

**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:

S1357 - Pine marten (*Martes martes*)

**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.

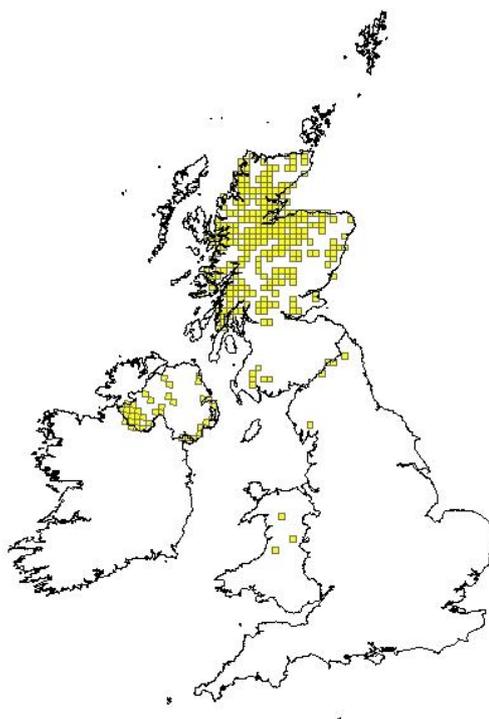
As of 1 April 2013, the Countryside Council for Wales, Environment Agency Wales and Forestry Commission Wales became Natural Resources Wales/Cyfoeth Naturiol Cymru

## 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>S1357</b>
	<b>0.2.2 Species scientific name</b>	<b><i>Martes martes</i></b>
	<b>0.2.3 Alternative species scientific name</b> Optional	
	<b>0.2.4 Common name</b> Optional	<b>Pine marten</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>	<p><b>Complete survey/Complete survey or a statistically robust estimate</b></p> <p>Only distribution points from corpses or DNA-verified scats are reported. This differs from the previous reporting round, when sightings were also included. DNA-verification of scats is now accepted as the most reliable survey method for very low density populations (Messenger et al 2010). Collation of sightings records from 1996-2007 (Birks &amp; Messenger 2010) suggests that the distribution of pine martens in England and Wales could be much wider. But high quality sightings reports are now usually followed up with a scat hunt in an attempt to provide DNA-verified evidence of the presence of pine martens. More general scat hunts have</p>
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	<p>also been completed in areas with a high concentration of sightings between 2008 and 2009 (Messenger et al 2010), but to date, none of these have returned positive records. However, it remains that the likely very low density of pine martens in Wales means that there could be some under-recording.</p> <p>Method used for distribution is recorded as '3', as only verified records are used, with no extrapolation or modelling. Data quality considered to be 'moderate', but further survey work is needed to clarify the distribution of the species.</p> <p>In Wales there are just two unequivocal records of pine martens from 2006 and 2007 (Birks and Messenger 2010). A further verified record dates from 1996 (Davison et al 2001). Late in 2012 the corpse of a male pine marten was found to the west of Newtown (VWT pers comm.). The origin of this animal is unknown, but DNA analysis confirmed it to be the same haploptype as the scats collected in 1996 and 2007 (Jordan et al 2012).</p>
<b>1.1.3 Year or period</b>	<b>2006-2012</b>
	The previous report used a date range of 1990-2006. The date range used in this report, 2006-2012, has been selected to reflect the period when DNA-verification of scats became established as a survey technique (see 1.1.2 Distribution method).
<b>1.1.4 Additional distribution map</b>	<b>False</b>
<b>1.1.5 Range map</b>	

<b>2.1 Biogeographical region &amp; marine regions</b>	<b>ATL</b>
<b>2.2 Published sources</b>	<p><b>"BALHARRY, E., JEFFERIES, D.J. &amp; BIRKS, J.D.S. 2008. Pine marten pp 447-455 in HARRIS, S &amp; YALDEN, D.W. Mammals of the British Isles: Handbook, 4th edition. The Mammal Society, Southampton.799pp.</b></p> <p><b>BATTERSBY, J (ed.) &amp; TRACKING MAMMALS PARTNERSHIP. 2005. UK Mammals: Species Status and Population Trends. Joint Nature Conservation Committee/Tracking Mammals Partnership.</b></p> <p><b>BIRKS, J. &amp; MESSENGER, J. 2010. Evidence of pine martens in England and Wales 1996-2007. The Vincent Wildlife Trust, Ledbury</b></p> <p><b>BIRKS, J.D.S., MESSENGER, J.E. &amp; HALLIWELL, E. 2005. Diversity of den sites used by pine martens <i>Martes martes</i>: a response to the scarcity of arboreal cavities? Mammal Review 35: 313-320.</b></p> <p><b>BRIGHT, P. 2001. Should Pine Martens be Re-introduced to England? In: Poland Bowen, C. (ed.) 2003 Conference Proceedings 2001-2002: The Return of the Native – The Reintroduction of Native Species Back into their Natural Habitat. p10. People's Trust for Endangered Species/Mammal Trust UK.</b></p> <p><b>BRIGHT, P.W. &amp; SMITHSON, T.J. 1997. Species Recovery Programme for the Pine Marten in England: 1995-96. English Nature Research Reports 240: 1-64. English Nature,</b></p>

	<p><b>Peterborough</b>  <b>Davison, A., Birks, J.D.S, Brookes, R.C. Messenger, J.E. and Griffiths, H.I. (2001). Mitochondrial phylogeography and population history of pine martens <i>Martes martes</i> compared with polecats <i>Mustela putorius</i>. <i>Molecular Ecology</i> 10: 2479-2488.</b>  <b>JORDAN, N. 2011. A strategy for restoring the pine marten to England and Wales. The Vincent Wildlife Trust, Ledbury</b>  <b>JORDAN, N., MESSENGER, J., TURNER, P., CROOSE, E., BIRKS, J., &amp; O'REILLY, C. (2012). Molecular comparison of historical and contemporary pine marten (<i>Martes martes</i>) populations in the British Isles: evidence of differing origins and fates, and implications for conservation management. <i>Conservation Genetics</i> 13: 1195-1212</b>  <b>MESSENGER, J., CROOSE, E., PETER TURNER, P. &amp; O'REILLY, C. 2010. The Vincent Wildlife Trust and Waterford Institute of Technology Pine Marten Scat DNA Survey of England and Wales 2008-2009. Vincent Wildlife Trust, Ledbury.</b>  <b>STRACHAN, C., JEFFERIES, D.J. &amp; CHANIN, P.R.F. 1996. Pine marten survey of England and Wales 1987–1988. Joint Nature Conservation Committee.</b>  <b>VELANDER, K.A. 1983. Pine marten survey of Scotland, England and Wales 1980-1982. Vincent Wildlife Trust, London."</b></p>
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<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>Only distribution points from corpses or DNA-verified scats are reported. This differs from the previous reporting round, when sightings were also included. DNA-verification of scats is now accepted as the most reliable survey method for very low density populations (Messenger et al 2010).</p> <p>Collation of sightings records from 1996-2007 (Birks &amp; Messenger 2010) suggests that the distribution of pine martens in England and Wales could be much wider. But high quality sightings reports are now usually followed up with a scat hunt in an attempt to provide DNA-verified evidence of the presence of pine martens. More general scat hunts have also been completed in areas with a high concentration of sightings between 2008 and 2009 (Messenger et al 2010), but to date, none of these have returned positive records. However, it remains that the likely very low density of pine martens in Wales means that there could be some under-recording.</p> <p>Method used for distribution is recorded as '3', as only verified records are used, with no extrapolation or modelling. Data quality considered to be 'moderate', but further survey work is needed to clarify the distribution of the species.</p> <p>In Wales there are just two unequivocal records of pine martens from</p>

	2006 and 2007 (Birks and Messenger 2010). A further verified record dates from 1996 (Davison et al 2001). Late in 2012 the corpse of a male pine marten was found to the west of Newtown (VWT pers comm.). The origin of this animal is unknown, but DNA analysis confirmed it to be the same haploptype as the scats collected in 1996 and 2007 (Jordan et al 2012).	
<b>2.3.3 Short-term trend Period</b>		
<b>2.3.4 Short term trend Trend direction</b>	<b>unknown</b>	
	The decision to include only records with physical validation (corpses, DNA) has resulted in an apparent loss of range. This is clearly due to the change in the method used. The conservation status of the species in Wales remains very poor and the true extent of pine martens is unknown due to their likely very low density making detection very difficult. The recent recovery of the corpse of a male pine marten (see 2.3.2) provides an interesting additional record, but it is not yet known whether this represents the discovery of a local population and an extension the known range of this species in Wales.	
<b>2.3.5 Short-term trend Magnitude</b>	<b>a) Minimum</b>	
	This is unknown due to the lack of data – see 2.3.4	
	<b>b) Maximum</b>	
	This is unknown due to the lack of data – see 2.3.4	
<b>2.3.6 Long-term trend Period</b>		
	See 2.3.7	
<b>2.3.7 Long-term trend Trend direction</b>	<b>unknown</b>	
	This is unknown due to the lack of data – see 2.3.4 Velander's (1983) survey revealed no evidence of populations in England and Wales. However, a field sign survey (without DNA-validation of scats) in 1987-88 found evidence of <i>M. martes</i> at several locations in north Wales (Strachan et al. 1996). Despite persistent sightings of pine martens in these areas since 1995 (Birks and Messenger 2010), a DNA-validated scat-based survey of 8 areas in Wales in 2008-9 failed to add to the previous validated records from 1996, 2006 and 2007 (Messenger et al., 2010).	
<b>2.3.8 Long-term trend Magnitude</b>	<b>a) Minimum</b>	
Optional	This is unknown due to the lack of data – see 2.3.4	
	<b>b) Maximum</b>	
	See 2.3.8a	
<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>True</b>
	Only distribution points from corpses or DNA-verified scats have been reported. This differs from the previous reporting round, when sightings were also included. DNA-verification of scats is now accepted as the most reliable survey method for very low density populations. The status of <i>M. martes</i> in these countries has been the subject of continuing debate, with a lack of clarity about the validity of records. The introduction of DNA-testing should help to resolve this issue.	
	<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>number of individuals</b>
	Marten population sizes can be estimated using pine marten occurrence and density estimates in different habitat types - the approach taken for the 2007 report. However, the likely very low <i>M. martes</i> density in Wales and the small number of verified records, means that these methods cannot be applied. It is therefore not possible to estimate pine marten population size in Wales.	
	<b>b) Minimum</b>	
	<b>c) Maximum</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>	
	There is no other population size unit that could be used as a proxy for individuals.	

	<b>b) Minimum</b>	
	<b>c) Maximum</b>	
<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 encountered to provide population size estimation</b>	
<b>2.4.4 Year or period</b>		
		See 2.4.5
<b>2.4.5 Method used Population size</b>	<b>Absent data</b>	
		It is not possible to determine a meaningful population size for Wales (see 2.4.1b)
<b>2.4.6 Short-term trend Period</b>		
		See 2.4.7
<b>2.4.7 Short-term trend Trend direction</b>	<b>unknown</b>	
		The absence of data on current <i>M. martes</i> population size in Wales (see 2.4.1b) means that it is not possible to calculate population trend.
<b>2.4.8 Short-term trend Magnitude</b>	<b>a) Minimum</b>	
		See 2.4.7
	<b>b) Maximum</b>	
	<b>c) Confidence interval</b>	
<b>2.4.9 Short-term trend Method used</b>	<b>Absent data</b>	
		See 2.4.7
<b>2.4.10 Long-term trend – Period</b>		
		See 2.4.11
<b>2.4.11 Long-term trend</b>	<b>unknown</b>	

<b>Trend direction</b>	The absence of data on current M martes population size in Wales (see 2.4.1b) means that it is not possible to calculate long term population trend. However, it is clear that there has been no recovery of the pine marten population in Wales.	
<b>2.4.12 Long-term trend Magnitude</b> Optional	<b>a) Minimum</b>	
	See 2.4.11	
	<b>b) Maximum</b>	
	<b>c) Confidence interval</b>	
<b>2.4.13 Long term trend Method used</b>	<b>0</b>	
	See 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 accurate data?</b>	<b>True</b>
	The decision to use only verified records to determine M martes population in Wales (see 2.3.2) and the likely very low density of the species in Wales means that it has not been possible to report a population size and hence change in population size since the last reporting round.	

	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.5 Habitat for the species</b>		
<b>2.5.1 Area estimation</b>	<b>300</b>	
	<p>The area of occupied 10km squares (ie 3 10km squares) has been used as a proxy for habitat surface area.</p> <p><i>M. martes</i> is found primarily in deciduous and coniferous forest and occasionally rocky areas (where woodland is scarce or fragmented); it strongly avoids open areas. It can also lives alongside human habitation, occupying wood stacks, farm buildings and the roof voids of houses. Scarcity of arboreal cavities may result in a shortage of suitable den sites and could in turn limit populations (Balharry et al. 2008).</p> <p>The habitat surface area reported (300km<sup>2</sup>) can be refined to adjust for the area of suitable habitat within the occupied 10km squares. Using the National Forest Inventory, published by the Forestry Commission in 2010, the area of suitable habitat within the occupied 10km squares is 49.07 km<sup>2</sup> (using all NFI habitat types). However, this doesn't represent a meaningful area of habitat as any individuals present within the squares identified are likely to be using a wider area that just the site of the verified record.</p> <p>It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species.</p>	
<b>2.5.2 Year or period</b>	<b>2006-2012</b>	
	2006-2012 is the date range used for the range data and this has been used as a proxy for habitat surface area.	
<b>2.5.3 Method used Habitat for the species</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>	
	See 2.5.1	
<b>2.5.4 Quality of the habitat</b>	<b>a) Habitat quality</b>	<b>Unknown</b>
	This is unknown.	
	See 2.5.1	
	<b>b) Assessment method</b>	<b>N/A</b>
<b>2.5.5 Short-term trend Period</b>	<b>2001-2012</b>	
	See 2.5.6	
<b>2.5.6 Short-term trend Trend direction</b>	<b>increase</b>	
	No habitat area was reported in 2007 so no precise trend value is known. However, the area of woodland in Wales has been increasing in recent years, and is likely to continue to increase with the Welsh Government's Glastir Woodland Creation Grant scheme.	
<b>2.5.7 Long-term trend Period</b>		
	See 2.5.8	

<b>2.5.8 Long-term trend Trend direction</b>	<b>unknown</b>	
	No habitat area was reported in 2007 so trend is unknown. See 2.5.8	
<b>2.5.9 Area of suitable habitat for the species</b>	<b>a) Value in km<sup>2</sup></b>	<b>3038</b>
	The area of suitable habitat for the species has been calculated as the total area of woodland in Wales, based on the National Forest Inventory (2010). This will be an overestimate as some woodland blocks will be too small and/or too isolated to support a pine marten population	
	<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 2.5.6	
	<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>2.6 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	
B02: Forest and Plantation management & use	M	
D01: Roads, paths and railroads	M	
F03: Hunting and collection of wild animals (terrestrial)	M	
K03: Interspecific faunal relations	M	
K05: reduced fecundity/ genetic depression	M	

The unclear status of *M. martes* in Wales means that pressures cannot easily be assessed. However, Jordan (2011) has considered the factors likely to be limiting pine marten recovery in England and Wales.

B02 Forest and plantation management – pine martens need habitat that provides sufficient foraging and breeding/resting sites. Pine martens have a relatively catholic diet and have adapted to a range of habitat types and associated prey availability in, for example, Ireland and NW Scotland. However, the availability of suitable arboreal den sites, and hence the removal of dead and dying trees, may be limiting factor (Birks et al 2005).

D01 Roads – there are unsubstantiated reports of pine marten road casualties in Wales, and any remaining individuals will be at risk of road traffic accidents.

F03 Hunting – the historical decline in pine marten populations has been attributed to persecution by gamekeepers. It has been suggested that competition with the more generalist fox (*Vulpes vulpes*) may be a factor in the lack of recovery of pine marten populations in Wales (Jordan 2011) and thus increased fox numbers resulting from habitat changes (see K03) and insufficient fox control may also be a pressure on remnant pine marten populations in Wales.

K03 Inter-specific animal relations – fragmentation and clearance of woodland may have benefited fox populations resulting in greater competition with pine martens (Jordan 2011).

K05 Reduced fecundity/genetic depression – the probable very low density of pine martens in Wales is likely to have resulted in reduced genetic diversity and may be limiting the ability of the population to recover.

In the absence of more reliable information on the factors limiting pine marten populations in Wales, all pressures have been ranked as 'medium importance'.

<b>2.6.1 Method used – Pressures</b>	<b>based only on expert judgements</b>
	It has not been possible to study the ecology of <i>M. martes</i> in Wales, as attempts to trap and then radio-track pine martens have been unsuccessful. Assessment of pressures is therefore based on what is known about the species elsewhere in the UK.

<b>2.7 Threats</b>		
<b>a) Threat</b>	<b>b) Ranking</b>	<b>c) Pollution qualifier</b>
	H = high importance M = medium importance L = low importance	
B02: Forest and Plantation management & use	M	
D01: Roads, paths and railroads	M	
F03: Hunting and collection of wild animals (terrestrial)	M	
K03: Interspecific faunal relations	M	
K05: reduced fecundity/ genetic depression	M	

If pine marten populations were to recover in Wales then they will be subject to the same set of threats that are currently considered to be pressures. Some threats, such as illegal persecution (F03) and road traffic accidents (D01) are likely to increase in significance as populations increase.

<b>2.7.1 Method used – Threats</b>	<b>expert opinion</b>
	See 2.6.1

<b>2.8 Complementary information</b>	
<b>2.8.1 Justification of % thresholds for trends</b>	
<b>2.8.2 Other relevant</b>	

<b>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

<b>3.1.1 Population size</b>  Estimation of population size included in the SAC network	<b>a) Unit</b>	
	<b>b) Minimum</b>	
	<b>c) Maximum</b>	
<b>3.1.2 Method used</b>		
<b>3.1.3 Trend of population size within the network</b> (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.

<b>3.2.1 Measure</b>	<b>3.2.2 Type</b>	<b>3.2.3 Ranking</b>	<b>3.2.4 Location</b>	<b>3.2.5 Broad evaluation of the measure</b>
		H = high importance	where the measure is PRIMARILY applied	

	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

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