Parish Biodiversity Audit

Draft

for

Littleham

Consultation draft - April 2009

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Report commissioned by Devon County Council

North Devon's Biosphere Reserve
world class by nature

NORTHERN DEVON Coast & Countryside Service

Devon County Council

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Littleham - Parish Plan Biodiversity Project

This document has been produced as a starting point to help community action for wildlife. By starting to bring together knowledge of the natural assets of the parish, it may go someway to achieving its aim of contributing to - and stimulating ideas for – local action.

It should be emphasised that it is just a beginning. It does not represent a comprehensive account of the parish and is based very largely on existing records held by the Devon Biodiversity Records Centre (DBRC). There will be a wealth of local knowledge that can be used to build upon and improve this report. Indeed, it is important that it is seen as a 'living document' and one that belongs to the parish. It is hoped that it will be added to and refined by the people of Littleham parish in future years.

Did you know…?

The Natural Environment and Rural Communities Act (NERC) 2006

Section 40 of the NERC Act 2006 places the following biodiversity duty on all public bodies:

'Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'

The duty applies to all local authorities, including parish and town councils. Its purpose is to raise the profile of biodiversity and make it a 'natural and integral' part of policy and decision making.

The Department of the Environment, Food and Rural Affairs (Defra) has issued guidance for local authorities on implementing this biodiversity duty. It can be downloaded from Defra's website: www.defra.gov.uk/wildlife-countryside/pdf/biodiversity/la-guid-english.pdf

Introduction

Biodiversity is a term that describes all of life on earth, from the smallest micro-organism to the largest mammal, the blue whale. Life is found almost everywhere on the planet and in huge variety. Even a humble back garden may be home to thousands of species and is therefore an important part of the planet's biodiversity. The Littleham Parish Biodiversity Audit begins to describe the area's local wildlife and shows how it fits into the wider picture of biodiversity in Devon and the UK.

Littleham is a small parish of 534 ha situated about three miles south-west of Bideford near the North Devon coast. The River Yeo flows eastwards along the southern boundary of the parish and ultimately to the River Torridge. The normal tidal limit is just downstream of Mill Bridge, so there is some saline influence on the lower stretches of the River Yeo within the parish. A stream flows eastwards along part of the northern boundary. This flows into Jennetts Reservoir (part of which is within the parish) and from here through the neighbouring parish of Bideford into the River Torridge. The River Torridge flows north into the Taw/Torridge estuary, designated as a Site of Special Scientific Interest (SSSI).

Littleham parish is in the transition zone of North Devon's Biosphere Reserve and falls within the Culm Natural Area. The underlying geology here is mainly of Upper Carboniferous sandstones.

There is a narrow floodplain along the attractive tree-lined River Yeo. The land then rises steeply towards the undulating landscape of the centre of the parish, reaching an elevation of over 120 m above sea level. There are some wooded areas within the parish; Nethercleave Wood, Heale Wood and Parsonage Wood are situated on the steeper south-east facing slopes on the edge of the Yeo Valley. Littleham Wood lies in a valley in the north-west of the parish.

Other than the wooded areas the main land use in the parish is agricultural. There is a mix of arable (primarily cereals and some maize) and intensively managed pasture. The stock farms include both sheep and dairy. The fields are surrounded by traditional hedgerows which form the main biodiversity interest in this agricultural landscape. Some areas of the parish have scattered mature trees within some of the hedges.

The parish of Littleham has a total of 132 households (Littleham and Landcross parish plan, 2006). Littleham village is the main settlement, spread out along a small network of lanes, with Shutta in the west of this. There is a village pub and the parish shares the use of a village hall and playing field with the neighbouring parish of Landcross. The church, village hall and playing fields are situated on the eastern fringes of the village situated in an elevated position, mainly with a southerly aspect. From many places there are views over the countryside towards Monkleigh, Buckland Brewer and Parkham and also down to the River Yeo valley. From a few places there are panoramic views across rolling countryside as far as Exmoor to the north-east and to Dartmoor to the south.

The largest and busiest road runs along the southern boundary and the Yeo Valley. This links the parish of Littleham and neighbouring parishes with the main A386, which runs between Great Torrington and Bideford, accessed a couple of miles to the east. The village itself, and outlying houses and farmsteads, are serviced by small country lanes. There are a couple of green lanes and a few small sections of footpath and bridleway radiating out from the church. There is also a small stretch of bridleway in the west of the parish, along a green lane. According to the Littleham and Landcross parish plan

(2006) the lane between Hoops Cottage and Upadown is not on the definitive map as a public footpath but the legal process to instate it was underway at the time of the parish plan publication.

Some agricultural land is, or has been, under grant schemes including the Countryside Stewardship Scheme (many of which are now coming to an end) and the Entry Level Environmental Stewardship Scheme.

There are no County Wildlife Sites within Littleham parish. There are some broadleaved woodlands, which are significant both in landscape terms and for biodiversity. Nethercleave Wood, Heale Wood and Parsonage Wood are on the Ancient Woodland Inventory and likely to be semi-natural ancient woodland, although some areas within Parsonage Wood have been replanted.

Other features of biodiversity interest within the parish include Jennets Reservoir and Littleham churchyard. The River Yeo with associated banks and grazing marsh; streams; the orchard near Yeo Vale and green lanes also provide valuable habitats.

Notable sites and species recorded within Littleham parish are given in Appendix 1. The species include the otter which is listed in the UK Biodiversity Action Plan (UK BAP) and Devon Biodiversity Action Plan (Devon BAP). Hedgehog, brown long-eared bat, lesser horseshoe bat and the wall brown butterfly, all UK Biodiversity Action Plan (UK BAP) priority species, have also been recorded within the parish. Primrose is listed in the Devon Biodiversity Action Plan. An explanation of the Devon Biodiversity Action Plan is presented on page 37.

The parish site visit for this report was commissioned for and carried out in February 2009; it should be borne in mind that this is not the ideal season to carry out biodiversity surveys as some species will not be visible at this time of the year. A full species list recorded during the February site visit is given in Appendix 2.

Designated Sites

Designated sites are usually on private land: the listing of a site does not imply any right of public access. Records are kept with the Devon Biodiversity Records Centre (DBRC), from which the descriptions here are derived; conditions of sites may have since changed.

Ancient Woodland Inventory:

The Devon Ancient Woodland Inventory was prepared in 1986 by the Nature Conservancy Council (now known as Natural England).

Ancient Woodland is a term applied to woodlands which have existed from at least Medieval times to the present day without ever having been cleared for uses other than wood or timber production. A convenient date used to separate ancient and secondary woodland is about the year 1600. In special circumstances semi-natural woods of post-1600 but pre-1900 origin are also included.

Ancient woodland indicator species are plants that are slow colonisers and able to grow in the shade and hence usually only occur in older woodlands. It is not definitive and several indicator species need to be present, together with other evidence such as old maps, for a woodland to be thought of as possibly an ancient woodland. The list of indicator species will also vary with geographical location.

Nethercleave Wood, Heale Wood and Parsonage Wood are all located on the south-east facing slopes on the north of the River Yeo valley. They are all listed on the Ancient Woodland Inventory. Nethercleave Wood is situated in the south and Heale Wood in the east of the parish, and they comprise 2 ha and 3.3 ha respectively of semi-natural ancient woodland. Parsonage Wood (8.4 ha), in the south-east of the parish, is semi-natural ancient woodland with some areas having been replanted.

There are no County Wildlife Sites (CWSs); Sites of Special Scientific Interest (SSSIs); Special Areas of Conservation (SACs); Special Protection Areas (SPAs); Local Nature Reserves (LNRs); Regionally Important Geological Sites (RIGS) nor any Other Sites of Wildlife Interest (OSWI) within Littleham parish. A brief explanation of these other designations is given in Appendix 1.

Other designations and regional classifications

North Devon's Biosphere Reserve

The very special nature of the environment of northern Devon has been recognised at an international level through UNESCO's designation of a Biosphere Reserve centred on the dune system of Braunton Burrows. This designation recognises that the iconic dune ecosystem does not sit in isolation from its surrounding landscapes and so defines wider zones (buffer and transition zones) where management is sympathetic to the needs of the

core site and where sustainable development enhances the overall environmental quality of the area. Local communities are a critical part of the development and enhancement of the Biosphere Reserve and can fully participate in the management of the area through the Biosphere Reserve Partnership.

Littleham sits within the 'transition zone' for North Devon's Biosphere Reserve, recognising the part that it and its people have to play in the maintenance and enhancement of the area's natural resources.

The Vision for North Devon's Biosphere Reserve is that:

> 'North Devon will be a great place to live, work and visit where a superb natural environment underpins jobs, recreation and healthy living. The area will be a world class exemplar for sustainable development.'

and a Management Strategy and Action Plan is currently being developed to set out how that vision can be achieved.

The Land Between the Moors

The result of two years of work by local people, The Land Between the Moors strategy recognises the strong links between land and people in the Culm Area of North Devon and East Cornwall – which includes the parish of Littleham – and looks at ways in which both can be strengthened in the coming years. Under the headings of: Identity; Community; Solidarity; Nature; Harvest; and Recreation, it suggests a range of measures that will help to deliver a better and more sustainable future for this often overlooked part of Devon.

Since its publication in the spring of 2004, the aims of the strategy have been taken forward by a number of 'on the ground' projects co-ordinated by the Culm Core Group.

Natural Areas

Natural England divides the country into areas containing common or associated ecological and landscape features. The parish of Littleham sits within the Culm Natural Area. Natural England's profile summarises the Culm Natural area:

> 'The Natural Area supports an outstanding diversity of habitats and wildlife. Ancient oak woodlands along the coast, parkland, sea cliffs, maritime heathlands, maritime grasslands and Rhôs pastures are recognised as being of international importance with sand dunes, shingle banks and estuarine habitats of national importance. Other notable habitats in the Natural Area include wet woodlands, hedgebanks, rivers and streams.'

From: The Culm Natural Area – a Nature Conservation Profile – June 1997, English Nature.

Regional Nature Map

The South West Regional Nature Map, developed by Biodiversity South West in liaison with various experts, identifies blocks of land that are important for conservation in landscape scale terms. The habitats include woodland, neutral grassland, upland and lowland heath, purple moor-grass and rush pasture, coastal habitats and coastal and floodplain grazing marsh. The identified areas also suggest where recreation of these semi-natural habitats might occur. The Nature Map is hoped to be of value to conservationists, landowners and Local Planning Authorities. A section in the south-east of the parish of Littleham falls within a Strategic Nature Area for woodland.

Other habitats (identified from field survey):

Species-rich hedges

Various definitions of species-rich hedges have been used in different parts of the country but it would not be unreasonable to treat a hedge that has five or more woody species in a 30-metre length as a 'species-rich' one.

The hedges within Littleham parish vary in character. Many of the hedges along the lanes would probably be classified as species-rich with six woody species in a 30m stretch having been recorded during the site visit. These hedges are of the traditional Devon bank style, with hedges on top of large banks and are likely to be of Medieval origin. Typical woody species recorded within these hedges included hazel, oak, ash, hawthorn, blackthorn, elder, English elm and holly. Spindle was also recorded in several locations. However, due to the time of year it was not possible to survey the hedges in any detail and further surveys are recommended.

Some hedges, particularly those in the arable areas, appeared to be not on top of high banks and may be less diverse in species. Generally, species-poor hedges are probably ones created in the 1800's when new areas of land were enclosed for farmland.

Some hedges have mature trees left within them, mainly oak, which provide a nice landscape feature besides additional wildlife value. However, many hedges have been over-managed and neatly trimmed. During the site visit there were few examples of where the hedges have been allowed to grow out, and no examples seen where hedges have been recently laid. Many of the hedges have typical bank flora, including cleavers, cow parsley, greater stitchwort, primrose, herb-Robert, hart's tongue and polypody. The hedges provide sheltered corridors through areas of farmland and probably support a good variety of invertebrates.

Hedgerows tend to be taken for granted as they always seem to be there, providing such a constant in a familiar landscape. However, they do require

regular attention to keep them in good condition. That so many are still in good condition is a testament to the skill and hard work of generations of farmers. But there are changes even in the oldest hedgelines as the way the majority are managed has altered. There is now less farm labour available and more reliance on mechanical cutting rather than traditional hedge laying (or, as it is known in Devon, 'steeping').

Even the mechanical cutting has changed as reciprocating cutters that could cut shrub stems cleanly have given way to tractor-mounted flails which can tackle slightly older growth but at the expense of every stem being shattered. Flailing can actually promote bud development (on hawthorn, for example, research indicates that severe damage to the end of a branch encourages shoot development further down in the base of the plant which can help to thicken it up). However, flailing can also leave shrubs susceptible to infection. As individual hedge plants die, they leave gaps which render the hedge less effective and which would in the past have been filled when the hedge was next steeped.

With the advent of mechanical hedge-trimming has come another change - it is now possible to trim all the hedges on a farm in one year. It is this that perhaps has had the most impact on the vertebrate wildlife. Fruiting and seeding species are very much less productive and there is a different and less varied structure. Also, shrubs that do produce a good berry crop are sometimes cut in the early autumn before the birds, particularly the migrants, can gain any advantage from this food source. A couple of generations ago, many hedges on a farm might have been cut less frequently, allowing them to be much more productive in the meantime.

Recognising these changes does allow choices in the way hedges are managed in the future. Hedges can be cut on a two or even three year rotation. Alternatively, perhaps only one or two of the three 'faces' (the top and the two sides) could be cut in any one year. This wouldn't stop road or drive side hedges being cut from both the safety and visual aspects but for the majority of hedges it would have two major benefits: it would take less time (and hence cost) and it would benefit wildlife! However, whatever pattern of cutting is adopted, "all hedges, except perhaps holly, will need laying or coppicing sooner or later because they will become thin at the base. This is the best form of long-term management" (*Devon's hedges: Conservation and management*, Devon County Council / Devon Hedge Group).

Once it was realised nationally that many thousands of kilometres of hedgerow were being lost annually and that something ought to be done about it, the Hedgerow Regulations (made under Section 97 of the Environment Act 1995) were introduced in England and Wales in 1997 to protect them. The Regulations are intended to prevent the removal of most countryside hedgerows without first submitting a hedgerow removal notice to the local planning authority. The local planning authorities are only able to require the retention of 'important' hedgerows. The Regulations then set out criteria to be used by the local authority in determining which hedgerows are important (Bickmore, 2002).

In such a clearly agricultural landscape, the hedgerows and hedgebanks represent continuity as features in the landscape and provide a significant wildlife resource at a time when the fields themselves are being more intensively used. Hedgerows are often an essential corridor for the movement of wildlife and may support many animals and plants. The UK Biodiversity Action Plan (UK Steering Group, 1995 and revised in 2000) lists ancient and or species-rich hedgerows as one of its priority habitats. Species-rich hedges are also listed in the Devon Biodiversity Action Plan as a habitat of conservation concern in Devon.

Links to key habitats in Devon and UK BAP

- Species-rich hedges (Devon BAP); Hedgerows (UK BAP)

A typical hedgerow in Littleham parish

Attractive hedges on lane to church

Churchyards

Littleham parish church, St. Swithuns, lies down a pretty lane to the east of the village. The graveyard is of a reasonable size and has a generally south-facing aspect. There are a few trees, including a yew tree, holly, hazel, a conifer and a beech tree within the graveyard. The yew tree is particularly impressive and could probably be described as a veteran tree. The graveyard is currently managed by frequent mowing, resulting in a short turf. The grasses recorded during the site visit include Yorkshire-fog, red fescue, cock's-foot, bent grass and perennial rye-grass. There is an abundance of mosses, with several species, the most prevalent being lawn moss. There is a reasonably diverse range of herb species within the graveyard area. These include ribwort plantain, creeping buttercup, lesser celandine, selfheal, bulbous buttercup, oxeye daisy, speedwell, barren strawberry, cat's-ear, daisy, bitter-cress, common sorrel, primrose and pignut. According to a parishioner the number of wild flowers within the graveyard has declined in recent years, although it was thought that the early purple orchids were still present.

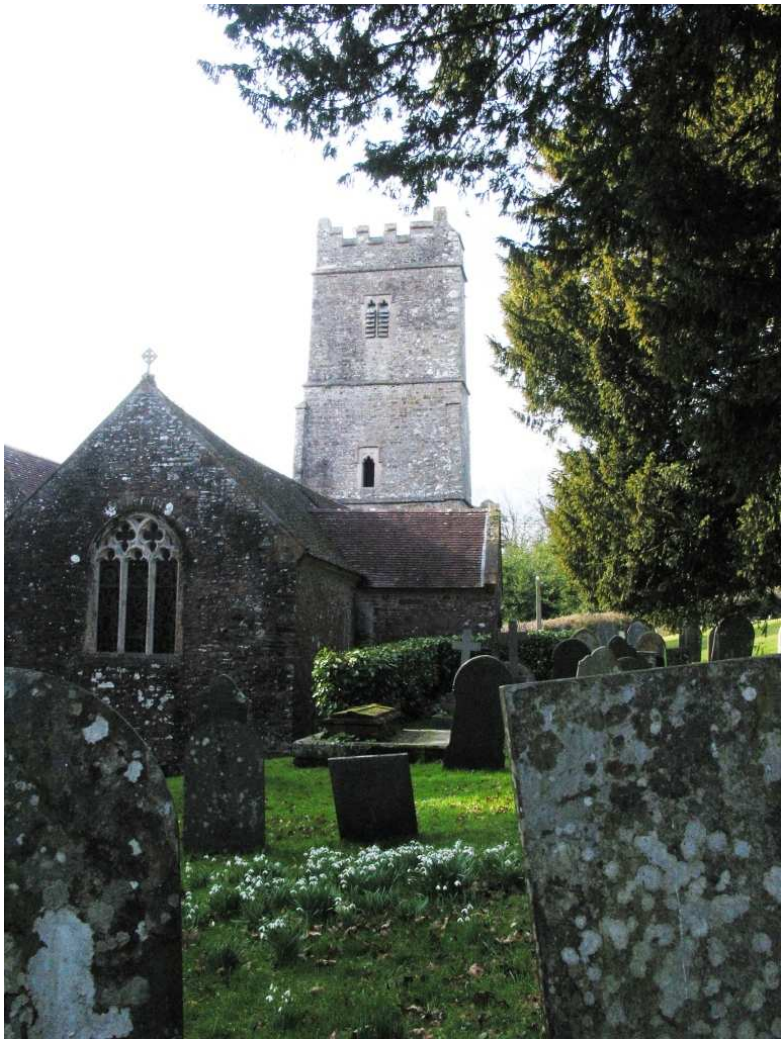
There is a stone wall on part of the southern boundary. This supports ivy, mosses, polypody and red valerian. Cracks and crevices in walls can provide value for invertebrates and reptiles. The edge ground flora near this wall includes hart's-tongue, soft shield-fern, wood-sedge, herb-Robert, primrose, remote sedge, common dandelion and snowdrop. The northern boundary has a bank with a beech-dominated hedge with bank flora including ivy, hart's-tongue, polypody, soft shield-fern, greater stitchwort, common nettle, herb-Robert, cleavers, navelwort, snowdrop, primrose, cultivated daffodil, ground-ivy, wood false-brome, bramble and yarrow. The hedge on the western boundary has sycamore and elm with ivy, hart's-tongue, bramble, holly and dog-rose. There is a sunken lane beyond the east boundary, with some mature trees growing on the boundary above the lanes bank. These are mature oaks, one of which might be described as a veteran tree.

There is a memorial bird table and nest box within the graveyard. Several birds including blue tit, great tit, goldfinch and blackbird were seen using this area during the site visit. The walls and gravestones provide an important habitat for mosses and lichens.

The graveyard is currently a valuable habitat and supports a good range of species. However there is potential for enhancing its wildlife value further. The simplest of which would be reducing the frequency of mowing on part of the site, to perhaps one cut in late summer. Further opportunities for enhancement for wildlife are covered in more detail in a later section.

Links to key habitats in Devon and UK BAP

- Cities, towns and villages (Devon BAP)



Littleham churchyard

Recreation areas and public open space

There is a reasonably large playing field, of about 1 hectare, situated opposite the village hall, to the east of the village. The area has some play equipment for younger children and movable football nets. The grass has been managed as amenity sports grassland and is of little wildlife value, but there is potential to improve the area for wildlife. There are panoramic views to the south over the rolling countryside, with glimpses of Dartmoor in the far distance.

The grassed area is quite damp and is dominated by perennial rye-grass with frequent Yorkshire-fog and occasional white clover, daisy, annual meadow-grass, common mouse-ear, bent grass and creeping buttercup. There is a wooden post and wire fence to the south. The eastern boundary comprises a bank and hedge with some grown out trees, mainly beech. This hedge also supports gorse, blackthorn, dog-rose, holly, bramble and willow. The bank flora includes Yorkshire-fog, ivy, cleavers, wood false-brome, herb-Robert, common nettle, cow parsley, red fescue, stinking iris, hart's-tongue, soft shield-fern and sweet violet. The very narrow verge next to the hedge is

dominated by Yorkshire-fog, but also has some soft-rush, creeping buttercup and hogweed. This is a nice traditional hedgerow and valuable wildlife habitat.

The traditional hedge on the northern boundary next to the road has abundant willow and blackthorn with occasional gorse with a mature oak. The bank flora includes cock's-foot, foxglove, bramble, scurvygrass, greater stitchwort, lords-and-ladies, lesser celandine, a vetch and navelwort. The hedge on the western boundary has probably been planted more recently and includes blackthorn, sycamore, ash, beech, willow, hazel and elder amongst the woody species with bramble, ivy and honeysuckle. There is a post and wire fence and no earth bank.

The playing field has considerable potential for improvement for wildlife. This could take the form of corner tree planting and leaving margins unfertilised and cut only once at the end of summer.

Littleham playing fields

There is a small grassed area to the west of the church, but it is not clear whether this is a public open space.

Area near church

There are a few public rights of way within the parish. There is a bridleway along a green lane north of Yeo Vale and another near the church and through Parsonage Wood. There is a small section of footpath near the church and a couple of green lanes with public access on the edge of the parish.

Gardens

Gardens can be havens for wildlife and can provide links to other areas of wildlife habitat. There is a network of gardens in Littleham providing a habitat link with the churchyard and surrounding countryside. On the site visit several birds were noted within the village, including house sparrow, starling, blue tit, goldfinch, pied wagtail, jackdaw, great tit, blackbird, chaffinch, collared dove and rook.

Links to key habitats in Devon and UK BAP

- Cities, towns and villages (Devon BAP)

Redundant buildings

The only redundant building seen within Littleham parish during the site visit was near the western boundary. However there may be more present. Traditional and redundant buildings can be important to a number of species including the barn owl and various bat species.

Possibly redundant building

Rivers and water's edge

The River Yeo flows eastwards along the southern boundary, meandering through the valley and flowing into the River Taw just east of the parish. The lower reaches of the River Yeo within the parish have some tidal influence with the normal tidal limit being just downstream of Mill Bridge.

Where viewed during the site visit the River Yeo is tree-lined, with mainly alder, willow and ash. The river, its banks and its small tributary streams provide a valuable feature and habitat for wildlife for the parish. Otters have been recorded using the River Yeo in this area, and a grey wagtail and dipper were seen on the site visit near Rudha Bridge.

There is a stream along the north-west boundary that flows into Jennetts Reservoir, part of which lies within the parish. These are also potentially valuable habitats.

Links to key habitats in Devon and UK BAP

- Rivers, streams, floodplain and fluvial processes (Devon BAP); Rivers (UK BAP)

River Yeo

River Yeo near Rudha Bridge

Ponds and reservoirs

There is a series of ponds near Nethercleave. These ponds appear to have been created fairly recently and are uniform in shape. They seem to have little if any marginal vegetation and as a result probably have less current wildlife value compared to more mature ponds, with meandering margins, varying depths and emergent and marginal vegetation. However they are still of value and the wildlife interest is likely to improve with time.

There is a small depression next to the road to the church, which could be the site of an old pond. This supports some damp-loving vegetation, but if re-instated to a pond could provide additional wildlife value.

Jennetts Reservoir provides an area of open water and associated possible fen and/or swamp vegetation. This has been identified by the Devon Biodiversity Records Centre as of potential wildlife interest and Unconfirmed Wildlife Site (UWS); an explanation of an UWS is given on page 32. Jennetts Reservoir does not have public access and was not visible from any public right of way on the site visit.

Ponds and reservoirs are important habitats for a wide range of wildlife: for aquatic and marginal flora and fauna; as a breeding place for frogs, toads, newts and dragonflies; together with a drinking and bathing place for birds and other animals.

Links to key habitats in Devon and UK BAP

- Ponds (UK BAP)

Ponds near Nethercleave

Roadside verges

The largest road runs along the Yeo valley in the south of the parish; the parish is otherwise serviced by small country lanes. The majority of these lanes have traditional hedges either side. Some, although not many, have verges, some of which can be floristically diverse. Plant species recorded in verges during the site visit include ribwort plantain, creeping buttercup, cock's-foot, false oat-grass, cow parsley, common knapweed, broad-leaved dock, red fescue, Yorkshire-fog, red campion, foxglove, nipplewort, common mouse-ear and creeping thistle.

Roadside verges often support flower-rich grassland, as well as a variety of other semi-natural habitats. They may also support populations of scarce or

declining species of flora and/or fauna, some of which enjoy statutory protection. Linear grassland habitats provide a valuable wildlife resource. Verges provide shelter and food for a variety of species from small mammals, to birds of prey and insects.

Devon has a very substantial resource of roadside verges, with approximately 14 000 km of roads, corresponding to about 2 000 ha of roadside verge. However, of this very large resource, the area that is species-rich is relatively small and localised in distribution.

Devon County Council and Highways Agency manage roadside verges to incorporate prescriptions to maintain or enhance wildlife interests. Devon County Council operate a Special Verge Scheme to manage areas of particular wildlife or amenity value. These verges are protected from damaging activities, and grass cutting is limited to specific periods to avoid the destruction of attractive stands of wildflowers.

Road verge near Nethercleave

Unimproved grassland

Most of the pastures within the parish appear to be improved or species-poor semi-improved grassland and no unimproved grassland was identified during

the site visit. However an area was seen from across a valley, which might prove to be unimproved grassland with bramble and bracken. This field (listed in the potential Unconfirmed Wildlife Sites section, page 32) is situated on the steep south-east facing slopes between Parsonage Wood and Heale Wood in the east of the parish.

Flower-rich meadows and pastures are a habitat of conservation concern in Devon and are listed on the Devon Biodiversity Action Plan as well as the UK Biodiversity Action Plan. Unimproved neutral grassland habitat has undergone a huge decline in the 20th century, almost entirely due to changing agricultural practice. It is estimated that by 1984 in lowland England and Wales, semi-natural grassland had declined by 97% over the previous 50 years to approximately 0.2 million ha.

Unimproved grassland is often very flower-rich and as a result of this attracts an abundance of butterflies and other invertebrates. The rich insect life in turn attracts bats such as the greater horseshoe bat and birds such as the green woodpecker.

Links to key habitats in Devon and UK BAP

- Flower-rich meadows and pastures (Devon BAP)

Possible unimproved grassland in mid-distance

Arable land

A large proportion of Littleham parish is arable, with mainly cereals and some maize crops. With winter arable crop farming the stubble is not left over the winter (which would provide food and shelter for wildlife). A few of the arable

fields within the parish had a narrow unploughed margin but the majority of the arable fields were ploughed right up to the hedges leaving no field margins, which would have been beneficial for biodiversity. There is also the potential problem of rainwater runoff from these ploughed fields, leaching nutrients into watercourses, which can cause eutrophication. This could be a particular problem with arable maize fields next to the River Yeo.

Environmental Stewardship schemes can help local farmers establish flower-rich margins in their fields and reduce surface water runoff.

Arable fields can support a number of rare arable weeds but this is usually in association with spring cereals and winter stubble. Arable weeds include cornflower, corn marigold, shepherd's-needle and weasel's-snout. Arable land in Britain has lost most of its arable plants over the last 50 years; several species have become extinct and there are many more that are now rare. Changes in arable farming practice are thought to be responsible for the losses. Technology that allowed more effective seed-cleaning caused an initial decline, but herbicide development was catastrophic for many plants. Nowadays, arable plants are generally confined to the strip along the field edge, which provides a home to many animals, invertebrates and plants.

Links to key habitats in Devon and UK BAP

- Arable field margins (UK BAP)

Typical arable field

Grazing marsh and saltmarsh

Devon Biodiversity Records Centre has identified River Yeo Marsh Unconfirmed Wildlife Site as a potential saltmarsh site. The majority of this UWS lies within Littleham parish and is located next to the River Yeo, in the east of the parish, in the upper reaches of the river's tidal range. The site was viewed from Mill Bridge and at this western end the site appeared to be more

likely to be classified as a grazing marsh. However, there would be less saline influence at this western end and a full survey would need to be carried out to determine whether any saltmarsh or grazing marsh is present. DBRC has records of otter in this area.

Although some of the floodplain fields have been ploughed and have maize crops, other floodplain fields along the Yeo valley might be classified as grazing marsh. These areas would also benefit from surveys to ascertain their importance for conservation.

Grazing marshes are areas of grassland, grazed by stock, which are seasonally waterlogged. Grazing marsh can occur inland and in coastal situations, the area having been reclaimed from the sea by a series of ditches. Grazing marshes characteristically have an open appearance with few fences or hedges. With the majority of grazing marsh occurring in East Anglia and Somerset, the relatively few examples in Devon are important to retain. Grazing marshes provide ideal feeding grounds for a range of over wintering bird species including curlew and golden plover and also provide breeding areas in the grassland for waders. The associated ditches provide important habitats for a range of submerged, floating, emergent and bank-side plant species, together with aquatic invertebrates and amphibians.

Coastal saltmarsh is listed on the UK Biodiversity Action Plan as a habitat of national conservation concern. Grazing marsh is listed in both the UK and Devon BAPs as a habitat of conservation concern at both the county and national level.

Coastal saltmarshes in the UK comprise the upper, vegetated portions of intertidal mudflats, lying approximately between mean high water neap tides and mean high water spring tides. Saltmarshes are usually restricted to comparatively sheltered locations in five main physiographic situations: in estuaries, in saline lagoons, behind barrier islands, at the heads of sea lochs, and on beach plains. The development of saltmarsh vegetation is dependent on the presence of intertidal mudflats.

Saltmarsh vegetation consists of a limited number of salt tolerant species adapted to regular immersion by the tides. A natural saltmarsh system shows a clear zonation according to the frequency of inundation. At the lowest level the pioneer glassworts Salicornia spp can withstand immersion by as many as 600 tides per year, while transitional species of the upper marsh can only withstand occasional inundation.

Saltmarshes are an important resource for wading birds and wildfowl. They act as high tide refuges for birds feeding on adjacent mudflats, as breeding sites for waders, gulls and terns and as a source of food for passerine birds particularly in autumn and winter. In winter, grazed saltmarshes are used as feeding grounds by large flocks of wild ducks and geese. Areas with high structural and plant diversity, particularly where freshwater seepages provide a transition from fresh to brackish conditions, are particularly important for

invertebrates. Saltmarshes also provide sheltered nursery sites for several species of fish.

Since medieval times, many saltmarshes have been reduced in extent by land claim. This practice continued until very recently; for instance, in the Wash 858 ha of saltmarsh were converted to agricultural use between 1970 and 1980. The land enclosed by sea walls was originally converted to grazing marsh with brackish ditches, but since the 1940s large areas of grazing marsh have been agriculturally improved to grow arable crops.

Recent saltmarsh surveys of the UK estimate the total extent of saltmarsh (including transitional communities) to be approximately 45,500 ha (England 32,500 ha, Scotland 6747 ha, Wales 6089 ha, and Northern Ireland 215 ha).

Links to key habitats in Devon and UK BAP

- Grazing marsh (Devon BAP); Coastal and floodplain grazing marsh (UK BAP)
- Coastal saltmarsh (UK BAP)

Possible grazing marsh by River Yeo

Woodlands

Some of the woodlands present within the parish could prove to be wet, oak or mixed deciduous woodlands if surveyed (this was not possible within the scope of this report, access and time of year).

Parsonage Wood, Nethercleave Wood and Heale Wood are located on the steep sided, south-east facing slopes of the Yeo Valley. They are 8.4, 2.0 and 3.3 ha respectively and at least some part of all three is listed in the Ancient

Woodland Inventory. DBRC has identified these as being likely to support semi-natural ancient woodland (with part of Parsonage Wood having been replanted), but a full survey would be needed to ascertain their full value.

The section of Nethercleave Wood visible from the road appeared to be oak-dominated with holly in the understorey and ivy and ferns, including hart's-tongue in the ground flora.

A bridleway runs through Parsonage Wood. From the path the wood appeared to be mainly oak with a few beech, ash and birch. Holly and hazel grow in the understorey, together with a few rhododendron. Bramble, broad buckler-fern, soft shield-fern, hart's-tongue and ivy grow below. Typical woodland species such as primrose, remote sedge, wood-sedge, wood sage, hard fern, lord-and-ladies and dog's mercury were recorded growing on the track's edge during the site visit.

From a distance Heale Wood could be seen to contain broadleaved trees, but little more could be ascertained from the site visit, apart from the few trees next to the road near Mill Bridge, here comprising oak together with some conifers, hazel and laurel.

There are some additional pockets of woodland, the largest being Littleham Wood, which is situated in a valley in the north-west of the parish. From aerial photographs, Littleham Wood appears to be broadleaved woodland; this was confirmed for the small section seen during the site visit in the very southern portion of the wood. The pocket of woodland near the bridge and ford east of Knowle contains ash, beech, hazel, oak and holly.

Wet woodland and certain types of oak woodland are UK Biodiversity Action Plan habitats and are also listed on the Devon Biodiversity Action Plan. Lowland mixed deciduous woodlands are also in the UK Biodiversity Action Plan habitats list.

Devon is not a heavily wooded county, but the woodlands form an essential part of the character of its landscape. Most deciduous woodlands contain some oaks. Oak dominated (English oak, sessile oak or hybrids between the two) woodlands predominately occur in the steeper river valleys, particularly in southern Dartmoor, and less so across Devon's lowland areas, here usually in small blocks. The ground flora of oak woodland is generally rich, with mosses ferns and woodland species such as bluebell and dog's mercury. Oak woodlands are also a good habitat for a variety of birds and invertebrates. They are associated with a number species of conservation concern: mammals such as the dormouse and certain bats (pipistrelle, greater and lesser horseshoe bats); birds (including the redstart, pied flycatcher, wood warbler); butterflies (including the silver washed and pearl-bordered fritillary; purple emperor and wood white) and moths (such as the orange upperwing and double line) together with plants such as the bluebell, wild daffodil and endemic whitebeams. These oak woodlands are threatened by such factors as neglect and lack of management, inappropriate grazing pressure, invasive species (for example rhododendron) and softwood forestry.

No wet woodland was identified during the site visit. Wet woodland occurs on poorly drained or seasonally wet soils, usually with alder, birch and willows as the predominant tree species, but sometimes including ash, oak, pine and beech on the drier riparian areas. It is found on floodplains, as successional habitat on fens, mires and bogs, along streams and hillside flushes, and in peaty hollows. These woodlands occur on a range of soil types including nutrient-rich mineral and acid, nutrient-poor organic ones. Wet woodland supports a rich lichen flora as well as a rich invertebrate flora. Such an abundance of insect food attracts a rich assemblage of breeding birds including the uncommon willow tit. Wet woodland may also provide lying up areas for otters and suitable habitat for dormice.

Links to key habitats in Devon and UK BAP

- Oak woodland (Devon BAP)
- Lowland mixed deciduous woodland (UK BAP)

Nethercleave Wood

Parsonage Wood

Orchards

There is an orchard near Yeo Vale in the south-west of the parish next to the bridleway. There may also be others within the parish.

Traditional orchards have great cultural and landscape importance and can be really valuable habitats for a wide range of species from fungi and lichens, through insects and other invertebrates, to birds and mammals. As there is no herbicide use in most old orchards, the range of species will be even greater.

The trees themselves play host to a variety of mosses, lichens and often mistletoe. The old trees can be fantastic for hole-nesting birds. The large amount of deadwood in the trees provides an important habitat for insects and fungi including some very rare ones. For example, the noble chafer, is a UK Biodiversity Action Plan priority beetle associated with old orchards.

With such a wealth of fruit and insects available in old orchards, it is only to be expected that there is a wide range of feeding opportunities for birds and mammals. Birds such as woodpeckers (green and great-spotted), nuthatches, treecreepers and tits may be seen on tree trunks and hollow branches. Fieldfares, starlings, redwings, thrushes, blackbirds and jays will be feeding on the fruit (on or off the tree). Orchards are also home to a number of declining bird species, including the spotted flycatcher.

If it has escaped sprays and fertilisers, and particularly if traditional management such as a hay cut or grazing has been kept up, the ground beneath can be covered with wild flowers such as cowslips, daisies, knapweed and trefoils.

Losses of traditional orchards have been severe in recent decades, with estimates ranging from 40 per cent to 95 per cent loss. Orchards have been grubbed up to make way for other crops or for urban development.

Orchard near Yeo Vale

Veteran trees

Natural England has defined veteran trees as: "trees that are of interest biologically, culturally or aesthetically because of their age, size or condition". In relation to oak it has been taken that trees with a diameter of more than:

- 1.0m (girth 3.1m) are potentially interesting
- 1.5m (girth 4.7m) are valuable in terms of conservation
- 2.00m (girth 6.3m) are truly ancient.

Veteran trees will be at least as big as these girth measurements:

- 1 metre - Hawthorn, blackthorn
- 2.5 metres - Field maple, rowan, yew, birch, holly
- 3 metres - Oak, ash, scot's pine, alder
- 4.5 metres - Sycamore, limes, chestnuts, elms, poplars, beech, willows, pines, non-native trees.

It has been estimated that Britain may be home to around 80% of Europe's ancient trees. Veteran trees are large old trees found in wood-pasture and parkland, but also in a number of other locations: ancient yews in churchyards; mature oaks in hedgerows; black poplars along stream-sides; and many noble trees in ancient woodlands.

Ancient trees support particularly rich assemblages of invertebrates, fungi, mosses and lichens. Several species of bat may use hollow trees as roosting sites and birds such as tree creepers and woodpeckers feed on the insects living in the bark. Insects such as stag beetles and hornets are associated with old trees.

A number of potential veteran trees were identified during the survey. There is an impressive yew tree in Littleham graveyard. The girth was estimated to be over 3.5m, which according the criteria above would make it a veteran tree. An oak here, with a girth estimated as being over 4m, would also be classified as a veteran tree. A large, possibly veteran, tree was also noted in a field near Yeo Bridge. There were some possible veteran oak trees in the hedge along the bridleway that runs from near the church to Parsonage Wood. Some trees may be protected by tree preservation orders (TPO).

Yew tree in Littleham graveyard

Possible veteran tree near Yeo Bridge

Green lanes

A green lane can be defined as an unmetalled track with field boundaries either side. These boundaries may be banks, hedges, woodland edge, stone walls or fences and often features such as ditches or streams are incorporated within the lanes.

There are several sections of green lane bordered by hedges within the parish. There is a bridleway along a green lane just north of Yeo Vale. This is

bounded by hedges with steep banks in the southern sections where the lane is steep. The eastern hedge in the northern section is now dilapidated.

There is a small section of green lane within the north-west of the parish which joins the road east of Knowle. Only a small section of the green lane falls within the parish, but here it is very attractive with a diverse range of flora growing on the banks. Abundant hart's-tongue with wood sorrel, violet, ivy, barren strawberry, primrose and wood false-brome grow here. There is also a section of green lane to the north-west of Parsonage Wood, with some impressive trees in the boundary hedge. Some farm tracks may provide similar habitats.

The combination of the track, its boundaries and associated features create a landscape unit with its own microclimate and ecology. These sheltered conditions within lanes are of great importance to butterfly populations and may be more botanically species-rich than single hedge boundaries.

Links to key habitats in Devon and UK BAP

- Species-rich hedges (Devon BAP); Hedgerows (UK BAP)

Green lane near Knowle

Green lane north of Yeo Vale

Pits and quarries

There are no major pits or quarries within Littleham parish, but there are some small old stone quarries, probably used for building houses many years ago, such as the one near the track in the north-west section of Parsonage Wood and a couple observed just off the road that runs along the River Yeo valley. Disused quarries are often grown over with vegetation and can be useful for wildlife for food and shelter to animals and providing a link to other features such as hedgerows. Pits, quarries and cuttings are listed on the Devon Biodiversity Action Plan as habitats of conservation concern in Devon.

Links to key habitats in Devon and UK BAP

- Pits, quarries and cuttings (Devon BAP)

Unconfirmed Wildlife Sites

The Devon Biodiversity Records Centre has identified two Unconfirmed Wildlife Sites in Littleham parish. These are sites identified as having possible interest but which have not been fully surveyed. Access was not possible during this survey. Either or both of these sites may contain areas of significant wildlife interest and further surveys would need to be done to determine whether they are of sufficient quality to be designated. The Unconfirmed Wildlife Sites identified by DBRC, along with an associated map showing their locations, are also listed in Appendix 1.

Unconfirmed County Wildlife Sites within Littleham parish.

Site Name	Grid Ref.	Area (ha)	Description
Jennetts Reservoir	SS444247	6.2	Open water and fen/swamp habitats
River Yeo Marsh	SS456238	8.0	Potential saltmarsh

In addition the following sites were identified from roads or public rights of way during the site survey as being potential Unconfirmed Wildlife Sites:

Location	Grid Ref.	Description
Field between Parsonage Wood and Heale Wood.	SS450233	Possible unimproved grassland with scrub and bracken
Yeo valley	Various between Yeo Vale and Rudha Bridge	Possible grazing marsh
Nethercleave Wood	SS440227	Semi-natural ancient woodland; AWI; Part seen from road: oak dominated, holly, ivy and ferns.
Parsonage Wood	SS448231	Semi-natural ancient woodland and replanted ancient woodland; AWI; Part seen from track, mainly oak with holly and hazel below; ferns, bramble and ivy.
Heale Wood	SS453236	Semi-natural ancient woodland; AWI; From distance broadleaved woodland

Species

Important species

A report from the DBRC database showing which legally protected, locally notable (e.g. otter) or noteworthy (e.g. Japanese knotweed) species are known to have been present in Littleham parish is presented separately (Appendix 1). Appendix 2 gives the species noted during this site visit. It should be borne in mind that February is not the ideal season to carry out biodiversity surveys as some species will not be visible at this time of the year and a further survey at a more appropriate time of the year is recommended.

Birds

Several species of birds were recorded during the survey namely blackbird, blue tit, buzzard, chaffinch, collared dove, dipper, dunnock, goldfinch, great tit, green woodpecker, grey wagtail, house sparrow, jackdaw, long-tailed tit, magpie, pheasant, pied wagtail, raven, robin, rook, skylark, snipe, song thrush, starling, wood pigeon and wren.

There are no records of legally protected or notable bird species within Littleham on the DBRC database.

Starling, song thrush, house sparrow and skylark are all on the Red List as a bird of high conservation concern, due to the rapid decline in the UK breeding populations, and are all UK BAP priority species, as a species of conservation concern. Snipe, dunnock, green woodpecker and grey wagtail are on the Amber List as bird species of medium conservation concern.

The song thrush is a common and widespread species, but their numbers are declining throughout the UK. The song thrush is partially migratory. Many of the birds that breed in the UK over-winter further south and many continental-breeding birds over-winter in the UK. The reasons for the decline in numbers is not well understood but could relate to changes in farming, severe winter weather, predation, competition and hunting in southern France (from: UK BAP species action plan).

The UK breeding population of skylark on lowland farmland has declined by 54% between 1969 and 1991. Considerable research in recent years has indicated that the most likely cause of the decline is the increase in the winter-sowing of cereals, which restricts opportunities for late-season nesting attempts because of vegetation height, and may reduce over-winter survival by reducing the area of stubbles.

Plants

Despite the time of year a large number of plant species were noted on the site visit to the parish in February 2009, these are listed in Appendix 2. Some hedgebanks and verges support a good range of plant species.

Primrose can be found at several locations throughout the parish, in hedgebanks and within the graveyard. The Primrose is listed on the Devon Biodiversity Action Plan as it is intended to help to raise public awareness of the need to conserve commonplace and characteristic elements of Devon's countryside. The primrose is not rare in Devon, but it may act as an indicator species to the health of Devon's environment, and by conserving the primrose, we may help to conserve some of the habitats in which it is found. These include woodlands, hedges, road verges and churchyards. The bluebell is protected against sale under the Wildlife and Countryside Act (1981), Schedule 8 (S).

On the site visit, spindle was found growing in several of the hedgerows. Spindle is native to most of Europe, but not the extreme south or north. It generally is found in woodland, hedgerows and scrub and likes chalk and lime soils. Wood from this tree was used to make spindles. Local names include skewerwood and pegwood in Devon. It is said that spindle will only establish in a hedge which has six other shrub species present, which suggests that the hedge must be at least 600 years old before spindle will settle in.

DBRC has a record of the nationally scarce plant, Monk's-hood, found in 1992 in the south of the parish, near Orleigh Mills. DBRC also has a record of Japanese knotweed, an invasive alien plant, in the east of the parish near the boundary with Landcross. Himalayan balsam has also been reported, by a parishioner, to be growing near Littleham Court. This is an invasive non-native plant commonly found along riverbanks and streams. It is able to project its seeds a long distance, and with seeds also being dispersed into the water to flow downstream it spreads quickly.

Mammals

DBRC has records of otter, badger, hedgehog, lesser horseshoe bat, whiskered bat, brown long-eared bat, unidentified deer species and unidentified species of bat from Littleham parish. Evidence of mole and grey squirrel were recorded during the site visit.

Otters:

DBRC has records of otter near the River Yeo. Formerly widespread throughout the UK, the otter underwent a rapid decline in numbers from the 1950s to 1970s and was effectively lost from midland and south-eastern counties of England by the 1980s. Populations remain in Wales, south-west England and much of Scotland, where sea loch and coastal colonies comprise one of the largest populations in Europe. There is also a significant population of otters in Northern Ireland. The decline now appears to have halted and sightings are being reported in former habitats. Devon has an internationally important otter population and otters are now found on most watercourses and wetlands throughout the County. Otters are even now recolonising areas where they were thought to have been lost during the 60's and 70's.

The otter is listed on the Devon Biodiversity Action Plan as a species of conservation concern and is a UK BAP priority species.

Bats:

Lesser horseshoe bat, whiskered bat, brown long-eared bat and unidentified species of bat have all been recorded within Littleham parish. Both the brown long-eared bat and lesser horseshoe bat are listed as priority species in the UK Biodiversity Action Plan.

The lesser horseshoe bat was once more widespread in Britain but is now found only in the south-west of England and Wales. It was originally a cave-roosting bat. Now most summer maternity roosts are in buildings, particularly old large houses and farm buildings, and winter hibernation sites are usually in underground sites or caves.

As the name suggests the brown long-eared bat has rather large ears, with ears almost as long as its body. This bat feeds on fairly large insects including moths and beetles. Summer roosts are usually in the roof spaces of large buildings or in hollow trees. Winter roosts can be underground sites such as in caves and possibly roof spaces and tree hollows.

These species are threatened by such things as deterioration or unsympathetic renovation of barns and old buildings; loss or damage of underground sites and loss of foraging habitat by damage or fragmentation of woodlands and old hedgerows.

All species of British bat are protected under UK law and international law. This makes it illegal to intentionally kill, injure or take a bat, or to damage, obstruct or destroy any place that a bat uses for shelter or protection.

Hedgehog:

Hedgehogs have been recorded within Littleham parish and are listed in the UK priority species list. Hedgehogs can be found in gardens, parks and within farmland. They travel about 1-2 km each night in search of food, which includes worms, beetles, slugs and caterpillars. They hibernate in winter nests (*hibernacula*) made of leaves situated in a sheltered position such as under a log pile or bush or in a garden shed. The biggest threat to hedgehogs is probably habitat loss, road kill and the use of chemicals in gardens and on farms affecting their food supply.

Brown hare:

Although there are no formal records, with suitable habitat of both arable and pasture fields and records in neighbouring Landcross parish, the brown hare may be present within the parish. The brown hare was probably introduced to England by the Romans and is fairly common in areas of arable crops and grass leys. The brown hare is a UK BAP priority species and is also listed on the Devon Biodiversity Action Plan as it has undergone a significant decline in

the last 50 years, probably associated with changes in farming practice and increased use of pesticides.

Dormouse:

The dormouse is listed on the Devon Biodiversity Action Plan as a species of conservation concern in Devon and is a priority species in the UK BAP. Although there has been no record of dormice within Littleham parish, it is possible they are present but have not been recorded.

Nationally, the dormouse has experienced a marked contraction in range in recent decades, and has become extinct in up to seven counties where it occurred in the last century, representing about half of its former range.

In Devon, the dormouse appears to be holding its own, and the county is now a major stronghold of the species. However, no detailed quantification of population change has been possible, due to lack of comparable data over time. Having said this, indirect evidence, from the losses of hedgerow length and declines in quality of hedgerows and woodlands that have occurred in the county over the past few decades, suggests that dormice may have declined in a similar fashion.

Invertebrates

Due to the time of year of the survey there were no invertebrates recorded on the parish survey. Generally there is considerable under-recording of invertebrates with few records for the parish on the DBRC database. The wall brown, a UK Biodiversity Action Plan priority butterfly species, has been recorded within the parish. The wall brown is a delicately patterned brown butterfly. It is a fairly widespread resident that has declined in numbers is some inland areas. The wall brown breeds in short, open grassland where there is some open or stony ground. Various grasses, including cock's-foot, bent grasses and Yorkshire-fog, are a food plant for this butterfly.

Reptiles and amphibians

No reptiles or amphibians were recorded during the survey due to the time of year. There are no records for notable or legally protected reptiles or amphibians held by DBRC, however it is likely that this group is also under-recorded and it is probable that some species such as the common frog are in fact present within the parish.

The Devon Biodiversity Action Plan (Devon BAP).

The Devon Biodiversity Action Plan describes the key actions needed to look after 37 of Devon's most important habitats and species. It does not stand alone, but is part of a much wider process aimed at conserving our biodiversity.

The Devon BAP is a direct descendent of a process started at the famous 'Earth Summit' held in Rio de Janeiro in 1992. At this summit, world leaders pledged to halt and reverse the loss of the planet's biodiversity. For its part, the UK government produced a series of action plans for a great many threatened habitats and species. These national plans have been joined by a series of regional action plans aimed at providing a more local perspective.

The Devon BAP builds on this endeavour, identifying local priorities and providing targets and plans of action for the County.

All of this work has one aim: to encourage practical action on the ground. Its success depends upon us all.

Biodiversity links:

- The Devon BAP can be viewed at www.devon.gov.uk/biodiversity. This site also contains links to other nature conservation issues relevant to Devon, such as information on hedges. If you do not have access to the internet and require paper copies of relevant sections of the Devon BAP please contact Devon County Council's Biodiversity Officer on 01392 382804.

- Details of biodiversity planning in the south-west region can be viewed at www.biodiversitysouthwest.org.uk.

- National Action Plans can be viewed at www.ukbap.org.uk. This site also contains useful background information on UK biodiversity action planning.

Links between the main wildlife habitats of Littleham and the Devon BAP:

Littleham wildlife feature	Brief description of feature	Link with the Devon Biodiversity Action Plan (BAP)
Traditional hedges	Extensive network of traditional hedges throughout the parish.	• Species-rich Hedges Habitat Action Plan • Primrose Species Action Plan
Rivers; Reservoirs, Ponds; Streams	River Yeo in the south of parish. Jennetts Reservoir in the north. Ponds. Streams and tributaries.	• Rivers, Streams, Floodplain and Fluvial Processes Habitat Action Plan • Otter Species Action Plan
Woodlands	Ancient semi-natural broadleaved woodland within Nethercleave Wood, Heale Wood and Parsonage Wood. Other broadleaved woodland such as Littleham Wood.	• Oak Woodland Habitat Action Plan • Primrose Species Action Plan
Grazing marsh and saltmarsh	Possible saltmarsh in River Yeo Marsh UWS. Possible grazing marsh in the River Yeo floodplain.	• Grazing Marsh Habitat Action Plan • Otter Species Action Plan
Grassland	Small areas of semi-improved and unimproved grassland, which have been protected from agricultural improvement. Road verges and Littleham graveyard.	• Flower-rich Meadows and Pastures Habitat Action Plan • Primrose Species Action Plan
Gardens and graveyard	Gardens of Littleham; Littleham graveyard	• Cities, Towns and Villages Pastures Habitat Action Plan

View the Devon Biodiversity Action Plan at www.devon.gov.uk/biodiversity.

Some Ideas for Local Action…

This section of the report is partly provided by Devon County Council (contact: nature@devon.gov.uk).

A major step towards knowing what you can do for your local wildlife and geology is to know what you have already got. This report will help you in this, but it is just a start. Ultimately, the protection and enhancement of the local natural environment requires the interest and enthusiasm of the local community.

There follow some initial ideas for local nature conservation action. Many of them will directly help to achieve the objectives of the habitat and species action plans contained in the Devon Biodiversity Action Plan.

It is by no means an exhaustive list. As a community, you may have many more ideas for action that you would like to take forward in the coming years.

1 Further surveys:

This report is just a beginning. Carrying out further survey within your area will help build a better picture of the wildlife present, and of the opportunities for enhancement. Gaining a better understanding of the resource is usually a key objective of the Devon BAP's habitat and species action plans.

Specific features to survey in Littleham might include hedges and for otter and dormouse signs. These actions would directly contribute to the species-rich hedges habitat and the otter and dormouse species action plans.

It might be useful, for example, to undertake a hedgerow survey and produce a hedgerow appraisal for your local area. Comparing the current distribution of hedges against boundary lines shown on old maps will give a clue as to how this important resource has changed over recent years. It may also highlight opportunities for restoring hedges in your area. It might also be possible to assess the condition of hedges and this may, in turn, give some ideas about improving their future management to benefit wildlife. A similar appraisal of orchards could be carried out.

Survey work could be undertaken as a community group or in liaison with conservation groups active in the area. For example, Operation Otter is an initiative organised by the Devon Wildlife Trust (www.devonwildlifetrust.org), which aims to monitor and protect Devon's otter population with the help of volunteers.

In addition, you can help to build up a picture of the state of Devon's environment by sending your records to the Devon Biodiversity Records Centre where they can be properly collated. There are surprisingly few records for the parish, so any records (including 'who', 'where', 'what' and 'when') of any species recognised is useful.

Follow the links to the Devon Biodiversity Records Centre

www.devonwildlifetrust.org

e-mail: dbrc@devonwildlifetrust.org

Devon Biodiversity Records Centre
C/o Exeter Central Library
Castle Street
Exeter
EX4 3PQ

Tel. (01392) 274128

2 Influence the management of public open space:

Creating areas of more species-rich grassland will help to reduce the isolation of the remaining fragments of traditionally managed agricultural land, contributing to the Flower-rich Meadows and Pastures Habitat Action Plan.

The graveyard of Littleham parish church, St. Swithuns, is in an attractive position being in close proximity to the surrounding countryside with a pleasant green lane nearby leading to a semi-natural ancient woodland. The graveyard provides a valuable habitat for wildlife and currently supports a good range of plant species (described in an earlier section). If desired, there is scope to enhance the area further. A decline in wild flowers has been reported, this may be due to too-frequent mowing of the grass. This will reduce or prevent wild flowers blooming and setting seed. An area of grass within the graveyard could be cut just once in late summer, like a hay meadow. This would allow more flowering and would also provide suitable habitat for additional wildlife such a certain butterflies. The use of fertilisers, herbicides and pesticides should be avoided.

Littleham churchyard

There is a sunken area next to the lane to the church, which might be the site of an old pond. If this is a public area then reinstating it to a pond could be considered with due attention to health and safety issues.

Possible site of old pond

There is an ideal opportunity for improving the biodiversity of the parish within Littleham playing fields. Apart from the boundary hedges, the area is currently rather devoid of wildlife interest. There is great scope here for improvement, but specialist advice should be sought.

Some initial ideas might take the form:

- Planting up corners with native shrubs and trees of local provenance; species could include hazel and oak.
- Hedge planting. The southern boundary is currently only post and wire; a hedge with native species, of local provenance could be planted along this boundary. Woody species that have been listed as having been found in the locality such as hazel, holly, hawthorn, blackthorn, spindle and oak would be appropriate.
- Hedge management. The northern boundary could be allowed to grow out and thereafter managed on an eight to ten-year laying cycle. Alternatively it could be trimmed in a three year cycle.
- Having an area managed like a hay meadow, by leaving areas unfertilised and cut just once at the end of the summer. An ideal location could be along the northern and eastern boundaries. Ideally the less frequently cut areas should have meandering, rather than straight, edges, to create different micro-climates and micro-habitats. The cuttings should be removed to prevent the nutrients building up and could be composed. The range of plant species might increase naturally; however plugs of wild flowers (native species of local provenance) could be introduced to the area. There could be separate

areas for spring meadows and summer meadows, although this makes the management more complicated. Species such as primrose and selfheal are suitable for spring meadows and should be cut from late June to autumn. Oxeye daisy and yarrow might be suitable for summer meadows which can be cut to 5-10cm until June and then left uncut until September or October. Selfheal and yarrow are good for butterflies and other insects; primrose for moths. In the damper areas cuckoo flower, meadowsweet or ragged-Robin might be appropriate. Creating an area of species-rich grassland will create an ideal wildlife area for people to enjoy. It will also provide a habitat better suited to certain invertebrates such as meadow brown butterflies.

- Discouraging the dumping of garden rubbish into the playing field area, as this might introduce non-native plants. A community composting system might be beneficial.
- The erection of bird and bat boxes would encourage these important species.
- The discrete erection of information boards on the local wildlife might stimulate interest.
- The construction of a pond and bog area would benefit wildlife; however health and safety issues would need to be considered carefully and the maintenance might be more than with other options.

3 Build relationships with local landowners:

Encourage the adoption of more wildlife-friendly land management. For example, hedges that are cut only every other year will provide an autumn and winter source of nuts and berries for birds and small mammals (and can save the landowner money in management costs). The improved management of hedgerows is a key objective of the Species-rich Hedges Habitat Action Plan. If the owner is willing, why not get involved with practical management, such as traditional hedge laying or pond restoration?

Farmers and landowners may be eligible for agri-environmental schemes such as the environmental stewardship which provides funding to farmers and landowners who manage their land in a specific environmental way.

Further information can be found at
http://www.naturalengland.org.uk/planning/grants-funding/es/default.htm

4 Adopt a road verge:

Many verges can have a significant value for wildlife because they have escaped the intensive management of the surrounding farmland. Ensuring such verges are managed for their wildlife is a very positive step, again contributing to the Flower-rich Meadows and Pastures Habitat Action Plan.

There are, of course, obvious health and safety implications to roadside management. It is an action that would need to be undertaken in close liaison with the relevant highways authority (generally, this is the Highways Agency

for motorways and trunk roads, and Devon County Council for all other roads).

5 Wildlife gardening:

You could 'green up' your garden! Collectively the gardens of Littleham represent a significant area that could be used to benefit wildlife. Large or small, you can turn your garden (or a part of it) into a haven for wildlife.

Various measures can be taken in varying degrees to providing water, shelter, food and places to breed, which will benefit wildlife. Your garden does not have to be big to make a contribution. Some initial ideas are:

- Planting nectar-rich plants, such as buddleia for butterflies.
- Climbing plants, such as honeysuckle, provide shelter, roosting and nesting sites for birds.
- Native trees and shrubs are beneficial for wildlife.
- Erect bird boxes for tits and nuthatches.
- Feed birds with seeds and nuts, and provide clean water.
- Use peat-free compost.
- Create your own compost bin.
- A pile of logs can provide a home for insects and perhaps a hedgehog.
- Create a wildflower meadow border. Flowers such as oxeye daisy, harebell, yarrow, primrose and devil's-bit scabious produce beautiful flowers as well as being good for wildlife.
- Construct a pond for wildlife.

Be sure to use native species with local provenance.

There are some very good sources of information on wildlife gardening:

- The Natural England web site:

www.english-nature.org.uk/Nature_In_The_Garden

(or call 01733 455101 for free leaflets on wildlife gardening).
Natural England (formerly English Nature) is the Government's adviser on nature conservation. Its web site also contains links to a number of other very useful sources of information.

- The Devon Wildlife Trust (DWT) web site:

http://www.devonwildlifetrust.org/index.php?section=people:garden

which also has links to DWT approved garden centres.

- The Royal Horticultural Society (RHS) web site:

http://www.rhs.org.uk/advice/profiles1200/wildflower_meadow.asp

which also has links to native plants to an area.

- The Natural History Museum web site:

http://www.nhm.ac.uk/nature-online/life/plants-fungi/postcode-plants/

This site has a database that can be searched to generate lists of native plants for any specified postal district in the UK. These lists are divided into annuals, biennials, climbers, bulbs/rhizomes, herbaceous perennial, large shrub/small trees, marsh plant, parasite, perennial, shrub and trees.

6 Join local conservation organisations:

The Devon Wildlife Trust is a prominent local conservation organisation. 'Barnstaple and District' and 'Dolton and Halsdon' Groups are the nearest local groups. These groups often organise wildlife walks and talks. You can also join the Littleham and Landcross Wildlife and Walking Group, details of the walks are given on the Littleham and Landcross website:

http://www.littleham-landcross.org.uk/Wildlife%20Group/Wildlife%20Group.php

7 Involvement and education:

Get children interested in wildlife. They can become members of 'Wildlife Watch', the junior membership of the Wildlife Trusts. There are many activities, puzzles and games that can enthuse and get children interested in wildlife. Some further information and ideas can be found at:

http://www.devonwildlifetrust.org/index.php?section=people:watch
http://www.wildlifewatch.org.uk/
http://www.rspb.org.uk/youth/

Devon Hedge Week is an annual event run by Devon Hedge Group (01392 382257). There is a week of hedge-related events and activities for all the family. These are aimed at raising appreciation and awareness of Devon's wonderful hedges.

http://www.devon.gov.uk/index/environment/natural_environment/biodiversity/devon_hedges

A local wildlife group or ecologist could create a leaflet for walks around the parish, highlighting the wildlife of the area. Members of the parish could take photographs of wild flowers to append and enhance this document.

Visit a local nature reserve. Stowford Moor (SS391161), to the south-west of the parish, is a Culm grassland site owned by Devon Wildlife Trust Reserve. Uppacott Wood is a woodland Devon Wildlife Trust reserve south of Barnstaple (SS555283).

Devon Wildlife Trust is currently running an ‘adopt a species’ campaign, so you can adopt a species and help safeguard its future in Devon.

Visit

http://www.devonwildlifetrust.org/index.php?section=helping:adoptaspecies

for more details.

8 Volunteer:

You can volunteer your time to do practical conservation tasks or helping a wildlife organisation with monitoring or office work. There are many ways you can help. Organisations that may be interested in volunteers include Devon Wildlife Trust, Devon Bat Group and Devon Mammal Group.

http://www.devonwildlifetrust.org/index.php?section=helping:volunteer

this also has links to other organisations.

You could set up a local group to carry out conservation tasks.

9 Community involvement in the North Devon Biosphere Reserve:

Further information about the North Devon Biosphere Reserve, the Management Strategy and Action Plan and details of how your local community can become involved can be found at:

www.northdevonbiosphere.org.uk

or the Biosphere Reserve Service can be contacted on 01237 423655

10 Link biodiversity to Littleham Parish Plan:

Littleham and Landcross Parish Council produced a Parish Plan in 2006. This recognises that the environment is a valued aspect of the parish, particularly the rural views and peace and quiet of the area. It has an action point to set up a working group to look at improving the local environment of the parish. You could get involved with this working group and encourage this and future plans to consider the impact on the biodiversity and wildlife of the parish. The parish plan also highlights some of the problems with dog fouling. The plan recognises the nearby Tarka Trail as being valued by walkers and cyclists. One of the aims listed in the Parish Plan is to encourage the use of footpaths and to consider the introduction of new ones. Access to the countryside is important to enable people to appreciate the diversity of life at first hand within their local environment.

11 Japanese knotweed:

Not something to cherish, but it can't be ignored! Unfortunately Japanese knotweed is present within the parish. Introduced into Britain by the Victorians, Japanese knotweed is a native of Japan, north China, Korea and Taiwan. It flourishes in Britain's mild and fertile environment and has no natural biological enemies here. Consequently, it is very invasive and can overrun large areas, replacing our native flora. It is a serious pest which can be so vigorous as to cause significant damage to buildings and roads. It is also a difficult plant to eradicate.

For these reasons Japanese knotweed is listed under the Wildlife and Countryside Act 1981 as a plant that is not to be planted or otherwise introduced into the wild. In addition, all parts of the plant are considered as controlled waste under the Waste Regulations.

What can you do?

- Firstly, it is important to build up a picture of where Japanese knotweed is present. This will give an idea of the scale of the problem and will help to prevent it being accidentally spread during any ditch clearance, highway work and so on. To help develop an understanding of the problem in Devon, records should also be sent to the Devon Biodiversity Records Centre[1]. Ideally, records should include when you first saw it and confirmation of when it was seen most recently; its precise location (notes or a sketch map are helpful, as is a grid reference if you have one); the kind of habitat it is in (e.g. next to running water, on a road verge), and a rough indication of how abundant it is.

- Secondly, be careful not to spread the plant further. This is all too easily done as it can regenerate from even the smallest fragment and is easy to spread unknowingly. It is important not to flail it or to try and dig it up. Often, it is best not to cut Japanese knotweed at all, but if it is it should be very carefully disposed of on site when dead or removed as Controlled Waste. Any tools used should be properly cleaned.

- Finally, if Japanese knotweed is on your land, the best way to prevent its spread is to control or eradicate it as soon as possible. Regular cutting can weaken and eventually kill the plant but it is a time-consuming job and proper disposal of the cut material can be a problem. Usually, the most effective method of control is to treat the plant with herbicide. This can take a number of years to be successful but if the plant is left untreated it will inevitably spread. A number of issues should be taken into account in deciding which herbicide to use, particularly the presence of water (where special care needs to be taken and the advice of the Environment Agency must be sought).

[1] DBRC, E-mail: dbrc@devonwildlifetrust.org

Fortunately, a great deal of advice (including an Environment Agency Code of Practice) is available on the Devon Knotweed Forum's web pages. You are recommended to view these at:

www.devon.gov.uk/biodiversity/japanese_knotweed

Useful sources of further information:

The following organisations can offer advice and information on various wildlife topics as well as organising events and carrying out projects.

British Trust for Conservation Volunteers: www.btcv.org.uk

British Dragonfly Society: www.dragonflysoc.org.uk

Butterfly Conservation: www.butterfly-conservation.org (Tel: 0870 7744309)

Devon Bat Group: www.dbg.me.uk

Devon Birdwatching and Preservation Society: www.devonbirds.org

Devon Mammal Group: www.devonmammalgroup.org

Devon Wildlife Trust: www.devonwildlifetrust.org (Tel: 01392 279244)

Natural England: www.naturalengland.org.uk
(Tel: 01392 889770; 0845 600 3078)

Plantlife: www.plantlife.org.uk (Tel: 01722 342730)

RSPB: www.rspb.org.uk

The Woodland Trust: www.woodland-trust.org.uk (Tel: 01476 581111)

The Living Churchyards & Cemeteries Project, Arthur Rank Centre, National Agricultural Society, Stoneleigh Park, Warwickshire, CV8 2LZ Tel: 01203 696969 ext.364/339.

In addition, Devon County Council has developed a Community Biodiversity Toolkit available via the DCC web site (www.devon.gov.uk/biodiversity). This toolkit aims to provide practical advice on management to encourage wildlife and, in particular, will provide a central point from which to access the large amount of advice that is already available from a huge range of other organisations

In addition to management advice, the toolkit will also provide guidance on seeking funding for project work. You may also find the following sources of funding useful.

Possible sources of funding:

Heritage Link – a funding directory supported by the Heritage Lottery Fund. A good source of information.
http://www.heritagelink.org.uk/fundingdirectory/main/fundinghome.php

Major sources of funding

Environmental Stewardship – whole farm agri-environment scheme funding.
www.naturalengland.org.uk/ourwork/farming/funding/es/default.aspx

SITA Trust - Enriching Nature: for biodiversity conservation projects within ten miles of any landfill site in England.
www.sitatrust.org.uk

GrantScape – significant sums of money often available for biodiversity action, including landscape-scale projects.
www.grantscape.org.uk/home

The Tubney Charitable Trust – large funds available but on an invitation-to-bid only basis.
www.tubney.org.uk

Esmee Fairbairn Foundation – no maximum size of grant. "Priority will be given to high quality projects that are exemplars of good practice or imaginative approaches to old problems, that have wider impact, leading to changes in the law, policy or practice or that may be viewed as difficult to support or too 'high risk' by other funders."
www.esmeefairbairn.org.uk

Big Lottery Fund – "Every year BIG gives out millions of pounds from the National Lottery to good causes. Our money goes to community groups and to projects that improve health, education and the environment." Often has large programmes relating to the environment, for example:

- *Changing Spaces: Access to Nature* - grants: £50,000 - £715,000. This programme aims to encourage more people to enjoy the outdoors, particularly those who face social exclusion.
  http://www.biglotteryfund.org.uk/prog_cs_access_nature?regioncode=-uk

- *Changing Spaces: Community Places* - grants: £10,000 - £450,000. This programme will fund community groups who want to improve local green spaces such as play areas, community gardens and parks.
  http://www.biglotteryfund.org.uk/prog_cs_comm_spaces?regioncode=-uk

Possible funding for smaller projects

It should be noted that many of these grants only have a finite pot of money and this could run out at any time. It is also important to check that your project meets any relevant funding criteria. Please check with the different organisations before applying.

Big Lottery Fund (see above) – BIG also gives smaller grants, for example:

- *Awards for All England* - Grants: £300 - £10,000. 'Awards for All gives money to projects that encourage people to take part in arts, sport, heritage and also community projects'. http://www.biglotteryfund.org.uk/prog_a4a_eng?regioncode=-uk

AONB Sustainable Development Funds -

- Blackdown Hills
- East Devon
- North Devon
- South Devon
- Tamar Valley

Biffawards - grants for biodiversity projects within 10 miles of a Biffa operation (landfill)
www.biffaward.org/projects/smallgrants.php

BBC Breathing Places – currently only vailable for projects that have reveived Breathing Places funding already. Grants of £1000 to £5000 available.
www.biglotteryfund.org.uk/prog_breathingplaces

SITA Trust - Enriching Nature: for biodiversity conservation projects within ten miles of any landfill site in England.
www.sitatrust.org.uk

Forestry Commission - grants and sources of funding available for improving biodiversity (for example, the Woodland Improvement Grant).
www.forestry.gov.uk/forestry/hcou-4u4j28

Tree Council - small grants for schools and communities for tree planting schemes.
www.treecouncil.org.uk/?q=grants

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Appendix 1 – Notable sites and species within Littleham Parish (2008)

Statutory & non-statutory sites within Littleham Parish

File Code	Site Name	Grid Reference	Area (ha)	Description	Status
SS42/091	Jennetts Reservoir	SS444247	6.2	Open water and fen/swamp habitats	UWS
SS42/096	River Yeo Marsh	SS456238	8	Potential saltmarsh	UWS
	Nethercleave Wood	SS440227	2	Semi-natural ancient woodland	AWI
	Heale Wood	SS453236	3.3	Semi-natural ancient woodland	AWI
	Parsonage Wood	SS448231	8.4	Semi-natural ancient woodland and replanted ancient woodland	AWI

Unconfirmed Wildlife Sites (UWS): these are sites identified as having possible interest but not fully surveyed. Some of these sites will be areas of significant wildlife interest.

Ancient Woodland Inventory (AWI): Ancient Woodland is a term applied to woodlands which have existed from at least Medieval times to the present day without ever having been cleared for uses other than wood or timber production. A convenient date used to separate ancient and secondary woodland is about the year 1600. In special circumstances semi-natural woods of post-1600 but pre-1900 origin are also included. The Devon Ancient Woodland Inventory was prepared in 1986 by the Nature Conservancy Council.

Additional designation types not found within Littleham parish:

County Wildlife Sites (CWS): these are sites of county importance for wildlife, designated on the basis of the habitat or the known presence of particular species. This is not a statutory designation like SSSIs, and does not have any legal status. County Wildlife Sites are usually included in Local Plans as sites of substantive nature conservation interest and are covered by Planning Policy Statement note nine (PPS9). CWS recognition does not demand any particular actions on the part of the Landowner and does not give the public rights of access. However, it may increase eligibility for land management grants.

Other Sites of Wildlife Interest (OSWI): these are sites of significant wildlife interest within a local context that have been surveyed but do not reach the criteria for County Wildlife Sites. They are not covered by PPS9, but may be included in Local Plans.

Special Protection Areas (SPAs): The Joint Nature Conservation Committee (JNCC) define SPAs as '*strictly protected sites classified in accordance with Article 4 of the EC Directive on the conservation of wild birds (79/409/EEC), also known as the Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds, listed in Annex I to the Birds Directive, and for regularly occurring migratory species'*.

Local Nature Reserves (LNRs): These are declared by local authorities in conjunction conservation organisations as areas of local importance for wildlife or geological features. LNRs give access to the public to study or learn about nature or simply to enjoy it.

Sites of Special Scientific Interest (SSSI): these are notified by Natural England because of their plants, animals or geological features (the latter are geological SSSIs or gSSSI). Natural England needs to be consulted before any operations likely to damage the special interest are undertaken. SSSI is a statutory designation with legal implications.

Special Areas of Conservation (SAC): these are notified by Natural England because they contain species and/or habitats of European importance (listed in the Habitats Directive 1994), and are part of a network of conservation sites set up through Europe known as the Natura 2000 series. On land, all candidate SACs are, or will be notified as SSSIs. Natural England needs to be consulted before any operations likely to damage the special interest are undertaken. SAC is a statutory designation with legal implications.

Regionally Important Geological and Geomorphological Sites (RIGS) are earth science sites that are of regional or local importance. Like County Wildlife Sites, they are included in Local Plans and referred to under PPG9. These may represent good examples of local rock formations or landform features or they may contain interesting fossils.

Country Park: is an area of land, or land and water normally not less than 25 acres in extent, designed to offer to the public, with or without charge, opportunity for recreational activities in the countryside. There is not necessarily any public rights of access to Country Parks and visitors are subject to any byelaws made by the local authority and enforced in the parks.

Legally protected & notable Species within Littleham Parish

No	Common Name	Scientific Name	Location	Date	Grid Reference	UK protection	International protection	Status
1	Otter	*Lutra lutra*	Hoopers	1997-2008	SS428232	WCA 5	EC IIa, IIIa; Bern II	UKBAP (P); DBAP
2	Lesser Horseshoe Bat	*Rhinolophus hipposideros*	Knowle Farm, Littleham, Bideford.	2003-2006	SS429247	WCA 5, 6	EC IIa, IVa; Bern II; Bonn II	UKBAP (P)
3	Wall Brown	*Lasiommata megera*	Jennetts, nr. Bideford	2000	SS434238			UKBAP (P)
4	a Bat	*Chiroptera*	Middle Langton, Littleham, Bideford (barns/stables/garage)	2006	SS436230	WCA 5, 6	EC IVa; Bonn II	
5	Monk's-Hood	*Aconitum napellus agg.*	Orleigh Mills, Rudha Bridge	1992	SS440225			NS
6	Lesser Horseshoe Bat	*Rhinolophus hipposideros*	Nethercleave, Littleham, Bideford.	2004	SS440226	WCA 5, 6	EC IIa, IVa; Bern II; Bonn II	UKBAP (P)
7	Whiskered Bat	*Myotis mystacinus*	Nethercleave, Littleham, Bideford.	2004	SS440226	WCA 5, 6	EC IVa; Bern II; Bonn II	
8	A bat	*Chiroptera*	Nethercleave, Littleham, Bideford.	2004	SS440227	WCA 5, 6	EC IVa; Bonn II	
9	A bat	*Chiroptera*	The Old School, Littleham, Bideford.	2006	SS442236	WCA 5, 6	EC IVa; Bonn II	
10	Brown Long-Eared Bat	*Plecotus auritus*	Edge Mill, Littleham, Bideford.	1998	SS448229	WCA 5, 6	EC IVa; Bern II; Bonn II	UKBAP (P)

11	Hedgehog	*Erinaceus europaeus*	Edgemill, Littleham, near Bideford.	2004	SS449230	WCA 6	Bern III	UKBAP (P)
12	Badger	*Meles meles*	Bradworthy Lane, Littleham, near Bideford.	2004	SS451235	WCA 6, BA	Bern III	
13	Badger	*Meles meles*	Landcross	2003	SS453236	WCA 6, BA	Bern III	
14	Japanese Knotweed	*Fallopia japonica*	Landcross	1998	SS453236	WCA 9		
15	Otter	*Lutra lutra*	Landcross	1997-2008	SS453236	WCA 5	EC IIa, IIIa; Bern II	UKBAP (P); DBAP
16	Indet. Deer	*Cervidae*	Landcross	2003	SS453236	DA	Bern III	
17	Otter	*Lutra lutra*	Heale House	1997-1999	SS454235	WCA 5	EC IIa, IIIa; Bern II	UKBAP (P); DBAP

WCA 5 **Wildlife and Countryside Act (1981) Schedule 5:** species protected against killing, injury, disturbance and handling.

WCA 6 **Wildlife and Countryside Act (1981) Schedule 6:** animals (other than birds) which may not be killed or taken by certain methods

WCA 9 **Wildlife and Countryside Act (1981) Schedule 9:** animals and plants for which release into the wild is prohibited.

BA **Protection of Badgers Act 1992:** badgers may not be deliberately killed, persecuted or trapped except under licence. Badger setts may not be damaged, destroyed or obstructed.

DA **Deer Act 1991:** deer protected under the Deer Act.

Bern II **Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) Appendix II:** Special protection for listed animal species and their habitats.

Bern III	**Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) Appendix III:** Exploitation of listed animal species to be subject to regulation
ECIIa, IIb	**EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats & Species Directive) Annex IIa and IIb:** Designation of protected areas for animal and plant species listed.
ECIIIa, IIIb	**EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats & Species Directive) Annex IIIa and IIb:** Species used as criteria for designating Special Areas of Conservation (SACs).
ECIVa, IVb	**EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats & Species Directive) Annex IVa:** Exploitation of listed animals and plants to be subject to management if necessary.
Bonn II	**Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) Appendix II:** Range states encouraged to conclude international agreements to benefit species listed.
UKBAP(P)	**UK Priority Species (Short and Middle Lists - UK Biodiversity steering Group Report 1995)** i.e. species that are globally threatened and rapidly declining in the UK (by more than 50% in the last 25 years). Has a Species Action Plan.
DBAP	**Devon Biodiversity Action Plan species:** these have been identified as species of key conservation concern in Devon.
NS	**Nationally Scarce:** 15-100 10km squares in Atlas of British Flora 1962.

Appendix 2 - Species list recorded within Littleham parish during field visit.

Species list for Littleham parish, recorded during the field survey on 15th February 2009.

English name	***Scientific Name***
Plant species list for Littleham parish	
Ancient Woodland Indicator species are listed in Bold	
Alder	*Alnus glutinosa*
Annual Meadow-grass	*Poa annua*
Ash	*Fraxinus excelsior*
Barren Strawberry	***Potentilla sterilis***
Beech	*Fagus sylvatica*
Bent sp	*Agrostis sp*
Birch sp	*Betula sp*
Bitter-cress sp	*Cardamine sp*
Blackthorn	*Prunus spinosa*
Bluebell	***Hyacinthoides non-scripta***
Bracken	*Pteridium aquilinum*
Bramble	*Rubus fruticosus agg.*
Broad Buckler-fern	*Dryopteris dilatata*
Broad-leaved Dock	*Rumex obtusifolius*
Brooklime	*Veronica beccabunga*
Bulbous Buttercup	*Ranunculus bulbosus*
Bush Vetch	*Vicia sepium*
Butterfly-bush	*Buddleja davidii*
Cat's-ear	*Hypochaeris radicata*
Cleavers	*Galium aparine*
Cock's-foot	*Dactylis glomerata*
Common Chickweed	*Stellaria media*
Common Dandelion	*Taraxacum aggregate*
Common Knapweed	*Centaurea nigra*
Common Mouse-ear	*Cerastium fontanum*
Common Nettle	*Urtica dioica*
Common Ragwort	*Senecio jacobaea*
Common Reed	*Phragmites australis*
Common Sorrel	*Rumex acetosa*
Cow Parsley	*Anthriscus sylvestris*
Cranesbill sp	*Geranium sp*
Creeping Bent	*Agrostis stolonifera*
Creeping Buttercup	*Ranunculus repens*
Creeping Cinquefoil	*Potentilla reptans*
Creeping Thistle	*Cirsium arvense*
Cut-leaved Cranesbill	*Geranium dissectum*
Daisy	*Bellis perennis*
Danish Scurvygrass	*Cochlearia danica*
Dog-rose	*Rosa canina agg.*
Dog's Mercury	*Mercurialis perennis*
Elder	*Sambucus nigra*
English Elm	*Ulmus procera*
False Oat-grass	*Arrhenatherum elatius*

Field-rose	***Rosa arvensis***
Figwort	*Scrophularia sp*
Floating Sweet-grass	*Glyceria fluitans*
Fool's Water-cress	*Apium nodiflorum*
Foxglove	*Digitalis purpurea*
Germander Speedwell	*Veronica chamaedrys*
Glaucous Sedge	*Carex flacca*
Gorse	*Ulex europaeus*
Greater Plantain	*Plantago major*
Greater Stitchwort	*Stellaria holostea*
Ground-ivy	*Glechoma hederacea*
Hard-fern	***Blechnum spicant***
Hart's-tongue	***Phyllitis scolopendrium***
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Hemlock Water-dropwort	*Oenanthe crocata*
Herb-Robert	*Geranium robertianum*
Hogweed	*Heracleum sphondylium*
Holly	***Ilex aquifolium***
Honeysuckle	*Lonicera periclymenum*
Ivy	*Hedera helix*
Ivy-leaved Speedwell	*Veronica hederifolia*
Ivy-leaved Toadflax	*Cymbalaria muralis*
Japanese rose	*Rosa rugosa*
Laurel	*Prunus laurocerasus*
Lesser Celandine	*Ranunculus ficaria*
Lords-and-Ladies	*Arum maculatum*
Male-fern	*Dryopteris filix-mas*
Meadowsweet	*Filipendula ulmaria*
Navelwort	*Umbilicus rupestris*
Nipplewort	*Lapsana communis*
Oak	*Quecus sp*
Opposite-leaved Golden-saxifrage	***Chrysosplenium oppositifolium***
Oxeye Daisy	*Leucanthemum vulgare*
Pedunculate Oak	*Quercus robur*
Pendulous Sedge	***Carex pendula***
Perennial Rye-grass	*Lolium perenne*
Pignut	***Conopodium majus***
Polypody	***Polypodium agg.***
Primrose	***Primula vulgaris***
Ramsons	***Allium ursinum***
Red Campion	*Silene dioica*
Red Fescue	*Festuca rubra agg.*
Red Valerian	*Centranthus ruber*
Remote Sedge	***Carex remota***
Rhododendron	*Rhododendron ponticum*
Ribwort Plantain	*Plantago lanceolata*
Scots Pine	*Pinus sylvestris*
Selfheal	*Prunella vulgaris*
Smooth Sow-thistle	*Sonchus oleraceus*
Snowdrop	*Galanthus nivalis*
Soft Shield-fern	***Polystichum setiferum***
Soft-rush	*Juncus effusus*

Spear Thistle	*Cirsium vulgare*
Spindle	*Euonymus europaeus*
Spurge sp	*Euphorbia sp*
Stinking Iris	***Iris foetidissima***
Sweet Violet	*Viola odorata*
Sycamore	*Acer pseudoplatanus*
Tufted Hair-grass	*Deschampsia cespitosa*
Vetch sp	*Vicia sp*
Violet sp	*Viola sp*
White Clover	*Trifolium repens*
Wild Privet	*Ligustrum vulgare*
Willow sp	*Salix sp*
Winter Heliotrope	*Petasites fragrans*
Wood Avens	*Geum urbanum*
Wood Dock	*Rumex sanguineus*
Wood False-brome	*Brachypodium sylvaticum*
Wood Sage	*Teucrium scorodonia*
Wood-sedge	***Carex sylvatica***
Wood-sorrel	***Oxalis acetosella***
Yarrow	*Achillea millefolium*
Yellow Archangel	*Lamiastrum galeobdolon subsp. argentatum*
Yew	*Taxus baccata*
Yorkshire-fog	*Holcus lanatus*
a moss	*Fissidens*
Lawn moss	*Rhytidiadelphus squarrosus*

Bird species list for Littleham parish

Blackbird	*Turdus merula*
Blue Tit	*Parus caeruleus*
Buzzard	*Buteo buteo*
Chaffinch	*Fringilla coelebs*
Collared Dove	*Streptopelia decaocto*
Dipper	*Cinclus cinclus*
Dunnock	*Prunella modularis*
Goldfinch	*Carduelis carduelis*
Great Tit	*Parus major*
Green woodpecker	*Picus viridis*
Grey wagtail	*Motacilla cinerea*
House sparrow	*Passer domesticus*
Jackdaw	*Corvus monedula*
Long-tailed Tit	*Aegithalos caudatus*
Magpie	*Pica pica*
Pheasant	*Phasianus colchicus*
Pied Wagtail	*Motacilla alba yarrellii*
Raven	*Corvus corax*
Robin	*Erithacus rubecula*
Rook	*Corvus frugilegus*
Skylark	*Alauda arvensis*
Snipe	*Gallinago gallinago*
Song thrush	*Turdus philomelos*
Starling	*Sturnus vulgaris*

Wood Pigeon	*Columba palumbus*
Wren	*Troglodytes troglodytes*

Mammal species list for Littleham parish

Grey Squirrel	*Sciurus carolinensis*
Mole (hills)	*Talpa europaea*