



ENGLISH HERITAGE

Landscape Advice Note

The Treatment of Dead Wood in Historic Parks and Gardens



One of a series of leaflets on the landscape management of historic sites.

www.english-heritage.org.uk/professional/advice/advice-by-topic/parks-and-gardens

This Landscape Advice Note looks at how dead wood can be integrated in the presentation of historic parks and gardens that is

- in keeping with the aesthetics of the landscape design; and
- beneficial for wildlife.

The Note also briefly considers duties of care to people, property and livestock.

INTRODUCTION

Foresters and arboriculturists used to consider dead wood as waste. It was seen as untidy, a possible hazard, and a potential source of disease. Time, effort and money were spent removing it. This approach was perpetuated in the British Standard (BS 3998:1989). The standard is now being revised.

Dead wood on the ground or in trees is now appreciated as an important micro-habitat for invertebrates and fungi. It is critical to the biodiversity value of wood pasture and parkland which is a priority UK habitat and includes many rare species such as Moccas beetle *Hypebaeus flavipes* and the lichen *Parmelia minarum*.

Landscape design tastes and aesthetics have changed over time too. The UK has a unique legacy of historic parks and gardens. Many are a palimpsest representing layers of past designs. The English Heritage *Register of Parks and Gardens* records the most important. A diverse range of landscape design from the 17th century to the late 20th century are included on the Register. The nature conservation significance of many of these sites is often related to the history of landscape design and its management.

WHAT IS DEAD WOOD?

Dead wood can include stumps, heart wood, branches, twigs, or bark on the ground or in the canopy of living trees or stag-headed trees, or roots. Each type of dead

wood is a specific micro-habitat and these micro-habitats can be grouped into further types depending on whether the dead wood is wet and rotting or dry.

TREATMENT OF DEAD WOOD IN PARKS AND GARDENS

There is little evidence about the management of dead wood in parks and gardens in the past but a study of design concepts can reveal likely approaches.

BEFORE CAPABILITY BROWN

Before Lancelot 'Capability' Brown's English Landscape Style spread in the mid-18th century, garden and park designs were very formal with imposing and forceful geometric plans. Garden upkeep would have focused on keeping strong architectural forms with long, clear vistas and crisp lines of hedges and grass. It seems unlikely that dead wood would have been left in situ other than in hidden areas such as wilderness woodlands.

Dead wood will also be picked up for firewood. The phrase 'by hook or by crook' is thought to originate from a manorial custom which allowed tenants to take as much firewood as they could reach with a shepherd's crook or a bill-hook (*Brewer's*, 1989). Beyond the park, commoners had rights such as 'estovers' to collect wood for the repair of their homes, making fences as well as fuel. This tradition continues on some commons.

THE ENGLISH LANDSCAPE STYLE

'Capability' Brown's (1716-1783) designed idyllic naturalistic landscapes with smooth, flowing vistas. Ground dead wood or dramatic trees jagged with dead wood in principal views would have been at odds with the smooth and seamless character of these large scale landscapes. However there are accounts which show there was an interest in the shape and form of dead wood. William Kent (1685-1748), one of the early English Landscape Style designers, is cited to have been 'hardy enough even to plant a withered tree; but the error was too glaring for imitation' (Gilpin, 1791). Although landscape management is likely to have concentrated on maintaining Arcadian-style seamless views, there would have been plenty of scope for dead wood features in other areas.



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IMAGES:

FRONT COVER: Dead wood at registered Lowther Castle (Cumbria)
© English Heritage/Seb West

01: As well as being registered, the 17th century park at Calke Abbey (Derbyshire) is also a Site of Special Scientific Interest.
© Natural England/Peter Wakely

02: The Long Water at Wrest Park (Bedfordshire) is the axis for the 17th century designed landscape.
© English Heritage/Damian Grady

03: Luscombe Castle Park in Devon is an early 19th century landscape designed by Humphry Repton.
© English Heritage/Jeremy Richards

THE PICTURESQUE

The late 18th century's fashionable Gothic and poetic sublime moods in literature, art and architecture were also reflected in contemporary landscape design. The advocates for the Picturesque were literally interested in the picture quality of scenes and the Picturesque Movement was very much interested in Nature.

One of the leading propounders, William Gilpin (1724-1804) preferred untamed nature over gardens; he felt that the professional landscape designers, especially Capability Brown, were imposing design onto the landscape which developed uncluttered lines, instead of responding to the natural topography. In his book *Remarks on Forest Scenery* published in 1791, which was popular and proved to be highly influential, Gilpin described the picturesque appeal of twisted trees, exposed roots and irregular land forms. He observed that 'it is through age that the oak acquires its greatest beauty, which often continues increasing even into decay'. Another advocate, Uvedale Price (1801) wrote 'it is very possible, also, that the blasted old oak there – its trunk a mere shell – its bark full of knobs, spots, and stains – its branches broken and twisted, with every mark of injury and decay; may please the painter more than a tree in full vigour and freshness'.

Following these changes in taste, it is likely that some landowners would have deliberately retained dead wood and veteran trees for their Picturesque qualities but debate went on as reflected in Jane Austen's books. In *Sense and Sensibility* (1812) Edward Ferrars' comments 'I do not like crooked, blasted trees. I admire them much more if they are tall, straight and flourishing', and in *Pride and Prejudice* (1813) Mrs Bennet suggests their visitor is shown the hermitage which is likely to have been a rustic garden building which had become fashionable as part of the Picturesque style.

Humphry Repton (1715-1818) further developed the Picturesque style and his designs are characterised by irregular clumps of trees and a greater range of tree species. Repton noted in his *Observations on the Theory and Practice of Landscape Gardening* (1803) that 'The man of science and of taste will ... discover the beauties in a tree which the others would condemn for its decay'.

THE GARDENESQUE AND RUSTICATION

By Victorian times, there was a growing interest in returning to formality as illustrated by many 19th century public park designs. John Claudius Loudon (1783-1843) promoted the Gardenesque style using exotics to create a design form that might be perceived as natural.

Rustication very much complemented the Gardenesque style of Victorian gardens, the taste for exotics, evergreen trees and shrubs, and novel features. In *The Ladies' Companion to the Flower Garden* (1844) Jane Loudon (1807-1858) advised that 'roots may also be

combined together so as to form seats, open or covered huts, grotto-like structures, and grotesque bridges; they may be piled up, and connected together by wooden pegs, so as to form arches, arcades, or covered ways, or grottoes, or other structures for shelter or repose, the interstices being filled in with moss or heath, and the exterior being thatched with heath'. The famous gardener and journalist William Robinson (1838–1935) in his 1883 book suggested that 'and the bole of the tree, if cut makes a very good seat'.

The artist and gardener Edward Cooke (1811-1880) created a stumpery for horticulturist James Bateman at Biddulph Grange in 1856. Two-metre high walls of stumps and roots were built either side of a path and planted out with ferns. There are also early examples quoted in the *Gardener's Chronicle* magazines such as Mr Allnutt's stumpery at Clapham Common. The *Birmingham & Midland Gardeners' Magazine* records one at Dudmaston in 1853. (Brent Elliott, pers comm 2011).

Interest in rustication continues to this day. The Prince of Wales has created a rustic Sweet Chestnut archway and stumpery using old roots and stumps at his Highgrove home (Gloucestershire). The stumpery is used to display ferns, hellebores and euphorbias. Historic stumperies have been restored at parks such as Wentworth Castle (South Yorkshire). South Park, Darlington is one example of many sites where benches and seats have been made out of fallen timber.

THE 20TH CENTURY

After World War I the Forestry Commission was set up to increase forestry production. Dead wood was seen as harbouring diseases which might harm the final crops. New tools like the modern powered chainsaw meant 'tidying up' became common practice whether or not the trees or features were part of forest production. At the same time many parklands fell into decline, and many were sold and split up in later years.

In 1985 the *Register of Parks and Gardens* was established to recognise the nationally important historic landscape designs. The Great Storm of 1987 and the storms two years later severely damaged many historic parks. The storm damage escalated thinking about the repair and conservation of these designed landscapes and also a better understanding about the natural regeneration of habitats. A growing interest in veteran trees led to the setting up of the Ancient Tree Forum (ATF) in 1993; and working in partnership with English Nature (now Natural England - the government's advisor on the natural environment), the Veteran Trees Initiative was set up. With funding from English Heritage and the Countryside Agency (now Natural England too), English Nature went on to publish the seminal handbook on veteran trees management in 1999. Natural England and the ATF has since published further guidance on veteran trees and related habitats such as dead wood. Incentives



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IMAGES:

04: A period postcard showing various rustic features in an Ilford (East London) public park. © English Heritage.NMR

05: One of the tree stumps planted up with ferns along the Stumpery path at Biddulph Grange (Staffordshire), a registered site dating from 1840-60. © English Heritage

06: An example of a painting reflecting the 18th century interest in the Picturesque. Attribution: John Martin [Public domain] *The Bard* via Wikimedia Commons

07: An illustration from Wright's 1755 book on arbours showing gnarled trees, dead wood and a rustic garden building. Courtesy of Sarah Rutherford

08: A historic postcard of a tea garden with rustic garden furniture and trellis in Cornwall. © English Heritage. NMR

schemes encouraging conservation such as Environment Stewardship and the UK Woodland Assurance Standard were set up. Environmental Stewardship includes specific measures for parkland and veteran trees.

Since the 1980s there has been increased awareness about the value of urban wildlife habitats. At the same time, public park budgets were being cut back and many parks zoned off areas and re-labelled them as wildlife habitat in order to save on landscape management. The Heritage Lottery Fund's Parks for People grant programme, and the Green Flag Award benchmark national standard, have encouraged the restoration of many historically important parks along with the better integration of biodiversity objectives in site management.

OPPORTUNITIES TO INTEGRATE DEAD WOOD AS HABITAT

There are nearly always opportunities to integrate wildlife habitats in historic parks but dead wood features do need to be carefully sited to be in keeping with the landscape design and its formality, and modern day park uses and management. The Picturesque landscape perhaps offers the greatest opportunities to combine wildlife features within its design aesthetic. Regency landscape designers enjoyed the textural and wild qualities that are offered by stag headed trees and other deadwood. In contrast it may be not be desirable to include dead wood features in formal areas of 19th century parks.

The conservation of historically important parks depends on well researched understanding of each site. A conservation management plan can help tease out the landscape design characteristics and appropriate zones to create dead wood habitats. The landscape management aim is orderliness rather than tidiness. An example of a plan policy is given overleaf.

All sizes of standing and fallen dead wood are of potential wildlife value. The veteran trees handbook points out that 'If decaying and fallen branches are removed from woodland, it may cause the loss of more than 20 per cent of its species' (Read, 2000). Standing dead wood is also of particular value to bats.

Generally larger logs or standing snags (a tree that has lost its branches) are better because their temperature and moisture content is more stable. Similarly stumps should be retained as habitat and they should be left as tall as practical. Too often large fallen branches are sawn into logs when they could have simply been left intact. Stumps and their roots are sources of beneficial mycorrhizal fungi which can help newly planted trees establish.

The species of dead tree is much less important, although native is preferable. Ideally dead wood should be left where it falls. Logs and branches stacked around the buttress can a tree helps retain the habitat value of the deadwood and can protect the trunk from grazing damage. If this is not possible, it should be moved into dappled shade. Near by nectar rich and berry bearing trees and plants such as hawthorn and holly will provide food for insects and birds and help increase the biodiversity value of the dead wood.

If the ground flora is of biodiversity interest, and where there is little or no history of dead wood, then the continued removal of timber and branches is likely to be preferred to both limit shading and to reduce nutrient build up. Burning of smaller branches on site should be limited as this can cause harm to micro-organisms and surrounding trees. In cases where deer browsing is adversely affecting the regeneration of woodland species, however, brushwood left from harvesting can inhibit deer or livestock access and reduce browsing damage.

WOOD PILES

A pile of logs combined with twigs, bark and leaves in a damp place underneath a hedge or an evergreen shrub will become a useful habitat for a whole range of insects. Logs can be buried 10cm or so into the soil in a shady place. This can be popular with many species of beetle, including the scarce lesser stag beetle (*Dorcus parallelepipedus*). More logs can be piled on top as the pile decomposes.

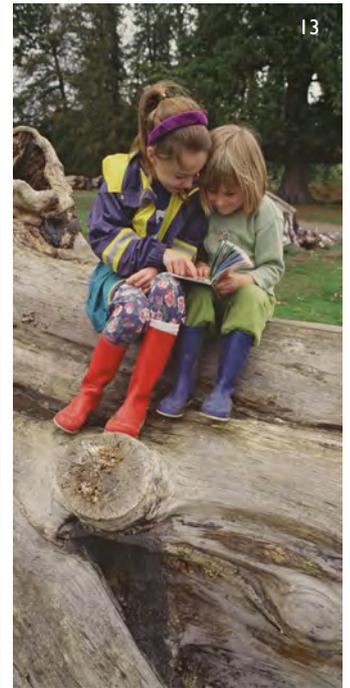
Lashing twigs or small logs into bundles that retain moisture better can increase the value of them. They may then attract species of vertebrates and invertebrates. Habitat piles made from larger diameter logs are preferable especially when in contact with the ground. It is important to recognise that large-scale formal piles may be inappropriate to site in prominent positions within parks as they are likely to be intrusive in the designed landscape. Wood piles can be used, if sited carefully, to deter people and livestock away from trees in order to reduce compaction and damage to bark and new growth.

FALLEN TREES

If possible, single trunks and branches from mature trees over 80cm in diameter should be retained close to where they fall in their parkland setting.

ROOT PLATES

Root plates ideally should be left where trees have fallen unless inappropriate to the historic design or if they constitute a safety hazard. The root plates can be good for birds as well as nesting solitary bees. The damp holes created in the ground can also provide a useful habitat for a number of vertebrates and invertebrates.



IMAGES:

09: Dead wood retained close to a veteran tree at Moccas Park (Hertfordshire), a site of Special Scientific Interest and registered site. © Natural England

10: A tree trunk kept as a natural play and biodiversity feature in registered Dunloran Park, Tunbridge Wells, © English Heritage/Seb West

11: Dead and living ancient oaks in Grimsthorpe Castle Park (Lincolnshire), a Site of Special Scientific Interest and a registered park dating from the early 16th century and further developments designed by Lancelot Brown in 1771. © Natural England/Peter Wakely

12 A & B : Monoliths created from standing dead tree trunks in less formal areas in public parks in Darlington and Chelmsford. © English Heritage/Jenifer White and Alan Cathersides

13: Children enjoying sitting on a fallen beech tree in Knole Park (Kent), a registered park and a Site of Special Scientific Interest. © Natural England/Peter Wakely

14: A giant model of a loggery with a stag beetle has been created to explain the habitat value of decaying logs at Kew Gardens (London), a registered site and World Heritage Site. © RBG Kew

15: The London Wildlife Trust created a stumpy for their 2008 Hampton Court Flower Show exhibit. © Rictor Norton & David Allen/Creative Commons Attribution 2.0 Generic license.

NEW FEATURES

The biodiversity interest of a historic park and garden can be enhanced by creating new habitat features such as standing dead timber, fallen trunks and loggeries.

Whole dead trees can be stabilised by removing branches and leaving the trunks to create 'monoliths'. There is considerable evidence to show that hollow trunks can be more stable than solid ones.

Some parks have used felled trees to create new features like seats or sculpture. Large trunks, if well sited, can make great play features for children, especially where other play equipment might be inappropriate. 'Natural play' has many benefits. Children enjoy using the trunks for climbing, jumping off, balancing or just as a rest place. There is scope to integrate more natural play and to encourage children's curiosity in the natural environment in many public parks. Organisations such as Play England and the Garden History Society have published guidance.

Loggeries typically consist of hardwood logs with bark 10-50cm in diameter put on their ends to a depth of 60cm in the ground. Often there are areas of the park where such features can be incorporated. Such features can also be used to add interest for visitors if interpreted or turned into a sculptural feature.

In a Gardenesque landscape it may be appropriate to design new features in a rustic style, re-create a stumpy or even edge paths with logs.

If the aim of creating new features is to enhance biodiversity it would be inappropriate to use preservatives to artificially prolong the life span of the feature. In prominent positions, features may need to be removed when they have decayed to become unsightly or unstable.

ARCHAEOLOGICAL FEATURES

Many parks are developed from medieval hunting parks and contain features of archaeological interest. The location of dead wood habitats needs to take account of these features. Advice is available in English Heritage's Farming the Historic Landscape leaflets.

SITE SAFETY AND ACCESS

All owners and site managers must consider the safety of the public, visitors and their own staff, cars and other property. Trees need to be regularly inspected and safety risks assessed by qualified arboriculturalist. Further advice is given in English Heritage's other Landscape Advice Notes. As dead wood is important to the biodiversity value of veteran trees, it is important to seek appropriate advice about the care and management of these trees. Expert arboricultural treatment can help improve the longevity and stability of trees, and help retain mature

trees by rejuvenating forms for particular landscape effects such as a matched group of four trees.

Safety considerations will need to be factored into the design and upkeep of any dead wood or rusticated structures.

Land owners have a statutory duty to keep public rights of way free of obstruction including fallen trees and branches but these can be cut and moved out of the way and retained elsewhere as dead wood.

A CONSERVATION MANAGEMENT PLAN POLICY EXAMPLE

The plan says: 'The hundreds of veteran and ancient trees within the wood pasture at ... as well as the habitats they provide for specialised fauna and flora, are the jewels in the landscape, and a range of important principles need to be followed in their management ...

STANDING DEAD TREES AND DEAD WOOD

Standing dead trees or trees that appear dead should not be felled, nor should any deadwood be removed unless a genuine hazard is posed by its retention.

Dead wood in the canopy of live trees should be retained as habitat.

Standing dead trees should be left as they are, or as 'monoliths' with their branches removed if safety or aesthetics of the trees position is of concern.

Retain any dead stumps as habitat, leaving them as high as possible. These stumps are sources of beneficial mycorrhizal fungi associated with newly planted trees.

FALLEN DEAD WOOD

Fallen dead wood should ideally be left in situ, especially in the high priority ecological areas (e.g. the SSSI areas). This dead wood has in the past been removed from site, a practice that should be ceased in order that valuable habitat is preserved. The larger the sections of dead wood, both in terms of length and diameter, the greater the habitat offered.

Alternatively lengths of dead wood can be stacked around the root buttresses of a tree, which not only retains the habitat value but also acts as protection around the trunk from grazing damage.

If deadwood must be removed as the only option, move to an adjacent habitat area, ideally in dappled shade and close to other sections of decayed wood.'

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ENGLISH HERITAGE OFFICES

North East

Bessie Surtees House
41–44 Sandhill
Newcastle Upon Tyne
NE1 3JF
Tel: 0191 269 1200
e-mail: northeast@english-heritage.org.uk

North West

Suites 3.3 and 3.4
Canada House
3 Chepstow Street
Manchester
M1 5FW
Tel: 0161 242 1400
e-mail: northwest@english-heritage.org.uk

Yorkshire and the Humber

37 Tanner Row
York
YO1 6WP
Tel: 01904 601901
e-mail: yorkshire@english-heritage.org.uk

West Midlands

The Axis
10 Holliday Street
Birmingham
B1 1TG
Tel: 0121 625 6820
e-mail: westmidlands@english-heritage.org.uk

East Midlands

44 Dergate
Northampton
NN1 1UH
Tel: 01604 735400
e-mail: eastmidlands@english-heritage.org.uk

East of England

Brooklands
24 Brooklands Avenue
Cambridge
CB2 2BU
Tel: 01223 582700
e-mail: eastofengland@english-heritage.org.uk

London

1 Waterhouse Square
138-142 Holborn
London
EC1N 2ST
Tel: 020 7973 3000
e-mail: london@english-heritage.org.uk

South East

Eastgate Court
195-205 High Street
Guildford
GU1 3EH
Tel: 01483-252000
e-mail: southeast@english-heritage.org.uk

South West

29 Queen Square
Bristol
BS1 4ND
Tel: 0117 975 0700
e-mail: southwest@english-heritage.org.uk

Conservation Department

The Engine House
Firefly Avenue
Swindon
SN2 2EH
Tel: 01793 414963
e-mail: conservation@english-heritage.org.uk

English Heritage is the Government's adviser on the historic environment with responsibility for all aspects of protecting and promoting the historic environment in England.

The Conservation Department promotes standards, provides specialist technical services and strategic leadership on all aspects on the repair, maintenance and management of the historic environment and its landscape.

This guidance has been compiled by Seb West and Jenifer White in the Conservation Department's Gardens & Landscape Team. The authors would like to thank English Heritage's landscape architects and in particular Daborah Evans, and Hazel Conway, Brent Elliot, Joanna Gibbons, David Lambert for their advice, and Sarah Rutherford and the Landscape Agency for their help.

Edited by Jenifer White and brought to print by Ari Georgiou.

Published by English Heritage 2011
Product Code 51670

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