

2001 – 2010

Ten years

of Biodiversity Achievements



Biodiversity

Action for Kent's wildlife



Front cover: Oedemera nobilis on pyramidal orchid
by KMBRC

This page: Cliffe Pools
by Andy Hay & rspb-images.com

Ten Years of Biodiversity Achievements

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Caterpillar
by Steve Smith



Introduction

The Value of Biodiversity

Our health and well-being relies on a healthy, living planet, with the whole variety of species, or biodiversity, interacting with natural features, such as water and soil, to provide us with ecosystem services.

Ecosystem services are the benefits that humans obtain as a result of the interactions occurring in natural systems between plants, animals, microbes and the physical environment. Biodiversity forms an integral component in these natural services.

Biodiversity enables us to be provided with food, fuel, building materials, textiles and pharmaceuticals. It supports natural processes such as soil formation and nutrient cycling. It helps to regulate our climate, purify water, and control soil erosion. It contributes to spiritual, educational and recreational enjoyment and provides an attractive environment in which to live. Biodiversity is part of our natural heritage.

One of the key messages emanating from the Board of the Millennium Ecosystem Assessment is:

'Everyone in the world depends on nature and ecosystem services to provide the conditions for a decent, healthy, and secure life'.

Everyone has a role to play in caring for our natural heritage to maintain ecosystem services. Conservation of the natural environment is about safeguarding the range of wildlife and the management of natural resources for their sustainable use now and into the future.

Many organisations have specific roles in conserving Kent's biodiversity. They come together in the Kent Biodiversity Partnership for a joined up approach to reverse the losses of habitats and species that have occurred over the years and to improve the quality of important habitats.



Fern by High Weald AONB

'A good quality, well managed environment, rich in habitats and species, is an important component making Kent a healthy place in which to live, learn, work and play.'

Nick Chard,
Kent County Council
Cabinet Member
for Environment,
Highways & Waste

Box 1 Ecosystem services

Ecosystem services, which act at the local to global level, include:

- Supporting – soil formation, nutrient cycling, primary production, pollination
- Provisioning – food, wood and fibre, fuel, pharmaceuticals
- Regulating – climate regulation, flood regulation and water purification
- Cultural – educational, spiritual, recreational, aesthetic



‘The Kent Biodiversity Partnership spearheaded Biodiversity Action Planning in the UK with an award for its vision and comprehensive plans based on good data.’

Linda Davies,
Kent County Council
Director, Environment
& Waste

Background to the Kent Biodiversity Partnership

The Kent Biodiversity Partnership consists of a network of organisations, each of which plays a role in conserving Kent’s biodiversity. Partners include statutory and voluntary conservation bodies, Local Authorities, Countryside Projects, local species groups and farming, private and commercial sectors.

The aim of the Partnership is to make Kent a place where plants, animals and habitats are protected and enhanced, both for their own sake and as an integral part of the quality of life in the county.

The work of the Partnership is coordinated by a Steering Group which has the role of:

- Overseeing the development, implementation, monitoring and review of the Kent Biodiversity Action Plan
- Leading the way in developing partnership projects and initiatives for the protection and conservation of biodiversity in Kent
- Ensuring biodiversity is at the heart of our aim for a more sustainable future for Kent.

Kent Biodiversity Action Plan

First produced in 1997, the Kent Biodiversity Action Plan contains action plans for individual habitat and species of conservation importance occurring in Kent. Since this time the Biodiversity Action Plan has been revised and updated. It now includes 19 Habitat Action Plans.

Following the first production of the plan, the Partnership received a Royal Town Planning Institute Award in 1998 for planning achievement.

Box 2 Habitats for which there are Kent Habitat Action Plans

Kent Habitat Action Plans cover:

- Ancient and species rich hedgerows
- Built-up areas and gardens
- Chalk rivers
- Coastal and floodplain grazing marsh
- Coastal – sand dunes, vegetated shingle, maritime cliff and slopes
- Intertidal sediment – saltmarsh, mudflat and seagrass beds
- Lowland calcareous grassland
- Lowland dry acid grassland
- Lowland fens
- Lowland heath
- Lowland meadows
- Lowland wood-pasture and parkland
- Marine rock – littoral and sublittoral chalk, *Sabellaria spinulosa* reefs
- Native woodland
- Old orchards
- Reedbeds
- Saline lagoons
- Standing open water
- Subtidal sediments

Challenges

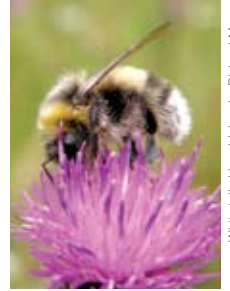
At the global level, loss of biodiversity has been accelerating over the last 50 years. These losses have been attributed to: habitat change including fragmentation; climate change modifying the distribution of species; spread of invasive non-native species altering natural ecosystems; unsustainable exploitation of natural resources; and increasing pollution.

At the local level, decline in biodiversity in Kent has been caused by:

- **Loss of habitats** – due to development or other land use, for example through housing and road development
- **Fragmentation of habitats** – resulting from piecemeal losses within or at the edge of habitats
- **Lack of appropriate management** – through neglect or changes in management practices
- **Disturbance** – through inappropriate use of habitats.

These countywide impacts have exacerbated the effect of climate change by preventing species from shifting their distributional range.

Information on the distribution and size of habitats and species populations across Kent is essential to understand the changes taking place. Furthermore, while much is known about survival needs of some species, for others knowledge is sparse even of the more common species. For example, the ecological requirements of bats are complex and still poorly understood; their nocturnal and secretive way of life combined with their vulnerability to disturbance makes them difficult to study. One of the challenges has been to undertake research in order to understand the conservation needs of these species.



White-tailed bumblebee by Richard Moyses

In response to the rate of biodiversity losses, in 2002 the Conference of the Parties for the Convention on Biological Diversity adopted the following target:

‘to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth.’

International Year of Biodiversity

The United Nations declared 2010 as the International Year of Biodiversity. The aim was to increase public awareness of the importance of biodiversity to human well-being. During the first decade of the 21st century, 2010 provided a focus for achieving actions for biodiversity. The Year itself presented an opportunity to celebrate the diversity of life on Earth, enable people to learn more about wildlife and to highlight opportunities for involvement in local conservation projects.

This document represents a celebration of our achievements for biodiversity in Kent over the last 10 years. It highlights just some examples of the huge amount of work that has taken place to restore, maintain and enhance biodiversity across the county.



Link Sculpture, Victory Wood
by Woodland Trust



WOOD

WOOD
↑

Achievements

2001 *What have we got?*

High quality information is at the heart of the work of the Kent Biodiversity Partnership. Not just having the right information, but making it available to anyone who needs it, is essential. In 2001, work began towards the county's first biological records centre.

'Biological recording provides the necessary data to map our wildlife resource and monitor changes.'

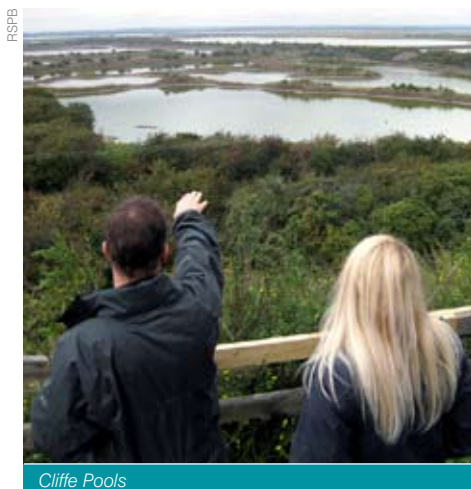
John Badmin,
Kent Field Club (Hon.)
Editor, and Kent and
Medway Biological
Records Centre Chairman

Kent and Medway Biological Records Centre

In 2001, a large number of partner organisations developed and supported a bid to the Heritage Lottery Fund to establish the Kent and Medway Biological Records Centre. The centre was finally established in 2003 and, after an initial set up phase, the centre was launched and opened for information requests in 2005. Working closely with recording groups in Kent, the centre, now funded by partners, holds over 2.5 million records of around 19,000

species found in Kent and welcomes sightings of species from everyone. Records provide information about the distribution of species across the county, how common or scarce they are, and whether populations are changing over time. Information is used to help conserve wildlife, particularly with regard to development and changing land management.

Cliffe Pools RSPB Reserve



Cliffe Pools

Saline lagoons are a scarce habitat. Cliffe Pools on the North Kent Marshes has 2% of the UK total of saline lagoons which formed as a result of old clay diggings. Purchasing the site in 2001, the RSPB rescued the lagoons from being used as a site for the disposal of river dredgings. Since this time access for visitors has been improved and the lagoons and surrounding grassland habitat have been managed for thousands of wintering waders and wildfowl.

Cinderhill Community Wood



Adder bench at Cinderhill Wood

Cinderhill Wood, near Tunbridge Wells, contains a variety of habitats including important areas of heathland. In 2001, 3 ha of heathland were fenced prior to grazing as part of a heathland restoration programme. A flock of hebridean sheep now graze on bramble and birch saplings, preventing the

area from scrubbing over. Other habitats on the site are also managed for wildlife, including the sweet chestnut coppice which is harvested to provide fencing materials, garden furniture and firewood. Volunteers help manage the site for the benefit of the local community and visitors.



Heathland at Cinderhill Wood

Environmental Awards for Business

Instead of gaining an income from renting out an area of their land for arable use, Quest International, now Givaudan, decided to convert the land, located adjacent to the River Stour, for wildlife use. An otter holt was constructed on the river as well as two riverside bays. A pond and small wildflower meadow were created and pole mounted barn owl boxes erected. The company was rewarded with an Environment Award for Kent Business in 2001. Since this time, work has continued with 2 ha wildflower meadow creation, a second larger pond, hedge and tree planting. The land is enjoyed by staff and by local Beaver groups who visit and learn about pond life.



Wildflower meadow created from an arable field at Givaudan, Ashford, 2009

Kentish Stour Countryside Partnership

2002

Habitat management for wildlife, people and the economy

The natural environment helps to support communities and the economy. 2002 saw the start of several sustainable land management projects by the Kent Biodiversity Partnership.

The Blean Initiative

The Blean Initiative, established in 2002, is a partnership of local landowners, local authorities, conservation bodies and community groups. Working on sustainable woodland management for people, wildlife and the local economy, it supports biodiversity, heritage, recreation and the development of woodland products. Major clearance of conifers for the re-establishment of broad-leaved woodland, with open areas of heathland and acid grassland, has been undertaken. This restoration work, together

with ongoing woodland management, including coppicing and ride widening, is resulting in biodiversity gains across The Blean. The heath fritillary butterfly (*Melitaea athalia*) is flourishing once again with record numbers recorded for the last two years; and in 2010, fifty pairs of hobbies (*Falco subbuteo*) were recorded. The Blean Initiative promotes visitor enjoyment of the distinctive landscape, its wildlife and its heritage with events, walks and provision of easy access routes.



Wood anemones



Heath fritillary butterfly



Winding seat at The Blean

Jill Batchelor

Dave Rogers

Jon Shelton



Thanet Coastal Codes

The coast of Thanet is a huge draw for visitors and important for the tourist economy. This stretch of coast is of international importance for the wildlife it supports. However, many coastal activities can inadvertently harm marine and bird life.

To avoid this, a suite of voluntary codes for different activities was drawn up by the coast users themselves, working with the Thanet Coast Project. This was the first project in England where local people got together to help safeguard the coastline in this way.

Ashford Green Corridor

Ashford Green Corridor, declared as a Local Nature Reserve in 2002, is a network of parks and green spaces alongside the rivers and streams that flow through Ashford. The Kentish Stour Countryside Partnership and its volunteers help to manage the Ashford Green Corridor which provides a haven for wildlife in a largely urban environment as well as a place for people to enjoy. Furthermore, the corridor acts as a natural storage system for

floodwater, protecting Ashford homes and businesses. An under-utilised amenity grassland area in the centre of Ashford was given a new lease of life when work took place to create a new wetland habitat. Volunteers helped to improve habitat for crayfish by placing stone behind chestnut posts. This has resulted in a very high number of native white clawed crayfish (*Austropotamobius pallipes*), in this part of the River Stour.



Wetland habitat creation, Bowens Field, Ashford Green Corridor



Male and female white clawed crayfish, an endangered species protected by law, at Buxford, Ashford Green Corridor

Kentish Stour Countryside Partnership

Bat Hibernation Sites for Autumn Swarming

To learn more about the exact conditions preferred by bats in hibernation, data loggers, that record temperature and humidity, have been installed at various sites including dene holes, stone mines, a chalk cave and a cellar, the first in early 2002. Autumn swarming is a little understood but important social behaviour of bats, believed to be linked with mating and possibly information exchange. To gain an insight on the use of hibernation sites as autumn swarming sites, monitoring is required. Additional loggers were installed in hibernation sites to record the level of activity, to identify the sites used for

swarming. A license was obtained for using a harp-trap to catch flying bats and record which bats were using these locations. As bats appear to be faithful to traditional swarming sites, knowledge of these locations is critical to providing them with a high level of protection. This work is ongoing and further sites are being checked.

2003

Surveys and sea

Gathering up-to-date information on habitats and species provides important data for the Kent Biodiversity Partnership on the changes that are taking place over time. As well as a review of habitats across the county, 2003 saw a new survey of the habitats under the sea.

Kent Habitat Survey

Completed in 2003, the Kent Habitat Survey updated the previous Kent Wildlife Habitat Survey of 1995. Using aerial photographic interpretation and targeted field surveys, habitat data across the county was captured directly on to a Geographic Information System (GIS). While the original survey was based on the 'Phase 1' habitat classification system, the 2003 survey used the Integrated Habitat Classification System. This new system combined different forms of habitat classification including the UK Biodiversity Action Plan priority habitat types, thereby enabling the survey to be used to monitor change in the extent of BAP habitats.

The 2003 habitat survey found that Kent had:

- 45,217 ha of native woodland
- 1,659 ha of chalk grassland
- 6,900 ha of coastal and floodplain grazing marsh
- 52 ha of heathland.

These figures indicated that, since the previous habitat survey in 1995, while the area of unimproved chalk grassland had increased by around 350 ha, unfortunately woodland had decreased by 3,000 ha and heathland by 30 ha.

Orchards for Everyone

Since 2003, at least five 'community orchard groups' have been established in the Mid Kent Downs area. Orchards have been restocked with traditional fruit varieties and conserved as part of the fabric of the landscape, thus continuing Kent's fruit-growing heritage as the 'Garden of England'. As well as management for wildlife, a huge array of community heritage events and training days have been held; events include: wildlife walks, pruning workshops and festivals of fruit.



Traditional orchard at Stockbury

Mid Kent Downs Countryside Partnership

Kent Seasearch

Kent Seasearch is a project to record marine life and map seabed habitats around Kent's coast by volunteer divers. Part of the national Seasearch programme, Kent Seasearch was set up in 2003 and is run by the Kent Wildlife Trust. Much more is now known about the habitats and species living on the seabed around the Kent coast; marine life not previously recorded in Kent includes the short-snouted seahorse (*Hippocampus hippocampus*). Data is used to help identify important sites for marine conservation, including Marine Conservation Zones, and assist those responsible for marine activities to protect marine wildlife. Records of species such as the trigger fish (*Balistes capriscus*), more typical of slightly warmer waters,



Fiona Crouch

Short-snouted seahorse (*Hippocampus hippocampus*), a protected species, recorded in Shakespeare Bay

are potential indicators of climate change. The project has a training programme for any diver wishing to take part.

East Kent Woodland, heathland acid grassland creation

The Kentish Stour Countryside Partnership has worked with the Forestry Commission over the last ten years to deliver a range of biodiversity improvements in its east Kent woodlands. About 8 ha of acid grassland and heathland have been created at Clowes Wood, Covert Wood and King's Wood by removing trees to create new open areas.



An area of heathland creation at Clowes Wood shortly after felling conifers in 2003



The same area of heathland a few years later with the heather doing well

Kentish Stour Countryside Partnership

2004

People for wildlife

Caring for wildlife is encouraged by the Kent Biodiversity Partnership. In 2004, people worked to improve wildlife habitats for species in a variety of ways.

Kent Landscape Information System

The Kent Landscape Information System has been developed as an online tool (www.kent.gov.uk/klis) to provide detailed information on the landscape, habitats and species of Kent. It contains several datasets and incorporates a study of the

capability of the various Kent landscapes to support different habitat types. The system enables better-informed decisions about planning and land use and identifies locations presenting opportunities for habitat creation.

Business and Biodiversity

The Business and Biodiversity project provided advice to businesses about management of their landholdings for the benefit of wildlife. The project took place in and around Ashford, a Government growth area, between 2004 and 2006. Biodiversity kits, consisting of bird and bat boxes, bird feeders and information leaflets were

distributed. Advice was given to the construction sector on planning for biodiversity in new development areas. Businesses were assisted with creating small havens for wildlife and places for staff to enjoy, thereby not only supporting wildlife but also raising awareness of environmental issues within their companies.

Shoresearch

Shoresearch, a programme of intertidal habitat and marine life surveys, was established in 2004 by the Kent Wildlife Trust. Knowledge of marine life, recorded with the help of volunteers, is used to identify important areas for marine wildlife conservation. Monitoring the spread of

invasive non-native species, such as wireweed (*Sargassum muticum*), shows how marine communities are changing over time, and recent records of the purple topshell (*Gibbula umbilicalis*), may be indicative of climate change.

Great Crested Newt Monitoring Project

Pond Wardens and volunteers have been provided with training, torches and nets to survey for great crested newts (*Triturus cristatus*). This countywide survey, which started in 2004, has identified the types of ponds likely to support great crested newt populations and ponds that are important for a range of amphibian species. From the survey results, the Kent Reptile and

Amphibian Group have found that there is a link between great crested newt populations and the density of ponds in an area. They have also identified the most important areas in the county for creating new ponds. As well as being critical to amphibians, ponds are an important feature in the landscape for a variety of other wildlife.



William Moreno

Shorne Woods CP

2005

Wildlife for people

A high quality natural environment, rich in wildlife for people to enjoy, is promoted by the Kent Biodiversity Partnership. Many wildlife projects provide for access to these special places, along with interpretation, walks and events.

'Making space for natural habitats with abundant wildlife is essential for a living landscape for people to enjoy.'

John Bennett,
Kent Wildlife Trust
Chief Executive

Bredhurst Woodland



Sheila Peitert, Bredhurst Woodland Action Group

Bredhurst Woodland

It began in 2005 when six people set about stopping the destruction of their local woodland through fly tipping, dumping of cars and off-road use. The Bredhurst Woodland Action Group, which has grown to over 350 members, has cleared away the debris, restricted access to vehicular use, restored footpaths and instigated management. Located in the Kent Downs AONB, north of Maidstone, Bredhurst Wood consists of around 240 ha of woodland surrounded by chalk grassland. The management plan for this Local Wildlife Site, produced by the Kent Wildlife Trust, incorporates a coppicing programme, glade creation and chalk grassland restoration.

Surveys have revealed species that hadn't been seen for years, including a huge clump of the Watling Street thistle (*Eryngium campestre*, also known as field eryngo), the greater butterfly orchid (*Platanthera chlorantha*) and the Adonis blue butterfly (*Lysandra bellargus*). Yet other species have been found that had not been recorded before: the lady orchid (*Orchis purpurea*) and the fly orchid (*Ophrys insectifera*). Now, Bredhurst Wood is a welcoming haven of wildlife for walkers, horse riders and all to enjoy.

Kent Goes Wild!

First held in 2005, 'Kent Goes Wild!' is an annual event dedicated to biological recording. As well as communicating the importance of collating information on biodiversity, the event promotes the work of the various species recording groups in

Kent and encourages people to take part in wildlife recording. Held at different locations across the county, the event includes exhibitions, demonstrations, guided walks and children's activities.



Hothfield Heathlands Local Nature Reserve

Habitat restoration at Hothfield Heathlands, near Ashford, important for its ancient heathlands, took place between 2005 and 2009 with support from the Heritage Lottery Fund. A variety of management works were undertaken that involved removing trees and scrub, controlling bracken and creating bunds to control water loss from bogs and fens. To maintain the open heathland landscape, highland cattle and konik ponies were brought in to graze the site. In total the work resulted in the restoration of: 30 ha of acid grassland and lowland heath; 2 ha of

lowland fen and 3 ha of lowland bog. In addition, the rare three-lobed crowfoot (*Ranunculus tripartitus*) dramatically increased its range on site from one to over 20 ponds. The reserve has extended dramatically in the last five years, increasing from 58 to 83 ha and incorporating new areas of fen, wood-pasture and riparian habitat. Key to the restoration work has been the support of a dedicated team of volunteers, some who take care of the livestock and others who help with restoration of heaths and bogs.



Hothfield Heath



Hothfield Fen

Kent Wildlife Trust

Ian Pickards

2006

Planning and biodiversity

Planning for biodiversity is one of the key tasks of the Kent Biodiversity Partnership in a county with high demands on the land for commercial and residential areas, transport, agriculture and recreation. 2006 saw a new era for local wildlife sites in the county.

'Spatial planning for biodiversity and development of ecological networks across landscapes is essential to enable species to adapt to a changing climate.'

Alan Law,
Natural England
South East and London
Regional Director

Local Wildlife Sites

Previously known as Sites of Nature Conservation Interest, the network of Local Wildlife Sites recognises areas important for biodiversity across the county. Wildlife sites that are of national and international importance are protected by law under a suite of designations. However, our natural heritage cannot be sustained in these sites alone. Local Wildlife Sites help fill the gaps, playing a fundamental role in meeting biodiversity targets and supporting ecosystem services. Their importance is recognised in government policy and local development documents are required to include policies for their protection against inappropriate development. In Kent, the Local Wildlife Sites system is managed by the Kent Wildlife Trust on behalf of the Kent Biodiversity Partnership Steering Group

which makes the final decision on the selection of individual sites. Sites are selected using set criteria based on the wildlife importance of habitats or species. These selection criteria were approved by the Steering Group in 2006. There are over 450 Local Wildlife Sites in Kent which cover over 27,000 ha or about 7% of the county.



Cliffe Reeds

RSPB



Sheila Pettitt, Bredhurst Woodland Action Group

Herb paris (Paris quadrifolia), Bredhurst Wood



Jack Picknell, Bredhurst Woodland Action Group

Bluebells (Hyacinthoides non-scripta), Bredhurst Wood



Woodland Trust

Victory Wood, view towards the main ridge

Woodlands old and new

Kent is one of the most wooded counties with around 10% of England's ancient woodland habitat. Maintaining and restoring woodland habitat is a significant part of the Kent Biodiversity Partnership's work.

2007

'Good management is vital to maintain woodlands with a wealth of wildlife, as a productive source of renewable energy, and as places for relaxation and enjoyment.'

Alan Betts
Forestry Commission
South East Regional
Director

Ancient Woodland Inventory Revision

The Ancient Woodland Inventory, first produced for Kent in 1984 and revised in 1990, is being updated across Kent. Ancient woodland – land that has been continuously wooded since 1600 AD – of less than 2 ha in size had not been included within the original inventory. Improved mapping techniques and inclusion of small areas of woodland has resulted in an increase in recorded ancient woodland habitat! The first revised Ancient Woodland Inventory to be completed was for the Borough of Tunbridge Wells. The Weald and Downs Ancient Woodland Survey recorded 5,391 ha of ancient woodland in 2007, compared to the 4,719 ha mapped in 1984 – a rise of 672 ha. Around 550 additional small

woodland parcels were mapped and the proportion of land covered by ancient woodland in the Borough rose from 14% to 16%. Revisions to the Inventory have since been completed for Ashford Borough (2009) and Tonbridge and Malling Borough (2010). Work in other parts of the county is ongoing. The revised Inventory will assist with decision making regarding the impact of future development on ancient woodland. It will also help with the conservation of ancient woodland across the county, for example in identifying opportunities for improving connectivity between woodlands.



Ancient woodland in the borough of Tunbridge Wells

Tunbridge Wells Borough Council

Denge Woods Project

Located between Ashford and Canterbury, the woodlands in and around Denge Woods have undergone a transformation in the last three years with the area of private woodland in active management doubling since 2007. The woods are important for woodland specialist butterflies and moths, many of which have been in decline due to the lack of coppicing in recent decades. The project recorded 36 butterfly species and 767 moth species, including 11 Biodiversity Action Plan species. The Duke of Burgundy butterfly (*Hamearis lucina*) was on the brink of extinction in Kent in 2007 with records from just two locations in Denge Woods. Improved woodland management of coppice and wide rides along with increased volunteer surveying

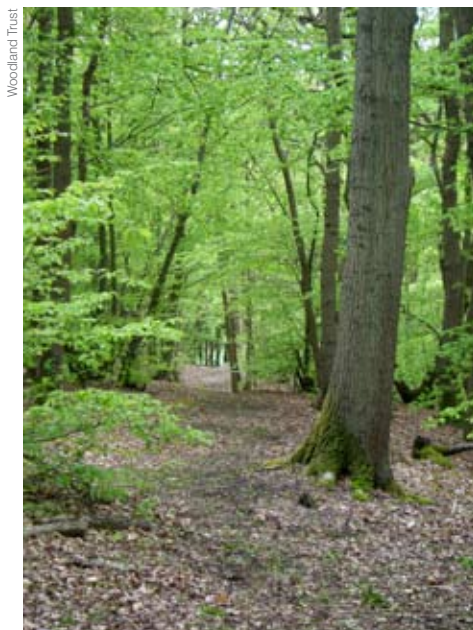
has resulted in nine breeding colonies of the Duke of Burgundy being recorded in 2010. This increase in numbers, sites and potential habitat make this species much more likely to remain in Kent. Prospects have been improved for many other species reliant on coppice habitat.



Duke of Burgundy butterfly

Butterfly Conservation

Victory Wood



Woodland Trust

Victory Wood, taken in part of Blean Wood

Over 140 ha of mainly low grade agricultural land to the north of Canterbury have been planted by the Woodland Trust. Between 2005 and 2008, Victory Wood became a major woodland creation scheme. Once part of the extensive Blean Forest, piecemeal deforestation for agricultural land led to fragmentation of the ancient woodland. Community effort resulted in around 80 ha of woodland being established, linking the existing Blean and Ellenden Woods once more. Victory Wood was so named as it was the flagship site of the 2005 Trafalgar Woods Project which commemorated the bicentenary of the Battle of Trafalgar. Victory Wood is one of 27 woods established, one for each boat that was part of the British fleet. As well as contributing to biodiversity, Victory Wood provides a place of historical interpretation and for recreational enjoyment.

2008

Up on the Downs

Much chalk grassland of the North Downs was lost due to post-war agricultural intensification. This downland habitat supports many rare species and so restoration of chalk grassland is of major concern for the Kent Biodiversity Partnership.

Chalk Grassland Re-creation

Wildflower seed sourced from Lydden Hill Roadside Nature Reserve, which supports a rich and diverse grassland community, was used to re-create chalk downland on newly reverted arable fields at two farms in the Lydden area. Species diversity on the fields increased year by year from the wildflower-rich hay that was spread over the fields between 2005 and 2009. Newly colonised species, characteristic of chalk downland, recorded in 2010 included: birdsfoot trefoil (*Lotus corniculatus*),

black knapweed (*Centaurea nigra*), oxeye daisy (*Leucanthemum vulgare*), marjoram (*Origanum majorana*), tufted vetch (*Vicia cracca*), wild basil (*Clinopodium vulgare*) and wild carrot (*Daucus carota*). This work has helped increase the extent of the ecological network of species rich habitats in the Lydden/Dover area of the Kent Downs. Farmers are continuing to take up this landscape scale approach to conservation through Environmental Stewardship schemes.



Spreading wildflower-rich hay in 2006



Re-created calcareous grassland in 2010

Landscape and Nature for All

The focus of the Landscape and Nature for All project has been the restoration of chalk grassland, woodland and wetland sites across the Kent Downs AONB and similar landscapes in France. This cross border project, which started in 2008,

has also resulted in pond creation, restoration of Roadside Nature Reserves and development of ecological corridors. It has enabled raised awareness of biodiversity and volunteer involvement in conservation activities.

Valley of Visions

Valley of Visions is a project to conserve and enhance the landscape, wildlife, heritage, and access provision in The Medway Gap, between Maidstone and the Medway Towns. Working closely with landowners, farmers and local communities, the project has taken a landscape scale approach to biodiversity conservation. Tremendous improvements for biodiversity have been made over the years. In 2008, work started on Burham to Wouldham Downs with scrub clearance from the chalk grassland and successful reintroduction of the Adonis blue butterfly (*Lysandra bellargus*). In 2009, restoration of 30 ha of chalk grassland near Snodland began; a sustainable approach was taken and the cleared scrub and small trees were sent to a biomass power station for energy generation. Following scrub clearance,



Scrub and small trees baled ready for transportation to a biomass power station



Rick Bayne, Valley of Visions

sites were fenced and grazing reintroduced. In 2010, the work of the project was recognised with a commendation in the UK Landscape Awards.

Kent Downs Land Manager's Pack

The Kent Downs Land Manager's Pack was launched as a web resource in 2008 (www.kentdowns.org.uk/Land_Managers_Pack.htm). Put together by the Kent Downs AONB Unit and the Countryside Management Partnerships, the pack

is aimed at everyone with a garden, small area of land or whole farm. The pack provides practical guidance on creation, management and enhancement of habitats from ponds and hedges, to orchards and woodlands.

NI 197

The Kent Area Agreement, 2008-2011, includes the indicator known as NI 197: 'Improved Local Biodiversity – proportion of local sites where positive conservation management has been or is being implemented'. As a consequence over

57% of Local Wildlife Sites have been brought into positive conservation management, thus improving the condition of local habitats and allowing biodiversity to respond to climate change.

2009

Wetlands and ponds

Good quality wetland habitat, rivers and ponds are critical to a whole variety of species. The Kent Biodiversity Partnership works to reverse the trends of habitat loss or degradation that has occurred over the years. There were some significant achievements for wetlands and ponds in 2009 along with other habitat and species work.

'Sustainable management of natural coastal features, river systems and floodplains helps to manage flood risk and deliver good water quality.'

Andrew Pearce,
Environment Agency
Area Manager
Kent and East Sussex

Shorne Marshes RSPB Reserve



Shorne Marshes

Just six lapwing (*Vanellus vanellus*) and 11 redshank (*Tringa totanus*) bred on the lowland wet grassland at Shorne Marshes in 2006. Numbers peaked in 2009 at 28 and 62 pairs respectively, following an upward trend in numbers. This success was a consequence of hydrological management and conservation (as opposed to agricultural) grazing. The historic agricultural use of the site meant that it drained too readily; securing good abstraction licenses and installing a sustainable water source changed the situation. Antisocial use, mainly motor biking, has been eliminated through improved site security and scrub clearance has reduced avian predation of ground nesting birds. Furthermore, combined management for waders and other wildlife has enabled the conservation of one of the UK's highest concentrations of great crested newt.

Assessing Regional Changes to natural Habitats (ARCH)

The ARCH project (Assessing Regional Changes to natural Habitats), which started in 2009 and continues to 2012, aims to improve techniques for recording and monitoring the extent of wildlife habitats across the county. In doing so, the project will update the 2003 Kent Habitat Survey by mapping the current extent of valuable wildlife habitats to a level of detail not

covered previously. The project will produce a land cover assessment for the whole of the county with an analysis of habitat change over the last twenty years. In addition, tools to measure the degree of habitat fragmentation and connectivity are being developed, as well as tools to help planners identify risk posed by development to valuable wildlife habitats.

Important Areas for Ponds Projects

Important Areas for Ponds have been identified for three areas in Kent: Ashford District, Dungeness, and North Kent Marshes. Wealden, a cross-county area, has been flagged for its high concentrations of great crested newts. These geographic locations

of high quality ponds have been described in a report prepared by Pond Conservation for the Environment Agency. The report provides a focus for pond conservation and, since the report was produced in 2009, 19 new ponds have been created.

The Weald Meadows Initiative

Building on the success of previous work, Phase V (2009-11) of the Weald Meadows Initiative, continues to ensure the long term survival of irreplaceable species rich grasslands throughout the Weald. The project, managed by the High Weald Landscape Trust, provides advice to landowners on meadow management. It coordinates the collection, processing and harvesting of wild 'Weald Native Origin Seed' from species rich meadows, for use in the creation of new meadows and enhancement of existing species poor grasslands. Since 1996, 504 kg of seed has been supplied to 117 Kent sites comprising 87 ha of grassland enhancement and 32 ha of meadow creation. As well as increasing scarce meadow habitats, the project helps to improve income for meadow owners by expanding the outlets for meadow products, such as herb rich hay.



Combine harvester working in species rich meadow



Weald Native Origin Seed

High Weald Landscape Trust

Creating Areas for Nature



An on-line pack containing step-by-step guidance about creating habitats for wildlife has been produced by the North West Kent Countryside Partnership for use in schools, community spaces or gardens. The pack is located on the Kent Biodiversity Partnership

website (<http://www.kentbap.org.uk/get-involved/creating-areas-for-nature>) and provides practical information such as the best time of the year for carrying out work, the tools to use, which plants to plant and things to avoid.

2010

Protecting species

The Kent Biodiversity Partnership focuses its attention on good habitat management as good quality habitat will support a wide range of species including those that are less common. However, there is still a need to undertake research to check that the management for species is right and to monitor trends in populations.

The Short-haired Bumblebee Reintroduction



Richard Moyses

Red-shanked carder bee (*Bombus ruderarius*)

The number of bumblebee species in lowland Britain has halved since 1950 with two species becoming extinct within the last 70 years. The short-haired bumblebee (*Bombus subterraneus*), once widespread in southern England, was last recorded at Dungeness in 1988. Following the creation of suitable habitats, including pollen and nectar-rich flower margins around fields and red clover hay meadows, on agricultural land at Romney Marsh, the short-haired bumblebee was reintroduced in 2010.

An added benefit arising from the improved habitat conditions has been the increase in five other bumblebee species: large garden bumblebee (*Bombus ruderatus*), brown banded carder bee (*Bombus humilis*), moss carder bee (*Bombus muscorum*), red-shanked carder bee (*Bombus ruderarius*) and shrill carder bee (*Bombus sylvarum*). Bumblebees along with other species are essential for pollination of crops and wild flowers; in doing so they are estimated to contribute around €14.2 billion to the European economy.

Hazel Dormouse Conservation

Concern over the decline in numbers of hazel dormice (*Muscardinus avellanarius*) across the country (their range reduced by at least half in the last 100 years) led to the Kent Mammal Group starting a programme for dormouse conservation in 2000. Now over 90 areas of woodland in Kent are being monitored and the data contributes to the National Dormouse Monitoring Programme. 2010 marks the year in which a huge grant has been received from the BBC Wildlife

Fund for further dormouse research. The hazel dormouse, a protected species, acts as an important 'bio-indicator' of habitat quality. The species is particularly sensitive to habitat change, such as fragmentation, and its presence can indicate that the habitat is suitable for a wide range of other species. Further research will aid our understanding of dormouse requirements and habitat quality in Kent.

Bechstein's Bat Survey



During 2009 and 2010, the Kent Bat Group took part in a national survey aimed at collating baseline data on the Bechstein's bat (*Myotis bechsteinii*) and identifying hotspots for conservation action. Using harp-traps and acoustic lures, bats were recorded in 36 woodlands across the county. As well as Bechstein's bat, 11 other species were also trapped, including several species not usually encountered using more traditional methods. The survey provided valuable records including: a lactating Bechstein's bat, proving this to be a breeding species in Kent; two Brandt's bats (*Myotis brandtii*), the first to be caught by hand since the Kent Bat Group was formed in 1983; and an Alcahloe bat (*Myotis alcathoe*), only recognised as a separate species resident in the UK in 2010.

River Dour Restoration

In 2010, the Temple Ewell stretch of the River Dour, an important chalk stream, was restocked with locally sourced brown trout (*Salmo trutta*) fry. This represents the final stage in a year-long project to enhance the river. Previous work involved the introduction of gravel to improve the quality of the riverbed, and planting with aquatic species including water-crowfoot, foals water cress and flag iris. The success of this project will be monitored over the next few years.



Environment Agency

Re-stocking local brown trout in the Temple Ewell stretch of the River Dour

New Atlas of the Kent Flora

A New Atlas of the Kent Flora, published in 2010, covers over 2,500 different types of plants recorded in the county. Maps provide an update on the distribution of species since the previous atlas published in 1982.

The atlas represents a thorough botanical survey of the county and an essential reference document from which further changes in plant distributions can be noted.

Environmental Stewardship

Environmental Stewardship, an agri-environment scheme introduced in 2005, aims to secure widespread environmental benefits across the landscape. One of the objectives under the Higher Level Stewardship element of the scheme is wildlife conservation. Under this scheme,

over 4,000 ha of habitat has been improved for wildlife and more than 450 ha of habitat created by farmers and landowners across Kent. Furthermore, the improvements amount to £19.5 million being brought to the local farmland economy.

Field opposite Sandwich Bay Bird Observatory
by William Moreno



Kent Biodiversity Action Plan Overall Achievements

Achievements for biodiversity can be seen and experienced across the Kent landscape; the sample of projects illustrated on the previous pages all contribute to the achievement of Kent Biodiversity Action Plan targets.

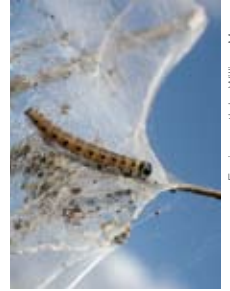
While not all 2010 targets have been achieved, a positive difference has been made across all habitats and species. Other examples of achievements are shown in Boxes 3 to 6 overleaf.

Bredhurst Woods by Shirley Brown, BWAG



Action under the Kent Biodiversity Action Plan has resulted in:

- 5,400 ha of woodland being brought into good condition
- 3,150 ha of coastal & floodplain grazing marsh created, an increase of 46%
- 1,800 ha of chalk grassland restored or enhanced
- 1,000 ha of woodland being restored – primarily coniferous plantation being returned to broadleaved woodland
- 637 ha of chalk grassland created – an increase of 38% (target exceeded)
- 522 ha of lowland meadows created
- 323 ha of lowland meadows restored or enhanced
- 72 ha of heathland created – more than doubling the total area.



Ermine moth by William Moreno

Over the ten year period covered by this report, Kent Wildlife Trust has acquired 979 ha of land as new nature reserves, all of these now open for everyone to enjoy.

Box 3 Fen habitat

Fen habitat has been restored using beavers at Ham Fen Nature Reserve, near Sandwich. The beavers act as a management tool, controlling tree growth and digging channels as they

move around the site. Other restoration work includes the excavation of new pools and ditches which has led to the reappearance of the nationally scarce fen pondweed (*Potamogeton coloratus*).

Box 4 Wood-pasture and parkland

An inventory of all wood-pasture and parkland sites, based on old maps and records, archaeological features, presence of veteran trees, presence/impact of large herbivores and

vegetation mosaic was carried out to identify the extent of this habitat type in Kent. The method used also contributed to a national survey of wood-pasture and parkland.

Box 5 Chalk rivers

A total of 4.5 km of chalk river across Kent, including the Rivers Darent, Little Stour and Dour, have been restored by the Environment Agency. The work has included creation of low flow

channels, bank re-profiling and planting river margins with characteristic chalk stream species.

Box 6 Serotine bats

The study of a serotine bat (*Eptesicus serotinus*) maternity roost has been on-going since 1987. A huge amount of data, gathered under license, on their physical condition, breeding success and lifespan is now being analysed by Leeds University.

Data loggers installed in two roosts elsewhere in the county are providing a continuous record of temperatures within roosts when bats are in residence. This information is vital for understanding the conditions required by serotine bats in maternity roosts.

The difference made by the Partnership to biodiversity over the last ten years

The Kent Biodiversity Partnership takes positive action for biodiversity. From germination through to fully grown projects, it develops countywide initiatives that otherwise would not go ahead. Projects not only focus on improving the status for biodiversity, but also on providing better access and opportunities for people to experience and learn about nature.

Landowner and volunteer support

Enormous differences have been made with habitat creation, restoration and enhancement across the county. Much of this valuable work is carried out by volunteers. Many landowners are involved in wildlife conservation. For example, approximately 1,500 landowners, most of whom are private individuals, have their land within a Local Wildlife Site.

Contribution to the local economy

Many of the projects included within this document have received huge financial support from the Heritage Lottery Fund and European Interreg funding which has brought millions of pounds to the economy of Kent for the support of biodiversity and its enjoyment. The Environmental Stewardship agri-environment scheme has provided further funding to farmers and landowners for wildlife initiatives. Yet other projects have received funding from smaller grant aiding organisations and charities.



Cornflower by KMBFC

‘Ten years on, its huge collective value in restoring, maintaining and enhancing Kent’s valuable habitats and species across the county is shown by the impressive progress now demonstrated.

Given the challenges Kent’s biodiversity still faces, partnership working will be ever more crucial.’

Linda Davies,
Kent County Council
Director, Environment
& Waste



2009 KBP annual gathering by William Moreno

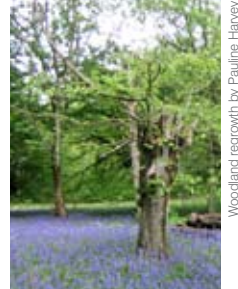
Marsh Marigolds
by Steve Smith

*The next ten
years and
beyond*

We're not there yet!

The worldwide target to reduce significantly the current rate of biodiversity loss has not been met. Unfortunately the decline in habitats and species continues.

In Kent, while significant gains have been accomplished with some Kent Biodiversity Action Plan targets, others have not been achieved. Greater understanding of the significance of biodiversity to our economic and social well-being and support for ecological sustainability is required by all.



Woodland regrowth by Pauline Harvey

Challenges and way forward for the next ten years

While much has been done to reverse the decline in biodiversity, several challenges have become apparent. There is a need to:

1. Obtain greater political support for biodiversity in decision making
2. Raise awareness of the links between biodiversity and climate change
3. Secure habitat gains to act as carbon sinks, for example through woodland or wetland creation
4. Plan for biodiversity, for example through creation of ecological networks in urban areas
5. Reverse fragmentation by creating buffers around habitats
6. Create links between isolated habitats to enable species to shift their distribution in adaptation to climate change
7. Assure the appropriate management of habitats for the long term future, for example of recently created and restored chalk grassland
8. Secure funding for biodiversity surveys in the face of economic cutbacks
9. Make sufficient advice available to organisations and people to help with decision making
10. Maintain records and reporting of Biodiversity Action Plan achievements.



Further reading

Millennium Ecosystem Assessment (2005) Ecosystems and Human Well-Being: Biodiversity synthesis. World Resources Institute, Washington, DC

Secretariat of the Convention on Biological Diversity (2010) Global Biodiversity Outlook 3. Montréal.

Millennium Ecosystem Assessment (2005) Living Beyond Our Means: Natural Assets and Human Well-Being, Statement from the Board

Websites for projects included in this document

www.ashfordgreencorridor.org.uk

www.kentpartnership.org.uk

www.bumblebeeconservation.org.uk

www.kentwildlifetrust.org.uk

www.butterfly-conservation.org

www.khwp.org.uk

www.bwag.org.uk

www.kmbrc.org.uk

www.environment-agency.gov.uk

www.naturalengland.org.uk

www.highwealdlandscapetrust.org

www.nwkcp.org

www.kentarg.org

www.pondconservation.org.uk

www.kentbap.org.uk

www.rspb.org.uk

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www.kentfieldclub.org.uk

www.valleyofvisions.org.uk

www.kent.gov.uk

www.whitecliffscountryside.org.uk

www.kentishstour.org.uk

www.woodlandtrust.org.uk

www.kentmammalgroup.org.uk

The Kent Biodiversity Partnership Steering Group members

Canterbury City Council	Kent High Weald Project
Country Land & Business Association (CLA)	Kent Police
Dover District Council	Kent Wildlife Trust
Environment Agency	Medway Council
Forestry Commission	Medway Valley Countryside Project (Representing the CMPs)
Government Office for the South East	National Farmers Union – South East Region
High Weald AONB	Natural England
Jacobs Engineering UK & Kent Highway Services	North West Kent Countryside Partnership
Kent & Medway Biological Records Centre	Royal Society for the Protection of Birds
Kent County Council	Swale Borough Council
Kent Downs AONB	Tonbridge and Malling Borough Council
Kent Farming and Wildlife Advisory Group	Tunbridge Wells Borough Council
Kentish Stour Countryside Partnership	White Cliffs Countryside Project

Biodiversity

Action for Kent's wildlife

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