

**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:

S1528 - Marsh saxifrage (*Saxifraga hirculus*)

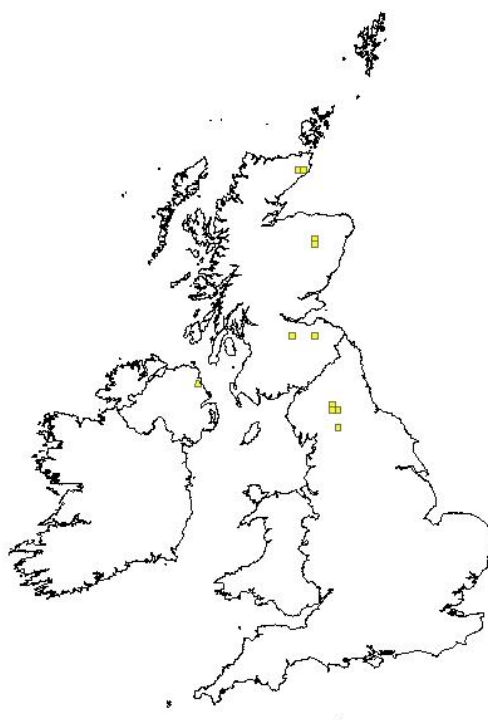
IMPORTANT NOTE – PLEASE READ

- 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 **Scottish Natural Heritage** and refers only to the state of the habitat/species in **Scotland** - 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	S1528
	0.2.2 Species scientific name	<i>Saxifraga hirculus</i>
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	Marsh saxifrage

1.1 Maps		
1.1.1 Distribution map		Sensitive False
	In Scotland the distribution is disjunct. Some post-2007 information has been obtained. This includes an extension to the Munsary site (but not a new 10 km square) and a new site located in a 10 km square due west of Munsary (ND14). This latter site extends the current range of the species (but is close to a 1912 record which until 2010 had not been relocated).	



1.1.2 Method used - map	Estimate based on partial data with some extrapolation and/or modelling
	<ul style="list-style-type: none"> Since the 2007 report there have not been additional records submitted to the NBN by BSBI (2007 onwards). However BSBI has received some records which are on its unpublished Distributional Database (collated July 2012). These have been used to inform this assessment.

	<ul style="list-style-type: none"> • Site condition monitoring results have also been used to inform this assessment. • Plantlife Scotland provided information on its Munsary reserve in Caithness. • There is some duplication of data, e.g. Site Condition Monitoring data is provided to both BSBI and NBN. Similarly the data provided by Plantlife is also held by BSBI. • The 2007 assessment used the following information: • Kelly, P. 1999. Survey of the historic localities of <i>Saxifraga hirculus</i>. Report to English Nature. • PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. New Atlas of the British & Irish Flora. Oxford University Press • Vascular Plant Database maintained at the Biological Records Centre and an additional record from Plantlife (D. Price, pers. comm.)" • The range data used to inform the 2007 report (1987 - 2006) has been used in context with post 2007 records to inform distribution. This is because the BSBI Distributional Database records post 2007 do not contain details for the site at Hill of Towanreef SSSI/ SAC.
1.1.3 Year or period	2007-2012
1.1.4 Additional distribution map	False
1.1.5 Range map	

2.1 Biogeographical region & marine regions	ATL
2.2 Published sources	<p>"The 2007 assessment used the following information: Kelly, P. 1999. Survey of the historic localities of <i>Saxifraga hirculus</i>. Report to English Nature.</p> <p>PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. New Atlas of the British & Irish Flora. Oxford University Press</p> <p>Additional publications:</p> <p>The Rare and Scarce Plants of Caithness. Ken Butler. Version 1.1. Botanical Society of the British Isles. 2011. Online publication www.bsbi.org.uk/CaithnessRPR2011.pdf"</p>
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www.bsbi.org.uk/CaithnessRPR2011.pdf

2.3 Range													
2.3.1 Surface area Range	The range has increased slightly. The local distribution at Munsary in Caithness site has increased with the discovery since 2007 of two more sub-populations. In addition a second general location in Caithness has been located. This is to the west of the Munsary site in a new 10 km square (ND14).												
2.3.2 Method used Surface area of Range	<p>Estimate based on partial data with some extrapolation and/or modelling</p> <ul style="list-style-type: none"> • Since the 2007 report there have not been additional records submitted to the NBN by BSBI (2007 onwards). However BSBI has received some records which are on its unpublished Distributional Database (collated July 2012). These have been used to inform this assessment. • Site condition monitoring results have also been used to inform this assessment. • Plantlife Scotland provided information on its Munsary reserve in Caithness. • There is some duplication of data, e.g. Site Condition Monitoring data is provided to both BSBI and NBN. Similarly the data provided by Plantlife is also held by BSBI. • The 2007 assessment used the following information: • "Kelly, P. 1999. Survey of the historic localities of <i>Saxifraga hirculus</i>. Report to English Nature. • PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. New Atlas of the British & Irish Flora. Oxford University Press • Vascular Plant Database maintained at the Biological Records Centre and an additional record from Plantlife (D. Price, pers. comm.)" • The range data used to inform the 2007 report (1987 - 2006) has been used in context with post 2007 records to inform distribution. This is because the BSBI Distributional Database records post 2007 do not contain details for the site at Hill of Towanreef SSSI/ SAC. 												
2.3.3 Short-term trend Period	2000-2008												
2.3.4 Short term trend Trend direction	increase												
2.3.5 Short-term trend Magnitude	<table border="1"> <thead> <tr> <th>a) Minimum</th> <th></th> </tr> </thead> <tbody> <tr> <td colspan="2">The bulk of the population at each site is found within designated sites where the species is either a notified feature (SSSI) or qualifying feature (SAC):</td> </tr> <tr> <td colspan="2">Craigengar SSSI (a notified feature) - SCM 2004 and 2007. Both Unfavourable No change. Status due to overgrazing.</td> </tr> <tr> <td colspan="2">Craigengar SAC (a qualifying feature) - SCM 2004 and 2007. Both Unfavourable No change. Status due to overgrazing.</td> </tr> <tr> <td colspan="2">Hill of Towanreef SSSI - SCM results</td> </tr> <tr> <td colspan="2">Hill of Towanreef SAC - SCM 2000 and 2008. Both favourable</td> </tr> </tbody> </table>	a) Minimum		The bulk of the population at each site is found within designated sites where the species is either a notified feature (SSSI) or qualifying feature (SAC):		Craigengar SSSI (a notified feature) - SCM 2004 and 2007. Both Unfavourable No change. Status due to overgrazing.		Craigengar SAC (a qualifying feature) - SCM 2004 and 2007. Both Unfavourable No change. Status due to overgrazing.		Hill of Towanreef SSSI - SCM results		Hill of Towanreef SAC - SCM 2000 and 2008. Both favourable	
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	<p>maintained. Management note from 2008 suggests that grazing may need to be increased.</p> <p>Caithness and Sutherland Peatlands SAC (qualifying feature) - monitored August 2007 favourable maintained.</p> <p>BSBI Distributional Database and Plantlife Scotland: The additional 10 km site is located within the Caithness and Sutherland SAC and was discovered after the SCM results were obtained. The short-term range is therefore an increase.</p> <p>The range in Scotland is increased with the discovery of a new site in Caithness in 10 km square ND14. The location was identified in September 2010 and is close to, but possibly different from, an historical record dating from 1912 and possibly last seen about 1916. The increase might therefore be due to improved recording rather than a true increase in range.</p>																
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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
	The range increase in Scotland might be due to improved recording rather than a true increase in range.	
	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	
	Not estimated for Scotland using the current Site Condition Monitoring methodology.	
	b) Minimum	
	c) Maximum	
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
	Not applicable	
	b) Minimum	4
	c) Maximum	4
2.4.3 Additional information on population estimates / conversion Optional	a) Definition of "locality"	<p>In using 'location' as a crude proxy for population we have: Craigengar - known locality; Hill of Towanreef (Cabrach) - known locality; Munsary - known locality, but with a range extension towards the east (within Caithness & Sutherland Peatlands SAC); Loch Ruard - new locality (within Caithness & Sutherland Peatlands SAC)</p> <p>Number of localities 4 Previous number of localities at last reporting round 3</p> <p>If the definition of populations is tighter then it would be difficult to estimate the number of populations since they</p>

		coalesce.
	Not applicable	
	b) Method to convert data	
	c) Problems encountered to provide population size estimation	<p>The Site Condition Monitoring methodology addresses feature condition, rather than targeting empirical data for range and population. However both spatial data and counts of flowers were carried out at Hill of Towanreef SSSI/ SAC in 2008. 5237 flowers were recorded with all previous locations being found. There are difficulties assessing <i>Saxifraga hirculus</i> populations using a flower count e.g. grazing appears to target flowers.</p> <p>At the Craigengar site both extent and population were assessed by site condition monitoring in 2007 and the results compared with 1998. The conclusion was that the apparent decline might not be statistically significant and that a repeat of the 1998 methodology is required.</p> <p>Plantlife uses a transect methodology at Munsary, but this will not provide information on a total site population or range (at Munsary).</p> <p>With only three general sites in Scotland for this species it would be possible to undertake a range and population assessment of all sites. At present the methodologies used at each of the three sites in Scotland vary and this presents a problem in addressing population change at a Scottish level.</p>
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2.4.4 Year or period	2007-2012	
2.4.5 Method used	Estimate based on partial data with some extrapolation and/or modelling	
Population size	Plantlife Scotland provided transect figures from Munsary (2005-127, 2007-32 and 2008-40). Some information was collated for Site Condition Monitoring. It is not possible however to use this information to provide a figure for total population in Scotland. Not applicable due to the monitoring methodology.	
2.4.6 Short-term trend		
Period	Data deficient.	
2.4.7 Short-term trend	unknown	
Trend direction	Since the last reporting round in terms of localities there have been no losses, one range extension (arguably at a known site) and one new site (prob. a rediscovery of a 1912 site which could not be relocated). Pragmatically the range extension is treated as a single site, a relatively short distance over a watershed from a previously-known population. The new site (possibly a site found in 1912) is however best treated as a new population. The number of populations has therefore increased by 1.	
2.4.8 Short-term trend	a) Minimum	
Magnitude	Not applicable	
	b) Maximum	
	c) Confidence interval	
2.4.9 Short-term trend	Absent data	
Method used	Data deficient.	
2.4.10 Long-term trend –		
Period	Data deficient.	
2.4.11 Long-term trend	unknown	
Trend direction		
2.4.12 Long-term trend	a) Minimum	
Magnitude		

Optional	Not applicable	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend Method used		0
		Not applicable
2.4.14 Favourable reference population	a) Number of individuals/agreed exceptions/other units	
	b) Operator	
	c) FRP is unknown indicated by "true"	True
	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 reporting round mainly due to:	a) Genuine change?	False
	Data deficient.	
	b) Improved knowledge/more accurate data?	True
	c) Use of different method (e.g. "Range tool")?	False

2.5 Habitat for the species**2.5.1 Area estimation**

	<p>This species is found in flushed areas, sometimes dominated by grasses and / or sedges. The flushes are generally located within larger areas of wet heath and blanket mire. Although the locations are considered upland, the plant used to also occur at lowland sites which have been lost due to habitat change.</p> <p>It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species. No estimate available at a Scottish level.</p> <p>It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species. The species in Scotland is associated with discrete areas of flushed grassland and mire located in wider areas of blanket mire and wet heath vegetation. Apparently suitable habitat is widespread in Scotland, but only a small fraction of that habitat supports <i>Saxifraga hirculus</i>. The area figure is data deficient.</p> <p>It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species.</p>	
2.5.2 Year or period	No estimate available at a Scottish level.	
2.5.3 Method used	Absent data	
Habitat for the species		
2.5.4 Quality of the habitat	a) Habitat quality	Unknown
	Data deficient.	
	No estimate available at a Scottish level.	
	b) Assessment method	
		Site condition monitoring and Plantlife Scotland report.
2.5.5 Short-term trend Period		
2.5.6 Short-term trend Trend direction	unknown	
	Data deficient.	
2.5.7 Long-term trend Period		
	Data deficient.	
2.5.8 Long-term trend Trend direction	unknown	
	Data deficient.	
2.5.9 Area of suitable habitat for the species	a) Value in km²	
	Data deficient.	
	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	False

	knowledge/more accurate data?	
	Data deficient.	
	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	
A04: grazing	M	
B01: forest planting on open ground	M	
J02: human induced changes in hydraulic conditions	M	

A04 - overgrazing is negative pressure at one site. Undergrazing may be a negative pressure at one site. Owner occupiers are advised about the results of site condition monitoring.

2.6.1 Method used – Pressures

based exclusively or to a larger extent on real data from sites/occurrences or other data sources

Site condition monitoring and pressures identified in the 2007 report.

2.7 Threats

a) Threat	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
A04: grazing	M	

Both overgrazing and undergrazing are local negative pressures.

2.7.1 Method used – Threats

expert opinion

Site condition monitoring

2.8 Complementary information**2.8.1 Justification of % thresholds for trends****2.8.2 Other relevant**

This species would benefit from a dedicated survey to establish

information	range and population.
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	number of localities
	b) Minimum	4
	c) Maximum	
3.1.2 Method used	Estimate based on partial data with some extrapolation and/or modelling	
3.1.3 Trend of population size within the network (short-term trend)	unknown	
	Site condition monitoring	

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
6.0: Other spatial measures	Y					H			Y						

Scottish Government website www.scotland.gov.uk
 The Wildlife and Natural Environment (Scotland) Act introduced measures in Scotland to control the spread of invasive non-native species. These measures became effective in September 2012.