

Wall Mason Bee (*Osmia parietina*)



Wall mason bee
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This rare solitary bee was first described in 1828 flying around walls near Ambleside. This led its discoverer to give it the scientific name of *Osmia parietina* ('parietina' meaning 'wall').

It is predominantly black, with red-brown hair on the thorax. The abdomen has a blue metallic glint and the female has a black pollen brush underneath.

The adult bee appears to be dependent on the flowers of bird's-foot trefoil (*Lotus corniculatus*), from which it collects pollen and nectar. Details of the nest have not been described, but the cells are probably constructed from chewed-up plant material. The nest is situated in holes in various substrates such as cracks in stones, drystone walls and dead wood. All nest sites seem to need to be in full sun without shading¹.

Like some other mason bees, this species appears to occur at scattered locations at very low population densities – often only one or two bees are ever seen on a site. This, coupled with the fact that it only flies on very hot, sunny days, limits opportunities to find and observe it and, consequently, it may be under-recorded.

Main Habitat(s): In Lancashire - open, sheltered, areas in scrubby woodland on limestone, with reflective rock and patches of bird's-foot trefoil. One site, Carnforth Ironworks, is re-vegetated derelict industrial land that mimics this habitat.

National Status

The wall mason bee is found sporadically in western and northern Britain, from west Wales northwards to west and central Scotland⁽²⁾.

It has been recorded from fewer than sixteen 10 km squares since 1970 and is therefore classed as 'Nationally Rare' (RDB3)⁽³⁾. The only records within the last 5 years relate to six locations in Lancashire and Cumbria ⁽⁴⁾ and two at coastal sites on the Llyn Peninsula, in Wales, found in 1998 ⁽⁵⁾.

The paucity and scattered nature of records suggest that this has never been a common species, but it seems to have persisted in very low numbers at widely scattered locations. The Lancashire/Cumbria sites represent the largest concentration of populations currently known in Britain, and thus are of major importance in the national context.

Regional Status

The sites in Lancashire and Cumbria are the only ones known in North West England. The increase from one to six over the last 5 years is a result of increased observation, and does not suggest an increasing population.

Local Status

The three populations in Lancashire represent half of those known in England. The three sites in Lancashire from which this species has been recorded are:

Gait Barrows NNR: First found in 1979, and seen regularly at one location since 1995 and, occasionally, at another. The maximum number of females seen on a visit is three.

Carnforth Ironworks: First found, 1995. It has been seen regularly at one location and several times at another. The maximum number of females seen is three.

Yealand Hall and Thrang End Allotment SSSI: First found in 1998, the Bee has been confirmed at two locations in 1999. The maximum number of females seen is about six.

Current factors affecting the species

The national SAP for this species suggests that agricultural intensification of upland herb-rich pastures is a factor likely to be the cause of decline in this species.

It is not known to what, if any, extent this has affected the species in Lancashire. Species-rich limestone grassland is a habitat that has certainly been reduced in the county by intensification. However, in view of its association in Lancashire with open areas within woodland on limestone, intensification may not be an important issue here.

The "destruction of drystone walls" and "inappropriate management of pasture woodlands" are also identified in the national SAP as factors adversely affecting this bee. Again, whether or not these are factors operate against the species in Lancashire is unknown.

Current Action / Mechanisms

Management at Gait Barrows NNR, though not specifically aimed at this species, should help to maintain suitable open habitat for nests. In particular, coppicing, glade creation and ride widening operations are thought to be beneficial. At the present, however, populations remain extremely small and localised and show no sign of expanding into neighbouring habitats.

At Yealand Hall Allotment (the part of the SSSI where the bee has been found), similar work to that being carried out at Gait Barrows is being conducted under a Countryside Stewardship Agreement.

Carnforth Ironworks has been identified as a non-statutory Biological Heritage Site, in part at least, because of the records of wall mason bee. It is not managed at the present.

The national SAP proposes a target to "Enhance the population size at all sites by 2010." The Plan acknowledges, however, that a programme of research is needed first to find out more about the bee's ecology to see what (if any) management measures will boost numbers. Since wherever this species occurs, it has a very low population, it may not respond dramatically to a sudden increase in suitable habitat.

Another target in the UK SAP is to "Ensure that there are 20 viable populations within the historic range by 2010." Until more is known about this species, introduction to new or former sites does not appear to be a realistic proposition. It is considered here that the target is more likely to be achieved by finding further sites where the Bee already exists, then monitoring and conserving these.

The Countryside Stewardship Scheme can fund the sympathetic restoration of drystone walls and this may be a mechanism that might be used if this is shown to be an issue in Lancashire.

Objectives, targets and proposed actions for wall mason bee in Lancashire

Broad Objective:	A. Determine the local distribution of this species and establish monitoring systems			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Undertake survey work to determine the exact status of the species within Morecambe Bay area	1. Identify potential habitat on SSSIs and non statutory wildlife sites and survey these areas in 2001/2 for presence of species. (High)	EN, BHS P/ship, LCC	S	RM
	2. Repeat this survey in 2006 and subsequently every five years. (High)	EN	O	RM
1. Monitor occurrence of this species at sites with recent records.	1. Monitor known sites on annual basis from 2001 onwards (High)	EN	O	RM
	2. Set up local database to record all sightings (High).	Fleetwood Museum	S	RM
	3. Encourage local entomologists to search for wall mason bee in appropriate season. (High)	Fleetwood Museum	O	RM
Broad Objective:	B. Research ecology of species in order to inform management of sites.			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type

1. Review current knowledge/ research initiatives relating to this species at the national and local levels.	1. Liaise with national lead agency (Aculeate Working Group). (Medium)	EN, AWG	M	RM
	2. Review local/national literature (Medium)	Local Nats	M	RM
	3. Publish results in entomological press (Low)	Local Nats	M	RM
2. Encourage research on local sites into the parasites & nectar, pollen and nesting requirements of this species	1. Set up research programmes with local entomologists and HE/FE departments (Medium).	EN, Local Nats, FE/HE	L	RM
Broad Objective:	C. Maintain populations at existing sites and at new ones if discovered			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Safeguard sites with recent records of the species.	1. Consider notifying as SSSIs all sites with viable populations of wall mason bee where this is necessary to ensure their long-term protection and appropriate management. (Medium)	EN	O	SS
2. Ensure that the wall mason bee's requirements are taken into account at all sites where it occurs or for which there are recent records.	1. Periodically review management of relevant SSSIs to check that practices conform with present state of knowledge regarding the conservation of wall mason bee. (High)	EN,	O	LM
	2. Advise owners and managers of Carnforth Ironworks site of the importance of the species and the need to secure beneficial management for it in the long term. (High)	EN, BHSP, Land-managers	S	A
	3. Target Countryside stewardship at any site where colonies of wall mason bee are found. (High)	MAFF	O	A, LM

Broad Objective:	D. Promote the wall mason bee as a flagship species in the Lancashire BAP			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Produce material aimed at the public that explains the importance of the wall mason bee in the Morecambe Bay area.	1. Include information about the wall mason bee in newsletters, site leaflets and interpretative material.	EN, MBP, AONB CMS	O	PR
	2. Consider mention of mason bee in materials concerning wildlife, cultural and historical value of drystone walls.	AONB CMS	O	PR

Related Action Plans:

- Broadleaved and mixed woodland HAP
- Calcareous grassland HAP
- Limestone pavement HAP
- Whorl snails SAP

References & additional reading:

1. HMSO (1999) UK Biodiversity Group Tranche 2 Action Plans - Vol IV -Invertebrates - *Osmia parietina* (a mason bee) pp265-7.
2. Else, G.R. (In Prep) British Bees.
3. Falk, S. (1991) A review of the scarce and threatened bees, wasps and ants of Great Britain. NCC.
4. Robinson, N.A. (1999) The RDB3 Mason Bee *Osmia parietina* in Lancashire and Cumbria in 1999. Unpublished Report to EN Species Recovery Programme, November 1999.
5. Clee, C.A. (1999) Pers. com.

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