This leaflet provides guidance on how to minimise disturbance to lichens when carrying out remedial tree works. It has been produced by The Dartmoor National Park Authority and the Dart Biodiversity Project. The production of this leaflet is part of a range of work being carried out to support lichens, as detailed in Action for Wildlife: the Dartmoor Biodiversity Action Plan (a document which outlines the objectives, targets and actions considered necessary to protect and enhance the wildlife heritage of Dartmoor).

Lichens can be found on any part of a tree, but the most important lichens are usually found on the main stem or primary branches.© DNPA

**String-of-sausage-lichen** - a beard lichen, which only grows in very clean air. © DNPA

**What are lichens?**

A lichen is a plant which is a combination of an alga and a fungus living symbiotically. Lichens can be found on all bark but most of the rarer communities grow on older trees. Some lichens are protected under Schedule 8 of the Wildlife and Countryside Act and they are all indicator species, providing us with information on the wider environment, particularly air quality.

Dartmoor (and the south west of England) is of national and international importance for lichens. An altitude range from deep sheltered valleys to harsh upland rock, an Atlantic climate, low levels of air pollution and extensive farming all combine to provide ideal conditions for lichens. However, many are also highly vulnerable and there are indications that some lichens have declined since the 1960s.

The greatest abundance and diversity of lichens occur where conditions are relatively stable for long periods of time. If lichens occur in a particular location that means they have established because of particular local conditions, and changes in these conditions will affect the lichen community. However, it is possible to minimise these effects by following the guidance overleaf.
REMEDIAL TREE WORKS

Changes in light and moisture levels in the tree will have a direct effect on the lichen community.

◆ Thinning part of the tree canopy will have a direct effect on the microclimate and the lichen community. The greater the change the greater the potential impact. Wherever possible minimise the impact by maintaining continuity of cover.

◆ Crown lifting can have an impact on older lichen communities found on the main stem. Lichens on a trunk shaded by the lower canopy will be adversely affected if the lower branches are removed and direct sunlight is allowed to penetrate. Minimise sunlight penetration by removing the minimum number of lower branches possible.

◆ Crown reduction may drastically change sun and light levels on the main stem and primary branch framework. Minimise the impact by carrying out minor reductions and if possible avoid heavy reductions.

◆ Pollarding should only be carried out if the tree has previously been regularly pollarded.

◆ Dead wood supports few lichen communities. However, it is an important habitat for other plants and animals and should be retained wherever possible.

◆ Pruning works should be avoided on trees during periods of high sap flow i.e. February to May.

FELLING

If felling is necessary it may be possible to save some lichens. Success will depend on the tree, the lichen species and the local environment.

◆ Retain stumps as tall as possible as they can continue to provide a valuable habitat.

◆ As a last resort it may be possible to translocate lichens to adjacent trees. If this is an option contact the Dartmoor National Park Authority Ecology Section who will discuss the viability of such a process.

Removal of Ivy

Ivy is not parasitic and will not harm healthy trees. However, where it is growing on an important lichen bearing tree, it can adversely affect the lichen by creating too much shade. In this situation, ivy should be removed by simply cutting it at the base and allowing the vegetation to die back. In extreme circumstances when ivy has to be removed, do this with great care to avoid damaging the lichens.

However, on trees where there is no strong lichen interest, ivy should be retained as it has a number of important wildlife benefits such as food for butterflies and shelter for bats.
UNDEARTAKING TREE WORKS

Lichens are found on the outer layers of bark and any works which affect this layer will affect the lichen community. Flaky bark is more easily damaged but is less likely to have important lichens.

Working in trees

◆ Most lichens will be found on the lower section of the main stem, and the simple use of a ladder to access the tree will avoid damaging them.

◆ Use cambium savers to minimise damage to lichens growing on the primary and secondary branch framework.

◆ Minimise movement through the tree and, if possible, avoid multiple attachment points. Work from platforms where possible.

Working on trees

◆ Control any material to be dismantled. Don’t let material crash into the stem of the tree, as this can cause a lot of damage.

◆ Do not attach lowering winches to the base of lichen rich trees.

◆ If the upper section of the crown has to be removed, wherever possible use a crane.

◆ Do not leave material stacked around the base of the tree as this will shade out lichens.

◆ Avoid chipping towards the base of a tree as firing chips directly onto the stem can cause damage. If the chips are left stored at the base, they will shade out lichens.

Over-shading

Dense shrubs growing close to the base of the tree can shade out lichen communities. Consideration should be given to managing light levels to sustain existing communities. In particular, over-shading by holly, laurel or rhododendron can adversely affect a lichen community. The removal of the understorey can be effective. Seek advice before radically changing light levels around important lichen bearing trees.

Pollution

◆ Oil and petrol will kill lichens. Do not store oil and petrol cans around the base of lichen rich trees.

◆ Use hand saws rather than chainsaws. If chainsaws have to be used, avoid petrol, oil and diesel spillage. Don’t use saws that leak.

◆ Herbicide sprays can affect lichens. Take care when spraying around lichen rich trees.

◆ Heat from fires will kill lichens so light fires away from trees. Smoke does not appear to be a significant threat, unless it causes heavy soot deposits.

◆ Pollution from chippers and other machines does not appear to affect lichens, unless the exhaust gases leave a sooty deposit.

Planting

◆ Avoid planting close to important lichen bearing trees. If planting is required, plant light foliage trees and shrubs.

If you plan to carry out tree work in a wood you suspect is rich in lichens, please contact Dartmoor National Park Authority or English Nature.
For further details contact

Trees and Landscape Officer,
Dartmoor National Park Authority
01626 831002

English Nature
01392 889775

Dart Biodiversity Project Officer
01626 831027

Suggested reading/reference books:

Broad, K. (1989)
Forestry Commission
Handbook 4, Lichens in Southern Woodlands.
HMSO, London.

Lichens an Illustrated Guide.
The Richmond Publishing Co, Surrey.

Grasses, Ferns, Mosses and Lichens
of Great Britain and Ireland.

Veteran Trees: A guide to good management.
English Nature.

This leaflet has been produced by
Dartmoor National Park Authority and the
Dart Biodiversity Project (DBP) with assistance
from Barbara Benfield, British Lichen Society.
The DBP achieves practical action for key wildlife
habitats and species by working with farmers
and landowners within the River Dart
catchment area on Dartmoor.

The DBP is a three year project and is funded by the
European Agricultural Guidance and Guarantee Fund, Dartmoor National Park Authority, English Nature, the
Environment Agency and the Duchy of Cornwall.