

Parish Biodiversity Audit **Draft**

for

Landcross

Consultation draft - April 2009

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Report commissioned by Devon County Council

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Landcross - 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 some way 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 Landcross 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 Landcross 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.

Landcross is a very small parish of about 161 ha (terrestrial area about 147 ha) situated just south of Bideford near the North Devon coast. It is located to the west of the River Torridge, the northern part of the parish forming a spur into a large loop in the river. The River Yeo flows along the north-west boundary into the River Torridge in the north-west corner of the parish. This then flows north into the Taw/Torridge estuary, designated as a Site of Special Scientific Interest (SSSI). The River Torridge and the River Yeo are tidal here, with the normal tidal limit being near Mill Bridge with a weir further upstream of this. These rivers are a major feature of the parish forming 85% of the parish boundary (www.littleham-landcross.org.uk).

Landcross parish is in the transition zone of North Devon's Biosphere Reserve and also falls within the Culm Natural Area. The higher land in the south between the two rivers rises to over 90m above sea level. In the south there are some steep sided, mainly wooded, slopes down to the flat floodplain areas next to the Taw and Yeo Rivers. The underlying geology is mainly of Upper Carboniferous sandstones and alluvium and terrace river deposits.

The main A386 road between Great Torrington and Bideford runs through the centre of Landcross parish. The A388 road from Holsworthy joins the A386 just south of Landcross. In addition there are a few small lanes through the village, leading to the church and servicing the few properties in the parish. The disused Bideford to Torrington railway, running north-south through the parish, now forms the Tarka Trail long distance cycle and footpath. The Tarka Trail runs over 30 miles from Braunton to Meeth, using the old railways of North Devon. There are two other small sections of footpath.

Landcross is a very small parish with only 27 households (Littleham and Landcross parish plan, 2006) with the Landcross village itself comprising a small church and a few houses either side of the Great Torrington to Bideford main road. There are no shops or pubs within the parish. Watertown and Pillmouth are the other small settlements. The parish shares the use of a village hall and playing field with the neighbouring parish, Littleham, where they are located. Other than the wooded areas the parish is predominately agricultural, with mainly grazed pastures surrounded by traditional hedgerows. Some agricultural land is, or has been, under various grant schemes including the Countryside Stewardship Scheme and the Entry Level Environmental Stewardship Scheme together with the Saltmarsh Creation Habitat Scheme.

There are two County Wildlife Sites within Landcross parish. Halfpenny Marsh CWS, part of which lies within the parish, has saltmarsh, reedbed, broadleaved woodland, a disused canal and limekilns. The Torridge Estuary CWS has been designated here as a County Wildlife Site due to its estuarine and saltmarsh habitats.

There are some broadleaved woodlands within Landcross. These woodlands are significant both in landscape terms and for biodiversity with the largest, Pillmouth Wood, being a semi-natural ancient woodland.

Notable sites and species recorded within Landcross parish are given in Appendix 1. The species include ones listed in the UK Biodiversity Action Plan (UK BAP) and Devon Biodiversity Action Plan (Devon BAP), such as the otter, brown hare and curlew. Hedgehog, lesser horseshoe bat, greater water-parsnip, common toad, slow-worm and cinnabar moth are UK Biodiversity Action Plan (UK BAP) priority species. Primrose is listed in the Devon Biodiversity Action Plan. An explanation of the Devon Biodiversity Action Plan is presented on page 31.

The parish site visit for this report was commissioned for and carried out in January 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 January site surveys is given in Appendix 2.



View of Landcross from near the church



View towards Landcross parish

Designated Sites

Many designated sites are on private land. The listing of a site does not imply any right of public access.

County Wildlife Sites

County Wildlife Sites (CWS) 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 and therefore does not have any legal status. County Wildlife Sites are usually included in Local Plans as sites

of regional or local biodiversity interest and are covered by Planning Policy Statement 9 (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.

Note: 'Planning Policy Statement 9: Biodiversity and Geological Conservation' was published by the Department of the Environment in August 2005. Planning Policy Statements (PPS) set out the Government's national policies on different aspects of planning in England. PPS9 sets out planning policies on protection of biodiversity and geological conservation through the planning system. This PPS replaces Planning Policy Guidance Note 9 (PPG9) on nature conservation published in October 1994.

There are two County Wildlife Sites within Landcross parish:

- Halfpenny Marsh County Wildlife Site
- Torridge Estuary County Wildlife Site

Records of previous habitat and species surveys for these CWSs are kept with the Devon Biodiversity Records Centre (DBRC), from which the descriptions here are derived. Conditions may have changed since these surveys. The sites are privately owned and there is no public access onto them.

Halfpenny Marsh County Wildlife Site

The north-western portion of Halfpenny Marsh CWS lies within Landcross parish, the rest in Monkleigh and Weare Gifford parishes. The site covers an area of 6.9 ha and was surveyed in 2005. The majority of the area is grass-dominated saltmarsh with smaller areas of other grassland. There is a small section of the disused Torridge Canal and some old lime kilns (Annery Kiln) within the site (but just outside Landcross parish) with a small area of broadleaved woodland.

The saltmarsh is enclosed and separated from the River Torridge by some sea banks, with a narrow strip on the other side of the banks alongside the river, which is tidal at this point. During the survey it was noted that the sea wall banks had been breached at one point and this had led to the grazing marsh being in the process of reverting to a saltmarsh. The saltmarsh area was dominated by creeping bent with abundant locally docks and occasional false fox-sedge. There were some patches of sea club-rush around a shallow pool in the north of the site. Some other smaller pools and creeks support sea aster around their edges. The saltmarsh outside the sea wall bank was dominated by red fescue and common saltmarsh-grass.

In addition there were two small reedbeds next to the river. The canal was fringed by species-rich marginal flora including common water-plantain, purple loosestrife and hemp agrimony, with emergent plants including yellow-flag and glaucous club-rush with brookweed present near junction with the river.

However the invasive, non-native plant, parrot's-feather, was locally dominant within the canal.

The lime kilns within the CWS, but outside Landcross parish, supported lime-rich habitat with flora including ploughman's spikenard and field scabious. To the west of the site there is a strip of woodland with some mature oaks in the north, a recently planted area and a small area of alder further south.

This site contained some important habitats with six Devon notable plant species recorded here, including sea aster, brookweed, grey club-rush, common cord-grass and common saltmarsh-grass. The site is important for waders and other birds with the amber listed snipe and little egret (bird species of medium conservation concern) seen during the 2005 survey.

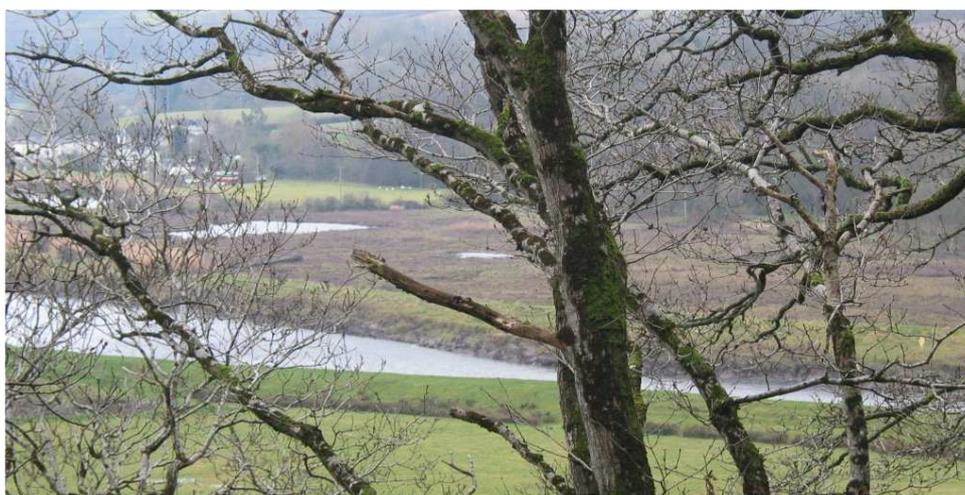
Links to Devon and UK BAP

Key habitat:

- Coastal saltmarsh (UK BAP)
- Grazing marsh (Devon BAP); Coastal and floodplain grazing marsh (UK BAP)
- Reedbeds (UK BAP)
- Eutrophic standing waters (UK BAP)
- Caves, karst and mines (Devon BAP)
- Estuaries (Devon BAP)

Key species:

- Primrose (Devon BAP)
- Curlew (Devon BAP)



Halfpenny Marsh CWS viewed from disused railway

Torrige Estuary County Wildlife Site

The Torrige CWS incorporates 111.3 ha of estuarine and saltmarsh habitats within Landcross, Bideford and Weare Gifford parishes. The site stretches

from the River Torridge just south of Landcross church, from the River Yeo just south of Whitehall House and downstream of both to north of the railway bridge across the Torridge at Pillmouth. The Rivers Torridge and Yeo are tidal here and the CWS site includes them and the associated mudflats, grazing and salt marshes.

The site is naturally divided into different terrestrial sections, of which two fall within Landcross parish, namely Pillmouth Marsh and Watertown.

Pillmouth Marsh is a strip of saltmarsh situated on the large bend to the west of the River Torridge, stretching from Pillmouth to the saltmarsh just south of Landcross Church. This area had the sea walls breached as part of DEFRA's Saltmarsh Creation Habitat Scheme. There is a variety of saltmarsh communities within the area of about 27 ha, together with the breached earthbank sea wall, a small amount of scrub, small reedbeds and small areas of inter-tidal mud. A survey was conducted in 2005. The long inter-tidal strip outside of the sea wall supported saltmarsh species such as sea aster, sea purslane, sea club-rush, sea milkwort, common saltmarsh-grass, common cord-grass, annual sea-blite, sea couch, creeping bent and red fescue, showing typical zonation in their distribution. The sea wall is now breached and there was a strip along the tidal edge that is dominated by sea couch. The larger area inland of this was dominated by creeping bent, sea aster, common saltmarsh-grass with other typical saltmarsh species. There were some drainage creeks with glasswort and annual sea-blite around areas of bare mud. There were some small areas of standing water and some small reedbeds. In the south of the area there were more extensive areas of mud where greater and lesser sea-spurrey grew. Other plant species recorded on the site included thrift, sea arrowgrass, sea plantain and spear-leaved orache.

Pillmouth Marsh is an important area of saltmarsh of significant wildlife interest with the presence of at least ten Devon notable plant species. These included sea aster, sea purslane, sea couch, sea rush, common saltmarsh-grass, common cord-grass, lesser and greater sea-spurrey and annual sea-blite. The site is also likely to be important for wildfowl and waders. Teal and little egret (both on the amber list as bird species of medium conservation concern) were seen on the 2005 survey. Oystercatcher and mallard were seen on the 2009 site visit, with curlew (a Devon Biodiversity Action Plan species) and lapwing (a UK Biodiversity Action Plan species but not with a species action plan) seen nearby.

Watertown is a 1.7 ha area of saltmarsh on the River Yeo which also had the sea walls breached in 2000 under the Saltmarsh Creation Habitat Scheme. The site is almost entirely saltmarsh, bounded by a loop in the River Yeo which is tidal here, and associated intertidal mud. A survey in 2005 reports several distinct plant communities are present here. The narrow strip outside the sea wall was dominated by creeping bent with some areas with red fescue and common saltmarsh-grass and with sea aster along the creek edge. In the eastern corner sea milkwort and spear-leaved orache were present. The sea wall bank supported sea couch with creeping bent, cock's-foot, spear thistle, and sea mayweed. The main central area had been reverting to saltmarsh

since the sea wall had been breached. Here there was a mosaic of saltmarsh plant communities. Species recorded included creeping bent, sea aster, red fescue, common saltmarsh-grass, annual sea-blite, glasswort, sea arrowgrass, greater sea-spurrey and spear-leaved orache.

Watertown is an important area for wildlife particularly in the wider context of the Taw/Torridge system. Eight Devon notable plant species have been recorded here and greater water-parsnip (a nationally scarce and UK Biodiversity Action Plan priority species) has also been recorded at Watertown Farm. Otter, brown hare and curlew, all Devon and UK Biodiversity Action Plan priority species, have also been recorded using this area. Little egret, grey wagtail, green sandpiper, shelduck and mute swan, birds on the amber list as being of medium conservation concern, have been recorded in the vicinity of this site. Common toad is a UK BAP priority species also recorded at Watertown Farm.

Landcross Marsh and Landcross Bridge also form part of the Torridge CWS but do not fall within Landcross parish. Landcross Bridge is a small area of saltmarsh on the opposite side of the River Yeo adjacent to the Watertown area of saltmarsh. Landcross Marsh is another extensive area of saltmarsh, situated just to the north-west of the junction where the River Yeo flows into the River Torridge.

[Links to Devon and UK BAP](#)

Key habitat:

- Coastal saltmarsh (UK BAP)
- Grazing marsh (Devon BAP); Coastal and floodplain grazing marsh (UK BAP)
- Intertidal mudflats (UK BAP)
- Reedbeds (UK BAP)
- Tide-swept channels (UK BAP)
- Estuaries (Devon BAP)

Key species:

- Curlew (Devon BAP)
- Otter (Devon BAP; UK BAP priority)



Part of Torridge CWS: Pillmouth Marsh



Part of Torridge CWS: Watertown

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.

Pillmouth Wood is a semi-natural ancient woodland covering an area of 6.5 ha in a strip along the escarpment above and to the west of the River Torridge.

There are no Sites of Special Scientific Interest (SSSIs); Special Areas of Conservation (SACs); Special Protection Areas (SPAs); Local Nature Reserves (LNRs); Regionally Important Geological Sites (RIGS); Unconfirmed Wildlife Sites (UWSs) nor Other Sites of Wildlife Interest (OSWI) within Landcross 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.

Landcross 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 Landcross – 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 Landcross 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. Landcross parish 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 pasture fields of Landcross parish are surrounded by traditional Devon hedges. Some hedges within the parish appeared to be dominated by elm and were not particularly species-rich. The species-poor hedges were probably created in the 1800's when new areas of land were enclosed for farmland. However some of the other hedges along the lanes of Landcross would probably be classified as species-rich and were of the traditional Devon bank style, with hedges on top of large banks, and are likely to be of Medieval origin. Several hedges have been over-managed and neatly trimmed. Typical species recorded within these hedges included elm, hazel, elder, ash, sycamore, oak, blackthorn and holly. However, due to the time of year and heavy trimming it was not possible to survey the hedges in any detail and further surveys are recommended.

Traditional hedges often have a species-rich bank flora. Species recorded during the site visit include greater stitchwort, primrose, dog's mercury, red campion, wood sage, polypody and hart's tongue. These hedges also 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 Landcross parish

Churchyards

Landcross parish church, Holy Trinity, is situated at the end of a quiet lane to the east of the A386 main road, away from the main concentration of houses on the other side of the main road. There is a small south-west facing graveyard here surrounded by non-native shrub hedges on three sides and a stone wall on the south boundary. This wall is covered in ivy and has small cracks. Stone walls can be important for lichens, mosses and flowering plants and crevices can also provide value for invertebrates and reptiles. There are a few trees here including a yew, silver birch and willow. There is also a patch of bramble and buddleia, providing food and cover for birds, insects and mammals. The gravestones provide an important habitat for mosses and lichens.

The area is otherwise managed as a mown grassed area. This grassland is predominately composed of grasses, including Yorkshire-fog, red fescue and bents and mosses, including lawn moss. Other plant species recorded here include cat's-ear, germander speedwell, daisy, primrose, lords and ladies and selfheal.

Links to key habitats in Devon and UK BAP

- Cities, towns and villages (Devon BAP)



Landcross churchyard

Gardens

Gardens can be havens for wildlife and can provide links to other areas of wildlife habitat. On the site visit through the village several birds were noted in gardens. Some of the garden walls provided another habitat for species such as ivy-leaved toadflax.

Links to key habitats in Devon and UK BAP

- Cities, towns and villages (Devon BAP)

Redundant buildings

A couple of redundant buildings were seen within Landcross parish. Redundant buildings can be important to a number of species including the barn owl and various bat species.



Redundant building on the disused railway line

Rivers, water's edge, canal and ponds

The River Torridge and River Yeo together with their associated floodplains and saltmarshes form an important wildlife feature and habitat for wildlife for the parish. These associated habitats are discussed elsewhere in this document. Small areas of reedbed were present within Halfpenny Marsh CWS and Pillmouth Marsh within Torridge CWS. Otters have been recorded in this area on the River Yeo.

The River Torridge is one of the main rivers of Devon running northwards from Dartmoor, along the boundary of Landcross, through Bideford and into the Taw/Torridge estuary. The River Torridge is tidal for the entire range along Landcross eastern boundary. The River Yeo joins the River Taw in the north of the parish with the normal tidal limit being near Mill Bridge.

There is a small section of the disused Torridge Canal that falls within Halfpenny Marsh CWS. A previous survey, described in the CWS section, reports it to have rich marginal flora including purple loosestrife and common water-plantain but the invasive, non-native parrot's-feather was also recorded growing within the canal.

Areas of standing water Pillmouth Marsh are likely to be brackish; these areas are important for waders and wildfowl. No freshwater ponds were seen during the site visit but may be present elsewhere. According to records there is one at Watertown Farm. Ponds are an important habitat 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. Palmate newt, smooth newt, common frog and common toad have been recorded at Watertown Farm.

Links to key habitats in Devon and UK BAP

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

- Reedbeds (UK BAP)



River Yeo and disused railway line near Pillmouth

Roadside and railway verges

There are two major roads within Landcross parish, the A386 and the A388 which joins it at Landcross, with a small number of narrow, hedge-lined, lanes. These have areas of grassland, herbs and trees on their verges forming important wildlife habitats and corridors through the parish.

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 operates 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.

The path of the disused Bideford to Torrington railway runs north-south through the centre of the parish. The Tarka Trail long distance cycle and footpath runs between Braunton and Meeth along this old railway line. The

railway line has cuttings and embankments which may support species-rich plant communities. It also provides a habitat corridor through the parish for wildlife.

The embankments of the disused railway line have varying densities of trees along its length. The trees species recorded here on the site visit include oak with ash, hazel, and birch. The banks are predominately shady and covered with ivy and hart's-tongue fern. Other species recorded along the length of the railway line within the parish include primrose, wood sage, pendulous sedge, figwort, wood sedge, bramble, creeping buttercup, dog's mercury, soft shield-fern, foxglove, wood avens and common sorrel. There is also a tunnel, which might provide a suitable habitat for bats.



Road-side verge, Landcross parish.



Disused railway line and route of the Tarka Trail, Landcross.

Unimproved grassland

There was a potentially valuable grassland site identified during the site visit that may warrant a future survey to ascertain if they are of biodiversity value (listed in the potential Unconfirmed Wildlife Sites section, page 26). Some grass road verges might be classified as unimproved/semi-improved grassland and are relatively species-rich. The verge pictured in the previous section supported a range of plant species with ribwort plantain, Yorkshire-fog, bents, yarrow, hogweed, common knapweed, cock's-foot, meadowsweet, creeping buttercup, a St. John's-wort, soft-rush, bush vetch, common sorrel, selfheal and wood dock.

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)



Semi-improved grassland

Arable land

From 2006 aerial photographs there was one field in the south of Landsross parish that appeared to be ploughed. This arable land could be for cereals or a grass ley. During the site visit this field appeared to be a grass ley with a margin left between the area that had been ploughed and the hedge. Margins can be beneficial for biodiversity. Environmental Stewardship schemes can help local farmers establish flower-rich margins in their fields and reduce surface water runoff.

Links to key habitats in Devon and UK BAP

- Arable field margins (UK BAP)

Saltmarsh and grazing marsh

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.

There are significant areas of saltmarsh within Landcross parish within Halfpenny Marsh County Wildlife Site; and Pillmouth Marsh and Watertown which form part of Torridge Estuary County Wildlife Site. A description of these sites is given in the County Wildlife Site section above.

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.

The most 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).

Grazing marshes are areas of grassland, grazed by stock, which are seasonally waterlogged. They can occur inland or in coastal situations. Although most of the marshes within Landcross parish would be described as saltmarshes, some areas, where there is no saline influence, might be classified as grazing marsh. 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 overwintering 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.

Links to key habitats in Devon and UK BAP

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



Centre-view shows part of Pillmouth Marsh

Mudflats and estuaries

There are areas of mudflats within the River Torridge and River Yeo tidal systems. Mudflats are very productive areas and support an abundance of organisms such as lugworms, ragworms and other species such as the 'peppery furrow shell'. These invertebrates provide food for large numbers of

birds and fish. The mudflats, such as those within the Taw/Torridge estuarine and river system, provide feeding and resting areas for important populations of migrant and wintering wildfowl and waders – the total number of waders present at any one time can reach over 20,000 birds.

The tidal Torridge and Yeo rivers within Landcross parish should be seen in context of the wider Taw/Torridge estuary which, further north, has been designated as a SSSI. Estuaries are listed in the Devon Biodiversity Action Plan and the South West Biodiversity Action Plan as a habitat of conservation concern in Devon.

Estuaries, including harbours and rias, are partially enclosed water bodies which are open to the sea but usually have reduced salinity as a result of freshwater inputs. Estuaries support a large number of species, often in large numbers. Organisms such as phytoplankton form the basis of the food web, with numerous invertebrate species including worms, molluscs such as mussel and cockle and crustaceans such as various shrimp and crab. Thousands of wading birds and wildfowl rely on these for a source of food particularly in the autumn and winter months. A variety of seaweeds also grow in estuarine situations. Estuaries also support fish such as bass, flounder, grey mullet and sand eels.

Links to key habitats in Devon and UK BAP

- Intertidal mudflats (UK BAP)
- Tide-swept channels (UK BAP)
- Estuaries (Devon BAP)

Woodlands

Lowland mixed deciduous woodlands are in the UK Biodiversity Action Plan habitats list and oak woodland in the Devon Biodiversity Action Plan.

The most significant area of woodland within the parish is Pillmouth Wood which is a strip of semi-natural ancient woodland situated on a steep escarpment, running along the edge of the River Torridge floodplain. The disused railway line and the lane to the church runs alongside it in places. From here the wood appeared to be oak dominated with ash. Hazel and holly are present in the understorey with ground flora supporting ivy and ferns including hart's-tongue. This woodland would warrant a detailed survey to ascertain whether it is of County Wildlife Site standard.

There is some woodland in the south-west of the parish on the escarpment on the edge of the Yeo floodplain, which appeared to contain both broadleaved and coniferous trees. Just north of this a public footpath runs through a pleasant broadleaved woodland. This appeared to be oak-dominated with frequent ash and occasional beech with hazel and holly below. This woodland might also warrant a further survey.

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. .

Links to key habitats in Devon and UK BAP

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



Woodland north-east of Mill Bridge



Pillmouth Wood in distance

Orchards

There appeared to be some old apple trees and some more recently planted apple trees, possibly on the site of an old orchard, near Pillmouth.

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.

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.

There is a possible veteran tree in a field near Watertown, and from aerial photos possibly one in a field east of Pillmouth. Some trees might be protected by tree preservation orders (TPO).



Possible veteran tree near Watertown

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.

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.

There is an attractive sunken green lane, with public access, in the south of the parish connecting the A388 with Mill Bridge. This lane is bordered by traditional hedges and some steep banks which drip with ivy and hart's-tongue fern, and is likely to be full of wild flowers in the spring and summer. Lesser celandine, wood sage, greater stitchwort, dog's mercury, polypody, primrose, soft shield-fern, red campion and snowdrop were also seen growing along the verge and banks here during the site visit.

Links to key habitats in Devon and UK BAP

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



Green lane near Mill Bridge

Pits, quarries and cuttings

There are no major pits or quarries within Landcross parish, but there are some small old lime kilns within Halfpenny Marsh CWS. Pits, quarries and cuttings 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.

The cuttings of the railway line and major roads can be biodiverse and important for wildlife, these are covered in other sections.

Links to key habitats in Devon and UK BAP

- Pits, quarries and cuttings (Devon BAP)

Potential Unconfirmed Wildlife Sites

There are no Unconfirmed Wildlife Sites within Landcross parish. These are sites identified as having possible interest but have not been fully surveyed. The following sites were identified from roads or public rights of way during the site survey as being potential Unconfirmed Wildlife Sites. Some of these sites may contain areas of significant wildlife interest and further surveys would need to be carried out to determine whether they are of sufficient quality to be designated.

Location	Grid Ref.	Description
Pillmouth Wood	SS464238	Semi-natural ancient woodland
Wood near Mill Bridge	SS456235	Broadleaved woodland
Field near Mill Bridge	SS454234	Semi-improved neutral grassland

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 and around Landcross is presented separately (Appendix 1). Appendix 2 gives the species noted during this survey. It should be borne in mind that January 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 including blackbird, blue tit, buzzard, chaffinch, curlew, dunnoek, goldfinch, great tit, greenfinch, jay, long-tailed tit, magpie, mallard, oystercatcher, raven, robin, starling and wood pigeon. A flock of lapwing, a UK BAP priority species, was seen on Landcross Marsh just outside the parish. Starling is on the Red List as a bird of high conservation concern, due to the rapid decline in the UK breeding population, and is a UK BAP priority species. Curlew is a UK Biodiversity Action Plan priority species and also a Devon Biodiversity Action Plan species. Curlew, dunnoek, oystercatcher and lapwing are on the Amber List as bird species of medium conservation concern.

Other birds records within Landcross held with DBRC include little egret, grey wagtail, green sandpiper, shelduck, mute swan, snipe, teal and curlew all on the Amber List.

Although there are no records with DBRC of barn owl sightings, there is some suitable habitat and they may be present within the parish. The barn owl has undergone a major decline in the last century due to changes in agricultural practice, as well as loss of nesting sites such as old barns and hollow trees. The barn owl is listed on the Devon Biodiversity Action Plan as species of conservation concern and is also on the Amber List.

Plants

Despite the time of year a large number of plant species were noted on the site visits to the parish in January 2009, these are listed in Appendix 2.

Several Devon notable plant species have been recorded within Landcross parish (DBRC). These plants are mainly species associated with the saltmarsh communities and include lesser sea-spurrey, greater sea-spurrey, common saltmarsh-grass, annual sea-blite, sea aster, sea couch, saltmarsh rush, sea purslane, sea rush, common cord-grass and a rarity for Devon lyme-grass.

Greater water-parsnip is a UK BAP priority species and a nationally scarce plant that has been recorded in 2002 at Watertown Farm.

The bluebell is protected against sale under the Wildlife and Countryside Act (1981), Schedule 8 (S) and is found within Landcross parish.

Primrose can be found at various locations within the parish. 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.

Spindle was recorded during the site visit. 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.

There are no records of Japanese knotweed, an invasive alien plant, held with DBRC, but it has been recorded near the parish boundary within Littleham parish. Parrot's-feather was recorded at Halfpenny Marsh CWS. This is an invasive alien pond plant that can choke ponds and waterways.

Mammals

Several mammal species have been recorded from Landcross parish. These include hedgehog, roe deer, badger, brown hare, otter, stoat, weasel and lesser horseshoe bat.

Otters:

DBRC has records of otter, on the banks of the River Yeo near Watertown. 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.

Brown hare:

The brown hare, listed on the Devon Biodiversity Action Plan as a species of conservation concern and a UK BAP priority species, has been recorded near Watertown Farm. The brown hare was probably introduced to England by the Romans and is fairly common in areas of arable crops and grass leys. The hare is 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.

Bats:

The lesser horseshoe bat, listed as priority species in the UK Biodiversity Action Plan, has been recorded within Landcross parish. This 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. This species is threatened by 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 Landcross 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.

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 a record of cinnabar moth as the only notable species recorded for the parish on the DBRC database. The cinnabar is a UK Biodiversity Action Plan priority species.

Reptiles and amphibians

DBRC has records of common frog, palmate newt, smooth newt, and the UK BAP priority species slow-worm and common toad occurring within the parish. No reptiles or amphibians were recorded during the site visit due to the time of year.

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 Landcross and the Devon BAP:

Landcross wildlife feature	Brief description of feature	Link with the Devon Biodiversity Action Plan (BAP)
Traditional hedges	Network of traditional hedges throughout the parish.	<ul style="list-style-type: none"> • Species-rich Hedges Habitat Action Plan • Primrose Species Action Plan
Estuary and Rivers	Torrige Estuary with mudflats and saltmarsh; Tidal rivers Yeo and Torrige.	<ul style="list-style-type: none"> • Estuaries Habitat Action Plan • Rivers, Streams, Floodplains and Fluvial Processes Habitat Action Plan • Curlew Species Action Plan • Otter Species Action Plan
Saltmarshes and grazing marsh	Saltmarshes within Halfpenny Marsh CWS; Pillmouth Marsh and Watertown part of Torrige Estuary CWS. Supports several Devon notable plant species. Possible grazing marshes.	<ul style="list-style-type: none"> • Grazing Marsh Habitat Action Plan • Curlew Species Action Plan • Otter Species Action Plan
Woodlands	Semi-natural ancient woodland at Pillmouth Wood. Other broadleaved woodland.	<ul style="list-style-type: none"> • Oak Woodland Habitat Action Plan • Primrose Species Action Plan
Grassland: Road verges; Unimproved fields; Railway verges.	Small areas of semi-improved and unimproved grassland, which have been protected from agricultural improvement. Habitat corridor along cuttings and embankments of disused railway line.	<ul style="list-style-type: none"> • Flower-rich Meadows and Pastures Habitat Action Plan • Primrose Species Action Plan • Barn Owl Species Action Plan • Brown Hare Species 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 Landcross might include hedges and for otter signs. These actions would directly contribute to the species-rich hedges habitat and the otter 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. Although limited by the small space available, one opportunity might be to create some species-rich grassland in the churchyard. A small area could be set aside where the grass was cut only once in late summer, like a hay meadow. This would create an ideal wildlife area for people to enjoy. The erection of bird and bat boxes, would encourage these important species.

Planting up areas that are currently of little wildlife interest with new copses of native trees and shrubs will also help to attract wildlife although no suitable areas were identified during the site visit to Landcross as there is little public space.

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 Landcross and Watertown represent an 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>

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 Landcross 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. 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 rubbish and dog fouling. The plan recognises the 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! There are no records held on DBRC database of Japanese knotweed present within the parish of Landcross. However as it is an invasive non-native plant it is worthy of note. 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 Centre¹. 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

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

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).

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 available for projects that have received 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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www.naturalengland.org.uk

www.natureonthemap.org.uk

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www.swenvo.org.uk

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www.woodland-trust.org.uk

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

Statutory & non-statutory sites within Landcross Parish

File Code	Site Name	Grid Reference	Area (ha)	Description	Status
SS42/092	Halfpenny Marsh	SS460232	6.9	Saltmarsh, reedbed, broadleaved woodland, disused canal and limekilns.	CWS
SS42/052	Torrige Estuary	SS455253	111.3	Estuary and saltmarsh habitats	CWS
	Pillmouth Wood	SS464238	6.5	Semi-natural ancient woodland	AWI

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.

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 Landcross parish:

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.

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 Landcross Parish

No	Common Name	Scientific Name	Location	Date	Grid Reference	UK protection	International protection	Status
1	Hedgehog	<i>Erinaceus europaeus</i>	A388 Landcross, Bideford.	2005	SS457235	WCA 6	Bern III	UKBAP (P)
2	Roe Deer	<i>Capreolus capreolus</i>	A388 Landcross, Bideford.	2005	SS457235	DA	Bern III	
3	Badger	<i>Meles meles</i>	Landcross. Wooded cliff, east side of River Yeo, 500m south-west of Landcross Bridge.	2001-2002	SS459239	WCA 6, BA	Bern III	
4	Common Frog	<i>Rana temporaria</i>	Watertown Farm, Landcross, Bideford.	2001	SS459240	WCA 5(S)	EC Va; Bern III	
5	Little Egret	<i>Egretta garzetta</i>	Watertown Farm, Landcross, Bideford.	2001	SS459240			Amber
6	Grey Wagtail	<i>Motacilla cinerea</i>	Watertown Farm, Landcross, Bideford.	2001	SS459240			Amber
7	Bluebell	<i>Hyacinthoides non-scripta</i>	Watertown Farm, Landcross, Bideford	2002	SS459240	WCA 8 (S)		
8	Greater water-parsnip	<i>Sium latifolium</i>	Watertown Farm, Landcross, Bideford	2002	SS459240			UKBAP (P); NS
9	Primrose	<i>Primula vulgaris</i>	Watertown Farm, Landcross, Bideford	2002	SS459240			DBAP

10	Brown Hare	<i>Lepus europaeus</i>	Watertown Farm, Landcross, Bideford.	2002	SS459240			UKBAP (P); DBAP
11	Otter	<i>Lutra lutra</i>	River Yeo, Landcross, Bideford.	2001-2005	SS459241	WCA 5	EC IIa, IIIa; Bern II	UKBAP (P); DBAP
12	Lesser Sea-Spurrey	<i>Spergularia marina</i>	Watertown Saltmarsh, Landcross, Bideford.	2004	SS459241			DN3
13	Greater Sea-Spurrey	<i>Spergularia media</i>	Watertown Saltmarsh, Landcross, Bideford.	2004-2005	SS459241			DN2
14	Common Saltmarsh-Grass	<i>Puccinellia maritima</i>	Watertown	2005	SS459241			DN2
15	Lesser Sea-Spurrey	<i>Spergularia marina</i>	Watertown	2005	SS459241			DN3
16	Annual Sea-Blite	<i>Suaeda maritima</i>	Watertown	2004-2005	SS459241			DN2
17	Green Sandpiper	<i>Tringa ochropus</i>	Watertown	2005	SS459241	WCA 1		Amber
18	Sea Aster	<i>Aster tripolium</i>	Watertown	2005	SS459241			DN3
19	Sea Couch	<i>Elytrigia atherica</i>	Watertown	2005	SS459241			DN3
20	Saltmarsh	<i>Juncus</i>	Watertown	2005	SS459241			DN3

	Rush	<i>gerardii</i>						
21	Badger	<i>Meles meles</i>	Watertown Saltmarsh, Landcross, Bideford.	2001-2004	SS459241	WCA 6, BA	Bern III	
22	Lyme-Grass	<i>Leymus arenarius</i>	Watertown Saltmarsh, Landcross, Bideford.	2004	SS459241			DN1; DR
23	Roe Deer	<i>Capreolus capreolus</i>	Watertown Saltmarsh, Landcross, Bideford.	2004	SS459241	DA	Bern III	
24	Sea Aster	<i>Aster tripolium</i>	Watertown Saltmarsh, Landcross, Bideford.	2004	SS459241			DN3
25	Curlew	<i>Numenius arquata</i>	River Yeo at Watertown Farm, Landcross, Bideford.	2001	SS459241			UKBAP (P); DBAP; Amber
26	Shelduck	<i>Tadorna tadorna</i>	River Yeo at Watertown Farm, Landcross, Bideford.	2001-2005	SS459241			Amber
27	Mute Swan	<i>Cygnus olor</i>	River Yeo at Watertown Farm, Landcross, Bideford.	2001	SS459241			Amber

28	Common Toad	<i>Bufo bufo</i>	Watertown Farm, Landcross, Bideford.	2003	SS45952405	WCA 5(S)	Bern III	UKBAP (P)
29	Common Frog	<i>Rana temporaria</i>	Watertown Farm, Landcross, Bideford.	2000-2003	SS45952405	WCA 5(S)	EC Va; Bern III	
30	Stoat	<i>Mustela erminea</i>	River Yeo saltmarsh and flood bank at Watertown Farm, Landcross, Bideford.	2001-2004	SS45972412		Bern III; CITES (UK reservation)	
31	Common Toad	<i>Bufo bufo</i>	Landcross near Bideford (RTA)	2008	SS46022392	WCA 5 (S)	Bern III	UKBAP (P)
32	Common Toad	<i>Bufo bufo</i>	Watertown Farm, Landcross, Bideford	2002	SS460240	WCA 5(S)	Bern III	UKBAP (P)
33	Slow-Worm	<i>Anguis fragilis</i>	Watertown Farm, Landcross, Bideford.	2002	SS460240	WCA 5(KIS)	Bern III	UKBAP (P)
34	Cinnabar	<i>Tyria jacobaeae</i>	Watertown Farm, Landcross, Bideford.	2002	SS460240			UKBAP (P)
35	Hedgehog	<i>Erinaceus europaeus</i>	On road at top of Landcross Hill adjacent to Tarka Trail bridge	2000	SS460240	WCA 6	Bern III	UKBAP (P)
36	Palmate Newt	<i>Triturus helveticus</i>	Watertown Farm, Landcross, Bideford	2002	SS460240	WCA 5(S)	Bern III	

37	Common Frog	<i>Rana temporaria</i>	By pond in garden at Watertown Farm, Landcross	2006	SS46052410	WCA 5(S)	EC Va; Bern III	
38	Weasel	<i>Mustela nivalis</i>	Watertown Farm, Landcross, Bideford.	2002	SS46052410		Bern III	
39	Common Frog	<i>Rana temporaria</i>	Garden pond at Watertown Farm, Landcross, Bideford.	2002-2003	SS46082410	WCA 5(S)	EC Va; Bern III	
40	Smooth Newt	<i>Triturus vulgaris</i>	Garden pond at Watertown Farm, Landcross, Bideford.	2002	SS46082410	WCA 5(S)	Bern III	
41	Common Frog	<i>Rana temporaria</i>	Watertown Farm, Landcross, Bideford.	2003	SS46082410	WCA 5(S)	EC Va; Bern III	
42	Common Frog	<i>Rana temporaria</i>	Pond at Watertown farm, Landcross.	2000	SS461241	WCA 5(S)	EC Va; Bern III	
43	Lesser Horseshoe Bat	<i>Rhinolophus hipposideros</i>	Watertown Farm, Landcross, Bideford.	2004	SS461241	WCA 5, 6	EC IIa, IVa; Bern II; Bonn II	UKBAP (P)
44	Common Frog	<i>Rana temporaria</i>	Freshwater spring at edge of saltmarsh, landcross.	2000	SS462245	WCA 5(S)	EC Va; Bern III	
45	Cinnabar	<i>Tyria jacobaeae</i>	SITE DELETED Pillmouth Field (E)	2005	SS469240			UKBAP (P)
46	Little Egret	<i>Egretta</i>	Pillmouth Marsh	2005	SS472241			Amber

		<i>garzetta</i>					
47	Sea Aster	<i>Aster tripolium</i>	Pillmouth Marsh	2005	SS472241		DN3
48	Sea Couch	<i>Elytrigia atherica</i>	Pillmouth Marsh	2005	SS472241		DN3
49	Sea Purslane	<i>Atriplex portulacoides</i>	Pillmouth Marsh	2005	SS472241		DN2
50	Sea Rush	<i>Juncus maritimus</i>	Pillmouth Marsh	2005	SS472241		DN2
51	Teal	<i>Anas crecca</i>	Pillmouth Marsh	2005	SS472241		Amber
52	Annual Sea-Blite	<i>Suaeda maritima</i>	Pillmouth Marsh	2005	SS472241		DN2
53	Common Cord-Grass	<i>Spartina anglica</i>	Pillmouth Marsh	2005	SS472241		DN1; DR
54	Common Saltmarsh-Grass	<i>Puccinellia maritima</i>	Pillmouth Marsh	2005	SS472241		DN2
55	Greater Sea-Spurrey	<i>Spergularia media</i>	Pillmouth Marsh	2005	SS472241		DN2
56	Lesser Sea-Spurrey	<i>Spergularia marina</i>	Pillmouth Marsh	2005	SS472241		DN3

WCA 1 **Wildlife and Countryside Act (1981) Schedule 1:** birds which are protected by special penalties at all times.

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

WCA 5 (S) **Wildlife and Countryside Act (1981) Schedule 5: (sale):** species protected against sale only.

WCA 5 (KIS)	Wildlife and Countryside Act (1981) Schedule 5: (killing & injury): species protected against killing, injury and sale only.
WCA 6	Wildlife and Countryside Act (1981) Schedule 6: animals (other than birds) which may not be killed or taken by certain methods
WCA 8 (S)	Wildlife and Countryside Act (1981) Schedule 8: (sale): plants protected against sale only.
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.
ECVa, Vb	EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats & Species Directive) Annex Va and Vb: Exploitation of listed animals and plants to be subject to management if necessary.
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.
- Devon Notable Species:** Selected species recorded from over 50 2km squares in the Atlas of Devon Flora 1984 (R.B. Ivimey-Cook, Department of Biological Sciences, The University of Exeter).
- DN1** **Devon Notable¹:** 1-25 2 km squares in Atlas of Devon Flora 1984.
- DN2** **Devon Notable²:** 26-50 2 km squares in Atlas of Devon Flora 1984.
- DN3** **Devon Notable³:** Selected species recorded from over 50 2 km squares in Atlas of Devon Flora 1984.
- DR** **Devon Rarity:** native species recorded from 3 or fewer localities within Devon.
- Amber List** Bird species of medium conservation concern, such as those whose population is in moderate decline, rare breeders, internationally important and localised species and those of unfavourable conservation status in Europe.

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

Species list for Landcross parish, recorded during the field survey 30/01/09.

English name	Scientific name
Plant species list for Landcross parish	
<i>Ancient Woodland Indicator species are listed in Bold</i>	
Alder	<i>Alnus glutinosa</i>
Alexanders	<i>Smyrniololus atratum</i>
Annual Meadow-grass	<i>Poa annua</i>
Apple	<i>Malus sp</i>
Ash	<i>Fraxinus excelsior</i>
Barren Strawberry	<i>Potentilla sterilis</i>
Beech	<i>Fagus sylvatica</i>
Birch sp	<i>Betula sp</i>
Bitter-cress sp	<i>Cardamine sp</i>
Black Medick	<i>Medicago lupulina</i>
Black Spleenwort	<i>Asplenium adiantum-nigrum</i>
Blackthorn	<i>Prunus spinosa</i>
Bluebell	<i>Hyacinthoides non-scripta</i>
Bracken	<i>Pteridium aquilinum</i>
Bramble	<i>Rubus fruticosus agg.</i>
Broad Buckler-fern	<i>Dryopteris dilatata</i>
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Bush Vetch	<i>Vicia sepium</i>
Butterfly-bush	<i>Buddleja davidii</i>
Cat's-ear	<i>Hypochaeris radicata</i>
Cleavers	<i>Galium aparine</i>
Cock's-foot	<i>Dactylis glomerata</i>
Common Chickweed	<i>Stellaria media</i>
Common Dandelion	<i>Taraxacum aggregate</i>
Common Knapweed	<i>Centaurea nigra</i>
Common Mouse-ear	<i>Cerastium fontanum</i>
Common Nettle	<i>Urtica dioica</i>
Common Sorrel	<i>Rumex acetosa</i>
Cow Parsley	<i>Anthriscus sylvestris</i>
Creeping Bent	<i>Agrostis stolonifera</i>
Creeping Buttercup	<i>Ranunculus repens</i>
Creeping Thistle	<i>Cirsium arvense</i>
Crested Dog's-tail	<i>Cynosurus cristatus</i>
Daisy	<i>Bellis perennis</i>
Dog-rose	<i>Rosa canina agg.</i>
Dog's Mercury	<i>Mercurialis perennis</i>
Elder	<i>Sambucus nigra</i>
English Elm	<i>Ulmus procera</i>
False Oat-grass	<i>Arrhenatherum elatius</i>
Figwort	<i>Scrophularia sp.</i>
Foxglove	<i>Digitalis purpurea</i>
Geranium sp	<i>Geranium sp</i>
Germander Speedwell	<i>Veronica chamaedrys</i>

Gorse
Great Wood-rush
Greater Stitchwort
Ground-ivy
Hair moss
Hard-fern
Hart's-tongue
Hawthorn
Hazel
Herb-Robert
Hogweed
Holly
Honeysuckle
Hornbeam
Horse-chestnut
Ivy
Ivy-leaved Toadflax
Lawn moss
Lesser Burdock
Lesser Celandine
Lesser Periwinkle
Lords-and-Ladies
Marsh Thistle
Meadowsweet
Navelwort
Nipplewort
Opposite-leaved Golden-saxifrage
Pedunculate Oak
Pendulous Sedge
Perennial Rye-grass
Polypody
Poplar
Primrose
Red Champion
Red Dead-nettle
Red Fescue
Remote Sedge
Rhododendron
Ribwort Plantain
Scots Pine
Sea purslane
Selfheal
Silver Birch
Snowdrop
Soft Shield-fern
Soft-rush
Spindle
St John's-wort sp
Sycamore
Teasel
Traveller's-joy
White Clover
Wild Madder

Ulex europaeus
Luzula sylvatica
Stellaria holostea
Glechoma hederacea
Polytrichum sp
Blechnum spicant
Phyllitis scolopendrium
Crataegus monogyna
Corylus avellana
Geranium robertianum
Heracleum sphondylium
Ilex aquifolium
Lonicera periclymenum
Carpinus betulus
Aesculus hippocastanum
Hedera helix
Cymbalaria muralis
Rhytidadelphus squarrosus
Arctium minus
Ranunculus ficaria
Vinca minor
Arum maculatum
Cirsium palustre
Filipendula ulmaria
Umbilicus rupestris
Lapsana communis
Chrysosplenium oppositifolium

Quercus robur
Carex pendula
Lolium perenne
Polypodium agg.
Poplar sp
Primula vulgaris
Silene dioica
Lamium purpureum
Festuca rubra agg.
Carex remota
Rhododendron ponticum
Plantago lanceolata
Pinus sylvestris
Atriplex portulacoides
Prunella vulgaris
Betula pendula
Galanthus nivalis
Polystichum setiferum
Juncus effusus
Euonymus europaeus
Hypericum sp
Acer pseudoplatanus
Dipsacus fullonum
Clematis vitalba
Trifolium repens
Rubia peregrina

Wild Privet	<i>Ligustrum vulgare</i>
Willow sp	<i>Salix sp</i>
Wood Dock	<i>Rumex sanguineus</i>
Wood False-brome	<i>Brachypodium sylvaticum</i>
Wood Sage	<i>Teucrium scorodonia</i>
Yarrow	<i>Achillea millefolium</i>
Yew	<i>Taxus baccata</i>
Yorkshire-fog	<i>Holcus lanatus</i>

Spiral wrack	<i>Fucus spiralis</i>
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Bird species list for Landcross parish

Blackbird	<i>Turdus merula</i>
Blue Tit	<i>Parus caeruleus</i>
Buzzard	<i>Buteo buteo</i>
Chaffinch	<i>Fringilla coelebs</i>
Curlew	<i>Numenius arquata</i>
Dunnock	<i>Prunella modularis</i>
Goldfinch	<i>Carduelis carduelis</i>
Great Tit	<i>Parus major</i>
Greenfinch	<i>Carduelis chloris</i>
Jay	<i>Garrulus glandarius</i>
Long-tailed Tit	<i>Aegithalos caudatus</i>
Magpie	<i>Pica pica</i>
Mallard	<i>Anas platyrhynchos</i>
Oystercatcher	<i>Haematopus ostralegus</i>
Raven	<i>Corvus corax</i>
Robin	<i>Erithacus rubecula</i>
Starling	<i>Sturnus vulgaris</i>
Wood Pigeon	<i>Columba palumbus</i>

Mammal species list for Landcross parish

Mole (hills)	<i>Talpa europaea</i>
Rabbit	<i>Oryctolagus cuniculus</i>