LIFE IN THE RAVINES

Ecological Restoration of Priority *Tilio-Acerion* Woodland Habitats in the UK's Peak District Dales SAC

Derbyshire Wildlife Trust
Staffordshire Wildlife Trust
National Trust
CHATSWORTH

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Project Brief

Aim to restore 25% of *Tilio-Acerion* woodland within the Peak District Dales SAC, infected with ash dieback.

Start date : Sept 2020

End date : Nov 2026

<€5 million funded project by EU LIFE.

Sum Includes contributions from partners.

Derbyshire Wildlife Trust

Staffordshire Wildlife Trust

National Trust

CHATSWORTH

Ash Dieback

2015 - *Hymenoscyphus fraxineus was* detected in the SAC

2016 - All SAC woodlands were infected at a low level

2020 -

- 99% of the SAC's 600,000 ash trees are infected by ADB
- Estimated that 5% of ash trees are now dead
- 20% of the ash trees have less than 25% foliage remaining

Woodland Composition

80%

Ash

+

Wych Elm

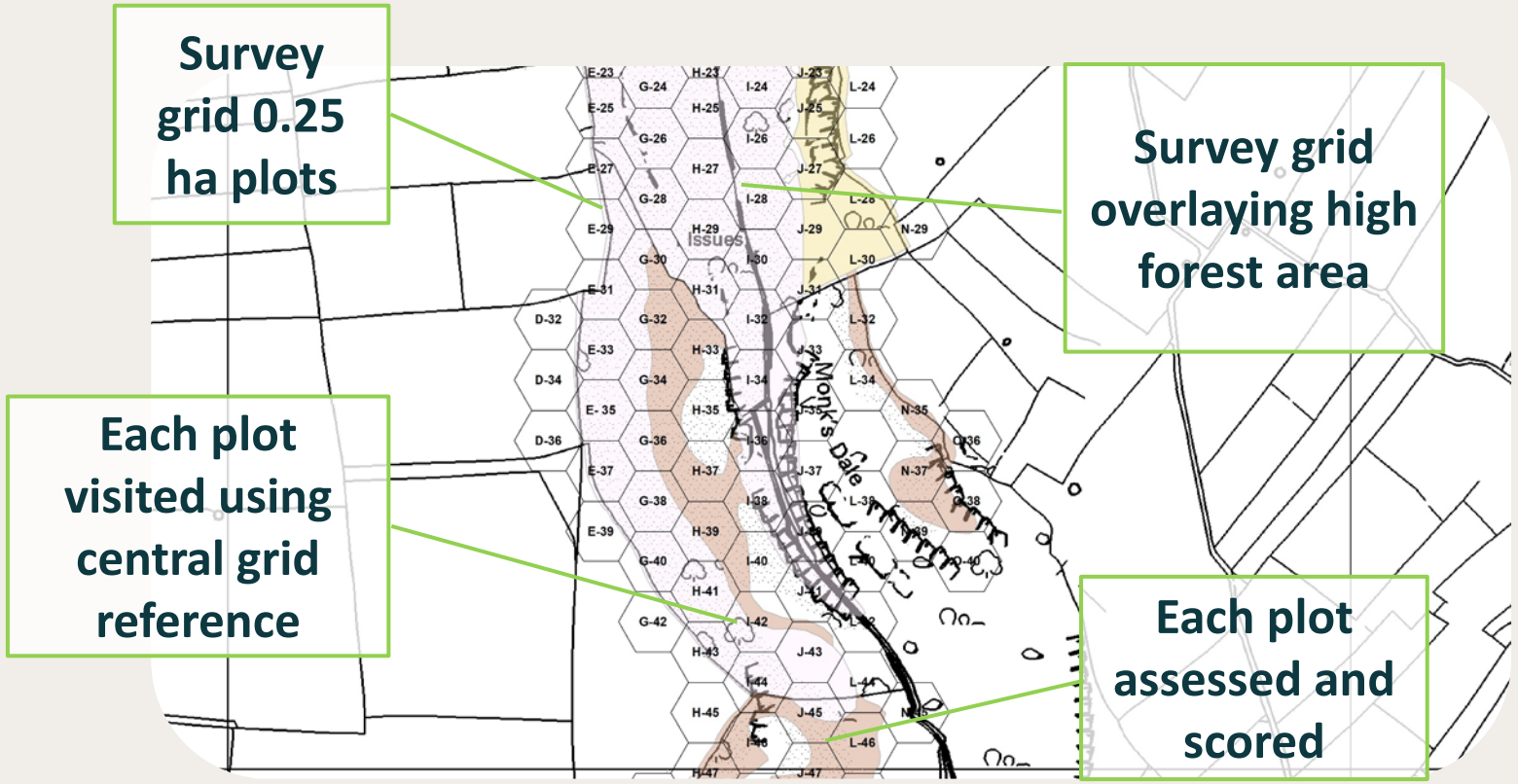
Large Leaved Lime

Small Leaved Lime

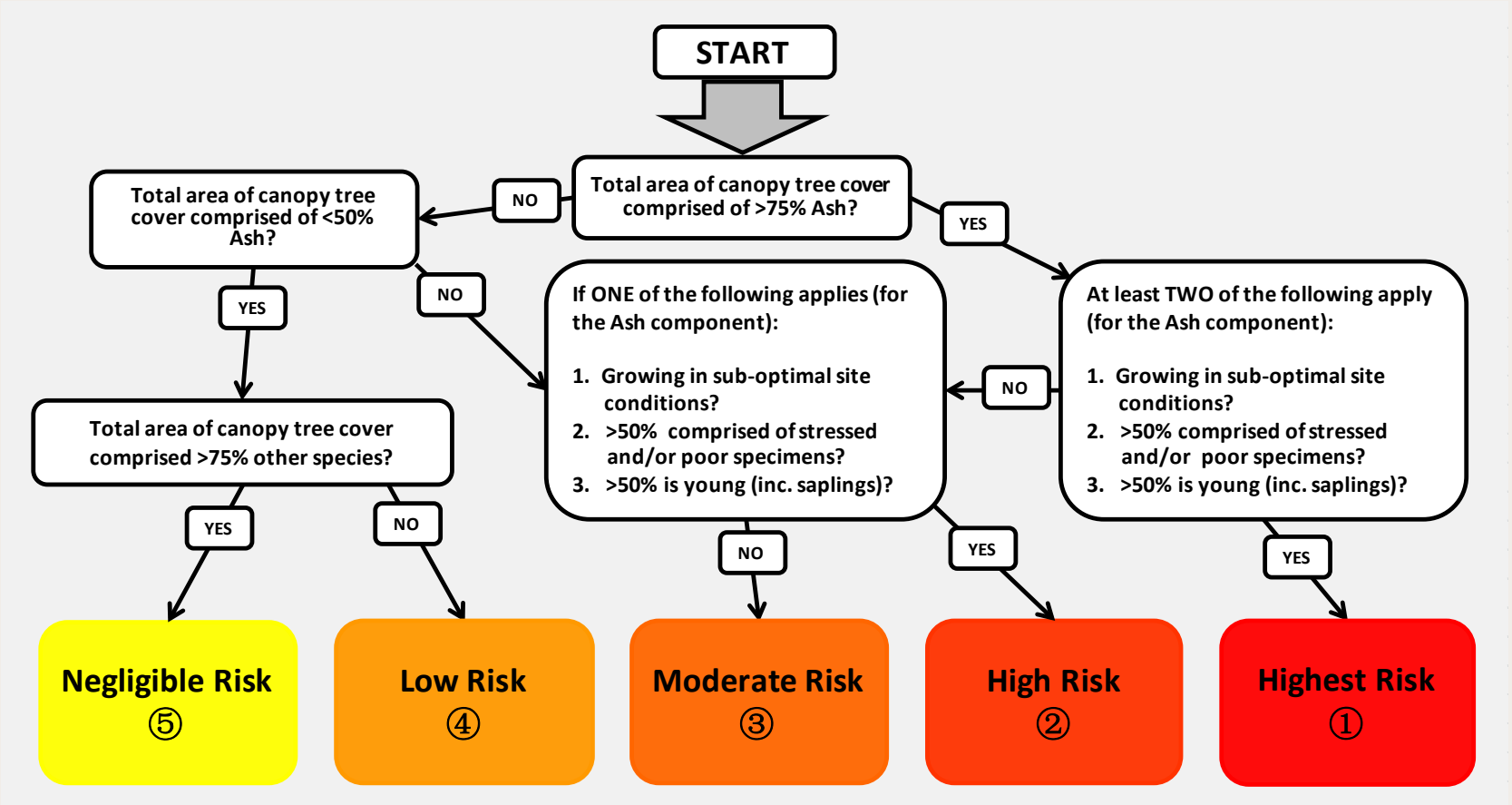
Other Broadleaved Species

After Woodland Clearances and Spread of Ash

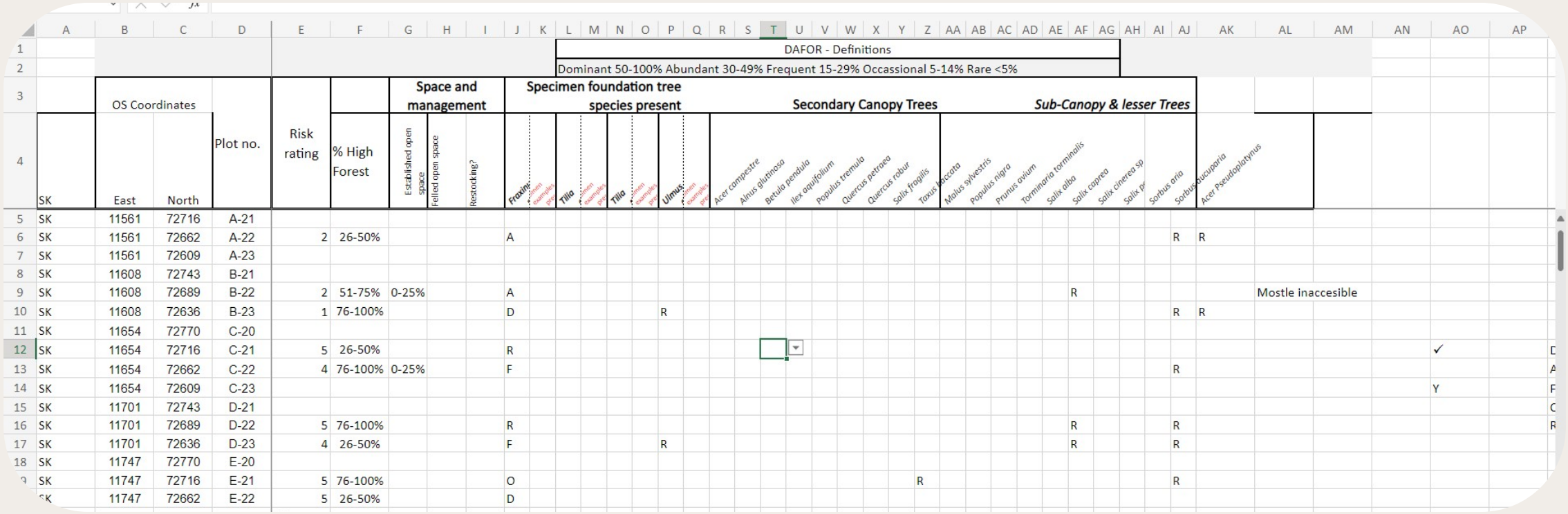
Surveying the Sites



Risk Assessment

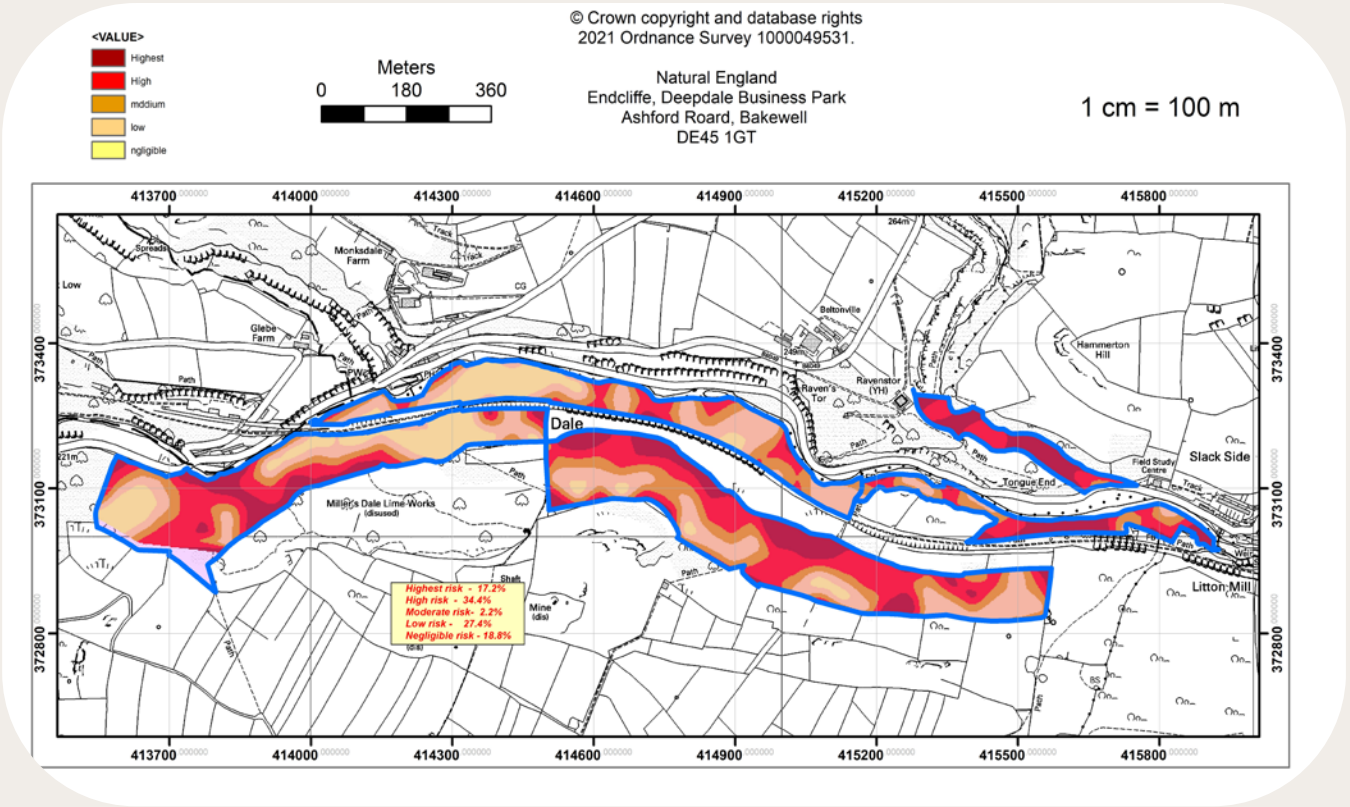


Ash Vulnerability Survey and Assessment Sheet



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP
1												DAFOR - Definitions																														
2												Dominant 50-100% Abundant 30-49% Frequent 15-29% Occassional 5-14% Rare <5%																												
3		OS Coordinates					Space and management			Specimen foundation tree species present											Secondary Canopy Trees																						
4	SK	East	North	Plot no.	Risk rating	% High Forest	Established open space	Felled open space	Restocking?	Fraxinus		Tilia		Tilia		Ulmus		Acer campestre	Alnus glutinosa	Betula pendula	Ilex aquifolium	Populus tremula	Quercus petraea	Quercus robur	Salix fragilis	Taxus baccata	Malus sylvestris	Populus nigra	Prunus avium	Torminaria torminalis	Salix alba	Salix caprea	Salix cinerea sp	Salix pr	Sorbus aria	Sorbus aucuparia	Acer Pseudoplatynus					
5	SK	11561	72716	A-21																																					
6	SK	11561	72662	A-22	2	26-50%				A																										R	R					
7	SK	11561	72609	A-23																																					
8	SK	11608	72743	B-21																																					
9	SK	11608	72689	B-22	2	51-75%	0-25%			A																								R					Mostle inaccesible			
10	SK	11608	72636	B-23	1	76-100%				D						R																			R	R					
11	SK	11654	72770	C-20																																					
12	SK	11654	72716	C-21	5	26-50%				R																												✓				D
13	SK	11654	72662	C-22	4	76-100%	0-25%			F																										R					A
14	SK	11654	72609	C-23																																	Y				F
15	SK	11701	72743	D-21																																					C
16	SK	11701	72689	D-22	5	76-100%				R																								R		R					R
17	SK	11701	72636	D-23	4	26-50%				F						R																		R		R					
18	SK	11747	72770	E-20																																					
9	SK	11747	72716	E-21	5	76-100%				O																R										R					
	SK	11747	72662	E-22	5	26-50%				D																															

Heat Maps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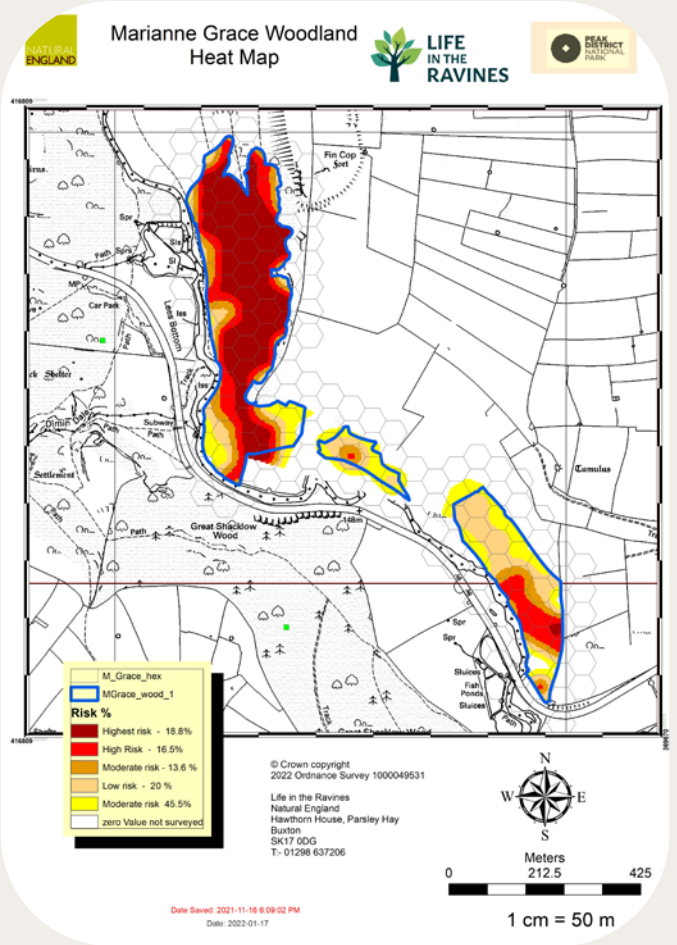
2021 Ordnance Survey 1000049531.
<VALUE>
Highest
High
mddium
low
ngligible
Meters
0 180 360
Natural England
Endcliffe, Deepdale Business Park
Ashford Roard, Bakewell
DE45 1GT
1 cm = 100 m
Dale
Slack Side
Litton Mill
Highest risk - 17.2%
High risk - 34.4%
Moderate risk- 2.2%
Low risk - 27.4%
Negligible risk - 18.8%


Marianne Grace Woodland
Heat Map
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M_Grace_hex
MGrace_wood_1
Risk %
Highest risk - 18.8%
High Risk - 16.5%
Moderate risk - 13.6 %
Low risk - 20 %
Moderate risk 45.5%
zero Value not surveyed
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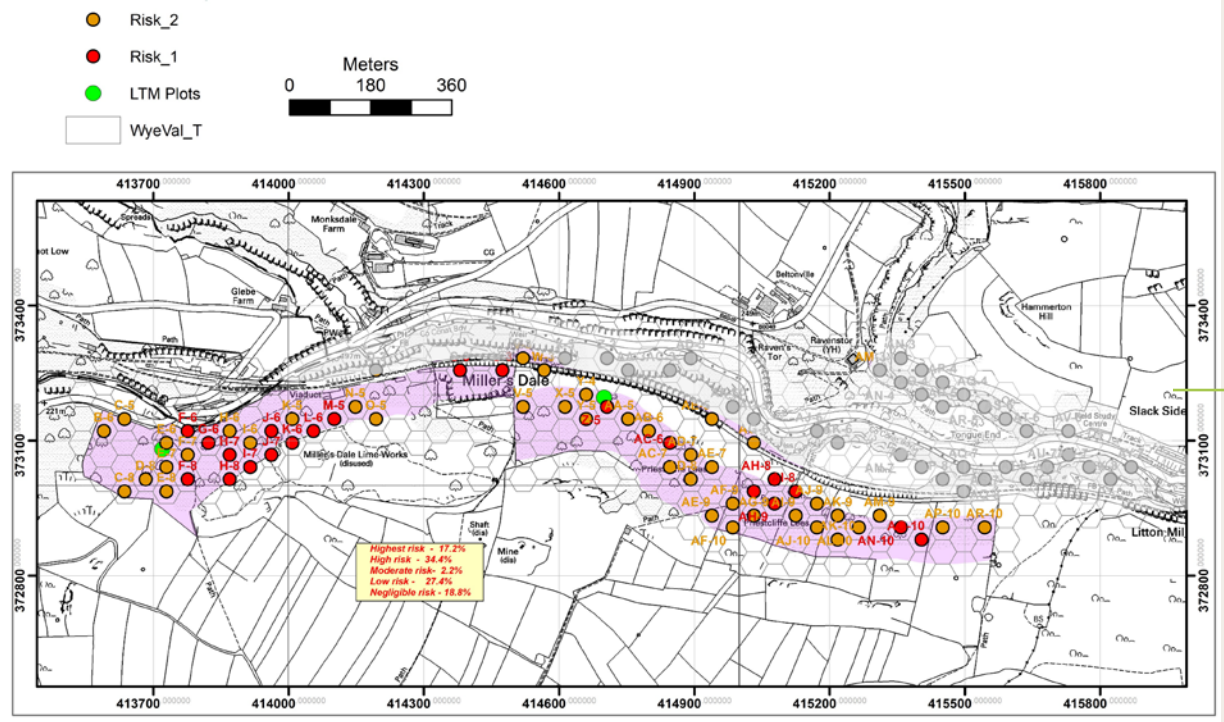
2022 Ordnance Survey 1000049531
Life in the Ravines
Natural England
Hawthorn House, Parsley Hay
Buxton
SK17 0DG
T- 01298 637206
Meters
0 212.5 425
1 cm = 50 m

Tree Felling



Some unhealthy ash removed to make room for planted trees

Tree Planting

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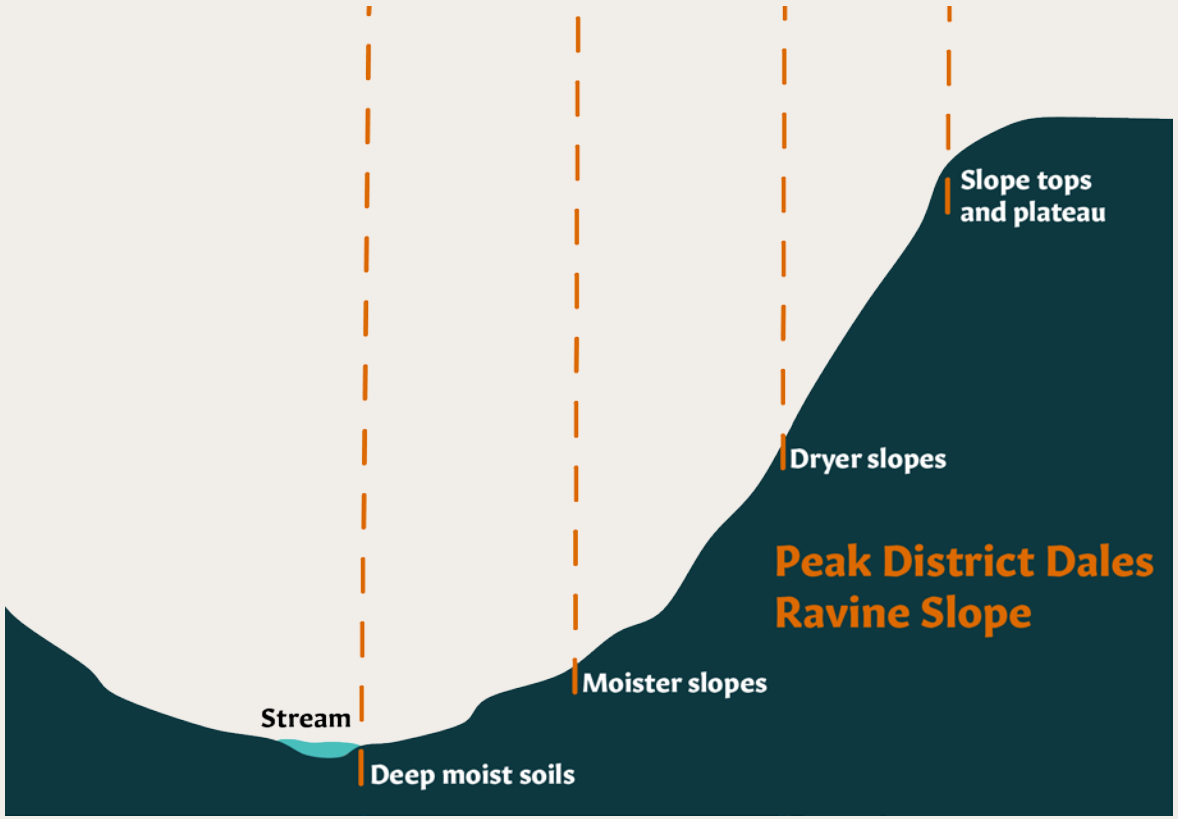
Trees selected:

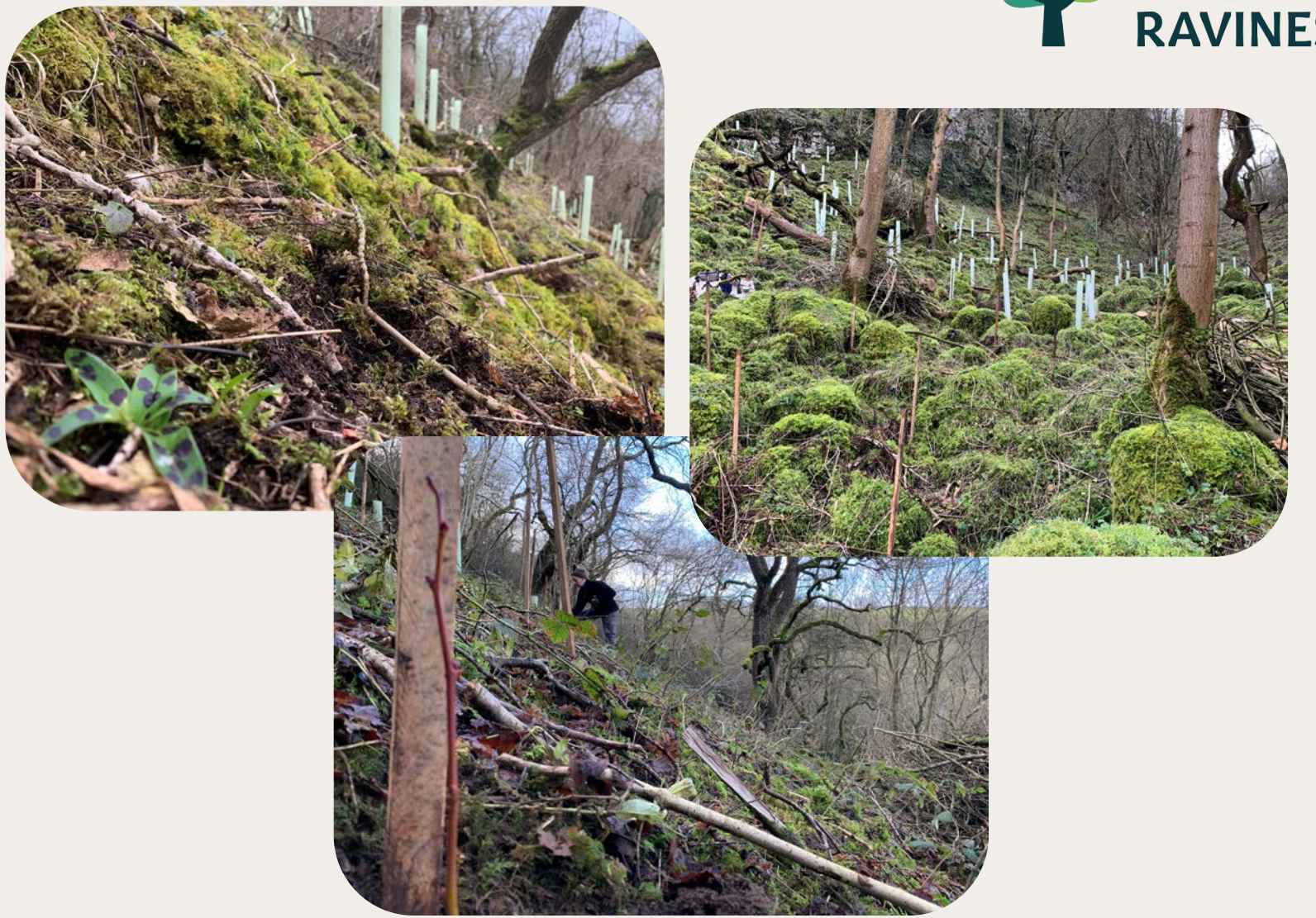
- Species ecologically similar to ash
- Historically present

Tree placement:



Planting Palette

	Species	
	Common	Scientific
Foundation Species: 48%	Small-leaved lime	Tilia cordata
	Large-Leaved Lime	Tilia platyphyllos
	Elm	Ulmus glabra
Secondary Canopy: <45%	Field Maple	Acer campestre
	Alder	Alnus glutinosa
	Silver Birch	Betula pendula
	Sessile Oak	Quercus petraea
	Aspen	Populus tremula
	Holly	Ilex aquifolium
	Yew	Taxus baccata
Sub Canopy: <10%	Crab Apple	Malus sylvestris
	Wild Cherry	Prunus avium
	Wild Service	Torminaria torminalis
	Rowan	Sorbus acuparia
	Goat Willow	Salix caprea
	Grey Willow	Salix cinera
	Bay Willow	Salix pentandra



Other Partnerships Initiatives

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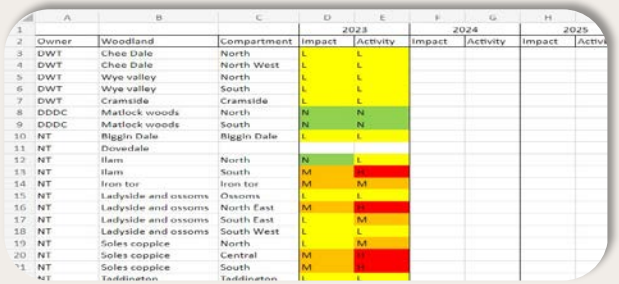
1.Finding and protecting ash trees that show resistance to ash dieback disease through the Living Ash Project

2.Worked with the Forestry Commission to assess how deer affect woodland areas

3.Working with Nottingham University to grow small-leaved and large-leaved lime trees using special cutting techniques

4.Ongoing plant survey and analysis work with Harper Adams University



	A	B	C	D	E	F	G	H
1				2023		2024		2025
2	Owner	Woodland	Compartment	Impact	Activity	Impact	Activity	Impact	Activ
3	DWT	Chee Dale	North	L	L				
4	DWT	Chee Dale	North West	L	L				
5	DWT	Wye valley	North	L	L				
6	DWT	Wye valley	South	L	L				
7	DWT	Cramside	Cramside	L	L				
8	DDDC	Matlock woods	North	N	N				
9	DDDC	Matlock woods	South	N	N				
10	NT	Biggin Dale	Biggin Dale	L	L				
11	NT	Dowedale							
12	NT	Ilam	North	N	L				
13	NT	Ilam	South	M	H				
14	NT	Iron tor	Iron tor	M	M				
15	NT	Ladyside and ossoms	Ossoms	L	L				
16	NT	Ladyside and ossoms	North East	M	H				
17	NT	Ladyside and ossoms	South East	L	M				
18	NT	Ladyside and ossoms	South West	L	L				
19	NT	Soles coppice	North	L	M				
20	NT	Soles coppice	Central	M	H				
21	NT	Soles coppice	South	M	H				
22	NT	Taddington	Taddington	L	L				

Project Progress

- 84,000+ native trees planted
- Survival rates:
  - 86.7% after one year
  - 93% after two years and replacements
- Community engagement assessments show positive stakeholder feedback.
- SAC Replication

Practical Work Constraints and Challenges

- Remote locations require carrying materials by hand
- Tree protection is expensive and difficult to implement
- Inconsistent landowner support limits access
- Maintenance after planting needs significant resources
- Public lacks awareness about tree diseases
- Diseases spreading faster than predicted
- *Armillaria* spp. complicating existing infections
- Failed attempts to grow small-leaved and large-leaved lime trees
- Mixed response to SAC replication as many sites have 'non-intervention' policy for ADB

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