

**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:

S1903 - Fen orchid (*Liparis loeselii*)

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	S1903
	0.2.2 Species scientific name	<i>Liparis loeselii</i>
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	Fen Orchid

1.1 Maps			
1.1.1 Distribution map		Sensitive	False



1.1.2 Method used - map	Complete survey/Complete survey or a statistically robust estimate		
	Most sites are monitored annually, and it is therefore possible to provide a very recent estimate of range.		
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>"Online Atlas of the British & Irish Flora, <i>Liparis loeselii</i>, Fen Orchid. Http://www.brc.ac.uk/plantatlas/index.php?q=node/1415</p> <p>SANFORD, M., 1991. The Orchids of Suffolk. Suffolk Naturalists' Society</p> <p>WIGGINTON, M.J. 1999. British Red Data Books 1 Vascular Plants. 3rd Edition. Peterborough: Joint Nature Conservation Committee</p> <p>Unpublished survey data collated by Tim Pankhurst, Plant Life."</p>

2.3 Range	
2.3.1 Surface area Range	There is annual monitoring for this species. The range estimate derives from a complete inventory.
2.3.2 Method used Surface area of Range	Complete survey/Complete survey or a statistically robust estimate
2.3.3 Short-term trend Period	2001-2012
2.3.4 Short term trend Trend direction	<p>stable</p> <p>The English range was much reduced by 2001, but since then has been maintained in terms of number of localities (with a new, previously overlooked, sub-population found at one site in 2009).</p>
2.3.5 Short-term trend Magnitude	a) Minimum
	b) Maximum
2.3.6 Long-term trend Period	1989-2012
2.3.7 Long-term trend	unknown

Trend direction	This is a reflection of the long term and serious decline that began long before the Directive came into force. Without the new range calculation figure (to be calculated by JNCC) a magnitude can not be given currently.	
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
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?	False
	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	number of individuals
	FRP is still to be calculated on localities, but counts or estimates of numbers of individuals are available for all current English localities and can now be included. These English sites are difficult to count	

	compared with the dune slack sites in South Wales and a degree of estimation and expert judgement is involved.
	b) Minimum 9194
	These sites are difficult to count compared with the dune slack sites in South Wales and a degree of estimation and expert judgement is involved. The figure of 9194 suggests a degree of accuracy that is misleading. One site, found in 2009, had an estimated 9000-11000 plants. This is not only larger than the counts from other sites by an order of magnitude but the range in the estimate is greater than the sum of all other populations. The figure for Catfield A is an estimate based on local opinion that numbers are stable and the last count, in 2003, of 110. An approximate figure of 100 is used for this population.
	c) Maximum 12194
	These sites are difficult to count compared with the dune slack sites in South Wales and a degree of estimation and expert judgement is involved. The figure of 12194 suggests a degree of accuracy that is misleading. One site, found in 2009, had an estimated 9000-11000 plants. It is not only larger than the others by an order of magnitude but the range in the estimate is greater than the sum of all other populations. The figure for Catfield A is an estimate based on local opinion that numbers are stable and the last count, in 2003, of 110 - the figure of 100 is used for this population.
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
	'Localities' was used as the reporting unit in the last reporting round. Five English localities include two at Catfield Fen where a new large population was found in 2009; Sutton Fen (which includes Hands Marsh); Upton Fen and Ranworth (a successful reintroduction site).
	b) Minimum 5
	c) Maximum 5
2.4.3 Additional information on population estimates / conversion Optional	a) Definition of "locality" This is inevitably to some extent arbitrary. The populations are separated from others by a significant extent of unsuitable habitat.
	b) Method to convert data
	c) Problems encountered to provide population size estimation This is inevitably to some extent arbitrary.
2.4.4 Year or period	2007-2012
	2007-12 is used, although the last count for Catfield A was in 2003 (110). As this population was described as 'stable' in 2007 an arbitrary and somewhat conservative estimated figure of 100 has been used for the site.

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	The last count for Catfield A was in 2003 (110). As this population was described as 'stable' in 2007 an arbitrary and somewhat conservative figure of 100 has been used for the site. Other sites were all counted at least once during the period, though a degree of estimation is inevitably involved as the terrain is difficult and the numbers are large.	
2.4.7 Short-term trend Trend direction	2001-2012	
2.4.8 Short-term trend Magnitude	increase	A significant new site was found in 2009, so the number of localities has increased from 4 to 5. This is a new find rather than a newly colonised site, so it represents an increase in the completeness of our knowledge of the plant rather than a genuine spread to a new site. In addition the plant was re-introduced to another site in 2005 (Ranworth) and this appears to have been successful - it should have been counted in the last reporting round so does not represent an increase.
	a) Minimum	25
	b) Maximum	25
	c) Confidence interval	
2.4.9 Short-term trend Method used	Complete survey/ Complete survey or a statistically robust estimate	
2.4.10 Long-term trend – Period	1989-2012	
2.4.11 Long-term trend Trend direction	stable	
	Since 1994, at least, when regular counts began at the English sites, the numbers of sites has slightly increased from three to five. The plant was re-introduced to one site in 2005 and a significant new population was discovered in 2009. This follows a massive long term decline to a low of just three known localities in the mid 1990s. The plant was lost from its Devon site either shortly before or during the reporting period (last record in 1987). The Devon plants were of var. ovata, a dune slack form that also occurs in South Wales. Other English plants are of the fenland taxon var. loeselii. It was last seen in Suffolk at Theltenham Fen in 1974 (Sanford, 1991). This was just part of the long-term decline from 30 English sites in Norfolk, Suffolk, Kent, Lincolnshire and Cambridgeshire to just three sites in Broadland by 1999 (Wigginton,	

	1999). The trend is given as stable because one 'new' locality is a new discovery (albeit a highly significant one) rather than a new site, while the re-introduction to one site is offset by the loss of the single remaining Devon site.	
2.4.12 Long-term trend Magnitude Optional	a) Minimum	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend Method used	3	
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	The favourable reference population in 2007 was set at 8 localities and was based on the assumption that there were 7 populations in 1994 and that at least one more was needed to allow for stochastic events that could wipe out any of the smaller sites. The discovery of the new population, treated here as a new locality, suggests this figure needs to be increased. The 'new' population ('Catfield B') was undoubtedly present in 1989/1994, but was unknown at that time.
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?	True
	c) Use of different method (e.g. "Range tool")?	False

2.5 Habitat for the species		
2.5.1 Area estimation	<p>In all fenland sites in the Norfolk Broads, this species is confined to tall-herb fens that have experienced disturbance through peat-cutting. A high summer water table appears to be essential for the survival of this drought-sensitive species. In common with many other orchids, <i>L. loeselii</i> appears to rely on regular disturbance for its long-term survival at any one site. Water quality and water quantity issues are limiting, and habitat management is currently very artificial and possibly unsustainable (R. Land, pers. comm.). Although concerted efforts have been made to understand the habitat of this species, there are currently no estimates of habitat area.</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	1994-2012	
2.5.3 Method used Habitat for the species	Absent data	
2.5.4 Quality of the habitat	a) Habitat quality	Moderate
	b) Assessment method	In eastern England, the area of fenland suitable for the species is currently either stable or increasing. This is due to protection of the remaining habitat, improvements in water quality, and a number of large-scale restoration projects. This current situation is in contrast to the large declines that characterised most of the nineteenth and twentieth centuries.
		In eastern England, the area of fenland suitable for the species is currently either stable or increasing. This is due to protection of the remaining habitat, improvements in water quality, and a number of large-scale restoration projects. This current situation is in contrast to the large declines that characterised most of the nineteenth and twentieth centuries.

2.5.5 Short-term trend Period	2001-2012	
2.5.6 Short-term trend Trend direction	stable In eastern England, the area of fenland suitable for the species is currently either stable or increasing. This is due to protection of the remaining habitat, improvements in water quality, and a number of large-scale restoration projects. This current situation is in contrast to the large declines that characterised most of the nineteenth and twentieth centuries.	
2.5.7 Long-term trend Period	1989-2012	
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?	False
	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	
A03.03:	H	
C01.03:	H	
J02.05:	H	
K02.01:	H	

Wiggington (1999) lists the main factors that had caused the decline in this species in Broadland as: cessation of peat cutting (which created new niches and was small scale enough not to be destructive in the medium term); and cessation of summer mowing that led to greater rates of succession to drier scrub and

woodland dominated habitat. Current populations are maintained by significant conservation effort. Wiggington (1999) lists the main factors that had caused the decline in this species in Broadland as: cessation of peat cutting (which created new niches and was small scale enough not to be destructive in the medium term); and cessation of summer mowing that led to greater rates of succession to drier scrub and woodland dominated habitat. Current populations are maintained by significant conservation effort.

2.6.1 Method used – Pressures	mainly based on expert judgement and other data
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2.7 Threats

a) Threat	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
J02.05:	M	
K02.01:	M	
A03.03:	L	

Wiggington (1999) lists the main factors that had caused the decline in this species in Broadland as: cessation of peat cutting (which created new niches and was small scale enough not to be destructive in the medium term); and cessation of summer mowing that led to greater rates of succession to drier scrub and woodland dominated habitat. Current populations are maintained by significant conservation effort. All remaining sites are SACs and managed for nature conservation.

2.7.1 Method used – Threats	expert opinion
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2.8 Complementary information

2.8.1 Justification of % thresholds for trends	
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2.8.2 Other relevant information	
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2.8.3 Trans-boundary assessment	
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2.9 Conclusions (*assessment of conservation status at end of reporting period*)

Please refer to the United Kingdom assessment for this species.

	a) Legal/statutory	b) Administrative	c) Contractual	d) Recurrent	e) One-off	M = medium importance L = low importance	a) Inside	b) Outside	c) Both inside & outside	a) Maintain	b) Enhance	c) Long term	d) No effect	e) Unknown	f) Not evaluated
4.0: Other wetland-related measures	Y	Y	Y			H			Y		Y				
6.1: Establish protected areas/sites	Y	Y				H	Y			Y					
6.3: Legal protection of habitats and species	Y	Y				M	Y		Y	Y					

All remaining sites in broadland are designated as SACs, subject to intensive conservation management. The plant was successfully reintroduced to one site during the reporting period. It is protected under Schedule 8 of the Wildlife and Countryside Act and listed under Section 41 of the Natural Environment and Rural Communities Act 2006 as a "of principal importance for the purpose of conserving biodiversity" (in England).