NPWS

Rutland Island and Sound SAC (site code: 2283)

Conservation objectives supporting document - Marine Habitats and Species

Version 1

August 2013

Introduction

Rutland Island and Sound SAC is designated for the marine Annex I qualifying interests of Large shallow inlets and bays and Reefs (Figures 1 and 2) and the Annex II species *Phoca vitulina* (harbour seal, also known as common seal). The Annex I habitat Large shallow inlets and bays is a large physiographic feature that may wholly or partly incorporate other Annex I habitats including Reefs within its area.

A BioMar survey of this site was carried out in 1996 (Picton and Costello, 1997), a survey of sensitive subtidal benthic communities was undertaken in 2008 (MERC, 2008) and subtidal surveys were carried out in 2010 (Aquafact, 2011a and Aquafact, 2011b). The mapping of subtidal reef in the field proved problematic, therefore reef extent was interpreted by reference to InfoMar (Ireland's national marine mapping programme) data where available and also to orthophotos. The intertidal was surveyed during a walkover of the site in 2013.

In addition to the records compiled from historical Wildlife Service site visits (Summers et al, 1980; Warner, 1983; Harrington, 1990; Lyons, 2004) more detailed investigations of harbour seal population status and seasonal habitat use within the site were conducted during a survey in August 2003 (Cronin et al, 2004) and again in August 2011 (NPWS, unpublished data). The associated distribution data have been included here.

Aspects of the biology and ecology of Annex I habitats and Annex II species 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 Rutland Island and Sound SAC five community types are recorded. Their occurrence in the Annex I habitats for which the site is designated are presented in table 1 and a description of each community type is given below.

	Habitats	
	Large shallow inlets and bays (1160)	Reefs (1170)
Coarse sediment with crustaceans community complex	✓	
Sand with *Tellina* sp. and *Perioculodes longimanus* community complex	✓	
Zostera-dominated community	✓	
Intertidal reef community	✓	✓
Laminaria-dominated community complex	✓	✓

Table 1 The community types recorded in Rutland Island and Sound SAC and their occurrence the Annex I habitats for which the site is designated.

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 Rutland Island and Sound 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 WITH CRUSTACEANS COMMUNITY COMPLEX

This subtidal community complex is recorded in the South Sound between Illancrone and Termon in depths of between 0m to 18m (Figure 3).

The sediment of this community is generally very coarse (>71.3% gravel and pebbles).

The distinguishing species of this community include the crustaceans *Dexamine spinosa*, *Ericthonius* sp., *Gammaropsis* sp., *Ericthonius punctatus* and harpacticoid copepods, the polychaete *Platynereis dumerilii* and the bivalve *Musculus subpictus*; all of these species occur in low abundances throughout the community. The serpulid polychaetes *Spirobranchus* sp. and *Spirobranchus triqueter* are recorded in very high abundances in the southern part of the South Sound (Table 2).

Species associated with the Coarse sediment with crustaceans community complex	
Dexamine spinosa	*Ericthonius punctatus*
Ericthonius sp.	Harpacticoida indet.
Gammaropsis sp.	*Musculus subpictus*
Platynereis dumerilii	

Table 2 Species associated with the Coarse sediment with crustaceans community complex.

SAND WITH *TELLINA* SP. AND *PERIOCULODES LONGIMANUS* COMMUNITY COMPLEX

This community complex occurs intertidally and subtidally throughout the site from its northerly extreme to its southern boundary (Figure 3). It is recorded in depths of between 0m to 28m.

Fine sand to very fine sand (57.2% to 95.5%) is the predominant sediment type. However, coarser sediments are found in the southwest (gravel ranging from 7.5% to 23.9% and medium sand from 37% to 73.1%) and in the northwest (coarse sand 40.6%).

The distinguishing species of this community are the bivalves *Tellina* sp. and *Angulus fabula*, the amphipods *Perioculodes longimanus*, *Megaluropus agilis*, *Siphonoecetes* (*Centraloecetes*) *kroyeranus* and *Bathyporeia* sp. and the polychaete *Nephtys cirrosa* (Table 3). These species generally occur in moderate to low abundances but are not ubiquitous within the community complex. *Tellina* sp. occurs in high abundances in the coarse sediment in the southwest of the site.

The anemones *Anthopleura ballii* and *Urticina felina* were recorded buried in sand, while the anemone *Cereus pedunculatus* occurred in coarse areas. The bivalve *Ensis magnus* and the echinoderm *Echinocardium cordatum* were recorded from south east of Cloghcor Point.

The mysid crustacean *Paramysis nouveli* which is known from the south coast of England and the west coast of Scotland is recorded here; this is a first record for this species in Irish waters.

Distinguishing species of Sand with *Tellina* sp. and *Perioculodes longimanus* community complex	
Tellina sp.	*Siphonoecetes (Centraloecetes) kroyeranus*
Perioculodes longimanus	*Bathyporeia* sp.
Megaluropus agilis	*Angulus fabula*
Nephtys cirrosa	

Table 3 Distinguishing species of the Sand with *Tellina* sp. and *Perioculodes longimanus* community complex.

A variant of this community complex occurs in clean coarse sediment recorded to the west of Eighter Island, to the northwest of Carrickvickeaghty and to the southeast of Illancrone. Here the substrate is that of coarse sediment with negligible amounts of fine material (fine sand 1.5% to 5.6%, very fine sand <0.4% with no silt-clay fraction recorded). Within this variant the amphipod *Pontocrates arenarius* occurs in moderate to low abundances, while unidentified nematodes are recorded in high abundances to the west of Eighter Island and to the northwest of Carrickvickeaghty. The polychaetes *Glycera* sp., *Glycera lapidum* and *Nephtys cirrosa*, the bivalves *Tellina* sp. and *Dosinia* sp., the echinoderm *Echinocyamus pusillus* are recorded in low abundances here.

ZOSTERA-DOMINATED COMMUNITY

This community occurs in a number of discrete areas within this site, the largest of which is to the east of Inishkeeragh. It is also recorded at the northern extreme of the site between Calf Island and the shore and to the south of Tramore Point. Elsewhere it occurs off the south and western shores of Rutland Island and in Rossillion Bay (Figure 3). It is recorded from depths of between 1m and 6m.

The density of the sea grass *Zostera marina* is variable and is generally described as being abundant (>12 individuals per m^2) to frequent (6-11 individuals per m^2).

The sediment is generally gravelly sand (20.7% to 56.1% gravel, 33.5% to 43.1% coarse to very coarse sand and 7.9% to 27.6% medium sand) except at Calf Island where there is a higher proportion of fine material (95.3% fine to very fine sand).

The distinguishing species for this community are the seagrass *Zostera marina*, the amphipod *Dexamine spinosa*, the bivalve *Tellina* sp., the polychaete *Capitella* sp. and unidentified nematodes (Table 4). The density of the sea grass *Zostera marina* is variable and is generally described as being abundant (>12 individuals per m^2) to frequent (6-11 individuals per m^2). *Dexamine spinosa* and *Capitella* sp. occur throughout the community in low abundances. With the exception of the southwest where it occurs in high abundances *Tellina* sp. occurs in low abundances. Unidentified nematodes occur in low abundances within this complex except in the northwest where they are not recorded.

The rare hydroid *Laomedea angulata,* the cnidarian *Haliclystus auricula*, the crustaceans *Carcinus maenas* and *Pagurus bernhardus*, the gastropod *Hinia reticulata* and the burrowing anemone *Anthopleura ballii* are also recorded from this community.

Species associated with the *Zostera*-dominated community	
Zostera marina	*Haliclystus auricula*
Dexamine spinosa	*Carcinus maenas*
Tellina sp.	*Pagurus bernhardus*
Capitella sp.	*Hinia reticulata*
Nematoda indet.	*Anthopleura ballii*
Laomedea angulata	

Table 4 Species associated with the *Zostera*-dominated community.

INTERTIDAL REEF COMMUNITY

This intertidal reef community occurs extensively throughout the site in exposure regimes ranging from sheltered to moderately exposed shores (Figure 3). The bedrock on which it is recorded is generally steep in profile, however in sheltered coves and inlets it is flat or gently sloping. On exposed shores in the south of the site the substrate is more variable with boulders and cobbles occurring between scattered outcrops of bedrock.

The species associated with this reef community are the brown algae *Pelvetia canaliculata*, *Ascophyllum nodosum* and *Fucus vesiculosus*, the gastropods *Littorina* sp. and *Patella vulgata*, the lichens *Verrucaria maura* and *Ramalina siliquosa*. These species are ubiquitous throughout the community (Table 5).

The epiphytic red alga *Vertebrata lanosa* is recorded from the stipes of *F. vesiculosus*. The gastropod *Nucella lapillus* occurs on more exposed shores in the south and north of the site, while encrusting calcareous red algae, the barnacle *Semibalanus balanoides* and the gastropod *Gibbula cineraria* are recorded from boulders and cobbles in the south of the site.

Species associated with the Intertidal reef community	
Pelvetia canaliculata	*Ramalina siliquosa*
Ascophyllum nodosum	*Vertebrata lanosa*
Fucus vesiculosus	*Nucella lapillus*
Littorina sp.	*Semibalanus balanoides*
Patella vulgata	*Gibbula cineraria*
Verrucaria maura	

Table 5 Species associated with the Intertidal reef community.

LAMINARIA-DOMINATED COMMUNITY COMPLEX

This community complex occurs extensively throughout this site in depths of between 0m and 24m.

Throughout much of the area the substrate is that of bedrock, however in the northeast and southwest it is composed of cobbles and boulders while in the east, west and south of the site a mosaic of bedrock, cobbles and boulders is recorded.

The species associated with this community complex are the kelp *Laminaria hyperborea*, encrusting calcareous red algae and the polychaete *Spirobranchus* sp. and the red algae *Dilsea carnosa*. Where this community complex occurs on bedrock the echinoderms *Luidia* sp. and *Echinus esculentus* and unidentified sponges are also recorded. On cobble and boulder substrates the kelp *Saccharina latissima*, the red algae *Delesseria sanguinea* and *Dilsea carnosa* and the polychaete *Spirobranchus* sp. occur while the echinoderm *Marthasterias glacialis* is recorded from the mosaic substrates of bedrock, cobbles and boulders.

In Rutland Sound, the ascidians *Clavelina lepadiformis, Aplidium pallidum* and *Aplidium punctum* and the sponge *Polymastia mamillaris* and *P. boletiformis* are commonly recorded; in the southern channel the ascidian *Clavelina lepadiformis* is recorded as abundant.

In those areas where the distribution of *Laminaria hyperborea* is less dense, unidentified sponges, the anemone *Anemonia viridis*, the crustacean *Liocarcinus* sp. and the brown algae *Halidrys siliquosa* occur. The anemones *Anemonia viridis* and *Anthopleura* sp. and the kelp *Saccharina latissima* are also recorded in the south of the site at Illancrone.

The brown algae *Eudesme* sp., *Chorda filum* and *Taonia atomaria*, the sponge *Halichondria (Halichondria) panacea*, the bryozoan *Alcyonidium diaphanum* and the ascidians *Stolonica socialis* and *Diplosoma spongiforme* are recorded from this community complex.

Species associated with the *Laminaria*-dominated community complex	
Laminaria hyperborea	*Bonnemaisonia asparagoides*
Spirobranchus sp.	*Halidrys siliquosa*
Dilsea carnosa	*Anthopleura* sp.
Aplidium pallidum	*Eudesme* sp.
Aplidium punctum	*Chorda filum*
Saccharina latissima	*Taonia atomaria*
Delesseria sanguinea	*Halichondria (Halichondria) panacea*
Clavelina lepadiformis	*Alcyonidium diaphanum*
Anemonia viridis	*Stolonica socialis*
Polymastia mamillaris	*Luidia* sp.
Polymastia boletiformis	*Echinus esculentus*
Stelligera rigida	*Diplosoma spongiforme*
Mycale rotalis	*Marthasterias glacialis*
Haliclona fistulosa	*Liocarcinus* sp.
Obelia geniculata	*Dictyota dichotoma*
Urticina felina	*Bugula plumosa*
Cereus pedunculatus	*Geitodoris planata*
Plumaria setacea	

Table 6 Species associated with the *Laminaria*-dominated community complex.

Annex II Marine mammals

PHOCA VITULINA (HARBOUR SEAL)

This marine mammal species occurs in estuarine, coastal and offshore waters but 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 Rutland Island and Sound 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 to July approx.), moulting (August to September approx.) and non-breeding foraging and resting phases. In particular, comparatively limited information is available from the last period in the annual cycle spanning the months of October to May. 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 to 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. Current information on breeding locations selected by harbour seals in Rutland Island and Sound SAC is comparatively limited. Known and suitable habitats for the species in Rutland Island and Sound SAC during the breeding season are indicated in figure 4.

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 to September. A combined total of 268 harbour seals were recorded ashore within Rutland Island and Sound SAC during a national aerial survey for the species in August 2003. A repeat aerial survey in August 2011 recorded 230 harbour seals within the site. Suitable habitat for the species along with known moult haul-out locations in Rutland Island and Sound SAC are indicated in figure 5.

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 intertidal haul-out sites or in the water. Outside the breeding and moulting seasons (i.e. from October to 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 Rutland Island and Sound SAC outside the moulting season is comparatively limited. Known and suitable habitats for resting by the species are indicated in figure 6.

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 Large shallow inlets and bays in Rutland Island and Sound 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 habitat also encompasses the Annex I habitat, Reefs. Targets for this habitat should be addressed in their own right.
- This target refers to activities or operations that propose to permanently remove habitat from the 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	Maintain the extent of the *Zostera*-dominated community, subject to natural processes.

- Zostera-dominated communities are considered to be keystone communities that are of considerable importance to the overall ecology and biodiversity of a habitat by virtue of their physical complexity, e.g. they serve as important nursery grounds for commercial and non-commercial species.
- Any significant anthropogenic disturbance to the extent of this community should be avoided.

- An interpolation of the likely distribution of this community is provided in figure 3. The area given below is based on spatial interpolation and therefore should be considered indicative:
    - *Zostera*-dominated community - 170ha

Target 3	Conserve the high quality of *Zostera*-dominated community, subject to natural processes.

- It is important to ensure the quality as well as the extent of the *Zostera*-dominated community is conserved. For example, shoot density can provide an indication of the habitat quality as well as giving information on the habitat complexity and refuge capability; all important components in maintaining the structural and functional integrity of the habitat.
- Within this SAC, the density of *Zostera* in 2008 was estimated to range from frequent to abundant on the DAFOR scale (semi-quantitative abundance measure).
- Any significant anthropogenic disturbance to the quality (i.e. shoot density) of this community should be avoided.

Target 5	Conserve the following community types in a natural condition: Coarse sediment with crustaceans community complex; Sand with *Tellina* sp. and *Perioculodes longimanus* community complex; Intertidal reef community; and *Laminaria*-dominated community complex.

- A semi-quantitative description of the community types has been provided in Section 1.
- An interpolation of their likely distribution is provided in figure 3.
- The estimated areas of these communities given below are based on spatial interpolation and therefore should be considered indicative:
    - Coarse sediment with crustaceans community complex - 56ha
    - Sand with *Tellina* sp. and *Perioculodes longimanus* community complex - 2686ha
    - Intertidal reef community – 381ha
    - *Laminaria*-dominated community complex – 326ha
- 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 Reefs in Rutland Island and Sound SAC, which is defined by the following list of attributes and targets**

Target 1	The permanent area is stable or increasing, subject to natural processes.

- The area of this habitat represents the minimum estimated area of reef at this site and underestimates the actual area due to the many areas of sheer and steeply sloping rock within the reef habitat.
- This target refers to activities or operations that propose to permanently remove habitat from the 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 distribution of reefs is stable or increasing, subject to natural processes.

- The likely distribution of reef habitat in this SAC is indicated in figure 2.
- This target refers to activities or operations that propose to permanently remove reef habitat, thus reducing the range over which this habitat occurs within the site. It does not refer to long or short term disturbance of the biology of reef habitats.
- Early consultation or scoping with the Department in advance of formal application is advisable for such proposals.

Target 3	Conserve the following community types in a natural condition: Intertidal reef community and *Laminaria*-dominated 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 3.
- The estimated areas of the communities within the Reefs habitat given below are based on spatial interpolation and therefore should be considered indicative. In addition, as this habitat contains significant areas of sheer and steeply sloping rock, the mapped community extents will be underestimated:
  - Intertidal reef community - 381ha
  - *Laminaria*-dominated community complex - 326ha
- This target relates to the structure and function of the reef and therefore it is of relevance to those activities that may cause disturbance to the ecology of the habitat.

- 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 harbour seal in Rutland Island and Sound SAC 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	Conserve the breeding sites in a natural condition.

- This target 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	Conserve the moult haul-out sites in a natural condition.

- This target 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	Conserve the resting haul-out sites in a natural condition.

- This target 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.

- 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.
- This target 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.
- Proposed activities or operations should not cause death or injury to individuals to an extent that may ultimately affect the harbour seal population at the site.

Bibliography:

Aquafact (2011a). Subtidal Benthic Investigations in Rutland Island and Sound cSAC (cSAC Site Code: IE002283) Co. Donegal. Produced by Aquafact on behalf of Marine Institute in partnership with National Parks & Wildlife Service Aquafact.

Aquafact (2011b). Reef Investigations in Rutland Island and Sound cSAC (cSAC Site Code: IE002283) Co. Donegal. Produced by Aquafact on behalf of Marine Institute in partnership with National Parks & Wildlife Service.

Cronin, M., Duck, C., Ó Cadhla, O., Nairn, R., Strong, D. & O'Keeffe, C. (2004). Harbour seal population assessment in the Republic of Ireland: August 2003. Irish Wildlife Manuals No. 11. National Parks & Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin. Ireland.

Harrington, R. (1990). 1989 survey of breeding herds of common seal *Phoca vitulina* with reference to previous surveys. Unpublished Wildlife Service Report. Mammal Conservation Section, Research Laboratory, Newtownmountkennedy, Co. Wicklow.

Lyons, D.O. (2004). Summary of National Parks & Wildlife Service surveys for common (harbour) seals (*Phoca vitulina*) and grey seals (*Halichoerus grypus*), 1978 to 2003. Irish Wildlife Manuals No. 13. National Parks & Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

MERC (2008). Survey of sensitive subtidal benthic marine communities in Mullet/Balcksod Bay Complex SAC, Rutland Island and Sound SAC, Mulroy Bay SAC. Carried out by MERC on behalf of National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.

Picton, B.E. and Costello M. J. 1997. The BioMar biotope viewer: a guide to marine habitats, fauna and flora in Britain and Ireland, Environmental Sciences Unit, Trinity College, Dublin.

Summers, C.F., Warner, P.J., Nairn, R.G.W., Curry, M.G. & Flynn, J. (1980). An assessment of the status of the common seal *Phoca vitulina vitulina* in Ireland. Biological Conservation 17: 115-123.

Warner, P.J. (1983). An assessment of the breeding populations of common seals (*Phoca vitulina vitulina* L.) in the Republic of Ireland during 1979. Irish Naturalists' Journal 21: 24-26.

Figure 1. Extent of Large shallow inlets and bays in Rutland Island and Sound SAC

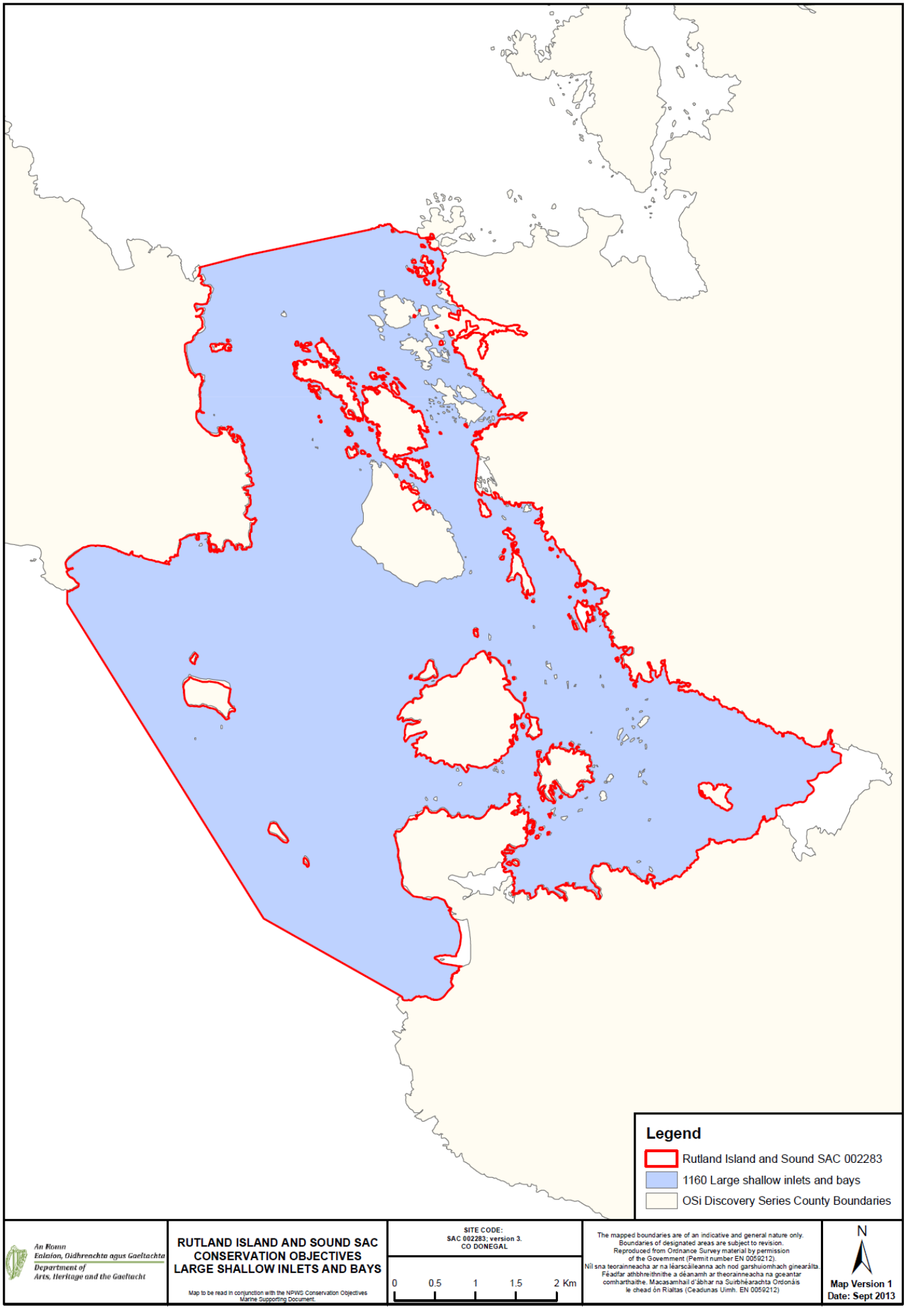

Figure 2. Extent of Reefs in Rutland Island and Sound SAC

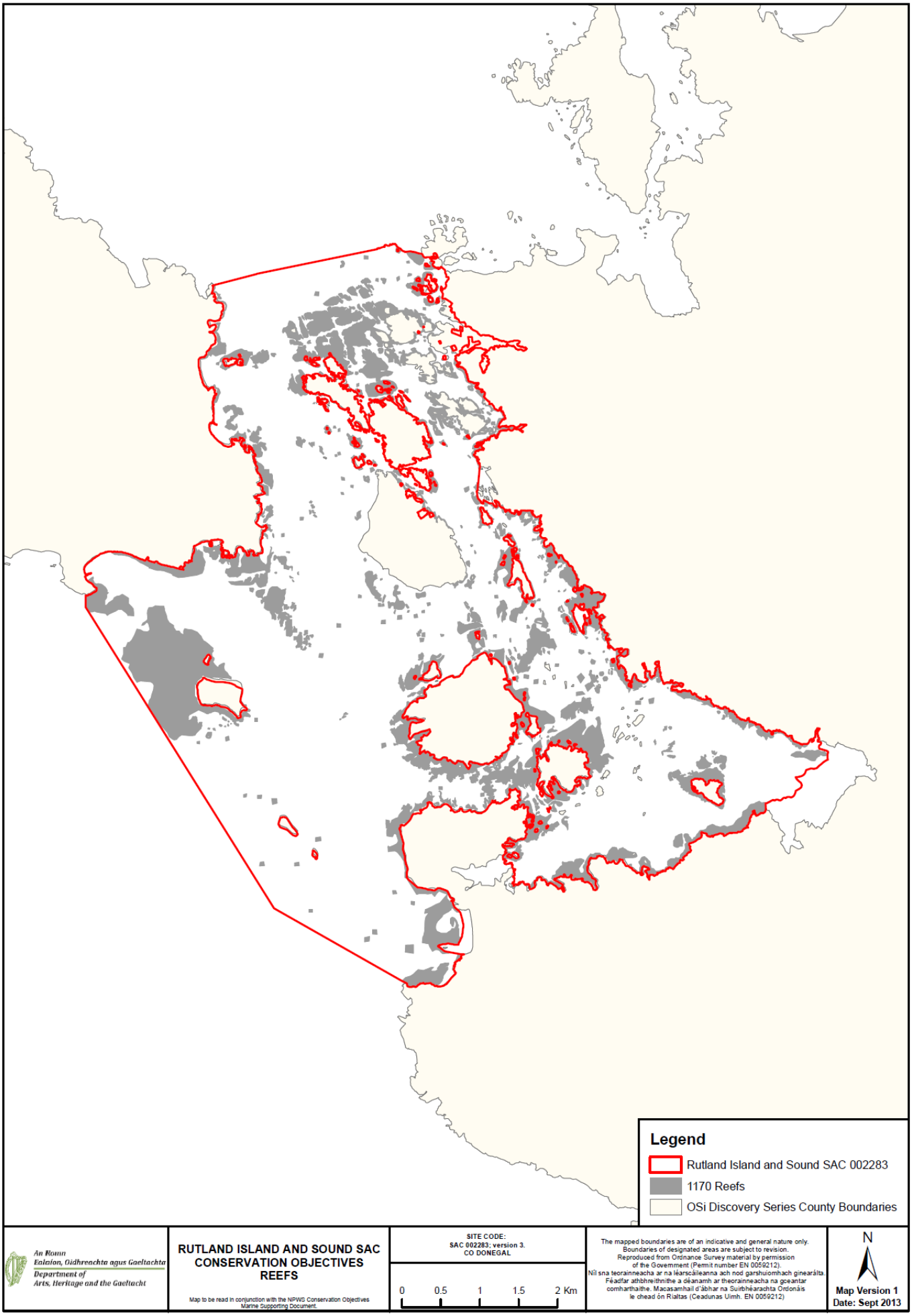

Figure 3. Distribution of community types in Rutland Island and Sound SAC

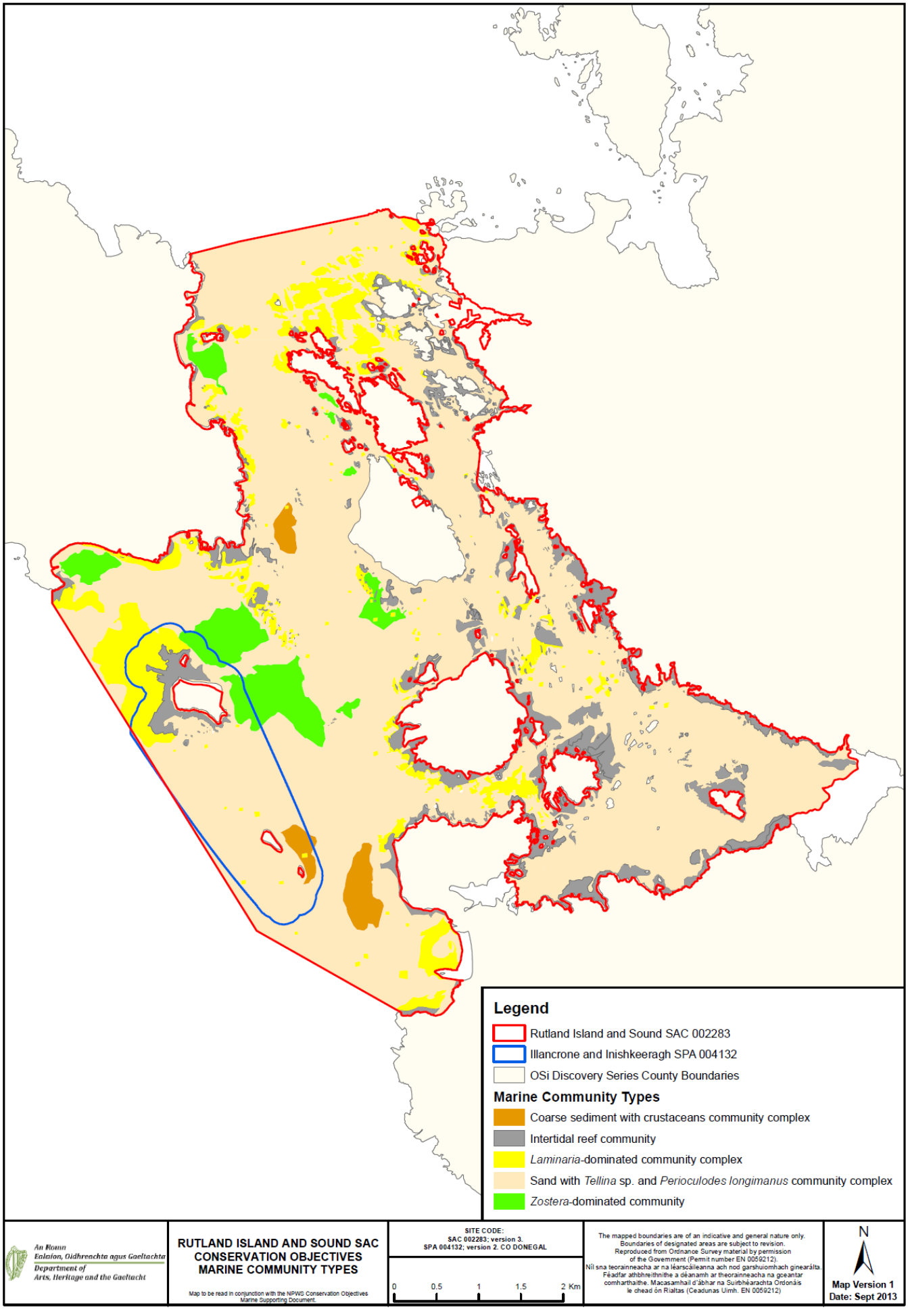

Figure 4. *Phoca vitulina* - Known breeding sites in Rutland Island and Sound SAC

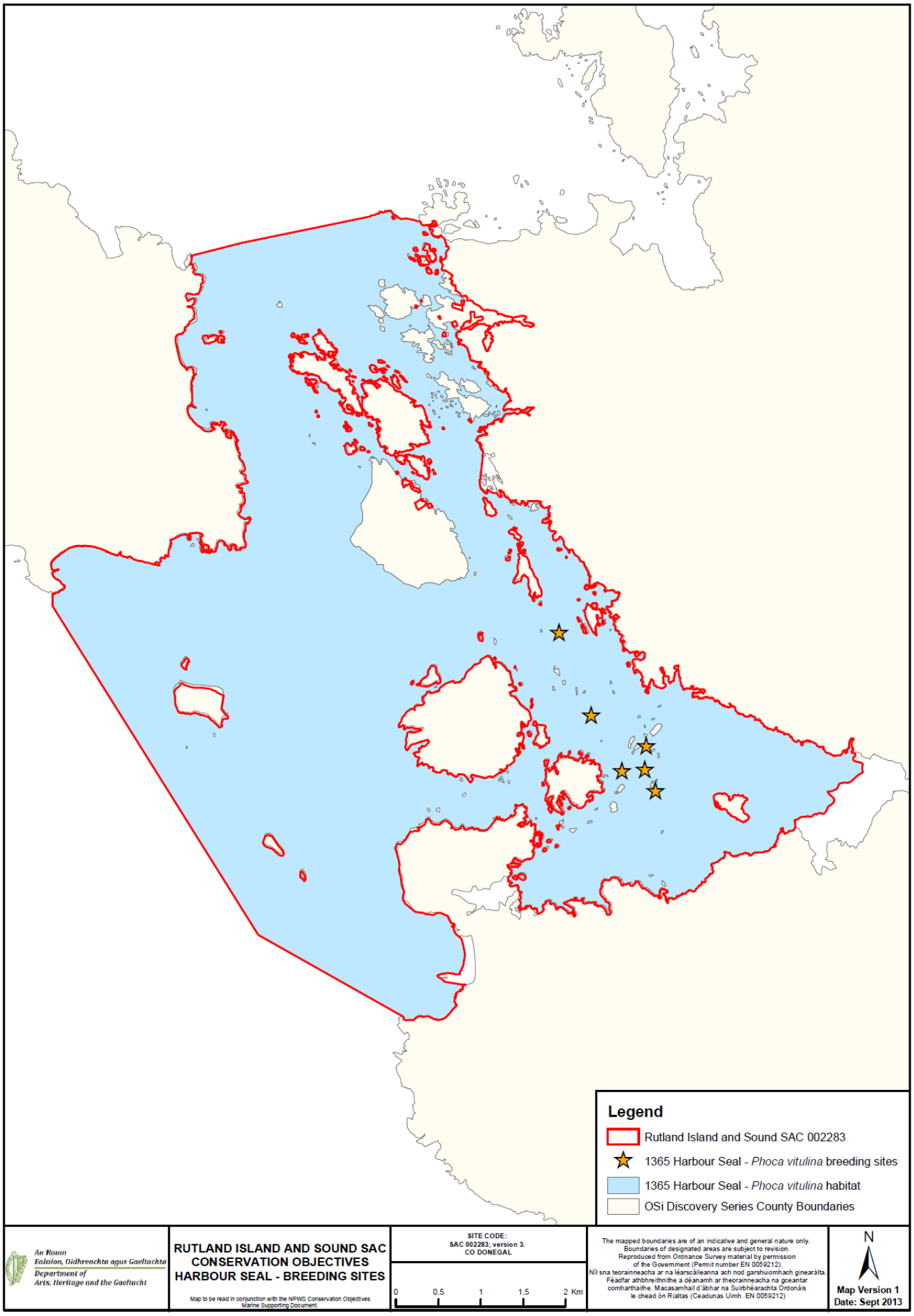

Figure 5. *Phoca vitulina* - Known moult haul-out sites in Rutland Island and Sound SAC

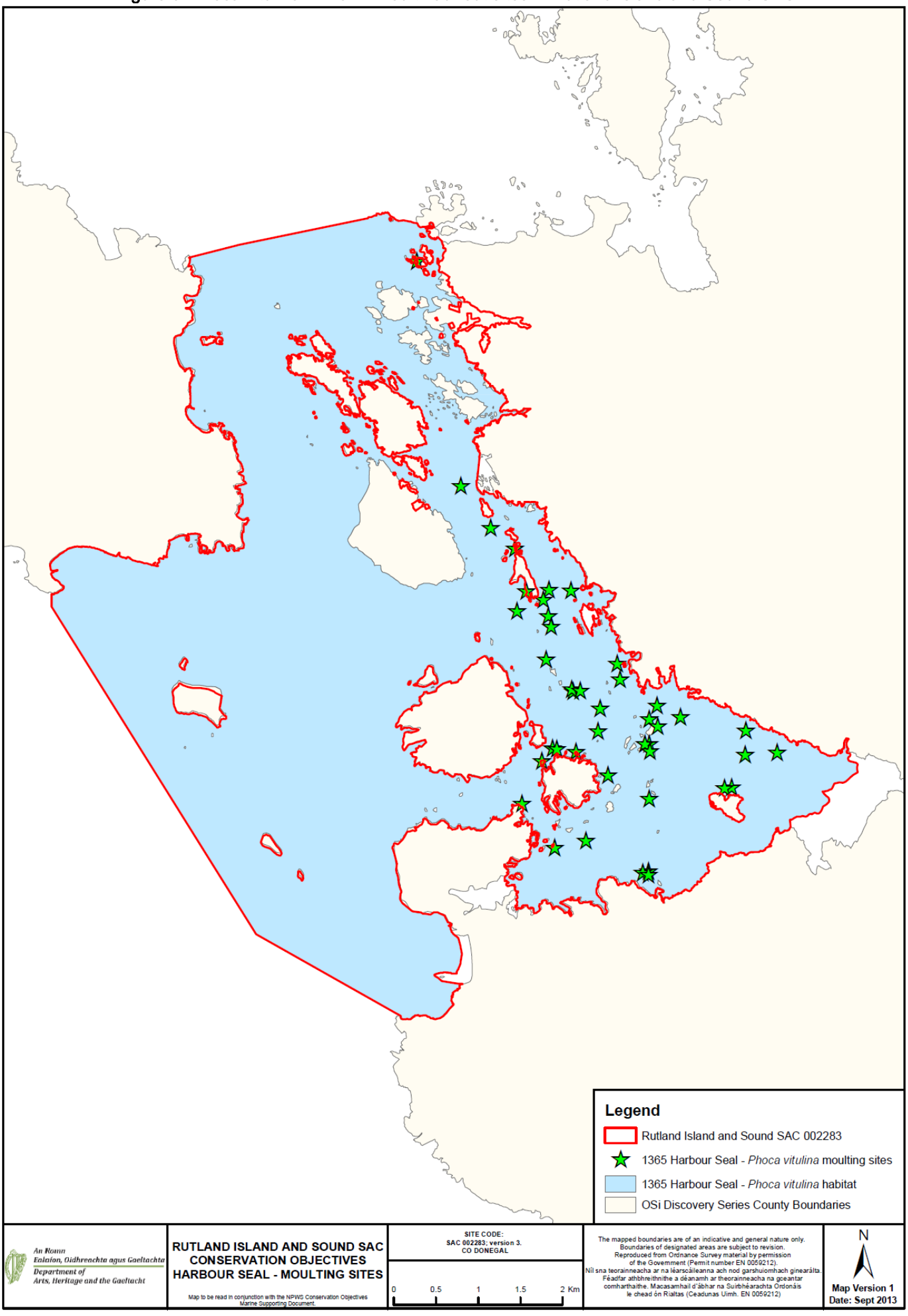

Figure 6. *Phoca vitulina* - Known resting haul-out sites (non-breeding) in Rutland Island and Sound SAC