NPWS

Clonakilty Bay SAC
(site code: 91)

Conservation objectives supporting document -
Marine Habitats

Version 1

April 2014

Introduction

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

An intertidal survey was undertaken in 2011 (MERC, 2012) and these data were used to determine the physical and biological nature of this SAC and overlapping Special Protection Area of Clonakilty Bay SPA (site code 4081)

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 Clonakilty Bay SAC, a single community type is recorded. Its occurrence within the Annex I habitat and the overlapping SPA is presented in table 1; a description of the community type is given below.

Community Type	SAC Annex I Habitat	SPA
	Mudflats and sandflats not covered by seawater at low tide (1140)	
Sand to sandy mud with *Tubificoides benedii* and *Peringia ulvae* community complex	✓	✓
Shingle		✓

Table 1 The community type recorded in Clonakilty Bay and its occurrence in the Annex I habitat and the adjacent SPA.

Estimated area of the 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 Clonakilty 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.

SAND TO SANDY MUD WITH *TUBIFICOIDES BENEDII* AND *PERINGIA ULVAE* COMMUNITY COMPLEX

This community complex occurs on the intertidal and shallow subtidal (<2m) in Clonakilty Harbour from south of Ring Bar to Clonakilty and in the sheltered western part of Muckruss Strand.

The sediment of this complex ranges from sand to sandy mud with the exception of an area of mixed sediment in the inner reaches of the bay at Desert. Generally within the complex fine sand predominates (ranging from 27.3% to 86.4%). However in the south western reaches of Muckruss Strand and on the western shore of Clonakilty Harbour, from Youghals to the north-

western shore of Inchydoney Island, low levels of fine sand are recorded (4.1% to 25.5%); these correspond to areas of high levels of silt-clay (>60%).

The distinguishing species of this complex are the oligochaete *Tubificoides benedii*, the gastropod *Peringia ulvae*, the amphipods *Deshayesorchestia deshayesii* and *Talitrus saltator* and the polychaetes *Hediste diversicolor*, *Scoloplos* (*Scoloplos*) *armiger* and *Pygospio elegans*. *T. benedii* occurs throughout the complex in moderate to low abundances. It is locally very abundant in the inner reaches of Clonakilty Harbour. The remaining distinguishing species are not uniformly distributed throughout the complex. *P. ulvae* generally occurs in low abundances; it is locally abundant in the southwest shore of both Clonakilty Harbour and Muckruss Strand. *H. diversicolor* is generally recorded in low abundances and is locally abundant in the inner reaches of Clonakilty Harbour. *D. deshayesii*, *T. saltator* and *S.* (*Scoloplos*) *armiger* where they occur, are recorded in low abundances. *P. elegans* is recorded in moderate to low abundances where it occurs (Table 2).

Distinguishing species of Sand to sandy mud with *Tubificoides benedii* and *Peringia ulvae* community complex	
Tubificoides benedii	*Talitrus saltator*
Peringia ulvae	*Scoloplos* (*Scoloplos*) *armiger*
Hediste diversicolor	*Pygospio elegans*
Deshayesorchestia deshayesii	

Table 2 Distinguishing species of the Sand to sandy mud with *Tubificoides benedii* and *Peringia ulvae* community complex.

The polychaetes *Nephtys hombergii* and *Arenicola marina* occur in low abundances on the shore to the east of Youghals. *N. hombergii* is also recorded at Ring Bar while *A. marina* is recorded to the north of Inchydoney Island. The bivalve *Cerastoderma edule* occurs in low abundances to the north of Inchydoney Island, at Ring Bar and the northeast of Clonakilty Bay and in the southwest of Muckruss Strand. It is locally abundant on the shore to the north of Inchydoney Island. The extensive mats of the green alga *Ulva* sp. cover a significant portion of the sediment in the southwest and north of Clonakilty Bay and in the southwest of Muckruss Strand.

A variant of this community complex is recorded along the south of Inchydoney Island from Ring Harbour in the east to Muckruss Strand in the west. The sediment here is that of clean sand (71.7% to 88.4% 4. 7% to 25.3% fine sand and medium sand, respectively) with low to negligible proportions of very fine sand and silt-clay (<5% and <2% respectively). Low species diversity and abundances typify the sediment here. *Deshayesorchestia deshayesii* and *Talitrus saltator*, *Tubificoides benedii* and *Peringia ulvae* are recorded within this variant but are not uniformly distributed. Several other species occur in low abundances here and are

generally very localised in their distribution; these include the polychaetes *Scolelepis* (*Scolelepis*) *squamata*, *S. bonnieri*, *Nephtys cirrosa*, *Hediste diversicolor*, *Ampharete grubei*, *Ophelia rathkei* and unidentified Orbiniidae, the crustaceans *Bathyporeia pelagica*, *B. elegans*, *Cumopsis fagei*, *Pontocrates altamarinus*, *Urothoe brevicornis*, *Nototropis swammerdamei* and *Eurydice pulchra*, the bivalves *Mytilus edulis*, *Cerastoderma edule* and *Scrobicularia plana*, the gastropod *Littorina* sp. and unidentified nemerteans.

SHINGLE

Fringes of shingle occur along the north shore of Inchydoney Island and along the eastern shore of Clonakilty Harbour (Figure 2).

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 Clonakilty 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.

- 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 in a natural condition: Sand to sandy mud with *Tubificoides benedii* and *Peringia ulvae* community complex.

- A semi-quantitative description of this community type has been provided in Section 1.
- An interpolation of its likely distribution is provided in figure 2.
- The estimated area of this community type within the Mudflats and sandflats not covered by seawater at low tide habitat given below is based on spatial interpolation and therefore should be considered indicative:
  - Sand to sandy mud with *Tubificoides benedii* and *Peringia ulvae* community complex – 313ha
- 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 Clonakilty Bay SAC and Clonakilty Bay SPA. 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 Clonakilty Bay SAC

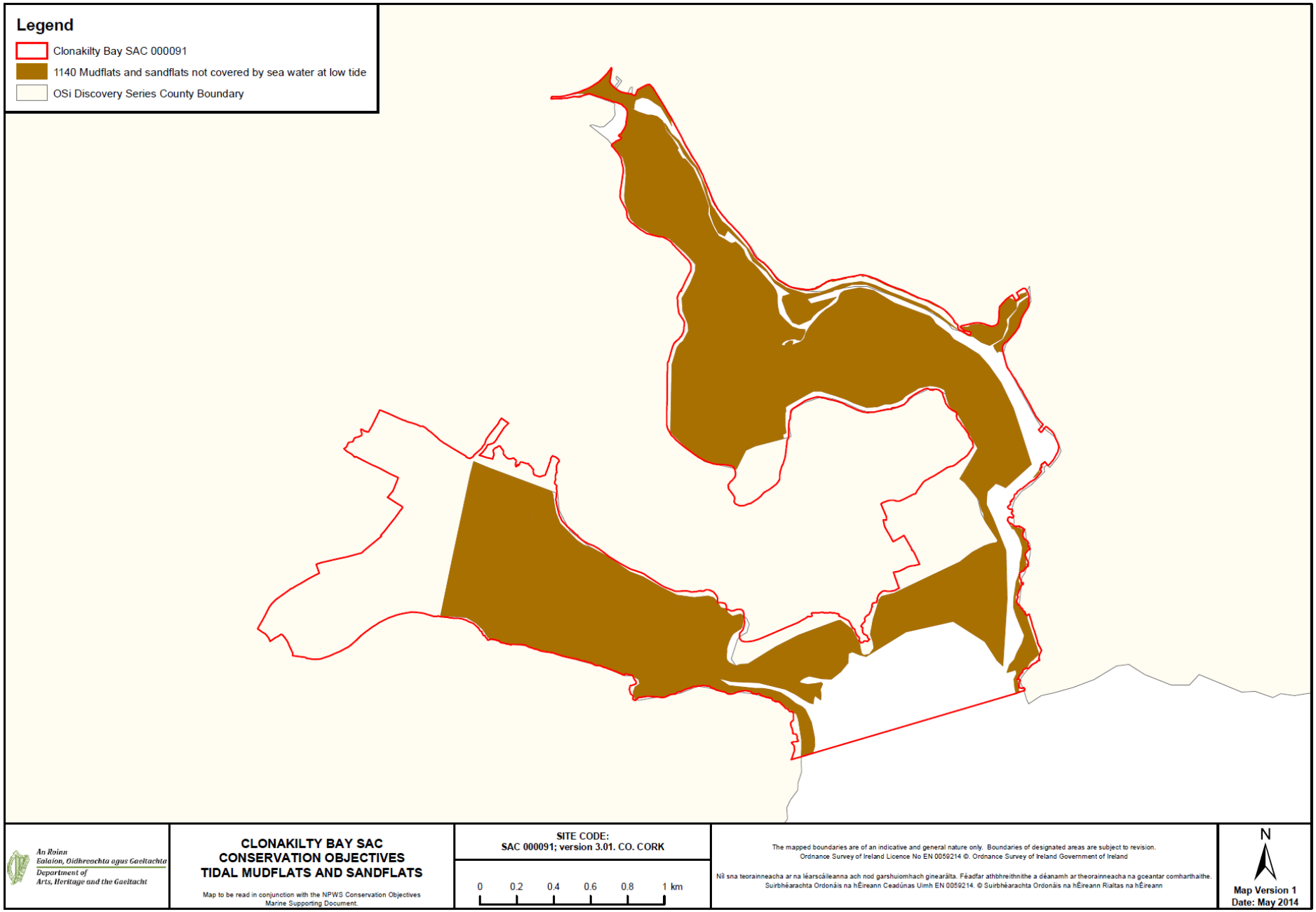

Figure 2. Distribution of community types in Clonakilty Bay SAC