



## PHASE I HABITAT SURVEY



<b>SITE NAME</b> Hartnoll Farm	<b>SITE CODE (if any)</b>	<b>CENTRAL GRID REFERENCE</b> SS992126
<b>SURVEY TITLE</b> Mid Devon Strategic Allocation Sites 2014	<b>DATE SITE VISITED</b> 17/06/14 & 18/06/14	<b>SITE AREA (ha)</b> 94.3
<b>DISTRICT / UNITARY</b> Mid Devon	<b>PARISH / WARD</b> Halberton	<b>SURVEYOR(S)</b> Emma Magill
<b>LANDOWNER / AGENT NAME AND ADDRESS</b> Mr Clapp - 07970 946246 c/o Tim Baker, Strategic Land Partnerships Waddeton Park Ltd, Greendale Court, Clyst St Mary, Exeter EX5 1AW. 01395 233433/ 07799 690356  <b>Access permission from:</b> Mr Clapp/Tim Baker		
<b>CURRENT STATUS</b> Part UWS - SS91/080 - Tiverton Branch Railway - Species-rich disused railway line		

### **SITE DESCRIPTION (including setting, major features, habitat and species interest, NVC affinities)**

Hartnoll Farm is located to the east of Tiverton, approximately 1km from the village of Halberton. The Grand Western Canal forms the site's southern and eastern boundaries, with two minor roads forming the northern and western boundaries.

The site comprises 13 field units bounded by thick hedgerows. Eight of the fields are currently arable with crops of wheat, maize and oilseed rape, and five fields are improved grassland dominated by perennial rye-grass. The fields are likely to be managed on a rotation between arable and grass ley. Hartnoll Business Park is located in the north of the site close to Hartnoll Cross.

An Unconfirmed Wildlife Site, Tiverton Branch Railway crosses the south of the site. This disused railway now supports a corridor of young broadleaved woodland and scrub. The Grand Western Canal County Wildlife Site and Country Park forms the southern and eastern boundary of the site.

Tidcombe Lane Fen Site of Special Scientific Interest is located approximately 1km to the west of the site. This site supports a species-rich marshy grassland community. Several other non-statutory designated sites are present within 1km of the site. These include Snake's Wood County Wildlife Site (approx. 300m south-west), Lower Herne Unconfirmed Wildlife Site (approx. 500m south-east) and Dinhams Unconfirmed Wildlife Site (approx. 800m south).

#### Improved grassland:

Five fields support species-poor agriculturally improved grassland with affinities to the National Vegetation Classification (NVC) Community MG7 *Lolium perenne* ley. Perennial rye-grass is dominant, with frequent timothy, dandelion and broad-leaved dock. Other species occurring occasionally include white clover, Yorkshire fog, creeping buttercup, cock's-foot, marsh foxtail, meadow foxtail, creeping thistle and soft brome. One of the fields was cut at the time of the survey. Species observed in the cut vegetation

include perennial rye-grass, Yorkshire fog, rough meadow-grass, timothy, cock's-foot, broad-leaved dock and soft brome.

Species in the field margins/edges of the improved fields include Yorkshire fog, nettle, cock's-foot, perennial rye-grass, broad-leaved dock, prickly sow-thistle, hogweed, cut-leaved crane's-bill, meadow buttercup, bramble, timothy, false oat-grass, couch, cleavers, lesser burdock, creeping thistle and rough meadow-grass.

#### Banks:

An earth bank is present alongside the eastern edge of the business park **(A)**. This has been planted with young trees including sycamore, alder and field maple, and colonised by ruderal and grassland species. At the northern end there is a line of planted trees of hornbeam, field maple and dogwood. Species present on the bank include abundant broad-leaved dock, creeping thistle, creeping buttercup and Yorkshire fog, locally frequent common vetch, scarlet pimpernel, false oat-grass, nettle and white clover, and occasional poppy, germander speedwell, red clover, forget-me-not sp, prickly sow-thistle, field bindweed, common bird's-foot trefoil and cleavers.

Adjacent to the business park there are two small fenced off areas of semi-improved grassland and a slurry pit **(B)**. The grassland is tall and coarse with abundant cock's-foot and false oat-grass, locally abundant nettle, bramble and cleavers and occasional cow parsley, creeping thistle, red campion and white clover.

Along the western edge of the business park there is a continuation of the earth bank **(C)**. There are planted young trees including abundant alder, silver birch and lime sp. Other species present include locally dominant Yorkshire fog, cock's-foot and perennial rye-grass, locally abundant creeping thistle, false oat-grass and nettle, and locally frequent hedge bindweed, hemlock and hedge woundwort.

**(D)** is a fenced off bank with the following species present: abundant cock's-foot and Yorkshire fog and frequent false oat-grass, nettle, cow parsley, cut-leaved crane's-bill and cleavers.

#### Track:

A track **(E)** leads to a house. Trees have been planted along the track with some ornamental, non-native species present. Species include beech, ash, field maple, pedunculate oak, red oak, maple sp, mimosa, silver birch and cherry sp.

#### Arable:

Eight fields are arable with crops of wheat, oilseed rape and maize. Most of the fields have wide field margins of 1-3m, but in places they are cultivated right up to the hedge. Semi-improved coarse grassland is present along the wider field margins.

Species recorded in the field margins include cock's-foot, barren brome, soft brome, false oat-grass, rough meadow-grass, cleavers, nettle, hemlock water-dropwort, Yorkshire fog, great willow-herb, garlic mustard, creeping buttercup, redshank, white clover, common vetch, hairy tare and cut-leaved crane's-bill.

Arable weed species recorded include common field speedwell, scarlet pimpernel, pineapple-weed, scentless mayweed, dove's-foot crane's-bill, lesser swine-cress, marsh cudweed, shepherd's-purse and common groundsel.

### Ditches:

Several of the hedges have ditches running alongside them. Common reed and hemlock water-dropwort are frequent along some of the ditches.

In two of the arable fields there is a ditch and associated margin of rough, semi-improved grassland **(F)**. False oat-grass, Yorkshire fog and hemlock water-dropwort are abundant, cock's-foot, nettle, spear thistle and rough meadow grass are frequent. Scentless mayweed and cut-leaved crane's-bill are locally frequent. Reed canary-grass and fool's water-cress are occasional. There are few wetland species present.

### Dismantled railway:

The dismantled railway **(G)** is a key feature of the site, running east to west in the southern portion of the site. The eastern end is on a steep embankment which flattens out as one moves west. The abandoned railway supports young broadleaved woodland dominated by pedunculate oak and hawthorn. Other species present include ash hazel, holly, elder, dog rose and grey willow. Species recorded from the ground flora include broad-leaved dock, ivy, nettle, wood avens, creeping buttercup, cleavers, lords and ladies, primrose, red campion, hedge woundwort and bramble.

There is a raised grassy bank at **(H)** with several large oaks present. Species present on the bank include abundant false oat-grass, frequent cock's-foot, rough meadow-grass and locally frequent nettle and bramble. There is much erosion under the base of the trees with the roots exposed. Several probable badger setts are present here, some with large spoil heaps.

The western end of the dismantled railway **(I)** is more of a grassy bank with scrub and ruderal species. Bramble, nettle, broad-leaved dock, cleavers and false oat-grass are abundant. Other species include hawthorn, buddleia, grey willow, lesser burdock, hemlock and teasel.

### Aqueduct:

A brick aqueduct **(J)** is present in the south-east of the site and the Grand Western Canal flows over it. The abandoned railway passes under it and continues to the east.

### Ruderal vegetation:

Near Manley Railway Bridge there is a bank supporting scrub and ruderal vegetation **(K)**. This area joins the dismantled railway and continues east. Bracken is locally dominant and there is abundant broad-leaved dock, false oat-grass, frequent nettle, bramble and creeping buttercup, and occasional creeping thistle, hogweed, buddleia and lesser burdock. Teasel is locally frequent. This area supports many butterflies.

### Hedges:

Almost all the hedges on site were found to be species rich. Most of the hedges are thick and well managed, and many have frequent standard trees, some of which are quite mature.

Woody species recorded from the hedges include hazel, field maple, spindle, blackthorn, dogwood, grey willow, alder, hawthorn, ash, beech, English elm, holly, sycamore, dog rose, elder, honeysuckle, birch sp. and pedunculate oak.

The hedge along the Grand Western Canal supports frequent hedgerow pedunculate oaks, some of which are quite mature.

Hedges marked with \* are fairly species-poor and generally only have two or three dominant species.

In-field trees:

Approximately six large pedunculate oaks are present in the arable fields in the south-west of the site. Some of these have some hollowing of the trunks and could possibly be veteran or notable trees.

Mammals:

Badger activity was found throughout the site, with several possible setts present. Latrines and feeding remains were found along some of the hedgerows and there were several possible paths through hedgerows. Fox scats and deer slots, droppings and lying up areas were found throughout the site.

Birds:

Many common bird species are present on site and may be breeding. The following species were heard or seen: blackbird, blue tit, buzzard, chaffinch, chiffchaff, crow, dunnock, goldfinch, great tit, greenfinch, house martin, pied wagtail, robin, skylark, song thrush, swallow, wood pigeon, and wren.

Invertebrates:

Small tortoiseshell butterflies were frequent in the improved grassland fields in the north of the site. Many damselflies were seen along the hedgerows following the Grand Western Canal. Species include azure blue and blue-tailed. Golden-ringed dragonfly and keeled skimmer were seen along the canal towpath.

### **Local records held by DBRC:**

DBRC hold records of brown hare from within site boundary.

Within 1 km of the site boundary DBRC identified the following records:

- Mammals: Brown hare (300m south), Otter (adjacent, 500m & 800m), dormouse (adjacent & 1km north), badger (adjacent & 400m west), Daubenton's, Noctule, Pipistrelle bats (adjacent).
- Birds: Barn owl (800m), kingfisher (adjacent).

There are suitable habitats for all of the above species on site, with the exception of otter and kingfisher (likely to be confined to the Grand Western Canal). Given the connectivity with the wider landscape through mature hedgerows and the dismantled railway it is considered that these species are likely to be present within the site.

## **MANAGEMENT SUGGESTIONS, MITIGATION MEASURES REQUIRED AND FEATURES TO BE MAINTAINED**

The hedgerows, linear woodland along the abandoned railway and associated mature trees present on-site support valuable habitat for a range of species including commuting, foraging and roosting bats, foraging and hibernating hedgehogs, commuting, foraging and hibernating reptiles and amphibians, nesting and foraging birds, foraging badger and commuting, foraging and hibernating dormouse. The semi-improved field margins and banks have the potential to support basking and foraging reptile species.

Should the site be brought forward for development, further survey work would be required for all of the above species. Furthermore, it is considered that most of the hedgerows on site are likely to be classified as “important” under the Hedgerow Regulation Act 1997.

Given the value of the hedgerows for species listed above, a number of green corridors across the site should be factored into any design, both north to south and east to west. These should be focused around existing mature hedgerows, the dismantled railway line and ditches that cross the site, with at least a 3m – 5m buffer on each side to be managed for wildlife. This will allow the continued movement of species through the landscape across the site. It is likely that the mature hedgerows will be of most importance, however further species and a full hedgerow survey will confirm this.

The hedgerows should be managed every 3-5 years on a rotational basis to maintain their wildlife value. Mature trees should be retained. Full survey of the hedgerows should be carried out if further development dictates that they need to be removed (partially or wholly).

In addition to the hedgerows, the woodland along the dismantled railway should be retained, with suitable connection between this area and the surrounding landscape.

Areas of semi-improved grassland/field margins should be targeted for an optimised management regime in order to provide biodiversity gains within the site. It is considered that a change of management will be easier and more likely to be successful rather than attempting to produce a wildflower meadow elsewhere in areas previously subject to agricultural improvement. This would require these areas to be managed as a traditional hay meadow, with a single hay cut being undertaken between July and August.

The mature scattered trees in the centre of the fields should be retained with a 3 – 5m buffer around them, as they are likely to support a host of species. These should also remain unlit to allow nocturnal species such as bats to continue to forage around them.

## **SURVEYORS SITE EVALUATION (context including diversity and notability of species, habitats and features)**

The site is of overall moderate wildlife value.

The site is large and comprises a range of habitat types. Of the habitats present the hedgerows are considered to provide the greatest value for wildlife as they are mature, well connected and species-rich. Furthermore, the linear woodland and scrub along the dismantled railway, whilst small is moderately species-rich, and is also well connected in the wider landscape through the hedgerow network. The hedgerows and woodland add to the structural diversity of the area. If the site is subject to development it is recommended that the hedgerows and woodland are retained where possible.

UK and Devon Biodiversity Action Plan (BAP) habitats and species recorded on site include:

- Hedgerows (UK and Devon BAP)
- Lowland mixed deciduous woodland (UK BAP)

UK and Devon Biodiversity Action Plan (BAP) species and protected species with the potential to be supported by the site:

- Bat species (including common pipistrelle & long-eared bats)
- Dormouse (UK and Devon BAP)
- Hedgehog (UK BAP)
- Reptile species
- Amphibian species
- Nesting birds
- Badger

## SPECIES LIST

Name (Stace 1999)	English name
<i>Acer campestre</i>	Field Maple
<i>Acer pseudoplatanus</i>	Sycamore
<i>Aegopodium podagraria</i>	Ground-elder
<i>Aesculus hippocastanum</i>	Horse-chestnut
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Alnus glutinosa</i>	Alder
<i>Alopecurus pratensis</i>	Meadow Foxtail
<i>Alopecurus geniculatus</i>	Marsh Foxtail
<i>Anagallis arvensis</i>	Scarlet Pimpernel
<i>Anisantha sterilis</i>	Barren Brome
<i>Anthriscus sylvestris</i>	Cow Parsley
<i>Apium nodiflorum</i>	Fool's Water-cress
<i>Arctium minus</i>	Lesser Burdock
<i>Arrhenatherum elatius</i>	False Oat-grass
<i>Arum maculatum</i>	Lords-and-Ladies
<i>Avena fatua</i>	Wild-oat
<i>Bellis perennis</i>	Daisy
<i>Betula pendula</i>	Silver Birch
<i>Bromus hordeaceus</i>	Soft Brome
<i>Buddleja davidii</i>	Butterfly-bush
<i>Calystegia sepium</i>	Hedge Bindweed
<i>Capsella bursa-pastoris</i>	Shepherd's-purse
<i>Cardamine flexuosa</i>	Wavy Bitter-cress
<i>Carpinus betulus</i>	Hornbeam
<i>Cerastium fontanum</i>	Common Mouse-ear
<i>Cirsium arvense</i>	Creeping Thistle
<i>Cirsium vulgare</i>	Spear Thistle
<i>Conium maculatum</i>	Hemlock
<i>Convolvulus arvensis</i>	Field Bindweed
<i>Cornus sanguinea</i>	Dogwood
<i>Coronopus didymus</i>	Lesser Swine-cress
<i>Corylus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Hawthorn
<i>Cynosurus cristatus</i>	Crested Dog's-tail
<i>Dactylis glomerata</i>	Cock's-foot
<i>Digitalis purpurea</i>	Foxglove
<i>Dipsacus fullonum</i>	Teasel
<i>Elytrigia repens</i>	Common Couch
<i>Epilobium ciliatum</i>	American Willowherb
<i>Epilobium hirsutum</i>	Great Willowherb
<i>Equisetum arvense</i>	Common Horsetail
<i>Euonymus europaeus</i>	Spindle
<i>Fagus sylvatica</i>	Beech
<i>Festuca rubra agg.</i>	Red Fescue
<i>Fraxinus excelsior</i>	Ash
<i>Fumaria officinalis</i>	Common Fumitory

<i>Galium aparine</i>	Cleavers
<i>Geranium dissectum</i>	Cut-leaved Cranesbill
<i>Geranium molle</i>	Dove's-foot Cranesbill
<i>Geranium robertianum</i>	Herb-Robert
<i>Geum urbanum</i>	Wood Avens
<i>Gnaphalium uliginosum</i>	Marsh Cudweed
<i>Hedera helix</i>	Ivy
<i>Heracleum sphondylium</i>	Hogweed
<i>Holcus lanatus</i>	Yorkshire-fog
<i>Holcus mollis</i>	Creeping Soft-grass
<i>Hypochaeris radicata</i>	Cat's-ear
<i>Ilex aquifolium</i>	Holly
<i>Juncus bufonius</i>	Toad Rush
<i>Juncus effusus</i>	Soft-rush
<i>Lapsana communis</i>	Nipplewort
<i>Lolium perenne</i>	Perennial Rye-grass
<i>Lonicera periclymenum</i>	Honeysuckle
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil
<i>Malva sylvestris</i>	Common Mallow
<i>Matricaria discoidea</i>	Pineappleweed
<i>Medicago lupulina</i>	Black Medick
<i>Oenanthe crocata</i>	Hemlock Water-dropwort
<i>Papaver rhoeas</i>	Common Poppy
<i>Persicaria maculosa</i>	Redshank
<i>Phalaris arundinacea</i>	Reed Canary-grass
<i>Phleum pratense sens.lat.</i>	Timothy
<i>Phragmites australis</i>	Common Reed
<i>Picris echioides</i>	Bristly Oxtongue
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Plantago major</i>	Greater Plantain
<i>Poa annua</i>	Annual Meadow-grass
<i>Poa pratensis sens. lat.</i>	Smooth Meadow-grass
<i>Poa trivialis</i>	Rough Meadow-grass
<i>Potentilla reptans</i>	Creeping Cinquefoil
<i>Primula vulgaris</i>	Primrose
<i>Prunus spinosa</i>	Blackthorn
<i>Pteridium aquilinum</i>	Bracken
<i>Quercus robur</i>	Pedunculate Oak
<i>Ranunculus acris</i>	Meadow Buttercup
<i>Ranunculus repens</i>	Creeping Buttercup
<i>Rosa canina agg.</i>	Dog-rose
<i>Rubus fruticosus agg.</i>	Bramble
<i>Rumex crispus</i>	Curled Dock
<i>Rumex obtusifolius</i>	Broad-leaved Dock
<i>Salix alba</i>	White Willow
<i>Salix cinerea subsp. oleifolia</i>	Rusty Willow
<i>Sambucus nigra</i>	Elder
<i>Scrophularia nodosa</i>	Common Figwort
<i>Senecio vulgaris</i>	Groundsel
<i>Silene dioica</i>	Red Campion

<i>Sonchus asper</i>	Prickly Sow-thistle
<i>Stachys sylvatica</i>	Hedge Woundwort
<i>Stellaria media</i>	Common Chickweed
<i>Stellaria holostea</i>	Greater Stitchwort
<i>Tamus communis</i>	Black Bryony
<i>Taraxacum aggregate</i>	Common Dandelion
<i>Teucrium scorodonia</i>	Wood Sage
<i>Trifolium pratense</i>	Red Clover
<i>Trifolium repens</i>	White Clover
<i>Tripleurospermum inodorum</i>	Scentless Mayweed
<i>Ulex europaeus</i>	Gorse
<i>Ulmus procera</i>	English Elm
<i>Urtica dioica</i>	Common Nettle
<i>Veronica beccabunga</i>	Brooklime
<i>Veronica chamaedrys</i>	Germander Speedwell
<i>Veronica persica</i>	Common Field-speedwell
<i>Vicia hirsuta</i>	Hairy Tare
<i>Vicia sativa</i>	Common Vetch
<b>Additional species</b>	
<i>Hordeum vulgare</i>	Barley
<i>Prunus sp.</i>	Cherry sp.
<i>Cupressus sp.</i>	Cypress sp.
<i>Vitis sp.</i>	Grape
<i>Alnus sp.</i>	Alder sp.
<i>Tilia sp.</i>	Lime sp.
<i>Acer sp.</i>	Maple sp.
<i>Mimosa sp.</i>	Mimosa
<i>Quercus rubra</i>	Red oak
<i>Picea sp.</i>	Spruce sp.
<i>Rorippa sp.</i>	Yellowcress sp.
<i>Myosotis sp.</i>	Forget-me-not sp.
<b>Birds</b>	
Blackbird	
Blue tit	
Buzzard	
Chaffinch	
Chiffchaff	
Crow	
Dunnock	
Goldfinch	
Great tit	
Greenfinch	
House martin	
Pied wagtail	
Robin	
Skylark	
Song thrush	
Swallow	

Wood pigeon	
Wren	
<b>Invertebrates</b>	
7-spot ladybird	
Azure blue damselfly	
Blue tailed damselfly	
Golden-ringed dragonfly	
Green-veined white	
Keeled skimmer	
Meadow brown	
Small skipper	
Small tortoiseshell	
Speckled wood	
<b>Mammals</b>	
Badger setts, paths and latrines	
Deer droppings, tracks and lying up areas	
Fox scat	

