  - Sand with *Angulus tenuis* community – 255ha

- 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:

MERC (2012). Intertidal benthic survey of Sheephaven SAC. Carried out by MERC on behalf of National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht and the Marine Institute.

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

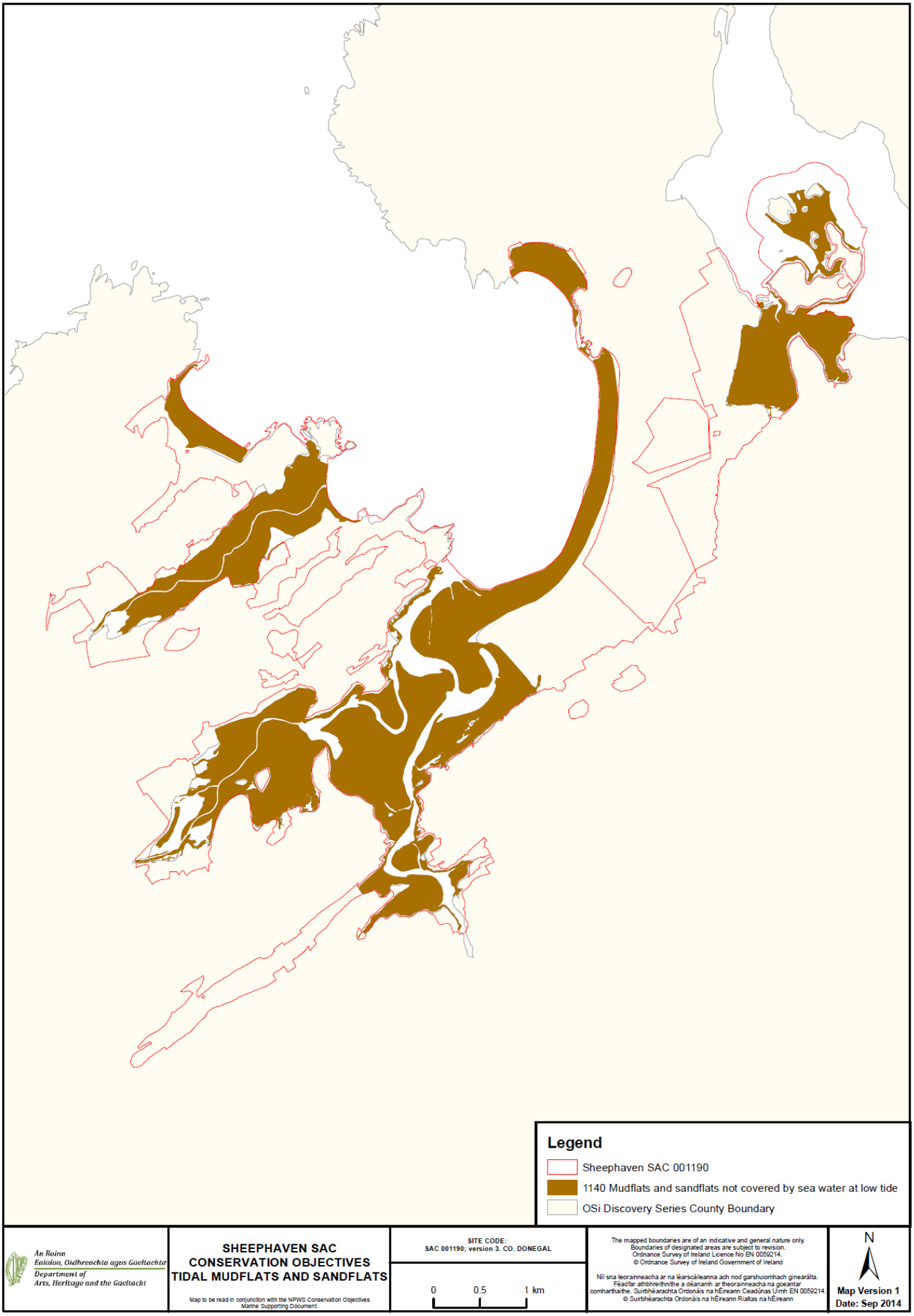

Figure 2. Distribution of community types in Sheephaven SAC