

NPWS (2011)

Slaney River Valley SAC (site code: 0781)

**Conservation objectives supporting document
-marine habitats and species**

**Version 1
August 2011**

Introduction

The Slaney River Valley SAC is designated for, *inter alia*, the Annex I qualifying interests of Mudflats and sandflats not covered by sea water at low tide and Estuaries (Figures 1 and 2) and the Annex II species *Phoca vitulina* (Harbour seal, also known as common seal). The Annex I habitat Estuaries is a large physiographic feature that may wholly or partly incorporate other Annex I habitats including mudflats and sandflats within its area.

Intertidal and subtidal surveys were undertaken in 2008 and 2010 respectively and these data are used to determine the physical and biological nature of this SAC and the overlapping Special Protection Area of Wexford Harbour and Slobs SPA (4076). A comprehensive survey of the Irish harbour seal population was carried out in 2003 and additional records of the species within the site were compiled in 2010. These surveys of habitat and species 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 Section 2.

Section 1: Principal Benthic Communities

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 Slaney River Valley 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. Within the Slaney River Valley SAC four community complexes were recorded namely, Estuarine muds dominated by polychaetes and crustaceans community complex, Sand dominated by polychaetes community complex; Mixed sediment community complex; and Fine sand with *Spiophanes bombyx* community complex. These community types are described below.

ESTUARINE MUDS DOMINATED BY POLYCHAETES AND CRUSTACEANS COMMUNITY COMPLEX

This community complex is recorded along the shore from Ferrycarrig Bridge to Wexford Bridge (Figure 3). Within Wexford Harbour it occurs on the large intertidal mudflat south-east of Wexford Town and as a narrow shoreline band on the north and south shores of the site.

The sediment of this community complex is largely that of mud (>60%) and a very low gravel content (ranging from 0% to <1.5%). The sediment may be classified as sandy mud to slightly gravelly 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 1).

A subtidal variant of this community complex occurs in the lower Slaney River and the inner reaches of Wexford Harbour in depths of 0m to 5m (Figure 3). Here the sediment is slightly coarser than its intertidal counterpart (sand fraction ranging from 42% to 68% and mud >30%) and the species poor fauna is dominated by the polychaete *Aphelocheata* sp. with the polychaetes *Streblospio shrubsolii* and *Hediste diversicolor* also occurring.

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

SAND DOMINATED BY POLYCHAETES COMMUNITY COMPLEX

This community complex is recorded as a large intertidal expanse at Rosslare Point and on the sand banks in the centre of Wexford Harbour (Figure 3).

The sediment is that of fine to medium 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 2). Within this community complex, sporadic occurrence of coarse ground hosting the bivalve *Mytilus edulis* was recorded.

A subtidal variant of this intertidal community complex is recorded in the centre of Wexford Harbour in depths of 0m to 2m (Figure 3). As with the intertidal component of this complex the substrate is largely that of medium to fine sand. The polychaetes *Scoloplos armiger*, *Spio filicornis*, *Eteone flava* and *Nephtys kersivalensis* occur in moderate abundances within this variant.

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>
<i>Spio filicornis</i>	<i>Eteone flava</i>
<i>Nephtys kersivalensis</i>	

Table 2 Distinguishing species of the Sand dominated by polychaetes community complex.

MIXED SEDIMENT COMMUNITY COMPLEX

This subtidal community complex is recorded in the northern part of Wexford Harbour to The Raven Point in depths of between 0m and 2m (Figure 3). 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.

Given the heterogeneous nature of sediment of this community complex, the number of species and individuals is considerably lower than would be expected in the substrate type in this area.

In addition to the above communities, the following community complex also occurs within this SAC but outside the Annex I habitats for which the site is designated.

FINE SAND WITH *SPIOPHANES BOMBYX* COMMUNITY COMPLEX

This subtidal community complex occurs in the channels of the outer harbour between The Raven Point and Rosslare Point 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 *Aphelocheata* sp., and the crustacean *Gastrosaccus spinifer* are also recorded consistently 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>Aphelocheata</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.

Annex II Species

PHOCA VITULINA (HARBOUR SEAL)

This marine mammal species occurs in estuarine, coastal and offshore waters and also utilises a range of intertidal and terrestrial habitats for important life history functions such as breeding, moulting, resting and social activity. Its aquatic range for foraging and inter-site movement extends into continental shelf waters. When hauling out ashore, harbour seals tend to prefer comparatively sheltered locations where exposure to wind, wave action and precipitation, for example, are minimised. Thus in Ireland the species is more commonly found ashore in sheltered bays, inlets and enclosed estuaries.

Harbour seals in Slaney River Valley SAC occupy both aquatic habitats and intertidal shorelines that become exposed during the tidal cycle. The species is present at the site throughout the year during all aspects of its annual life cycle which includes breeding (May-July approx.), moulting (August-September approx.) and non-breeding foraging and resting phases. In acknowledging the limited understanding of aquatic habitat use by the species within the site, it should be noted that all suitable aquatic habitat is considered relevant to the species' range and ecological requirements at the site and is therefore of potential use by harbour seals.

Harbour seals are vulnerable to disturbance during periods in which time is spent ashore, or in shallow waters, by individuals or groups of animals. This occurs immediately prior to and during the annual breeding season, which takes place predominantly during the months of May-July. Pups are born on land, usually on sheltered shorelines, islets or skerries and uninhabited islands removed from the risk of predation and human interference. While there may be outliers in any year, specific established locations tend to be used annually for breeding-associated behaviour by adult males, adult females and their newborn pups. Such habitats are critical to the maintenance of the species within any site. Pups are able to swim soon after birth and may be observed accompanying their mother close to shore in the early days or weeks of life. They are nursed for a period of several weeks by the mother prior to weaning and abandonment. During this period adult females mate with adult males, an activity that takes place in the water. Known and suitable habitats for the species in Slaney River Valley SAC during the breeding season are indicated in figure 4. Current sites are broadly as follows: "Tern Island" off Rosslare Point and sandbanks within the central and eastern areas of Wexford Harbour.

The necessity for individual seals to undergo an annual moult (i.e., hair shedding and replacement), which generally results in seals spending more time ashore during a relatively discrete season, provides an opportunity to record the minimum number of harbour seals occurring in a given area (i.e., minimum population estimate). Moulting is considered an intensive, energetically-demanding process, which incurs further vulnerability for individuals

during this period. Terrestrial or intertidal locations where seals can be found ashore are known as haul-out sites. The harbour seal moult season takes place predominantly during the months of August-September. A total of 17 harbour seals were recorded ashore within Slaney River Valley SAC in August 2003 during a national aerial survey for the species. Additional records from within the site comprised 22 seals of all ages ashore in early September 2007 and 27 in early September 2009. Suitable habitat for the species along with known moult haul-out locations in Slaney River Valley SAC are indicated in figure 5, broadly consisting of "Tern Island" off Rosslare Point and sandbanks within the central and eastern areas of Wexford Harbour.

Harbour seal is a successful aquatic predator that feeds on a wide variety of fish, cephalopod and crustacean species. For individual harbour seals of all ages, intervals between foraging trips in coastal or offshore waters are spent resting ashore at terrestrial or inter-tidal haul-out sites, or in the water. Outside the breeding and moulting seasons (i.e., from October-April) the location and composition of haul-out groups and individual seals may be different to those normally observed during breeding or moulting. Current information on resting locations selected by harbour seals in Wexford Harbour outside the breeding and moulting seasons is comparatively limited. Known and suitable habitats for resting by the species are indicated in figure 6. Current sites described in Slaney River Valley SAC are broadly as follows: "Tern Island" off Rosslare Point and sandbanks within the central and eastern areas of Wexford Harbour.

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 Annex I habitats and Annex II species 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 the Slaney River Valley 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	The following community types should be maintained in a natural condition: Estuarine muds dominated by polychaetes and crustaceans community complex; and Sand dominated by polychaetes community complex.
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- 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 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:
 - Estuarine muds dominated by polychaetes and crustaceans community complex - 587ha
 - Sand dominated by polychaetes community complex - 441ha
- 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 the Slaney River Valley 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 habitats 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	The following community types should be maintained in, or restored to, a natural condition: Mixed sediment community complex, Estuarine muds dominated by polychaetes and crustaceans community complex and Sand dominated by polychaetes community complex.
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- 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 Estuaries habitat given below are based on spatial interpolation and therefore should be used with a degree of caution:
 - Mixed sediment community complex - 200ha
 - Estuarine muds dominated by polychaetes and crustaceans community complex - 1269ha
 - Sand dominated by polychaetes community complex - 27ha
- 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.

Objective **To maintain the favourable conservation condition of harbour seal in Slaney River Valley, which is defined by the following list of attributes and targets**

Target 1 Species range within the site should not be restricted by artificial barriers to site use.

- This target may be considered relevant to proposed activities or operations that will result in the permanent exclusion of harbour seal from part of its range within the site, or will permanently prevent access for the species to suitable habitat therein.
- It does not refer to short-term or temporary restriction of access or range.
- Early consultation or scoping with the Department in advance of formal application is advisable for proposals that are likely to result in permanent exclusion.

Target 2 The breeding sites should be maintained in a natural condition.

- Target 2 is relevant to proposed activities or operations that will result in significant interference with or disturbance of (a) breeding behaviour by harbour seal within the site and/or (b) aquatic/terrestrial/intertidal habitat used during the annual breeding season.
- Operations or activities that cause displacement of individuals from a breeding site or alteration of natural breeding behaviour, and that may result in higher mortality or reduced reproductive success, would be regarded as significant and should therefore be avoided.

Target 3 The moult haul-out sites should be maintained in a natural condition.

- Target 3 is relevant to proposed activities or operations that will result in significant interference with or disturbance of (a) moulting behaviour by harbour seal within the site and/or (b) aquatic/terrestrial/intertidal habitat used during the annual moult.
- Operations or activities that cause displacement of individuals from a moult haul-out site or alteration of natural moulting behaviour to an extent that may ultimately interfere with key ecological functions would be regarded as significant and should therefore be avoided.

Target 4 The resting haul-out sites should be maintained in a natural condition.

- Target 4 is relevant to proposed activities or operations that will result in significant interference with or disturbance of (a) resting behaviour by harbour seal within the site and/or (b) aquatic/terrestrial/intertidal habitat used for resting.
- Operations or activities that cause displacement of individuals from a resting haul-out site to an extent that may ultimately interfere with key ecological functions would be regarded as significant and should therefore be avoided.

Target 5	Human activities should occur at levels that do not adversely affect the harbour seal population at the site.
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- Proposed activities or operations should not introduce man-made energy (e.g., aerial or underwater noise, light or thermal energy) at levels that could result in a significant negative impact on individuals and/or the population of harbour seal within the site. This refers to both the aquatic and terrestrial/intertidal habitats used by the species in addition to important natural behaviours during the species' annual cycle.
- Target 5 also relates to proposed activities or operations that may result in the deterioration of key resources (e.g., water quality, feeding, etc) upon which harbour seals depend. In the absence of complete knowledge on the species' ecological requirements in this site, such considerations should be assessed where appropriate on a case-by-case basis.

Figure 1 Extent of Annex I habitat Mudflats and sandflats not covered by seawater at low tide in Slaney River Valley SAC

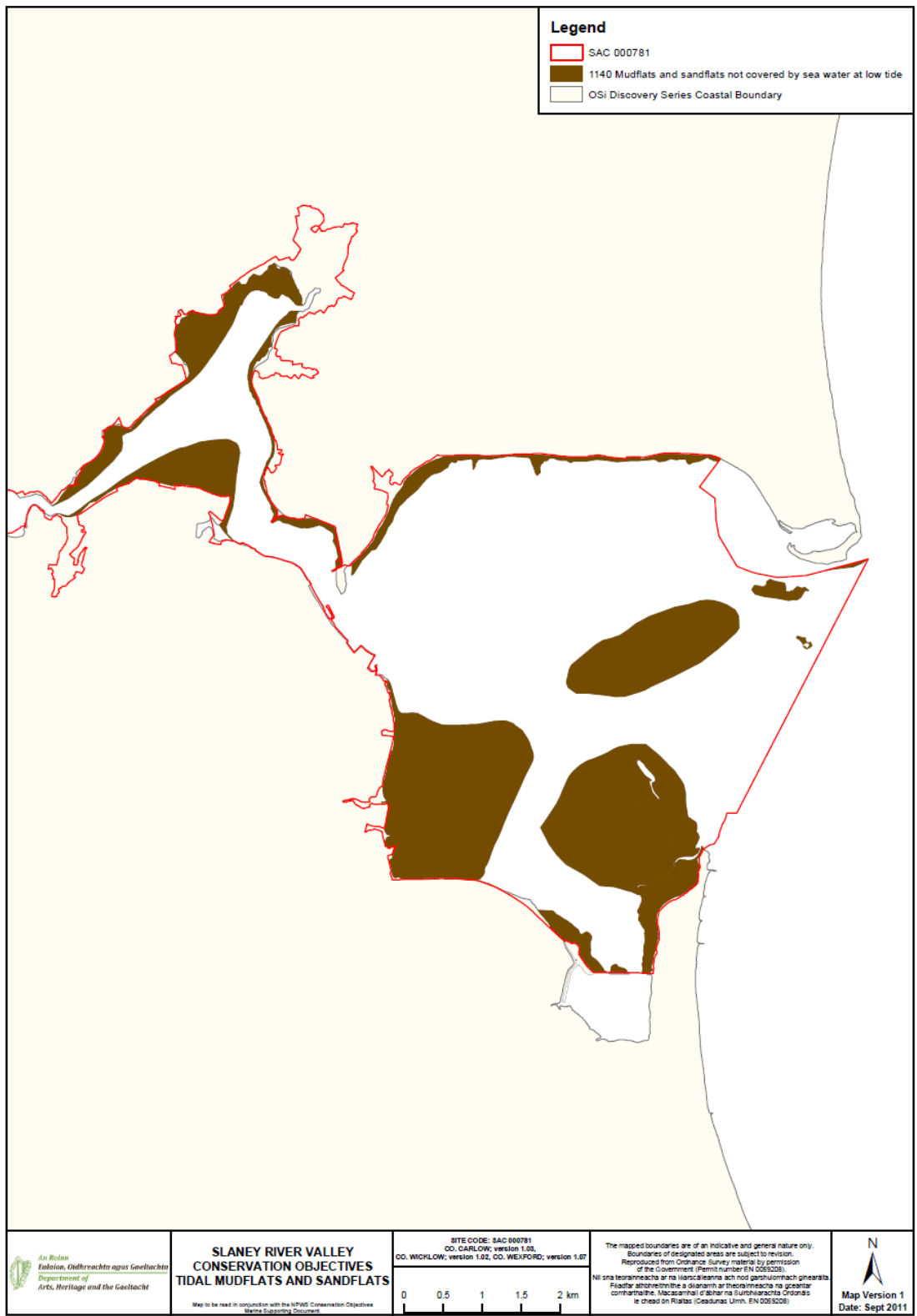


Figure 2 Extent of Annex I habitat Estuaries in Slaney River Valley SAC

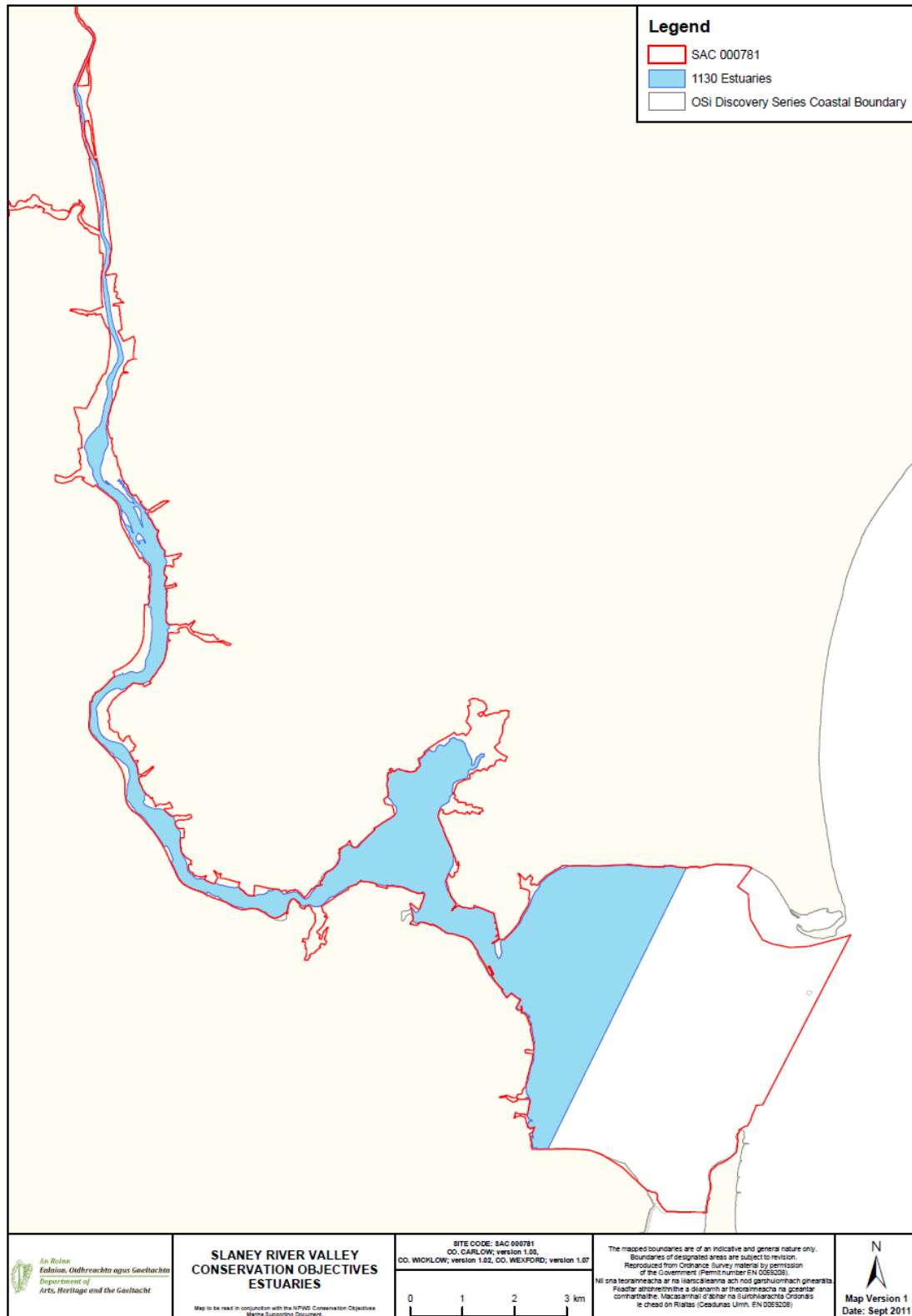


Figure 3 Broadscale community distribution in Slaney River Valley SAC

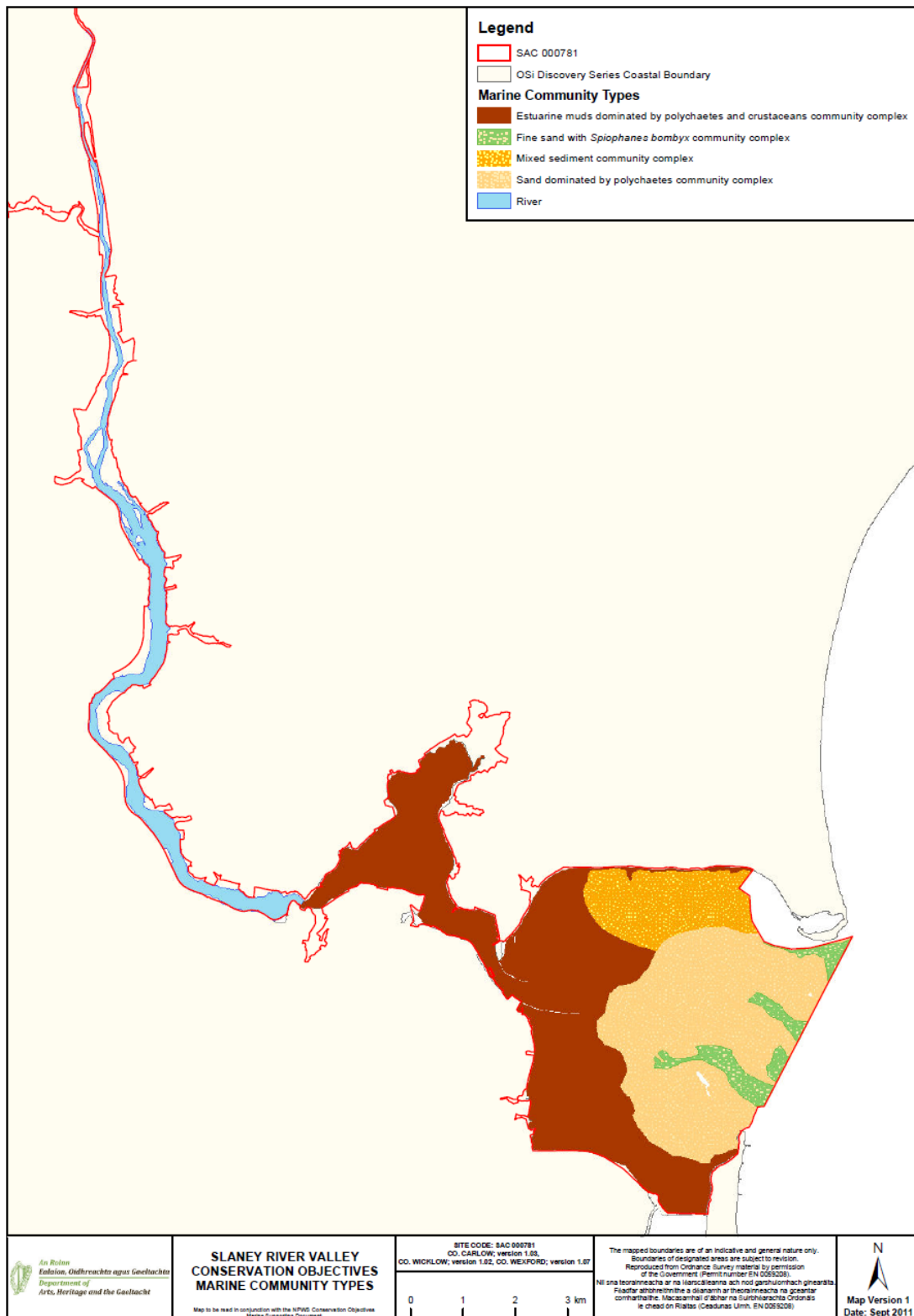


Figure 4. *Phoca vitulina* - Known breeding sites

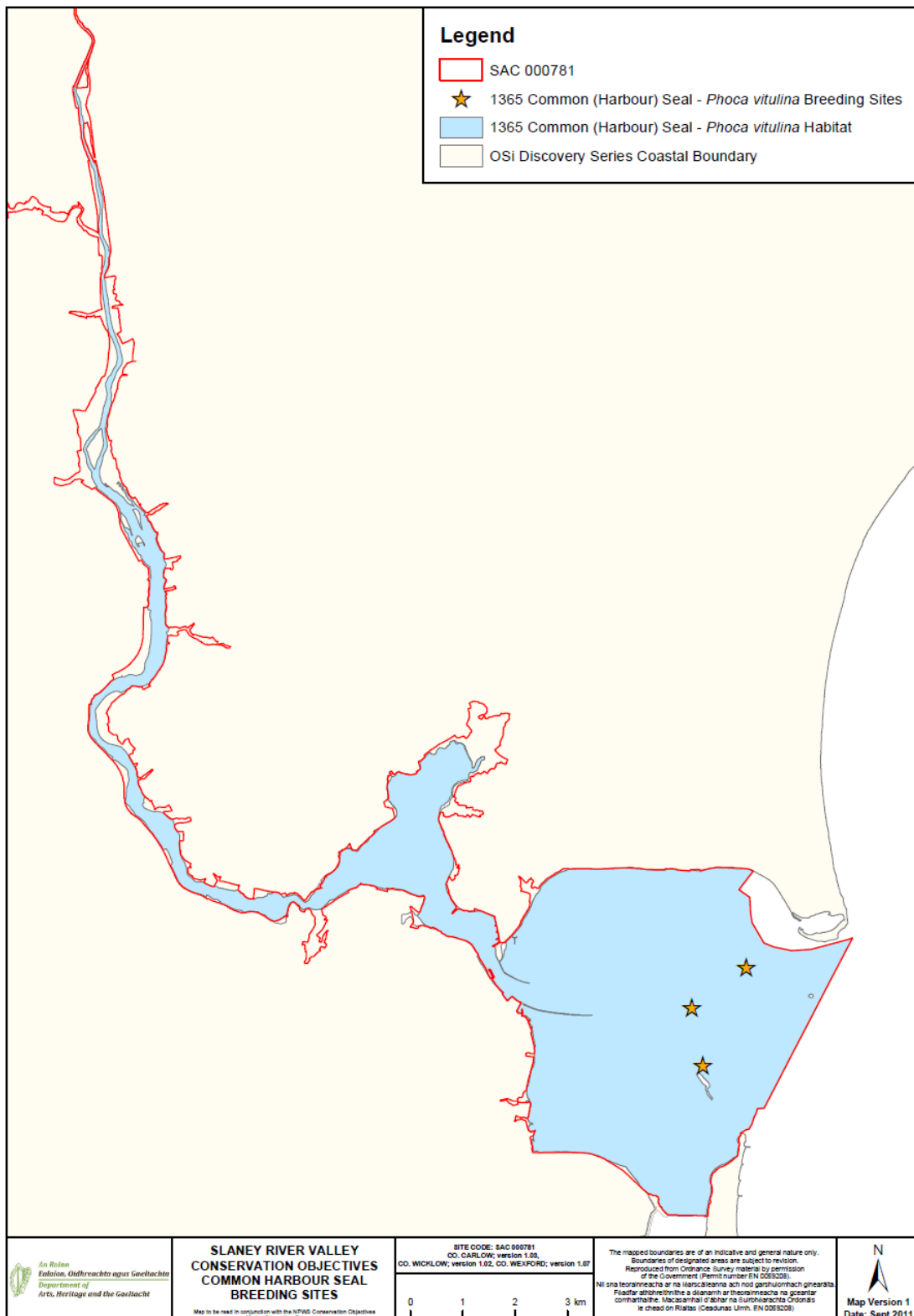


Figure 5. *Phoca vitulina* - Known moult haul out sites

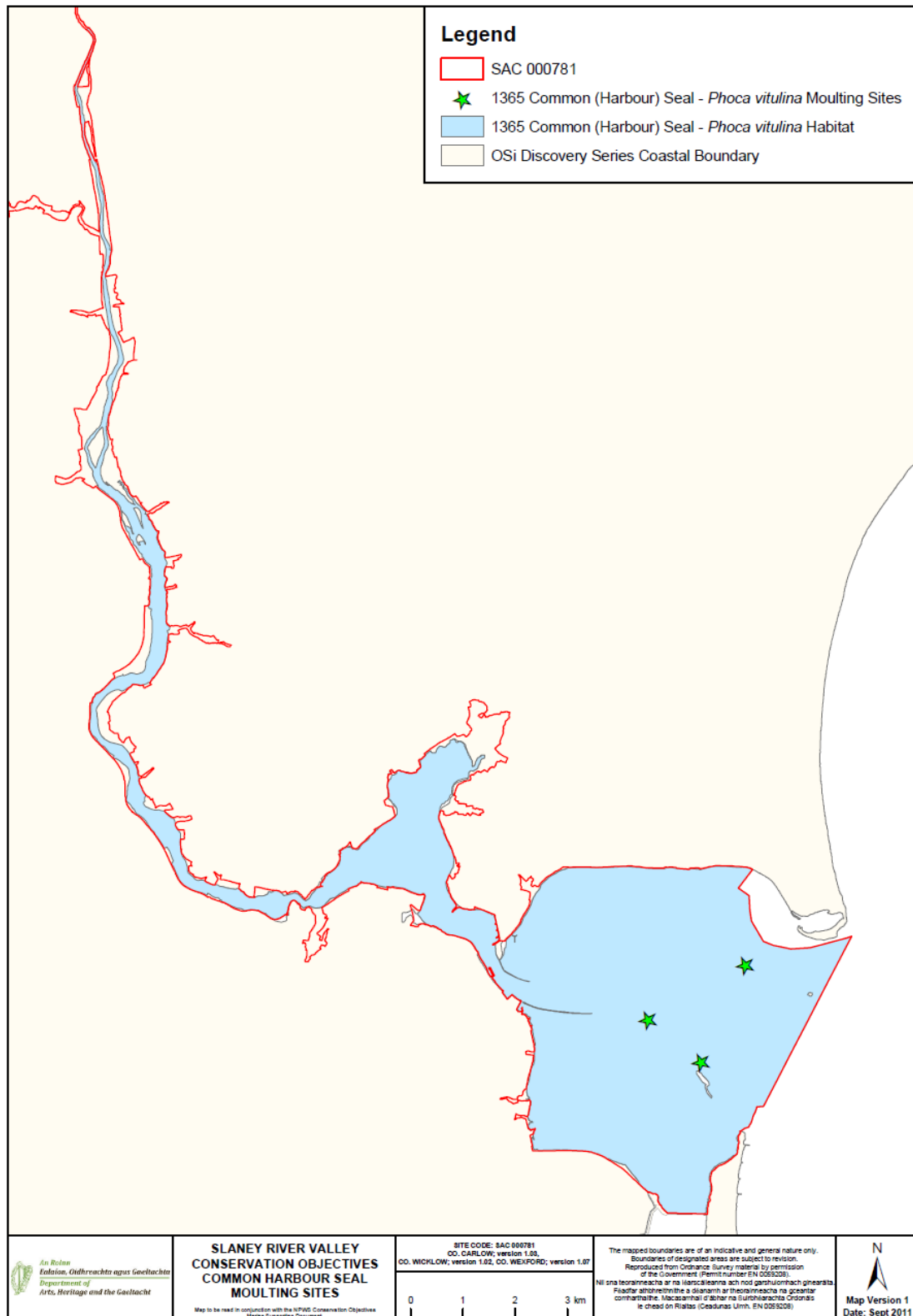


Figure 6. *Phoca vitulina* - Known resting haul-out sites (non-breeding)

