

# South West Environment Report 2009 -

## Biodiversity - draft scoping

### 1. Introduction / brief description of topic

Biodiversity is the term given to describe the variety of life on Earth. Biodiversity encompasses the range of ecosystems found on the planet, and all of the animals, plants and micro-organisms found within them, along with their genetic diversity, and their interactions with each other and the environment around them. Biodiversity provides us with the environment in which we live and the a large number of the goods and services upon which we depend. The loss of biodiversity threatens our food supplies, opportunities for recreation and tourism, and sources of wood, medicines and energy as well as disrupting key ecosystem services such as providing pure air and water. Biodiversity is a key indicator of sustainable development and as such protecting biodiversity is in everyone's self interest.

Along with other nations, the UK are a signatory of the 1992 Biodiversity Convention which is an international treaty to sustain the variety of life on earth. Within the SW we have a SW Biodiversity Implementation Plan which highlights our regional priorities for reversing the decline in biodiversity. There are 24 LBAPs below this which capture local priorities.

Biodiversity is a key contributor to the character of the landscape and our habitats help define its distinctive features and functions. The majority of our habitats only account for one third of England, the rest is made up of arable, horticulture or improved grassland. In the SW.....

Biodiversity loss has been the result of a combination of factors - post-war agricultural intensification, development pressure, over exploitation of natural resources, economic change and social change. Climate Change will exacerbate these pressures on biodiversity and will bring with it its own challenges. Our aim is to halt the loss of biodiversity by 2010. There has been some success but there is still a long way to go as the following indicators highlight.

### **Biodiversity in the SW**

The South West of England is well-known for its natural beauty and the rich and diverse wildlife that it supports. The region contains a significant proportion of the UK's overall resource of important wildlife sites, habitats and species, for example 62% of the UK's calcareous grassland and 57% of the UK's lowland meadows are found in the South West.

7% of the land area in the region is designated as nationally or internationally important wildlife sites. South West has the longest coastline of any other English region, the marine environment contains half of the regions wildlife.

The South West supports 25 species that are internationally important, over 700 that are of national conservation concern, and 34 species endemic to the UK, 11 of which are only found in the South West.

Biodiversity is essential for providing raw materials such as food, fuel, medicines and construction. To maintain these benefits we need a thriving genetically diverse biodiversity with well managed farmland, woodland, forests, rivers and seas providing sustainable yields. Our wildlife and habitats are a vital part of our cultural identity, they bring pleasure and inspiration to millions, enrich our lives making a major contribution to our health and well being, free for everyone to enjoy. Biodiversity is an essential part of our naturally regulating ecosystems where the value of any one species or habitat is/cannot be separated from its function as part of the whole.

REN priority:	protect and restore the structure and functioning of natural systems to better cope with climate change
	halt the loss of biodiversity
How	meet SSSI target by 2010 and halt the decline in farmland birds
	establish a network of MPAs and MCZs by 2015
	increase land from 9%- 20% for resilient habitats and species in urban and rural areas by 2050 through delivery of SW Nature map
Where	SW Nature map areas, SSSIs, SACs, N2k sites, BAP habitats and species MPAs, MCZs
How	Develop a better transport system with improved nodal integration LAAs incorporate transport related outcomes in areas of poor air quality and areas of significant congestion Incorporate green infrastructure into transport planning process

## 2. Headline indicators

Headline Indicator	Monitoring Tool	
Healthy functioning natural ecosystems and BAP decline halted by 2010	UK Index of Wild Bird Populations	Both are proxy indicators of state of wider countryside.
	UK Butterfly Monitoring Scheme	BAP reporting not regionalised - maybe chance

	UK BAP Reporting	to get data.
PSA target met - SSSI meeting 2010 target	SSSI data on meeting PSA 2010	
County Wildlife Sites in good condition	National Indicator 197 data reported at end June 2009	26 out of 150 LAs chose NI197, 6 of which in SW which is high compared to other regions.
Healthy seas and freshwaters	Volume of Sea Fish landed Salmon data	Both proxy measures for biodiversity levels in biodiversity water environment.
Region meeting 2010 targets for BAP habitats	LUC data set for SW	Data set may not be complete and is baseline from which to work.
Nature Map delivered	Spatial representation of Nature Map projects	Proxy measure as no data on delivery of hectareage.

LUC to define funding/activity for BAP delivery and any gaps eg agrienv EWGS, floodrisk management funding etc, SSSIs.

Birds data - can we interpret the Defra indicator data to say something more about biodiversity as it is proxy measure?

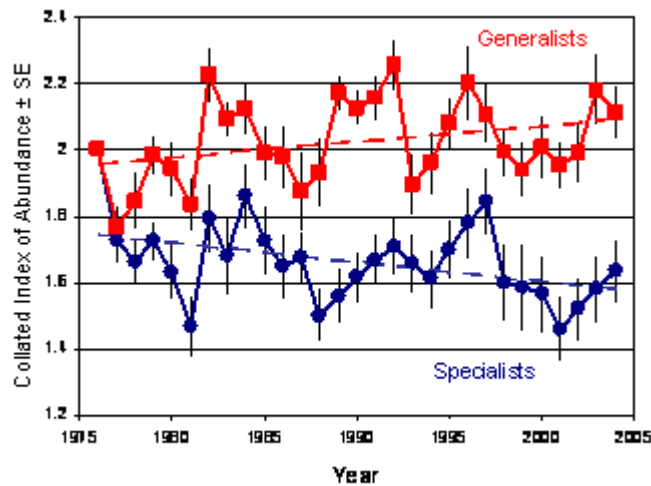
Butterfly Data - regionalised data coming from Butterfly Conservation

Butterflies are widely accepted as invaluable ecological indicators of ecosystem health. Their high reproductive rates, short life cycles and often specialised habitat requirements allow butterflies to respond rapidly to environmental change.

Being insects also adds to the value of butterflies as biodiversity indicators, as insects account for more than 50% of global biodiversity and majority of animal species in the UK (24,000 insect species, compared to around 200 breeding birds for example).

## Trends in groups of species

Generalist versus specialist species



Since the inception of the BMS in 1976, a general pattern in species trends has been the increase in the abundance (and distribution) of generalist species as they have benefited from warmer temperatures. In contrast, habitat specialist species have suffered badly over the same time period. Declines in the abundance of these species have occurred in parallel with severe contractions in range (Warren *et al.* 2001). In 2004 however, habitat specialist species fared relatively well, continuing an upward trend that has been apparent since 2000.

Variation in trends of generalist (red line, square symbols) and specialist species (blue line, circle symbols) measured from over 29 years (1976-2004).

### From UK Butterfly Monitoring Scheme website

Freshwater habitats -salmon used as a proxy measure for freshwater environment and economic value of freshwater fishing industry - Does this fit with EA? Biodiversity interpretation?

Marine fish - landings used as a proxy indicator of marine habitats and economic value. Need marine input

Bycatch data (accidental catching) of dolphins used as a marine environment proxy and to measure their populations and sustainable fishing practice

Plankton species indicators of changing marine environment possibly as a result of climate change - temperature, salinity, currents of the marine environment

Invasive and alien species - chinese mitten crab, slipper limpet, American signal crayfish, parrots feather etc

Progress of SW Nature map re climate change adaptation

Proportion/state of SSSIs/county wildlife sites and LNRs in urban areas

Area of greenspace in urban areas - street trees, parks and allotments

National natural areas inform national character areas

### 3. Current state / condition

Recent signs of improvement

Most SSSIs condition - improving .....measured by condition assessment

County wildlife sites quality will have increased through advice and management

Targets exceeded for relevant stewardship option targeting bird recovery and associated habitats. Species still declining data may need longer time span to truly assess.

Invasive and alien species strategy in place

But we have not arrested the decline of biodiversity, looking for new 2020 targets to continue momentum and action.

#### 4. How do we compare to other regions / national picture

We've got some very important nationally rare habitats - In lowland heath, chalk grassland, blanket bog and upland heathland Western oak heathland etc?

Most diverse? 44 of the national 56 BAP priority habitats in the region, most agri env priority areas, largest coastal habitats and soft cliffs are nationally important esp Dorset. 68% of chalk grassland, %age of lowland heathland, %wood pasture and parkland, high % of marine, Sacs and MCZs

BAP reporting may give national/regional overview.

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#### 5. Pressures & key issues emerging

The biggest pressures are fragmentation, agricultural intensification to supply food, fuel etc due to climate change, pop increase, global commodity markets, development, recreational pressures etc etc.

Invasive species

Need to adapt to climate change, protecting SSSIs, county wildlife sites, working at landscape scale to increase connectivity, reduce fragmentation through delivery of SW naturemap SNAs.

Need for Mosaic of potential habitats with links to wildlife corridors, opportunities for urban desert of short grass and lollipop standard trees

Over excessive approach to risk management of street trees - needs to be balanced with assessment of health, green cooling, landscape quality benefits and property values

Need to maintain momentum

Lack of funding for recovery programmes

6. Lead organisations / where to find out more

NE re impact on SSSIs

DRAFT