

National Parks and Wildlife Service

Conservation Objectives Series

Cleanderry Wood SAC 001043



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

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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*

001043	Cleanderry Wood SAC
1421	Killarney Fern <i>Trichomanes speciosum</i>
91A0	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles

Please note that this SAC is adjacent to Kenmare River SAC (002158). See map 2. The conservation objectives for this site should be used in conjunction with those for the adjacent site as appropriate.

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	1986
Title :	Report on Areas of Scientific Interest in County Cork
Author :	Goodwillie, R.N.
Series :	Unpublished Report
Year :	2008
Title :	National survey of native woodlands 2003-2008
Author :	Perrin, P.M.; Martin, J.; Barron, S.; O'Neill, F.H.; McNutt, K.E.; Delaney, A.
Series :	Unpublished report to NPWS
Year :	2010
Title :	A provisional inventory of ancient and long-established woodland in Ireland
Author :	Perrin, P.M.; Daly, O.H.
Series :	Irish Wildlife Manuals, No. 46
Year :	2013
Title :	Results of a monitoring survey of old sessile oak woods and alluvial forests
Author :	O'Neill, F.H.; Barron, S.J.
Series :	Irish Wildlife Manuals, No. 71
Year :	2015
Title :	Monitoring methods for the Killarney Fern (<i>Trichomanes speciosum</i> Willd.) in Ireland
Author :	Ní Dhúill, E.; Smyth, N.; Waldren, S.; Lynn, D.
Series :	Irish Wildlife Manuals, No. 82
Year :	2018
Title :	The Irish Juniper Monitoring Survey 2017
Author :	O'Neill, F.H.; Martin, J.R.
Series :	Irish Wildlife Manuals, No. 101
Year :	2019
Title :	The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments
Author :	NPWS
Series :	Conservation assessments
Year :	in prep.
Title :	The monitoring and assessment of four EU Habitats Directive Annex I woodland habitats
Author :	Daly, O.H.; O'Neill, F.H.; Barron, S.J.
Series :	Irish Wildlife Manuals
Year :	in prep.
Title :	Monitoring and assessment of Killarney Fern (<i>Vandenboschia speciosa</i> (Willd.) Kunkel) in Ireland, 2015-2018
Author :	Ní Dhúill, E.; O'Neill, F.H.; Hodd, R.
Series :	Irish Wildlife Manuals

Other References

Year : 2002
Title : Reversing the habitat fragmentation of British woodlands
Author : Peterken, G.
Series : WWF-UK, London

Year : 2016
Title : Irish Vegetation Classification: Technical Progress Report No. 2
Author : Perrin, P.
Series : Report submitted to National Biodiversity Data Centre

Spatial data sources

Year :	Revision 2010
Title :	National Survey of Native Woodlands 2003-2008. Version 1
GIS Operations :	QI selected; clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	91A0 (map 3)

Conservation Objectives for : Cleanderry Wood SAC [001043]

91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

To maintain the favourable conservation condition of Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles in Cleanderry Wood 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. See map 3	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles is present at Cleanderry Wood SAC. As part of the National Survey of Native Woodlands (NSNW), Cleanderry Wood (NSNW site code 1323) was surveyed by Perrin et al. (2008). Cleanderry Wood (code 1323) was also included in national monitoring surveys (O'Neill and Barron, 2013; Daly et al. in prep.). Map 3 shows the minimum area of old sessile oak woodland within the SAC, which has been calculated as 20.9ha based on Perrin et al. (2008). It is important to note that further unsurveyed areas may be present within the SAC
Habitat distribution	Occurrence	No decline, subject to natural processes. The surveyed woodland location is shown on map 3	Distribution based on Perrin et al. (2008). It is important to note that further unsurveyed areas may be present within the SAC
Woodland size	Hectares	Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size	The target areas for individual woodlands aim to reduce habitat fragmentation and benefit those species requiring 'deep' woodland conditions (Peterken, 2002). In some cases, topographical constraints may restrict expansion
Woodland structure: cover and height	Percentage; metres; centimetres	Total canopy cover at least 30%; median canopy height at least 11m; native shrub layer cover 10-75%; native herb/dwarf shrub layer cover at least 20% and height at least 20 cm; bryophyte cover at least 4%.	The target aims for a diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semi-mature trees and shrubs; and well-developed herb layer and ground layer. Assessment criteria are described in Daly et al. (in prep.) and O'Neill and Barron (2013)
Woodland structure: community diversity and extent	Hectares	Maintain diversity and extent of community types	Described in Perrin et al. (2008). See also the Irish Vegetation Classification (Perrin, 2016; www.biodiversityireland.ie/projects/national-vegetation-database/irish-vegetation-classification)
Woodland structure: natural regeneration	Seedling: sapling: pole ratio	Seedlings, saplings and pole age-classes of target species for 91A0 woodlands and other native tree species occur in adequate proportions to ensure survival of woodland canopy	The target species for 91A0 are sessile oak (<i>Quercus petraea</i>) and the hybrid oak <i>Quercus x rosacea</i> . Assessment criteria are described in Daly et al. (in prep.) and O'Neill and Barron (2013)
Woodland structure: dead wood	Number per hectare	At least 19 stems/ha of dead wood of at least 20cm diameter	Dead wood is a valuable resource and an integral part of a healthy, functioning woodland ecosystem. Dead wood comprises old senescent trees, standing dead trees, fallen dead wood (including large branches) and rotten stumps of any species. Assessment criteria are described in Daly et al. (in prep.) and O'Neill and Barron (2013). Daly et al. (in prep.) found that the Cleanderry Wood monitoring site did not contain sufficient levels of deadwood
Woodland structure: veteran trees	Number per hectare	No decline	Veteran trees are important habitats for bryophytes, lichens, saproxylic organisms, and some bird species. Their retention is important to ensure continuity of habitats/niches and propagule sources

Woodland structure: indicators of local distinctiveness	Occurrence; population size	No decline in distribution and, in the case of red listed and other rare or localised species, population size	Includes ancient or long-established woodlands (see Perrin and Daly, 2010), archaeological and geological features as well as red listed and other rare or localised species. Although relatively recent in origin, Cleanderry Wood is a very fine example of a western oakwood in an extreme coastal location (NPWS internal files). A good diversity of oceanic and Lusitanian species, including kidney saxifrage (<i>Saxifraga hirsuta</i>), Irish spurge (<i>Euphorbia hyberna</i>), Wilson's filmy-fern (<i>Hymenophyllum wilsonii</i>) and Killarney fern (<i>Vandenboschia speciosa</i>) is present (NPWS internal files; Perrin et al., 2008). The latter is listed on Annex II and IV of the Habitats Directive and on the Flora (Protection) Order, 2015. See also the conservation objective for Killarney fern in this volume
Woodland structure: indicators of overgrazing	Occurrence	All four indicators of overgrazing absent	There are four indicators of overgrazing within 91A0: topiary effect on shrubs and young trees, browse line on mature trees, abundant dung, and severe recent bark stripping (Daly et al., in prep.; O'Neill and Barron, 2013). Perrin et al. (2008) noted that grazing pressure in Cleanderry Wood was quite low, contributing to good levels of natural regeneration
Vegetation composition: native tree cover	Percentage	No decline. Native tree cover at least 90% of canopy; target species cover at least 50% of canopy	The target species for 91A0 are sessile oak (<i>Quercus petraea</i>) and the hybrid oak <i>Quercus x rosacea</i> (Daly et al., in prep.; O'Neill and Barron, 2013)
Vegetation composition: typical species	Occurrence	At least 1 target species for 91A0 woodlands present; at least 6 positive indicator species for 91A0 woodlands present	A variety of typical native species should be present, depending on woodland type. The target species for 91A0 are sessile oak (<i>Quercus petraea</i>) and the hybrid oak <i>Quercus x rosacea</i> . Positive indicator species for 91A0 are listed in Daly et al. (in prep.) and O'Neill and Barron (2013)
Vegetation composition: negative indicator species	Occurrence	Negative indicator species cover not greater than 10%; regeneration of negative indicator species absent	Negative indicator species (i.e. any non-native species, including herbaceous species such as montbretia (<i>Crocasmia x crocosmiiflora</i>) should be absent or under control. Perrin et al. (2008) noted that small plants of rhododendron (<i>Rhododendron ponticum</i>) were occasional outside of the woodland

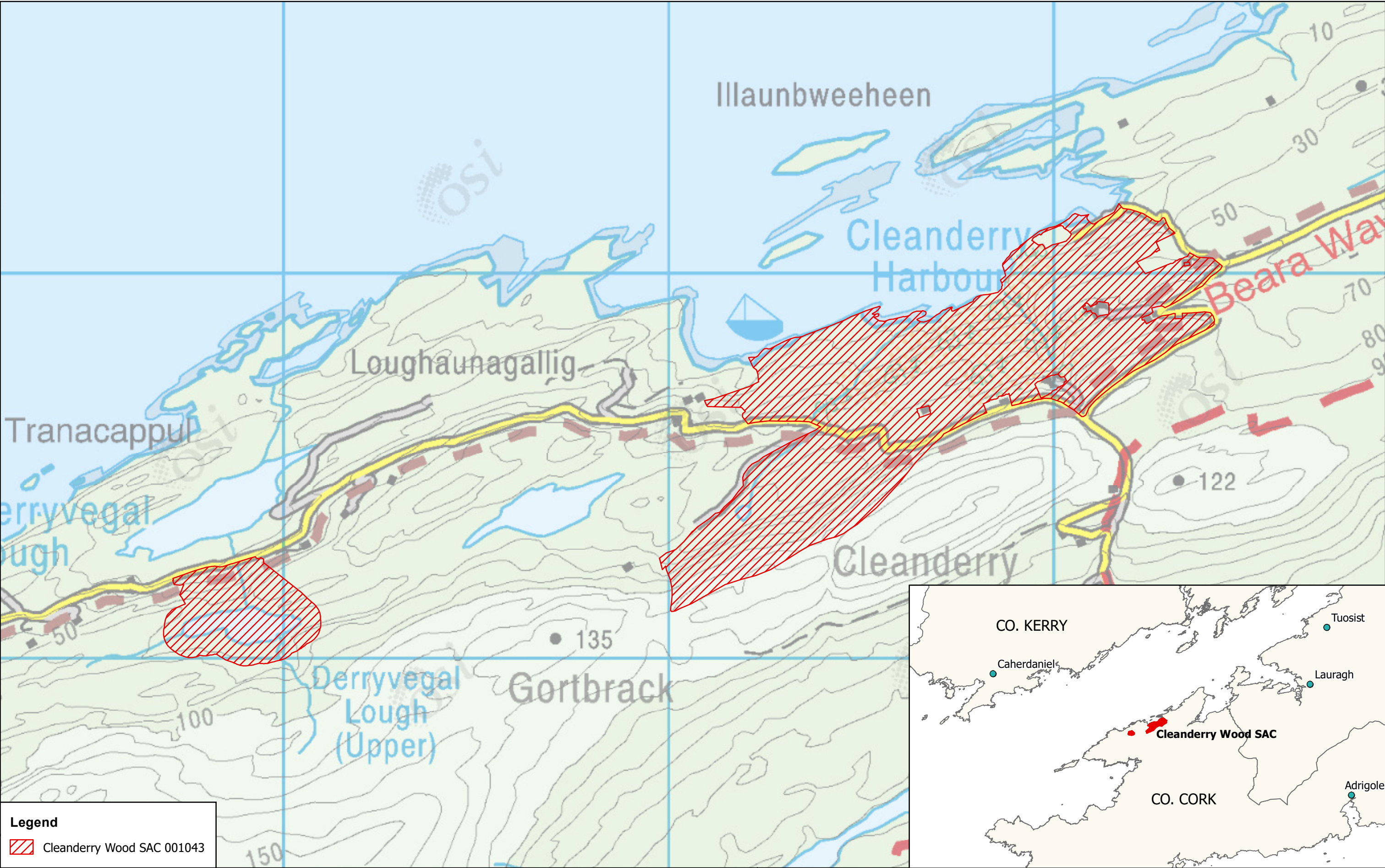
Conservation Objectives for : Cleanderry Wood SAC [001043]

1421 Killarney Fern *Trichomanes speciosum*


To maintain the favourable conservation condition of Killarney Fern in Cleanderry Wood SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution	Occurrence	No loss in geographical spread of the population, subject to natural processes	The population of Killarney fern (<i>Vandenboschia speciosa</i> [formerly <i>Trichomanes speciosum</i> ; species code 1421]) is currently known from locations in Cleanderry Wood SAC within hectad V65. Exact locations are not mapped here on account of the threat posed by illegal collecting. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Number of populations	Number	No decline, subject to natural processes	One population of the species has been recorded in the SAC since 1960. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Number of colonies	Number	No decline, subject to natural processes	Three colonies of the species have been recorded in the population in the SAC since 1960. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Population: life-cycle stage	Type (sporophyte or gametophyte)	Maintain life-cycle stage composition of the population, subject to natural processes	Two of the three colonies recorded since 1960 are composed of sporophytes (frond stage) with coexisting gametophytes (filamentous stage) and one is composed of gametophytes only. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Population size: area of occupancy	Square metres	No decline, subject to natural processes	Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Population size: living sporophyte fronds	Number	No decline, subject to natural processes	Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Population structure: young and unfurling fronds	Occurrence	Young (not fully expanded) and/or unfurling (crozier) fronds present in populations previously observed to have these, subject to natural processes	Young and/or unfurling fronds have been recorded from Cleanderry Wood SAC. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Population structure: fertile fronds	Occurrence	Fertile fronds present in populations previously observed to have these, subject to natural processes	Fertile fronds have been recorded from the SAC. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Population structure: juvenile sporophyte fronds emerging from gametophytes	Number	No decline, subject to natural processes	Juvenile sporophyte fronds emerging from gametophytes have not been recorded from the SAC. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Habitat extent	Hectares	No loss of suitable habitat, subject to natural processes	The species grows in deeply shaded, humid situations - dripping caves, overhangs and crevices on cliffs, rocky slopes, by waterfalls, in stream ravines and gullies, on rock or soil banks in woodlands and, occasionally, under fallen trees and on the floor of damp woodlands. Whilst also occurring in these habitats, the gametophyte stage can grow in drier areas that do not suit the sporophyte. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files

Hydrological conditions: wet/damp microhabitats	Occurrence	Maintain hydrological conditions at the locations of the known population-visible water source, with dripping or seeping water present and/or substrate wet/damp to touch, subject to natural processes	Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Hydrological conditions: relative humidity	Percentage	Maintain relative humidity levels at known colonies at not less than 80%, subject to natural processes	Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Hydrological conditions: desiccated fronds	Number	No increase, subject to natural processes	Presence of desiccated sporophyte fronds and gametophyte mats is indicative of unsuitable conditions. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Light levels: shading	Shade index score	At least 4 for woodland sporophyte-only and mixed colonies; at least 5 for open upland sporophyte-only and mixed colonies; at least 6 for gametophyte-only colonies, subject to natural processes	Shade Index: 3. Significant sunlight, but for < half the day. 4. Moderate shade, e.g. light-medium deciduous canopy with sun flecks. 5. Permanently shaded from direct sunlight but otherwise open to sky. 6. Deep woodland (e.g. coniferous or in ravine) shade, no sun flecks. 7. Perpetual deep shade, e.g. cave entrance, beneath boulder. One mixed colony of the species occurs in a relatively open setting (Shade Index 3), one mixed colony in moderate shade and one gametophyte-only colony in perpetual deep shade in woodland in Cleanderry Wood SAC. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Woodland canopy cover	Percentage	No loss of woodland canopy at, or in the vicinity of, the locations of known populations and canopy cover here maintained at more than 33%, subject to natural processes	Woodland management at or near to locations of known populations of the species must take account of its habitat requirements, particularly with regard to maintenance of sufficient canopy cover. The species occurs in woodland in Cleanderry Wood SAC. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files
Invasive species	Occurrence	Maintain absence of invasive non-native and vigorous native plant species at the locations of the known population or, if present, maintain vegetation cover of these at less than 10%, taking into account the habitat requirements of <i>V. speciosa</i>	In order to avoid negative impacts on the Killarney fern (<i>Vandenboschia speciosa</i>), its habitat requirements (site hydrology, relative humidity, canopy cover, shading levels, etc.) must be taken into account in locations that are subject to or proposed for management actions to control invasive non-native and/or vigorous native plant species. Based on Ní Dhúill et al. (2015, in prep.), NPWS (2019) and NPWS internal files



Legend

 Cleanderry Wood SAC 001043



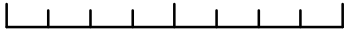
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MAP 1:
CLEANDERRY WOOD SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION

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


SITE CODE:
SAC 001043; version 3.02. CO. CORK

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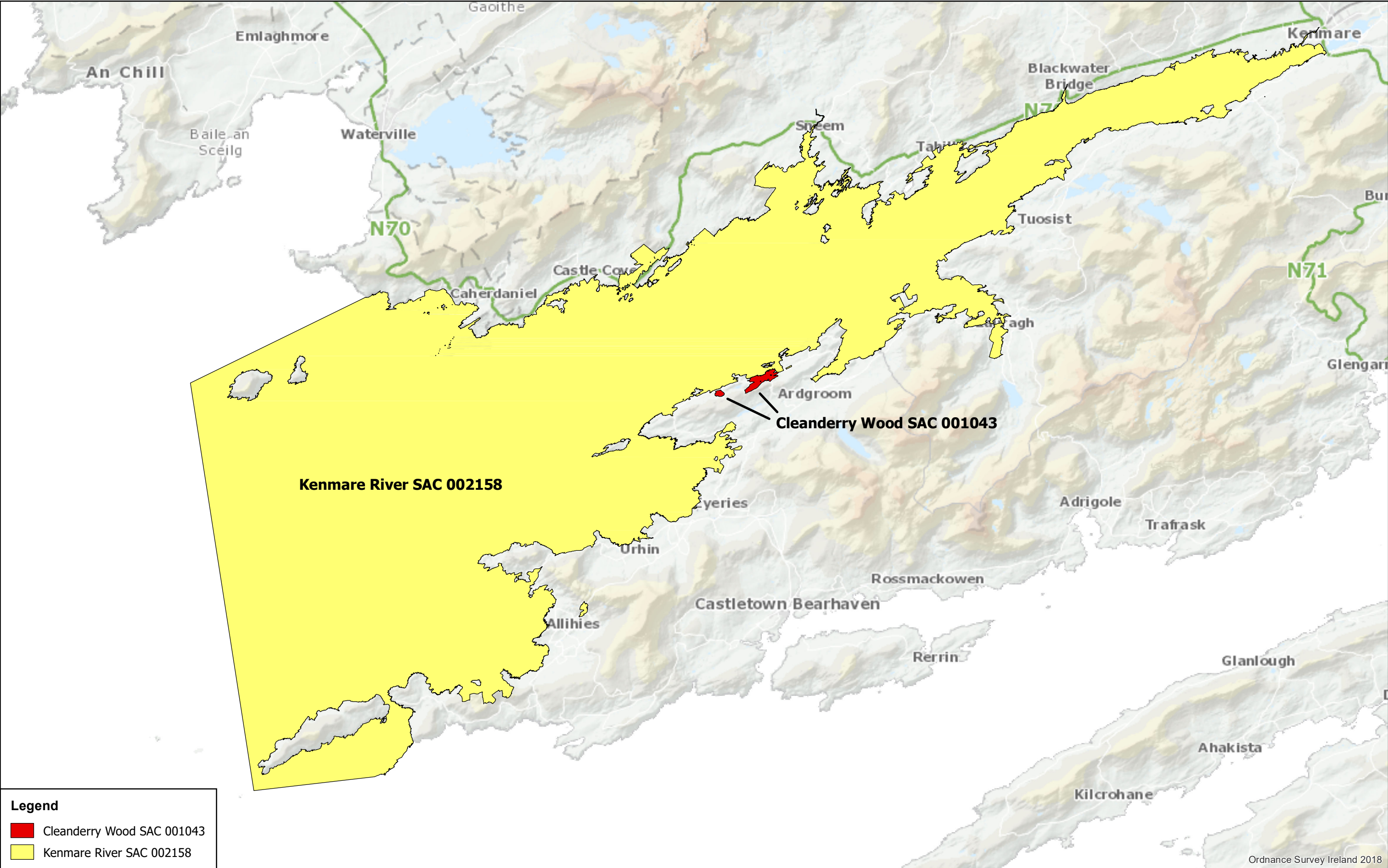


The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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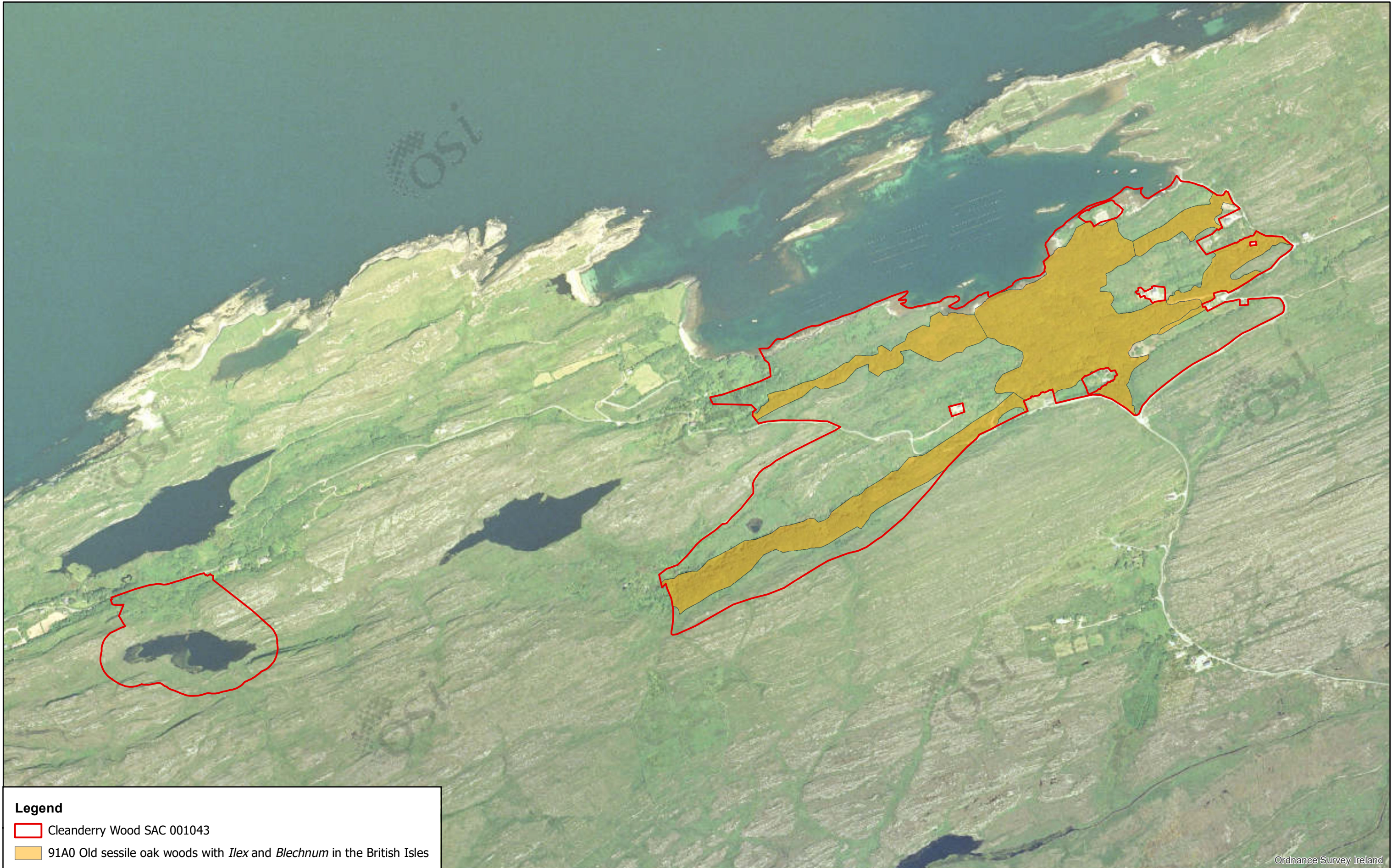


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- Cleanderry Wood SAC 001043
- Kenmare River SAC 002158



Legend

Cleanderry Wood SAC 001043

91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles