
Cornwall's Land Cover 1995-2005

Summary of Results of Land Cover Change Analysis

1995-2005



Environmental
Records Centre
for Cornwall and
the Isles of Scilly



Cornwall

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Cornwall's Land Cover 1995-2005: Summary report

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Introduction

This work has been undertaken to determine the changes that have taken place in the land cover of Cornwall in the decade 1995-2005 and to produce a summary of Cornwall's land cover in 2005.

Land cover is the landscape recorded as the sum of various component parts such as semi-natural habitats, agricultural land, towns and villages.

An overview of Cornwall's land cover provides important information about the state of the natural environment of the county. Identifying and mapping land cover change provides useful information about activities that affect the county's landscape.

Land Cover Classification

Land cover has been mapped using a classification system set up by the Joint Nature Conservation Committee (Jackson 2000) that assigns the whole of the UK's land surface and surrounding seas to one of 21 Broad Habitats (BHs). The BH system of classification is used because it is the nationally accepted framework through which the Government is committed to meet its obligations for monitoring the countryside.

Within the BH classification system, a sub-set of Priority Habitats (PHs) is identified. PHs are those that are identified in the UK Biodiversity Action Plan (UK BAP) as being at risk and in need of positive conservation action. There are 65 UK BAP Priority Habitats.

Local Habitats (LHs) are additional habitats that have been recognised by the Cornwall Biodiversity Partnership as being of nature conservation significance in Cornwall. LHs are important for selecting sites of county nature conservation importance (County Wildlife Sites).

This work determines land cover change and summarises land cover across terrestrial Cornwall up to mean low water mark.

The hierarchical framework of land cover classification showing all the Broad, Priority and Local Habitats relevant to this work (i.e. those that occur above mean low water) is shown in the following table.



Photo by Victoria Whitehouse

Broad Habitat	Priority Habitat	Local Habitat
Arable and Horticultural	Arable Field Margins	
Improved Grassland	Coastal and Floodplain Grazing Marsh	
Acid Grassland	Lowland Dry Acid Grassland	Upland Dry Acid Grassland
Calcareous Grassland	Lowland Calcareous Grassland	
Neutral Grassland	Lowland Meadows	Local Foodplain Grasslands and Local Lowland Meadows
Boundary and Linear Features	Hedgerows	Local Boundaries
Broadleaved, Mixed and Yew Woodland	Lowland Mixed Deciduous Woodland, Traditional Orchards, Upland Mixed Ashwoods, Upland Oakwood, Wet Woodland and Wood-Pasture & Parkland	Local Ancient Woodlands, Local Mixed Ashwoods and Local Parkland
Coniferous Woodland		
Bogs		
Bracken		
Dwarf Shrub Heath	Lowland Heathland and Upland Heathland	
Fen, Marsh and Swamp	Lowland Fens, Purple Moor Grass and Rush Pastures, Reedbeds and Upland Flushes, Fens and Swamps	
Rivers and Streams	Rivers	
Standing Open Water and Canals	Eutrophic Standing Waters, Mesotrophic Lakes, Oligotrophic and Dystrophic Lakes and Ponds	
Built-up Areas and Gardens	Open Mosaic Habitats on Previously Developed Land	
Inland rock	Calaminarian Grasslands	
Supralittoral Rock	Maritime Cliff and Slopes	
Supralittoral Sediment	Coastal Sand Dunes and Coastal Vegetated Shingle	
Littoral Rock	Estuarine Rocky Habitats and <i>Sabellaria alveolata</i> Reefs	
Littoral Sediment	Coastal Saltmarsh and Intertidal Mudflats	
Sublittoral Sediment	Saline Lagoons	



Photo by Alex Howie

Methodology

The Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) has an established system for analysing and mapping land cover change developed in 1990 for surveys based on aerial photography.

The land surface of Cornwall was photographed in its entirety from the air in 1995 and 2005 by Cornwall County Council. A complete audit of the whole county was carried out by comparing the aerial photographs taken in 1995 with those taken in 2005. Clear-cut land cover changes such as the loss of enclosed farmland to built development and the creation of ponds were mapped using digital mapping software, ARC GIS ArcMap v9.3.

A sample of 184 square kilometres of enclosed farmland was then monitored in greater detail to see if there were any trends in farmland condition and management that could be identified.

Mapped land cover changes were then analysed to determine the impact upon Broad, Priority and Local Habitats.

More details about the methods used are in the technical document – Cornwall's Land Cover 1995-2005 - Technical Report.



Photo by Alex Howie

Results

a) Extent and change in area of Broad Habitats

The table below shows the area of Broad Habitats in Cornwall in 2005 and the change in area between 1995 and 2005.

Broad Habitat	Area in 2005 (ha)	Change in area 1995-2005 (ha)
Arable and Horticultural	65000*	loss of 230
Improved Grassland	190000*	loss of 1670
Acid Grassland	9000	0
Calcareous Grassland	100	0
Neutral Grassland	7300	loss of ca 150
Boundary and Linear Features	1800	gain of 25
Broadleaved, Mixed and Yew Woodland	28500	gain of ca 700
Coniferous Woodland	6300	gain of ca 300
Bogs	1600	no known change
Bracken	3100	no known change
Dwarf Shrub Heath	6500	loss of 17
Fen, Marsh and Swamp	4700	loss of ca 30
Rivers and Streams	500	0
Standing Open Water and Canals	1300	gain of 110
Built-up Areas & Gardens	22000	gain of ca 1000
Inland Rock	2200	loss of ca 60
Supralittoral Rock	3750	0
Supralittoral Sediment	1350	loss of 2
Littoral Rock	1100	0
Littoral Sediment	4700	0
Sublittoral Sediment	Trace (see Note 1)	0
Total	361400	

* These figures are derived from the Defra Survey of Agriculture and Horticulture for 2005 – <http://statistics.defra.gov.uk/esg/> (accessed Jan 10)

Note:

1. Sublittoral Sediment is included in this list because the Saline Lagoons Priority habitat occurs within this Broad Habitat. 'Trace' is used because the Saline Lagoons Priority Habitat comprises a very small part of this Broad Habitat that is the inshore coastal waters of Cornwall.

b) Extent and change in area of Priority Habitats

The table below shows the area of Priority Habitats in Cornwall in 2005 and the change in area between 1995 and 2005.

Priority Habitat	Area in 2005 (ha)	Change in area 1995-2005 (ha)
Arable Field Margins	Not known (Note 1)	change not known
Coastal and Floodplain Grazing Marsh	75	0
Lowland Dry Acid Grassland	500	0
Lowland Calcareous Grassland	100	0
Lowland Meadows	100	0
Hedgerows (Note 2)	Length not known	change not known: see local boundaries
Lowland Mixed Deciduous Woodland	1600	0
Traditional Orchards	70	0
Upland Mixed Ashwoods	1700	0
Upland Oakwood	1500	0
Wet Woodland	2200	0
Wood-Pasture & Parkland	250	0
Lowland Heathland	6500	loss of 14
Upland Heathland	30	0
Lowland Fens	3100	loss of 16
Purple Moor Grass and Rush Pastures	900	loss of 14
Reedbeds	100	0
Upland Flushes, Fens and Swamps	560	0
Rivers	300	0
Eutrophic Standing Waters	100	0
Mesotrophic Lakes	150	0
Oligotrophic and Dystrophic Lakes	750	0
Ponds	300	change not known
Open Mosaic Habitats on Previously Developed Land	100	0
Calaminarian Grasslands	50	0
Maritime Cliff and Slopes	3750	0
Coastal Sand Dunes	1030	loss of 2
Coastal Vegetated Shingle	75	0
Estuarine Rocky Habitats	60	0
<i>Sabellaria alveolata</i> Reefs	3	0
Coastal Saltmarsh	290	0
Intertidal Mudflats	2600	0
Saline Lagoons	50	gain of 1
Total	28893	

Notes:

1. The area classed as 'not known' refers to Arable Field Margins and is thought to be <1% of the terrestrial area of Cornwall (3550 ha).

2. Within Boundary & Linear features, Hedgerow has not been assigned an area; this does not mean they do not cover a definite area, rather historically, they have been accorded length and the area subsumed within the adjacent habitat, primarily enclosed farmland.

c) Extent and change in area of Local Habitats

The table below shows the area of Local Habitats in Cornwall in 2005 and the change in area between 1995 and 2005.

Local Habitat	Area in 2005 (ha)	Change in area 1995-2005 (ha)
Upland Dry Acid Grassland	4500	0
Local Floodplain Grasslands	60	0
Local Lowland Meadows	600	loss of at least 17
Local Boundaries	50000 km	loss of 152 km
Local Ancient Woodlands	50	0
Local Mixed Ashwoods	110	0
Local Parkland	250	0
Total	5570	



Photo by Paul McCartney

Overview of results

Enclosed farmland changes: Arable and Horticultural & Improved Grassland Broad Habitats

Between 1995 and 2005, 1900 ha of enclosed farmland was lost. This comprises a loss of 230 ha of arable and horticultural and 1670 ha of improved grassland. The losses were due to two main factors. The first was the loss to built development and the second was to new woodland planting. Within the loss to built development, housing estates and industrial estates formed some of the largest losses by area in any particular location. There was a large number of other building developments, usually small scale, that impacted on enclosed farmland. Most loss of enclosed farmland to built development occurred in areas adjoining the urban fringe.

Through more detailed sampling of 184 square kilometres of enclosed farmland it was identified that the area of scrub invaded fields increased by approximately 500 ha between 1995 and 2005.

Two Priority Habitats occur in enclosed farmland in Cornwall, they are Arable Field Margins and Coastland and Floodplain Grazing Marsh.

It is not possible to determine change in the area of Arable Field Margins Priority Habitat in the county. This is because figures for previous and current area of land managed as Arable Field Margins are not available. The habitat is a created, often transient habitat established as a result of arable farming practices. Agri-environment incentive schemes promote the establishment and management of Arable Field Margins. Data gathered through these schemes could be used to monitor changes in area of land managed as Arable Field Margins.

The area of Coastal and Floodplain Grazing Marsh Priority Habitat in Cornwall is small. There has been no change in the area of this Priority Habitat between 1995 and 2005.

Semi-natural grassland changes: Acid Grassland, Calcareous Grassland and Neutral Grassland Broad Habitats

There was no change in the area of Acid Grassland and Calcareous Grassland between 1995 and 2005. Approximately 150 ha of Neutral Grassland was lost due to planting with trees (85 ha), the creation of ponds (15 ha) and loss to built development (50 ha).

There was no loss of Priority semi-natural grasslands between 1995 and 2005.

Of the approximately 150 ha of Neutral Grassland lost between 1995 and 2005, 17 ha was Local Lowland Meadows, lost due to tree planting (8 ha) or to built development (9 ha).

Boundary and Linear features changes

Between 1995 and 2005 152 km of Local Boundaries was lost. The majority of the hedges that were lost were those characterised as having little or no growth on the top of them and most of the loss was due to agricultural improvement.

Losses of hedges with mature trees took place in connection with the development of industrial estates at Bodmin and Falmouth together with the creation of housing estates at Launceston and St Austell.

The length of Hedgerows Priority Habitat in the county is not known so it is not possible to determine changes to this Habitat. This is because the Priority Habitat definition just considers boundary lines of trees or shrubs. This definition is not appropriate to Cornwall where the dominant and important boundary features are 'hedges' that comprise an earth or stone bank or wall with or without trees or shrubs on top. However it is very likely that the majority of the habitat lost is Priority Habitat.

Woodlands changes: Broadleaved, Mixed and Yew Woodland & Coniferous Woodland Broad Habitats

The area of Broadleaved, Mixed and Yew Woodland and Coniferous Woodland Broad Habitats increased by 1000 ha between 1995 and 2005 due to new woodland planting. About 800 ha of the woodland planting occurred on either Improved Grassland or on Arable Land.

Within the woodlands Broad Habitats there are six Priority Habitats. Four of them are what is typically thought of as woodland: Lowland Mixed Deciduous Woodland, Upland Mixed Ashwoods, Upland Oakwood and Wet Woodland. The other two are Wood-Pasture and Parkland and Traditional Orchards.

The total area of all of these Priority Habitats is 7200 ha and there has been no change in area between 1995 and 2005.

There are three locally important woodland habitats: Local Ancient Woodlands, Local Mixed Ashwoods and Local Parkland. The total area in 2005 is about 400 ha and there was no known change in area in the period 1995-2005.

Bogs, Bracken, Dwarf Shrub Heath, Fen Marsh and Swamp Broad Habitats changes

There was no change in the area of Bogs or Bracken Broad Habitats between 1995 and 2005. There was a loss of 17 ha of Dwarf Shrub Heath and a loss of 30 ha of Fen Marsh and Swamp Broad Habitats between 1995 and 2005.

Two priority Habitats are identified within the Dwarf Shrub Heath Broad Habitat these are Lowland Heathland and Upland Heathland. There was a loss of 14 ha of Lowland Heathland Priority Habitat between 1995 and 2005 with some of the main areas lost being in the China Clay District of the county. There was no change in the area of Upland Heathland Priority Habitat.

There was a loss of 16 ha of Lowland Fens Priority Habitat, about half of which was due to drainage and the rest to pond creation and succession. There was a loss of 14 ha of Purple Moor Grass and Rush Pastures Priority Habitat, 8 ha due to drainage and the remainder due to planting. There was no change in the area of Reedbeds, Upland Flushes, Fens and Swamps Priority Habitats.

Rivers and Streams, Standing Open Water and Canals Broad Habitats changes

There was no change in the area of Rivers and Streams Broad Habitats between 1995 and 2005. There was an increase of 80 ha of Standing Open Water and Canals Broad Habitat between 1995 and 2005, the majority of this increase is due to pond creation. 385 ponds were created in that period, each one with an average area of about 0.1 ha (this is ponds with a diameter of approximately 35 metres).

There is insufficient information about the nature of the open water habitats in Cornwall. This, coupled with lack of clear definitions for the open water Priority Habitats, makes it impossible to ascertain changes to the Priority Habitats. However, it is likely that there has been an increase in Ponds Priority Habitat due to the creation of so many new ponds between 1995 and 2005. It is not possible to quantify this increase because it is not known whether the ponds created are of sufficient ecological value to consider them as a Priority Habitat.



Photo by Paul McCartney

Built-up Areas and Gardens Broad Habitat changes

The area of Built-up Areas and Gardens in 2005 was about 20000 ha. The area is increasing, mainly due to the expansion of the urban fringe by new housing and industrial estates.

The increase in area in the period 1995-2005 was nearly 1000 ha, two-thirds of which was on enclosed farmland.

There may have been very small losses of Open Mosaic Habitats on Previously Developed Land Priority Habitat due to building on old mining land in areas such as Camborne but the area has been very small. There has not been a comprehensive survey of this Priority Habitat type in Cornwall although some areas have been recognised through their importance for lower plants.

Inland Rock Broad Habitat changes

The majority of this Broad Habitat occurs as the waste tips in the china clay mining area of Cornwall.

Although there is no Priority Habitat within the china clay tip area, there are small areas of international importance for lower plants.

The area of this habitat decreased by about 3% in the period of 1995-2005, all of which was due to reinstatement of tips in the china clay mining area. Developments of this sort will enhance the wildlife value of the area.

Supralittoral Rock Broad Habitat changes

This Broad Habitat encompasses the Maritime Cliff and Slope Priority Habitat and there were no changes to the area of this Priority Habitat between 1995 and 2005.

Supralittoral Sediment Broad Habitat changes

The majority of this Broad Habitat is composed of Coastal Sand Dunes Priority Habitat. There were minor losses of about 2 ha of this Priority Habitat type between 1995 and 2005. However, only 0.1 ha was a direct loss to a built structure, the rest being the creation of open water, including the construction of lagoons at Gwithian.

Littoral Rock Broad Habitat changes

The area of this habitat was estimated to be about 1100 ha in 2005. There appears to be no significant threats and no change of area was recorded during the period 1995-2005.

Two Priority Habitats types occur. One is Estuarine Rocky Habitats which appears to be mainly found in the Fal and Helford ria system. The other is Honeycomb worm *Sabellaria alveolata* Reefs, found in only a few places, most notably near Bude.

No loss of Priority Habitat was recorded in the period 1995-2005.

Littoral Sediment Broad Habitat changes

This is an extensive habitat found around the maritime coast and throughout the estuarine systems. The total area is about 4700 ha.

There were no changes in area of Coastal Saltmarsh and Intertidal Mudflats Priority Habitats between 1995 and 2005.

Sublittoral Sediment Broad Habitat changes

Sublittoral Sediment Broad Habitat is included because the Saline Lagoons Priority Habitat occurs within this Broad Habitat. Saline Lagoons Priority Habitat comprises a very small part of this Broad Habitat that is the below low water mark inshore coastal waters of Cornwall. There was a small increase in area of Saline Lagoons Priority Habitat due to the enlargement of the lagoon at Caerhays on the south coast of Cornwall.

Discussion

Land cover change 1995-2005 in comparison to previous land cover change analyses

For many Priority Habitats, there has been a decrease in habitat loss between 1995 and 2005 in comparison to Priority Habitat loss that occurred in previous years. Land cover data gathered for the period 1988 to 1995 through the Cornwall LIFE Project (CCC and CWT, 1997) and data used in the production of Cornwall BAP Volume 1 showed, for some habitats, such as heathland and wetland, a considerable loss of area.

For example, rate of loss of heathland has declined, with 60 ha lost between 1988 and 1995 in comparison to the 17 ha lost between 1995 and 2005. Also, rate of loss of wetland habitats has declined from 237 ha lost between 1988 and 1995 to approximately 30 ha lost between 1995 and 2005. Much of the wetland lost between 1988 and 1995 occurred in the north of the county, in the Culm measures area.

The rate of loss of Boundaries has also decreased from 2% annually prior to 1995 to 0.3% annually in the period post 1995. This reduction is likely to have been influenced by the introduction of the Hedgerow Regulations 1997 but there are no definitive data to compare the periods 1995-97 and 1998-2005 to ascertain whether the decrease began as a result of the introduction of this legislation.

Across the county, there has been a decline in the rate of change of semi-natural habitats to agricultural land in recent years with 670 ha of semi-natural habitat being lost to agricultural land between 1988 and 1995 and 127 ha being lost between 1995 and 2005.

The rate of loss of agricultural land to built development has increased from 600 ha between 1988 and 1995 to 1900 ha between 1995 and 2005. It should be noted that this analysis period does not encompass the impact of the Goss Moor A30 bypass and the Dobwalls bypass which both occurred post 2005.

It could be stated that the overall decline in rate of loss of important wildlife habitat across the county is good news for nature conservation in Cornwall because most of the important areas of wildlife habitat have been largely maintained. However this represents maintenance of an already impoverished extent of quality wildlife habitat. Over time there is a danger that more and more degraded environmental conditions may be seen as 'normal'. This phenomenon is called 'shifting baseline syndrome' (Pauly, 1995) This arises when the cultivated landscape and the wildlife within it changes almost imperceptibly for each generation. Each new generation defines what is 'natural'

according to its own experience of the (changed) cultural landscape it has encountered and uses this as a baseline against which to measure changes in the environment. One of the consequences of this is that a degraded natural state is considered as normal, particularly if accurate information is not passed down from generation to generation.

It is therefore important that future land cover analyses are carried out and that they use comparable methodology thus enabling realistic comparisons of habitat loss and gain in the future.

Land cover change related to local Biodiversity Action Plan targets

Cornwall's Biodiversity Volume 3: Action Plans 2004 sets Habitat Action Plan (HAP) targets for the conservation of Priority Habitats in the county. Targets refer to maintenance of current extent of Priority Habitat and, for most Priority Habitats, re-establishment of Priority Habitat to increase the overall area of that Habitat in the county.

The land cover change analysis has identified some small losses of Priority Habitat such as a loss of 14 ha of Lowland Heathland, 16 ha of Lowland Fens and 14 ha of Purple Moor Grass and Rush Pastures. This indicates that the maintenance targets in the Cornwall BAP have not been achieved.

The land cover change analysis has not identified any increase in the overall area of Priority Habitats in the county, suggesting that the re-establishment targets in the Cornwall BAP have not been achieved.

However, it is known that 185.5 ha of heathland has been re-established between 1995 and 2005 (Cornwall Wildlife Trust 2008). This has been achieved through two conservation projects, the Tomorrow's Heathland Heritage Project in the China Clay area that has re-established 181 ha and the HEATH Project in west Cornwall that has re-established 4.5 ha. These areas have not been identified as Lowland Heathland Priority Habitat through the land cover work because they are not distinguishable using the methods employed. For the purposes of the land cover change analysis work, it was decided to exclude these re-established areas until they are recognisable using the aerial photography methods used for land cover change analysis. This will ensure consistency of approach in future monitoring when it is likely that the heathlands will be sufficiently well established to be recorded. Whilst these areas may not yet conform to the definition of Lowland Heathland

Priority Habitat, there is no doubt that the re-established areas are important in nature conservation terms and will increasingly develop features that are representative of the Lowland Heathland Priority Habitat. However in the longer term it is expected that they will always be of secondary value as Priority Habitats.

Through the China Clay Woodland Project, 358 ha of oak woodland has been established (Cornwall Wildlife Trust 2008). These areas have not been identified as Upland Oakwood Priority Habitat through the land cover change analysis for the reasons listed above. Again, these areas are undoubtedly important in nature conservation terms and will increasingly develop features that are part of the Upland Oakwood Priority Habitat. However in the longer term it is expected that they will always be of secondary value as Priority Habitats.

Land cover change related to designated sites

There was no significant loss of Priority Habitat on any statutorily designated sites, Sites of Special Scientific Interest, between 1995 and 2005.

The loss of Priority Habitat between 1995 and 2005 is likely to have occurred on sites of county significance for nature conservation, County Wildlife Sites. This loss is relatively small and represents a significant decline in the rate of loss of County Wildlife Sites which was 3% per decade in the years before 1995.



Photo by Alex Howie

Conclusion

The wildlife importance of the changes

The results of the land cover change analysis for 1995 to 2005 are in most respects reassuring.

Losses of Biodiversity Priority Habitats are relatively small with decreases being a small percentage of the overall total resource in every case. However, even though the decreases have been small, there has been a continued and small decline.

There have been increases in a few of the Broad Habitats such as woodlands and ponds and some of these areas are likely to develop into wildlife rich Priority Habitats in the future.

Between 1995 and 2005, the largest land cover changes occurred in enclosed farmland. Enclosed farmland is, generally speaking, not the richest area for wildlife in Cornwall, but because it so extensive the majority of the county's population of a number of species will be found there.

An understanding of current agriculture practice together with an understanding of how the various agri-environmental schemes function is of importance in understanding how the populations of these species will be affected.

Loss of Neutral Grassland Broad Habitat is of concern. A range of factors have caused this loss including built development, tree planting and pond creation. Of concern is the lack of knowledge of the extent and distribution of the most important wildlife areas within the Neutral Grassland Broad Habitat. This is the Lowland Meadows Priority Habitat type. As there is little understanding of this Priority Habitat there is the greatest chance of inadvertant and unrecognised loss in the short-term.

Priority Habitats are being lost due to development such as the loss of Hedgerows. Where habitat re-establishment is carried out as mitigation when habitat is lost due to development, it must be recognised that establishment of Priority Habitat is a lengthy process and it can take many years for newly created habitats to support all the beneficial wildlife features of a long-established habitat. The Hedgerow Regulations which came into effect in 1997 appear to have reduced losses of Hedgerows.

The future of Cornwall's biodiversity depends on a detailed understanding of the resource, its quality and its vulnerability to change. Land cover change analysis provides a general guide to what has happened in recent years. Land cover change analysis combined with habitat monitoring and reporting will provide a valuable picture of the county's land and its wildlife resource and identify where there are gaps in our knowledge.



Photo by Sheila McCann-Downes

Recommendations:

1. Design habitat monitoring and reporting into conservation projects and the development planning process

Conservation projects and programmes and the development planning process should include clear monitoring and reporting of the impacts they are having on Priority and Broad Habitats. This, combined with the land cover analysis will provide a clear understanding of the land cover and wildlife habitats of Cornwall and the changes that are occurring.

2. Revise Cornwall BAP Vol 3

Set straight forward SMART habitat maintenance and expansion targets when Cornwall's Biodiversity Volume 3 is revised to facilitate reporting of land cover change in relation to BAP delivery.

3. Assess the impact of management of enclosed farmland on Cornwall's wildlife

Electronic records kept as part of agri-environment schemes such as Entry Level and Higher Level Stewardship should enable recording of impacts of these scheme activities on wildlife. However, considerable research is needed to establish what is happening on farmland in the county. There have been countrywide schemes to examine the impacts of farming on wildlife, particularly birds, but none of that appears to have been analysed at a county level.

4. Research further the extent and nature conservation significance of the county's Neutral Grasslands

The area of the semi-natural grassland Broad Habitats (Acid Grassland, Calcareous Grassland and Neutral Grassland) is considerable, yet the understanding of

their distribution and nature is limited. Large tracts of the upland grasslands are clearly acid and the small number of Calcareous Grasslands found behind the north coast dune systems are well defined, but there is only a limited understanding of the Neutral Grasslands in Cornwall. These grasslands are vulnerable to development and inappropriate planting because it is not known where these grasslands are found and what their nature conservation importance might be. This is an important area for further research.

5. Carry out a comprehensive survey of Cornish hedges

To further the understanding of the extent of important Hedgerows in the county, a comprehensive county-wide survey of boundaries in Cornwall should be undertaken. Some survey information is already available and this should be collated and supplemented to establish a comprehensive picture for the county. It is likely that the majority of the boundaries are of the Cornish Hedge type, but details regarding the exact nature and quality of them are not available.

6. Repeat the analysis to determine land cover change for 2005-2010

Repeat the land cover change analysis using the same methods to highlight changes occurring to Cornwall's land cover and the impact of these changes on the wildlife of the county.

7. Provide analysis of the effectiveness of site designation with respect to loss of Priority Habitats

Ensure specific analysis on the importance of site designation in preventing loss of priority habitat is included in future work.



Photo by Paul McCartney

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Photo by Liz Cox

