

**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:

S1358 - Polecat (*Mustela putorius*)

**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.

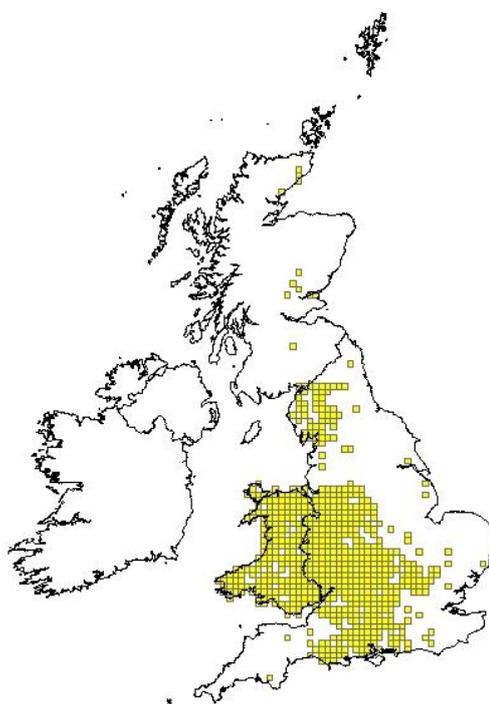
As of 1 April 2013, the Countryside Council for Wales, Environment Agency Wales and Forestry Commission Wales became Natural Resources Wales/Cyfoeth Naturiol Cymru

## 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>S1358</b>
	<b>0.2.2 Species scientific name</b>	<b><i>Mustela putorius</i></b>
	<b>0.2.3 Alternative species scientific name</b> Optional	
	<b>0.2.4 Common name</b> Optional	<b>Polecat</b>

### 1.1 Maps

<b>1.1.1 Distribution map</b>	<b>Sensitive</b>	<b>False</b>
Distribution recording is complicated by confusion with polecat-ferret hybrids, but methods for identifying true polecats by pelage characteristics are now well-established. Nevertheless, it is likely that some hybrids are still reported as true polecats, particularly when independent verification is not possible (e.g. sightings) and records outside the main distribution should be treated with caution.		



<b>1.1.2 Method used - map</b>	<b>Complete survey/Complete survey or a statistically robust estimate</b>
	Analysis of polecat distribution (and population estimates) rely largely on national polecat surveys undertaken by the Vincent Wildlife Trust (VWT) between 1993-1997 (Birks and Kitchener 1999) and 2004-2006 (Birks 2008). When combined with other records there is good coverage of

	Wales. There are some hectads that previously contained records that are now blank in the present distribution map. This is considered to be due to lack of data rather than the loss of polecats in those areas. However, overall the 10km square data is considered to provide a 'good' representation of polecat distribution in Wales.
<b>1.1.3 Year or period</b>	<b>2000-2012</b>
	The date range used, 2000-2012 was chosen to include VWT national survey and data from Welsh LRCs.
<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>"BATTERSBY, J. (ED.) 2005. UK Mammals: Species Status and Population Trends. Joint Nature Conservation Committee/Tracking Mammals Partnership.</b></p> <p><b>BIRKS, JDS 2008. The polecat survey of Britain 2004-2006. Vincent Wildlife Trust, Ledbury</b></p> <p><b>BIRKS, J.D.S. and KITCHENER, A.C. 1999. The Distribution and Status of the Polecat <i>Mustela putorius</i> in Britain in the 1990s. Vincent Wildlife Trust, London.</b></p> <p><b>BIRKS, J.D.S. and KITCHENER, A.C. 2008. Polecat <i>Mustela putorius</i>. Pp. 476-487 in HARRIS, S &amp; YALDEN, D.W. Mammals of the British Isles: Handbook, 4th edition. The Mammal Society, Southampton.799pp.</b></p> <p><b>HARRIS, S., MORRIS, P., WRAY, S. AND YALDEN, D. 1995. A Review of British Mammals. Joint Nature Conservation Committee.</b></p> <p><b>MACDONALD, D.W. AND TATTERSALL, F.T. 2001 Britain's Mammals: The Challenge for Conservation. Mammals Trust UK/WildCru."</b></p>

<b>2.3 Range</b>	
<b>2.3.1 Surface area Range</b>	Recolonisation of Wales is now almost complete, with <i>M. putorius</i> being recorded in almost every 10km square.
<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>Analysis of polecat distribution (and population estimates) rely largely on national polecat surveys undertaken by the Vincent Wildlife Trust (VWT) between 1993-1997 (Birks and Kitchener 1999) and 2004-2006 (Birks 2008). When combined with other records there is good coverage of Wales. There are some hectads that previously contained records that are now blank in the present distribution map. This is considered to be due to lack of data rather than the loss of polecats in</p>

	those areas. However, overall the 10km square data is considered to provide a 'good' representation of polecat distribution in Wales.	
<b>2.3.3 Short-term trend Period</b>	<b>2000-2012</b>	
	The date range used, 2000-2012 was chosen to include VWT national survey and data from Welsh LRCs.	
<b>2.3.4 Short term trend Trend direction</b>		
	Polecats have continued to expand their range in Wales, although there are now few areas where they have not been recorded.	
<b>2.3.5 Short-term trend Magnitude</b>	<b>a) Minimum</b>	
	The VWT national polecat surveys (Birks & Kitchener 1999 – table 5.3, Birks 2008 – table 5.13) considered the total number of occupied 10 km squares to be 206 in 1997 (cumulative total from records between 1959-1997) and 219 in 2006 (cumulative total from records between 1959-2006). This represents an increase in 10km square occupancy from 73% to 77% (from a total of 283 10km squares in Wales). Recolonisation of Wales by <i>M. putorius</i> is now almost complete.	
	<b>b) Maximum</b>	
	See 2.3.5a	
<b>2.3.6 Long-term trend Period</b>	<b>1989-2012</b>	
	24 year period preceding 2012	
<b>2.3.7 Long-term trend Trend direction</b>	<b>increase</b>	
	There has been an expansion of the range of the polecat in Wales since 1989, particularly in the SE and Anglesey (see Birks & Kitchener 1999, figure 4.3 and Birks 2008, figure 5.3 which shows new areas with records of polecat).	
<b>2.3.8 Long-term trend Magnitude</b>  Optional	<b>a) Minimum</b>	
	There is inadequate data to calculate range expansion since 1989.	
	<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>True</b>
	Polecat distribution has been recovering since its nadir in the early 20th century and recolonisation of Wales is now almost complete.	
	<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>number of individuals</b>
	Individuals were used as the unit for population size estimation	
	<b>b) Minimum</b>	<b>18448</b>
	See 2.4.5	
	<b>c) Maximum</b>	<b>18448</b>
See 2.4.5		
<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>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>	<b>2006-</b> Birks (2008) updated the population size estimate based on distribution information gathered in 2006	
<b>2.4.5 Method used Population size</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b> In order to improve understanding of <i>M. putorius</i> ' recovery in the mid-1990s, a monitoring system based upon co-ordinated live-trapping by volunteers was developed and tested. 136 1km squares were each live-trapped for seven days within the species' current range (Birks and Kitchener 1999). These data were used to derive winter population density estimates for the 'current core' of <i>M. putorius</i> ' range (101 <i>M. putorius</i> per 10-km square) and for the 'current fringe' (69 <i>M. putorius</i> per 10km square). Results of the distribution survey were used to calculate the total population size in 1997, which was estimated to be 17,691 in Wales (Scotland 483, England 20,207). This estimate was updated using the range data from the 2004-2006 survey to take into account the expansion of the range of the species (Birks, 2008 – table 5.14). Population size in Wales was estimated to be 18,448 (Scotland 345, England 20,207), an increase of 4.3% (Scotland -28.6%, England +38.5%) since 1997. The 2006 population estimate uses density estimates based on live trapping results from the 1990s. It assumes that the densities previously calculated still apply and that the vice-counties previously assigned as 'current core' and 'current fringe' still apply. It is possible that in some areas, particularly parts of Wales, densities have increased so that fringe areas would now be considered part of the core range. The 2006 population estimate may therefore have underestimated the total population size.	
<b>2.4.6 Short-term trend Period</b>	<b>1997-2006</b> The short term population trend has been calculated using the changes in the population estimates from 1997 and 2006. See 2.4.5 for details on the caveats for these estimates.	
<b>2.4.7 Short-term trend Trend direction</b>	<b>increase</b> Polecat range has continued to expand in Wales and population size is expected to have reflected this increase in range. This assumption has been used to calculate estimated population sizes - see 2.4.5	
<b>2.4.8 Short-term trend Magnitude</b>	<b>a) Minimum</b>	<b>4.3</b>
	See 2.4.5	
	<b>b) Maximum</b>	<b>4.3</b>
	See 2.4.5	
	<b>c) Confidence interval</b>	
<b>2.4.9 Short-term trend Method used</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>	

	See 2.4.5	
<b>2.4.10 Long-term trend – Period</b>	No data is available to calculate long term trend	
<b>2.4.11 Long-term trend Trend direction</b>	No data is available to calculate long term trend	
<b>2.4.12 Long-term trend Magnitude</b> Optional	<b>a) Minimum</b>	
	No data is available to calculate long term trend	
	<b>b) Maximum</b>	
	No data is available to calculate long term trend	
	<b>c) Confidence interval</b>	
<b>2.4.13 Long term trend Method used</b>	<b>0</b>	
	No data is available to calculate long term trend	
<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>True</b>
	Polecat range is expanding.	
	<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>2.5 Habitat for the species</b>		
<b>2.5.1 Area estimation</b>	<b>20826</b>	
	<p>The polecat occupies a wide range of habitats, with general association with lowlands. A radio-tracking study (Birks and Kitchener, 1999) found that woodland edges, field boundaries and farm buildings were preferred habitats, with open fields and suburban areas least favoured; farm buildings were most used during winter months. An association was also identified between <i>M. putorius</i> and rabbit warrens. The study found that the mean home range was 213ha and 125ha for males and females, respectively. <i>M. putorius</i> are primarily nocturnal; 72.4 % of activity is undertaken in the dark. Activity during the day was typically recorded from individuals that were underground in rabbit warrens, in farm buildings, or in thick cover.</p> <p>In Wales, polecat is assumed to occupy all of Wales. This will be an overestimate, but no other effective method of identifying available polecat habitat.</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>2012-</b>	
	Area of Wales as calculated in 2012 - see 2.5.1	
<b>2.5.3 Method used Habitat for the species</b>	<b>Estimate based on expert opinion with no or minimal sampling</b>	
	See 2.5.1	
<b>2.5.4 Quality of the habitat</b>	<b>a) Habitat quality</b>	<b>Unknown</b>
	Quality of habitat is unknown.	
	<b>b) Assessment method</b>	<b>N/A</b>
	See 2.5.4a	
<b>2.5.5 Short-term trend Period</b>		
<b>2.5.6 Short-term trend Trend direction</b>	<b>unknown</b>	
	Unknown	
<b>2.5.7 Long-term trend Period</b>		
<b>2.5.8 Long-term trend Trend direction</b>	<b>unknown</b>	
	Unknown	
<b>2.5.9 Area of suitable habitat for the species</b>	<b>a) Value in km<sup>2</sup></b>	<b>20826</b>
	Same as 2.5.1 - Polecat is thought to be occupying all suitable habitat. See 2.5.1	
	<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>
	<b>b) Improved knowledge/more accurate data?</b>	<b>True</b>
	Previous reporting round stated areas of habitat was unknown.	
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

2.6 Main pressures		
a) Pressure	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
I01: invasive non-native species	H	
A02: modification of cultivation practices	M	
A07: use of biocides, hormones and chemicals	M	
A10: Restructuring agricultural land holding	M	
F03: Hunting and collection of wild animals (terrestrial)	M	
D01: Roads, paths and railroads	L	
E01: Urbanised areas, human habitation	L	

Issues that continue to affect *M. putorius* include road accidents, secondary rodenticide poisoning, and the loss of genetic integrity through hybridisation with feral domestic ferret *M. furo*. Low public awareness and ambiguous legal protection are also a concern. Although it is thought that persecution (both deliberate and non-deliberate) continues in some areas, there is no evidence that this has hindered *M. putorius*' recovery (Birks & Kitchener 1999, Birks 2008).

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

There is some research evidence of the issues that could affect polecat populations. But no direct evidence of impact on populations.

**2.7 Threats**

a) Threat	b) Ranking	c) Pollution qualifier
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	H = high importance M = medium importance L = low importance	
I03: introduced genetic material, GMO	H	
A02: modification of cultivation practices	M	
A07: use of biocides, hormones and chemicals	M	
A10: Restructuring agricultural land holding	M	
F03: Hunting and collection of wild animals (terrestrial)	M	
D01: Roads, paths and railroads	L	
E01: Urbanised areas, human habitation	L	

It is expected that polecats will continue to be subject to same pressures as at present - see 2.6

**2.7.1 Method used – Threats**

**expert opinion**

No modelling information is available for polecat.

**2.8 Complementary information**

**2.8.1 Justification of % thresholds for trends**

**2.8.2 Other relevant information**

**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	
<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.														
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