

Lancaster Whitebeam (*Sorbus lancastriensis*)



Lancaster whitebeam in fruit
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There are fourteen species of whitebeam trees that are found only in the UK⁽¹⁾. Many of these endemics, like the Lancaster whitebeam, are confined to very small areas of limestone habitat. Each species can be distinguished from the others only by subtle differences in size, growth pattern of the tree and the shape and structure of its leaves.

The Lancaster whitebeam grows up to 5 metres in height. It has broad leaves with prominent veins. The upper two-thirds of the leaf margins have jagged 'teeth'. The leaves have a covering of woolly, white hairs particularly on their lower surface. These hairs give the leaf undersides a silvery-white colour.

The upper surface is more grey-green. Small white flowers are produced in flat-topped bunches in late spring and are followed by crimson berries in late summer/autumn.

The berries are eaten and dispersed by birds and this is thought to be the main way that whitebeams of all species colonise new areas.

Main Habitat(s): Limestone cliff and scree; limestone pavement; woodland edge and open limestone woodland.

National status

This species is endemic to Britain and is restricted to limestone areas around Morecambe Bay.

It is a British Red Data Book species ⁽²⁾, where its status is given as 'Low Risk – Near Threatened'.

Regional status

The region supports the only natural population of this species in Britain ⁽²⁾. The populations in Lancashire are, therefore, of at least national, if not international, importance.

The species has been recorded from 35 sites in eight 10 km squares around Morecambe Bay ⁽⁶⁾. It is estimated that there are around 2000 trees in total in this area.

Local status

The tree occurs in Lancashire in six 2 km squares in the Arnside-Silverdale AONB ⁽³⁾. The coastal cliffs from Warton Crag to the county boundary north of Silverdale support a significant population.

Current factors affecting the Species

The species is not considered to be currently under significant threat. However, there are a number of factors that restrict its numbers and could affect its survival.

Where the plant occurs in woodland it prefers relatively open situations and is vulnerable to becoming shaded out by other trees. Lack of management or inappropriate management of sites could in the long-term lead to loss of the species from certain sites.

Crevices in bare rock provide opportunities for new saplings to become established but in parts of its range this potential habitat is being lost due to the spread into the wild of non-native *Cotoneaster* sown by birds feeding in gardens.

Competition from regenerating garden whitebeam species may also be having an effect. Three whitebeam species [Swedish whitebeam (*Sorbus intermedia*), common whitebeam (*Sorbus aria*) and *Sorbus croceocarpa*] have been found regenerating successfully in Lancaster whitebeam habitat within the Arnside-Silverdale AONB.

Additional ecological factors that have been implicated in the decline of other native endemic whitebeams include grazing, disease and low seed productivity. More research will be needed to assess the relative importance of each of these factors with respect to the Lancaster whitebeam.

Current Action / Mechanisms

Many of the sites supporting populations of this species enjoy some measure of statutory protection as SSSI's or indirectly through Limestone Pavement Protection Orders.

Other sites have been identified as Biological Heritage Sites using the Guidelines for Site Selection, (Guideline Ff1)⁽⁴⁾.

Management for nature conservation takes place on the SSSIs, National and Local Nature Reserves and on National Trust land where the whitebeam occurs. However, specific objectives for the species need developing within most of these sites.

Survey results were reported by Tim Rich in 1986 and 1992 ^(5,6).

Objectives, targets and proposed actions for Lancaster whitebeam in Lancashire

Broad Objective:	A. Safeguard known populations of Lancaster Whitebeam
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Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Ensure that the individual plants and populations are not damaged by inappropriate development.	1. Check that relevant planning authorities are aware of locations of Lancaster whitebeams and have planning policies that take account of their importance. (High)	LCC, Lancaster CC, AONB CMS, SLDC	S	A, SS
2. Advise landowners and managers of the presence and importance of the species.	1. Contact landowners of all sites with the whitebeam to advise on specific management for its conservation and of any potential damaging actions. (Medium)	BHSP, AONB CMS	M	A, LM
3. Ensure that populations are not shaded out by woodland and scrub encroachment.	1. Liaise with managers of sites with the whitebeam to ensure that adequate provision exists in management plans / work programmes to prevent populations being shaded out. (Medium)	BHSP, AONB CMS, EN, WT, RSPB, Lancaster CC, NT, FA	M	A, LM
4. Prevent introduced species from colonising locations that threaten Lancaster whitebeam populations.	1. Identify and eradicate non-native whitebeams establishing on land managed for conservation in the vicinity of key whitebeam populations. (Medium)	LCC, AONB CMS, EN, WT, RSPB, Lancaster CC, NT	O	LM
	2. Eradicate Cotoneaster establishing on land managed for conservation in the vicinity of key whitebeam populations. (Medium)	LCC, AONB CMS, EN, WT, RSPB, Lancaster CC, NT	O	LM
Broad Objective:	B. By 2005 establish location of the key populations of Lancaster whitebeam			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Establish and maintain a database of	1. Collate existing records and enter into database. (High)	LCC	S	RM

Lancaster whitebeam populations	2. Enter new records as and when these become available. (High)	LCC	O	RM
2. Determine distribution, abundance, age and state of all populations	1. By 2005 complete a survey of the species in the Arnside / Silverdale AONB to check on known populations and, if possible, discover new ones. (Medium)	LCC, WT	M	RM
Broad Objective:	C. Encourage research into ecological factors limiting numbers of Lancaster whitebeam			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Establish monitoring of selected populations to gauge relative importance of limiting factors	1. By 2002 design a methodology to monitor recruitment, seed productivity, disease and herbivory in selected populations. (Low)	LCC, BSBI recorders, HE/FE	M	RM
	2. Implement monitoring scheme from 2003 onwards. (Low)	LCC, BSBI recorders, HE/FE	L	RM
Broad Objective:	D. Promote the Lancaster whitebeam as a flagship species in the Lancashire BAP			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Establish seed-grown material for interpretative purposes by 2005.	1. Propagate seeds for amenity planting at locations where public interpretation is appropriate within the AONB (Medium)	LCC, LancasterCC, AONB CMS	L	PR
2. Produce material aimed at the general public that explains the importance of the Lancaster whitebeam and what people can do to conserve it.	1. Include information about the whitebeam in newsletters and leaflets. (Low)	Lancaster CC, AONB, CMS, WT	O	PR
	2. In the vicinity of key populations, work with community groups to alert people to the threat to this species posed by garden whitebeams and cotoneasters. (Low)	Lancaster CC, AONB, CMS, WT	L	PR

Related Action Plans:

- Limestone pavement HAP
- Woodland HAP

References & additional reading:

1. Stace, C.A. (1991) *New Flora of the British Isles*. Cambridge University Press.
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3. Livermore L A & Livermore P.D. (1987). *The Flowering Plants and Ferns of North Lancashire*, L A Livermore & P.D. Livermore.
4. Lancashire County Council (1998). *Biological Heritage Sites – Guidelines for Site Selection*, Lancashire County Council.
5. Rich, T.C.G. & Baecker, M. (1986) The distribution of *Sorbus lancestransis* E.F Warburg. *Watsonia* 16: 83.
6. Rich, T.C.G. & Baecker, M. (1992) Additional Records of *Sorbus lancestransis* E.F Warburg (Rosaceae). *Watsonia* 16: 139 – 140.

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