

Southern Wood Ant (*Formica rufa*)



Southern Wood Ant (Formica rufa)
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The southern (or red) wood ant is a large, aggressive ant with a reddish thorax and black head and abdomen. It builds large, conspicuous mound nests in woodland, often on the edge of paths, rides or openings where they receive sunlight but are sheltered from the rain.

The nests are composed of vegetable material with a soil base that becomes larger as the nest grows older. Trails lead to, and ascend, nearby trees where the workers collect honeydew from aphids.

Workers from wood ant colonies also forage in the trees and on the woodland floor for small invertebrate prey. These ants are very important in commercial forestry because they consume a large biomass of insects regarded as timber pests. For this reason, wood ants have long been legally protected in many European countries and they have been artificially introduced to some areas.

The southern wood ant requires warmer and drier conditions than a related ant, the northern wood ant, which is more of a northerly, upland species. The two ant species may be found together in north Wales, where their ranges overlap slightly. But in Cumbria, although both species occur, they do not overlap and have never been found together.

Main Habitat(s): Deciduous or mixed woodland (in North West England on limestone).

National Status

The southern wood ant in Britain is confined to England and Wales but is widespread in suitable habitat in the Midlands and South of England⁽¹⁾. There has been some contraction of its range, especially in northern, central and eastern England and in parts of Wales⁽²⁾ but in many southerly parts of its range it is still locally common and even expanding.

Regional Status

The ant has disappeared from its former sites in the Lake District since the 1950s and it is now confined to the Cumbria and Lancashire parts of the Arnside-Silverdale AONB⁽³⁾. It has also been lost from its former sites in Cheshire⁽⁴⁾ so there are no other populations in NW England. In North East England it is no longer present in Northumberland and there is only one surviving population in Yorkshire⁽⁵⁾. The Lancashire/Cumbria populations are now of major importance in the North of England and are currently the northern limit of the species' range in Britain.

Local Status

In Lancashire this ant has disappeared from two of the five sites where it was reported in the 1950s, but is still well established at the other three and does not give any indication of imminent decline.

The three sites in Lancashire are:

Gait Barrows NNR: over 100 nests known.

Eaves Wood SSSI (National Trust owned): 34 nests counted by the National Trust.

Cringlebarrow and Deepdale SSSI (Private); c. 20 nests counted.

Current factors affecting the Species

May is believed to be the critical month for the colony and severely wet weather at this time can prevent it from rearing its new season's brood. A run of exceptionally wet springs in the 1960s is believed to have been responsible for the collapse of the Lake District populations, causing extinction on several sites.

Populations in the Arnside-Silverdale AONB survived but they could be vulnerable to adverse weather in future. If climate alters to become generally milder this should favour the species, but wetter conditions will not.

Although wood ant nests can persist for a long time under closed canopy, they thrive better with some sunlight. Once woodland has become over-mature it is difficult to retrieve the situation, because heavy thinning or drastic coppicing may remove trees that are important for foraging or trees which shelter nests from rain. Too much light can also promote the growth of ground vegetation such as bramble, which can smother nests.

Ideally, woodland management should take account of individual nests of wood ants. Trees or shrubs that shelter the nests, usually on the north, should not be removed. More light may be admitted from the south and west and new open areas created nearby for new colonisation.

In the absence of specific management for them, wood ants tend to benefit from continual low-key management that does not drastically alter the habitat. (Examples of such operations include selective thinning/timber extraction, small-scale coppicing and the creation of glades for butterflies or pheasants.)

Wood ants do not easily colonise new areas and for this reason, it is recommended that the emphasis for conservation effort should be upon trying to maintain existing populations rather than on attempting reintroduction to former sites.

Current Action / Mechanisms

The Lancashire locations are all statutory nature conservation sites. The sites are all currently subject to management which, while not specifically aimed at the ants, is believed to benefit them.

A survey of the status of the southern wood ant in Cumbria and Lancashire was commissioned by English Nature in 1999. The results were reported to site owners and managers and they were alerted to the importance of their sites for wood ants, and of the desirability of their continuing sympathetic management.

Objectives, targets and proposed actions for southern wood ant in Lancashire

Broad Objective:	A. Maintain populations at existing three sites			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Continue woodland management practices that conform with the needs of the wood ant on all known sites.	1. Ensure that wood ant requirements are taken into account in site management. (High)	EN, FA, Land-managers	O	A, LM
Broad Objective:	B. Monitor viability of existing populations			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Undertake regular surveys to determine the status of the species within the Morecambe Bay Area.	1. Map location of every colony recorded in 1999. (High)	EN, NT, Land-owners	S	RM
	2. Repeat 1999 survey in 2004 and subsequently every five years. (High)	EN, NT, Land-owners	L	RM
Broad Objective:	C. Promote the Southern Wood Ant as a flagship species in the Lancashire BAP			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Produce material aimed at the general public that explains the importance of the Southern Wood Ant populations in the Arnside-Silverdale AONB.	1. Include information about the southern wood ant in newsletters, site leaflets and interpretative material.	EN, NT, AONB CMS	O	PR

Related Action Plans:

- Broadleaved and mixed woodland HAP
- Limestone pavement HAP
- Shining guest ant SAP

References & additional reading:

1. BWARS (1997) Provisional Atlas of the Aculeate Hymenoptera of Britain and Ireland Part 1. NERC.
2. Fowles, A.P. (1994) A review of the ecology of the red wood ant *Formica rufa* L. and its status in Wales. CCW.
3. Robinson, N.A.I (1999) The status of the Red Wood Ant *Formica rufa* L. in Cumbria and Lancashire in 1999. Unpublished Report to English Nature Species Recovery Programme.
4. Clee, C. (2000) Pers Comm.
5. Collingwood, C.A.(2000) Pers Comm.

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