

**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:

S1044 - Southern damselfly (*Coenagrion mercuriale*)

**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 Resources Wales** and refers only to the state of the habitat/species in **Wales** - 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.

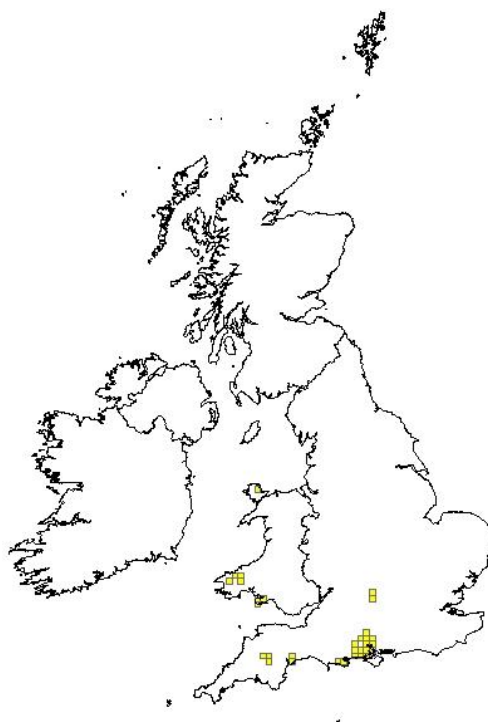
As of 1 April 2013, the Countryside Council for Wales, Environment Agency Wales and Forestry Commission Wales became Natural Resources Wales/Cyfoeth Naturiol Cymru

## 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>	
<b>0.2 Species</b>	<b>0.2.1 Species code</b>	<b>S1044</b>
	<b>0.2.2 Species scientific name</b>	<b><i>Coenagrion mercuriale</i></b>
	<b>0.2.3 Alternative species scientific name</b> Optional	
	<b>0.2.4 Common name</b> Optional	<b>Southern Damselfly</b>

### 1.1 Maps

<b>1.1.1 Distribution map</b>		<b>Sensitive</b>	<b>False</b>
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<b>1.1.2 Method used - map</b>	<b>Complete survey/Complete survey or a statistically robust estimate</b>
<b>1.1.3 Year or period</b>	<b>2007-2012</b>
<b>1.1.4 Additional distribution map</b>	<b>False</b>
<b>1.1.5 Range map</b>	

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<b>2.1 Biogeographical region &amp; marine regions</b>	<b>ATL</b>
<b>2.2 Published sources</b>	<p><b>"Boardman, P. 2005. Assessment of favourable condition for the southern damselfly <i>Coenagrion mercuriale</i> on candidate Special Areas of Conservation in Wales (part 2). Environmental Monitoring Report. 18. Countryside Council for Wales.</b></p> <p><b>Boyce, D. 2002. Southern damselfly <i>Coenagrion mercuriale</i> GB site assessment project. CCW Contract Science. 537. UK BAP Southern Damselfly Steering Group.</b></p> <p><b>Boyce, D. 2004. Condition assessment for the southern damselfly <i>Coenagrion mercuriale</i> on candidate Special Areas of Conservation in Pembrokeshire (Gweunydd Blaencleddau &amp; Preseli (part)). CCW Contract Science. 627. Countryside Council for Wales.</b></p> <p><b>Coker, S. 2002. A long-term plan for <i>Coenagrion mercuriale</i> in north-east Pembrokeshire. Privately published.</b></p> <p><b>Hopkins, G.W. &amp; Day, K.J. 1997. The southern damselfly <i>Coenagrion mercuriale</i>: dispersal and adult behaviour. CCW Contract Science. 184. Countryside Council for Wales.</b></p> <p><b>Install, C. 2012. An Overview of the Management Requirements of the Southern Damselfly (<i>Coenagrion mercuriale</i>-Charpentier) with Recommendations and Suggested Methodology for Habitat Improvement within and near to the Preseli SAC. Unpublished report. British Dragonfly Society.</b></p> <p><b>Jenkins, R.A. 1997. Surveys of southern damselfly (<i>Coenagrion mercuriale</i>) on Gower, June/July 1997. File Note:16/7/97. Countryside Council for Wales.</b></p> <p><b>Skidmore, P. 1996. A baseline survey of the status of the southern damselfly <i>Coenagrion mercuriale</i> on Mynydd Preseli pSAC. CCW Contract Science. 181. Countryside Council for Wales.</b></p> <p><b>Surry, K. 2012. Corsydd Mon SAC Monitoring: <i>Coenagrion mercuriale</i> (1044). Unpublished Report, Countryside Council for Wales.</b></p> <p><b>Watts, P.C., Saccheri, I.J., Kemp, S.J. &amp; Thompson, D.J. 2006. Population structure and the impact of regional and local habitat isolation upon levels of genetic diversity of the endangered damselfly <i>Coenagrion mercuriale</i> (Odonata: Zygoptera). <i>Freshwater Biology</i>, 51: 193-205.</b></p> <p><b>Wilkinson, K. 2009. Gower Commons SAC Monitoring: <i>Coenagrion mercuriale</i> (1044). Unpublished Report, Countryside Council for Wales.</b></p> <p><b>Wilkinson, K. 2011. Preseli SAC &amp; Gweunydd Blaencleddau SAC: <i>Coenagrion mercuriale</i> (1044). Unpublished Report, Countryside Council for Wales.</b></p> <p><b>Woodman, J. 2000. A survey of the southern damselfly (<i>Coenagrion mercuriale</i>) on key sites in South Wales, 1997. Unpublished report. Countryside Council for Wales."</b></p>

<b>2.3 Range</b>	
<b>2.3.1 Surface area Range</b>	
<b>2.3.2 Method used Surface area of Range</b>	<p><b>Complete survey/ Complete survey or a statistically robust estimate</b></p> <p>JNCC have calculated Range from UK data using alpha-hull. This has not been separately calculated for Wales and hence the entry here does not indicate that Range analysis has taken place for Wales. It is merely a marker for JNCC to indicate the quality of the raw distribution data that was supplied to them in order to undertake the UK analysis.</p>
<b>2.3.3 Short-term trend Period</b>	
<b>2.3.4 Short term trend Trend direction</b>	<p>In Wales, mercuriale continues to occupy 8 10km squares and although there may have been a few losses of populations within these squares the range is unaltered over the short-term</p>
<b>2.3.5 Short-term trend Magnitude</b>	<b>a) Minimum</b>
	<b>b) Maximum</b>
<b>2.3.6 Long-term trend Period</b>	
<b>2.3.7 Long-term trend Trend direction</b>	<p>Probably lost from two 10km squares since 1989, hence a 20% loss over the long-term period</p>
<b>2.3.8 Long-term trend Magnitude</b>  Optional	<b>a) Minimum</b>
	<b>b) Maximum</b>
<b>2.3.9 Favourable reference range</b>	<b>a) Value in km<sup>2</sup></b>
	<b>b) Operator for FRR</b>

	<b>c) FRR is unknown (indicated by "true")</b>	<b>False</b>
	<b>d) Method used to set FRR</b>	
<b>2.3.10 Reason for change</b> Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to...	<b>a) Genuine change?</b>	<b>False</b>
	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.4 Population</b>		
<b>2.4.1 Population size estimation</b> (using individuals or agreed exceptions where possible)	<b>a) Unit</b>	
	<b>b) Minimum</b>	
<b>2.4.2 Population size estimation</b> (using population unit other than individuals) Optional ( <i>if 2.4.1 filled in</i> )	<b>a) Unit</b>	<b>number of map 1x1 km grid cells</b>
	<b>b) Minimum</b>	<b>22</b>
	See note 2.4.11 & 3.1.1b.	
	<b>c) Maximum</b>	<b>45</b>
See note 2.4.11 & 3.1.1b.		
<b>2.4.3 Additional information on population estimates / conversion</b> Optional	<b>a) Definition of "locality"</b>	
	<b>b) Method to convert data</b>	
	<b>c) Problems</b>	

	<b>encountered to provide population size estimation</b>	
<b>2.4.4 Year or period</b>	<b>2007-2011</b>	
<b>2.4.5 Method used</b>	<b>Estimate based on expert opinion with no or minimal sampling</b>	
<b>Population size</b>	See note 2.4.6	
<b>2.4.6 Short-term trend Period</b>	<b>2001-2012</b>	
	<p>During the previous reporting period (2001-06) the UK BAP Steering Group for Southern Damselfly coordinated a comprehensive survey of all GB populations, including an assessment of conservation requirements (Boyce 2002). In addition there were several research initiatives that ensured most GB populations were visited during this time. Together they provided an exhaustive survey of distribution in both England and Wales during that period.</p> <p>In the current period there has been no systematic survey effort of all populations and whilst monitoring has taken place on SACs, during 2007-11 (data not yet available for 2012) distribution records outside these sites have arisen from casual surveys. Inevitably this substantial difference in survey effort limits our ability to assess short-term trends against the 2007 assessment. Expert opinion is that there has been some decline in the number of occupied 1km squares but the extent of this decline is not quantifiable.</p>	
<b>2.4.7 Short-term trend Trend direction</b>	<b>decrease 1% or less/year</b>	
	See note 2.4.6	
<b>2.4.8 Short-term trend Magnitude</b>	<b>a) Minimum</b>	
	See note 2.4.6	
	<b>b) Maximum</b>	
	See note 2.4.6	
	<b>c) Confidence interval</b>	
	See note 2.4.6	
<b>2.4.9 Short-term trend Method used</b>	<b>Estimate based on expert opinion with no or minimal sampling</b>	
	See note 2.4.6	
<b>2.4.10 Long-term trend – Period</b>	<b>1989-2012</b>	
	See note 2.4.11	
<b>2.4.11 Long-term trend Trend direction</b>	<b>decrease 1% or less/year</b>	
	Since 1989 <i>C. mercuriale</i> has been recorded from 53 1km squares in	

	Wales. This was reduced to 45 squares for the last round of reporting and in the current period stands at just 15. There has undoubtedly been a decline in the number of occupied squares over this time period but these figures exaggerate reality. Comprehensive surveys took place in the late 1980s and 1990s (1990s (eg Jenkins 1997, Hopkins & Day 1997, Skidmore 1996, Woodman 2000), building up a picture of the status and distribution of <i>mercuriale</i> in Wales, but since the culmination of several research projects there has been reduced observer effort and this has resulted in substantial under-recording in recent years. It is therefore impossible to say with any certainty what the rate of decline has been long-term, but it is likely to be less than 25% (ie. lost from 13 squares)	
<b>2.4.12 Long-term trend Magnitude</b>  Optional	<b>a) Minimum</b>	
	See note 2.4.11	
	<b>b) Maximum</b>	
	See note 2.4.11	
	<b>c) Confidence interval</b>	
See note 2.4.11		
<b>2.4.13 Long term trend Method used</b>	<b>1</b>	
	See note 2.4.11	
<b>2.4.14 Favourable reference population</b>	<b>a) Number of individuals/agreed exceptions/other units</b>	
	<b>b) Operator</b>	
	<b>c) FRP is unknown indicated by "true"</b>	<b>False</b>
<b>d) Method used to set FRP</b>		
<b>2.4.15 Reason for change</b> Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to:	<b>a) Genuine change?</b>	<b>False</b>
	<b>b) Improved knowledge/more</b>	<b>False</b>

	<b>accurate data?</b>	
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>
	Change in population size between 2007 and 2013 is likely to be due to a reduction in observer effort over the reporting period	

<b>2.5 Habitat for the species</b>		
<b>2.5.1 Area estimation</b>	<b>3.5</b>	
	<p>The UK assessment (Boyce 2002) measured linear extent of watercourses and extant populations in Wales were estimated to occupy 23,050 metres of watercourse. Assuming an average width of 1metre per watercourse this equates to less than 2.5 sq kms of habitat. In 2003 and 2004 each Welsh site was re-assessed and habitat estimated as area (Boyce 2004, Boardman 2005). In total they reported 36,070 sq metres of suitable habitat on occupied sites. Subsequently some of the SACs have been monitored (Wilkinson 2009, 2011, Surry 2012) and they have recorded 1840 sq metres of habitat, though this excludes the extensive areas on Mynydd Preseli SAC. There are difficulties in comparing these results due to observer bias and further work needs to be done to address this problem</p> <p>There is thought to be a sufficient amount of habitat in the UK to support a viable population of the species.</p>	
<b>2.5.2 Year or period</b>	<b>2001-2012</b>	
	See note 2.5.1	
<b>2.5.3 Method used Habitat for the species</b>	<b>Complete survey/Complete survey or a statistically robust estimate</b>	
	See note 2.5.1	
<b>2.5.4 Quality of the habitat</b>	<b>a) Habitat quality</b>	<b>Moderate</b>
	<b>b) Assessment method</b>	<p><b>During the 2001 survey (Boyce 2002) suitable breeding habitat for <i>C. mercuriale</i> was defined as "an area of shallow, relatively slow-flowing open water, without excessive encroachment of rank vegetation or scrub, with frequent soft emergent herbs". All UK sites were visited in this survey and assessed as:</b></p> <p><b>Favourable - 200m length of watercourse providing suitable breeding habitat for southern damselfly.</b></p> <p><b>Unfavourable Recovering - 200m length of watercourse currently providing</b></p>



		<p>suitable breeding habitat for southern damselfly. Remedial management to increase area of suitable breeding habitat currently taking place.</p> <p><b>Unfavourable No Change</b> - 200m length of watercourse currently providing suitable breeding habitat for southern damselfly. No change in area of suitable breeding habitat occurring currently.</p> <p><b>Unfavourable Declining</b> - 200m length of watercourse currently providing suitable breeding habitat for southern damselfly. Area of suitable breeding habitat currently declining.</p> <p>Ten of the fourteen Welsh sites were classed as Favourable, one as Unfavourable Recovering, one as Unfavourable No Change, and two as Unfavourable Declining.</p> <p>Since 2002 habitat quality in Wales has been assessed by Boyce (2004), Boardman (2005), Wilkinson (2009), Wilkinson (2011), Surry (2012). Condition has been assessed against a standard Objective that assesses key attributes of habitat quality. In most sites, although limited in extent, habitat is generally in Favourable Condition but it would appear that there have been some losses due to deterioration of habitat that was present in 2001</p>
<b>2.5.5 Short-term trend Period</b>	<b>2001-2012</b>	
	See note 2.5.1	
<b>2.5.6 Short-term trend Trend direction</b>	<b>decrease</b>	
	Comparing the series of assessments that have been made since 2001 is difficult because of differences in method but it is evident from some sites that there has been a decline in the amount of available habitat	
<b>2.5.7 Long-term trend Period</b>	<b>1989-2012</b>	
	See note 2.5.8	
<b>2.5.8 Long-term trend Trend direction</b>	<b>unknown</b>	
	Data on the extent of occupied habitat does not exist prior to 2001	
<b>2.5.9 Area of suitable habitat for the species</b>	<b>a) Value in km<sup>2</sup></b>	<b>4</b>
	Coker (2002) investigated areas of unoccupied heathland in Pembrokeshire and identified possible sites for management that could create habitat for <i>C. mercuriale</i> . Some additional habitat could also be made available through management on the Gower Commons and	

	additional areas of habitat are being brought under management on Anglesey. The total area of potential habitat has not been measured but is unlikely to add up to more than 5000 sq metres	
	<b>b) Absence of data indicated as '0'</b>	
<b>2.5.10 Reason for change</b> Is the difference between the value reported at 2.5.1 and the previous reporting round mainly due to	<b>a) Genuine change?</b>	<b>False</b>
	See note 2.5.1	
	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>
In 2007 the amount of habitat was estimated for the UK as at most 82sq km, based on distribution maps at 1km sq level. It was noted in the report that that was likely to be a "very crude approximation"		

<b>2.6 Main pressures</b>		
<b>a) Pressure</b>	<b>b) Ranking</b>	<b>c) Pollution qualifier</b>
	H = high importance M = medium importance L = low importance	
A04: grazing	H	
H02: Pollution to groundwater (point sources and diffuse sources)	L	

The main pressure faced by <i>C. mercuriale</i> populations in Wales is under-grazing due to changes in stock density and availability. This is a difficult problem to overcome on the Common Land that the majority of populations occupy. Under-grazing leads to taller bankside vegetation that shades out the watercourse and also results in less trampling of the water margins, which is necessary to keep these shallow channels open and to provide the microhabitat heterogeneity favoured by the species. In a few sites eutrophication due to agricultural run-off from adjacent land is thought to have led to changes in water quality and hence composition of aquatic vegetation, which has implications through shading on water temperature.	
<b>2.6.1 Method used – Pressures</b>	<b>based exclusively or to a larger extent on real data from sites/occurrences or other data sources</b>
	Changes in habitat quality are detected through standardised monitoring on the SAC populations (which encompass most of the Welsh <i>mercuriale</i> populations) (Wilkinson 2009, 2011; Surry 2012). In addition, Boyce (2002) summarised pressures on all GB populations from observations made during site visits

2.7 Threats		
a) Threat	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
A04: grazing	H	
A07: use of biocides, hormones and chemicals	L	
H02: Pollution to groundwater (point sources and diffuse sources)	L	

The pressures currently experienced by *mercuriale* populations in Wales continue to be a threat. In addition, the application of pesticides to treat animals on Common Land is a potential threat

**2.7.1 Method used – Threats** expert opinion

2.8 Complementary information	
<b>2.8.1 Justification of % thresholds for trends</b>	
<b>2.8.2 Other relevant information</b>	
<b>2.8.3 Trans-boundary assessment</b>	

### 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	a) Unit	number of map 1x1 km grid cells
Estimation of population size included in the SAC network		

	<b>b) Minimum</b>	<b>22</b>
	All bar one of the extant Welsh populations are within SACs. As for population size overall, comprehensive surveys of distribution that would enable accurate values to be given for population unit have not been undertaken during this reporting period. It is likely that the number of occupied 1km squares in Wales is closer to the 2007 value of 44 than the 22 reported as a minimum here	
	<b>c) Maximum</b>	<b>44</b>
<b>3.1.2 Method used</b>	<b>Estimate based on expert opinion with no or minimal sampling</b> See note 3.1.1b	
<b>3.1.3 Trend of population size within the network</b> (short-term trend)	<b>decrease</b>  See note 2.4.6	

<b>3.2 Conservation measures</b>														
Conservation measures taken (i.e. already being implemented) within the reporting period and provided information about their importance, location and evaluation.														
<b>3.2.1 Measure</b>	<b>3.2.2 Type</b>					<b>3.2.3 Ranking</b>  H = high importance M = medium importance L = low importance	<b>3.2.4 Location</b>  where the measure is PRIMARILY applied			<b>3.2.5 Broad evaluation of the measure</b>				
	<b>a) Legal/statutory</b>	<b>b) Administrative</b>	<b>c) Contractual</b>	<b>d) Recurrent</b>	<b>e) One-off</b>		<b>a) Inside</b>	<b>b) Outside</b>	<b>c) Both inside &amp; outside</b>	<b>a) Maintain</b>	<b>b) Enhance</b>	<b>c) Long term</b>	<b>d) No effect</b>	<b>e) Unknown</b>
1.2: Measures needed, but not implemented				Y		M	Y				Y			
2.1: Maintaining grasslands and other open habitats				Y		H			Y	Y				

4.1: Restoring/improving water quality					Y	L			Y			Y				
6.3: Legal protection of habitats and species					Y	L			Y	Y						

Although some elements of management are limited by the location of populations on Common Land, considerable effort has been made to improve the condition of the habitat on some sites. For instance, a Management Plan (Install 2012) has been drawn up for the Pembrokeshire populations and habitat restoration has taken place on two sites under grant aid. On Gower the National Trust and the Environment Agency have collaborated to manage watercourses and CCW has strimmed encroaching scrub from the bankside. On Anglesey the current Anglesey and Llyn Fens LIFE+ Project has restored substantial areas of overgrown seepage fen. Establishing appropriate grazing regimes on the Commons would be the long-term aim but there are difficulties allied to agricultural and Common Land law.

The southern damselfly is included on Schedule 5 of the Wildlife & Countryside Act

Better management of grazing on the Commons is required, but this is hampered by multiple rights holders and legal constraints