



Gale Tree Consultancy

Tree Condition Report

Rusper Parish Council

February 2025

Ref: TCR/619/25

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Executive Summary

- Three Parish Council sites have been visited during this inspection
- The main two features recorded relate to the presence of deadwood in the crown that is over areas of usage beneath, and ivy that is ascending into the crowns of the trees
- A number of trees have been scheduled for removal due to their dead / dying condition, and their location within the three sites
- One has been scheduled for removal within 2 months of the reports date
- The others within six months of the reports date
- Four trees require further, more detailed decay evaluation which is beyond the scope of the survey due to features recorded
- A number of trees require periodic inspections throughout the growing seasons until the next assessment due to physiological factors that may change rapidly, most notably Ash Dieback



1.0 Introduction

1.1 Client and Address

- Lisa Wilcock, Clerk to Rusper Parish Council, c/o Rusper Village Stores, East Street, RH12 4PX

1.2 Site Address if Different from the Above

- Rusper Recreation Ground
- Rusper Car Park
- Rusper Playground

1.3 Date of Inspection

- 25th February 2025

1.4 Name of Inspector

Andrew Gale *MICFor Dip Arb L6 (ABC) M.Arbor.A*

1.5 Our Reference

- TCR/619/25

1.6 Instructions Received

- I have been instructed by the Clerk to Rusper Parish Council to undertake a walk over survey on three sites within the village of Rusper
- I am to provide my findings in the form of a report detailing any remedial work that may be necessary

1.7 General Description

Rusper Recreation Ground

- Accessed off the High Street with car parking along the southern boundary fence line; a footpath runs parallel with the road and enters the car park in the southeast corner
- A further public footpath and the Sussex Border Path runs along the southern fence line
- The ground borders a property to the south and north, with the west overlooking an equine facility. The east side borders the junction of the High Street, Capel Road and Newdigate Road
- Tennis Courts are located along the eastern aspect of the site
- At its highest point, the recreation ground is c.124m above sea level¹, with the wider landscape being open with a mixture of farmland and woodland

¹ www.calcmaps.com



Rusper Car Park

- Access to the car park is via the entrance in the southeast corner, off the High Street with private land encircling the north and west side, and access drive to the immediate south, and St Mary Magalene Church to the south of that
- The car park is c.123m above sea level with the surroundings being heavily treed

Rusper Playground

- Accessed via gate off the High Street
- Along the immediate northern boundary fence line is a BT Exchange with residential properties to its north
- The southern boundary line borders a further residential property with the western fence line bordering rough ground
- The north and east of the site is heavily treed with the main play area being within the central/western aspect of the site

2.0 Scope of the Report

- Trees are dynamic living organisms, and their health and condition can be subject to rapid changes, depending upon a number of internal and external factors
- The conclusions and recommendations contained within this report are based on information gained at the time of inspection and are subject to the limitations of the specialist nature of this survey
- Based on this, the likelihood of failure is considered for three years from the reports date based on the information gained on the day of the report and on the assumption that any recommended work has been undertaken in the time frame specified
- It should be noted that even completely sound, healthy trees, can fail given sufficiently severe weather conditions
- The principle objective of the tree condition report is to identify whether the trees, or their parts, appear to be in a hazardous condition and to advise remedial action to reduce the risk they could pose to those persons using any of the sites, those persons living in properties that neighbour the sites, and those persons using the public roads and footpaths that border the site
- Only those trees with a stem diameter greater than 150mm when measured at 1.5m ground level are to be inspected



3.0 Method of Inspection

- The trees were subject to ground level visual assessment of their external features in line with the 'Visual Tree Assessment' method described by Mattheck & Breloer (Body Language of Trees, Department of the Environment Research for Amenity Trees publication No. 4 1994)
- A plastic headed mallet was used to sound the stem area as an initial indication of the presence of decay
- A thin steel probe was used, where applicable, to assess the depth and condition of any cavities or concavities between buttress roots
- Binoculars were used to assess the upper crown branch structure
- All trees requiring further action were tagged with a round, numbered aluminium tag and placed in a prominent position on the stem at approximately 2m - see below:



- Individual trees are given the prefix T and groups G
- Those trees requiring further action are plotted on a site plan which is attached separately - see Appendix 2 TCR/619/25 Dwg01
- A number of digital photos were taken, some of which are included within the report for information - please see Appendix 4

4.0 Table of Results

- See Appendix 1 Table of Results



5.0 Summary of Results

General Observations

- Ash dieback (ADB) (*Hymenocyphus fraxineus*) was noted on a number of trees across the three sites
- The condition inhibits water supply resulting in leaf loss, lesions on the branches and stems (of younger trees) and ultimately results in the decline of the trees crown
- Younger trees are killed quickly whilst the older, more mature trees, become weakened over time and eventually succumb to another pest or pathogen which ultimately causes death. Some trees show a degree of resistance to the disorder whilst others appear immune
- In the case of Ash Dieback, the Tree Council's categorisation, for determining the extent of the condition was used, see below. However, their categorisation only goes as far as Leaf/Bud Cover Remaining, it does not provide a suggestion for any subsequent work, this section has been created by Gale Tree Consultancy in relation to the surroundings of the tree and the level of occupancy and likelihood of failure

Category	Leaf/Bud Cover Remaining	Recommendation - depending on location
Class 1 (C1)	100 - 76%	No action at this stage Monitor during growing seasons
Class 2 (C2)	75 - 51%	No action at this stage Monitor during growing seasons, recording any changes
Class 3 (C3)	50 - 26%	Continue to monitor during growing seasons, recording any changes Will require removal if conditions worsen and it becomes a C4
Class 4 (C4)	25% - 0%	Remove the tree before it becomes a Health & Safety issue

- Where a recommendation has been made to check the trees periodically throughout the growing seasons until the next assessment, the tree warden should check the vitality of the crown as well as looking for deadwood, and ideally take photos for comparison
- A healthy tree should have a crown full of leaf, and where this begins to diminish the vitality of the tree becomes less, then stress levels increase resulting in a tree prone to being affected by secondary pathogens
- If the tree warden considers a tree to have fallen into the C4 category its removal should be considered. A second opinion can be sought from Gale Tree Consultancy
- Deadwood and declining apical growth were another common factor recorded
- Deadwood is a valuable habitat for saproxylic invertebrates and as such wherever possible should be retained. It is a natural occurrence where the tree closes down branches that are no longer productive and should not be seen as a sign of ill health
- Where large sections of the tree's crown declines or dies back, further investigations should be undertaken to determine the underlying cause



- However, where it has the potential to cause harm or damage, its removal should be undertaken. This has been specified as sections over a certain diameter and may be restricted to only certain parts of the crown to help maintain the habitat it provides
- Ivy was also noted on a number of the trees where it serves as valuable habitat for wildlife and wherever possible should be retained for this purpose
- However, where it obscures the main stem, major branch attachment points and the upper crown structure, it can cover anomalies that would otherwise be evident
- It will also increase the sail and 'mass' of the crown and in extreme cases can increase the risk of branch failure, and where the trees are located adjacent to areas of usage, this will increase the risk of injury or harm occurring to those below
- Where it has been recommended, the ivy should be severed as close to the ground as possible and again at 1m with the severed band being removed. This will allow the ivy ascending into the tree to die off naturally whilst the gap generated will allow any new ivy to be severed if/when it appears
- A number of trees have been recommended for periodic inspections throughout the growing season until the next assessment
- The individual carrying out the periodic inspection should do so during the summer months when the tree is in leaf and they should be looking at the overall leaf cover, leaf colour, and crown density
- Ideally, photos should be taken and kept aiding future inspections and for comparison
- In the event the individual considers something has changed or they are uncertain, they should contact Gale Tree Consultancy for guidance

Rusper Recreation Ground

- The upper crown of T6/301 Lawson cypress is dead, with only the lower growth being alive; the cause of the decline is unknown - see Photo 1 in Appendix 4
- A recommendation to reduce the tree down to the new growth has been made, however, equally justifiable is its complete removal
- T8/303 Pedunculate oak has a bark wound on the secondary stem section over Capel Road and adjacent to this is a cavity forming within the wound wood² of an old pruning wound - see Photo 2 in Appendix 4
- Whilst the arborist is aloft carrying out the prescribed work to this tree, they should assess the cavity noting its depth and overall condition, making their findings known to Gale Tree Consultancy for comment
- Alternatively, Gale Tree Consultancy can undertake this aerial inspection
- T10/305 Pedunculate oak has a large open cavity on its west side from where a burr³ has rotted away - see Photo 3 in Appendix 4

² Wound wood - occluding tissues forming around a wound or area of stress, which helps compensate for any loss of strength in that region

³ Burr - arising over many years, initially from the development of a bud that produces wood without elongating - not harmful to the tree



- Decay is also present in the southern buttress root, where the steel probe could be inserted c.20cm into the wood - see Photo 4 in Appendix 4
- To ascertain the condition of the lower stem, and the extent of any decay that may be present, a detailed decay evaluation has been recommended employing the use of sonic and electrical tomography, and a Resi micro drill where applicable - please see Appendix 5 for details of this piece of equipment
- Ownership of T12/307 Hawthorn is unclear as it appears to straddle the southern boundary line
- It is also completely smothered with ivy making an assessment of its structural and physiological condition impossible - see Photo 5 in Appendix 4
- If the tree is under the management of Rusper Parish Council, the ivy should be severed as described and the upper crown assessed in the summer of 2025 for an appraisal of the leaf bearing twigs
- T13/308 Pedunculate oak has a large wound on its north side, starting from ground level and extending up to c.2m - see Photo 6 in Appendix 4. The immediately adjacent stem area exhibited a dull tone when assessed with a nylon headed mallet
- A detailed decay evaluation has been recommended to ascertain the extent of any decay that may be present, and inform further management decisions

Rusper Car Park

- To the north of the car park entrance are two Pedunculate oak trees growing close together forming one crown shape - T1/310 and T2/311
- Both trees have been reduced, however, T2/311 has been excessively reduced resulting in truncated stem sections with minimal regrowth, some of which have died
- The tree also has a cavity at ground level on the southeast side of the stem with a depth of c.35cm; wound wood is forming around the outer edge
- There is a further cavity on the north side of the stem at c.2.3m, its depth to is c.35cm - see Photos 7, 8 and 9 in Appendix 4
- A recommendation has been made to perform an assessment of the cavity at c.2.3m, employing the use of a Resi PD400 micro drill should it be deemed necessary
- Both trees have been recommended to have the dead and declining branches and stem sections removed back to sound wood
- Although I do not believe T2/311 Pedunculate oak need removing at this time, this may not always be the case. Therefore, I would also recommend the parish council consider planting a replacement tree ahead of this time so it may get established
- T3/312 Holly is located within a wooded strip of lane between the car park and access lane to the neighbouring property
- Under advisement, the boundary line was established as being approximately c.1m in from the tarmac edging. This placed all of the trees, with the exception to the holly, under ownership of a third party
- The parish council should make the owner of the land aware that one of the Corsican pines within this group has a dead / declining crown, and T5/314 Common ash is dead



Rusper Playground

- T5/319 Lime spp. has an area of extensive staining and exudations on its south and west side, consistent with that of a *Phytophthora* spp⁴ – see Photo 10 in Appendix 4
- As the fungus encircles the stem, the tree's vascular system becomes non-functioning resulting in its death
- On the northeast side of the stem are circular bark wounds and a strip of moribund and dead bark with the fruiting body of the decay fungus *Pleurotus ostreatus* (Oyster mushroom) at c.1.5m – see Photo 11 in Appendix 4
- The fungus is associated with a selective white rot, where the cellulose and lignin are degraded simultaneously. In sufficient quantities It can be associated with structurally related problems
- Along the northeast and east side of the site are a number of dead and declining English elm trees, which have succumbed to the effect of Dutch Elm Disease (DED)⁵
- Some of these are smothered with ivy, making them increasingly liable to fail in strong wind events – see Photos 12 and 13 in Appendix 4
- A recommendation to remove these has been made, along with those which are beginning to fail
- T12/326 Cherry spp. has a bracket fungus belonging to the genus *Ganoderma* on the north side of the tree close to ground level – see Photo 14 in Appendix 4; an audible change in tone was heard when his area was assessed with the nylon headed mallet
- Generally, the *Ganoderma* spp. of decay fungi cause a localised white rot⁶ to form
- As the decay advances, the lignin is degraded fully leaving the cellulose behind; in extreme cases, the decay can result in windthrow and failure of the stem or root plate
- The tree has partially fallen and is leaning on the neighbouring tree – see Photo 15 in Appendix 4
- No work has been recommended at this time, however that may not always be the case and a recommendation to periodically inspect the tree has been made, especially after extreme weather events such as wind gusts in excess of Force 8 on the Beaufort Scale
- T13/327 Cherry spp. also has a bracket of the decay fungus *Ganoderma* at ground level on the west side of the stem – see Photo 16 in Appendix 4
- The lower stem also has bark deformity/swelling suggesting the tree has compartmentalised the area of decay by placing adaptive growth around the affected area – see Photo 17 in Appendix 4
- No further action required at this time, but periodically inspect until the next assessment, especially after extreme weather events such as wind gusts in excess of Force 8 on the Beaufort Scale

⁴ *Phytophthora* spp. are a fungus like organism, transmitted in a waterborne environment. Once colonised, the mycelium grows through and kills the cambium and phloem resulting in the death of the host tree due to the loss of functioning roots

⁵ A highly destructive disease of several species of elm (trees in the *Ulmus* genus). It is caused by two related fungi, *Ophiostoma novo-ulmi* and *Ophiostoma ulmi*, although almost all cases are now caused by the former. The fungus is spread from tree to tree by elm bark beetles with the tree plugging its own xylem tissue in an attempt to halt the spread of the fungus. In doing so, the tree stops the movement of water and nutrients thereby starving and eventually killing itself

⁶ White Rot – cellulose, hemicellulose and lignin broken down



6.0 Recommendations

- Undertake the tree work in the time period specified
- Reassess in three years from the reports date
- This time frame should be shortened in the event:
 - The trees local environment changes significantly
 - Fruiting bodies emerge from anywhere on the tree
 - After extreme weather events such as:
 - Wind gusts in excess of Force 8 on the Beaufort Scale
 - After named extreme weather events
- If the trees are located within a conservation area or subject to a tree preservation order, a formal application to the local planning authority will be required and written consent obtained prior to any work is carried out

This concludes my report

Signed:

Andrew Gale *MICFor Dip Arb L6 (ABC) M.Arbor.A*

Date: 5th March 2025





7.0 Appendix 1

Table of Results

- See Appendix 1 Table of Results attached separately



Appendix 2

Site Plan

Please see TCR/619/25 Dwg01 Rusper Recreation Ground
 TCR/619/25 Dwg02 Rusper Car Park
 TCR/619/25 Dwg03 Rusper Playground

All attached separately



Appendix 3

Beaufort Scale

Beaufort Number	Name	Knots	MPH	Effects Observed on Land
0	Calm	Under 1	Under 1	Calm, smoke rises vertically
1	Light Air	1-3	1-3	Direction of wind is shown by smoke drift but not by wind vanes
2	Light Breeze	4-6	4-7	Wind felt on face, leaves rustle, ordinary wind vane moved by wind
3	Gentle Breeze	7-10	8-12	Leaves and small twigs in constant motion, wind extends light flag
4	Moderate Breeze	11-16	13-18	Raises dust and loose paper, small branches are moved
5	Fresh Breeze	17-21	19-24	Small trees in leaf begin to sway, crested wavelets in inland waters
6	Strong Breeze	22-27	25-31	Large branches in motion, whistling heard in telegraph wires, umbrellas used with difficulty
7	Near Gale	28-33	32-38	Whole trees in motion, inconvenience felt in walking against the wind
8	Gale	34-40	39-46	Breaks twigs off trees, generally impedes progress
9	Strong Gale	41-47	47-54	Slight structural damage occurs - chimney pots, slates removed
10	Storm	48-55	55-63	Seldom experienced inland, trees uprooted, considerable structural damage occurs
11	Violent Storm	56-63	64-72	Very rarely experienced, accompanied by widespread damage
12	Hurricane	64 and over	73 and over	



Appendix 4

Site Photos

Rusper Recreation Ground



Photo 1

T6/301 Lawson cypress note the declining upper crown

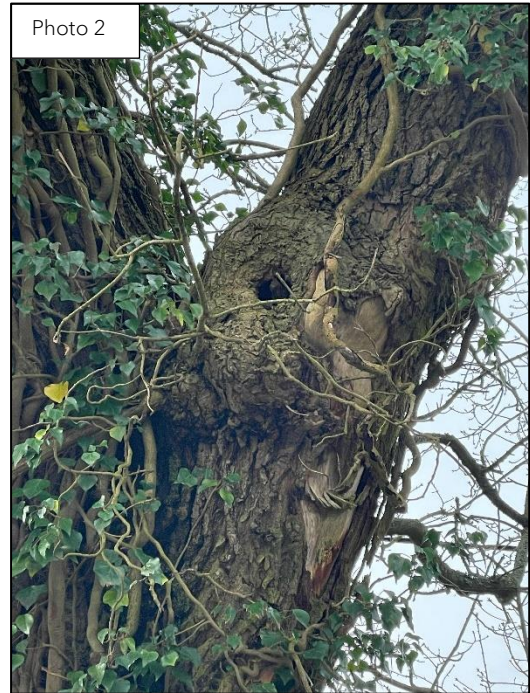


Photo 2

T8/303 Pedunculate oak with bark wound and cavity

T10/305 Pedunculate oak with large cavity from the failure of a burr - note the green handle of the steel probe in Photo 4



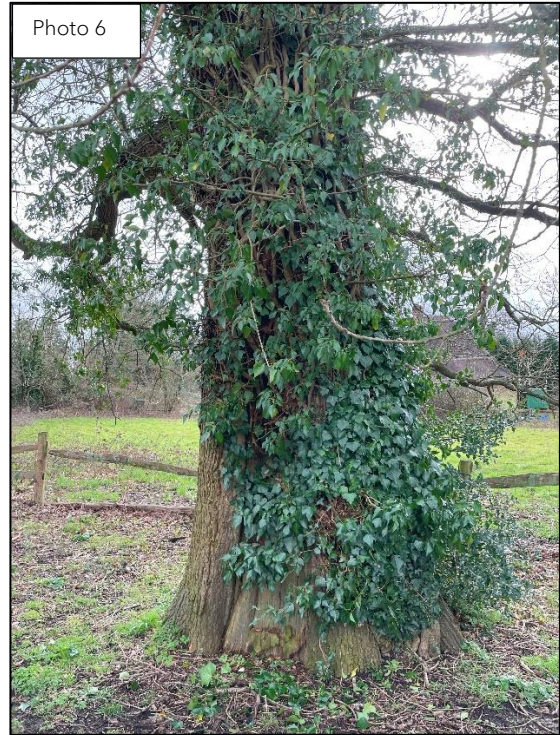
Photo 3



Photo 4



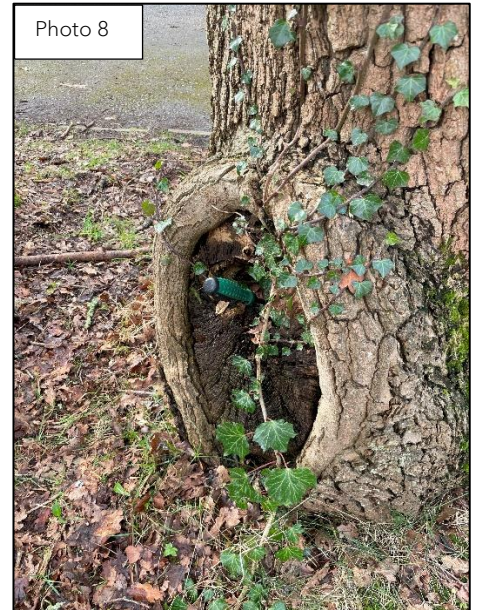
T12/307 Hawthorn almost completely smothered with ivy



T13/308 Pedunculate oak with large wound on the north side



Rusper Car Park



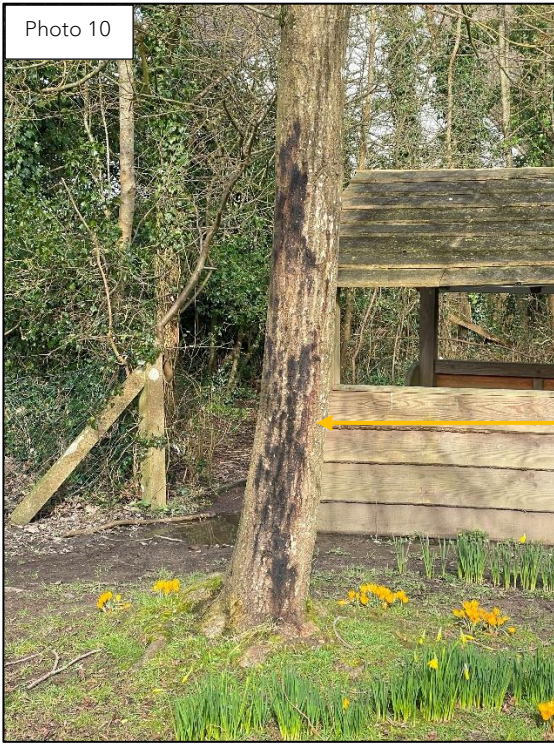
T1/310 and T2/311 Pedunculate oak at the entrance to the car park

Note the reduced crowns and the excessively truncated stem sections on T2

Photos 8 and 9 showing the cavities on T2 - note the green handle of the steel probed used to assess the cavity depths



Rusper Playground



T5/319 Lime spp. with staining consistent with a *Phytophthora* fungus
 Bark wounds and the fruiting body of *Pleurotus ostreatus* (Oyster mushroom)



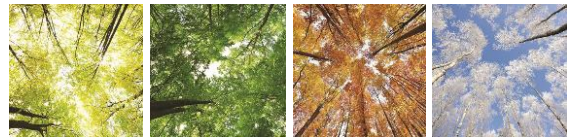
G8/322 English elm and T10/324 English elm located in the northeast and east side of the playground



T12/326 Cherry spp. partially fallen and leaning against the neighbouring tree with a bracket of a *Ganoderma* fungus on the underside



T13/327 Cherry spp. with a bracket of a *Ganoderma* fungus on its west side and swelling around the lower stem

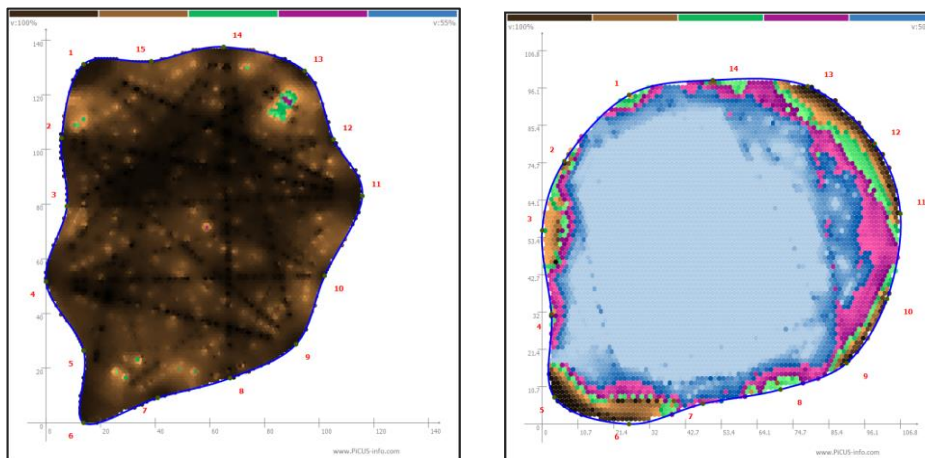


Appendix 5

Detailed Decay Evaluation Equipment

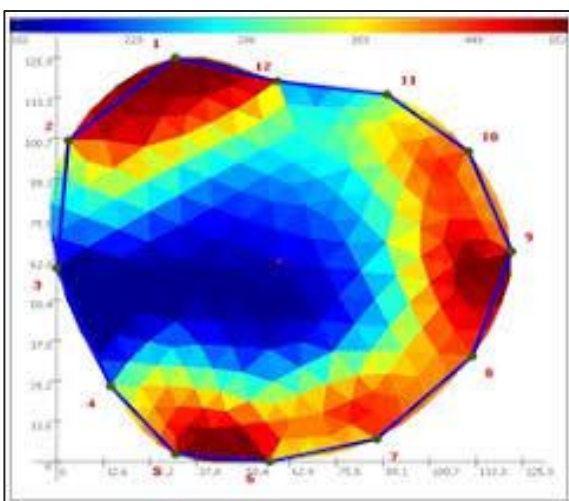
PiCUS 3 Sonic Tomography

- Sonic tomography uses the relative velocity of sound waves induced across the stem to compose a colour-shift image with dark areas corresponding to higher velocities and therefore denser wood.
- Decay or hollowing results in lower sound speeds and a shift to lighter colours with maroon and blue/white indicating more significant decay.
- An example of a sound tree is on the left below and one with significant decay/hollowing on the right:



PiCUS Electrical Resistance Tomography

- The PiCUS 2 Electrical Resistance Tomography unit produces an electrical current to assess the condition of the wood within the tree slightly above and below the assessment level
- Changes in the water content, cell composition and chemical elements will change according to the condition of the wood; tree species will also heavily influence the result - see below

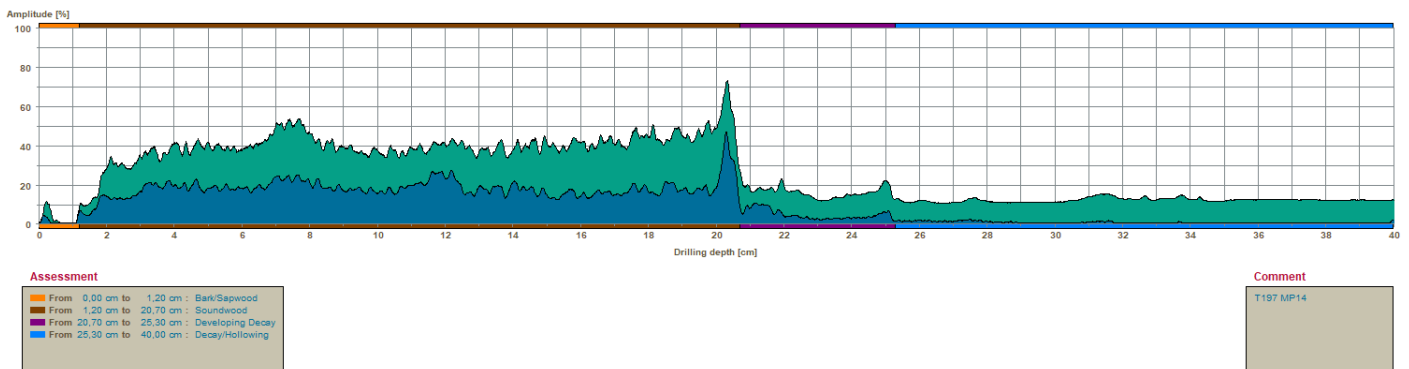


- The blue colouration in the tomogram indicates an area of low electrical resistance and high conductivity suggesting advancing decay

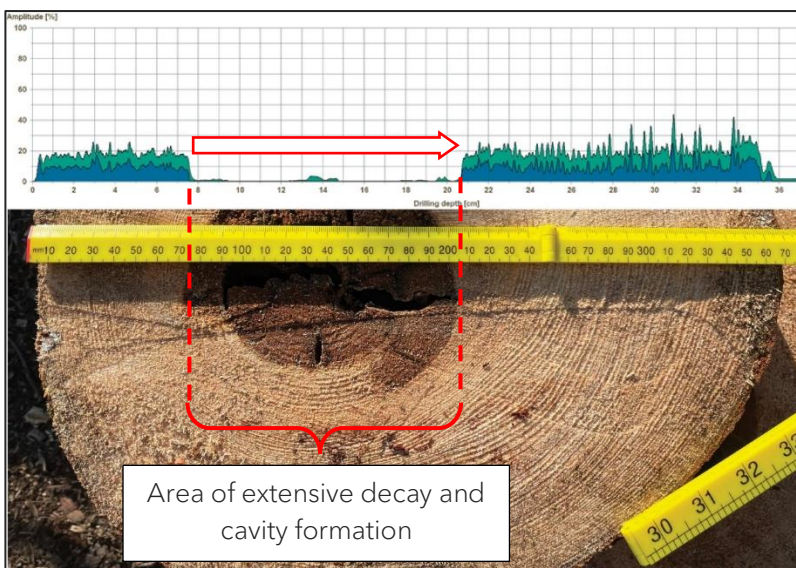


IML Resi PD 400 Microdrill

- The IML Resi PD400 microdrill measures the resistance of a 3mm wide needle drill, which is on a 1.5mm wide shaft, to a depth of 400mm. Significant drops in drilling resistance are indicative of decay or hollowing
- On the example below, sound wood (brown colouration) becomes an area of developing decay (purple colouration) from c.20.7cm through to c.25.3cm after which the needle drill enters an area of extensive decay as indicated by the blue colouration on the drill trace below



- Please note, historically Resi drill traces have read from right-to-left due to the configuration of the original machine. However, by using the software available, I have flipped the drill traces to read left-to-right, the more conventional way to read a graph
- On the image below, you can see where the drill entered the area of extensive decay and cavity at c.7.5cm and re-entered the sound wood at c.20.8cm; the drill exited the stem at c.35.4cm





IML Micro Hammer

- The IML Micro Hammer uses sound velocity, induced across the stem from opposing points, to measure for potential decay
- The information is provided as a figure in metres per second (m/s) which is then compared against known measurements for the tree species being assessed
- The example below, undertaken on a Pedunculate oak, shows the time it took for sound waves to meet their opposing sensor

Assessment No.	Sensor Arrangement	Distance Between Sensors in cm	Value m/s
1	North-to-South	70	443
2	East-to-West	98	731

- The manufacturer of the IML Micro Hammer suggests an accepted standard value for Pedunculate oak is between 1200m/s - 1800m/s; therefore, the tree in question has an area of significant decay/hollowing present