

National Parks and Wildlife Service

Conservation Objectives Series

Thomastown Quarry SAC 002252



An Roinn Cultúir,
Oidhreacht agus Gaeltachta
Department of Culture,
Heritage and the Gaeltacht

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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*

002252 Thomastown Quarry SAC

7220 Petrifying springs with tufa formation (Cratoneurion)E

Supporting documents, relevant reports & publications

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

NPWS Documents

Year :	2013
Title :	Conservation status assessment for petrifying springs
Author :	Lyons, M.D.; Kelly, D.L.
Series :	Unpublished report to NPWS
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Year :	2016
Title :	Monitoring guidelines for the assessment of petrifying springs in Ireland
Author :	Lyons, M.D.; Kelly, D.L.
Series :	Irish Wildlife Manuals, No. 94
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Other References

Year :	2010
Title :	Water Quality in Ireland 2007-2009
Author :	McGarrigle, M.; Lucey, J.; Ó Cinnéide, M.
Series :	Environmental Protection Agency, Wexford
<hr/>	
Year :	2015
Title :	The flora and conservation status of petrifying springs in Ireland
Author :	Lyons, M.D.
Series :	Unpublished Ph.D. thesis, Trinity College Dublin
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Spatial data sources

Year : 2016

Title : Point file associated with Lyons (2015)

GIS Operations : Dataset created from spatial references; clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising

Used For : 7220 (map 2)

Conservation Objectives for : Thomastown Quarry SAC [002252]

7220 Petrifying springs with tufa formation (Cratoneurion)

To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion)* in Thomastown Quarry SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Square metres	Area stable or increasing, subject to natural processes	A total of c.900m ² (c.0.09ha) of this habitat was recorded at two locations by Lyons (2015) within Thomastown Quarry SAC, at the sub-sites PS096a Thomastown Quarry - north pool (c.400m ²) and PS096b Thomastown Quarry - middle pool (c.500m ²) (see map 2). The sub-site PS096a is described as shallow, marl-lined pools with marl/paludal tufa formations in the disused quarry in the SAC. The sub-site PS0096b is described as a small tufa-forming fen with paludal tufa (Lyons, 2015). It is important to note that further unsurveyed areas may be present in the SAC
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 2	See map 2 for the point locations of the sub-sites PS096a and PS096b in the SAC based on Lyons (2015). Note that further unsurveyed areas may be present in the SAC. Lyons and Kelly (2016) describe eight plant communities of Irish petrifying springs based on relevé data. At PS096a and PS096b in Thomastown Quarry SAC, the main community at each sub-site recorded by Lyons (2015) was <i>Palustriella falcata-Carex panicea</i> springs. Further information on the vegetation communities associated with the habitat is presented in Lyons and Kelly (2016)
Hydrological regime: height of water table; water flow	Metres; metres per second	Maintain appropriate hydrological regimes	Petrifying springs rely on permanent irrigation, usually from upwelling groundwater sources or seepage sources (Lyons and Kelly, 2013). In karst areas, water tends to flow away rapidly over bare rock surfaces, even on fairly flat ground (Lyons and Kelly, 2013). Water flow should not be altered anthropogenically. See Lyons and Kelly (2016) for further details on this attribute
Water quality - nitrate level	mg/l	No increase from baseline nitrate level and less than 10mg/l	Target based on data from McGarrigle et al. (2010). See Lyons and Kelly (2016) for further details on this attribute. Water analysis was not carried out by Lyons (2015) as there was no water present on site following a dry summer when visited in September 2013
Water quality - phosphate level	µg/l	No increase from baseline phosphate level and less than 15µg/l	Based on data from Lyons (2015). See Lyons and Kelly (2016) for further details on this attribute. Water analysis was not carried out by Lyons (2015) as there was no water present on site following a dry summer when visited in September 2013
Vegetation composition: positive indicator species	Number per spring	At least three positive/high quality indicator species as listed in Lyons and Kelly (2016) and no loss from baseline number	Based on Lyons and Kelly (2016), where the lists of positive and high quality indicator species are presented. The number of positive indicator species recorded at PS096a was 11, and nine were recorded at PS096b by Lyons (2015). Positive indicators species recorded at both sub-sites were the bryophytes <i>Aneura pinguis</i> , <i>Bryum pseudotriquetrum</i> , <i>Campylium stellatum</i> , <i>Palustriella falcata</i> and <i>Philonotis calcarea</i> , with long-stalked yellow-sedge (<i>Carex lepidocarpa</i>) and carnation sedge (<i>C. panicea</i>). The positive indicators red fescue (<i>Festuca rubra</i>) and marsh arrowgrass (<i>Triglochin palustris</i>) and the mosses <i>Fissidens adianthoides</i> and <i>Palustriella commutata</i> were recorded at PS096a, and fen pondweed (<i>Potamogeton coloratus</i>) and the stonewort <i>Chara vulgaris</i> were recorded at PS096b (Lyons, 2015)

Vegetation composition: negative indicator species	Cover (DAFOR scale)	Potentially negative indicator species should not be Dominant or Abundant; potentially negative woody species should be absent in unwooded springs; invasive species should be absent	Based on Lyons and Kelly (2016), where the lists of potentially negative herbaceous, bryophyte, algal and woody species are presented. See Lyons and Kelly (2016) also for details on potentially invasive species. If two or more potentially negative bryophyte/alga species are present, and if at least two are Frequent, or at least one is Abundant, then the habitat fails for this attribute. See Lyons and Kelly (2016) for further details. The potentially negative woody species ash (<i>Fraxinus excelsior</i>), hawthorn (<i>Crataegus monogyna</i>) and grey willow (<i>Salix cinerea</i>) were recorded by Lyons (2015) at PS096a (an unwooded spring), but were very rare overall
Vegetation structure: sward height	Centimetres	Field layer height between 10cm and 50cm (except for bryophyte-dominated ground <10cm)	Attribute and target based on Lyons and Kelly (2016)
Physical structure: trampling/dung	Cover (DAFOR scale)	Cover should not be Dominant or Abundant	Attribute and target based on Lyons and Kelly (2016)



Legend
 Thomastown Quarry SAC 002252

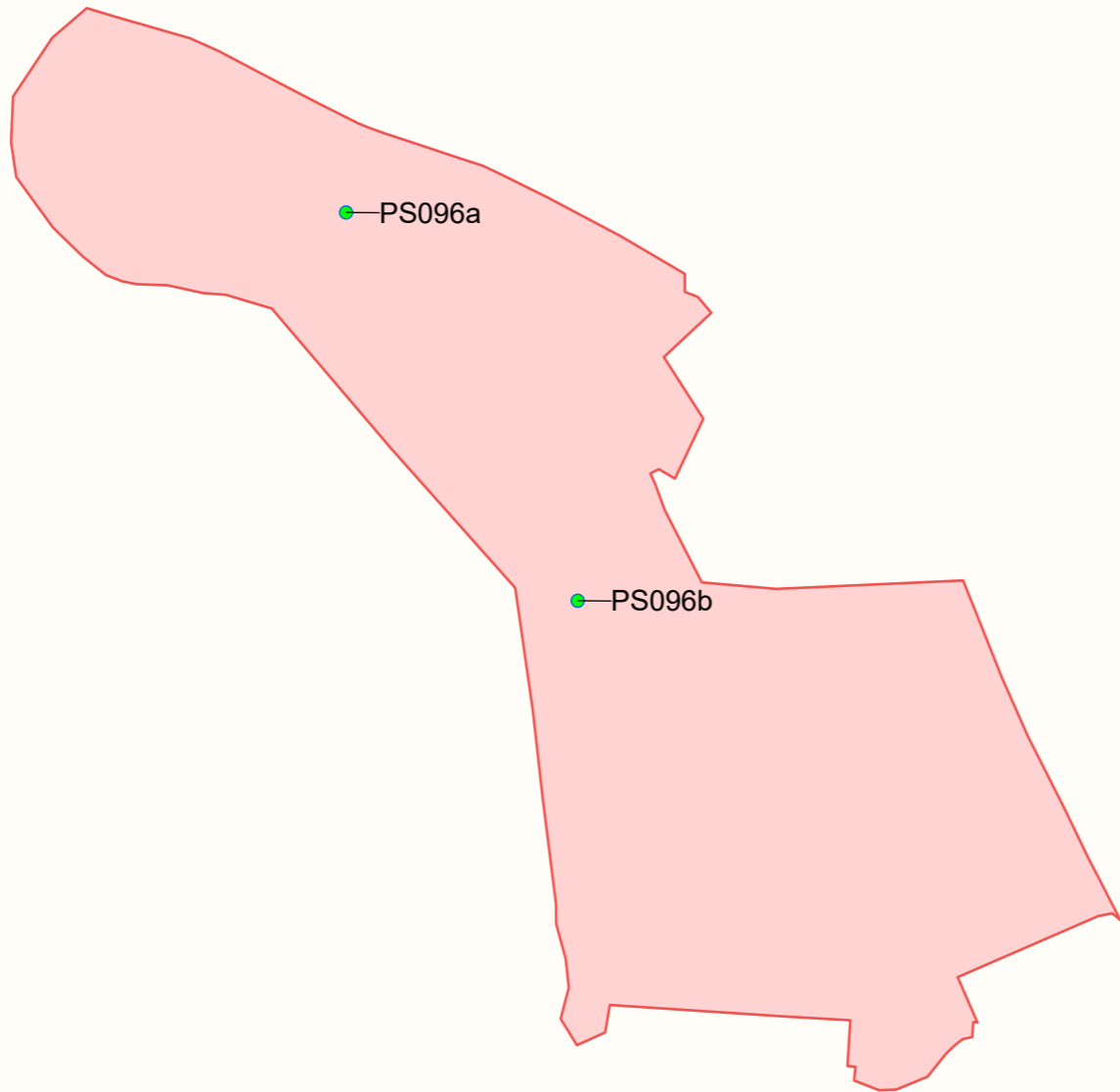
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**MAP 1:
 THOMASTOWN QUARRY SAC
 CONSERVATION OBJECTIVES
 SAC DESIGNATION**
 Map to be read in conjunction with the NPWS Conservation Objectives Document.

**SITE CODE:
 SAC 002252; version 3.01. CO. KILKENNY**
 0 30 60 90 120 Meters

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 athbheithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachtá Ordonáis na hÉireann Ceadúnas Uimh OSI-NMA-014. © Suirbhéarachtá Ordonáis na hÉireann Rialtas na hÉireann

Map Version 1
 Date: Feb 2019



Legend

- 7220 Petrifying springs with tufa formation (*Cratoneurion*)
- Thomastown Quarry SAC 002252
- OSi Discovery Series County Boundary

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**MAP 2:
THOMASTOWN QUARRY SAC
CONSERVATION OBJECTIVES
PETRIFYING SPRINGS**

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

**SITE CODE:
SAC 002252; version 3.01. CO. KILKENNY**

0 30 60 90 120 Meters

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 athbheithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh OSI-NMA-014. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann

Map Version 1
Date: Feb 2019