

# National Parks and Wildlife Service

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## *Conservation Objectives Series*

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Doogort Machair/Lough Doo SAC 001497



An Roinn Ealaíon, Oidhreachta,  
Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

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Department of Arts, Heritage,  
Regional, Rural and Gaeltacht Affairs



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## Introduction

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

### **Notes/Guidelines:**

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

## Qualifying Interests

*\* indicates a priority habitat under the Habitats Directive*

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001497      Doogort Machair/Lough Doo SAC

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1395      Petalwort *Petalophyllum ralfsii*

21A0      Machairs (\* in Ireland)

**Please note that this SAC overlaps with Doogort Machair SPA (004235). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping site as appropriate.**

## Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: [www.npws.ie/Publications](http://www.npws.ie/Publications)

### NPWS Documents

<b>Year :</b>	1998
<b>Title :</b>	Biomar survey of Irish machair sites 1996
<b>Author :</b>	Crawford, I.; Bleasdale, A.; Conaghan, J.
<b>Series :</b>	Irish Wildlife Manual No. 3
<hr/>	
<b>Year :</b>	1998
<b>Title :</b>	Biomar Survey of Irish machair sites, 1996. Vol. 2: plant communities
<b>Author :</b>	Crawford, I.; Bleasdale, A.; Conaghan, J.
<b>Series :</b>	Irish Wildlife Manual No. 4
<hr/>	
<b>Year :</b>	2009
<b>Title :</b>	Coastal Monitoring Project 2004-2006
<b>Author :</b>	Ryle, T.; Murray, A.; Connolly, K.; Swann, M.
<b>Series :</b>	Unpublished report to NPWS
<hr/>	
<b>Year :</b>	2013
<b>Title :</b>	Monitoring survey of Annex I sand dune habitats in Ireland
<b>Author :</b>	Delaney, A.; Devaney, F.M.; Martin, J.M.; Barron, S.J.
<b>Series :</b>	Irish Wildlife Manual No. 75
<hr/>	
<b>Year :</b>	2015
<b>Title :</b>	Monitoring methods for <i>Petalophyllum ralfsii</i> (Wils.) Nees & Gottsche (Petalwort) in the Republic of Ireland
<b>Author :</b>	Campbell, C.; Hodgetts, N.; Lockhart, N.
<b>Series :</b>	Irish Wildlife Manual No. 90
<hr/>	
<b>Year :</b>	2017
<b>Title :</b>	Doogort Machair/Lough Doo SAC (site code: 1497) Conservation objectives supporting document- coastal habitats V1
<b>Author :</b>	NPWS
<b>Series :</b>	Conservation objectives supporting document

### Other References

<b>Year :</b>	2006
<b>Title :</b>	The vegetation of Irish machair
<b>Author :</b>	Gaynor, K.
<b>Series :</b>	Biology and Environment: Proceedings of the Royal Irish Academy, vol 106B, No. 3: 311-321
<hr/>	
<b>Year :</b>	2013
<b>Title :</b>	Conservation of selected legally protected and Red Listed bryophytes in Ireland
<b>Author :</b>	Campbell, C.
<b>Series :</b>	Unpublished Ph.D. Thesis, Trinity College Dublin

## Spatial data sources

**Year :** 2009  
**Title :** Coastal Monitoring Project 2004-2006. Version 1  
**GIS Operations :** QI selected; clipped to SAC boundary; Expert opinion used as necessary to resolve any issues arising  
**Used For :** 21A0 (map 3)

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**Year :** 2016  
**Title :** NPWS rare and threatened species database  
**GIS Operations :** Dataset created from spatial references in database records. Expert opinion used as necessary to resolve any issues arising  
**Used For :** 1395 (map 4)

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## Conservation Objectives for : Doogort Machair/Lough Doo SAC [001497]

### 21A0 Machairs (\* in Ireland)

**To restore the favourable conservation condition of Machairs (\* in Ireland) in Doogort Machair/Lough Doo SAC, which is defined by the following list of attributes and targets:**

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession. For the sub-site mapped: Lough Doo - 88.2ha. See map 3	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009). Machair habitat was recorded and mapped at the sub-site Lough Doo (CMP site ID: 114) to give a total estimated area of 88.2ha within Doogort Machair/Lough Doo SAC. See the Doogort Machair/Lough Doo SAC conservation objectives supporting document for coastal habitats for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 3 for known distribution	Based on data from Ryle et al. (2009). The machair can be divided into three distinct areas. The first consists of an area of flat, relatively dry machair, which is located between Lough Nambrack and Barnynagappul Strand. The second area consists of wet machair and is found on slopes reaching down towards both Lough Doo and Lough Nambrack. A third area of machair, located in a wide belt at the back of Gubnahardia Strand stretching from Caraun Point to Ridge Point, is composed of a mosaic of wet and dry areas, with low hummocks throughout. See the coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Based on data from Ryle et al. (2009). Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. See the coastal habitats supporting document for further details
Physical structure: hydrological and flooding regime	Water table levels; groundwater fluctuations (metres)	Maintain natural hydrological regime	Based on data from Crawford et al. (1998), Gaynor (2006), Ryle et al. (2009) and Delaney et al. (2013). Two small lakes lie at the back of the machair, Lough Doo and Lough Nambrack, with associated freshwater marshes. The flushed slopes adjacent to the lakes are very calcareous and tufa encrustation is evident in places. See the coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Ryle et al. (2009). This coastal SAC contains a good diversity of habitats in a small area. The inland machair plain grades into blanket bog and is adjoined by two small lakes with freshwater marsh habitat. See the coastal habitats supporting document for further details
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of machair habitat, subject to natural processes	Based on data from Ryle et al. (2009). The machair area includes an area of bare sand of approximately 6ha. See the coastal habitats supporting document for further details
Vegetation structure: sward height	Centimetres	Maintain structural variation within sward	Based on data from Ryle et al. (2009). The machair sward is generally close-cropped and overgrazed. It is part of an unenclosed commonage used for grazing sheep and cattle. See the coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et al. (2013)	Based on data from Gaynor (2006), Ryle et al. (2009) and Delaney et al. (2013). See the coastal habitats supporting document for further details

Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-native species) to represent less than 5% cover	Based on data from Ryle et al. (2009). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Negative indicators recorded in this SAC include cock's-foot ( <i>Dactylis glomerata</i> ), common nettle ( <i>Urtica dioica</i> ) and common ragwort ( <i>Senecio jacobaea</i> ). See the coastal habitats supporting document for further details
Vegetation composition: scrub/trees	Percentage cover	No more than 5% cover or under control	Based on data from Ryle et al. (2009). See the coastal habitats supporting document for further details
Vegetation composition: bryophytes	Percentage cover	Should always be at least an occasional component of the vegetation	Based on data from Ryle et al. (2009). Doogort Machair/Lough Doo SAC is relatively species-rich and bryophytes are abundant. There is frequently a carpet of mosses and liverworts covering the machair surface. Petalwort ( <i>Petalophyllum ralfsii</i> ), a liverwort species listed on Annex II of the EU Habitats Directive, has also been recorded on the machair in this SAC. See the conservation objective for petalwort (1395) and the coastal habitats supporting document for further details

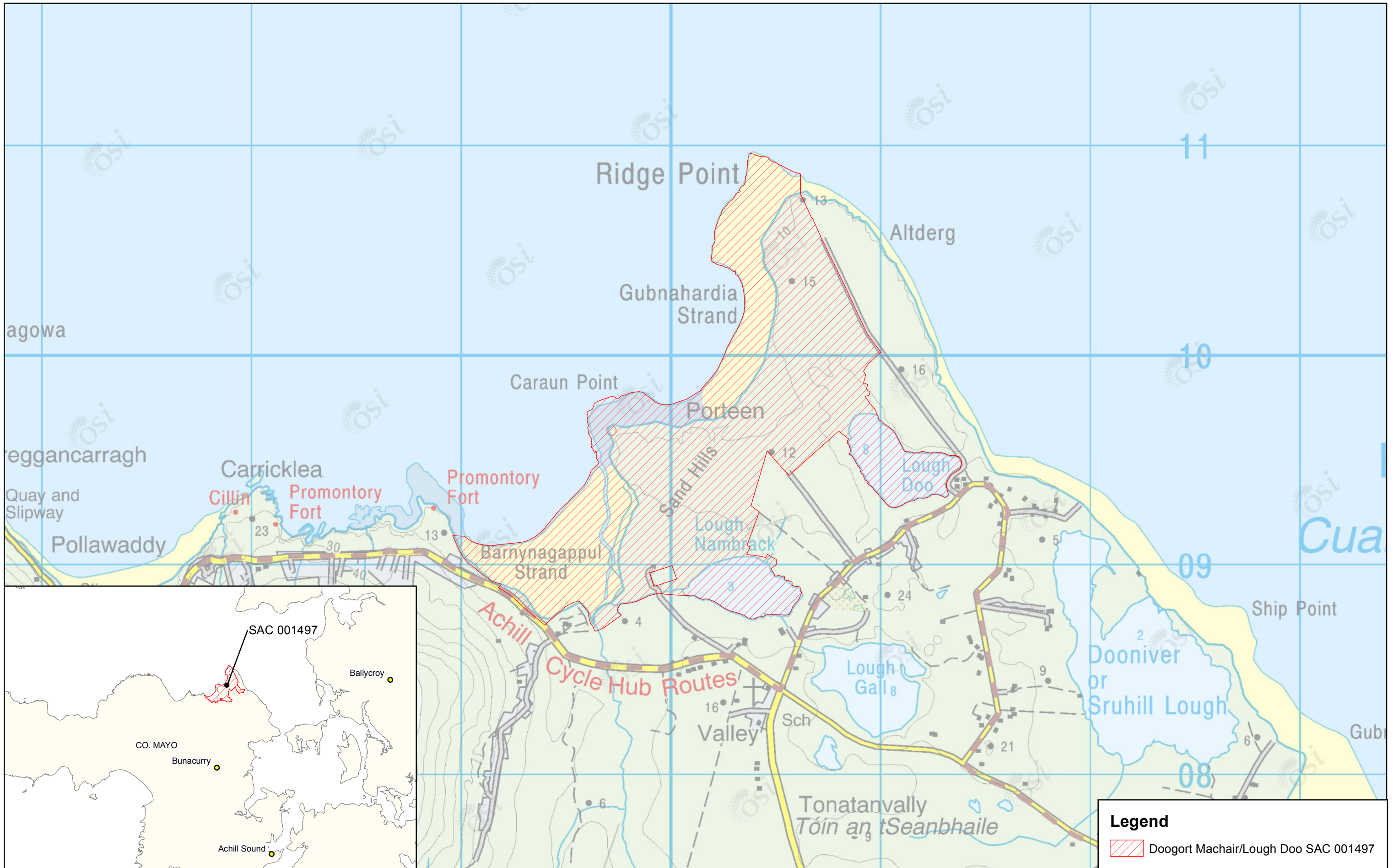


## Conservation Objectives for : Doogort Machair/Lough Doo SAC [001497]


### 1395 Petalwort *Petalophyllum ralfsii*

To maintain the favourable conservation condition of Petalwort in Doogort Machair/Lough Doo SAC, which is defined by the following list of attributes and targets:

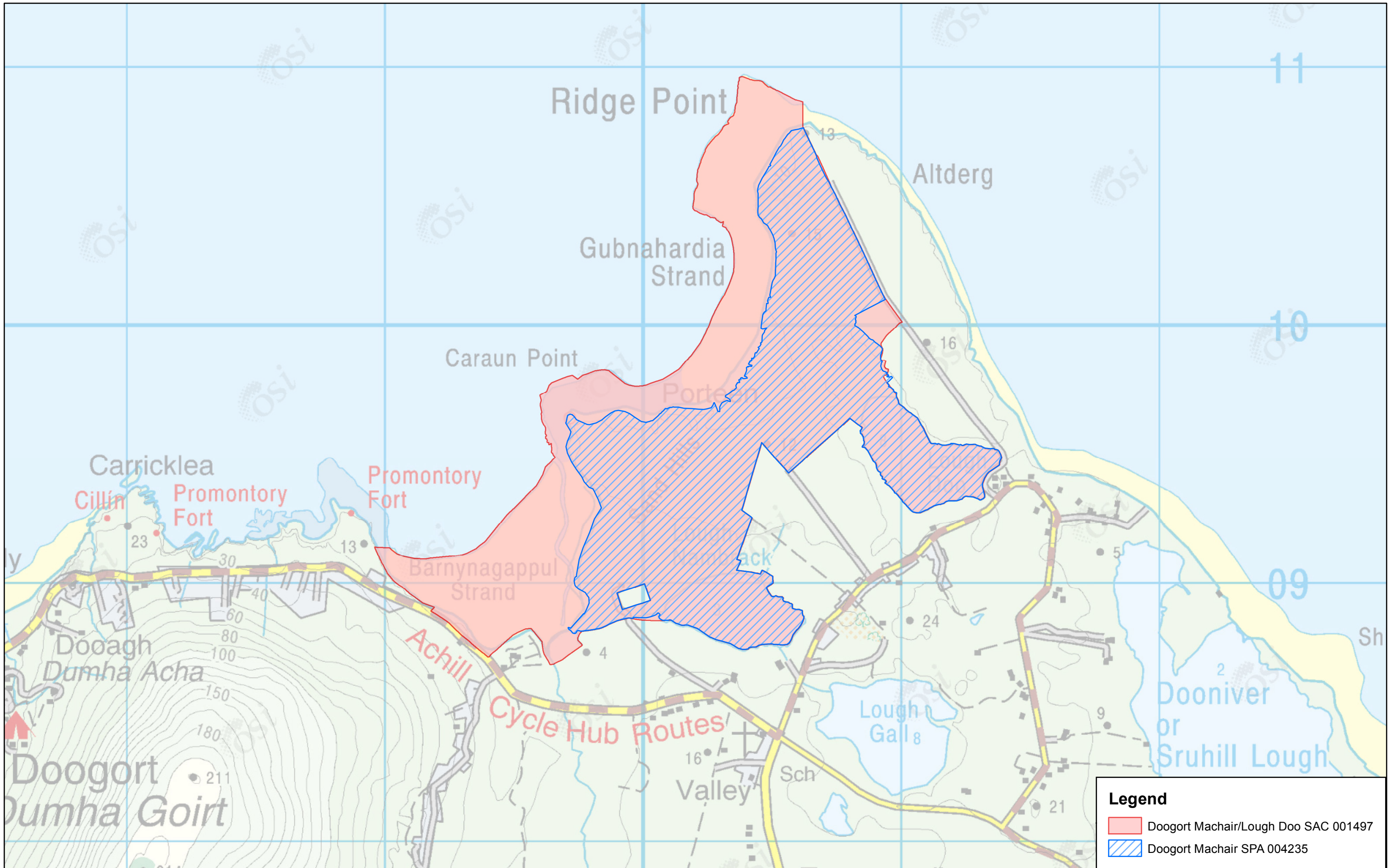
Attribute	Measure	Target	Notes
Distribution	Number and geographical spread of populations	No decline. See map 4 for recorded locations	The known population of <i>Petalophyllum ralfsii</i> in Doogort Machair/Lough Doo SAC is at Doogort Machair. It has been recorded from three locations, where it occurs on compact sandy soil on tightly grazed low sandhills and hummocks on the machair. Data from NPWS surveys and Campbell et al. (2015)
Population size	Number of individuals	No decline. The population at Doogort Machair is estimated to be at least 258 thalli	Campbell and Lockhart recorded 43 <i>Petalophyllum ralfsii</i> thalli (in October 2010) in an area of 25cm x 50cm at one location. Therefore the population is estimated to be a minimum of 258 thalli in 0.75m <sup>2</sup> . Numbers of thalli can vary from year to year. See Campbell et al. (2015) for further details
Area of suitable habitat	Hectares	No decline. Area of suitable habitat at Doogort Machair currently unknown, but is estimated to be at least c.0.00008ha	The extent of suitable habitat at Doogort Machair has not been accurately measured using GPS, but is estimated to be at least of 0.75m <sup>2</sup> (c.0.00008ha), i.e. a minimum area of 50cm x 50cm at each of the three mapped points. This is an underestimate and suitable habitat within the SAC is likely to be more widespread. See Campbell et al. (2015) for further details
Hydrological conditions: soil moisture	Occurrence of damp soil conditions	Maintain hydrological conditions so that substrate is kept moist and damp throughout the year, but is not subject to prolonged inundation by flooding in winter	<i>Petalophyllum ralfsii</i> grows on damp sandy substrate. Based on Campbell (2013) and Campbell et al. (2015)
Vegetation: open structure	Height and percentage cover of vegetation	Maintain open, low vegetation, with a high percentage cover of bryophytes (small acrocarps and liverwort turf) and bare ground	At Doogort Machair, <i>Petalophyllum ralfsii</i> grows in compacted, sandy ground, maintained by heavy sheep grazing and trampling (by sheep). See Campbell et al. (2015) for further details




**Legend**


 Doogort Machair/Lough Doo SAC 001497






**Legend**


 Doogort Machair/Lough Doo SAC 001497

 Coastal Monitoring Project Survey Area

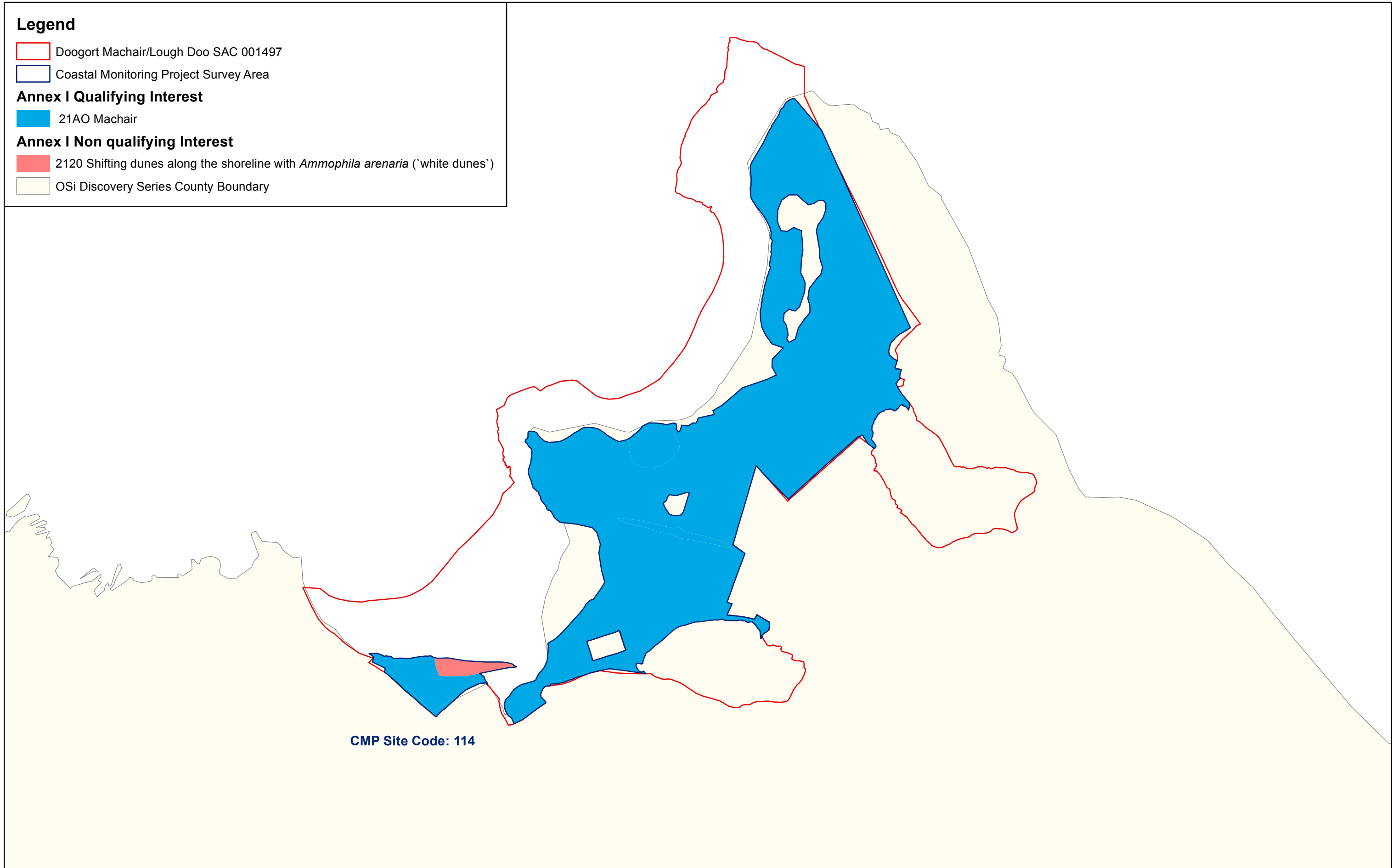
**Annex I Qualifying Interest**

 21AO Machair

**Annex I Non qualifying Interest**

 2120 Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')

 OSi Discovery Series County Boundary



CMP Site Code: 114

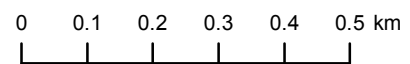


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**MAP 3:  
DOOGORT MACHAIR / LOUGH DOO SAC  
CONSERVATION OBJECTIVES  
MACHAIR**

Map to be read in conjunction with the NPWS Conservation Objectives Document.

**SITE CODE:  
SAC 001497; version 3.01.  
CO. MAYO**



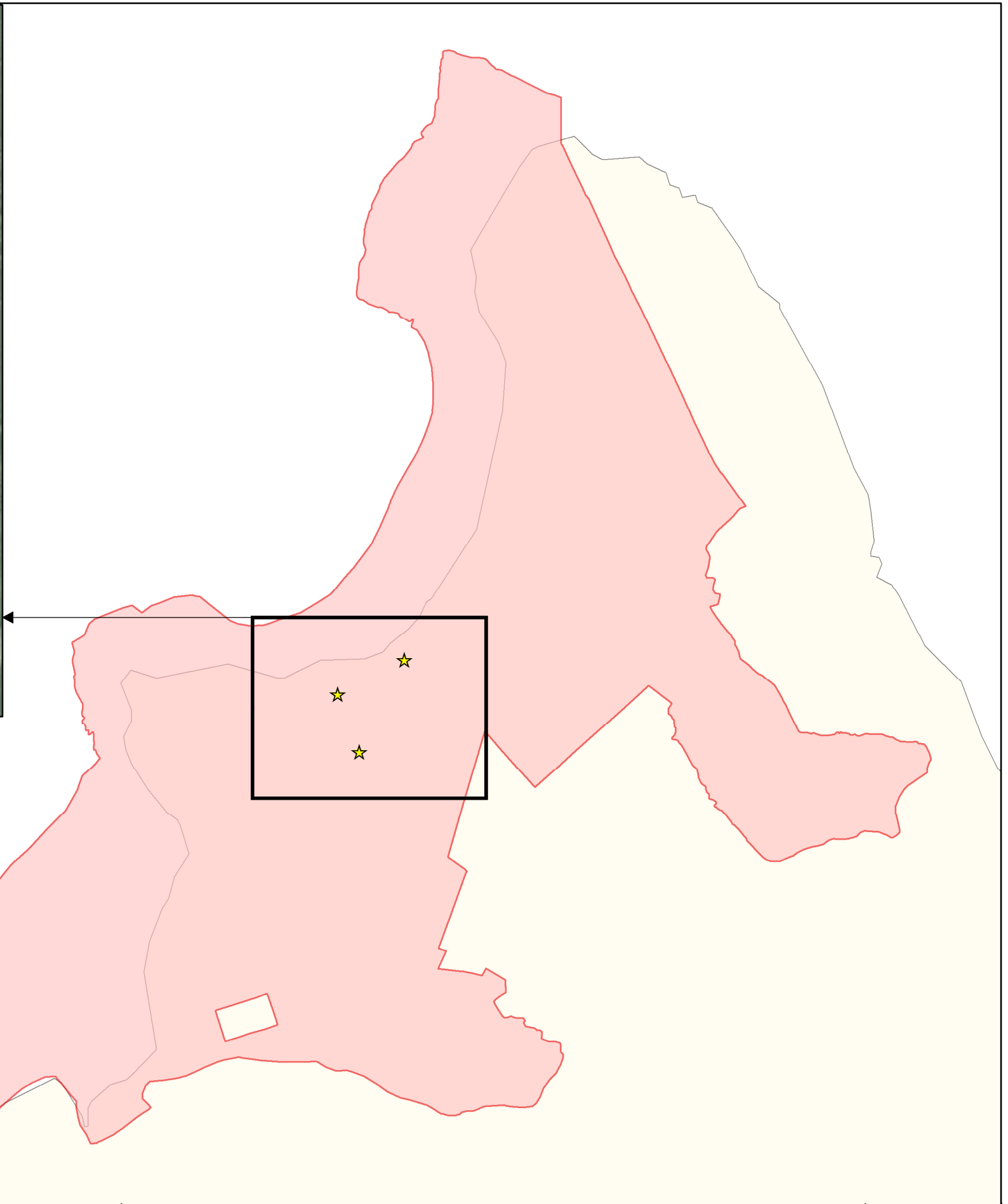
The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.  
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaíthe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas



**Map Version 1  
Date: Oct 2016**





**Legend**

- Doogort Machair/Lough Doo SAC 001497
- 1395 Petalwort *Petalophyllum ralfsii*
- OSi Discovery Series County Boundary