THE DRY STREET MEADOWS:
SIGNIFICANT WILDLIFE RECORDS AND COMMENTARY,
BASED UPON OBSERVATIONS AND SURVEYS UNDERTAKEN AT VARIOUS POINTS DURING THE PERIOD 1990s to 2012.

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Introduction

In 1998 I wrote a response to the Inspector's Report following a public enquiry into the future landuse designation of what have become known as the Dry Street Meadows (or Pastures). That Inspector's Report contradicted the findings of earlier public enquiries, most notably the Basildon South West Area public enquiry, and subsequent utilisation of the site by the Basildon Development Corporation (which had secured government permission to construct an equestrian centre, built at public expense and intended as a major recreation facility for the population of the New Town and surrounding area). It became clear that the Inspector in 1998 had failed to consider several vital issues, which together constituted new matters worthy of serious consideration before any kind of thinking should be undertaken concerning possible housing development on the site. Accordingly what I wrote in 1998 was presented to Basildon District Council. In 2012 that material has been invoked in the discussions of the Council's Environment and Regeneration Scrutiny Committee, being referred to as the Cole Report. The content of that report is highly significant, although in places out of date. Moreover, rather more is now known about the ecology and wildlife of the site, making this current compilation of information vitally important.

Ecological and Archaeological Surveys undertaken

In accordance with existing legislation, several ecological surveys were undertaken in the early years of this century, at the behest of English Partnerships, into whose hands the oversight of this publically-owned land had passed. Those surveys were conducted by ecologists working for Bernwood Environmental Conservation Services (2002-4) and then Entec (2004-6), in a situation where building development was being contemplated.

Plans for building 1100 homes on the site were published during 2006, to corresponding horror, for the detailed ecological surveys had meanwhile demonstrated just how rich the overall site is, in terms of its indigenous wildlife. Stiff and articulate public opposition caused the plans for development to be withdrawn – but during 2011-12 they have been re-activated, in a manner necessitating the production of this updated report.

Habitat Management Plan 2007

Following the withdrawal of development plans in 2006, there followed a detailed negotiation between English Partnerships and the Essex Wildlife Trust concerning the management of the pastures, bearing in mind their undoubted ecological significance. This included site visits involving EP and EWT personnel, and including John Hall, the EWT's Director. The result was that in 2007 an agreed Habitat Management Plan (HMP) was drawn up, under the direction of Rob Shipway, the Senior Regeneration Manager for London and Thames Gateway, the object of which was to maximise the wildlife value of the pastures and associated hedgerows and wetlands for the long term. Accordingly, the Plan was implemented, with the initial phase of works undertaken by the contractors Scott Wilson, operating at the behest of English Partnerships, later in 2007. This was envisaged as part of a long-term strategy, with further works to be undertaken in future years.

The 2012 plans are at variance with this commitment, made as of 2007.

Local Wildlife Site

So important has the Dry Street Meadows site been found to be in ecological terms that it was scheduled as a **Local Wildlife Site** (LoWS), as **Ba24 (The Dry Street Pastures).** For some reason, this status, important in Planning terms, was not referred to in the Core Strategy document published by Basildon Borough Council in 2012.

Two highly important criteria were invoked when designating the meadows as a Local Wildlife Site, in that they contain the UK BAP Priority Habitats of (i) Lowland Meadows and (ii) Hedgerows.

Lowland meadows

Something like 97 per cent of pre-World War II lowland meadows in England have since been destroyed, causing those that remain to be of particular wildlife conservation value, given the rich plant and invertebrate communities that are associated with long-established grassland.

For reasons of historical accident, the Langdon Hills ridge is of remarkable importance in terms of long-established grassland, to the degree that nowhere else in Essex is there such a concentration of inland meadows. The Dry Street Pastures constitute part of that special landscape and ecological resource, to the degree that, along with the other meadows, they are of regional significance. Their management by the Longwood Equestrian Centre for horse grazing and hay cutting has been fully compatible with their wildlife and landscape value.

Well within a mile of the Dry Street Pastures site there are the three meadows which constitute the Basildon Meadows Site of Special Scientific Interest (SSSI), located at Hawkesbury Bush and Martinhole – and their richness is in part affected by the proximity of the other meadowland nearby, including the Dry Street Pastures.

The special landscape beauty of the Dry Street Pastures is demonstrated in the accompanying photograph, taken from behind the college site, looking westwards towards the Langdon ridge.

Hedgerows

Such was the level of destruction of traditional hedgerows during the 1970s-80s, often for laudable reasons connected with the operational efficiency of modern farm machinery, that those that remained took on an increasingly important role in the landscape and in terms of wildlife conservation. In effect, hedgerows serve as linear continuations of woodland edge habitats, rich in their own right and worthy of retention where practicable, as when crucial to a pastoral landuse as is the case at Dry Street.

The hedgerows at Dry Street are long-established, comprising native tree and bush species, with characteristic herb layers. Some are of remarkable antiquity, containing species associated with the ancient wildwood, such as Wild Service Tree and the rarer wild roses such as *Rosa stylosa* and *R. torminalis.* They are significant features, enhancing the beauty of the pastoral landscape.

The Langdon Hills Living Landscape

In keeping with national and indeed international policy, there has been considerable movement in recent years towards seeking to integrate the natural and wildlife features of a given locality, viewing them from a landscape perspective and maximising their biodiversity by seeking to link up wildlife-rich locations.

The Living Landscapes constitute an important part of this strategy, and Basildon is affected by some of these: Ramsden Heath and Woods; the Wat Tyler Complex – and Langdon Hills. The Langdon Hills Living Landscape takes in all the high ground of the ridge, from Dunton through to VangeHeights, and the Dry Street Meadows form part of that continuity, as an important element linking VangeHeights and Basildon Golf Course with what lies further to the west and southwest. The loss of the Dry Street Meadows would serve to fragment that landscape, with the knock-on effect that adjacent farmland would come under pressure of development, as anticipated by the owner, the Essex County Council, which is retaining ownership of the land while the current uncertainty is being played out.

The Living Landscape status reflects the enormous good fortune of Basildon in having such a wonderful green landscape on its south-western boundary. The Langdon ridge is of major landscape importance, of particular recreational as well as wildlife value, and it behoves the local authority to help cherish and maintain its essential components, of which the Dry Street Meadows form part.

Species-rich grassland

As indicated in my earlier report, the Dry Street Meadows support an excellent floral representation of what so much of the Basildon area once looked like, before intensive urbanisation and equally intensive agricultural improvement jointly reduced it to the point where flower-rich meadows are now the exception, confined to more marginal locations such as the one in question.

Their floral richness is reflected in a corresponding richness in terms of insect activity, and some insight into this is given below in the discussions about butterflies and bumble bees. The greater the diversity of plant species represented, the greater will be the variety of dependent invertebrate life.

Some of the meadow plant species are more remarkable, including adder's-tongue fern, yellow rattle, glaucous sedge and fairy flax, as well as various species of wild orchid.

Detailed records of wildlife associated with the Dry Street site

This updated report risks being too long and detailed, given the body of information which has been acquired over the years. Accordingly I have refrained from detailing the flora, conscious that I have written extensively on the Langdon Hills flora elsewhere. Details concerning the various habitat types are not given, nor is there attention to most of the invertebrate groups.[1] However, considerable detail is given below concerning what to most people are the readily-identifiable categories of wildlife. Besides, they include species which enjoy explicit forms of statutory protection and/or BAP status, of the kind which planning authorities are obliged to take cognizance of. Accordingly, details are given respectively of the birds, mammals, reptiles and amphibians, butterflies and bumble bees associated with the Dry Street Meadows.

A. Birds recorded in the Meadows north of Dry Street within the period 1994-2012.

Introduction

The total list of birds recorded on the site during the period in question is substantial, despite the implicit difficulties of regular observation and effective coverage. It is likely that other species

have occurred as well – but what is available here makes it clear that this is a site of considerable richness.

Some species over-fly the area and are thus less intimately connected with the meadows and hedgerows. A few others are decidedly rare, at least in this part of the country, and occur only as passage migrants – but that these birds have had cause to use the site, albeit briefly, is itself significant. The meadows' existence against a wider backdrop of woodland and meadowland on the Langdon ridge is important, as is the location of this ridge to the north of the Thames estuary: longer-term bird-ringing observations, based on the marshes and at Butler's Grove (on the Langdon ridge), demonstrated the strategic importance of the ridge to migrating birds.

Some species are summer visitors, and some others occur only in winter. The value of the site to birds needs therefore to be seen on a year-round basis, rather than on an assumption of constant and uninterrupted occupation of the site. Nesting activities, and winter-feeding, need to be appreciated on the same basis.

During the course of the eighteen years there has been considerable fluctuation in the species recorded. This needs to be seen in the context of wider fluctuations affecting several species, some of which are the subject of national concern. Other fluctuations seem more normal and possibly cyclical, but the absence of a species at the current time does not automatically mean that its interests can be readily dismissed.

The value of the meadows and hedgerows for feeding and hunting

The site is of major importance to birds as a feeding site throughout the year. It generates substantial crops of seeds, berries and invertebrates, as well as rodents and, indeed, small birds for larger predators.

In summer, insectivores frequent the hedgerows and sward: warblers and their kind are in the herbage, while swallows, martins and swifts hunt at varying heights in the airspace. The presence of horses gives rise to increased insect populations, and there are times when the swallows can be seen to attend closely to these animals. Moreover, in September there is the main emergence of craneflies from the sward, of enormous importance to swallows and other species as they feed up prior to undertaking migration flights. It is highly likely that in autumn the meadows are frequented by other swallow and martin populations from upcountry, pausing to "top up" en route south. The same point, of course, applies to other migrating insectivores, but their dependence upon the insects of the site is less readily demonstrable.

The food niches are varied. Green woodpeckers frequent the meadows in quest for ants, while occasional hobbys take dragonflies, particularly over the washland (there is evidence to suggest that the washland is one of several appropriate local sites used by these summer visitors, others being the ponds on the adjacent nature reserve).

Some of the most intense insect feeding activity takes place in the early morning, particularly where the sward is quite long. At this time, birds are able to pick off the roosting insects while they are yet still sluggish: during the warmth of the day the insects are much more vigorous, and the energy needed to catch them, in ecological terms, is much less economic. Most observers are out and about too late to appreciate the importance of this regular feeding activity.

In autumn and winter, the ground invertebrates are particularly important – to the degree that substantial flocks of lapwing, black-headed and common gulls, fieldfares, redwings and other thrushes, along with other birds in smaller numbers, feed regularly and roost on the meadows. By far the most important meadow for this activity is the one immediately south of Fletchers[2], used as a regular roosting site each winter. The meadow to the east of that one[3] is also used to a lesser degree. It would appear that birds feel relatively safe in the large Fletchers meadow. Moreover, these meadows would appear to have very large populations of earthworms and leatherjackets, judging by the numbers of craneflies seen in autumn – and the ease with which the contractors' vehicles gouged into the mud of these meadows in February-March 2005: it would appear to provide a very good substrate for the earthworms.
The marshier spots are frequented by snipe in winter. This applies particularly to the swampy meadow behind the equestrian centre, and the washland. Mallard also frequent the former spot, drawn partly by the standing water and its food content.

The value of the meadows in generating grass and wild flower seeds is demonstrable, given the resident finch populations, swollen in winter by small flocks. Where a meadow is left unmown, and where thus a large seed crop is generated (as happens some years in the North-West Meadow and in the washland), the winter forage for seed eaters is of particular value.

The tall-grown hedgerows support a remarkable number of birds, with the brambles, wild roses, sloes and hawthorns providing autumn and winter forage to the several thrush species, including fieldfares, redwings, song and mistle thrushes, and blackbirds. The indigenous populations of the last three species are considerably augmented by winter migration in from elsewhere, including continental Europe. Waxwings, normally so infrequent as winter visitors, have featured regularly in flocks of up to three dozen in south Essex in recent years, and they have been seen feeding on haws in the hedgerows. Acorns and ash keys provide further forage, not least for corvids in the former case and finches in the latter.

It is also clear that the meadows and hedgerows provide valuable hunting grounds for predatory birds. Kestrels have been seen hunting by day, and at night tawny, little and, most recently, barn owls have hunted on the site: barn owls have nested at Dry Street Farm, and the washland and meadows provide vital foraging territory for this population. Tawny owls nested in an adjacent old oak beside the Bridleway in 2004 (after the ancient, TPO-protected oaks alongside the Bridleway were damaged in February 2005 by contractors working at the behest of English Partnerships,

tawny owls ceased nesting there for a few years). Kestrels nested in the dense thicket immediately adjacent to the equestrian centre in 2003. Sparrowhawks hunt among the hedgerows and meadows, and they nest in the vicinity: one nest was located in a tall hawthorn in the Wildlife Trust territory immediately to the north of the North-West Meadow in 2006.

BAP species associated with the site

Mention has already been made of the lapwings, which have their winter roost on one of the meadows. While not formally a BAP species, the lapwing is nevertheless the object of considerable concern nationally.

Some other species occurring on the site are BAP species, as detailed below.

Skylarks were a regular feature of the meadows up until 2004, and they probably nested. The major disturbance by contractors on the site in 2005 appears to have been a factor in their not appearing regularly in 2005, but they have appeared regularly since then. They still frequent nearby sites, within half a mile of the Dry Street meadows (Hollow Field and Scranches, both on Dry Street Farm).

Song thrushes are resident and breeding; the large populations of garden snails (*Helix aspersa*), banded snails (*Cepaea hortensis* and *C. nemoralis*) and Kentish snails (*Theba cantiana*), as well as the varied array of other invertebrates, berries and seeds make the Dry Street site a valuable one for this species. Two substantial ‘anvils’ with broken snail shells beside the washland in April 2006 testified to its importance as a feeding ground.

Linnets occur regularly, and it is very likely that they breed in the hedgerows (and, before the clearance of scrub growth in 2005, among the bushes in the North West meadow).

There is a resident small population of bullfinches in the immediate area, and breeding on the site in the 1990s was confirmed. Given the continued appearance of these birds in the immediate vicinity, it is likely that they continue to frequent the site and indeed breed there.

Reed buntings occur in the vicinity of the washland, and possibly breed there.

Turtle doves occurred regularly throughout the 1990s in summer and their calls were audible from the adjacent Bridleway. There is uncertainty about their continued presence, and a check in due season is needed.

Spotted flycatchers were recorded in the 1990s in the immediate vicinity (adjacent to Fletchers).

Yellowhammers (not a BAP species, but a species giving cause for concern) frequent the meadows in small, mixed flocks of finches in winter. They breed within half a mile of the site, on Dry Street Farm, the nearby country park (two or three pairs in each year recently, near

Hawkesbury Bush), and on the adjacent EWT reserve. Restricted access has made it impossible to verify whether breeding takes place on the site.

Another species of worryingly restricted numbers is the grasshopper warbler. A singing male was present on the washland for several consecutive summers, suggesting that breeding was taking place regularly. Not heard in the past couple of years.

Significance of the horse-grazing regime

The fact that these meadows are grazed for significant periods has some bearing upon the bird life of the site. There is relatively little disturbance from members of the public and their dogs, and this appears to be a factor in the selection of the meadow south of Fletchers as a winter roost.

List of species recorded on or over the site, with commentary where relevant

Cormorant (flying over)

Little Egret (flying over)

Grey Heron

White Stork (one standing in one of the meadows, 16 June 2008)

Canada Geese (flying over)

Mallard (several, frequenting swamp area in winter)

Buzzard (pair, overflying, April 1996; increasingly evident in recent years)

Sparrowhawk (regular resident; nests in close proximity)

Red Kite (overflying, Sept. 1995; increasingly evident in recent years)

Osprey (juvenile, overflying, Sept. 1995; passage migrants over Langdon ridge)

Hobby (11 May 1997 over washland; encountered in the area virtually every year since)

Kestrel (resident; nests in close proximity)

Pheasant (quite numerous, breeding: appreciated by local folk)

Corncrake (passage migrant, heard calling in spring 1994 and 1995)

Moorhen (possibly breeding in wetland area)

Lapwing (flocks, roosting and feeding, each winter, 1996 onwards)

Snipe (regular in winter, meadows and washland; breeding in washland suspected, 2002)

Common Gull (winter flocks, roosting and feeding)

Black-headed Gull (winter flocks, roosting, feeding; summer hunting of flying ants)

Stock Dove (regularly feeding on meadows, late 1990s)

Wood Pigeon (frequent)

Turtle Dove (regular summer visitor, apparently nesting up to 2004)

Collared Dove (frequent)

Cuckoo (regular summer visitor; apparently dependent on dunnocks as host species)

Little Owl (regular in 1990s, nesting at Dry Street Farm)

Tawny Owl (regularly breeds in vicinity; hunts over the meadows)

Barn Owl (glorious recent addition to neighbourhood, hunting over the meadows)

Swift (hunts over the meadows; breeds on tall buildings, hospital and town centre)

Green Woodpecker (regular feeder on meadows; nests in adjacent Bridleway trees)

Great-spotted Woodpecker (regular; nests in hedgerow trees, incl. 2006, Bridleway oak)

Lesser-spotted Woodpecker (nested in hedgerow ash-tree, 1998; not common)

Skylark (regularly singing over meadows, probably nesting)

Swallow (nesting in stable buildings; feed over meadows, incl. in autumn build-up)

House Martin (nesting in stable buildings; feeds over meadows)

Yellow Wagtail (occasional summer visitor, recorded in 1990s)

Pied Wagtail (occurs regularly; possibly nesting on hospital site)

Starling (substantial winter feeding flock; breeds in tree-holes, buildings, etc nearby)

Waxwing (rare winter feeding flocks in hedgerows, incl. 1996)

Jay (resident species, frequent, breeding nearby and possibly on site)

Magpie (resident, numerous, possibly breeding on site)

Jackdaw (winter feeding on meadows; less evident in summer)

Carrion Crow (seen regularly; nest nearby, and possibly on site on occasion)

Dunnock (resident breeding population)

Wren (resident; frequents hedgerows; possibly breeding)

Chiffchaff (regular summer visitor, possibly nesting in the hedgerows)

Willow Warbler (scarce latterly, heard along Bridleway; more evident in 1990s)

Whitethroat (regular summer visitor; nesting confirmed near washland)

Lesser Whitethroat (summer visitor; singing males heard on occasion)

Garden Warbler (summer visitor; singing males heard)

Blackcap (regular summer visitor; nesting known in past; singing males often heard)

Grasshopper Warbler (male sang regularly for several years in washland; nesting likely)

Goldcrest (frequents high hedgerows in winter)

Spotted Flycatcher (recorded in late 1990s)

Wheatear (passage migrant, various years, incl. 3 on 11th May 2012)
Robin (resident and frequent)

Nightingale (singing in margin Bridleway hedgerow, 1997-c. 2001)

Ring Ouzel (passage migrant, 1995; seen on Langdon Hills in other springs)

Blackbird (resident breeding population; enhanced by inward winter migration)

Redwing (substantial winter feeding flocks, on both hedgerows and meadows)

Fieldfare (similar status to redwing)

Mistle Thrush (regular breeding, plus winter feeding influx)

Song Thrush (resident, and breeding in the area; winter influx)

Blue Tit (common resident)

Coal Tit (seen sparingly in 1990s; less evident currently)

Great Tit (common resident)

Long-tailed Tit (breeds in blackthorn hedge; regular feature of the hedgerows)

Tree Creeper (frequents the old trees alongside Bridleway)

House Sparrow (resident, breeding in adjacent buildings and possibly trees)

Chaffinch (frequent; resident population, plus winter influx)

Brambling (infrequent winter migrant, on hawthorn berries)

Bullfinch (small resident population in the area; breeding confirmed in 1990s)

Greenfinch (plentiful; breeds in the area; influx in winter)

Siskin (seen in winter)

Goldfinch (breeds in the area; frequently encountered, especially feeding)

Linnet (breeds in the area; seen and heard frequently)

Yellowhammer (heard each spring; possibly nested in washland)

Reed Bunting (washland area)

77 species.

Species in the above list that have special protection under Schedule 1 of the Wildlife and Countryside Act, 1981

Corncrake

Hobby

Red Kite

Barn Owl

Fieldfare

Redwing

Species in the above list that figure on the BTO/RSPB Red List of Birds of Conservation Concern, 2002-2009

Corncrake

Lapwing

Turtle Dove

Cuckoo

Lesser-spotted Woodpecker

Skylark

Yellow Wagtail

Ring Ouzel

Fieldfare

Song Thrush

Redwing

Grasshopper Warbler

Spotted Flycatcher

Starling

House Sparrow

Linnet

Yellowhammer

Species in the above list that figure in the BTO/RSPB Amber List of Birds of Conservation Concern, 2002-2009

Red Kite

Osprey

Kestrel

Snipe

Black-headed Gull

Common Gull

Stock Dove

Barn Owl

Swift

Green Woodpecker

Swallow

House Martin

Dunnock

Wheatear

Nightingale

Mistle thrush

Whitethroat

Willow Warbler

Bullfinch

Reed Bunting

B. The Mammalian Fauna of the Dry Street Site

Introduction

Located so close to both an extensive nature reserve and a traditional mixed farm, and with a sizeable country park in close proximity, it is unsurprising that the Dry Street meadows site has a substantial recorded mammalian population.

Some of those species are of lowly status in terms of any protection afforded to them: brown rats and grey squirrels are largely visualised as non-native verminous colonists. Some others, however, enjoy protected status in terms of current legislation, and extreme care needs to be taken to safeguard their interests.

Badgers enjoy particular status in this respect, and the resident badger population at Dry Street has been the object of specialist investigation, both at the behest of English Partnerships and at the initiative of the Basildon Natural History Society, with the Badger Conservation Trust also involved.

Species recorded

Badger (*Meles meles*) At least two setts involved, each quite extensive; much feeding activity on the meadows and in adjacent gardens; breeding on the site, both at a main sett near Dry Street and at so-called outliers, i.e. subsidiary setts that are used on occasion.

Fox (*Vulpes vulpes*) Resident breeding population, with cubs seen in 2006 and previous years.

Stoat (*Mustela erminea*) Hunts on site. Seen by a resident of Rantree Fold, hunting rabbit in meadow to the south of his place, 2005; known to breed just a few yards to the south of the site, in the hedge in front of the stackyard at Dry Street Farm, 2006 and subsequently; likely to be breeding on the site, given the rabbit population. Seen alongside Dry Street on various occasions since 2006, including near the hospital in June 2010.

Weasel (*Mustela nivalis*)Seen on the site, and likely to be breeding. Reported by a resident of 2, Fletchers, April 2006, whose cats caught and killed two weasels. Reported from the stackyard of Dry Street Farm, adjacent to the equestrian centre, in June 2006. Reported dashing across Dry Street in vicinity of Longwood stables complex on various occasions, the most recent being 17th May 2012.

Rabbit (*Oryctolagus cuniculus*) Fluctuating numbers, in some years quite numerous. Seen regularly in the West Meadow (especially near the brambles at the southern end). Also reported by a resident of Rantree Fold as occurring regularly in the meadow to the south of his garden.

Brown Hare (*Lepus europaeus*) Seen occasionally before 2006; single animal in the meadow south of Fletchers reported by the resident of 17, Fletchers, April 2006; known to occur on Dry Street Farm to the south of the site.

Hedgehog (*Erinaceus europaeus*)Encountered occasionally; population possibly concentrated in the urban area immediately to the north of the site. Dobson (2003) cites records for 1995 and 1996 gleaned from a database, indicating presence on the hospital site as well.
Grey Squirrel (*Sciurus carolinensis*) Encountered frequently, and apparently resident on the site.
Mole (*Talpa europaea*) Small population.
Pigmy Shrew (*Sorex minutus*) Widespread, although not obvious. Remains of pigmy shrews were confirmed in the pellets of barn owls nesting at Dry Street Farm, immediately opposite the equestrian centre, in 2006.
Common Shrew (*Sorex araneus*) Apparently quite numerous, and like the pigmy shrew dependent upon invertebrates. Remains were confirmed in the pellets of barn owls nesting at Dry Street Farm in 2006.
Water Shrew (*Neomys fodiens*) The discovery of the remains of a water shrew in one of the pellets cast by barn owls nesting at Dry Street Farm in 2006 (pellet no. 17 in the detailed analysis) added a further dimension to the known mammalian communities associated with the Dry Street complex. In view of the relative scarcity of this species, the discovery of evidence of a population at Dry Street is an important development. It is possible that water shrews frequent the washland located to the north of Dry Street, but there are other areas of wetland, not least that which is associated with the stream system that flows eastward from the EWT nature reserve across equestrian centre land.
Bank Vole (*Clethrionomys glareolus*) Well established in the area. Remains of bank voles were confirmed in pellets of barn owls nesting at Dry Street Farm in 2006.
Field Vole (*Microtus agrestis*) Apparently numerous in the area. Field voles constitute the single most important element in the diet of barn owls, and the remains of 46 field voles were detected in 20 pellets produced by the barn owls nesting at Dry Street Farm in 2006.
Water Vole (*Arvicola terrestris*) Cannot be ruled out on the site. Holes at the base of the south-facing bank of the washland, towards the north-west corner, and regular routes through some of the taller summer vegetation need to be checked. This applies to the stream system running through the site.
Long-tailed Fieldmouse (*Apodemus sylvaticus*) Present in the area. Not the principal prey of the barn owls nesting at Dry Street Farm in 2006, but nevertheless their remains turned up in several pellets.
House Mouse (*Mus musculus*) Despite the name, can be encountered living in open habitats as well as in buildings. Remains of a house mouse turned up in one of the pellets produced by barn owls nesting at Dry Street Farm in 2006.
Harvest Mouse (*Micromys minutus*) Likely to be associated with ungrazed grassland, such as the North-west Meadow and the area around and within the washland. Remains of harvest mice turned up in the pellets produced by the barn owls that nested at Dry Street Farm in 2006. Harvest mice have long been known from the farm site.

Brown Rat (*Rattus norvegicus*) Seen on occasion in the vicinity of the equestrian centre, as well as at Dry Street Farm immediately opposite.
Noctule bat (*Nyctalus noctula*) Recorded 08/09/2003, TQ690870 (Bernwood report); over one of the eastern meadows, 05/09/2003 (John Dobson).
Pipistrelle bat (*Pipistrellus pipistrellus*) Recorded 08/09/2003 at TQ 690870, and 13/05/1995 at TQ 691871. Recorded at several locations across the site, 5th and 11th September 2003, keeping close to treelines and equestrian centre buildings (John Dobson). Seen on other occasions, assumed this species.
Serotine bat (*Eptesicus serotinus*) Hunting over the meadows, one (possibly two), July 1997; large bat, and from behaviour assumed to be this species. A bat which is likely to be a quite regular feature of grazed meadows.

In 2008 the presence of Yellow-necked Mouse (*Apodemus flavicollis*)was demonstrated in close proximity to the Dry Street Meadows, to the south at Hawkesbury Bush, and it is possible that the population takes in the meadows.

The significance of the owl pellet data, 2006

In 2006, barn owls nested at Dry Street Farm, in a barn located directly south of the HCA site, within one hundred metres of the front of the equestrian centre. Barn owls assumed to be from this nest were observed hunting over the meadows to the east of the Bridleway, and it is reasonable to assume that a proportion of the remains dissected from pellets collected from the barn emanated from prey caught in the Dry Street meadows and the washland, thereby pointing to the presence of the various prey species on the site currently threatened with development. Moreover, the presence of said species in the wider landscape immediately adjacent to the threatened meadows is confirmed.

It is typical for barn owls to hunt field voles more than any other single species, and the presence of 46 field vole skulls or part-skulls in 20 pellets is fully consistent with this tendency. It would be misleading, however, to conclude that in the territory of the barn owls of Dry Street the other species of vole, mouse and shrew are less numerous than the field voles. Barn owls have evolved a particular dependence upon field voles and are specialised hunters of them.

The importance of the meadows north of Dry Street as an integral part of a wider mosaic of hunting territory, for owls and for much else besides, is thus indicated. The elimination of the meadows would reduce the overall wild and semi-wild landscape, in a manner that would have a direct effect upon the territorial viability of certain predatory species, which require a considerable extent and variety of habitat in order to sustain permanent populations. The implications for the nature reserve located directly to the west of the threatened meadows are considerable, with

predators that rely upon territory adjacent to the actual reserve being affected adversely if the meadows are lost.

The importance of the network of hedgerows on the Dry Street site

The Phase 1 Habitat Survey, October 2002, prepared by Bernwood Environmental Conservation Services, draws attention to the importance of the network of hedges that characterises the site. It takes the requirements of the pipistrelle bat as an example, making the point that a pipistrelle will only fly where it can receive an echo from its ultra-sonic sound calls. It is only a small bat, and its calls have a range of about 25m. They will not cross any gap greater than this distance. From a bat's perspective, the site is quite well joined-up with hedges and trees linking to adjacent areas and to the EWT nature reserve to the west. Moreover, the number of oak pollards present on and adjacent to the site allows for the possibility of suitable roosting sites (although the damage done to several hedgerow trees in February 2005 would have reduced their potential value).

Significantly, surveys of bat activity commissioned by Entec yielded evidence of widespread use of the hedgerows of the Dry Street meadows site by foraging bats.[4] The map shown in Appendix B of the cited source makes it clear that bats had recourse to hedgerows of most of the meadows in question, including those to the north and east of the overall site.

C. Reptiles and Amphibians on the Dry Street Site

Introduction

The reptile and amphibian population of the site is substantial, to the degree that all species normally indigenous to this part of England, apart from palmate newt (in Essex, more associated with long-established woodland and forest localities), have been recorded on the Dry Street site. This is fully consistent with what one would expect. The bodies of standing water, important in late winter and during the spring months, provide the conditions necessary for amphibians to breed. Moreover, the fact that human disturbance of the site is limited, and that dog and cat access is correspondingly limited, means that the reptile population is able to grow to something approaching optimal densities for such a complex of habitats. The existence of thick hedgerows and areas of unmown sward means that substantial populations of voles and mice can develop, in turn helping to sustain the snakes.

Species recorded on the site

Grass Snake (*Natrix natrix*)
This species is clearly quite numerous both on the site and around it.

The presence of grass snakes is well-documented in the surveys undertaken by Bernwood and Entec (Reptile Survey of October 2002 referred to 4; Phase 1 Habitat Survey has a reference from T. Tarpey to a grass snake in the West Meadow, 25 April 2002; the Entec Great-crested Newt survey of July 2005 makes 5 references to these snakes in adjacent ponds on EWT and Recreation Ground land, in 2 instances to 2 snakes being present). Moreover, the map appended to the Bernwood Great-crested Newt survey, October 2002, shows grass snakes (plural) to be present in the North-west Meadow, and a grass-snake was also shown in the area immediately to the west of the equestrian centre buildings.

Further corroboration is provided by the results of the BNHS 2006 door-to-door survey of streets adjacent to the Dry Street Meadows (encounters with grass snakes reported by the occupants of 133, 137, 151 and 171 Rantree Fold; 4, 10, 12, 14, 17 Fletchers; 23 and 31 Sporhams).

In 2005, grass snakes were spotted in the West and North-west Meadows on 10th and 11thApril. (RLC)
In 2006 (25th May), staff at the equestrian centre confirmed encountering grass snakes on occasion.

Adder (*Vipera berus*)
This species is present on the site, apparently in some numbers.

The Bernwood and Entec surveys yielded no direct experience of its presence, although Bernwood's Phase 1 Habitat Survey and Protected Species Survey (February 2004), clauses 7 and 28, referred to anecdotal evidence of adders given by the owner of Ashlands (sic). It was surprising that the Reptile Survey of October 2002 (Bernwood) involved no encounter with this species, although a closer examination makes it clear that the washland was not surveyed (clause 13), and that there appears to have been no survey of the West Meadow, since there are no records of any reptiles given for that field. Both of these parts of the Dry Street site have yielded adders.

The Ecology – Key Issues report (Bernwood, June 2003) makes the point that "adder may be anticipated", after noting that three other reptile species were recorded in 2002.

The BNHS 2006 door-to-door survey provided substantial evidence of this snake turning up in, and adjacent to, the gardens of houses backing onto the meadows, with encounters reported from 137, 149 and 171 Rantree Fold; 2,4,12,14,15,17 Fletchers; 23 and 31 Sporhams.

In 2005, 4 adders were encountered basking in the sunshine along the south-facing hedgerow of the West Meadow (2 singletons, 2 together), on 10th April (one grass snake also present along the same hedgerow). On 12th April, a large female adder was seen basking at the base of the western hedge of the North-west Meadow. (RLC)
In 2006, 2nd June, a large female was seen basking in the washland. (RLC)
On 25th May 2006, staff at the equestrian centre confirmed encountering adders on occasion; one was seen in spring 2006 in the meadow-edge behind the stables.
Encounters with adders have continued in subsequent years, the most recent being 11th March 2012. Clearly, the snakes are still present.

Slow Worm (*Anguis fragilis*)
The abundance of these lizards on the site is well-documented.

The Bernwood Reptile Survey of October 2002 refers to 50 being counted during the period April-June 2002, and speaks of an “exceptional” population (clause 15). The map appended to Bernwood’s Great Crested Newt Survey and Assessment (October 2002) shows slow worms (plural) on the North-west Meadow and in the vicinity of the equestrian centre buildings. Reference is also made to their presence in a hedgerow north-east of the marshy meadow.

The Bernwood survey did not cover the washland – but site visits by RLC in 1998 yielded remarkable numbers under pieces of wood in the main washland area. Subsequent visits have also yielded slow-worms when likely cover was upturned at relevant times of the year.

Similarly, several slow worms were discovered when suitable coverings were disturbed during the course of a visit to the grassy bank located in the western part of the college site (27th April 2006).
In addition to the typical form, there is a very much rarer form which is dark grey in colour, with small blue spots over the surface (var. *colchica*). This has been found elsewhere on Langdon Hills in the past but its occurrence is decidedly rare. One of the slow worms encountered in the washland in spring 1998 was of this form.

Viviparous Lizard (*Lacerta vivipara*)
Such is the grassy nature of so much of the site, with exposed banks and plenty of items suitable for both basking and cover, that the presence of lizards is characteristic.

Bernwood's Reptile Survey of October 2002 refers to 6 counted during the period April-June 2002. Bernwood's Phase 1 Habitat Survey, February 2004, refers to lizards beside Dry Street, and in the meadow immediately to the north of the washland (clause 27).

Individual lizards were seen in the North-west Meadow in April 2005, and in the washland on various occasions (RLC). Adult seen at Ashdale, July 2006 (E. Moore).

Lizards have been encountered on several occasions since then, the most recent being in May 2012.

Great-crested Newt (*Triturus cristatus*)

The presence of great-crested newts on the Dry Street Meadows site has been demonstrated. The probability of their presence had been established through checks on ponds in the surrounding area during the spring months, with populations shown to exist on the EWT reserve (ponds complex north-west of the junction of the Bridleway with Dry Street, and Sweetapple's Pond), in the pond on the recreational ground located to the north of the North-west Meadow, the pond at the Hospice, and other, more far-flung ponds (Great Crested Newt Survey and Assessment, Bernwood, October 2002). Clause 51 of that survey spoke of the "likely presence on site" of these newts.

Entec's Great Crested Newt Survey of July 2005 involved checks of standing water on the site in May 2005, and demonstrated the presence of a breeding population in what it called Pond 1, located to the north of the equestrian centre's buildings, in the ponded section of the stream (up to 4 individuals at a time). A nearby seasonal pond had one individual.

This corresponds to RLC's impression of the bodies of water in question, where small newt populations were encountered in 2002 and 2004.

Remarkably, no survey of great-crested newts has been undertaken on the washland, even though for several months in spring-early summer there is usually standing water in part of the washland.

Further corroboration of the presence of these newts in the immediate vicinity was provided by the 2006 BNHS door-to-door survey, which yielded various references to these newts in gardens adjacent to the meadows, the most significant of which involved the discovery one winter of 7 of these newts hibernating at 21 Sporhams, and a similar number at the same time of year at 23 Sporhams. Furthermore, it was Dr. Anthony Millwood's regular experience to find significant numbers of these newts in the hospice pond each spring.

Significant reservations about the timing of the Entec survey, and the basis upon which calculations were made, are given below.

Smooth Newt (*Triturus vulgaris*)
This newt appears to exist in modest numbers, frequenting the standing bodies of water in springtime.

The Bernwood study (October 2002) demonstrated the presence of this species in spring in the two small ponds located in the marshy field behind the equestrian centre.

The Entec Great Crested Newt Survey of July 2005 also demonstrated the presence of this species in the greater of these ponds (the one occupying a partially-blocked section of the stream, and referred to as Pond 1) in May 2005, with 11 recorded on 19th May and lesser numbers on other occasions in that month.
These findings are consistent with what is known about that pond in the BNHS.

Common Frog (*Rana temporaria*)
Frogs occur in the vicinity of the site, and are known to breed in the EWT pond complex located in the south-east corner of the reserve, close to where the Bridleway joins Dry Street (e.g. 1 seen, 18 July 2006, RLC). They also occur around the larger EWT ponds located on Rough Piece (e.g. 1 caught by an adder, 15 July, 2006, FL).

The Entec study (July 2005) referred to frogs seen at Sweetapple's Pond (26 May) and the Recreation Ground pond (31st May).
In 1998, frogs were breeding in the blocked stream pond on the Dry Street Meadows site (Pond 1 on the Entec study), and tadpoles were present (RLC).

Common Toad (*Bufo bufo*)
Toads do not figure on the Bernwood and Entec studies of the site and its environs. This silence is consistent with the overall impression that toads have declined in this area in recent years. They were known to be present during the 1990s, and frequenting ponds in the vicinity of the Dry Street site (e.g. the Hospice pond, *pers com* A. Millwood).
Whether the decline is temporary or more lasting remains to be seen.

The Bernwood and Entec studies relevant to amphibians

The method prescribed by English Nature for establishing the **presence or absence** of Great Crested Newts requires undertaking up to four survey visits in suitable weather conditions (average night air temperature >5 degrees C) from mid-March to mid-June, with at least 2 of these visits made between mid-April and mid-May. When estimating the **size of the population**, English Nature recommends that, where possible, 6 site visits should be made, with 3 being undertaken between mid-April and mid-May. This is referred to in the Entec July 2005 Survey (p. 5).

In fact, it would appear from pp. 9-12 of the Entec 2005 Survey report that the study did not meet the latter criteria: visits were made on 11th, 16th, 19th, 25th, 26th and 31st May. That no visit was made before 11th May was unfortunate, and might jeopardise the assumptions and calculations upon which the nature conservation value of the investigated water bodies was calculated (see Table 5:1 of the Entec 2005 Survey).[5]

The Bernwood 2002 study met the criteria for establishing the presence or otherwise of Great Crested Newts, and where relevant sought to meet the further criteria for assessing population size. Interestingly, the Bernwood study also took into consideration the percentage of the pond shoreline that was surveyed when calculating the population of newts at each assessed pond, prior to determining the population class size as per English Nature criteria (see clauses 37 and 38 of the Bernwood 2002 survey). There is no indication in the Entec study that this variable was taken into consideration, and this detracts from the authority with which the population size of the ponds surveyed was ultimately determined in the 2005 study (see Table 4.5 of the Entec 2005 Survey).

In 2005, Entec established that a population of Great Crested Newts was present in Pond 1 (in the partially-blocked stream). Unfortunately, Bernwood found that conditions in the spring of 2002 were drier, and with inadequate or no standing water breeding appears to have been unsuccessful that year.

Curiously, although studies were made of ponds located on land adjacent to the Dry Street Meadows site, the substantial pond in the yard of Dry Street Farm, located opposite the equestrian centre, was not studied. This too has a population of Great Crested Newts. Moreover, there was no liaison established with the owners of garden ponds backing onto the Dry Street Meadows.

D. Butterflies recorded on the Dry Street Meadows site, 1990s-2012

Introduction

The Langdon Hills ridge, of which the meadows are part, is one of the richest areas for butterflies in the entire county. Several of the scarcer species have long-established colonies on the ridge, and the total number of species recorded since the 1960s is 33. One of these, the dingy skipper, appears to be extinct throughout the county now, but 31 are still present.

The Dry Street meadows support a high proportion of these species, as can be appreciated from the species list below.

Species recorded

Small Skipper*”[6]

Essex Skipper*”

Large Skipper

Grizzled Skipper (increasingly scarce species; confined in Essex to the Langdon ridge)

Large White

Small White”

Green-veined White*

Orange-tip

Brimstone

Clouded Yellow (migrant; several seen in the washland in 2000 and 2002)

Small Copper*

Brown Argus

Common Blue*”

Holly Blue”

White-letter Hairstreak (breeds on elm suckers in hedgerows; adults frequent bramble)

Purple Hairstreak (on prominent oaks in the hedgerows)

Red Admiral*” (largely migrant, with summer breeding)

Painted Lady (migrant, with summer breeding)

Small Tortoiseshell*”

Peacock*

Comma

Speckled Wood

Wall Brown (in rapid inland decline nationally)

Gatekeeper*”

Meadow Brown*”

Ringlet*

Marbled White (recent colonist, now established)

Small Heath”

28 species.

Two other species (Green Hairstreak and White Admiral) have both been recorded on the EWT nature reserve, in locations that are within yards of the edge of the site, and might on occasion venture onto it. A further species, the Silver-washed Fritillary, has colonised Langdon Hills in recent years, with numbers increasing swiftly, to the degree that this is an insect which can be expected to visit the hedgerow brambles of the Dry Street Meadows site.

Commentary

1. The Grizzled Skipper has died out from all other parts of the county: the colonies on Langdon Hills are the only remaining sites. It is a meadowland species, currently known from some meadows on the EWT Langdon Nature Reserve, two meadows on the south side of the ridge (on the One Tree Hill Country Park), and the carefully-managed slopes of the Nethermayne cutting. It also occurs on the Dry Street site, having been positively identified in the North West Meadow and in the washland. It is possible that it also occurs on other meadows on the site, but problems of access coupled with the elusive nature of what is a small species, flying for only a restricted period in spring, have militated against confirmation of its status thereupon. The larval

foodplant, Creeping Cinquefoil (*Potentilla reptans*), grows on those other meadows. The invertebrate studies commissioned by English Partnerships were undertaken at the wrong time of year to have much chance of detecting it.
The Dry Street locations are highly important, since they occupy the territory between the nature reserve and country park populations. Destruction of the Dry Street population would fragment the overall Langdon Hills population, isolating the breeding communities and threatening their longer-term genetic viability. It is no exaggeration to argue that elimination of the breeding population at Dry Street could well help to push this species into extinction in Essex.

So dramatic has been the national and well as regional decline of this species that it became a Candidate Priority Species for the UK Biodiversity Action Plan. During the period 1995-2004 it experienced a 42% reduction in what was already a restricted distribution (R. Fox, J. Asher, T. Brereton et al, *The State of Butterflies in Britain and Ireland*, Centre for Ecology and Hydrology, 2006). Then, in the national review which was undertaken under UK Government auspices (via the Joint Nature Conservation Committee) in 2007, the Grizzled Skipper was scheduled as a UK Priority Species. The most recently published data confirm the worrying trend:
– the butterfly's national distribution had declined by 17%, when data for the period 2005-9 is compared with that for 1995-9;

– JNCC figures, updated on 15/12/2010, indicate an overall decline in abundance of 64% over the foregoing 25 years.

Given these circumstances, it would be a very worrying development for the Dry Street Pastures (LoWS no Ba24) to be developed.

2. The Wall Brown is also in alarming decline, particularly at inland sites (65% reduction in distribution 1976-2004). This too is now a UK BAP Priority Species, as a result of the 2007 national review conducted by the JNCC. Never a species to occur in any numbers at a given time or location, it still occurs on the Langdon ridge.

3. The Brown Argus was the object of some concern in the 1990s, but its continued presence on Langdon Hills was never in doubt. It breeds on Cut-leaved Cranesbill (*Geranium dissectum*), a meadow species.

4. The Marbled White has undergone a remarkable expansion in its range in south Essex in recent years. Hitherto precariously confined to part of the seawall at Canvey, it gradually extended its range across the Thames-side marshes and onto the slopes of the Langdon ridge during the late 1990s. In July 2006, significant numbers of these butterflies were seen in the

washland and the meadow to the north of it, and it is clear that a breeding population now exists on the Dry street site. This is excellent news, tempered only by the threat that is now posed to the site. It is important to remember that this butterfly occurs only in this south-east corner of the county, inhabiting grassy areas.

5. The Small Tortoiseshell used to be a plentiful species in this region, but in recent years it became very much scarcer. The stables complex, with patches of nettle growing in open sunshine, is conducive to the continued breeding of this butterfly locally.

Butterfly Conservation announced in July 2006 that the rate of extinctions of butterfly species in the south-eastern counties had reached alarming proportions in recent years. The loss of these species is largely attributed to loss of habitat. The Dry Street site is so clearly a highly valuable one, of regional importance. It ought not to be destroyed.

E. Bumblebees on the Dry Street site

Introduction

The decline in the numbers of bumblebees in much of Britain in recent years has now become a matter of widespread concern, with several newspapers drawing public attention to what is a worrying issue. While some of that concern involves anxiety about the proper pollination of several crops vital to our own immediate interests, there is a wider issue of whether a serious decline in the overall insect population is going on. Is the decline of the bumble bees a symptom of a much wider problem?

Bumblebees on the Dry Street meadows

The bumblebee population of the meadows and washland site is remarkably rich. In part, this reflects the proximity to the adjacent Essex Wildlife Trust nature reserve and the country park, since both territories afford suitable habitat for bumblebees. However, the site itself is particularly good for several rarer bumblebees, because it has features essential for their survival.

It is important to bear in mind that not all bumblebee species have the same requirements. Their nesting needs vary, with some using underground holes hitherto used by small mammals, and others (the so-called carder bees) weaving loose grass nests, often in areas of dense herbage, utilising old mammals' nests on occasion. By the same criterion, some species have longer tongues than others and thus depend on different flowers. Some species – the commoner ones on the whole – are "generalists", able to gather nectar and pollen from a wider range of flowers, while a few have much more specific requirements, dictated by the types of flower that they can utilise.

The Dry Street site is remarkable because it is so varied botanically, which in turn means that it supports a wide range of bumblebee species – so much so, that it is one of the richest sites for miles around. The hedgerow brambles support a very wide variety of insects, including several bumblebee species, while the meadows with their rich assortment of clovers, vetches, trefoils and composites (from dandelions in spring to the goatsbeards, ox-tongues, knapweeds of high summer, and the autumn hawkbits) sustain a similarly rich variety. Equally important, for the rarer bees, are the bird's-foot trefoil and red bartsia: both species grow abundantly on the meadows, sustaining two of the country's rarest and most declined bumblebee species (*Bombus humilis* and *Bombus sylvarum*). Similarly, the washland with its sprawls of narrow-leaved bird's-foot trefoil (*Lotus glaber*) and, in the wetter spots, water mint (*Mentha aquatica*) support these rarer species.

It is this variety, coupled with what in effect is a sympathetic management, that is so crucial to the bees' interests: the horse grazing allows many of the flowers to grow. Without the grazing, the sward would become much denser and many of the wildflower species would lose out in the competition.

Basildon's good fortune in terms of bumblebees

It is not a widely known fact, but an important one nevertheless, that the Basildon area is blessed with some of the rarest bumblebee species in the country. Two species in particular have undergone drastic declines nationally, to the point where they are now very localised indeed and in danger of dying out altogether. Accordingly, they have been designated as UK Biodiversity Action Plan Species, and the relevant biodiversity planning statement (PPS9) accords them a degree of protection. The bees concerned are the Shrill Carder Bumblebee (*Bombus sylvarum*) and Brown-banded carder bumblebee, *Bombus humilis* (one of our loveliest bees). Lost to so much of the country, both species have so far clung on in the southern part of Essex, teetering: the Thames-side marshes and the south-facing slopes of Langdon and Hadleigh are crucial to their survival. Both species occur on the Dry Street meadows.

Another species occurs on our Basildon meadows but has become increasingly localised nationally –faced with the same crisis as the foregoing two species, and thus a proposed new UKBAP species. This is the Red-shanked Carder Bumblebee (*Bombus ruderarius*).
Nor is that all. A few species are known as cuckoo-bees – an apt name, for they parasitize other bumblebees, laying their eggs in the host's nest and thereby getting the host workers to rear the next generation of cuckoo-bees. Our Basildon meadows support some of these species, in what is a subtle series of relationships, worthy of closer study.

All told, the meadows at Dry Street, together with the washland, constitute an area of particular richness in terms of bumblebees – and that very richness implies a corresponding wealth of other insect groups, as indeed has been borne out by the invertebrate survey compiled by Peter Harvey on behalf of Entec.

Species recorded in recent years on the meadows and washland

Bombus hortorum (Garden Bumblebee) P. Harvey, 05;
Bombus humilis (Brown-banded Carder Bumblebee) P. Harvey, 05; R.L. Cole, 29/07/06 and 27/08/06 (washland), 1/09/06 (meadows). Known also from Bells Hill nearby (RLC).
Bombus lapidarius (Red-tailed Bumblebee) R.Jones, July 03; P. Harvey, 05; R.L. Cole, 05 and 06.
Bombus lucorum White-tailed Bumblebee) P. Harvey, 05; R.L. Cole, 05 and 06; nest under doorslab of 57, Rantree Fold, 06/06 (RLC).
Bombus pascuorum (Common Carder Bee) R. Jones, July 03; P. Harvey, 05; R.L. Cole, 05 and 06;
Bombus pratorum (Early-nesting Bumblebee) P. Harvey, 05; R.L. Cole, 07/06.
Bombus ruderarius (Red-shanked Carder Bumblebee) queen, apparently nest-prospecting, washland, 21/04/05, R.L. Cole. Known also from Bells Hill nearby (det. R. Payne, SouthendMuseum).
Bombus sylvarum (Shrill Carder Bumblebee) R.L. Cole, 27/08/06 (washland), 1/09/06 (meadows). Known also from Bells Hill nearby (RLC), and VangeHeights.
Bombus terrestris (Buff-tailed Bumblebee) P. Harvey, 05; R.L. Cole, 05 and 06.
Bombus vestalis (a cuckoo bee, parasitic of *B. terrestris*) R.L. Cole, 04/05. Known also from Bells Hill nearby (RLC).

Other species in the vicinity

Bombus barbutellus (a cuckoo bee, parasitic of *B. hortorum*) 21/06/06, at Bells Hill (RLC).

Comment

With ten species so far recorded, and an eleventh in the vicinity, this is a highly significant list. The total UK list of species numbers 25, three of which are extinct, with some others of only northern distribution (T. Benton, *Bumblebees*, Collins New Naturalist Series, 2006, p. 6). Altogether, 17 species of bumblebees and their 'cuckoos' have modern records in Essex – but few locations have as many as 11 species recorded for the one site.

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[1] It is worth noting, however, that the citation for the Local Wildlife Site designation included the following observation: "The invertebrate fauna includes several Nationally Scarce and at least one Nationally Rare (RDB) (and Essex Red Data List) invertebrates, including the Adonis Ladybird (*Hippodamia variegata*), the weevil *Ceutorynchus campestris,* the flower beetle*Olibrus millefolii,* the dung fly *Scathophaga scybalaria* and the Red Data Book fly *Myopites inulaedyssentericae*".
[2] The meadow referred to as Target Note 6 in Entec's Ecological Baseline Report, July 2006, p. 14 and Appendix A.
[3] Target Note 7 in the same source.
[4] See the map submitted as Appendix B (Plan of Valued Habitats/species and Protected Fauna) of Entec's Ecological Baseline Report, July 2006, and the comments on page 26 of that report.
[5] Significantly, 4 male Great Crested Newts were seen in a pond on Bells Hill on 12thFebruary 2005, and 6 on 13th February; on 11th February, the sight of a single newt rising for air during the daytime alerted me to the fact that these newts were already getting to water. The pond in question is within a mile of the Dry Street site, and it could well be that newts had been in the Dry Street ponds studied throughout February, March and April before the Entec study was commenced on 11th May. If so, the population calculations could well be unreliable, and ultimate judgment of the nature conservation value of the ponds (Table 5.1) untenable. RLC.
[6] *Recorded by Richard Jones, 2003
"Recorded by Peter Harvey, 2005

These two surveys (Jones and Harvey), commissioned by English Partnerships, between them recorded 14 species: a reflection of the time of year when visits were made, and the need for systematic coverage throughout the spring and summer seasons.