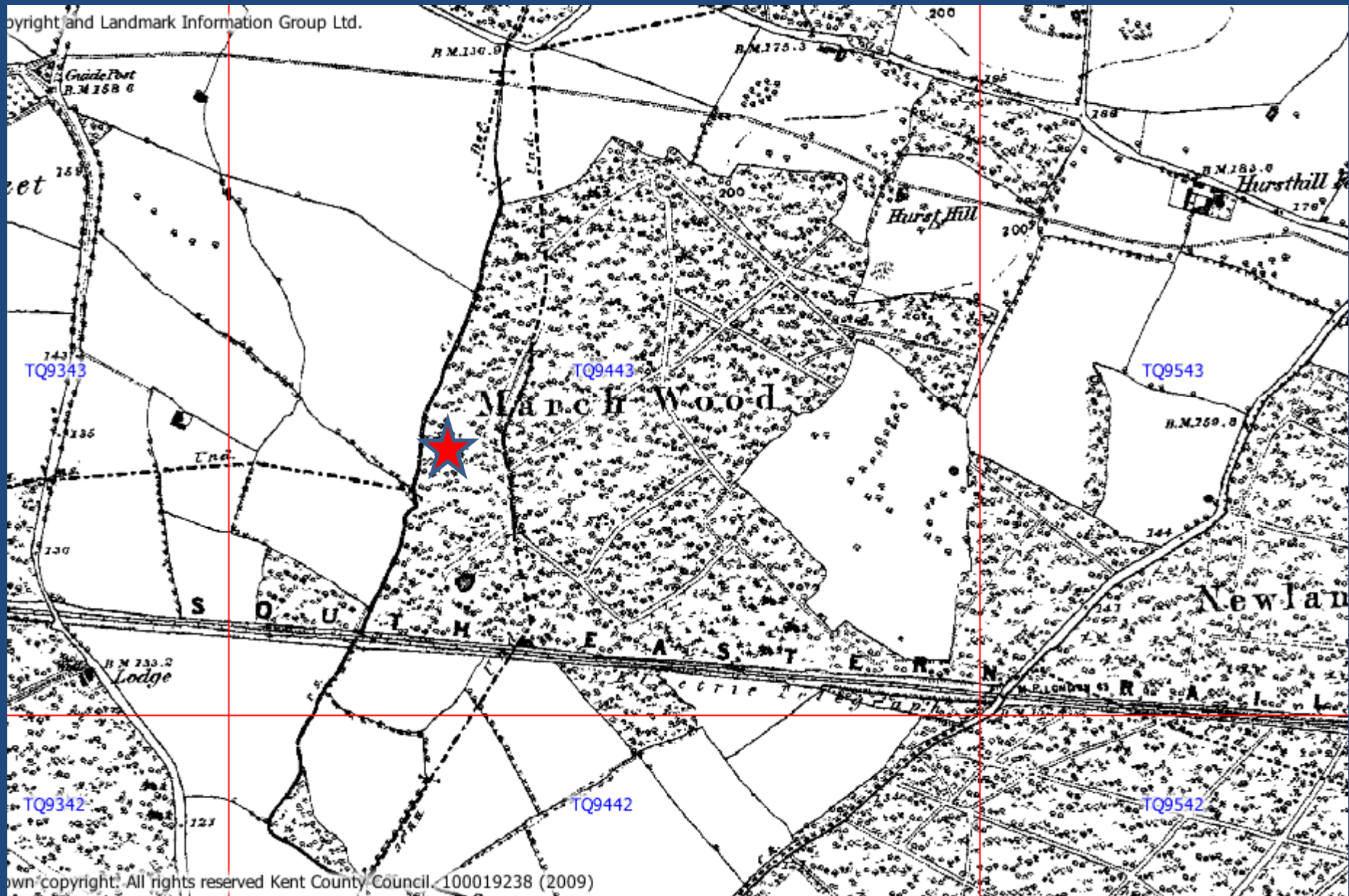


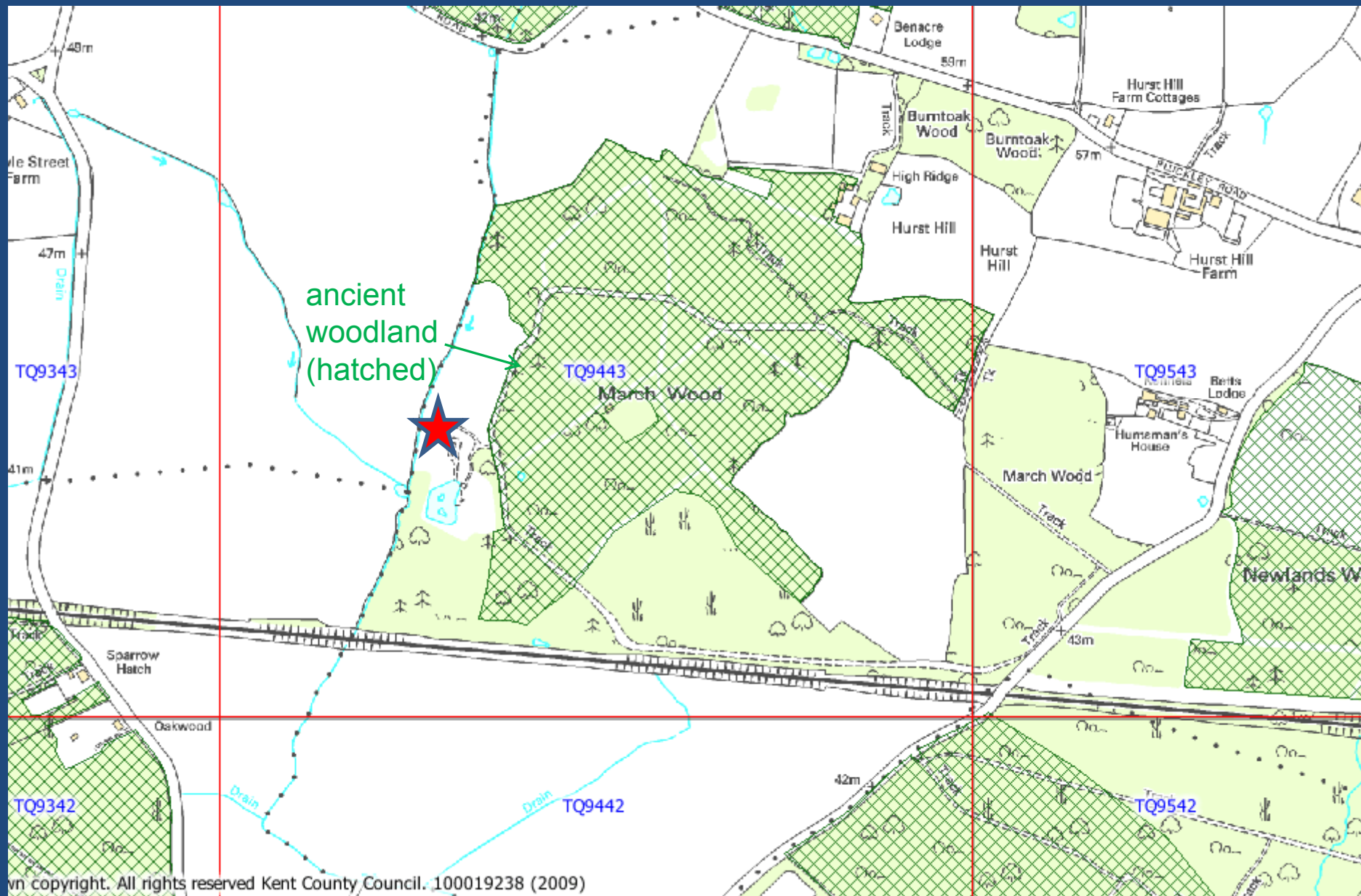
# Finding out about your wood

..... site, soils and plants

# March Wood 1871-1890

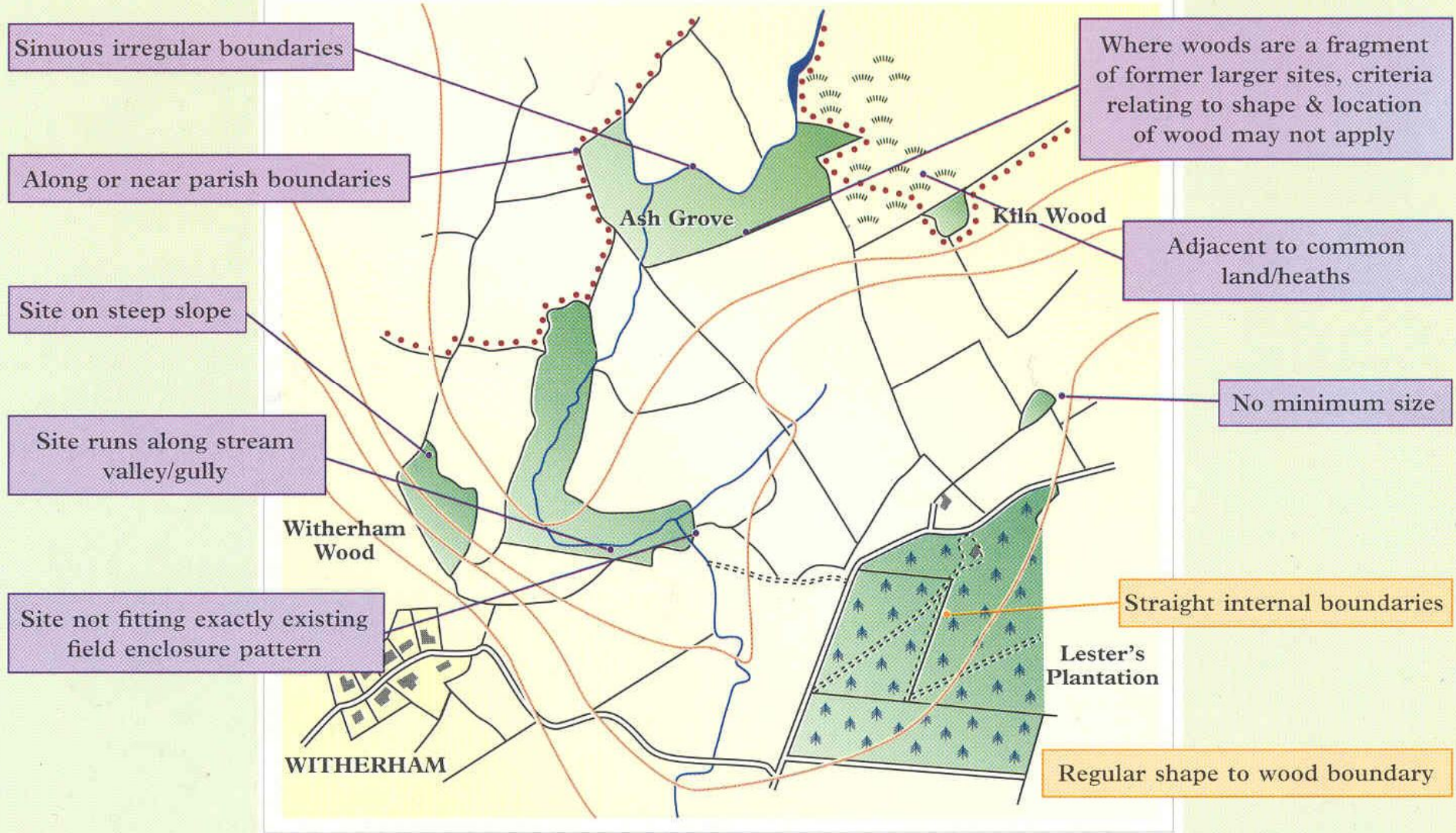


# March Wood: Ancient Woodland





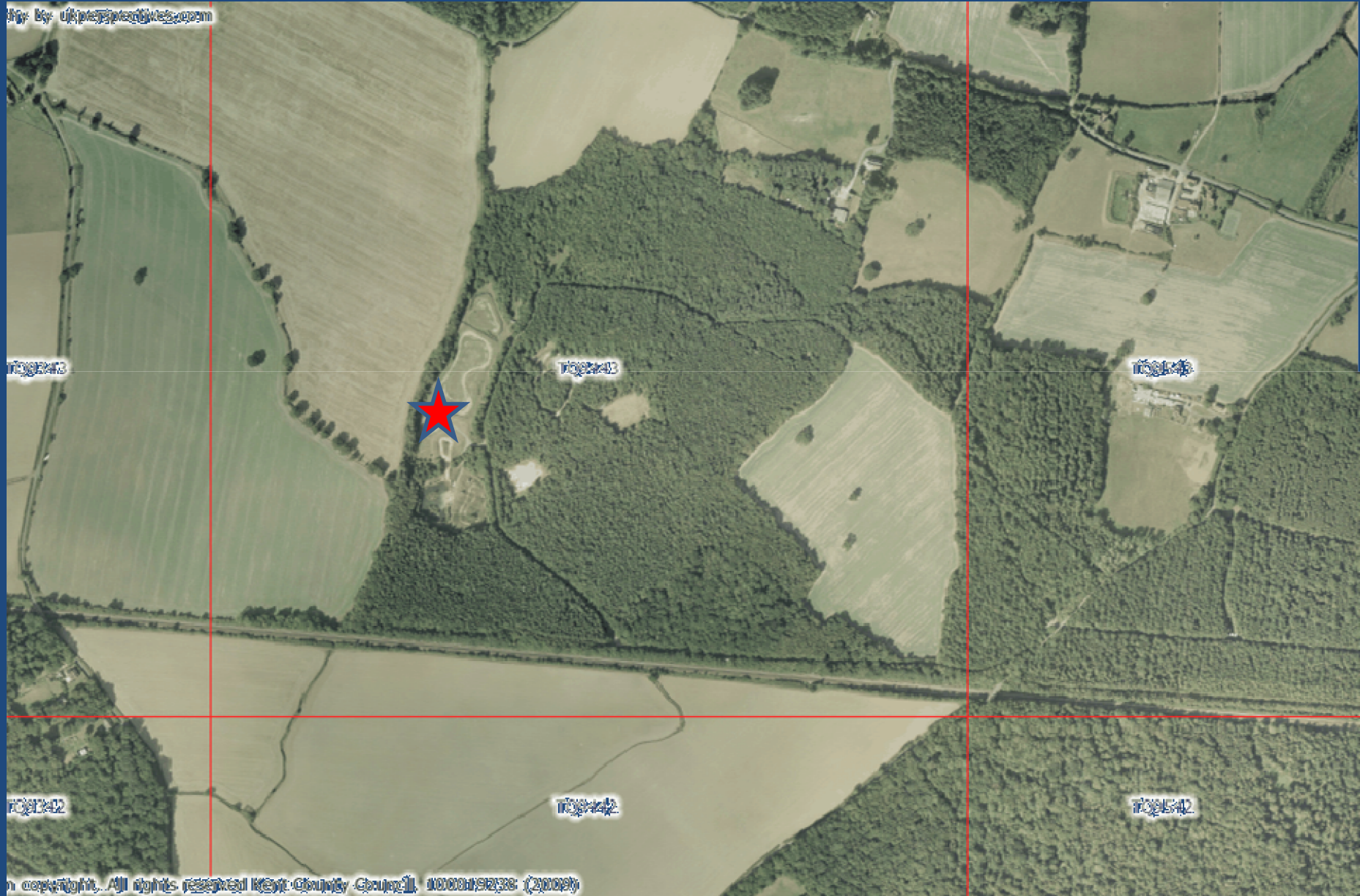
# Indications of ancient woodland



**Text key:**  Criteria used to help identify ancient woodland  Criteria that suggest woodland is unlikely to be ancient



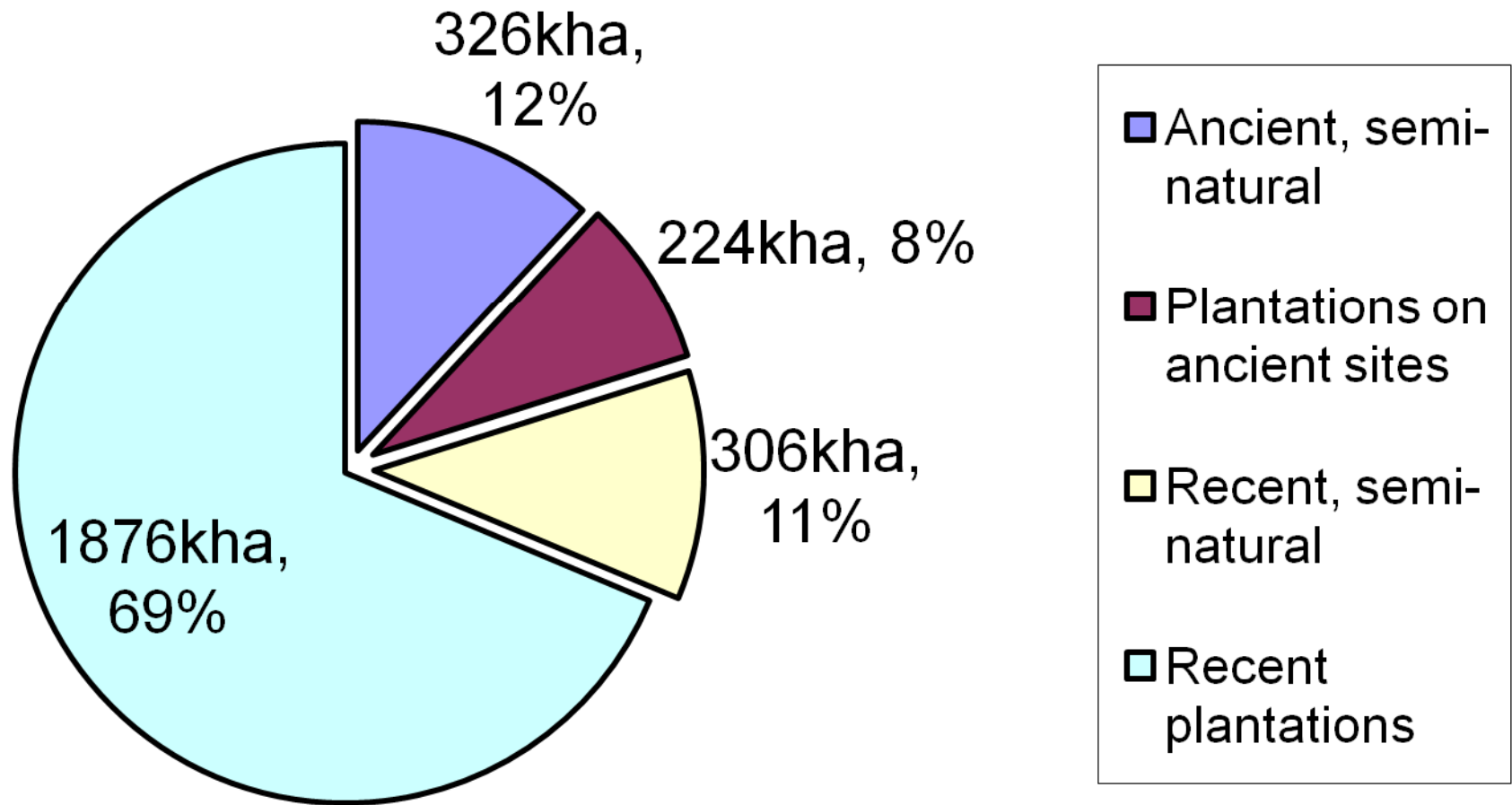
# March Wood: aerial photo 2003



## Plantations on ancient woodland sites



# Conservation status of British woodlands



**SOILS**



# Regional soil maps: 1:250,000 scale

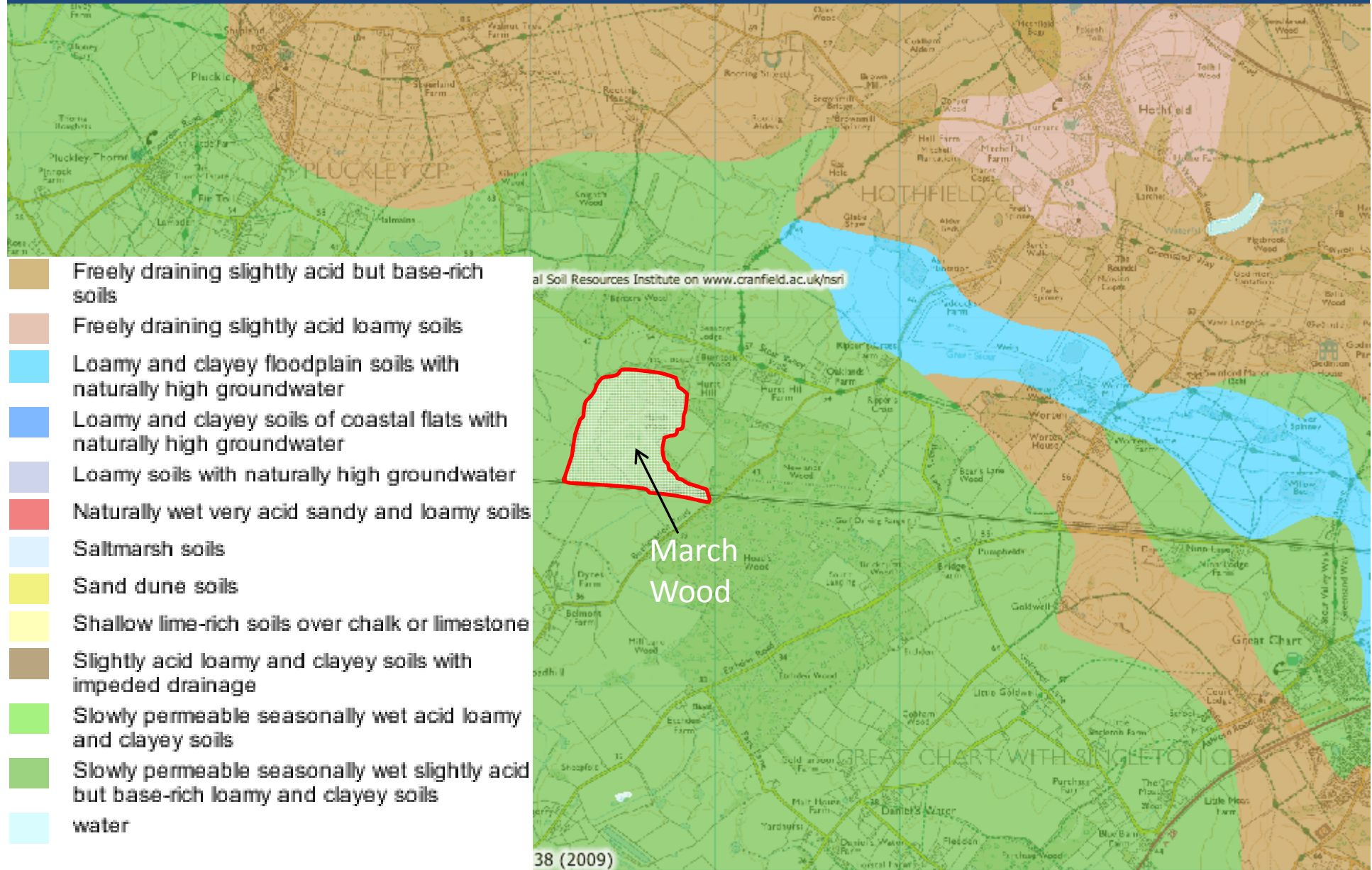


National Soil Resources  
Institute

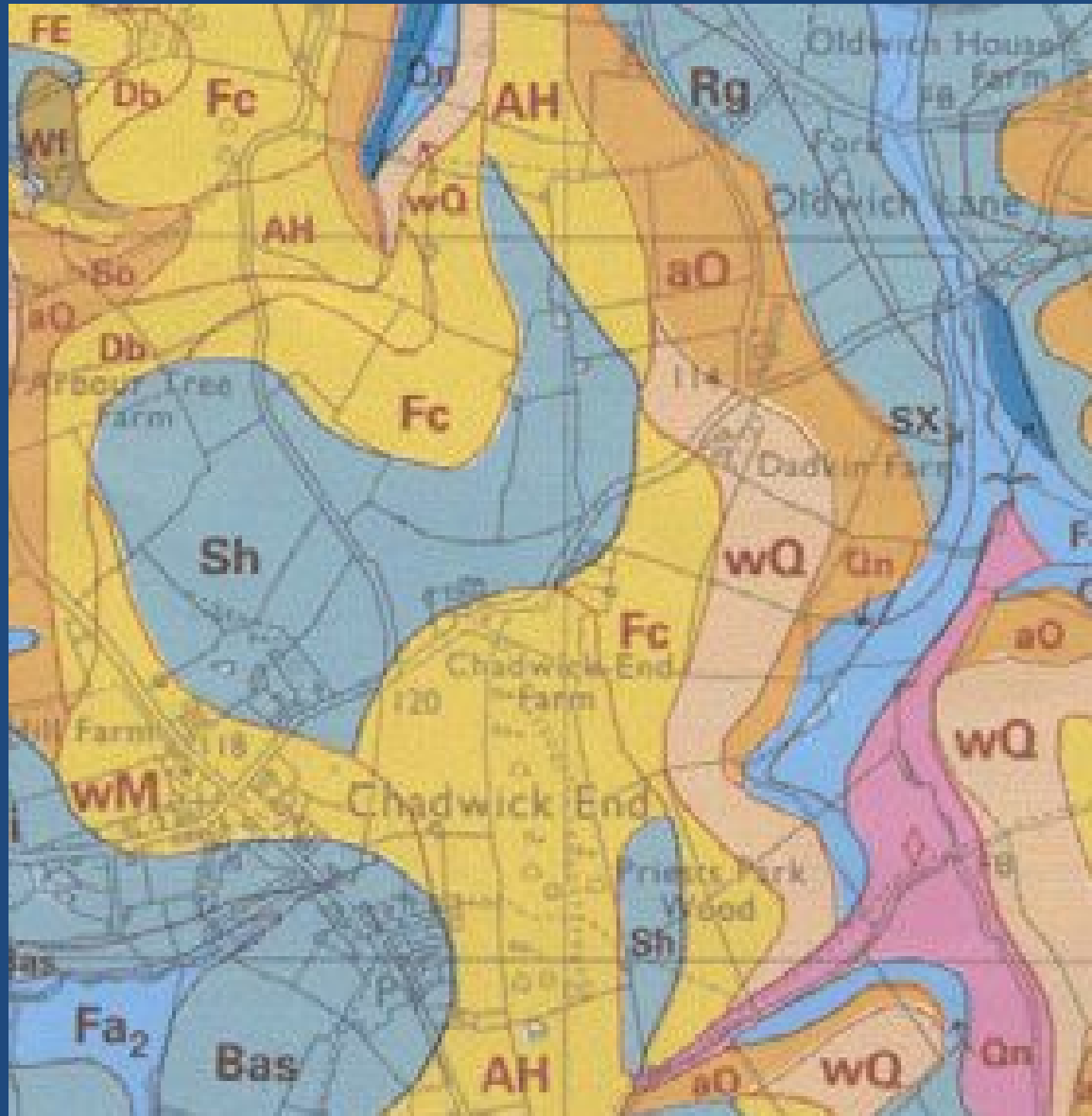
10 kilometres



# Soil types: 1:250,000 scale



# Local Soil Maps: 1:25,000



1 kilometre



# Soil assessments

- types of surface humus (mor, moder, mull?)
- rooting depth
- stoniness
- texture (sand, silt, clay)
- wetness (aeration: signs of mottling = gleying)
- pH (acidity or alkalinity)
- nutrient status (N,P,K,Ca,Mg, etc.)
- plant indicators

# Assessment of soil texture: the finger test

1. take a spoonful of soil below the surface, at 10-15cm
2. remove obvious stones and roots
3. moisten gradually to the 'sticky' point – at which the soil begins to stick to the fingers.
4. form into a 2.5 cm diameter ball
5. roll into a cylinder about 1.5cm in diameter (excludes sands and loamy sands)
6. roll into a thread about 13 cm long and 0.6 cm diameter (excludes sandy loams)
7. form the thread into a horseshoe shape (excludes some silts) or into a ring about 2.5 cm diameter (excludes clay loams)

# Soil fertility gradient



		v. poor	poor	medium	rich	v. rich	carbonate
	pH	3.0-4.0	3.0-4.0	3.0-5.0	3.0-5.5	4.5-7.5	7.5-8.5
	humus type	mor	mor/moder	Moder/oligomull	oligomull/eumull	eumull	eumull
Wetness gradient ↓	very dry	mostly well-aerated, freely draining soils					
	dry						
	fresh						
	moist	Seasonally or permanently waterlogged soils, often showing grey or 'mottled' (gleyed) horizons					
	v. moist						
	wet						
	very wet						



# Simple pH testing kit



# Soil quality grid, showing soil groups & humus forms

		Soil nutrient regime					
		Very Poor	Poor	Medium	Rich	Very Rich	Carbonate
		mor	mor, moder	moder, oligomull	oligomull, eumull	eumull	eumull
Soil moisture regime	Very Dry	Rankers and shingle					Rendzinas
	Mod. Dry	Gravelly or sandy podzols and ironpan soils		Gravelly or sandy brown earths			
	Sl. Dry				Loamy brown earths of high base status	Calc-areous brown earths	
	Fresh	Loamy podzols and ironpan soils		Loamy brown earths			
	Moist				Brown gleys of high base status	Calc. brown gleys	
	V. Moist	Podzolic gleys and peaty ironpan soils		Brown gleys			
	Wet			Surface-water gleys		Surface-water gleys of high base status	Calc. surface-water gleys
	Very Wet	Unflushed peaty gleys and deep peats		Flushed peaty gleys and deep peats		Humic gleys of high base status and fen peats	

# Species choice on non-calcareous soils

sands and podzols	ironpans	brown earths	soft mineral soils (clays)	fen peats
<p>birch sweet chestnut</p>	<p>oak beech birch sweet chestnut alder</p>	<p>oak ash beech poplar sweet chestnut cherry alder willow lime hornbeam Sycamore</p>	<p>oak beech poplar sweet chestnut cherry alder willow hornbeam</p>	<p>poplar cherry sycamore alder willow</p>
<p>Corsican pine Scots pine</p>	<p>Corsican pine Scots pine Douglas fir larches</p>	<p>Corsican pine Scots pine Douglas fir larches spruces western hemlock western red cedar</p>	<p>Corsican pine Douglas fir grand fir noble fir Norway spruce western red cedar Lawson cypress</p>	<p>Corsican pine Douglas fir larches Norway spruce</p>



# Species choices on calcareous & upland soils

Calcareous			Upland		
free-draining, shallow	heavy, well-drained	soft mineral gley soils	brown earths	surface water gleys	peats
ash beech sycamore Norway maple cherry Italian alder	oak ash beech sycamore Norway maple poplar cherry lime	oak ash beech sycamore poplar cherry alder willow lime	oak ash beech sycamore cherry alder birch	sycamore alder willow birch	alder birch
Corsican pine western red cedar larches	Corsican pine western red cedar larches	Corsican pine western red cedar	Corsican pine Scots pine spruces Douglas fir western hemlock larches	lodgepole pine larches Sitka spruce Norway spruce	lodgepole pine Sitka spruce

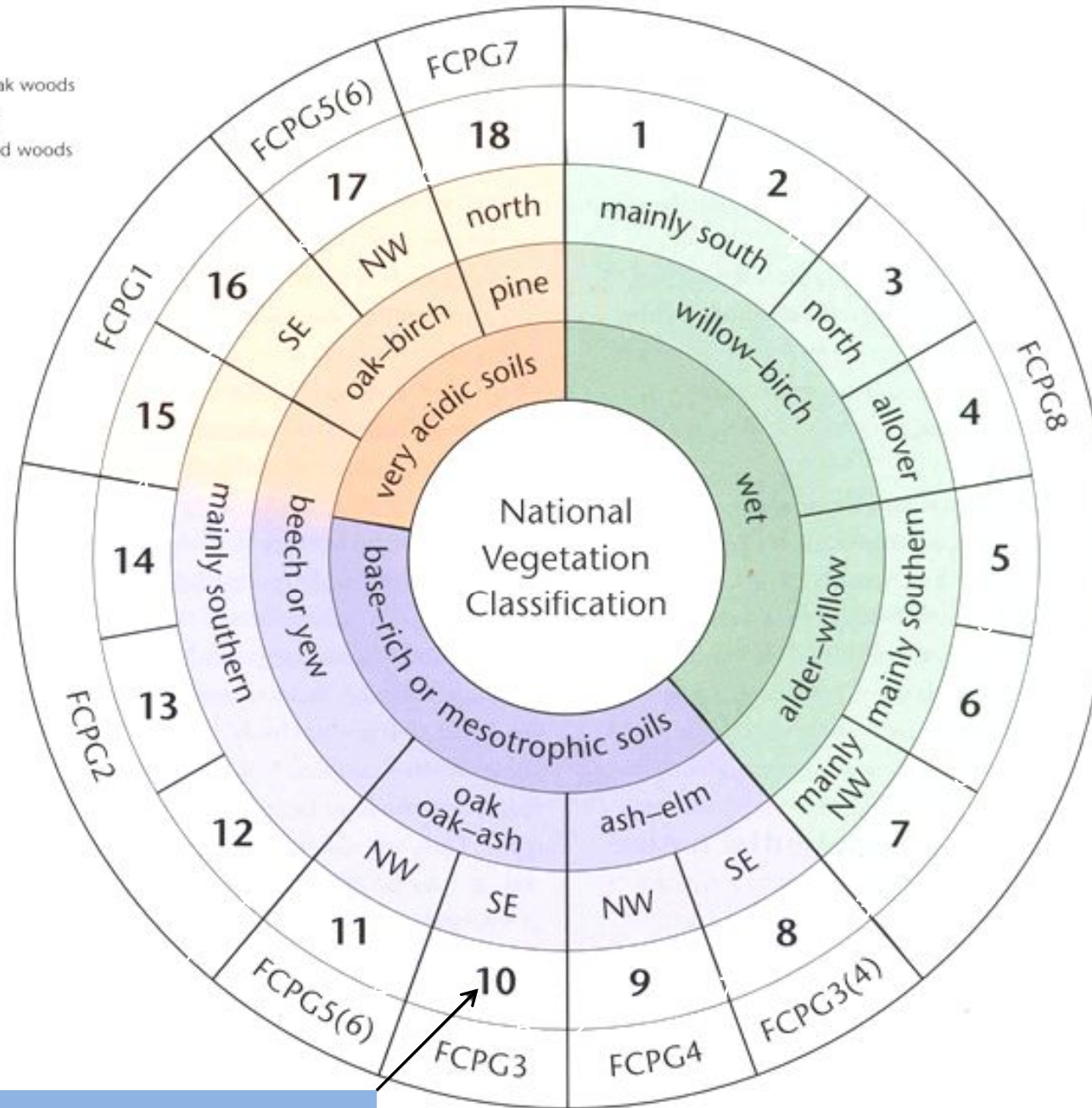
**PLANTS**

# 'Indicator' plants according to soil type

	very poor	poor	medium	rich	very rich
dry			wood sage		burdock
fresh	cowberry	wavy hair-grass, common bent	raspberry, holly, broom, gorse	bluebell, hazel, ivy, hawthorn, primrose	elder, yellow achangel, wood spurge
moist	bilberry, heather	wood sorrel, hard fern, heath bedstraw	bramble, broad buckler- fern, foxglove, anemone	tufted hair- grass, male fern, herb robert	dogs mercury, nettle, ground ivy, wood avens, red campion
v. moist		devil's bit scabious	lady fern, yellow pimpernel	bugle	
wet	purple moor- grass		marsh thistle	angelica, meadowsweet valerian	
very wet				golden saxifrage	

- FCPG1: Lowland acid beech and oak woods
- FCPG2: Lowland beech-ash woods
- FCPG3: Lowland mixed broadleaved woods
- FCPG4: Upland mixed ashwoods
- FCPG5: Upland oakwoods
- FCPG6: Upland birchwoods
- FCPG7: Native pinewoods
- FCPG8: Wet woodlands

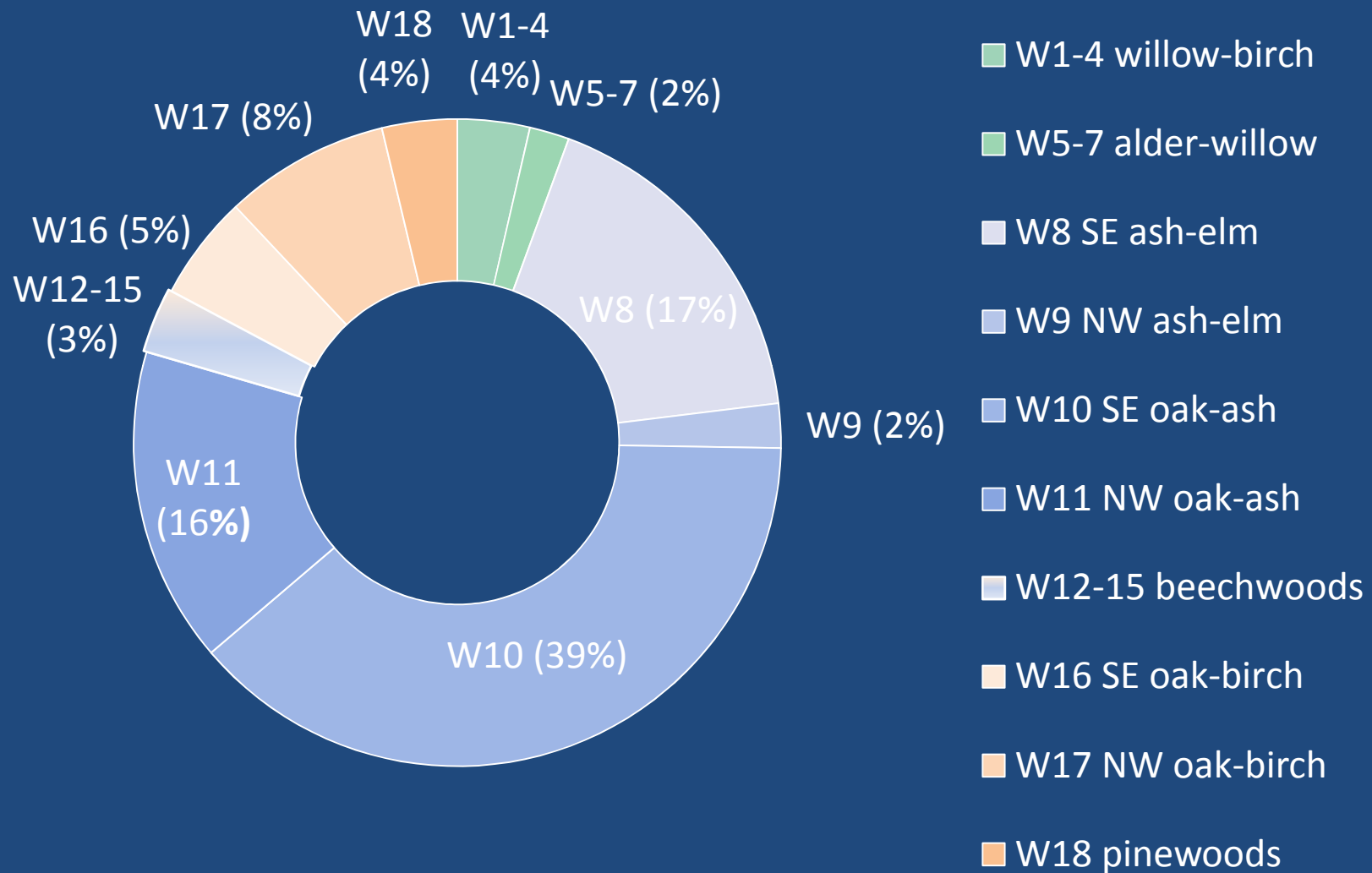
## The National Vegetation Classification: woodland community types



NVC community number

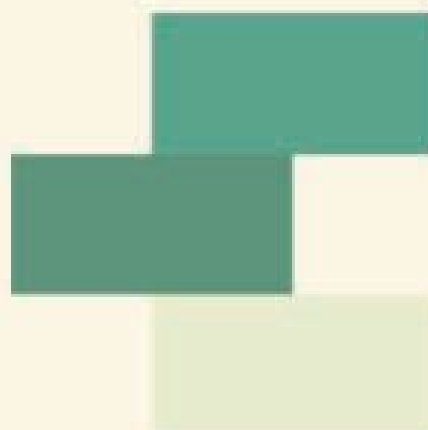
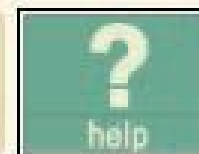


# The NVC, based on community areas



Putting the system together -

**SOIL + PLANTS:** an ecological approach



# Ecological Site Classification

a PC-based decision  
support system for British forests

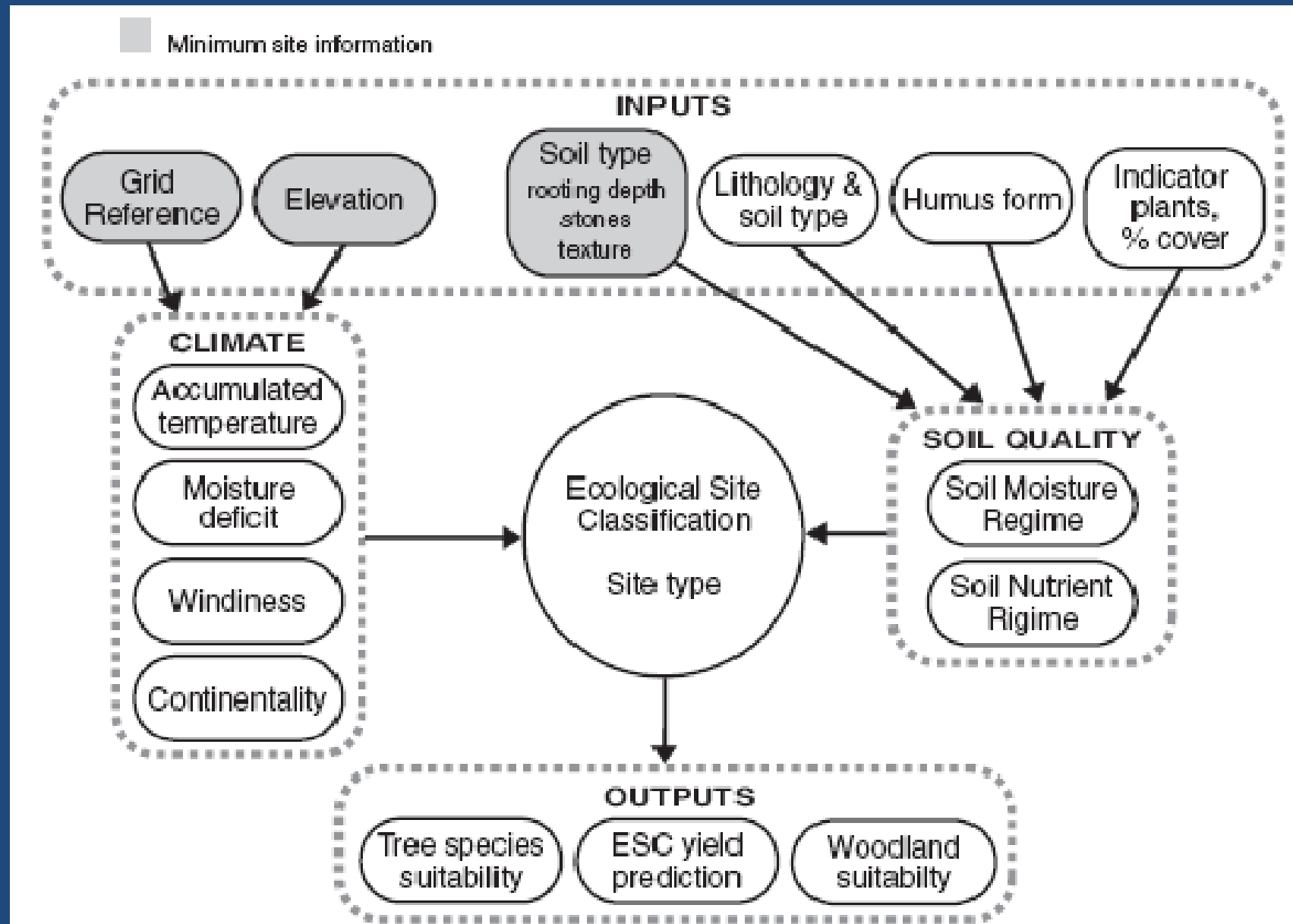


Forestry Commission

version 1.7 © crown copyright 2001

Supply the site name, the grid reference, elevation and the distance from sea.

# Ecological Site Classification components





# Tree species suitability

Tree species suitability



TREE SPECIES	Result						Select Below			
	AT	MD	Wind	Con	SMR	SNR	Result	Scen1	Scen2	Scen3
Scots pine	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable			
Corsican pine	Suitable						Suitable			
Lodgepole pine	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable			
Sitka spruce	Suitable						Suitable			
Norway spruce	Suitable						Suitable			
European larch	Suitable						Suitable			
Japanese larch	Suitable						Suitable			
Douglas fir	Suitable		Suitable				Suitable			
Grand fir	Suitable		Suitable				Suitable			
Noble fir	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable			
Western hemlock	Very Suitable	Very Suitable	Suitable				Suitable			
Red cedar	Very Suitable	Very Suitable	Suitable				Suitable			
Sessile oak	Suitable						Suitable			
Pedunculate oak	Suitable		Suitable				Suitable			
Beech	Suitable						Suitable			
Ash	Suitable						Suitable			
Sycamore	Suitable						Suitable			
Wyck elm	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Suitable			
Silver birch	Suitable	Very Suitable	Suitable				Suitable			
Downy birch	Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Suitable			
Aspen	Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Suitable			
Poplar	Suitable	Very Suitable	Suitable	Very Suitable	Very Suitable	Very Suitable	Suitable			
Alder	Suitable	Very Suitable	Suitable	Very Suitable	Very Suitable	Very Suitable	Suitable			
Wild cherry	Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Very Suitable	Suitable			

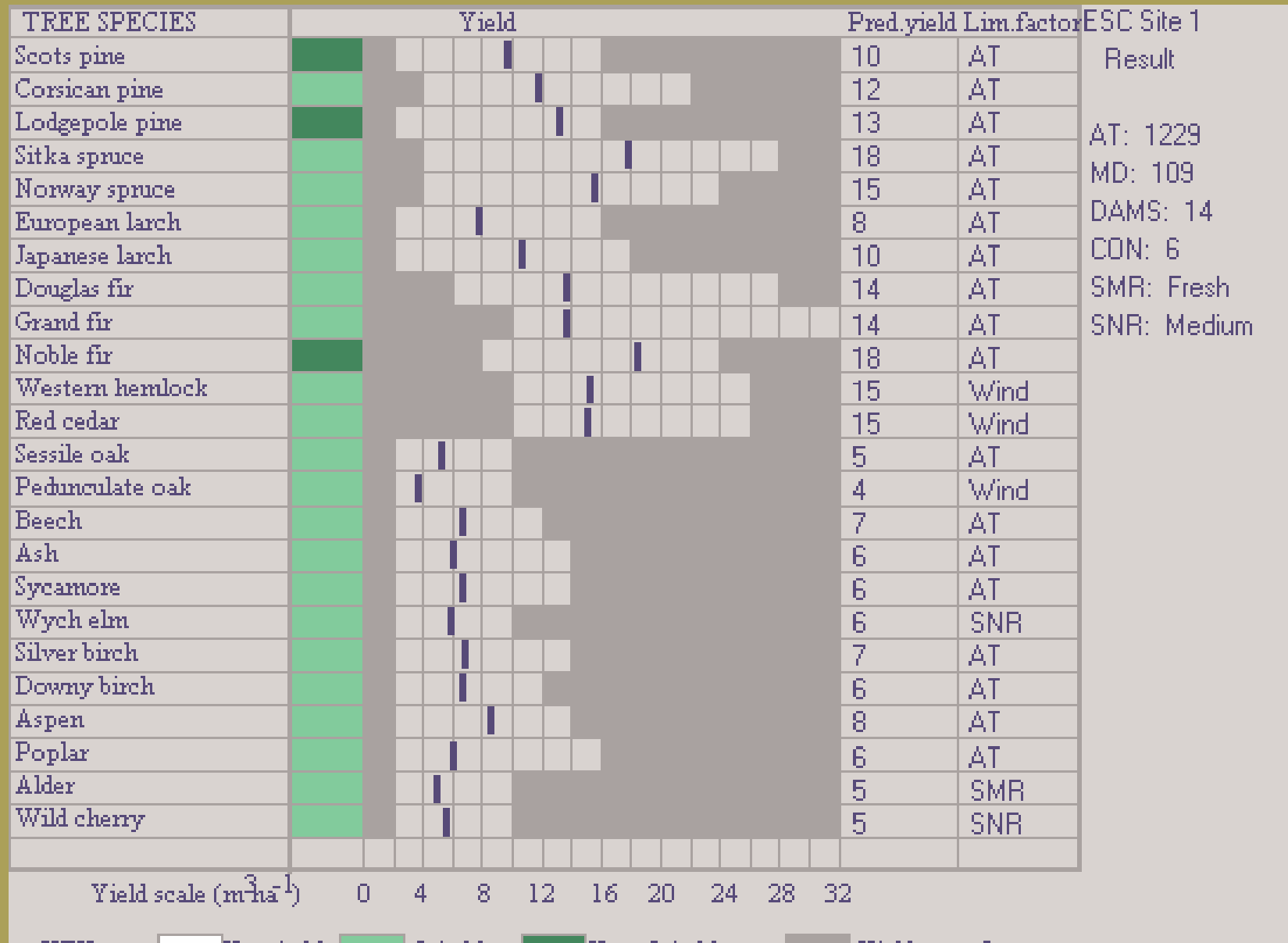
ESC Site 1  
 AT: 1229  
 MD: 109  
 DAMS: 14  
 CON: 6  
 SMR: Fresh  
 SNR: Medium

New Scenario  
 Print  
 Save bitmap  
 Site Yield  
 OK  
 Cancel  
 Help

KEY: Unsuitable Suitable Very Suitable

# Estimated yield class

Estimated Yield Class



- OK
- Back
- Cancel
- Help
- Print
- Save bitmap

# Woodland suitability

## Woodland suitability



		Result										Select Below					
NVC WOODLAND TYPE		Suitability										Result	Scen1	Scen2	Scen3		
W1	Grey willow with marsh bedstraw	1															
W2	Grey willow with downy birch	1															
W3	Bay willow	1															
W4	Downy birch with purple moor-grass	1															
W5	Alder with great tussock sedge	1															
W6	Alder with stinging nettle		1														
W7	Alder with ash			1													
W8	Ash with field maple				1												
W9	Ash with rowan					1											
W10	Oak with bracken and bramble									1							
W11	Oak with birch and wood sorrel											1					
W12	Beech with dogs mercury	Beech woods restricted to South & East England															
W13	Yew woods																
W14	Beech with bramble																
W15	Beech with wavy hair-grass	Pine woods restricted to Scottish highlands															
W16	Oak with birch and wavy hair-grass																
W17	Birch with oak and rowan											3					
W18	Scots pine woods	Pine woods restricted to Scottish highlands															
W19	Juniper with wood sorrel																
W20	Downy willow with great woodrush	1															

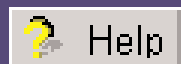
ESC Site 1  
 AT: 1229  
 MD: 109  
 DAMS: 14  
 CON: 6  
 SMR: Fresh  
 SNR: Medium

Suitability score 0 .1 .2 .3 .4 .5 .6 .7 .8 .9 1.0

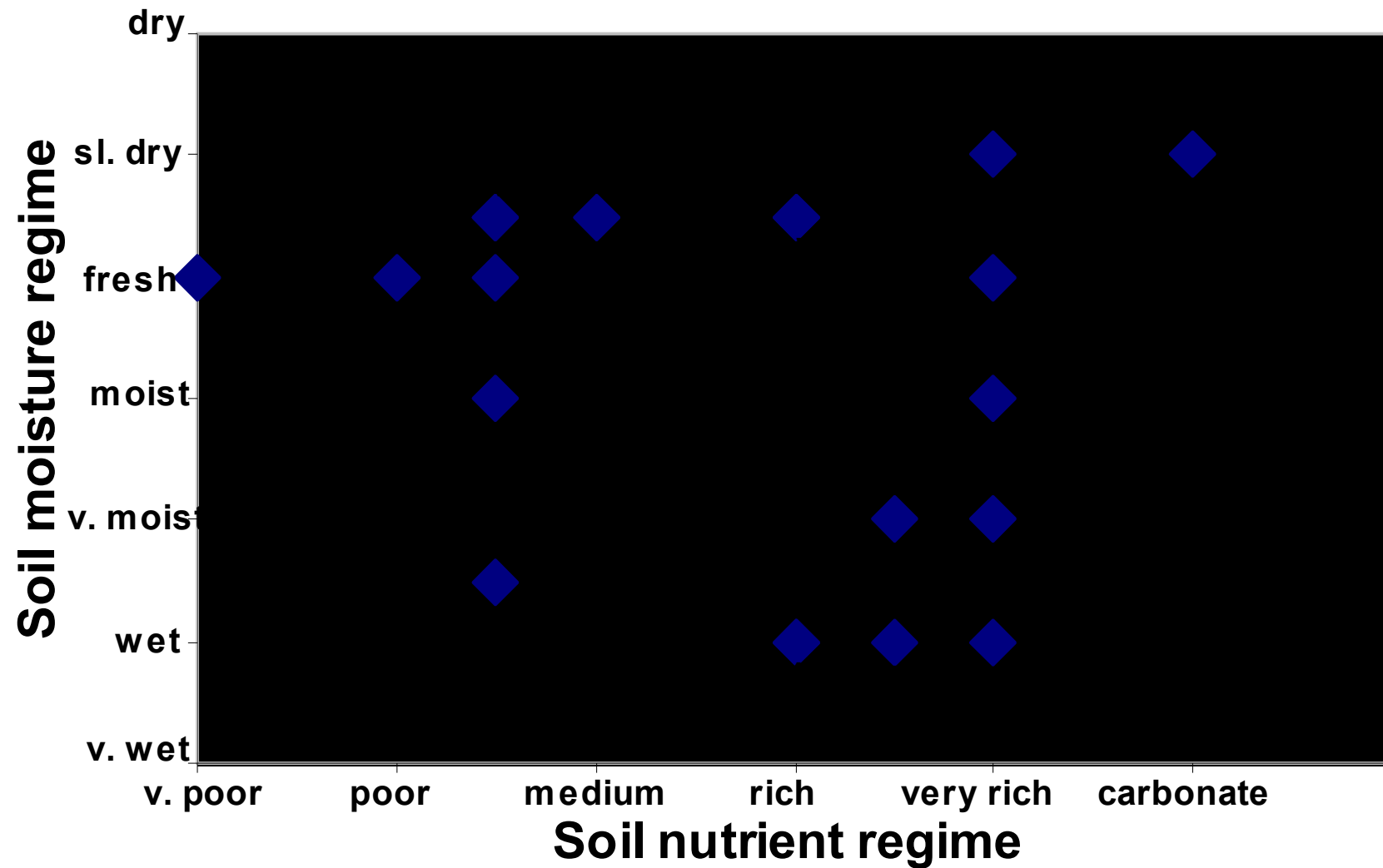
Click on an NVC\_ <Woodland Code Number> for more information

- NVC\_W1   NVC\_W2   NVC\_W3   NVC\_W4   NVC\_W5   NVC\_W6   NVC\_W7
- NVC\_W8   NVC\_W9   NVC\_W10   NVC\_W11   NVC\_W12   NVC\_W13   NVC\_W14
- NVC\_W15   NVC\_W16   NVC\_W17   NVC\_W18   NVC\_W19   NVC\_W20

KEY:  Unsuitable  Suitable



# Woodland NVC communities on the Soil quality grid







# Numbers of insects and mites associated with different species of trees and shrubs

