

**European Community Directive
on the Conservation of Natural Habitats
and of Wild Fauna and Flora
(92/43/EEC)**

Supporting documentation for the
Third Report by the United Kingdom under
Article 17

on the implementation of the Directive
from January 2007 to December 2012
Conservation status assessment for

Species:

S1376 - Maerl Lithothamnium *Lithothamnion corallioides*

IMPORTANT NOTE – PLEASE READ

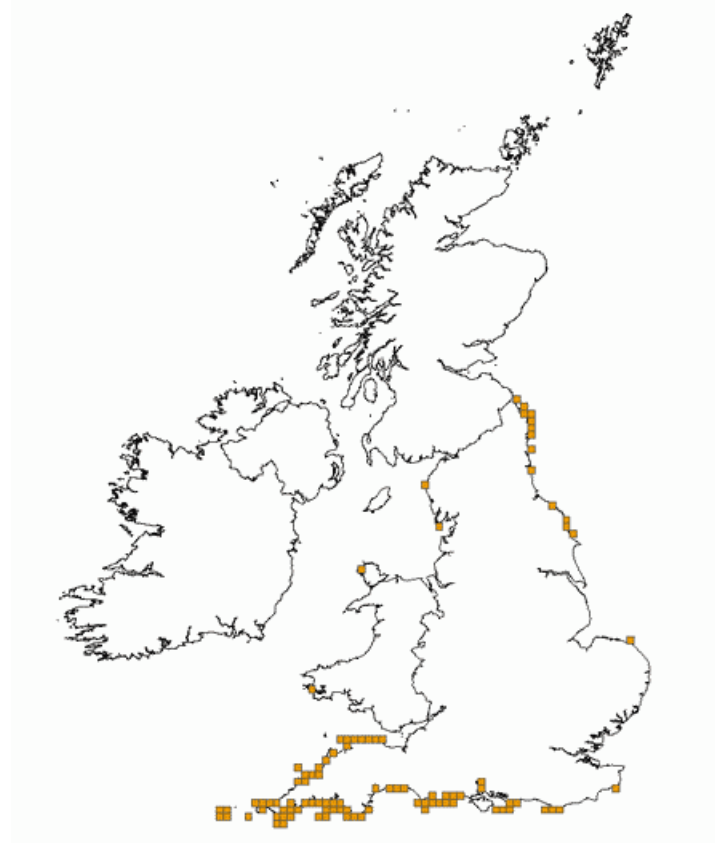
- The country-level reporting information contained in this document is a contribution to the Article 17 UK report for the habitat/species concerned.
- It has been provided by **Natural England** and refers only to the state of the habitat/species in **England** - it does not constitute an assessment for the whole of the UK.
- The Article 17 UK Approach document provides details on how this information has been used and, combined with information supplied by other Statutory Nature Conservation Bodies
- The format of the document is closely aligned to that set out by the European Commission for Member State reporting – as a result, some of the fields are not applicable at a country-level and have deliberately been left blank – in addition, the content of most fields is constrained by the EC reporting categories.

Reporting format on the 'main results of the surveillance under Article 11' for Annex II, IV & V species

<i>Field name</i>	<i>Brief explanations</i>	
0.2 Species	0.2.1 Species code	S1376
	0.2.2 Species scientific name	<i>Lithothamnion corallioides</i>
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	

1.1 Maps

1.1.1 Distribution map		Sensitive	False
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1.1.2 Method used - map	Estimate based on partial data with some extrapolation and/or modelling		
1.1.3 Year or period	2007-2012		
1.1.4 Additional	False		

distribution map	
1.1.5 Range map	

2.1 Biogeographical region & marine regions	MATL
2.2 Published sources	<p>"Reference Title Author Year Name of Publication</p> <p>Survey of the St. Mawes (Vilt) Bank of the Fal Estuary Howell, B.R., 1968 Surveys and Reports by Staff No. 124. Fisheries Laboratory.</p> <p>Sublittoral Survey of the Scilly Isles and South Cornwall Dipper, F. 1981 Underwater Conservation Society.</p> <p>A report to the Nature Conservancy Council.</p> <p>Survey of the Fal Estuary, Cornwall Farnham, W.F. and Bishop, G.M. 1984 Progress in Underwater Science, volume 10.</p> <p>Report of the 18th Symposium of the Underwater Association at the British Museum (Natural History) pp53-63.</p> <p>Surveys of Harbours, Rias and Estuaries in Southern Britain, Falmouth. Volume 1. Rostron, D. 1985 A report to the Nature Conservancy Council from the Field Studies Council Oil Pollution Research Unit. Report No. FSC/OPRU/49/85</p> <p>Surveys of Harbours, Rias and Estuaries in Southern Britain, The Helford River. Volume 1. Rostron, D. 1987 A report to the Nature Conservancy Council from the Field Studies Council Oil Pollution Research Unit. Report No. FSC/OPRU/17/87</p> <p>Fal and Helford Environmental Overview Metocean Consultancy Ltd. 1990 Report to South West Water Services Ltd.</p> <p>Survey and Monitoring in the Roseland Voluntary Marine Conservation Area in 1992. Bunker, F. 1992 A Report to the National Rivers Authority (South West Region).</p> <p>A comparison of the maerl beds of the Fal estuary between 1982 and 1992. Perrins, J., Bunker, F. and Bishop, G. 1995 A Joint Report to the National Rivers Authority and English Nature.</p> <p>Mapping the distribution of benthic biotopes in Falmouth Bay and the lower Fal Ruan Estuary Davies, J. and Sotheran, I. 1995 English Nature Research Reports No. 119a.</p> <p>Comparative Maerl Surveys in Falmouth Bay. Dyer, M. and Worsfold, T. 1998 English Nature. Report FAL97.</p> <p>Maerl: An overview of dynamics and sensitivity characteristics for conservation management of marine SACs. Birkett, D.A. and Dring, M.J. 1998 Prepared by Scottish Association of Marine Science (SAMS) for the UK Marine SACs Project, Task Manager, A.M.W. Wilson, SAMS</p> <p>Inlets in the western English Channel: area summaries - Helford River. Moore, J.J., Smith, J. and Northen, K.O. 1999 Marine Nature Conservation Review Sector 8. JNCC</p> <p>Inlets in the western English Channel: area summaries - Carrick Roads and the River Fal. Moore, J.J., Smith, J., Dalkin, M., Hill, T. and Northen, K. 1999 Marine Nature Conservation Review Sector 8. JNCC.</p>

	<p>Helford River Survey: Eelgrass (Zostera spp.) Project 1995-1998 Sutton, A. and Tompsett, P.E. 2000 A Report to the Helford Voluntary Marine Conservation Area Group.</p> <p>Marine Ecological Survey of the Fal Estuary: Effects of Maerl Extraction. Royal Haskoning 2004 Report to the Falmouth Harbour Commission.</p> <p>Monitoring survey of the Fal estuary: Effects of maerl extraction . Royal Haskoning 2004 Report to the Falmouth Harbour Commission.</p> <p>Fal and Helford European Marine Site Sublittoral Monitoring 2002 Howson, C., Bunker, F., and Mercer, T. 2004 Report to English Nature, Contract No. FST20-46-16.</p> <p>Aquatic Survey & Monitoring Ltd., Durham.</p> <p>Report of the Coral Cay Conservation Sub-Aqua Club survey of the Fal estuary, August 1999. Cook, K.J. 2000 Coral Cay Conservation, London.</p> <p>Falmouth Cruise Project EIA - Marine Ecological Survey. Axelsson, M., Bamber, R., Dewey S., Duke, S. and Hollies, R. 2008 SeaStar Survey – J/06/126/</p> <p>Falmouth Bay Maerl community benthic survey Ruiz-Frau, A., Rees, E.I.S., Hinz, H. and Kaiser, M.J. 2007 Cornwall Sea Fisheries Committee</p> <p>Biotope mapping of Helford using Remote Operated Vehicle (ROV) ERCCIS 2012</p> <p>The location and extent of live and dead maerl beds in Falmouth Harbour, Southwest UK Sheehan, E.V., Cousens, S. and Attrill, M.J. 2012 Marine Institute - Plymouth University</p> <p>Maerl surface area coverage in Fal & Helford SAC Solly, N.S. & Knowles, H. 2009 Maerl surface area coverage in Fal & Helford SAC"</p>
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2.3 Range			
2.3.1 Surface area Range	9400		
2.3.2 Method used Surface area of Range	<p>Estimate based on partial data with some extrapolation and/or modelling</p> <p>The JNCC have overlaid the three datasets that Natural England sent in relation to Maerl, the figure for this species is 9400 km². Natural England believe that the method used to derive this figure is sensible and as such is in agreement.</p>		
2.3.3 Short-term trend Period	2006-2012		
2.3.4 Short term trend Trend direction	unknown		
2.3.5 Short-term trend Magnitude	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">a) Minimum</td> <td></td> </tr> </table>	a) Minimum	
a) Minimum			

	b) Maximum	
2.3.6 Long-term trend Period	2006-2012	
2.3.7 Long-term trend Trend direction	unknown	
2.3.8 Long-term trend Magnitude Optional	a) Minimum	
	b) Maximum	
2.3.9 Favourable reference range	a) Value in km²	
	b) Operator for FRR	
	c) FRR is unknown (indicated by "true")	False
	d) Method used to set FRR	
2.3.10 Reason for change Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to...	a) Genuine change?	False
	b) Improved knowledge/more accurate data?	True
	c) Use of different method (e.g. "Range tool")?	False

2.4 Population		
2.4.1 Population size estimation (using individuals or agreed exceptions where possible)	a) Unit	area covered by population in m2
	b) Minimum	9.62
	c) Maximum	9.62
2.4.2 Population size estimation (using population unit other than individuals) Optional (<i>if 2.4.1 filled in</i>)	a) Unit	number of localities
	b) Minimum	1
	c) Maximum	1
2.4.3 Additional information on population estimates / conversion Optional	a) Definition of "locality"	Fal and Helford SAC
	b) Method to convert data	
	c) Problems encountered to provide population size estimation	
2.4.4 Year or period	2006-2012	
2.4.5 Method used Population size	Estimate based on partial data with some extrapolation and/or modelling	
2.4.6 Short-term trend Period	2007-2012	
2.4.7 Short-term trend Trend direction	unknown	
2.4.8 Short-term trend Magnitude	a) Minimum	
	b) Maximum	

	c) Confidence interval	
2.4.9 Short-term trend Method used	Absent data	
2.4.10 Long-term trend – Period	2007-2012	
2.4.11 Long-term trend Trend direction	unknown	
2.4.12 Long-term trend Magnitude Optional	a) Minimum	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend Method used	0	
2.4.14 Favourable reference population	a) Number of individuals/agreed exceptions/other units	
	b) Operator	
	c) FRP is unknown indicated by "true"	False
	d) Method used to set FRP	
2.4.15 Reason for change Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous	a) Genuine change?	False

reporting round mainly due to:	b) Improved knowledge/more accurate data?	False
	c) Use of different method (e.g. "Range tool")?	False

2.5 Habitat for the species	
2.5.1 Area estimation	9.62
2.5.2 Year or period	2007-2012
2.5.3 Method used Habitat for the species	Estimate based on partial data with some extrapolation and/or modelling The maerl bed within the Fal and Helford SAC is 9.62km ² . We do not have the evidence to determine which species this bed consists of and so have included the overall area of the bed under both species as agreed with the JNCC.
2.5.4 Quality of the habitat	a) Habitat quality Unknown
	b) Assessment method see note on 2.5.4 Reporting the maerl bed (estimated extent of bed) within the Fal and Helford SAC under both Maerl species (same approach taken for data mapping requirement) as do not have the information at present to be able to distinguish which proportion of the bed is which species. The maerl occurring outside of SACs is only available as point data which cannot be extrapolated to provide an estimate of area.
	1. For all features Figures given are only of relevance to the area of the feature assessed within Natural England's remit and any remaining area for this feature has not been accounted for. For example in cross border SACs we have only assessed the portion of the feature in English waters and not within the whole site. 2. Inside SACs All marine habitat features within SACs have been assessed at the attribute level for all sub-features by individual site leads. This process

made use of all available data and used a combination of the targets within 'favourable condition tables' within existing Regulation 33 / 35 documents and Common standards Monitoring Guidance. Individual attribute level information was aggregated centrally using a series of 'decision rules' with the resulting feature assessments checked by the site leads.

Assumptions applied through this process:

Where Regulation 33 / 35 documents did not include site specific favourable condition tables e.g. due to additional features being added through the process of moderation, assessments were undertaken using the generic attributes and suitable targets set out within relevant Common Standards Monitoring Guidance. This effectively assumes that these generic attributes describe the key ecological attributes of feature condition at each site sufficiently well to enable them to form a sound basis for feature assessment.

The method of aggregating sub-feature attribute and 'feature wide' attributes to produce site based condition of individual Annex I features assumes the following:

- a. General feature attributes identified in the Regulation 33 package favourable condition table apply across each and every individual sub-feature identified for assessment.
- b. Where spatial extent data are unavailable for each sub-feature being assessed, the area assigned to each sub-feature is an equal portion of the area identified for the feature (e.g. if there are four sub-features the sub-feature area will be 25% of the total). Where the extent of one or more sub-features within a feature has been quantified, the remaining unallocated area has been shared equally across the remaining sub-features.
- b.c. Where data are only available to assess a proportion of the attributes for a feature or sub feature assessments have still been undertaken where at least 50% of the attributes have been able to be assessed. If less than 50% of the attributes were not assessed the whole sub-feature was classed as not-assessed. This introduces a significant assumption that the minority of attributes for which it has not been possible to make an assessment would not overturn the assessment made based on the majority of attributes in any given area. The most obvious example of how this could be incorrect is where a 'not assessed' attribute is in reality unfavourable which following the rational outlined above would lead to the area being declared unfavourable where it may otherwise be considered favourable if this is the conclusion for all assessed attributes.
- c.d. Individual attributes were assessed on a proportion basis within defined percentage ranges: 0-5, 6-25, 26-100 provided on the reporting form. In order to arrive at the overall proportion of a sub feature in each reporting category the proportion of favourable / not assessed was determined by 'averaging' across the remaining attributes. However, to ensure that unfavourable areas were not downsized through this averaging the largest proportion unfavourable for any attribute was always carried through into the final assessment. For example if 10ha of seagrass was unfavourable then this amount would not be rescaled.
- d.e. Within this weighting process the maximum of each range was

	<p>used as the basis for the averaging process as this process was considered to more closely reflect the 'most probable' overall condition than using the range mid points, however this is an assumption that is likely to have a minor effect on the overall proportions of features being assigned to each reporting category. Where a local site lead had chosen two ranges, each being 26-100 then this weighting was altered to more accurately reflect the 50:50 ratio that was implied.</p> <p>e.f. A similar process was used when sub-feature assessment outputs and 'feature wide attribute assessments' were combined to produce overall feature assessments. In this process these two groups of attributes (sub feature and feature wide) were given equal weightings. This has the effect of giving single attributes in either category greater 'weight' in the determining the overall assessments where they are one of only a few attributes in either of these groups. Again this is an assumption which is likely to have a minor effect on the overall proportions of features being assigned to each reporting category. These proportions were also checked by the individual site leads before submission.</p> <p>For further information please see Natural England's methods paper.</p>	
2.5.5 Short-term trend Period	2007-2012	
2.5.6 Short-term trend Trend direction	unknown	
2.5.7 Long-term trend Period		
2.5.8 Long-term trend Trend direction	unknown	
2.5.9 Area of suitable habitat for the species	a) Value in km²	
	b) Absence of data indicated as '0'	
2.5.10 Reason for change Is the difference between the value reported at 2.5.1 and the previous reporting round mainly due to	a) Genuine change?	False
	b) Improved knowledge/more accurate data?	True
	c) Use of different method (e.g. "Range tool")?	False

2.6 Main pressures		
a) Pressure	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
U: Unknown threat or pressure		

2.6.1 Method used – Pressures	mainly based on expert judgement and other data
	<p>Each site lead was asked to identify the top 2 pressures and the top 2 threats for each sub feature/feature within their SACs. Ranking of threats and pressure was achieved by calculating the count of each threat or pressure for all sites. These counts were then ranked and assigned High, Medium or Low status, depending on the number of counts each pressure/threat received. This method was used as it was the most inclusive method to make sure pressure and threats from all separate sites were considered.</p> <p>For further information please see Natural England's methods paper.</p>

2.7 Threats		
a) Threat	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
G05: Other human intrusions and disturbances	H	
H03: Marine water pollution	H	

2.7.1 Method used – Threats	expert opinion
	<p>Each site lead was asked to identify the top 2 pressures and the top 2 threats for each sub feature/feature within their SACs. Ranking of threats and pressure was achieved by calculating the count of each threat or pressure for all sites. These counts were then ranked and assigned High, Medium or Low status, depending on the number of counts each pressure/threat received. This method was used as it was the most inclusive method to make sure pressure and threats from all separate sites were considered.</p> <p>For further information please see Natural England's methods paper.</p>

2.8 Complementary information	
2.8.1 Justification of % thresholds for trends	
2.8.2 Other relevant information	<p>Future prospects assessment method</p> <p>The following is the guidance provided to local site leads to enable them to make a prediction on the future prospect for each sub feature/ feature within their SAC. The conclusions drawn from this have been summarise din the notes field on the CSM form also submitted.</p> <p>Please select from the drop down menu – what are the likely future prospects for the condition of this feature/ sub feature?</p> <p>Options are: Favourable; Unfavourable - Recovering, No change, Declining; Part destroyed; Destroyed; or Unknown.</p> <p>Favourable – No pressures currently causing harm to this sub feature/ feature and can't identify any potential threats, therefore assumption is that the feature/ sub feature will remain in favourable condition.</p> <p>Unfavourable recovering – Sub feature/ feature assessed as currently unfavourable, however you are reasonably confident that management is in place to address the pressure that has been causing the damage, therefore, reasonable to assume that the condition may have improved in a trend towards favourable condition.</p> <p>Unfavourable no change – Sub feature/feature assessed as currently unfavourable, the pressures currently occurring and the potential threats to the sub feature indicate that the condition is unlikely to neither improve nor deteriorate.</p> <p>Unfavourable declining – Sub feature/ feature assessed as currently unfavourable, the current pressures and future threats identified indicate that the condition of the sub feature is likely to deteriorate as no management has been put in place.</p> <p>Partially destroyed/destroyed – This sub feature or feature may be at risk from a proposed development that has been granted planning permission, therefore it may be reasonable to conclude that this sub feature may be partially destroyed/destroyed.</p> <p>Unknown - Should be reserved for situations where there is no information upon which one can reasonably make an assessment of current condition due to sub features being not assessed and /or identify any potential pressures and threats.</p> <p>Rationale for future prospects assessment</p> <p>It is crucial to record your rationale for this future prospect in order that the reason for the judgment can be subsequently understood. E.g. Planning application has been granted for a development that has identified a loss of extent to a particular feature / sub feature, therefore high confidence that a proportion of this habitat will be destroyed.</p> <p>Confidence in future prospects assessment</p> <p>Please select from drop down menu – Please highlight your confidence</p>

	<p>in your future prospects assessment. If your confidence in the future prospect of this feature or sub feature is based on evidence – please make sure you add this to the evidence base form for this feature/sub feature.</p> <p>For further information please see Natural England's methods paper.</p>
2.8.3 Trans-boundary assessment	

2.9 Conclusions (*assessment of conservation status at end of reporting period*)

Please refer to the United Kingdom assessment for this species.

3 Natura 2000 coverage & conservation measures - Annex II species (*only applies to species listed under Annex II of the Directive*)

3.1 Population

3.1.1 Population size

Estimation of population size included in the SAC network

a) Unit

b) Minimum

c) Maximum

3.1.2 Method used

3.1.3 Trend of population size within the network (short-term trend)

3.2 Conservation measures

Conservation measures taken (i.e. already being implemented) within the reporting period and provided information about their importance, location and evaluation.

3.2.1 Measure	3.2.2 Type					3.2.3 Ranking H = high importance M = medium importance L = low importance	3.2.4 Location where the measure is PRIMARILY applied			3.2.5 Broad evaluation of the measure					
	a) Legal/statutory	b) Administrative	c) Contractual	d) Recurrent	e) One-off		a) Inside	b) Outside	c) Both inside & outside	a) Maintain	b) Enhance	c) Long term	d) No effect	e) Unknown	f) Not evaluated

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