

SURVEY OF FLOODPLAIN WOODLAND IN CHARLWOOD WOOD AREA, WEST SUSSEX

SURVEY BACKGROUND

Survey Date: 15/5/2008

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History: the 1808 West Grinstead Ordnance Surveyors Drawing (**Map 1**) shows Charlwood Wood as an enclosed woodland adjacent to the floodplain. The floodplain of the River Ardur (or an unnamed tributary) is shown as hay meadows. At this time, the park appeared to be east of Kneppmill Pond only and not adjacent to the site.

The 1879 6" Ordnance Survey map (**Map 2**) shows the park had been extended west of Kneppmill Pond and Charlwood Wood was by then on the edge the park. Mixed conifer/broadleaved symbols suggest planting had occurred within the wood. Charlwood Wood stops on the edge of the floodplain.

The majority of the floodplain was shown as treeless, but some woodland is shown as a narrow strip along the south side of the river, on a narrow section of the floodplain. In the field, this appeared to consist of a few old river bank trees along with later infill. This riverine woodland appears to be recent woodland of pre 1879 19th century origin.

Recently the area examined, have become part of a wider area of countryside that has been put into a rewilding scheme; with extensive cattle and pig grazing through much of the area. Charlwood Wood, however, has been fenced off from this and is ungrazed.

DESCRIPTION OF VEGETATION

Introduction: the visit to this area was exploratory, as it did not appear there was actually any ancient woodland on the floodplain. In the field it was found that small area of Charlwood Wood did just creep on to the floodplain and a long established strip of riverine woodland was found. These wooded sections were surveyed. The distribution of vegetation stands, quadrat locations and target notes are shown on **Map 3**. The vascular plants and terricolous bryophytes recorded are listed in **Species List 1**. A few lichen and moss epiphytes of interest were recorded and are listed in **Species List 2**.

Wooded High Ground to the North (W8a) (TN1): a parkland shelter belt, pre-dating 1879 at the top of the slope, with planting postdating 1879 below. Bluebell is abundant in the oldest area, but patchy below. Woodland of Oak,

Ash, Maple, English Elm, Hazel, Wych Elm and Horse Chestnut. There had been quite a bit of pig rooting within the wood.

Charlwood Wood High Ground (W10b/9Bb) (TN2): the majority of the ancient woodland within Charlwood Wood, is on a steep slope above the floodplain, with gleyic brown earths. This has quite acidic woodland, which consists of an overstood coppice of Oak standards over Hazel and Hornbeam (Peterken Stand Type: Pedunculate Oak – Hornbeam Wood, Birch – Hazel variant, 9Aa) with a Bracken – Bluebell ground flora with patchy Wood Anemone (NVC: Quercus robur – Pteridium aquilinum – Rubus fruticosus Anemone nemorosa sub-community, W10b). The boundary with the floodplain has English Elm, presumably from a planted hedge (English Elm is now known to be a clone and a cultivar, introduced by the Romans to grow vines on live pollards also cut for fodder, not a native species).

Charlwood Wood in Floodplain (W8b/2A & 10A, W8a/7Ab) (TN3, 4 & 5): a small section of the floodplain is included within the ancient woodland, in two areas. The western strip (TN3) is on alluvial gley. It has Oak and some Ash over Maple, Blackthorn and Spindle, along with Hazel, Holly, Elder and Sallow (Wet Ash – Maple Woods, 2A being invaded by English Elm to produce Invasive Elm Woods, 10A). The canopy is dense and the ground flora sparse but has abundant *Anemone nemorosa*, *Hyacinthoides non-scripta* and *Mercurialis perennis*, along with *Euphorbia amygdaloides*, *Ranunculus ficaria*, *Poa trivialis* and *Adoxa moschatellina* (Fraxinus excelsior – Acer campestre – Mercurialis perennis Woodland, Anemone nemorosa sub-community, W8b) (CWQ1).

The eastern area (TN4) is smaller with Ash dominant and some Alder (Peterken Stand Type: Neutral to Alkaline Valley Alderwoods on Mineral Soil, 7Ab), with no *Anemone nemorosa* and much more *Glechoma hederacea* (NVC: Fraxinus excelsior – Acer campestre – Mercurialis perennis Woodland, Primula vulgaris – Glechoma hederacea community sub-community, W8a). An open area here is dominated by Nettle (Urtica dioica – Galium aparine Community, OV24).

A total of 36 vascular plants and two bryophytes were recorded from the patches of alluvial woodland (**Species List 1**). These included six Ancient Woodland Vascular Plants (AWVP).

Floodplain Grassland (TN6): the floodplain has a deeply incised river channel along the south eastern edge. There is no spoil bank indicating dredging, so this is presumably a natural channel. The soils are alluvial gleys, similar to those seen in the Hartsgravel area. As is typical of floodplain grasslands there are no flood channels. The sward is herb poor and the grasslands are improved permanent pastures. There had been quite a bit of pig rooting.

Riverside Recent Woodland (8Wb/2A & 8Wf/7Ab): the strip of recent but pre 1879 woodland along the south east bank of the river occupies a steep bank down to the river and a narrow zone of floodplain. Trapped debris indicated that the river does overtop its banks into this stand. The majority (TN7) is dominated by big post mature Oaks, presumably dating from the early 19th century, over Blackthorn, Maple and Hawthorn, with some Hazel, Ash, Elder and Sallow (Wet Ash – Maple Woods, 2A). The ground flora has abundant *Poa trivialis* and *Glechoma hederacea*, with frequent Nettle *Urtica dioica*. Associated species include *Brachypodium sylvaticum*, *Festuca gigantea*, *Adoxa moschatellina*, *Anthriscus sylvestris*, *Geum urbanum*, *Hyacinthoides non-scripta*, *Mercurialis perennis*, *Moenchia erecta*, *Tamus communis* and *Veronica hederifolia* (NVC: Fraxinus excelsior – Acer campestre – Mercurialis perennis Woodland, Primula vulgaris – Glechoma hederacea community sub-community, W8a). The stand has accumulated a reasonable woodland flora, but it is notable that Wood Anemone, abundant in the ancient woodland on the opposite edge of the floodplain, less than 100m away has not yet reached this area.

To the north, the Oaks are thinner and the stand passes into Blackthorn Scrub (*Prunus spinosa* – *Rubus fruticosus* Scrub, W22), with open patches supporting Bramble scrub (*Rubus fruticosus* – *Holcus lanatus* Underscrub, W24) and *Arrhenatherum* – *Dactylis* grassland (*Arrhenatherum elatius* Grassland, MG1) (TN9). Upstream of this at Capps Bridge there is a patch of Ash – Alder woodland with Wild Garlic (TN10) (Peterken Stand Type: Neutral to Alkaline Valley Alderwoods on Mineral Soil, 7Ab & NCV: Fraxinus excelsior – Acer campestre – Mercurialis perennis Woodland, Allium ursinum sub-community, W8f). The Wild Garlic *Allium ursinum*, has probably colonised by being washed down stream.

The river edge (not included in species list), where not too shaded, supports patches emergent Glyceria maxima Swamp (S5) and Sparganium erectum Swamp (S14), with some stands of *Phalaris arundinacea* on the bank (*Phalaris arundinacea* Tall Herb Fen, S28).

The flora included 36 vascular plants, of which included six Ancient Woodland Vascular Plants (AWVP). Interesting the same number of ancient woodland species as the small area of ancient floodplain woodland on the other side of the floodplain.

A single ancient Ash on the riverbank (TN8) (TQ1512 2167: the GPS reading was TQ15921 21690 ±18m, centred on wrong side of river), presumably predates the development of the woodland. It is intriguing that this open grown floodplain tree, latter partly enveloped by the woodland supported the only rare species seen in this and Hartsgravel Wood area: the Nationally Scarce lichen *Chaenotheca hispidula* growing on the dry side of the tree. This

was the first record of this species since the 19th century. Additional species of interest were the lichens *Bacidia rubella* (a new 10km grid square record) and *Gyalecta truncigena* and the moss *Anomodon viticulosus* (also a new 10km grid square record).

SPECIES LIST 1
Terricolous Species Recorded from Floodplain Woodland 2008

Species	CWR	CWA	AWVP
TREES & TALL SHRUBS			
<i>Acer campestre</i>	F	+	1
<i>Alnus glutinosa</i>	R		
<i>Corylus avellana</i>	O	+	
<i>Crataegus monogyna</i>	F	+	
<i>Euonymus europaeus</i>	R	+	
<i>Ilex aquifolium</i>		+	1
<i>Prunus spinosa</i>	A	+	
<i>Quercus cerris</i>	F		
<i>Quercus robur</i>	A	+	
<i>Salix cinerea</i> ssp <i>oleifolia</i>	O	+	
<i>Sambucus nigra</i>	O	+	
<i>Ulmus procera</i>		+	
UNDER SHRUBS			
<i>Rosa canina</i> agg	O		
GRASSES			
<i>Arrhenatherum elatius</i>	F		
<i>Brachypodium sylvaticum</i>	O		
<i>Dactylis glomerata</i>	F		
<i>Deschampsia cespitosa</i>	O		
<i>Festuca gigantea</i>	O		1
<i>Poa trivialis</i>	A	+	
OTHER VASCULAR PLANTS			
<i>Adoxa moschatellina</i>	O	+	1
<i>Allium ursinum</i>	R		1
<i>Anemone nemorosa</i>		+	1
<i>Anthriscus sylvestris</i>	O		
<i>Arctium minus</i>	O		
<i>Cardamine pratensis</i>	O		
<i>Euphorbia amygdaloides</i>		+	1
<i>Galium aparine</i>	F		
<i>Geum urbanum</i>	O		
<i>Glechoma hederacea</i>	A	+	
<i>Hyacinthoides non-scripta</i>	O	+	1
<i>Lapsana communis</i>	O		
<i>Mercurialis perennis</i>	O	+	
<i>Moenchia erecta</i>	O		
<i>Oenanthe crocata</i>	O	+	
<i>Ranunculus ficaria</i>		+	
<i>Rubus fruticosus</i>	F		
<i>Rumex sanguineus</i>	F	+	
<i>Stellaria holostea</i>	A		
<i>Tamus communis</i>	O		1
<i>Urtica dioica</i>	F	+	
<i>Veronica hederifolia</i>	O		
<i>Viola riviniana</i>		+	
MOSSES			
<i>Kindbergia praelongum</i>		+	

Plagiomnium undulatum		+	
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CWR = Recent floodplain woodland near Carlwood Wood

CWA = Ancient floodplain woodland within Carlwood Wood

AWVP = Ancient Woodland Vascular Plant

SPECIES LIST 2

Epiphytic Species of Interest Recorded from Floodplain Woodland 2008

Species	CWR	NS
LICHENS		
Bacidia rubella	1	
Chaenotheca hispidula	1	1
Gyalecta truncigena	1	
MOSSES		
Anomodon viticulosus	1	

CWR = Recent floodplain woodland near Carlwood Wood

NS = Nationally Scarce

Quadrat CWQ1

Species CWQ1

TREES & TALL SHRUBS

Acer campestre */5/*

Euonymus europaeus */3/*

Prunus spinosa */4/*

Quercus robur 5/*/*

Ulmus procera */1/*

OTHER VASCULAR PLANTS

Anemone nemorosa 6

Euphorbia amygdaloides 3

Hyacinthoides non-scripta 6

Mercurialis perennis 5

Ranunculus ficaria 2

Rumex sanguineus 3

Viola riviniana 1

MOSSES

Kindbergia praelongum 7

Plagiomnium undulatum 3

Total No species: 14

GPS: TQ151999 21813 ±45m

Soil: Alluvial Gley

NVC: W8b

Under TREES & TALL SHRUBS

8-2-1 = Canopy cover-shrub layer cover-field layer cover (* = no occurrence in this layer)

COMMENTS

Floodplain Woodland: only limited areas of floodplain woodland were found here. The situation is typical with ancient woodland largely stopping on the floodplain margin. Here, however, a small area at the edge of the floodplain was within the ancient woodland of Charlwood Wood. This proved to be a similar community to that of the floodplain edge in Hartsgravel Wood to the north, with Peterken Stand Type Wet Ash – Maple Wood (2A) over ground flora conforming to NVC community Fraxinus excelsior – Acer campestre – Mercurialis perennis Woodland, Anemone nemorosa sub-community (W8b). A strip of 19th woodland developed on the opposite edge of the floodplain had gone a long way to developing into a hardwood floodplain woodland, with a canopy and shrub layer referable Peterken Stand Type Wet Ash – Maple Wood (2A), with a Neutral to Alkaline Valley Alderwoods on Mineral Soil (7Ab) stand close to the river. The ground flora is much less well developed, with Wood Anemone absent, producing NVC: Fraxinus excelsior – Acer campestre – Mercurialis perennis Woodland, Primula vulgaris – Glechoma hederacea community sub-community (W8a) where W8b would be expected. Wild Garlic has colonised a small part of the woodland, however, producing NVC community Fraxinus excelsior – Acer campestre – Mercurialis perennis Woodland, Allium ursinum sub-community (W8f), the expected community of clay rich alluvium.

In total, the floodplain woodland here supported 42 vascular plants and two terricolous bryophytes, of which nine were Ancient Woodland Vascular Plants (AWVP). Ground flora recovery seems much slower than canopy and shrub layer recovery, at least where the new woodland is not in direct contact with ancient woodland. A single Nationally Scarce lichen, *Chaenotheca hispidula*, was recorded on an ancient Ash, but this was a veteran tree species inherited from earlier open floodplain grassland conditions and not a floodplain woodland species.

Management: there is no sign of the development of woodland on the floodplain yet. Experience of extensively grazed floodplains in the New Forest suggests that woodland will invade, but patchily, via the gradual establishment of patches of thorn scrub. The time scale is slow, with scrub clearance required about once every 25 year on the New Forest, where the graziers require the maintenance of open grazing. The slow pace of colonisation appears to favour a much more mixed initial composition of developing woodland, rather than dominance by a few mobile pioneer species.

From the soils and form of the river channel, suggest that the potential of this site is to produce a similar pattern of floodplain woodland as seen at Hartsgravel Wood. Hardwood floodplain woodland would be dominant,

with W8b, type woodland on courser soils on the edge of the floodplain but W8f predominant. There would only be small areas of back swamp and softwood floodplain woodland (wet woodland). Open grazed areas are likely to survive for along time.

MAP 1
1808 West Grinstead Ordnance Surveyors Drawing



MAP 2
1879 6" Ordnance Survey



MAP 3
Vegetation Map

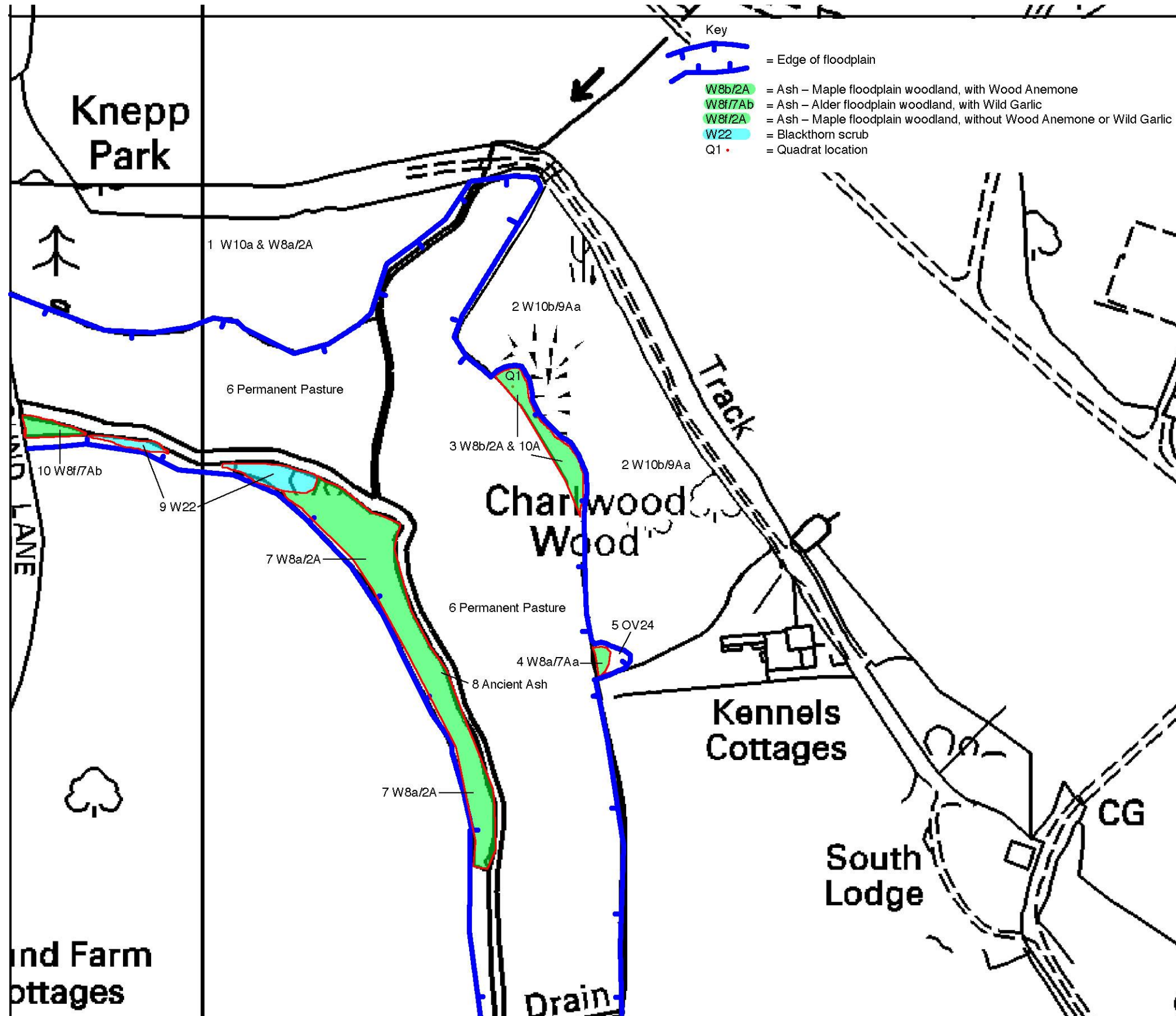




Photo 1. The strip of 19th century woodland along the south east side of the floodplain. The Ash in the centre supports the Nationally Scarce lichen *Chaenotheca hispidula*.