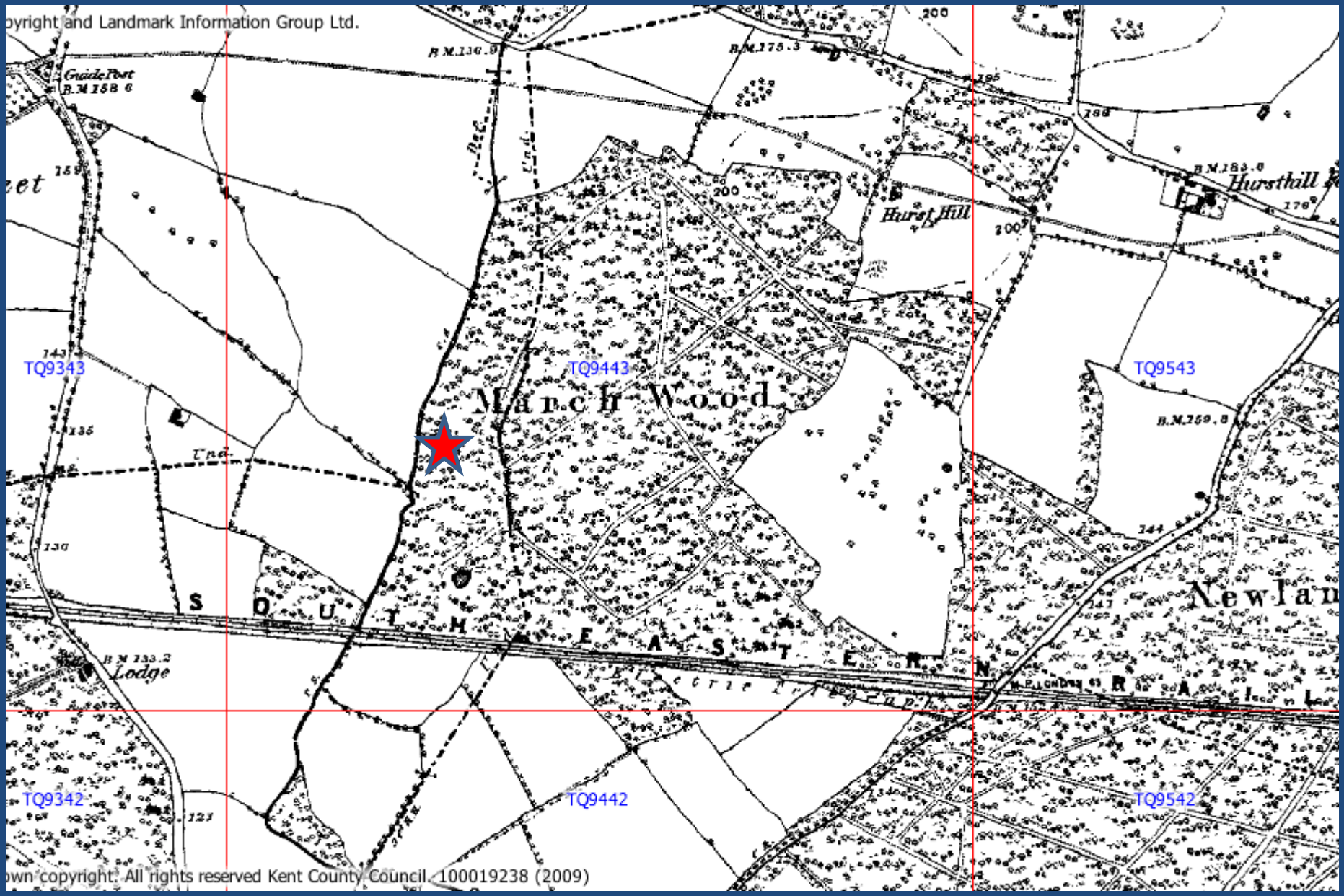
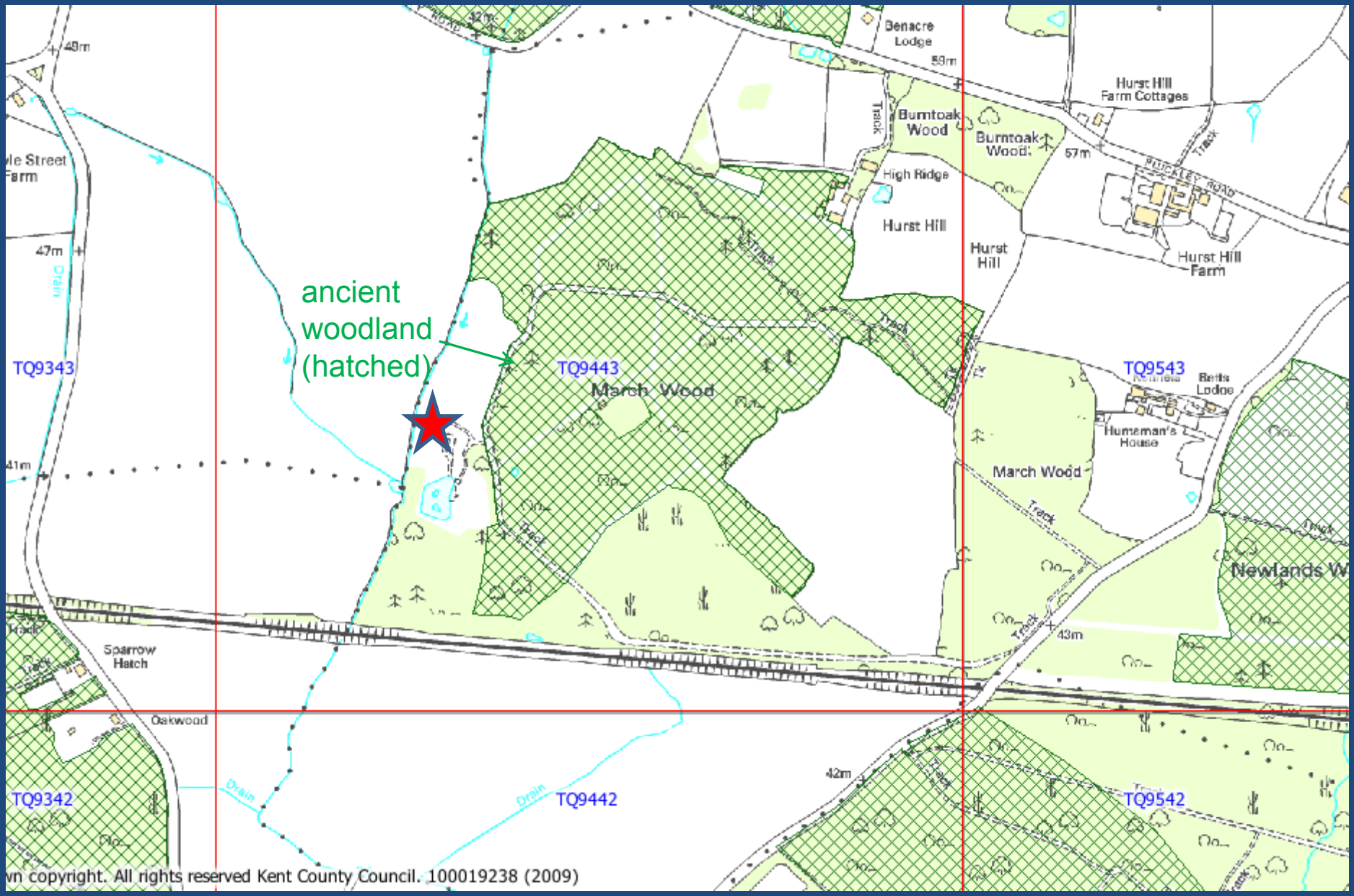
Finding out about your wood

..... site, soils and plants

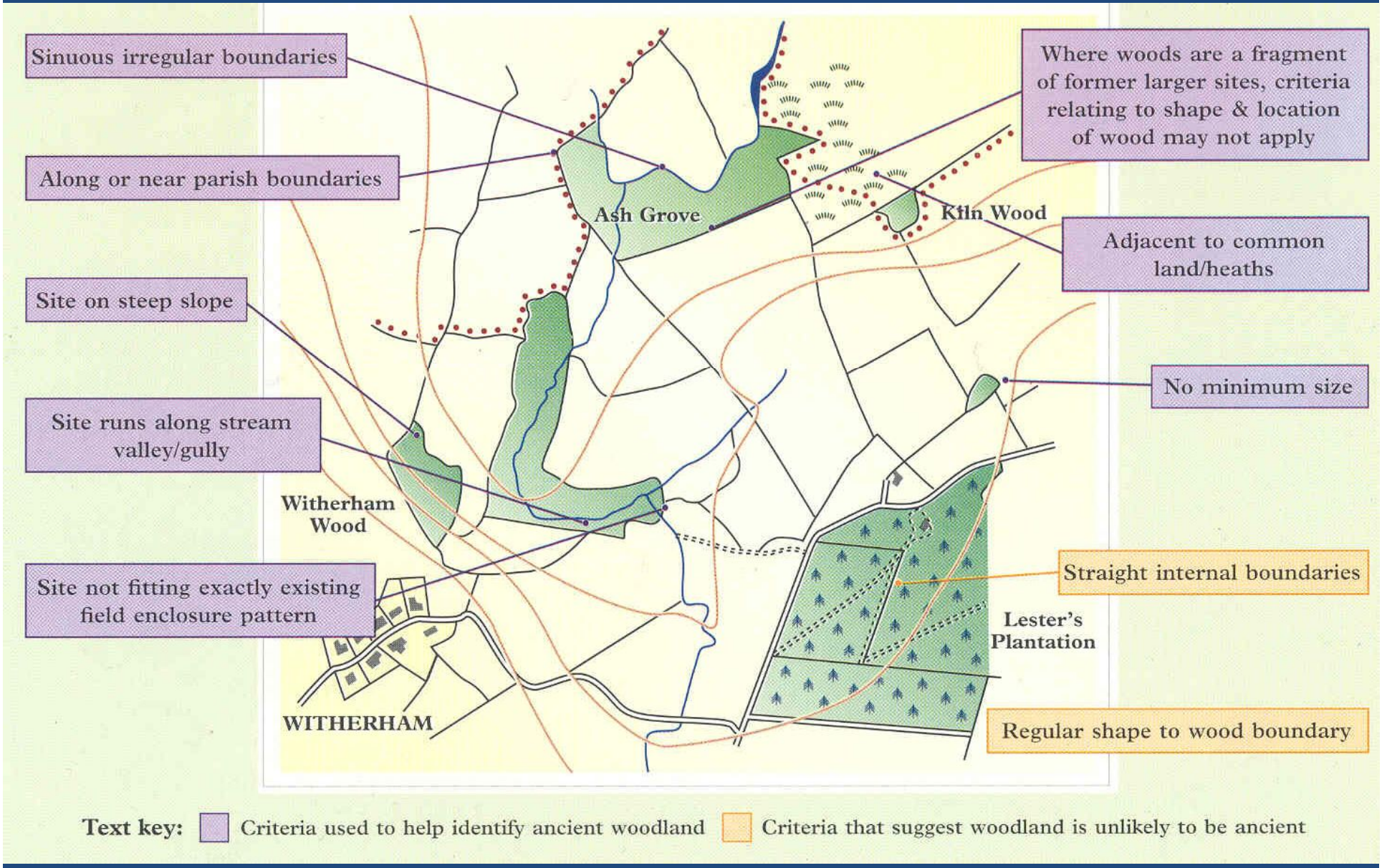
March Wood 1871-1890



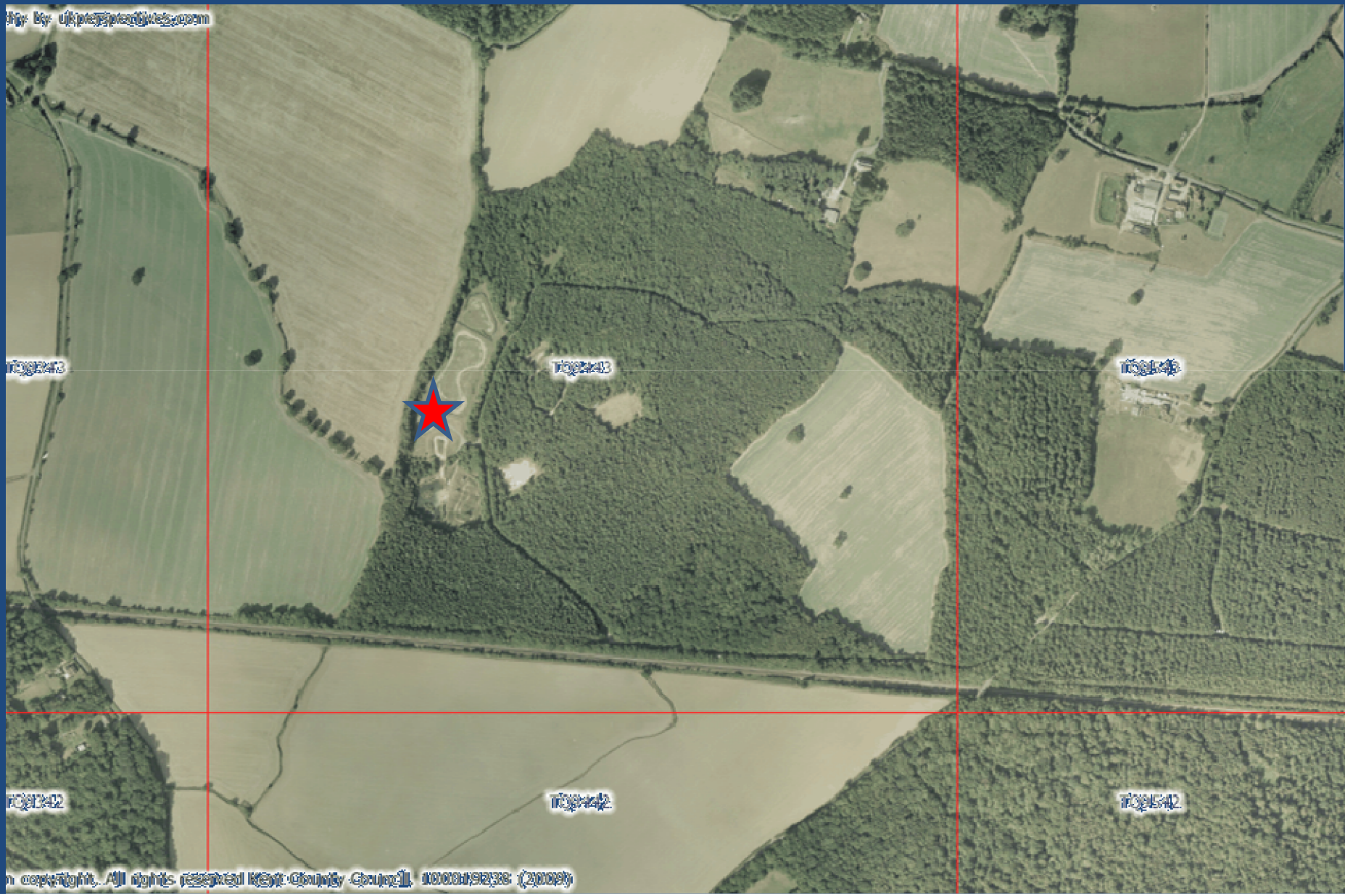
March Wood: Ancient Woodland



Indications of ancient woodland

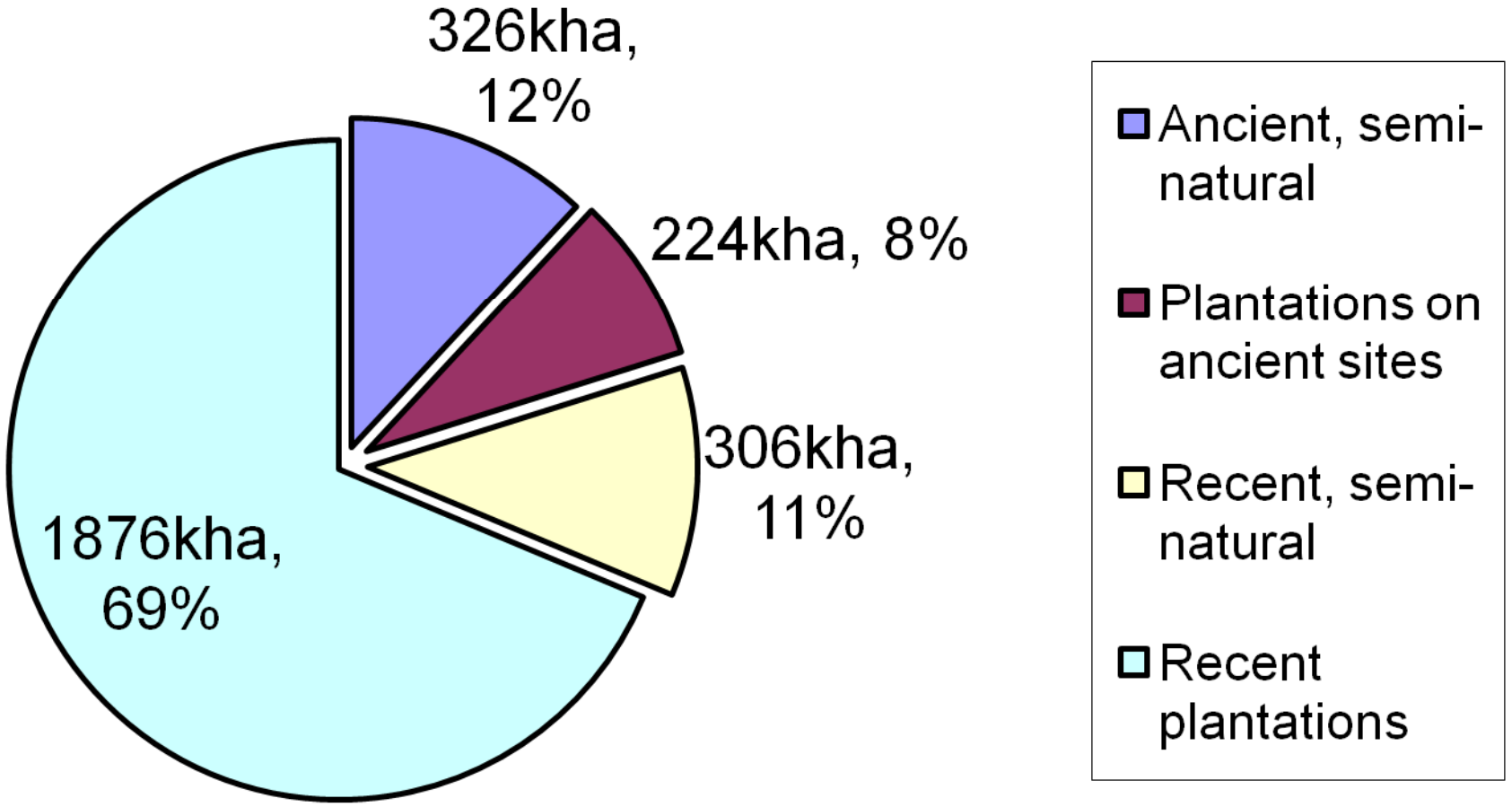


March Wood: aerial photo 2003



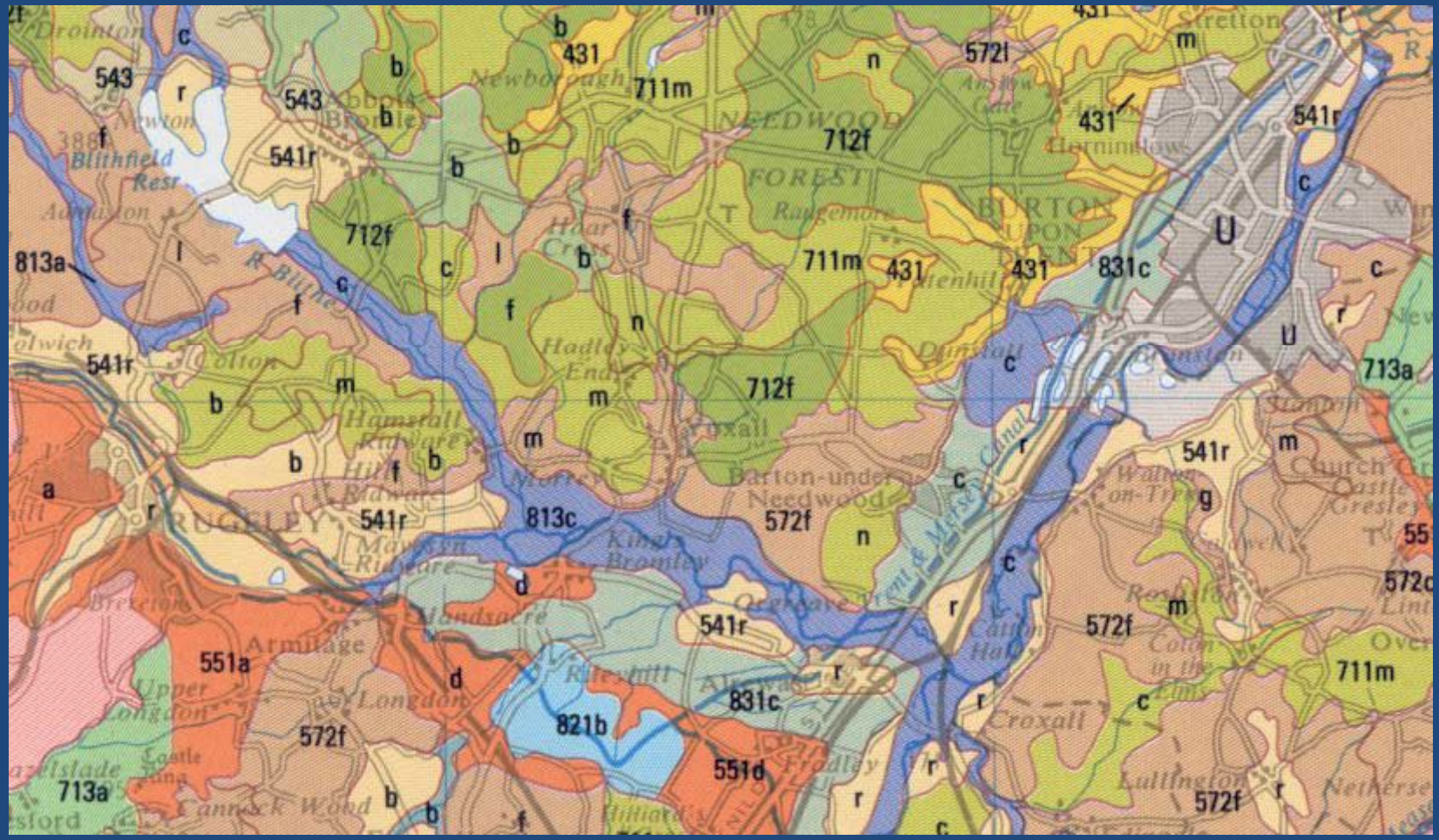
Plantations on ancient woodland sites

Conservation status of British woodlands



SOILS

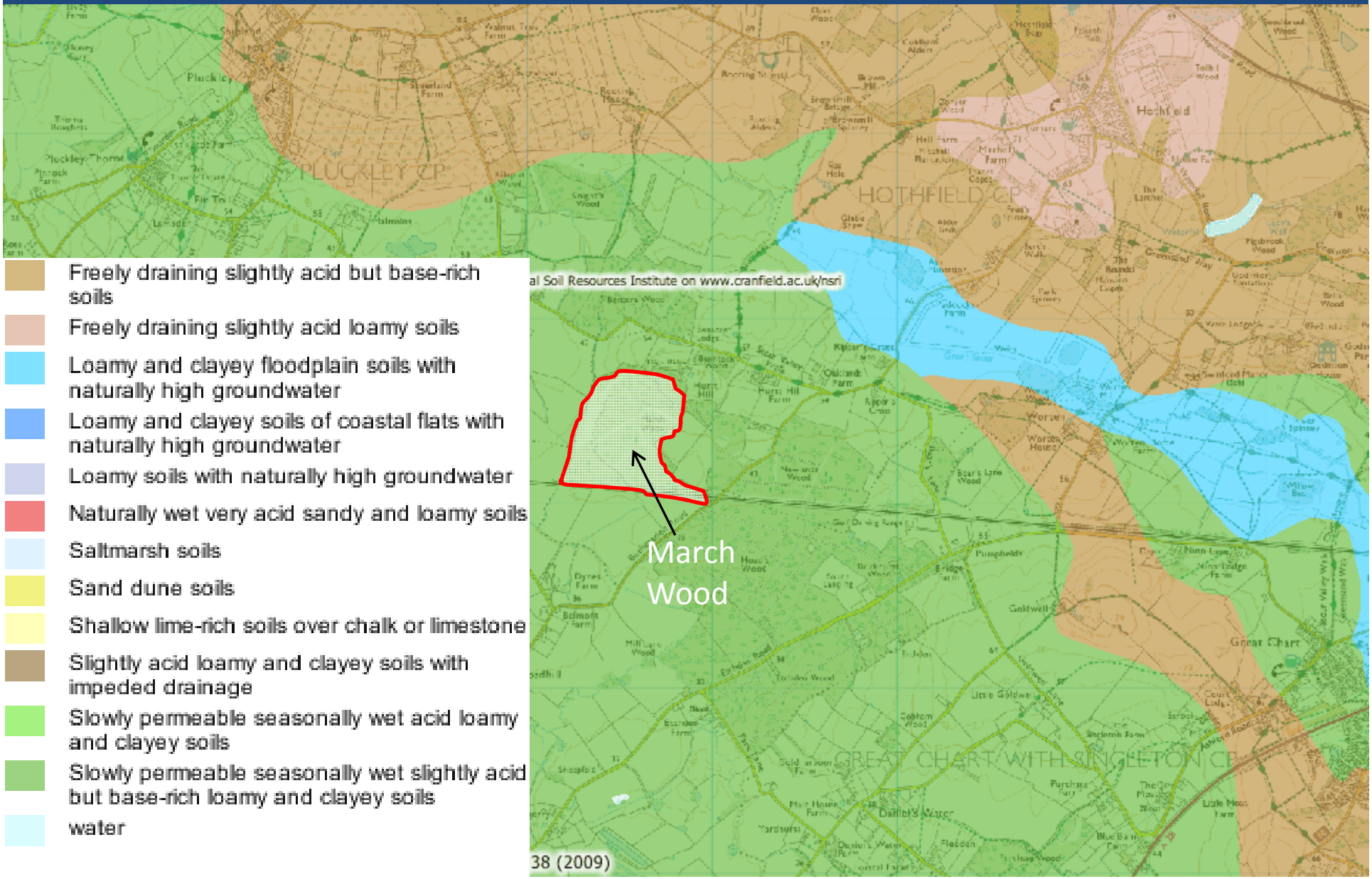
Regional soil maps: 1:250,000 scale



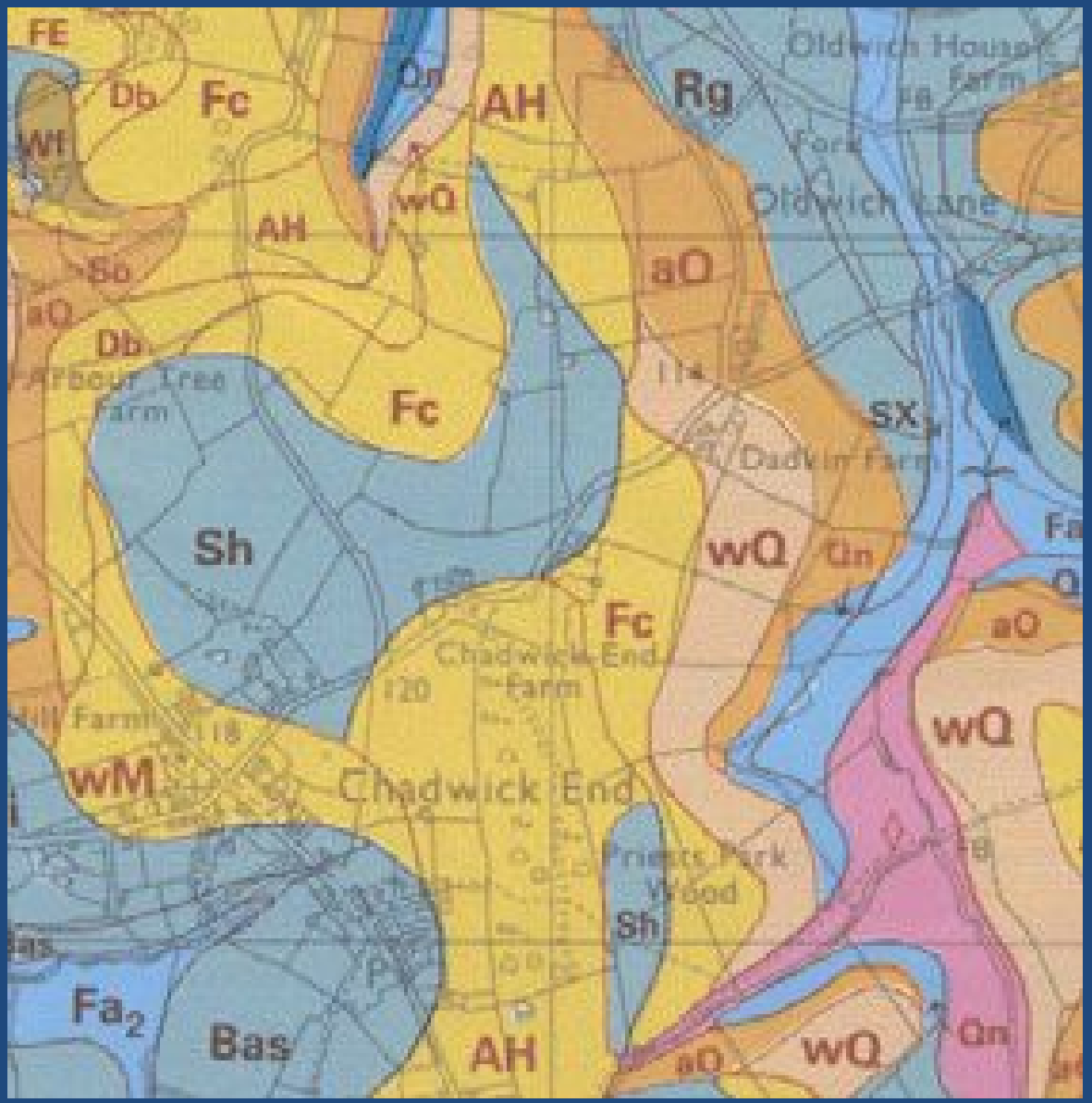
National Soil Resources Institute

10 kilometres

Soil types: 1:250,000 scale



Local Soil Maps: 1:25,000



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)

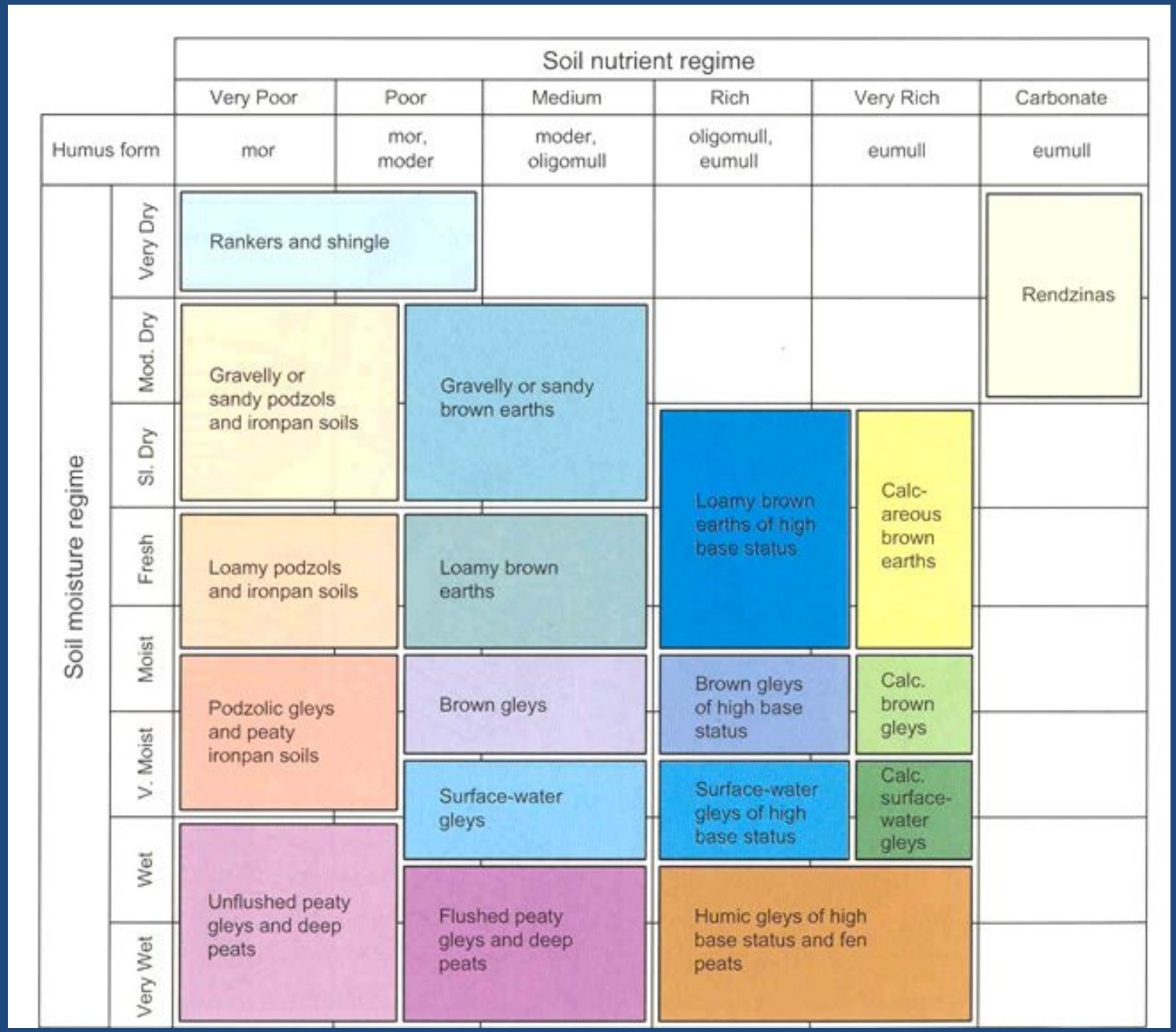
Soil fertility gradient

Wetness gradient

		v. poor	poor	medium	rich	v. rich	carbon-ate
	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
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



Species choice on non-calcareous soils

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

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

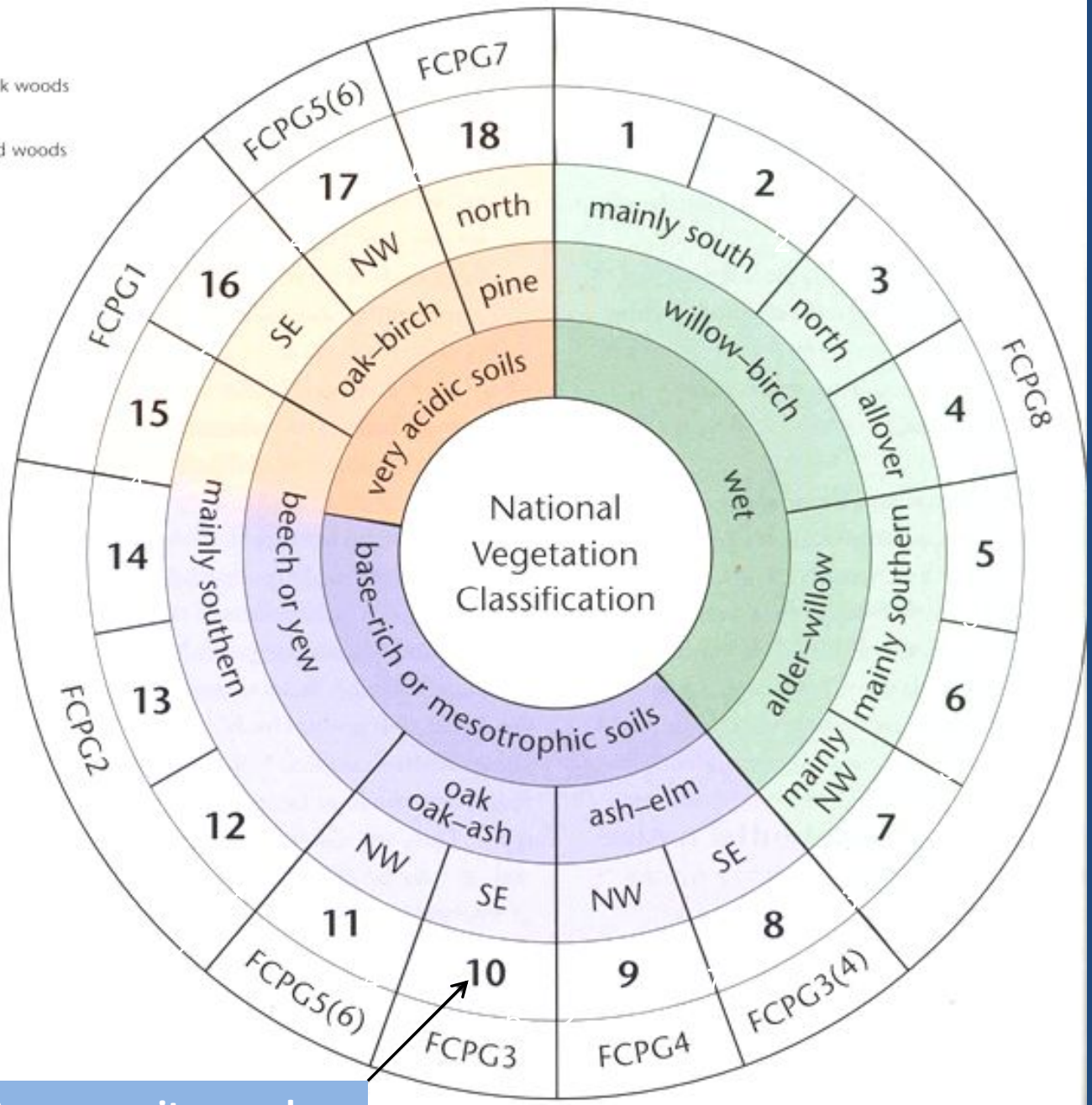
PLANTS

‘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	

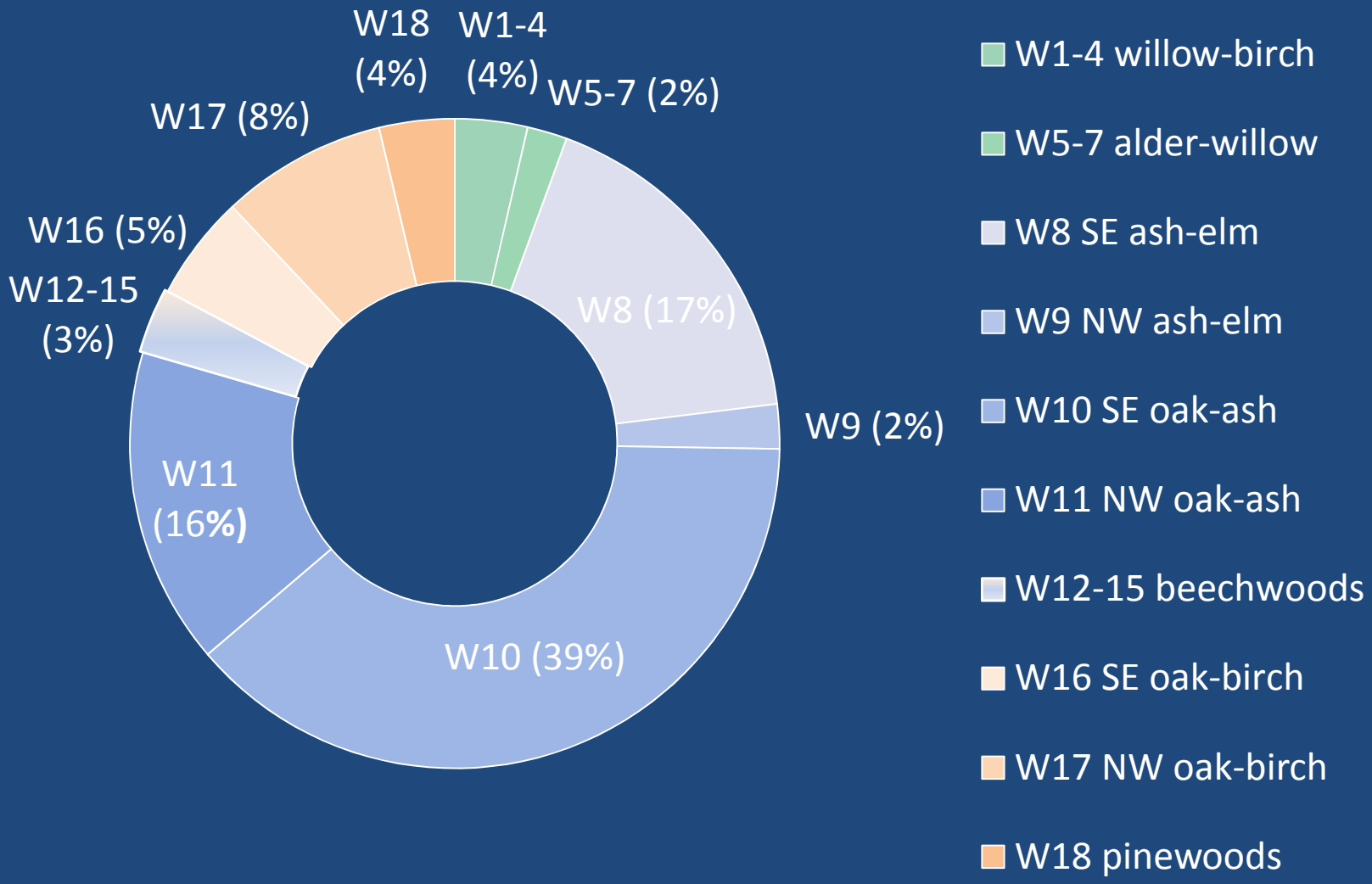
The National Vegetation Classification: woodland community types

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



NVC community number

The NVC, based on community areas

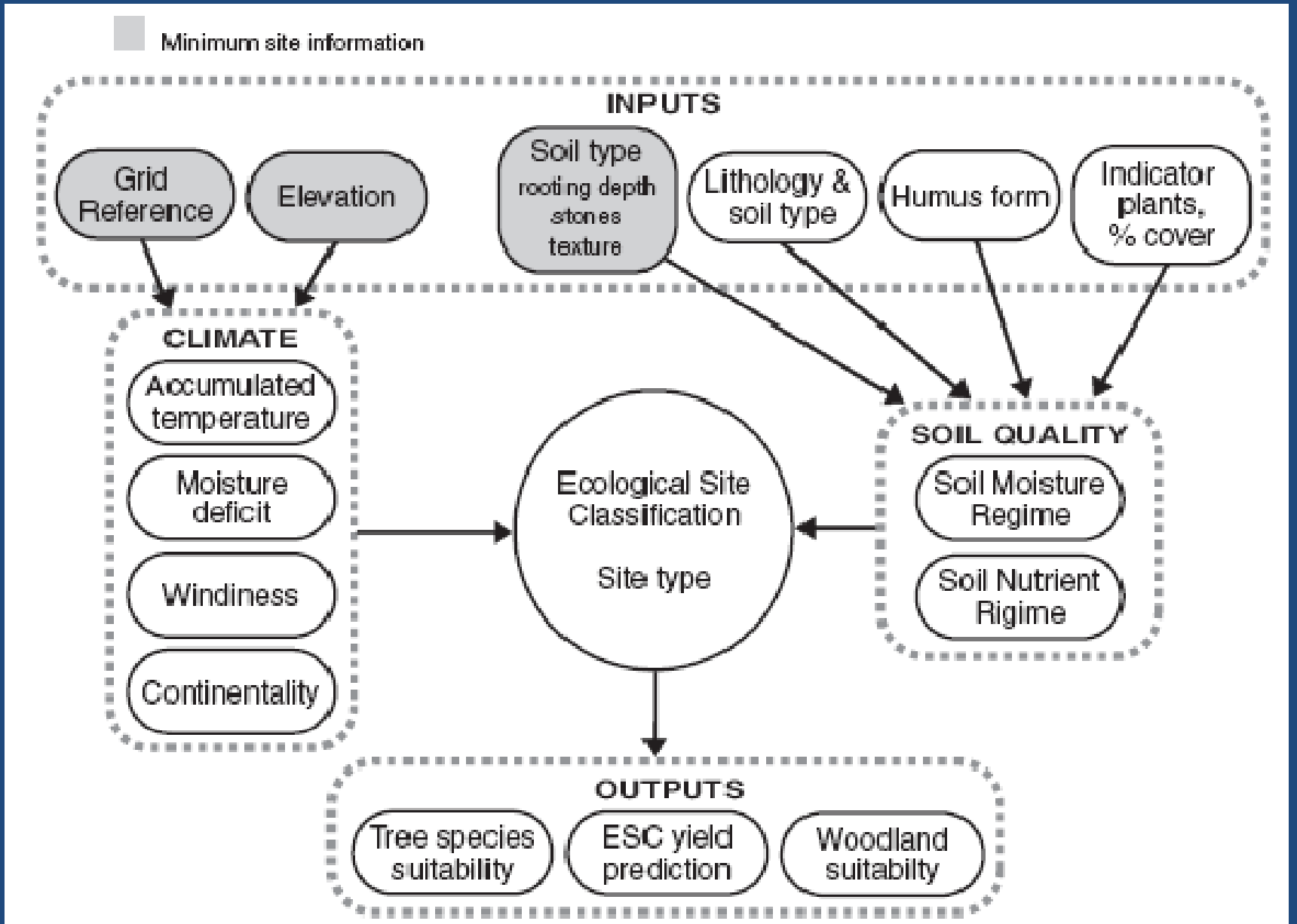


Putting the system together -

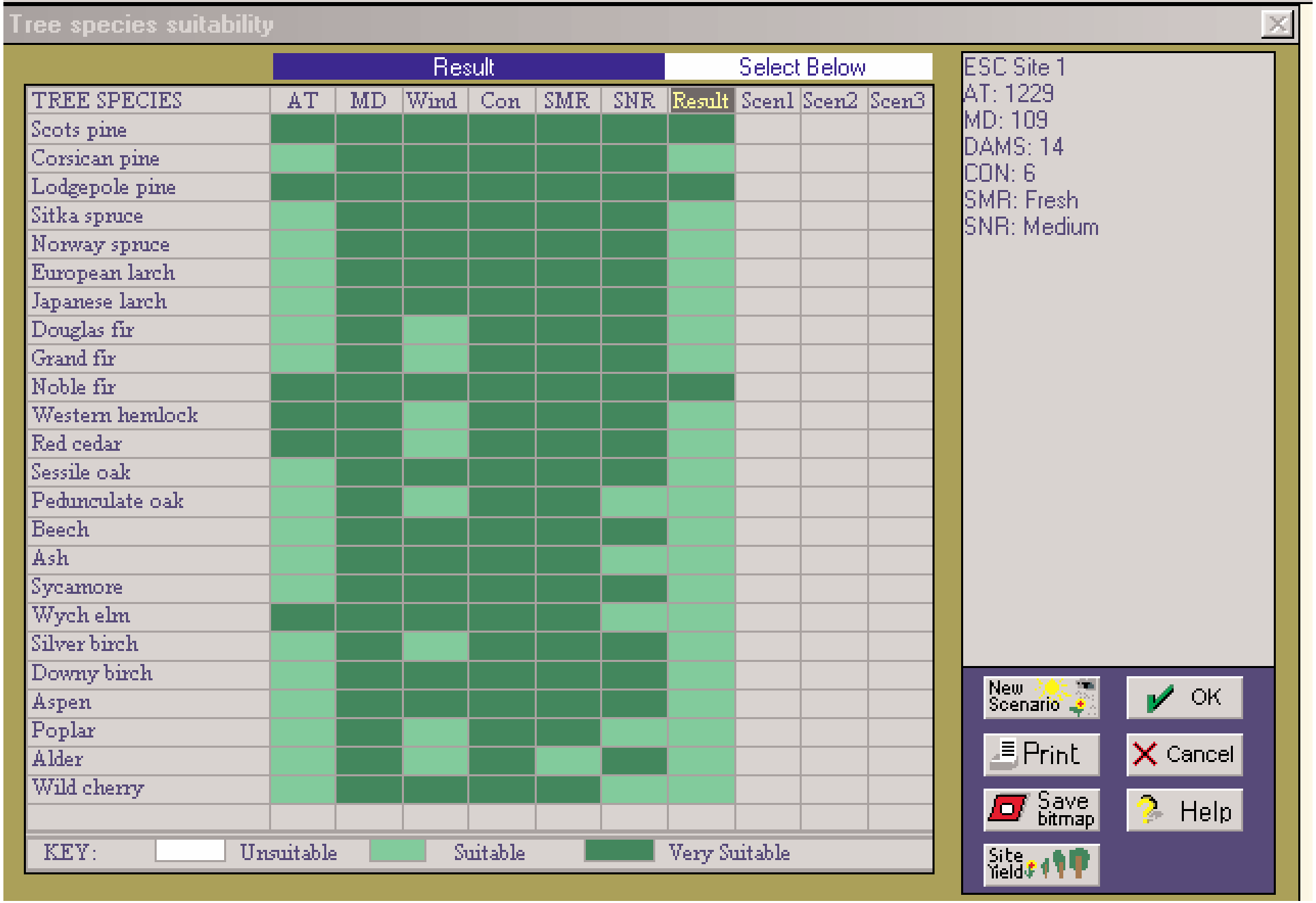
SOIL + PLANTS: an ecological approach


ESC-DSS v1.7 - Untitled
File * Site Evaluation Suitability Reports Field Survey Pack Help
site location
ESC to go
ESC pro
species
woodlands
site summary
help
reset data
exit
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.

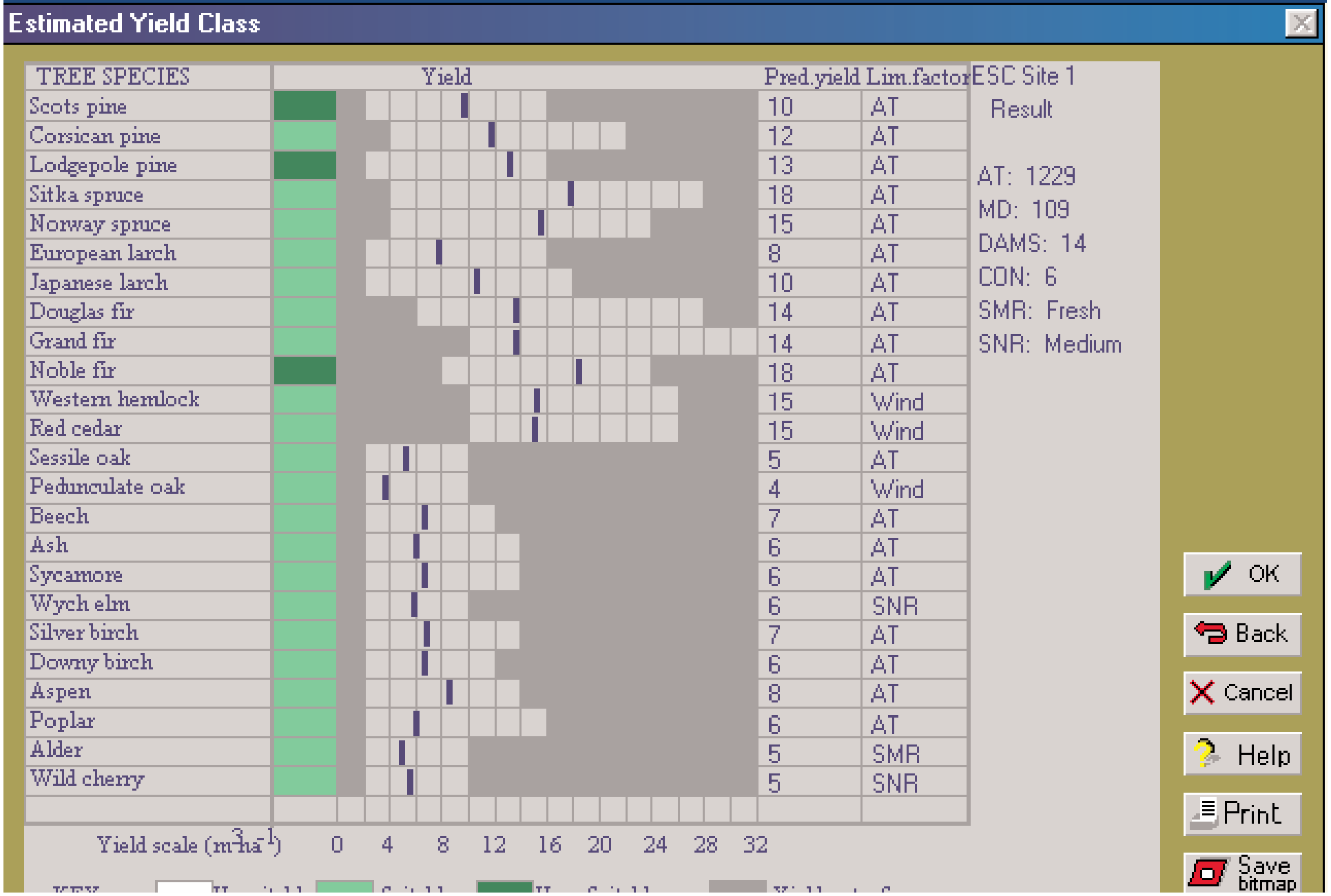
Ecological Site Classification components



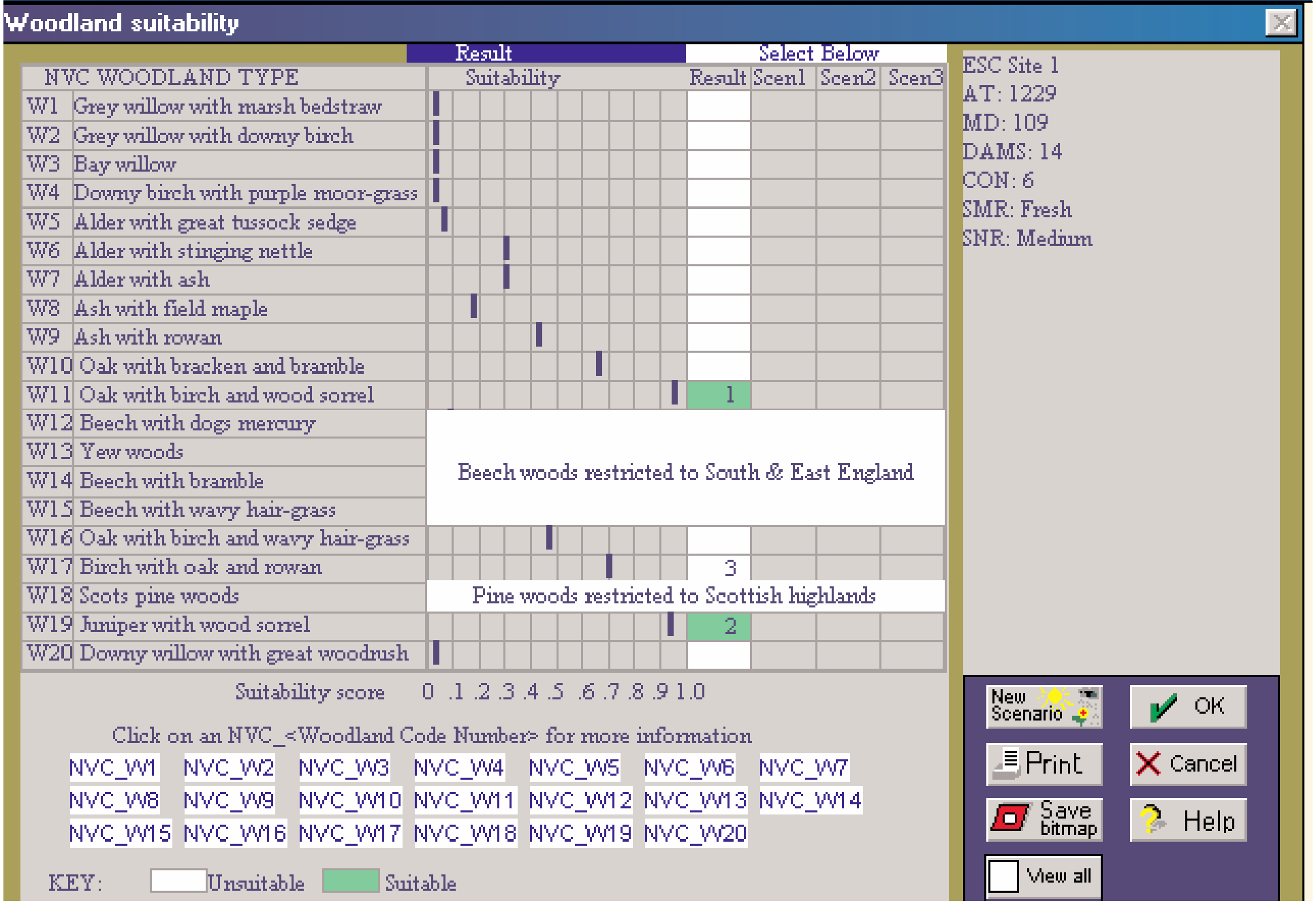
Tree species suitability



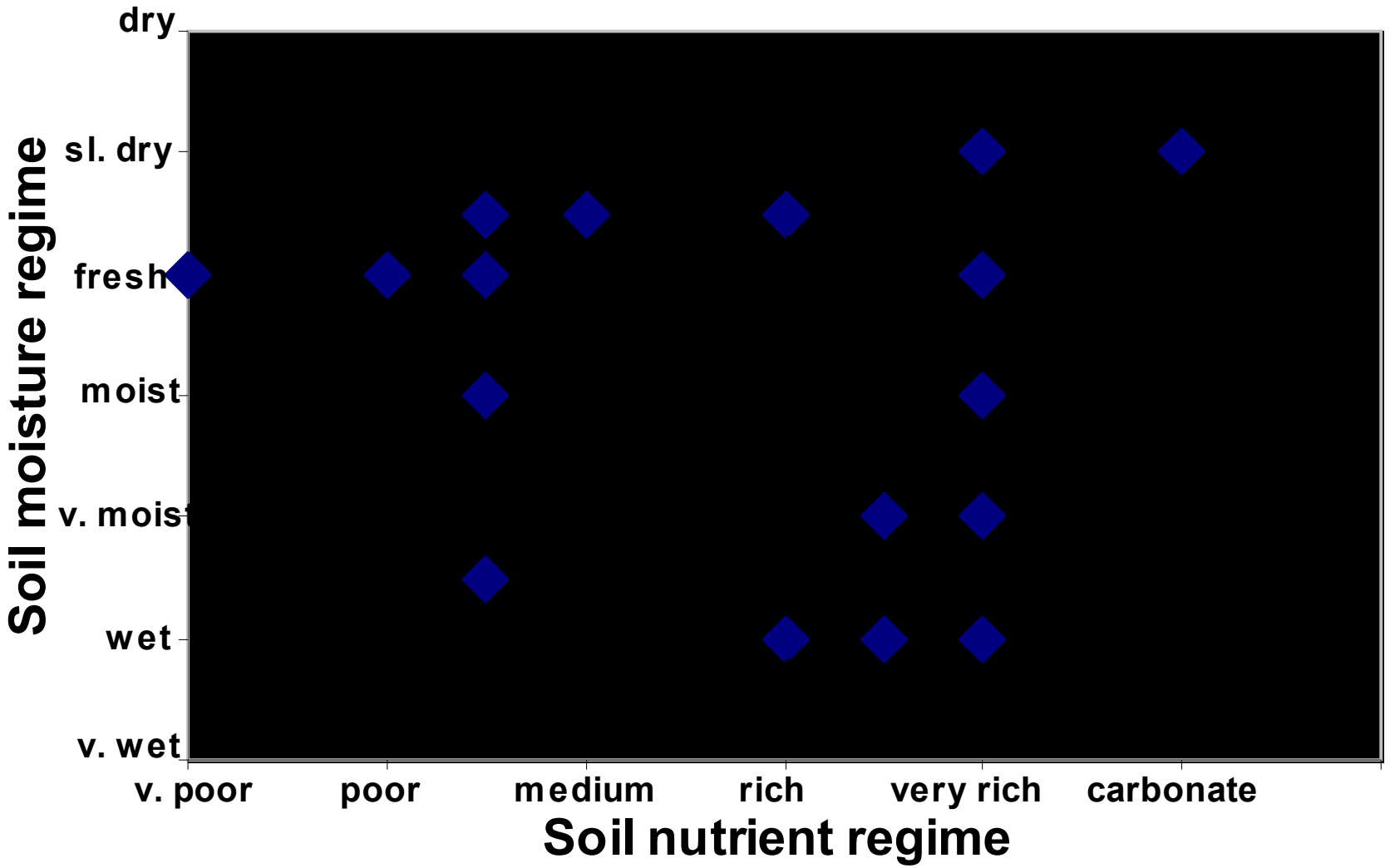
Estimated yield class

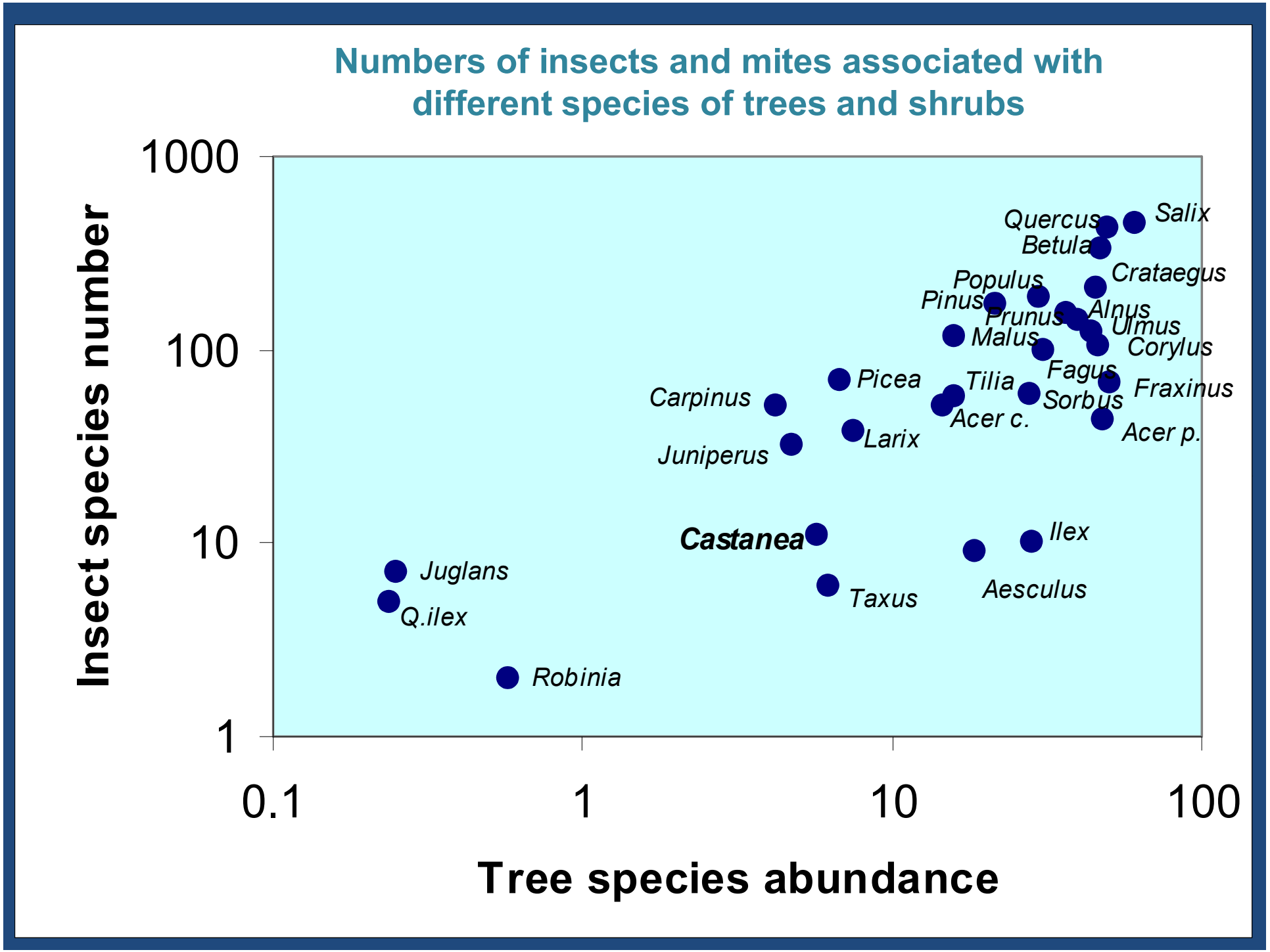


Woodland suitability



Woodland NVC communities on the Soil quality grid




Numbers of insects and mites associated with different species of trees and shrubs
Insect species number
1000
100
10
1
0.1
1
10
100
Tree species abundance
Quercus
Salix
Betula
Crataegus
Populus
Pinus
Prunus
Alnus
Ulmus
Malus
Corylus
Fagus
Fraxinus
Picea
Tilia
Carpinus
Sorbus
Acer c.
Acer p.
Larix
Juniperus
Castanea
Ilex
Juglans
Taxus
Aesculus
Q.ilex
Robinia