

Malvern Hills AONB Ash Tree Survey

Background

In 2016 the Malvern Hills AONB Partnership initiated a high-level, landscape-scale survey to monitor the emergence and progression of *Chalara* ash die-back disease within the AONB and the impact that this will, presumably, have on the woodland/tree composition of the area, on landscape character and on visual amenity.

Between 16th September and 26th October 2016 a survey route was driven to establish a baseline for the amount of ash visible from the road-users perspective and for the perceived visual impact that would be apparent if those ash trees were lost from the landscape.

A **Potential Impact Assessment** of Red, Amber or Green was assigned to each section of route surveyed based on the perceived potential severity of that impact.

2018 Survey Update

1. Introduction

The driven survey was repeated in 2018 between 31st August and 12th October. The survey followed a period of hot, dry weather during the summer that is likely to have led to heat and drought stress in trees. The timing of the survey was not optimum and ideally would have taken place in mid-late summer rather than early autumn. The quick progress of autumn senescence following the hot, dry weather meant that symptoms of *Chalara* could have been missed. It is likely that the extent of infection and visual impact of the disease has been underestimated in this report.

2. Survey conclusions

Three assessments were made of each survey section based on the observations of the surveyors:

- Has ***Chalara* infection** been confirmed? (**Yes**, **Possible**, **No**)
- Is there a **visible landscape impact** resulting from disease/death of ash trees? (**Pronounced**, **Early**, **No**)
- The overall **level of concern** for that survey section (**High**, **Medium**, **Low**)

3. Structure of report

This report presents the conclusions of the 2018 survey as an update to the baseline information gathered in 2016. The results of the three assessments described above are presented in quick reference tables for each individual survey section.

The maps used in this report show the numbered survey sections which are coloured Red, Amber or Green according to the 2016 Potential Impact Assessment.

4. Level of Concern assessment

At the end of the report a map of the full survey area (the AONB) is shown to illustrate the geographical distribution of the **Level of Concern** assessment outcome for each survey section:

Red = High level of concern: Survey section with a high or medium proportion of ash where *Charala* infection has been confirmed or probable symptoms seen and there is a visual impact apparent due to dead or possibly diseased trees.

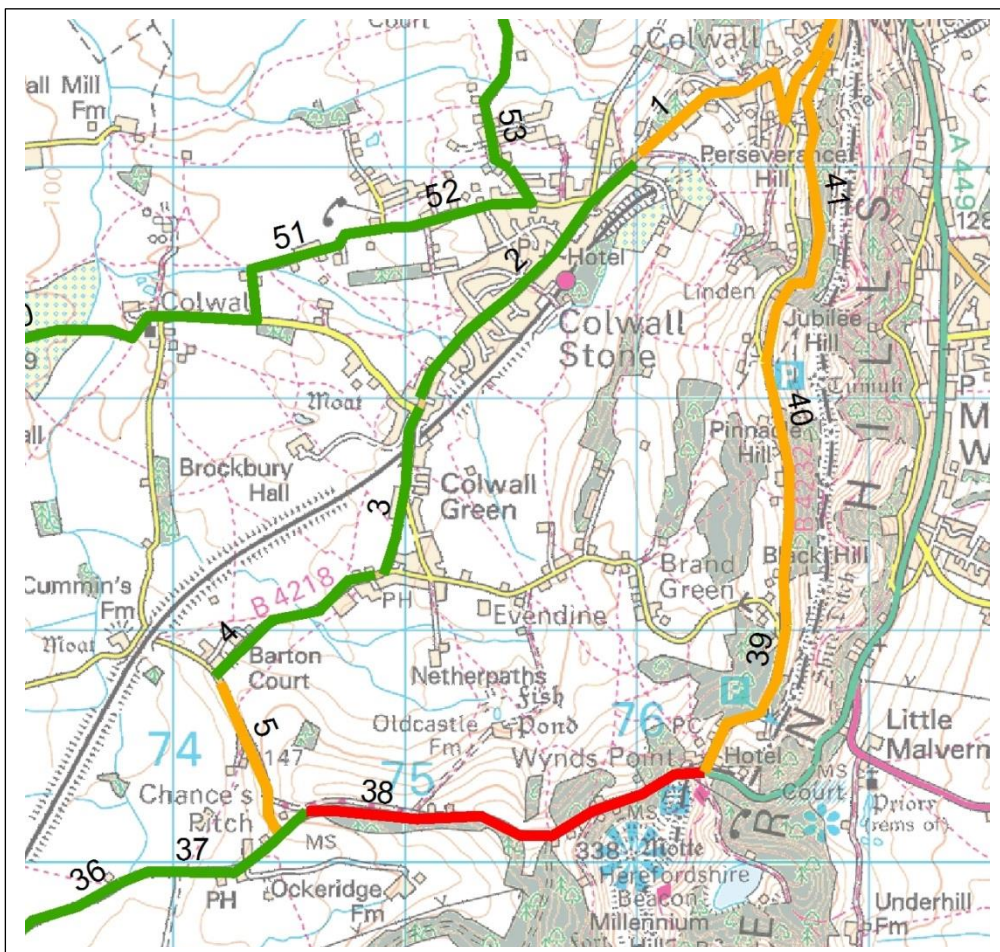
Amber = Medium level of concern: Survey section with a medium or low proportion of ash where there may be an early visual impact apparent due to dead or possibly diseased trees but where visual impact of ash tree loss would be low.

Green = Low level of concern: Survey section where no symptoms of *Chalara* have been seen and no visual impact is apparent.

5. Future survey work

All efforts should be made to undertake future surveys earlier in the year, ideally July-August when the symptoms of the disease are easier to spot before autumn senescence has begun.

Rebecca Lashley (Worcestershire County Council)
Karen Humphries (Malvern Hills AONB Partnership)
December 2018



Section 1

Chalara confirmed	Visual impact	Level of concern
NO	NO	MEDIUM

2016 baseline: High proportion of ash. Young and mature trees.

2018 survey: Some mature trees with dead leaves and/or dead twigs at top of canopy only.

Section 2

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Occasional mature hedgerow tree.

2018 survey: Some possible twig/leaf dieback in one tree.

Section 3

Chalara confirmed	Impact visible	Level of concern
YES	NO	MEDIUM

2016 baseline: Low proportion of ash. A number of newly planted trees at railway bridge on Network Rail land. Chalara suspected.

2018 survey: Saplings at railway bridge show definite symptoms of Chalara.

Section 4

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Two hedgerow trees only.

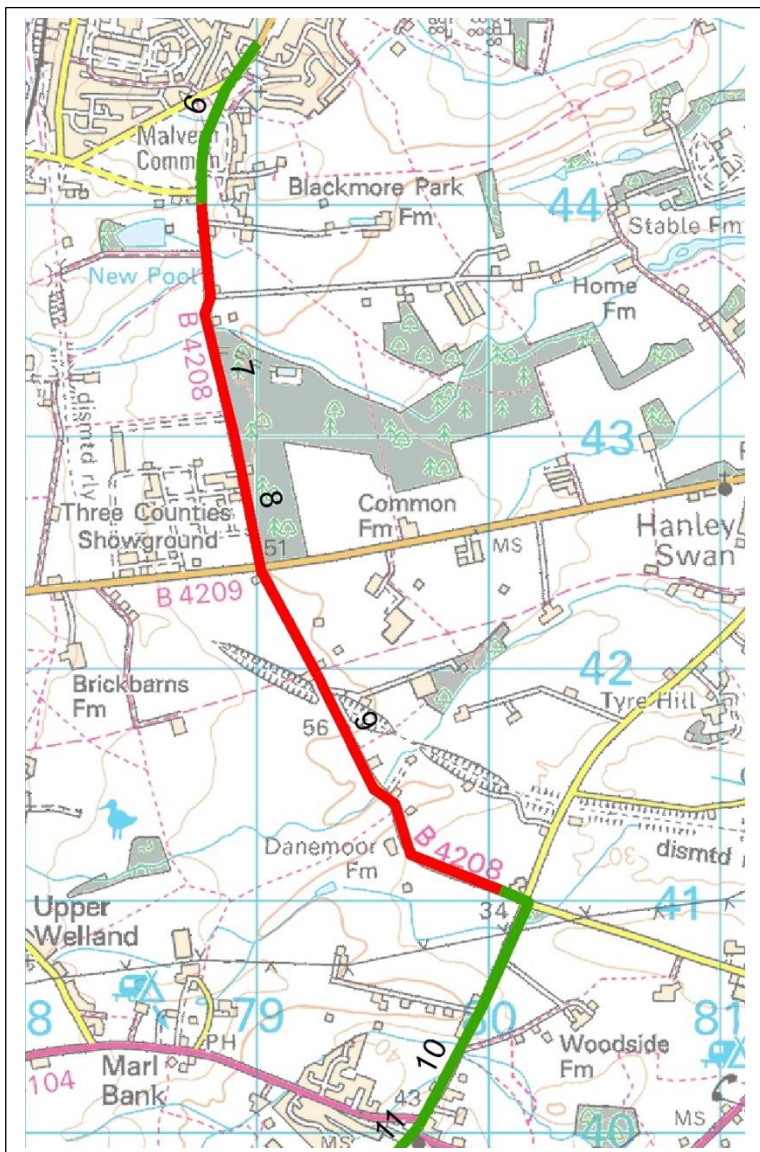
2018 survey: No obvious problems.

Section 5

Chalara confirmed	Impact visible	Level of concern
NO	NO	MEDIUM

2016 baseline: Medium proportion of ash. Some isolated hedgerows trees and mixed woodland stands.

2018 survey: Some possible twig/leaf dieback in one tree.



Section 6

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: No ash trees prominent/visible.

2018 survey: N/A

Section 7

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Young and mature species in mixed hedgerows/outgrown hedgerows.

2018 survey: No obvious problems.

Section 8

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: High proportion of ash as young hedgerow trees and as mixed woodland component.

2018 survey: No obvious problems.

Section 9

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash in roadside clumps.

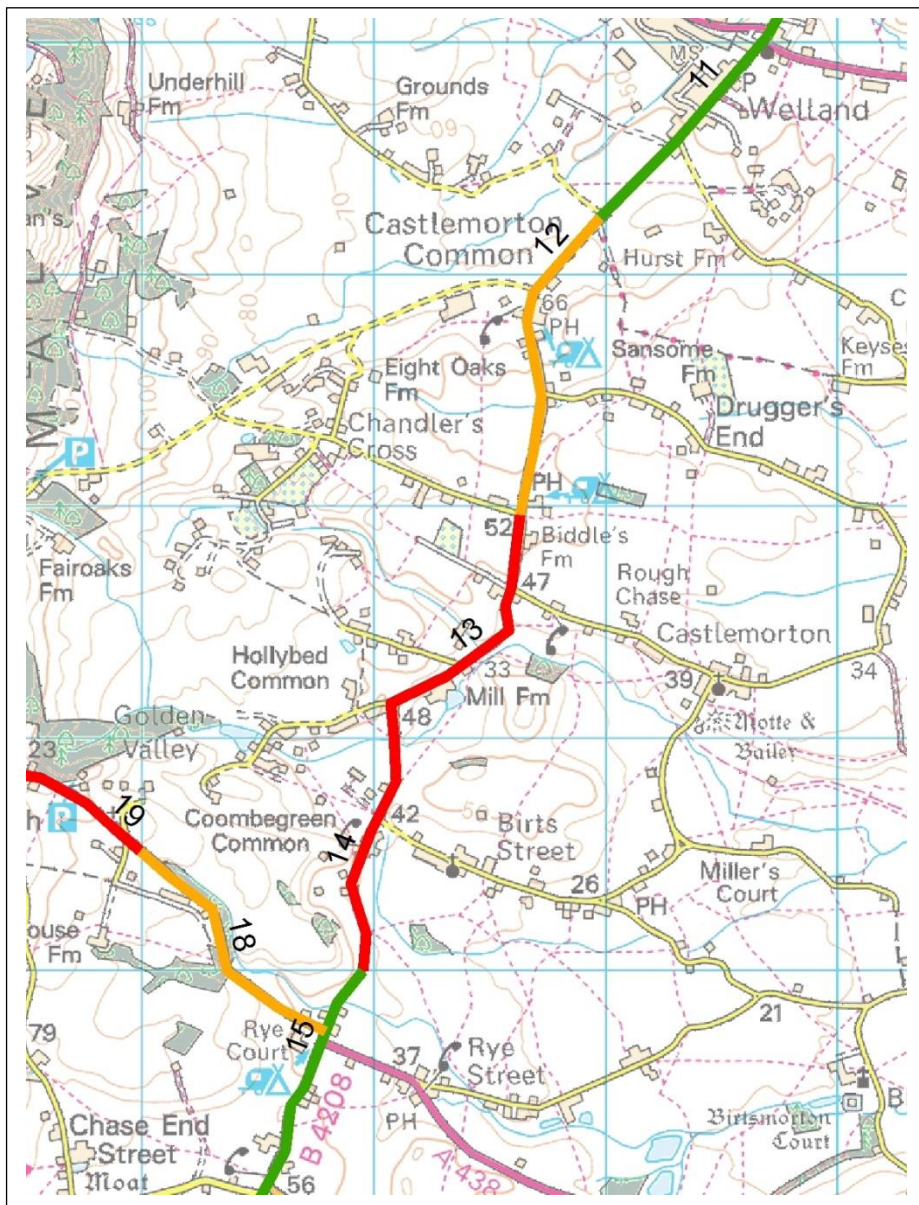
2018 survey: no obvious problems.

Section 10

2016 baseline: Low proportion of ash. Small number of large mature trees.

2018 survey: No obvious problems.

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW



Section 11

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Two mature trees prominent.

2018 survey: No obvious problems.

Section 12

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: High proportion of ash. Common component of mixed outgrown hedgerows. Occasional isolated hedgerow tree.

2018 survey: No obvious problems.

Section 13

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: High proportion of ash. Significant component of roadside woodland and hedgerows. Occasional prominent specimen.

2018 survey: No obvious problems.

Section 14

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Some large prominent specimens and mature trees in mixed woodland.

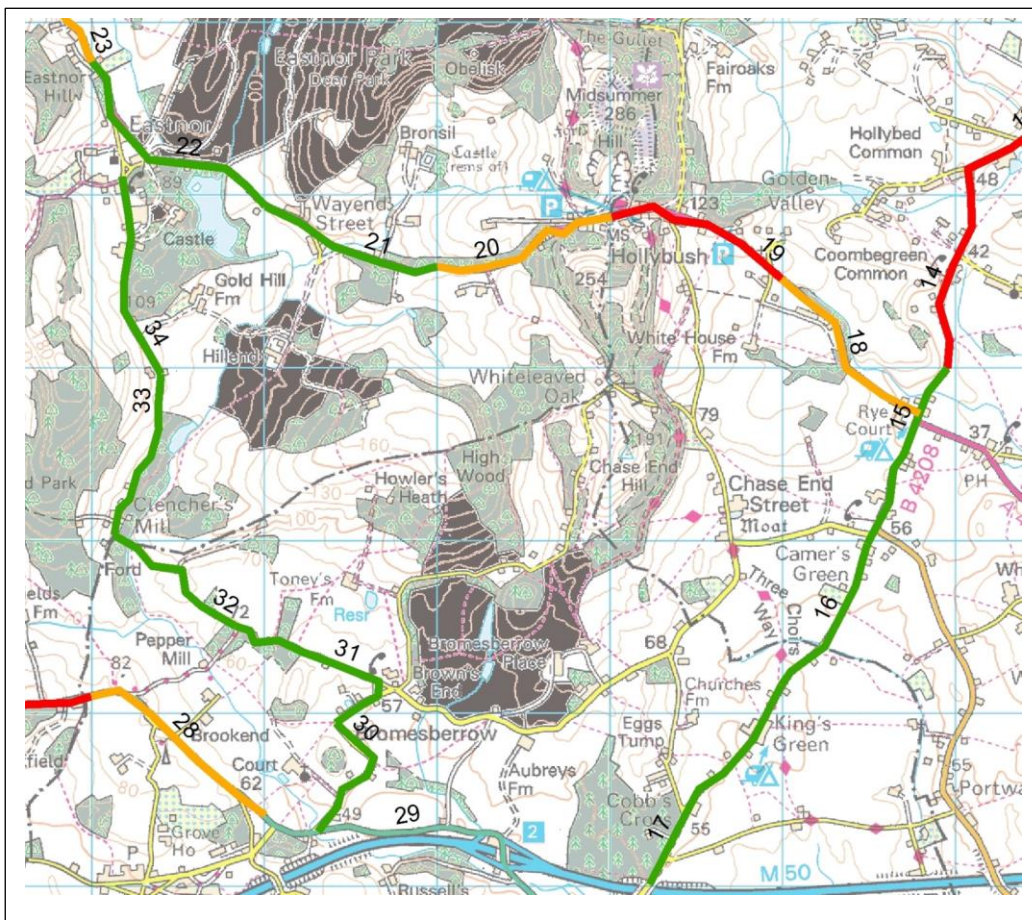
2018 survey: No obvious problems.

Section 15

2016 baseline: Medium proportion of ash. Small number of isolated hedgerow trees and mature trees in mixed woodland.

2018 survey: No obvious problems.

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW



Section 16

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. A few mature trees in mixed hedgerows.

2018 survey: No obvious problems.

Section 17

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Very small number of hedgerow trees; one prominent tree.

2018 survey: No obvious problems.

Section 18

Chalara confirmed	Impact visible	Level of concern
NO	EARLY	MEDIUM

2016 baseline: Medium proportion of ash. Large number of mature trees in mixed roadside woodland.

2018 survey: A number of trees looking very unhealthy. No specific Chalara symptoms seen.

Section 19

Chalara confirmed	Impact visible	Level of concern
NO	EARLY	MEDIUM

2016 baseline: High proportion of ash. Large number of mature trees in hedgerows and in-field. Large woodland ash component.

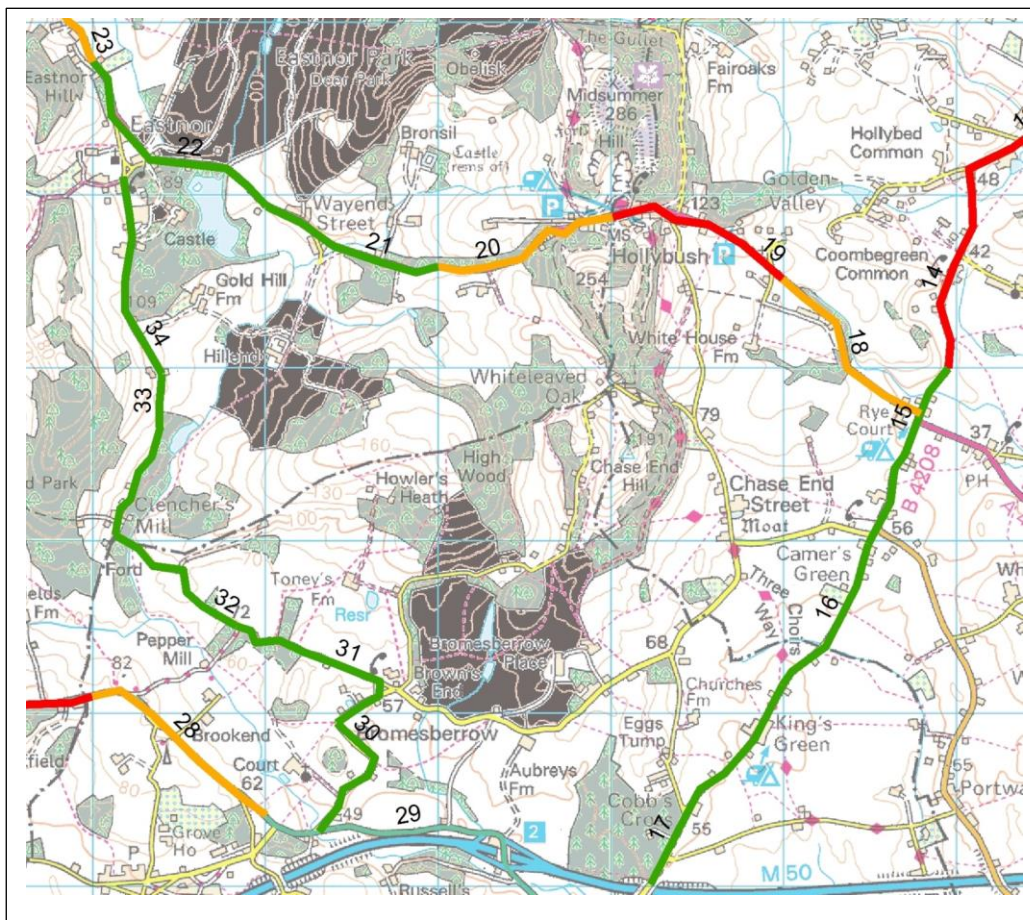
2018 survey: A number of trees looking very unhealthy. No specific Chalara symptoms seen.

Section 20

Chalara confirmed	Impact visible	Level of concern
POSSIBLE	EARLY	HIGH

2016 baseline: High proportion of ash. Lots of young ash in mixed outgrown hedgerows

2018 survey: One section of young trees showing possible Chalara symptoms.



Section 21

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. One large mature tree and other young trees in mixed species outgrown hedgerows.

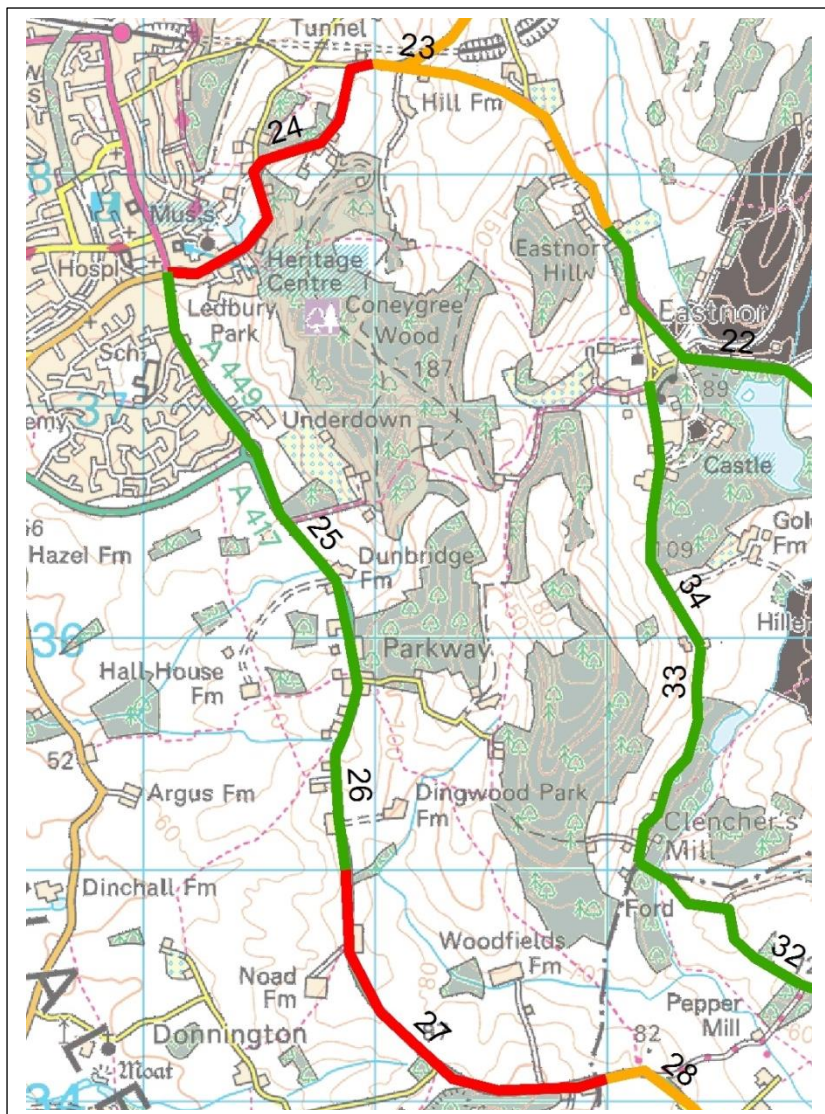
2018 survey: No obvious problems.

Section 22

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Two small hedgerow trees and other young trees in mixed species outgrown hedgerows.

2018 survey: No obvious problems



Section 23

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Large numbers of young hedgerow ash and in-field ash trees mixed with other species.

2018 survey: No obvious problems.

Section 24

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: High proportion of ash. Dominant tree in roadside woodland.

2018 survey: No obvious problems.

Section 25

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Some mature parkland trees and lots of young ash in mixed, outgrown hedgerows.

2018 survey: Young ash in outgrown hedgerows worth closer monitoring. No specific Chalara symptoms seen.

Section 26

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash, small amount in mixed hedgerows.

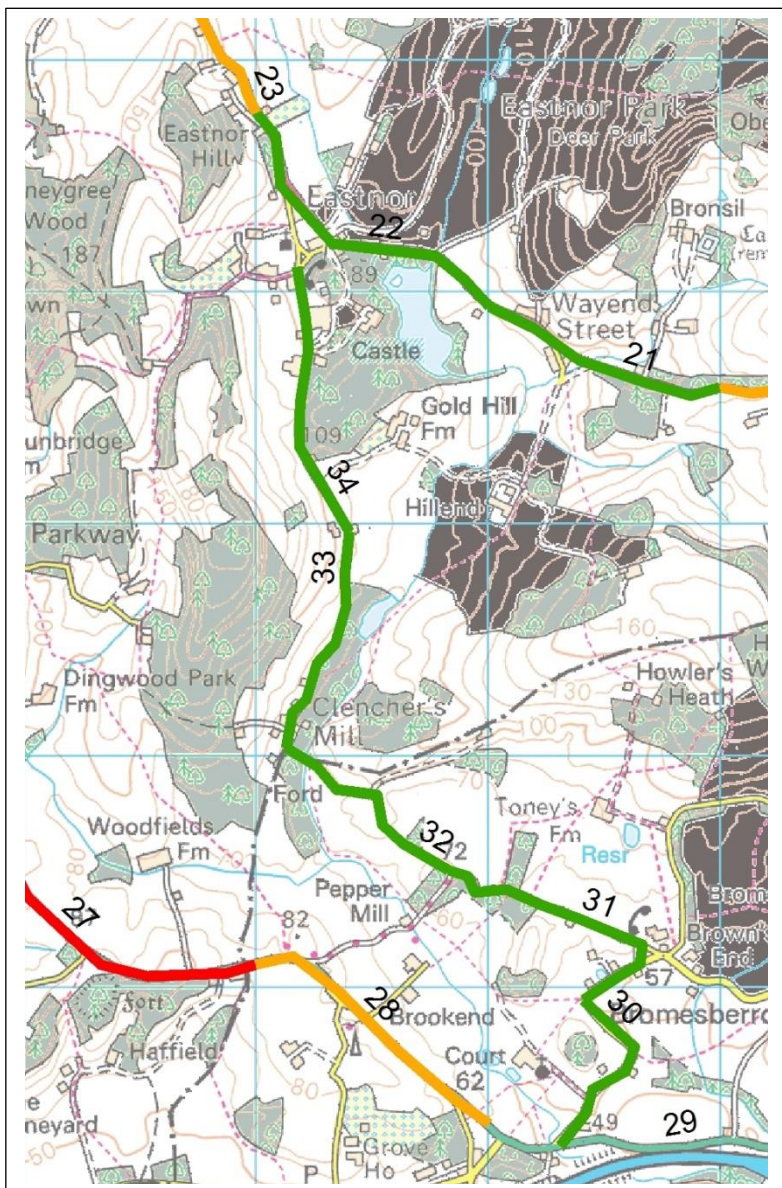
2018 survey: No obvious problems.

Section 27

2016 baseline: High proportion of ash. Dominant woodland tree, also occurs in mixed, outgrown hedgerows.

2018 survey: No obvious problems.

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW



Section 28

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: High proportion of ash. Lots of young ash in mixed, outgrown hedgerows. Small number of mature, prominent hedgerow trees.

2018 survey: No obvious problems. Young ash within hedgerows would be good candidates for closer monitoring.

Section 29

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

(Road closure prevented survey in 2016). Low proportion of ash. Several large hedgerow trees and occasional ash in mixed woodland.

2018 survey: No obvious problems.

Section 30

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Only one mature tree noted.

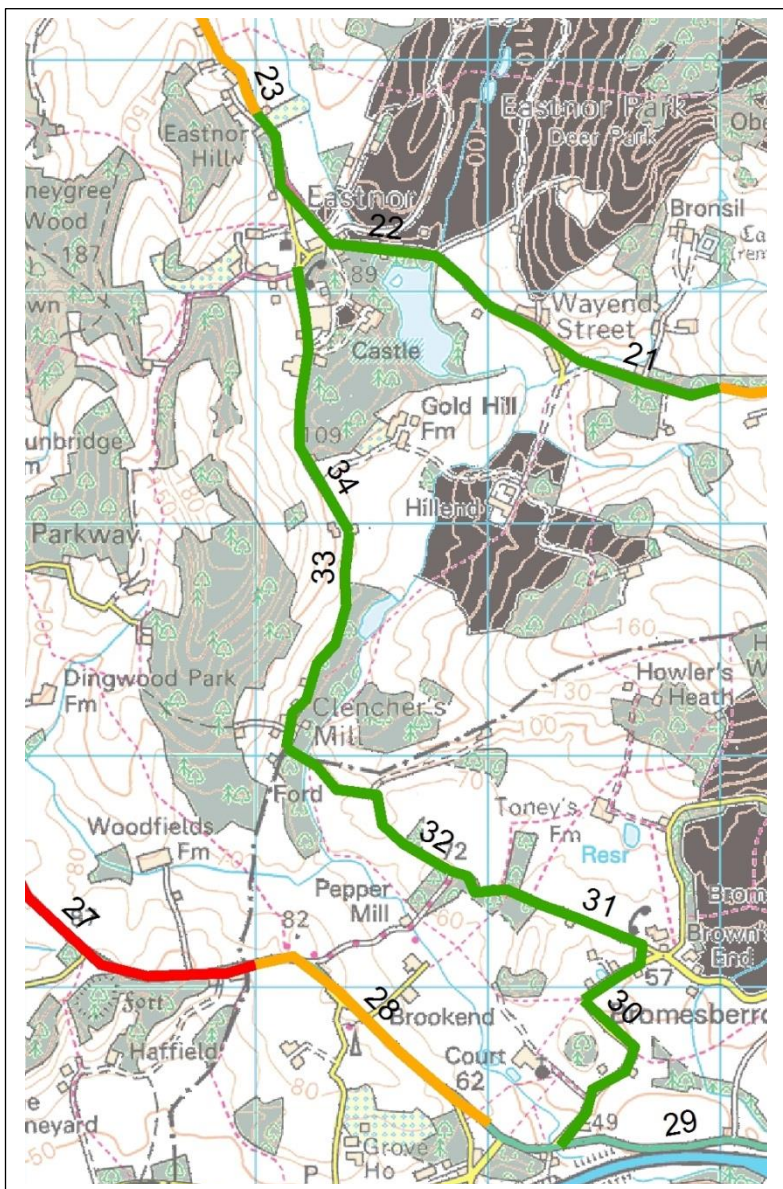
2018 survey: No obvious problems.

Section 31

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Occasional prominent hedgerow tree.

2018 survey: No obvious problems.



Section 32

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Small amount of young ash in mixed outgrown hedgerows.

2018 survey: No obvious problems.

Section 33

Chalara confirmed	Impact visible	Level of concern
NO	EARLY	MEDIUM

2016 baseline: Low proportion of ash. Small amount of young ash in mixed woodland.

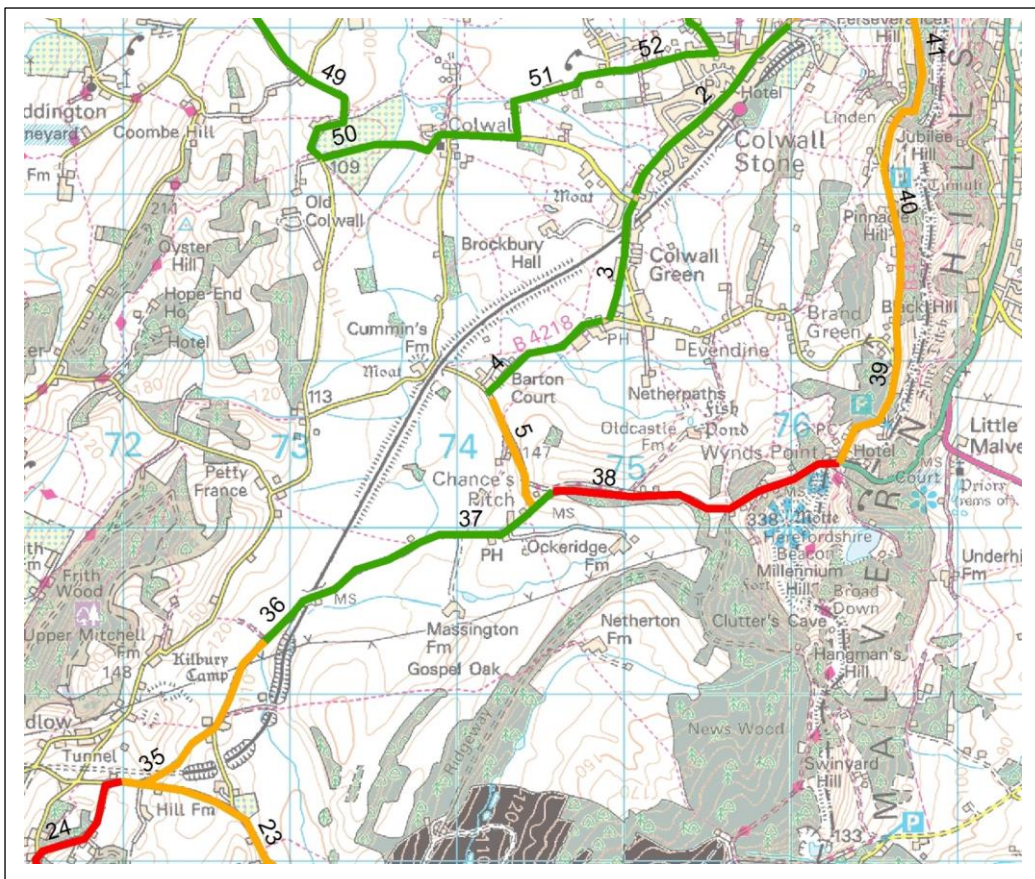
2018 survey: A number of trees looking very unhealthy. No specific Chalara symptoms seen.

Section 34

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Small amount of ash in mixed outgrown hedgerows.

2018 survey: No obvious problems.



Section 35

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Good numbers of mature, prominent hedgerow trees.

2018 survey: No obvious problems.

Section 36

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Small number of hedgerow trees.

2018 survey: No obvious problems.

Section 37

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. One garden tree prominent.

2018: survey No obvious problems.

Section 38

2016 baseline: High proportion of ash as a component of mixed woodland.

2018 survey: One dead sapling with possible Chalara symptoms.

Section 39

2016 baseline: Medium proportion of ash. Large number of mature trees in mixed woodland and on edge of common.

2018 survey: Veteran ash with canopy die-back: possible Chalara lesions?

Section 40

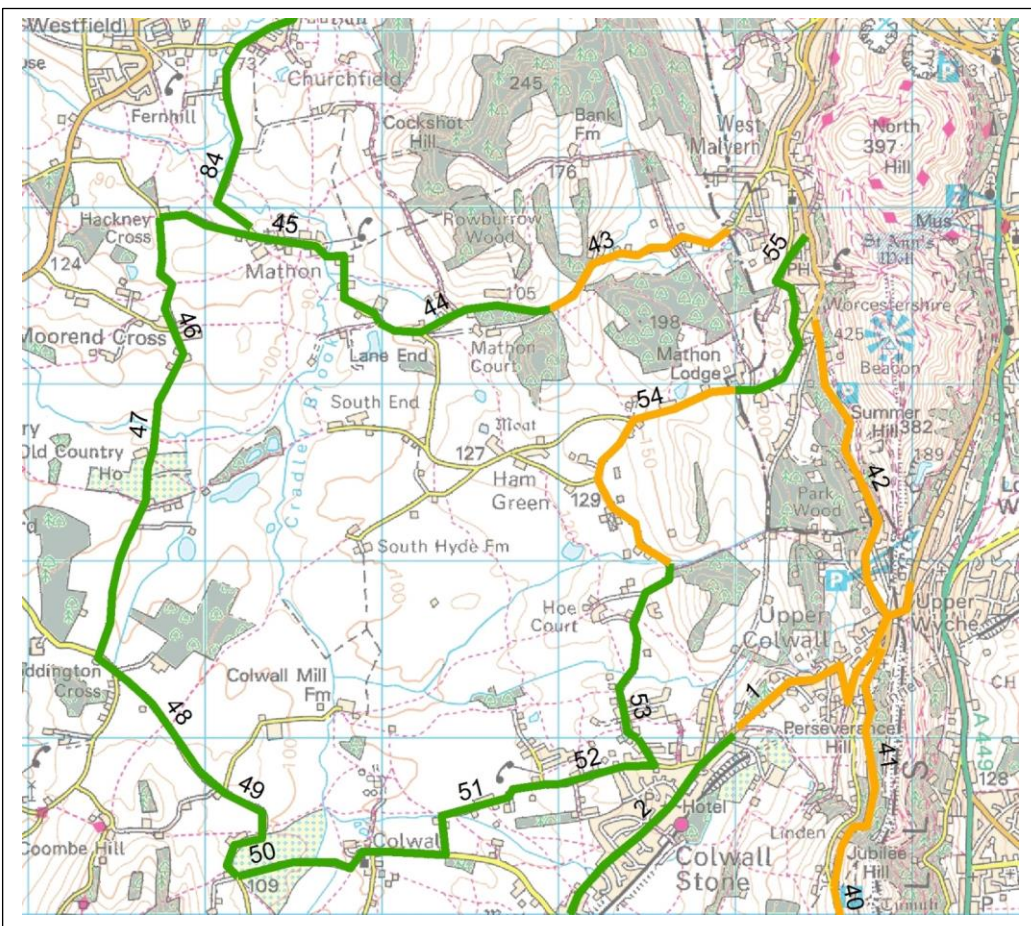
2016 baseline: High proportion of ash in roadside woodland.

2018 survey: No obvious problems.

Chalara confirmed	Impact visible	Level of concern
POSSIBLE	NO	HIGH

Chalara confirmed	Impact visible	Level of concern
POSSIBLE	EARLY	HIGH

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW



Section 44

Chalara confirmed	Impact visible	Level of concern
YES	NO	MEDIUM

2016 baseline: Medium proportion of ash. Frequent component of mixed woodland and occasional hedgerow tree

2018 survey: Infected trees confirmed on Back Drive to Mathon Court.

Section 41

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: High proportion of ash. Significant component of roadside woodland in southern half of section.

2018 survey: No obvious problems.

Section 42

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. A number of prominent roadside trees and a component of mixed woodland.

2018 survey: No obvious problems.

Section 43

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: High proportion of ash. Very prominent as a hedgerow tree.

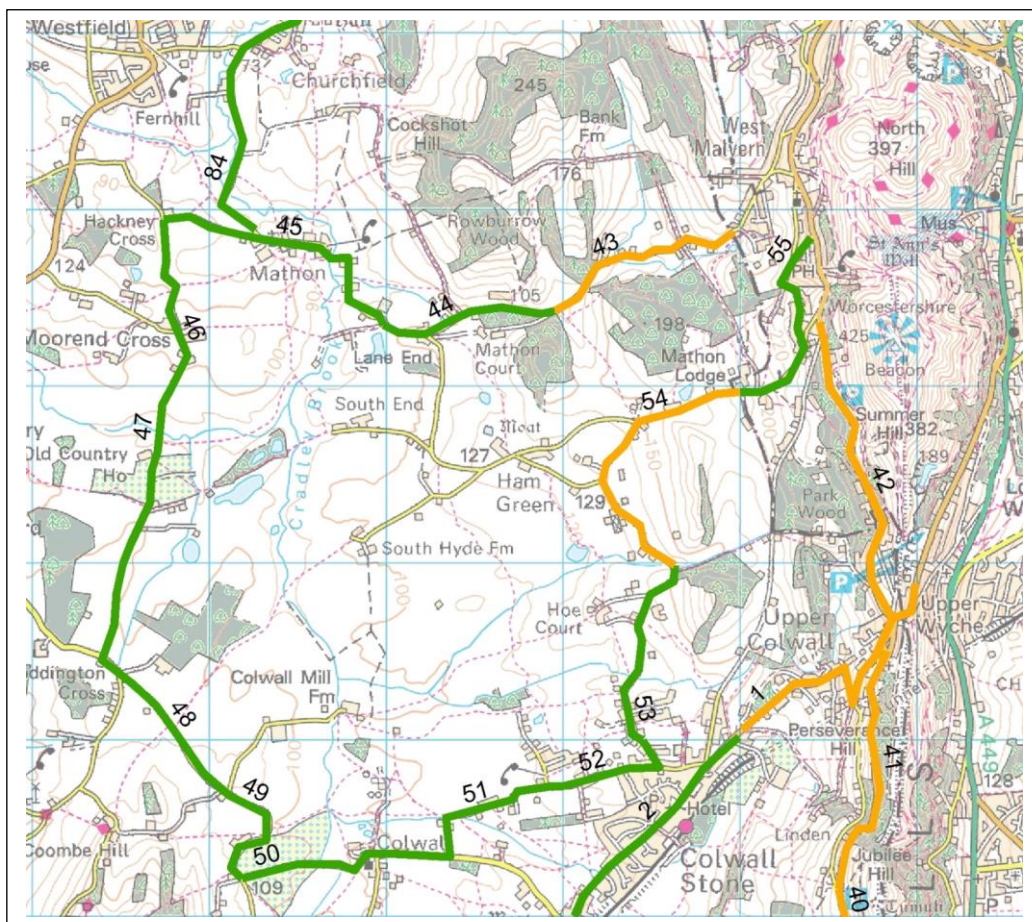
2018 survey: No obvious problems.

Section 45

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Small number of young saplings and occasional mature hedgerow tree.

2018 survey: No obvious problems.



Section 46

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Small amount in outgrown hedgerows.

2018 survey: No obvious problems.

Section 47

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Two trees noted.

2018 survey: No obvious problems.

Section 48

Chalara confirmed	Impact visible	Level of concern
POSSIBLE	EARLY	MEDIUM

2016 baseline: Low proportion of ash. Occasional hedgerow tree.

2018 survey: One dying hedgerow tree with possible Chalara symptoms.

Section 50

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Very few trees seen.

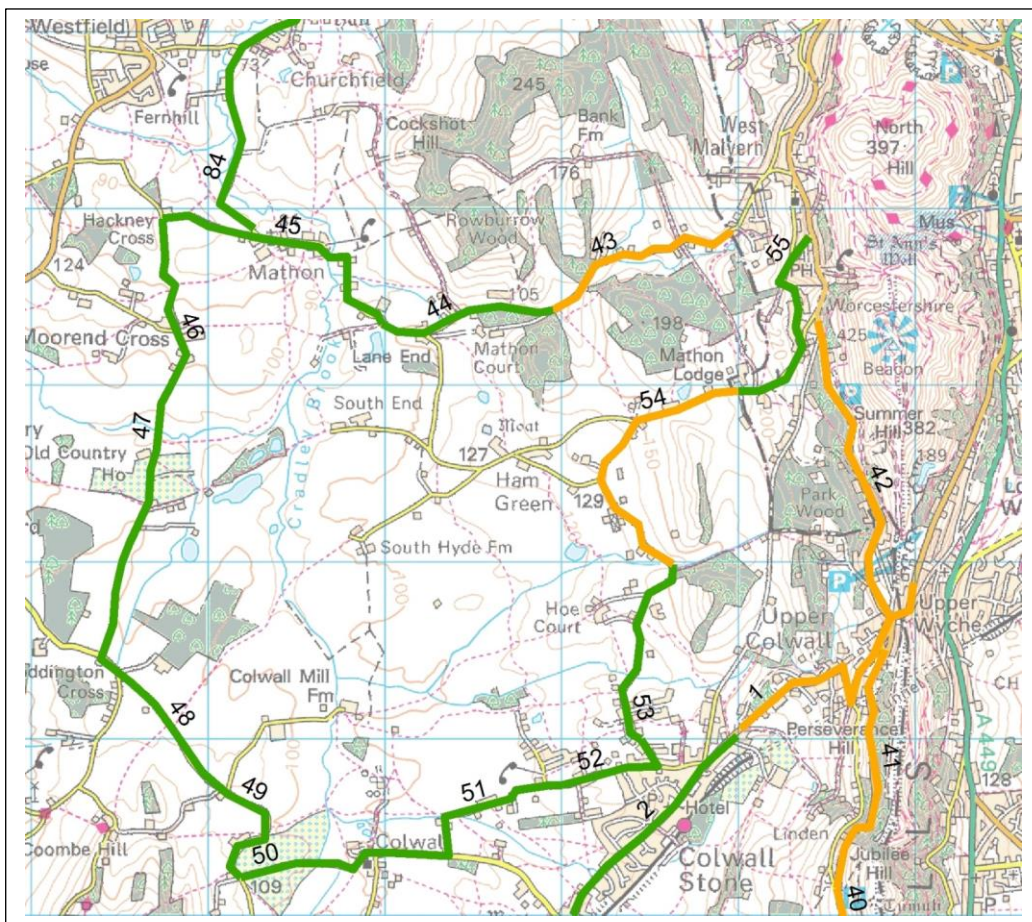
2018 survey: No obvious problems.

Section 49

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Small number of hedgerow trees, one prominent.

2018 survey: No obvious problems.



Section 51

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Good numbers of hedgerow trees.

2018 survey: No obvious problems.

Section 52

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. One mature prominent hedgerow tree and occasional young ash saplings in mixed hedgerows.

2018 survey: No obvious problems.

Section 53

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Frequent in outgrown hedgerows and one line of young hedgerow ash.

2018 survey: No obvious problems.

Section 55

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Young ash is a component of mixed hedgerows and woodland edge. Small number of prominent hedgerow trees. One small plantation stocked with ash.

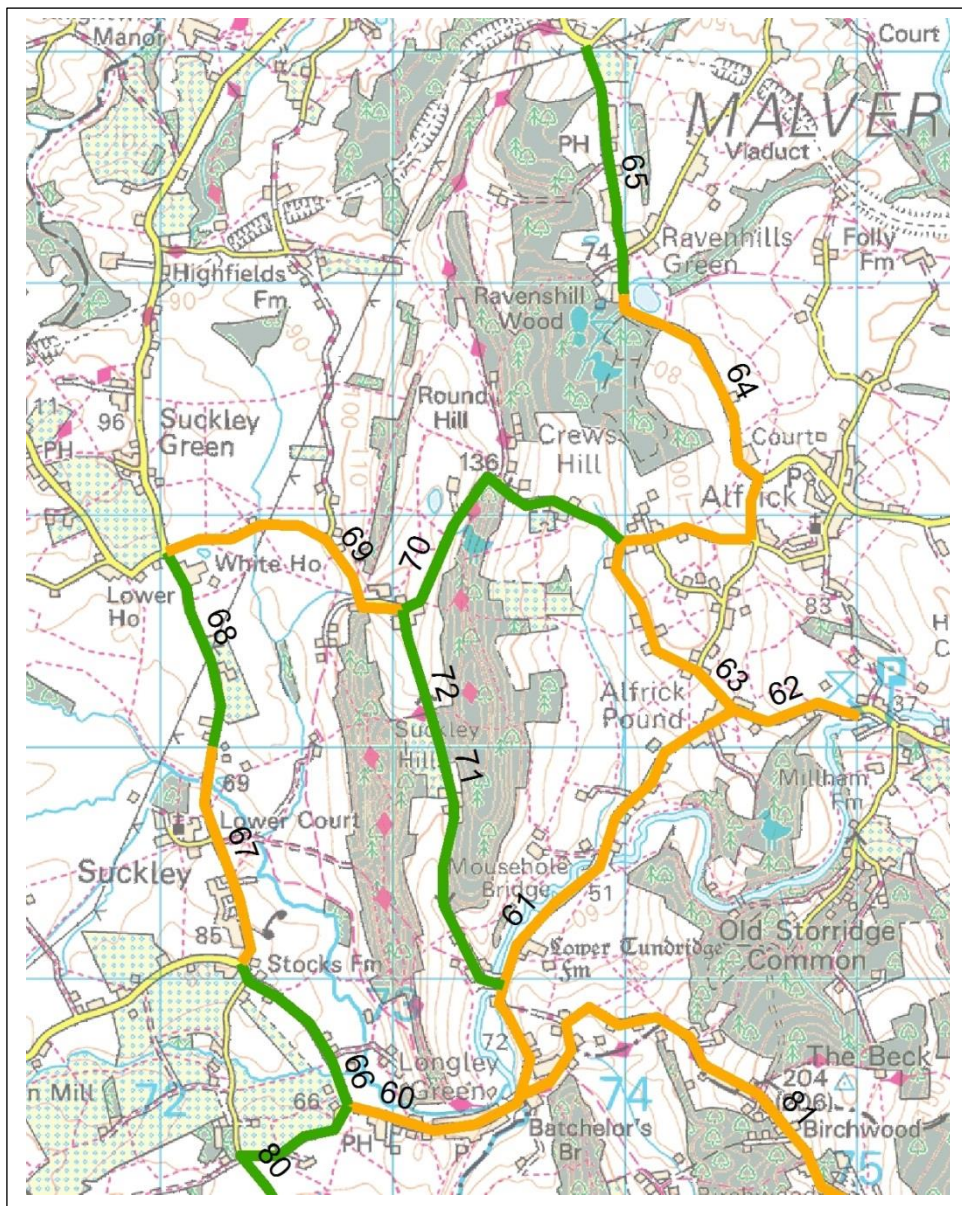
2018 survey: No obvious problems.

Section 54

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Good number of hedgerow trees with some mature prominent specimens.

2018 survey: No obvious problems.



Section 60

Chalara confirmed	Impact visible	Level of concern
POSSIBLE	EARLY	HIGH

2016 baseline: Medium proportion of ash. Occasional prominent mature tree. Common woodland component. Possible Chalara symptoms in some young trees.

2018 survey: A number of young trees looking unhealthy in comparison to others nearby.

Section 61

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Frequent mature hedgerow and woodland edge trees. Possible Chalara symptoms seen.

2018 survey: No obvious problems.

Section 62

Chalara confirmed	Impact visible	Level of concern
NO	NO	MEDIUM

2016 baseline: Low proportion of ash. Some large hedgerow trees. Young trees in mixed outgrown hedgerows. Possible Chalara symptoms seen.

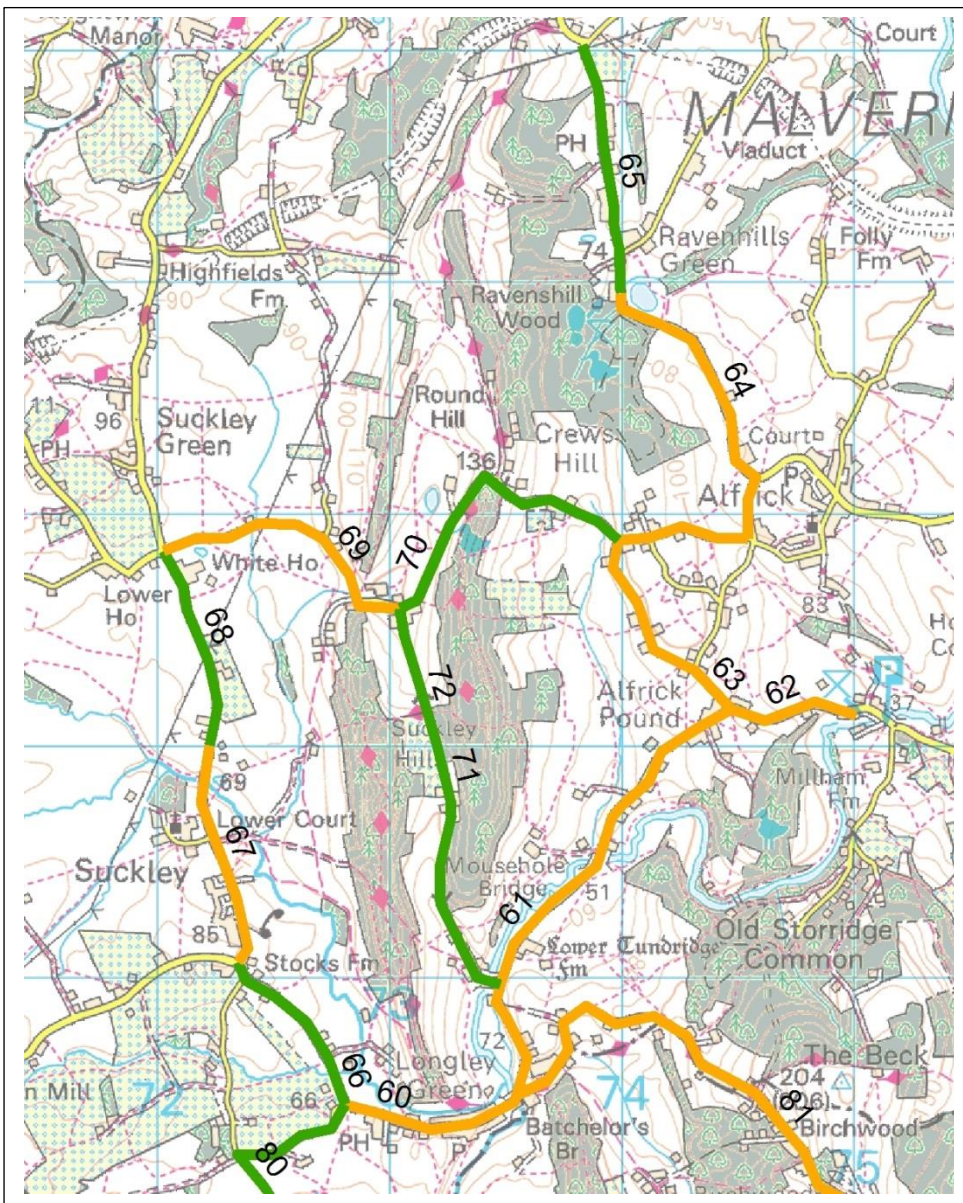
2018 survey: One unhealthy looking hedgerow tree.

Section 63

Chalara confirmed	Impact visible	Level of concern
NO	EARLY	MEDIUM

2016 baseline: High proportion of ash. Common hedgerow tree, both young and mature specimens.

2018 survey: Several unhealthy looking hedgerow trees.



Section 64

Chalara confirmed	Impact visible	Level of concern
NO	EARLY	MEDIUM

2016 baseline: High proportion of ash. Common hedgerow tree.

2018 survey: A number of unhealthy looking trees.

Section 65

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Occasional hedgerow tree.

2018 survey: No obvious problems.

Section 66

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Row of mature hedgerow trees and some young trees in a copse.

2018 survey: No obvious problems.

Section 67

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Some young hedgerow trees. Row of mature trees in outgrown hedgerow. One veteran tree seen.

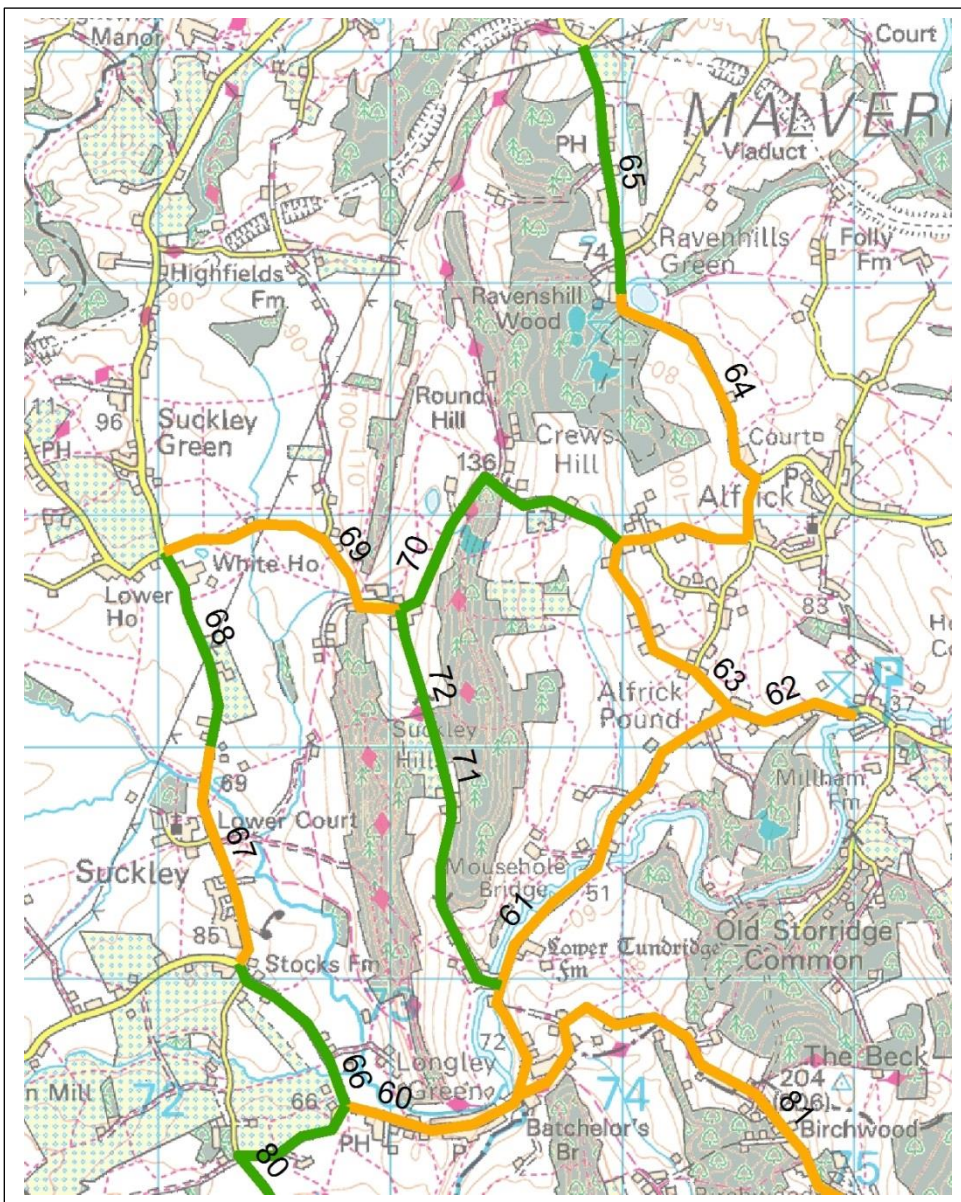
2018 survey: No obvious problems.

Section 68

2016 baseline: Low proportion of ash. Single, prominent, isolated hedgerow tree.

2018 survey: No obvious problems.

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW



Section 69

Chalara confirmed	Impact visible	Level of concern
POSSIBLE	EARLY	HIGH

2016 baseline: High proportion of ash. Common in woodland and in outgrown hedgerows. Possible Chalara symptoms seen.

2018 survey: A number of unhealthy looking trees.

Section 70

Chalara confirmed	Impact visible	Level of concern
NO	EARLY	HIGH

2016 baseline: High proportion of ash. Common in woodland and in outgrown hedgerows. One veteran field tree seen.

2018 survey: One dead tree; one almost-dead tree; several others looking unhealthy.

Section 71

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Occasional woodland component. Possible Chalara symptoms seen.

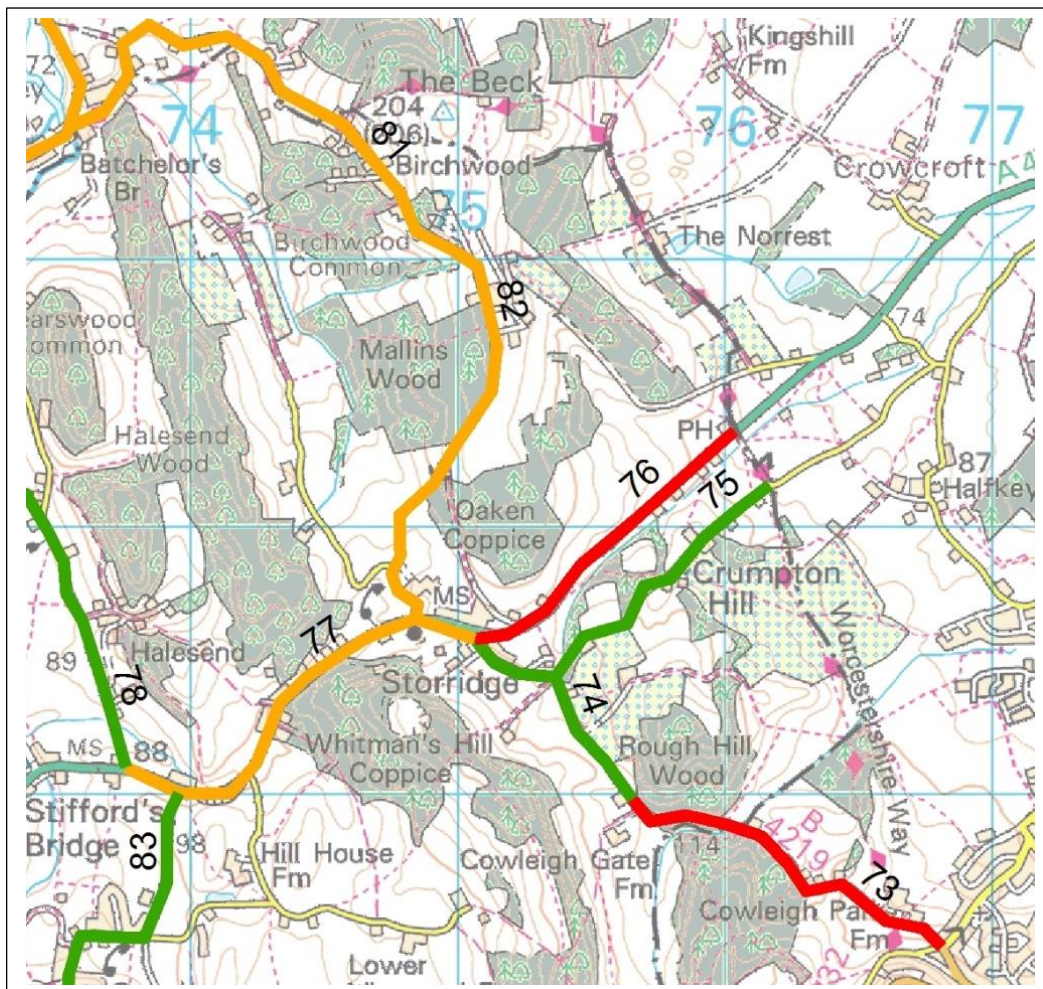
2018 survey: No obvious problems.

Section 72

Chalara confirmed	Impact visible	Level of concern
NO	NO	MEDIUM

2016 baseline: Low proportion of ash. Small number of mature hedgerow trees.

2018 survey: One partially dead young tree. No specific Chalara symptoms seen.



Section 73

Chalara confirmed	Impact visible	Level of concern
NO	EARLY	MEDIUM

2016 baseline: High proportion of ash. Common woodland and hedgerow component. Some mature, prominent specimens. Many young trees.

2018 survey: Small number of mature woodland trees looking unhealthy.

Section 74

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. One large hedgerow tree.

2018 survey: No obvious problems

Section 75

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Occasional hedgerow tree and mixed woodland component.

2018 survey: No obvious problems.

Section 76

Chalara confirmed	Impact visible	Level of concern
NO	EARLY	MEDIUM

2016 baseline: High proportion of ash. Dominant species in woodland and outgrown hedgerows.

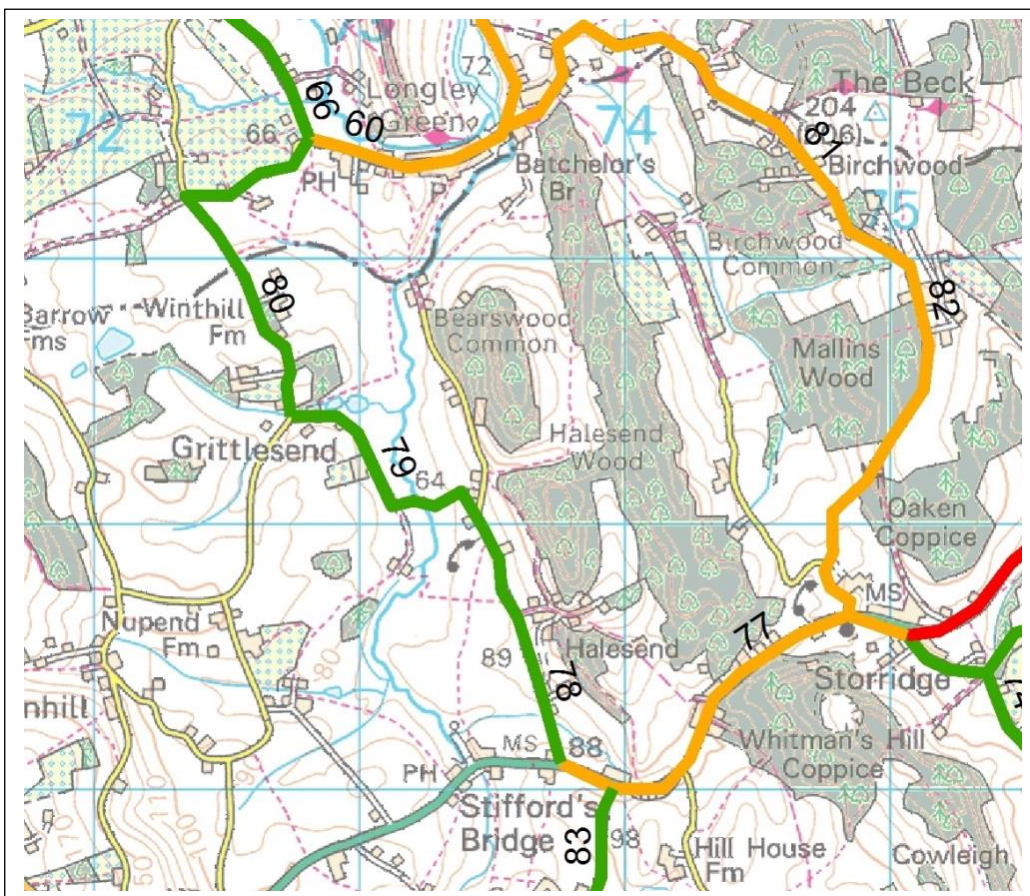
2018 survey: Small number of trees looking unhealthy.

Section 77

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: High proportion of ash. Common woodland and outgrown hedgerow component.

2018 survey: No obvious problems.



Section 78

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Very little seen.

2018 survey: No obvious problems.

Section 79

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. Occasional young hedgerow tree. Small young roadside plantation.

2018 survey: No obvious problems

Section 80

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Medium proportion of ash. One prominent line of hedgerow trees. Other young trees as component of mixed hedgerows.

2018 survey: No obvious problems.

Section 82

Chalara confirmed	Impact visible	Level of concern
NO	EARLY	MEDIUM

2016 baseline: Medium proportion of ash. Common woodland edge component. One small young plantation. Occasional prominent hedgerow tree.

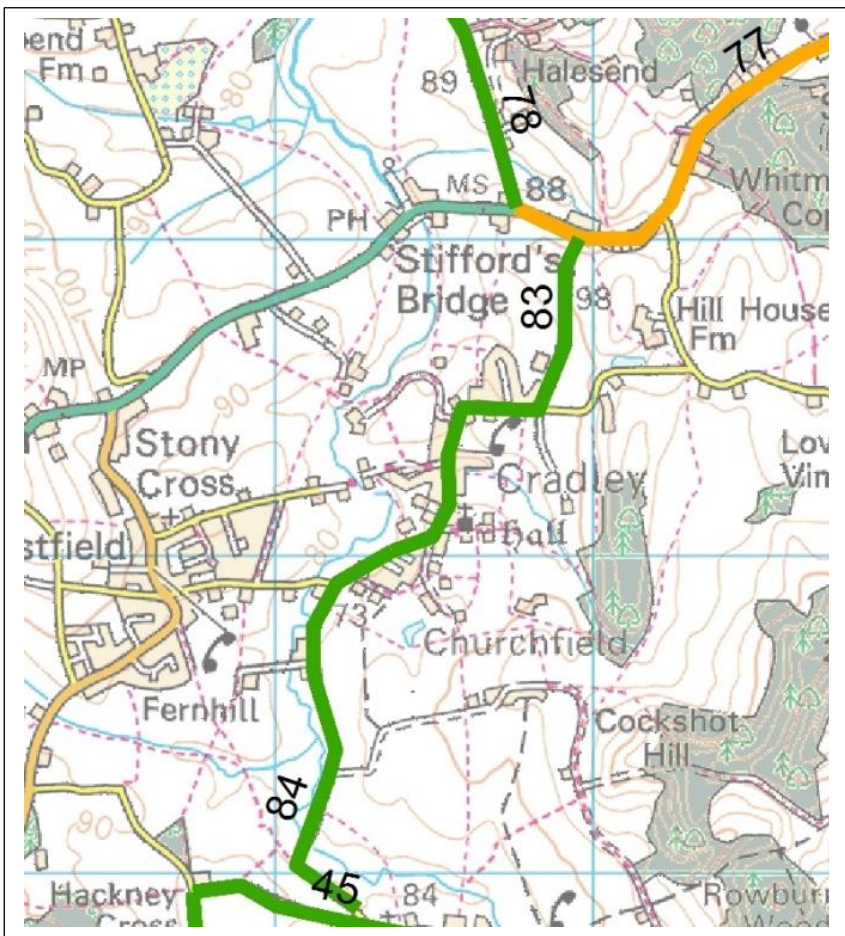
2018 survey: Two very unhealthy looking hedgerow trees.

Section 81

Chalara confirmed	Impact visible	Level of concern
NO	EARLY	MEDIUM

2016 baseline: Low proportion of ash. Occasionally frequent as mixed hedgerow component.

2018 survey: Small number of young hedgerow trees looking unhealthy.



Section 83

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash. Occasional hedgerow tree.

2018 survey: No obvious problems.

Section 84

Chalara confirmed	Impact visible	Level of concern
NO	NO	LOW

2016 baseline: Low proportion of ash.

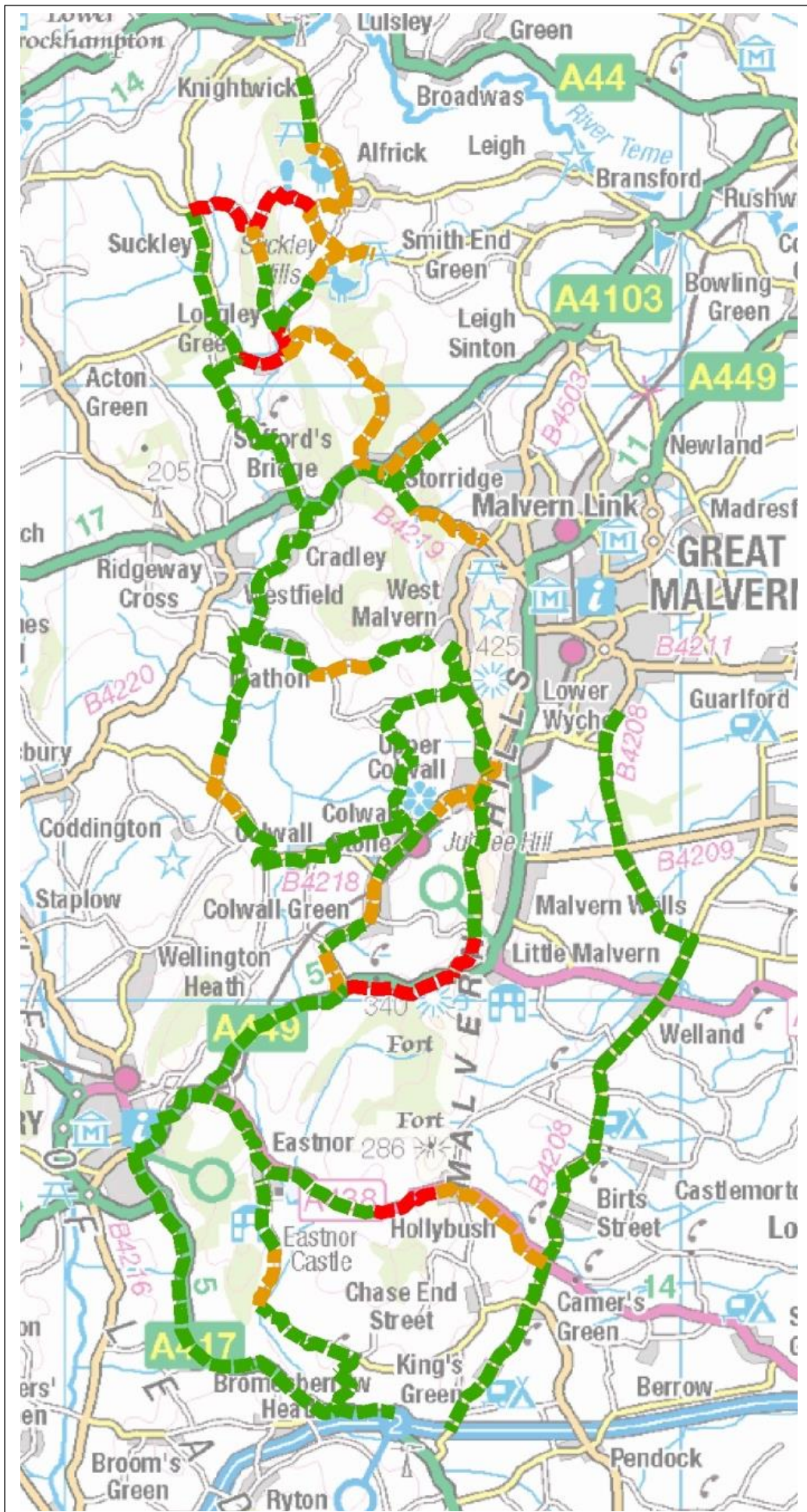
2018 survey: No obvious problems

Following page: Map illustrates the geographical distribution of the **Level of Concern** assessment outcome for each survey section.

Red = High level of concern: Survey section with a high or medium proportion of ash where *Charala* infection has been confirmed or probable symptoms seen and there is a visual impact apparent due to dead or possibly diseased trees.

Amber = Medium level of concern: Survey section with a medium or low proportion of ash where there may be an early visual impact apparent due to dead or possibly diseased trees but where visual impact of ash tree loss would be low.

Green = Low level of concern: Survey section where no symptoms of *Chalara* have been seen and no visual impact is apparent.



Map showing Level of Concern assessment outcome