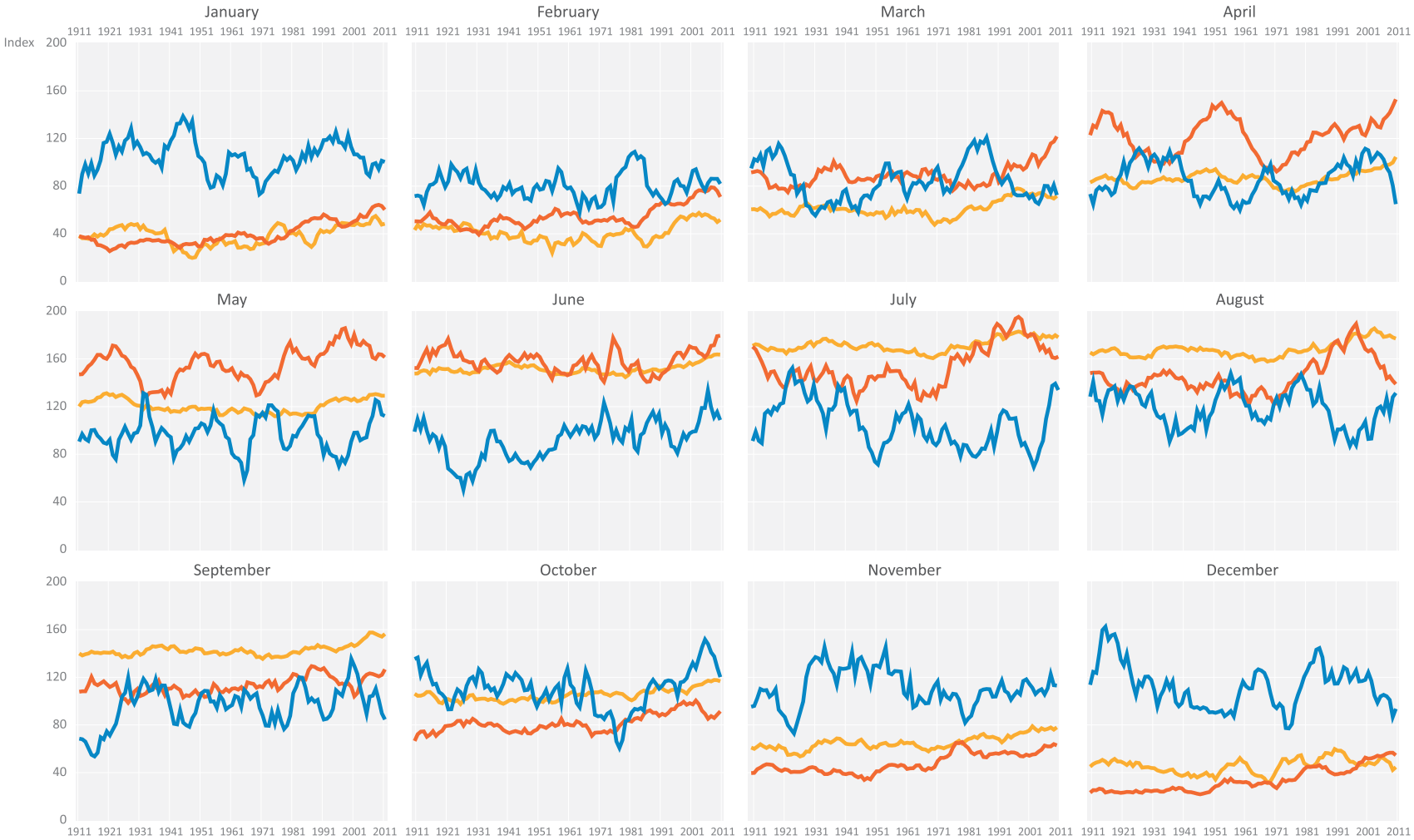
Environmental Issues

Local Weather Trends, 1911 - 2011

Average rainfall, temperature and hours of sunshine for each month



All figures are presented in index form, where the average for the past 100 years is equal to 100. An index value of 50 means the level for that month is half the average; a value of 200 means it is twice the average.

Figures are ten year moving averages, to remove anomalies and indicate underlying trends more effectively.

Source: Bablake Weather Station

Flooding

Description

Flooding can be described as an accumulation of water in an area where it is not normally held and is of such quantities that it inhibits the function of domestic and or commercial activities. When it occurs, it has the potential to devastate the lives of the residents and local communities in Warwickshire.

The flooding of land and property can be caused in a number of ways depending on their location and proximity to infrastructure such as sewers, drainage systems, canals and reservoirs. The most common causes in Warwickshire are river flooding, surface water flooding and sewer flooding. Some areas of the county have also been affected by groundwater flooding and there is always the threat of flooding of land and property that is near the canal network or a reservoir should there be a structural failure.

The **Flood and Water Management Act 2010** aims to improve flood risk management and places a series of responsibilities on councils. Warwickshire County Council has been designated as a Lead Local Flood Authority (LLFA) for Warwickshire and has the 'lead' role in managing flood risk from surface water, groundwater and ordinary watercourses across the county. This involves close working with partners involved in flood and water management, known as Risk Management Authorities.

The Warwickshire Strategic Flood Forum was formed after the major flood event of July 2007, and includes major stakeholders including representatives from the district councils, Environment Agency, Severn Trent Water, and County Highways. It continues to meet on a quarterly basis and its aim is to coordinate flood risk management activity. By 2015, the Council is required to develop, maintain, apply and monitor a local flood risk management strategy.

Performance

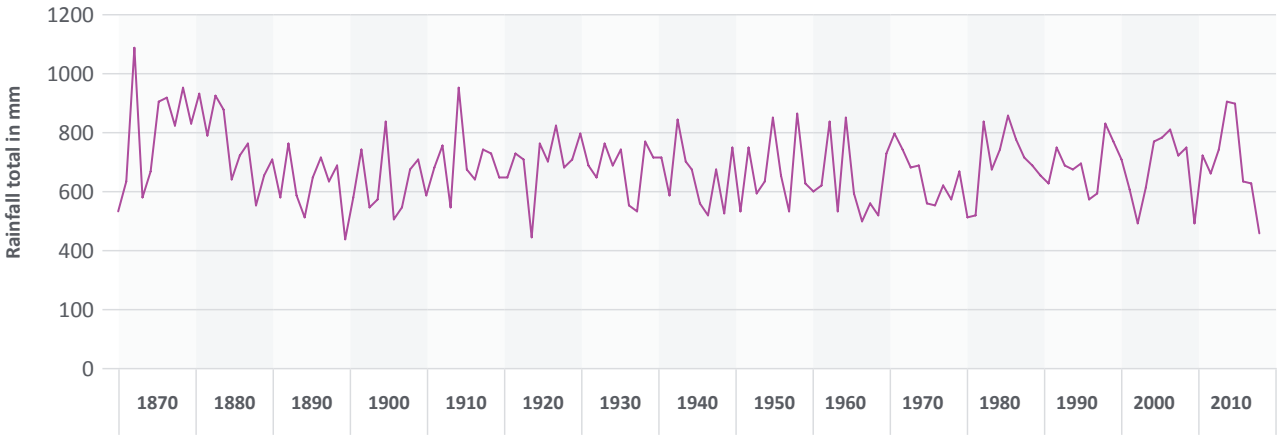
Since 2007, work with a total value of about £10m has been carried out, mostly jointly funded and in partnership with key stakeholders such as the Environment Agency, Severn Trent Water, District Councils and Town Councils. This has included major Flood Alleviation Schemes at Alcester and Delamere Road, Bedworth. During the last year, the County Council has continued to work in partnership and delivered several schemes including major flood protection works at Broom, and the provision of attenuation ponds at Fenny Compton. Flood alleviation schemes have started this summer in Gaydon, Aston Cantlow and Cubbington. Consultants have also been commissioned to carry out catchment studies and modeling work at Pailton, Ladbroke and Aston Cantlow. By continuing to work in partnership, it is hoped that a significant number of residential; and business properties will be removed from the "at risk from flooding" category.

Data from the Met Office shows that, nationally, 2010 was the eleventh driest year since 1910 and the driest since 2003. In Warwickshire, 2011 was the driest year on record. However, this was followed by record high levels of rainfall in June, making it the wettest in the country since records began in 1910. The three month period between April and June was the wettest recorded for the United Kingdom.

Flooding

Figure 9.1 presents the annual amount of rainfall recorded at the Bablake Weather Station in Coventry between 1870 and 2011. The average annual rainfall in this period was 679 mm; the highest figure recorded was in 1872 (1,071 mm) and the lowest was in 1898 (440 mm). In more recent years 2007 and 2008 were wetter than average with 894 mm and 891 mm of rainfall being recorded. Conversely 2011 was the third driest year on record (460 mm).

Figure 9.1: Annual rainfall recorded at Bablake Weather Station, Coventry



*Source: **Bablake Weather Station**, Coventry, 2012*

The amount of rainfall recorded in June 2012 was the second highest since 2000; 175mm were recorded at the Weather Station in June 2007. Conversely March and April 2011 were exceptionally dry months.

Information on areas in the county that are at risk from flooding is supplied by the Environment Agency. The flood maps can then be cross-referenced with household data to determine how many properties could be affected by flooding. There are three categories of flood zones:

- Zone 1 – little or no risk, with an annual probability of less than 0.1% of flooding
- Zone 2 – low to medium risk, with an annual probability of 0.1% - 1.0% of flooding from rivers and 0.1% - 0.5% from the sea
- Zone 3 – highest risk, with an annual probability of 1.0% or greater of flooding from rivers and 0.5% or greater of flooding from the sea.

The number of domestic and non-domestic addresses within flood zones 2 and 3 is shown in Figure 9.2. The figures this year have been generated using Mosaic 2011 household data and are therefore not directly comparable to those in previous Quality of Life Reports.

Figure 9.2: Estimated number of households located in level 2 or 3 Flood Zones, 2011

	Flood Zone 3 (highest risk) Households	Flood Zone 2 (medium risk) Households
North Warwickshire	421	728
Nuneaton & Bedworth	760	1,965
Rugby	524	805
Stratford-on-Avon	1,531	3,467
Warwick	1,006	2,688
Warwickshire	**4,242**	**9,653**

Source: Mosaic 2011 and Warwickshire Observatory, 2012

Flooding

Outlook

The Council's implementation of the Flood and Water Management Act 2010 is subject to a commencement timetable (being set by the Government in secondary legislation), which currently stretches to 2015. By 2015 the Council's main duties will include;

- To apply and monitor a Local Flood Risk Management Strategy. This will be guided by the "Environment Agency's National Flood and Coastal Risk Management Strategy".
- To cooperate with other Risk Management Authorities, which in Warwickshire include the five district councils, Severn Trent Water, the Environment Agency and others.
- To maintain a register of local structures and features that are likely to have a significant effect on flood risk.
- In the event of a significant flood, investigate to an appropriate level whether the relevant flood risk management functions were exercised correctly.
- To contribute towards sustainable development when exercising a flood risk management function. This includes assessing planning applications to ensure that the proposals will not create exacerbate flood situations.
- To act as the Sustainable Drainage Approving Body and to approve and adopt all new sustainable drainage systems that serve two or more properties in the county.

Further Information

Further information on flooding and flood defence schemes can be obtained by phoning **01926 736542** or by visiting **www.warwickshire.gov.uk/environment** and typing '2007 flooding' into the search tool. Information can also be found on the Environment Agency website – **www.environment-agency.gov.uk.** Further advice on flooding and the Strategic Flood Risk Assessment Maps can be found at: **http://www.warwickshire.gov.uk/flooding#floodmap.**

Flood and Water Management Act 2010: **http://bit.ly/jCxd6Y.**

Further details about the Bablake Weather Station can be found at **http://www.bablakeweather.co.uk/**

Household Waste

Description

It is inevitable that waste will be generated by households but choices can be made about the way that it is managed. The **Government Review of Waste Policy in England 2011,** produced by Defra in June 2011, prioritises efforts to manage waste in line with the waste hierarchy and reduce the carbon impact of waste.

The hierarchy gives top priority to waste prevention, followed by preparing for re-use, recycling, other types of recovery (including energy recovery), and last of all disposal (e.g. landfill).

As part of this, it is important to target those waste streams with high carbon impacts, both in terms of embedded carbon (food, metals, plastics, textiles) and direct emissions from landfill (food, paper and card, textiles, wood). There is a new emphasis on the use of life cycle thinking in all waste policy and waste management decisions and the reporting of waste management in carbon terms, as an alternative to weight-based measures.

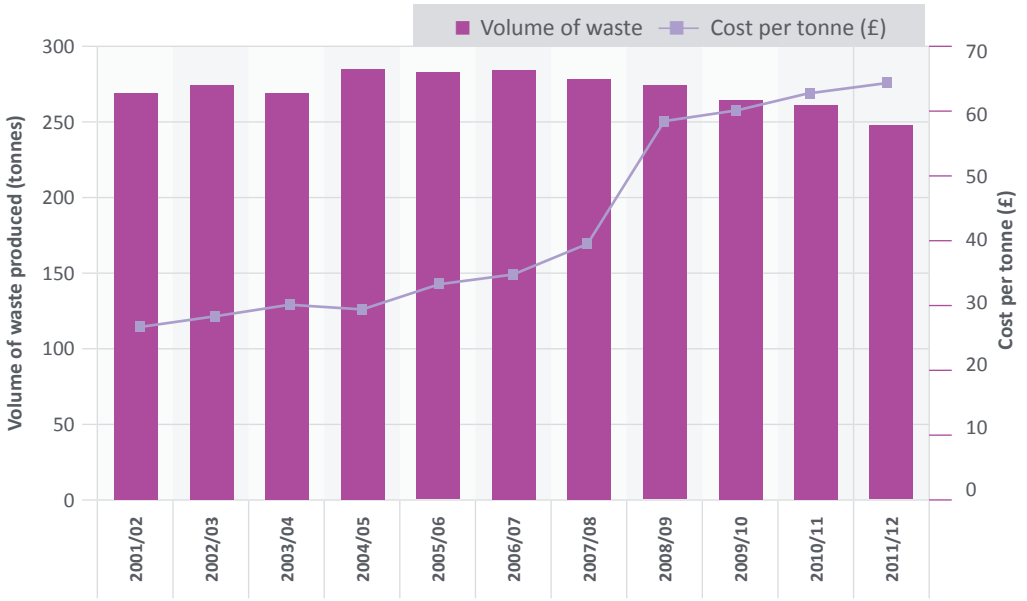
Performance

The Government Review of Waste Policy includes an aim to continue to increase the percentage of waste collected from both households and businesses which is recycled, at the very least meeting the revised waste framework directive target to recycle 50% of waste from households by 2020. The Warwickshire Waste Partnership has set a target to recycle 56% of waste by 2015/2016 and 60% by 2027/2028.

The cost of waste disposal (per tonne) is continuing to rise. Landfill tax is now £64 per tonne and will increase by £8 per tonne per year until at least 2014/15. This is placing increasing emphasis on the need to reduce the amount of waste sent for disposal. Total waste in Warwickshire fell by 4.69% between 2010/11 and 2011/12, and the amount of residual waste produced also reduced by over 5,000 tonnes or around 4%.

The Warwickshire Waste Partnership produced a new Business Plan in March 2011 which sets new targets for the Partnership. These targets will help ensure that Warwickshire's waste is managed in an environmentally, economically and socially sustainable way.

Figure 9.3: Waste produced and cost of disposal in Warwickshire, 2001/02 – 2011/12



Source: Warwickshire County Council, Waste Management 2011

Note: Data subject to audit

The amount of waste produced per head of population fell in 2011/12, and has done during each of the last five years. This could well be linked to the economic climate as people are becoming more mindful about what they are discarding as well as the national and local Love Food, Hate Waste campaign supported by the Waste Resources Action Programme, designed to encourage householders to reduce the amount food they discard.

Household Waste

Figure 9.4 presents a continued rise in waste recycled. The slight reduction in percentage of waste composted was due to the dry summer weather in 2011. The amount sent to landfill rose slightly due to contractual tonnage commitments and thus a slight reduction was seen for residual waste sent for energy recovery.

Warwick District continues to be the best performing authority with the least kilogrammes of waste collected per head of population. Stratford-on-Avon District continues to have the highest rates per head for both recycling and composting collected. Rugby Borough produced the highest kilogrammes of total waste per head of population but has the second highest recycling and composting rates.

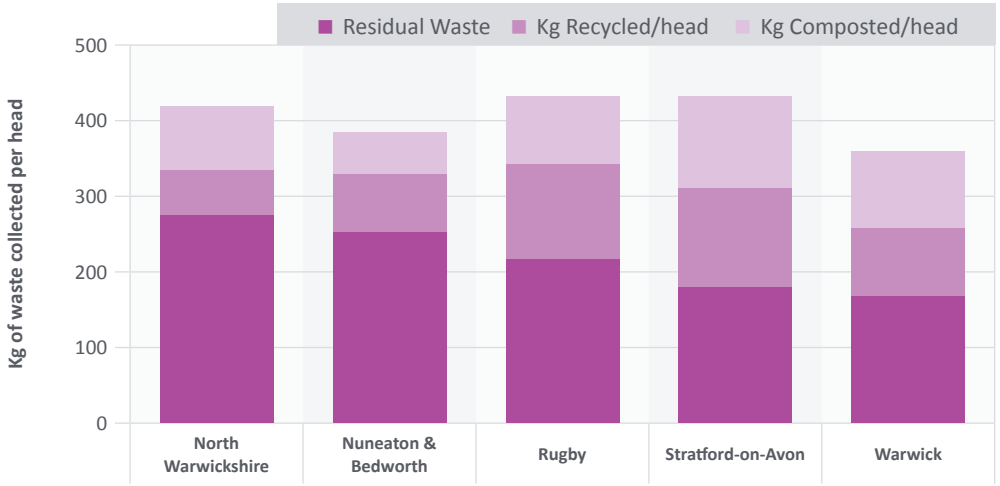
Figure 9.4: **Warwickshire Waste Indicators 2004/05 – 2011/12**

	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12*
Waste per head of population (kg)	556	550	547	539	522	510	493	472
Cost per tonne of waste (£)	30.81	36.28	37.55	41.89	55.87	58.25	63.55	65.69
Total waste recycled (%)	13.8	14.5	15.9	17.5	21.5	23.8	23.4	24.3
Total waste composted (%)	13.8	15.4	16.8	17.9	21.7	24.3	25.7	24.4
Recycled and composted (%)	27.6	29.9	32.7	35.4	43.2	48.1	49.1	48.7
Waste to energy recovery (%)	3.8	4.9	7.2	6.6	7.0	10.1	18.4	15.3
Landfilled (by difference) (%)	68.6	65.2	60.1	58.0	49.8	41.8	32.5	36.0

Source: *Warwickshire County Council, Waste Management 2012 *Provisional figures*

Note: *Household waste plus waste taken to recycling centres*

Figure 9.5: **Waste performance by district, 2011/12**



Source: *Warwickshire County Council, Waste Management 2012*

Note: *these figures are not yet audited and therefore subject to change*

The level of waste collected, recycled and composted is dependent on a variety of factors including the economic climate, the introduction of recycling schemes and promotion and publicity campaigns. Therefore, there will be year on year changes between the success rates of the districts. For example, Nuneaton & Bedworth Borough Council introduced a new waste and recycling service from October 2011 and is set to introduce food waste collections (collected in with the garden waste) in October/November 2012, which should further improve their recycling rate in future years.

Household Waste

Outlook

Warwickshire County Council is working with partners in the region and sub-region to develop sustainable methods of managing residual waste. Within Warwickshire, the household waste recycling centre at Grendon is to be replaced with a new facility at Lower House Farm (due to open Spring 2013). This project is being undertaken in partnership with Staffordshire County Council. It will also incorporate a transfer station (due to open December 2013) and will meet the needs of the north of the county. A new household waste recycling centre is also to be created in Nuneaton to replace the existing facility.

Additionally, following a review, the recycling centres at Wellesbourne and Stockton are now run by the community group Community Recycling. These are amongst the first in Britain to be run in this way, an approach that supports the Government's Big Society agenda.

Further Information

Warwickshire County Council has produced a Waste Minimisation Strategy that provides a framework for addressing waste minimisation until 2015 and a new business plan was produced by the Warwickshire Waste Partnership in 2011.

Information about household waste management in Warwickshire is available from the Waste Management Team, telephone number **01926 410410.**

Information on recycling can be obtained by ringing **01926 418088** or via the website **www.warwickshire.gov.uk/recycling.** Warwickshire's existing Waste Strategy can be found at **www.warwickshire.gov.uk/wastestrategy.**

Review of Waste Policy in England 2011 (Defra):
http://bit.ly/O42fdM

Warwickshire Waste Partnership:
http://www.warwickshire.gov.uk/wastepartnership

Natural Environment

Description

In June 2011, the Government released its White Paper on how it will take forward the Biodiversity Challenge to halt the loss of UK and International species and habitats. It details how to "mainstream the value of nature across our society… promote an ambitious, integrated approach, creating a resilient ecological network across England" and "move from net biodiversity loss to net gain" by following a new direction for policy over the next decade.

These intentions mirror the Council's objectives within the **WCC Biodiversity Strategy (2008)**, with its aim being "to work with partners to protect and enhance existing and future wildlife populations and habitats in Warwickshire, within a resilient landscape. We will achieve this by increasing the amount of land and buildings positively managed for biodiversity, averting local extinction of species and reducing the number of species on the danger list."

Performance

Sites of Special Scientific Interest (SSSIs)

SSSIs are the country's very best wildlife and geological sites. They include some of the most spectacular and beautiful habitats; wetlands teeming with wading birds, winding chalk rivers, flower-rich meadows, windswept shingle beaches and remote upland peat bogs.

There are over 4,100 Sites of Special Scientific Interest (SSSIs) in England, covering around 8% of the country's land area. More than 70% of these sites (by area) are internationally important for their wildlife and designated as **Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Ramsar sites.**

According to Natural England, there are currently 62 SSSIs in Warwickshire. The majority of them, 79.7%, are in favourable condition and nearly 99% are meeting the Public Service Agreement (PSA) target. However, there are a few sites where recovery is underway, particularly in Stratford-on-Avon District, Rugby Borough and North Warwickshire Borough. Reduced herb ratios, water pollution, invasive freshwater species and loss of grassland remain the major challenges for habitats across the county.

Figure 9.6: Sites of Special Scientific Interest (SSSIs) condition summary

% Area meeting PSA target	% Area favourable	% Area unfavourable recovering	% Area unfavourable no change	% Area unfavourable declining	% Area destroyed / part destroyed
98.56	79.70	18.86	1.32	0.12	0.00

Source: SSSI Condition Summary – Warwickshire County Level Report 2012, Natural England

The unfavourable areas with no change (1%) include River Blythe and its streams in North Warwickshire Borough, which is regarded as being unlikely to meet favourable conditions due to water pollution from agricultural discharges and invasive species. A 1.66ha area in Stratford-on-Avon District, covering the Racecourse Meadow SSSI, is considered unfavourable declining, as the site condition is becoming progressively worse due to low herb ratios.

Butterflies

Butterflies are considered good biodiversity indicators because they respond rapidly to changes in environment and habitat management, occur in a wide range of habitats (especially semi-natural habitats on farmland), and are representative of many other insects, which collectively account for more than 50% of terrestrial UK wildlife species. Butterflies play a complementary role to birds and bats as an indicator because they use the landscape at a far finer spatial scale. Like birds, and contrary to most other insects, butterflies are well documented and are easy to recognise. Butterflies are also sensitive to the effects of climate change.

The full Warwickshire list of key species together with their International Union for Nature Conservation (IUCN) Red List and Biodiversity Action Plan status is as provided in figure 9.7. The first three rarer specialist species have been selected for a detailed progress update.

Figure 9.7: **Butterfly Conservation**

Key Species	Red List Status	BAP Status
Dingy Skipper	Vulnerable	High Priority
Grizzled Skipper	Vulnerable	High Priority
Wood White	Endangered	High Priority
Green Hairstreak	Least Concern	n/a
Brown Hairstreak	Vulnerable	High Priority
White-letter Hairstreak	Endangered	High Priority
Small Blue	Near Threatened	High Priority
White Admiral	Vulnerable	High Priority
Purple Emperor	Near Threatened	n/a
Dark Green Fritillary	Least Concern	n/a
Silver-Washed Fritillary	Least Concern	n/a
Small Heath	Near Threatened	High Priority

Source: Butterfly Conservation Warwickshire – 2011 Annual Report

Some of the species, including the Dingy Skipper and the Grizzled Skipper, had an excellent year, with many sites recording their highest ever annual totals. With regards to the latter, Warwickshire surpasses the national trend, which showed a 17% decline, by increasing the number of colonies by 11% since 2005.

The recent developments concerning endangered or vulnerable specialist species are results of conservation projects supported by the Warwickshire Biodiversity Action Plans and wildlife trusts, such as Butterfly Conservation Warwickshire. However, the overall butterfly population is declining, with familiar species less abundant than previously, giving concern for environmental sustainability.

Outlook

The **Warwickshire, Coventry and Solihull Local Biodiversity Action Plan**, outlining how landowners, land-managers and policy makers will protect the characteristic wildlife and landscapes of the sub-region, is currently under review. New versions of the individual Species Action Plan and Habitat Action Plan will be available later this year.

Further Information

For further information about Warwickshire's Biodiversity Strategy please visit the County Council's website, **http://www.warwickshire.gov.uk/biodiversitystrategy.**

For further information about butterflies in Warwickshire, please visit Butterfly Conservation Warwickshire's website, **http://www.warwickshire-butterflies.org.uk/index.asp.**

Alternatively, contact the Warwickshire Observatory on **01926 418049**, or e-mail **research@warwickshire.gov.uk.**

Air Quality

Description

Air quality policy is driven by health concerns as it is currently estimated to reduce life expectancy, averaged over the whole population in the UK, by an average of 7 - 8 months. Local Air Quality Management was established to complement national policies, most importantly industrial pollution control and vehicle emission standards, in driving up air quality standards to acceptable levels.

The primary pollutants of concern in Warwickshire are nitrogen dioxide (NO_2), caused by road transport (around 43% of total emissions), particles (PM10) and Sulphur Dioxide (SO_2), where excesses can lead to the declaration of Air Quality Management Areas (AQMA). To the existing eight AQMA areas in Warwickshire, a new addition has been made in Stratford-on-Avon District, covering the town centre area.

Performance

Warwickshire County Council's Air Quality Strategy seeks to present a number of broad ranging policies, highlighting the air quality problems specific to Warwickshire. The vision of Warwickshire County Council's Air Quality Strategy is 'to take a proactive approach to maintaining and improving air quality within the County where transport is causing unacceptable levels of air pollution, in order to improve quality of life for all'.

The overall aim of the Air Quality Strategy is to work to improve areas of existing air quality problems, maintain areas with good air quality and to promote and support practices, activities and lifestyles, including modes of transport that can achieve this.

District authorities have responsibility for local government air quality roles (the Clean Air legislation and control of emissions from smaller industrial and commercial premises) and for key land-use planning functions (development control and the preparation of Local Development Frameworks).

North Warwickshire Borough

During the first round of review and assessment of air quality in North Warwickshire in 2001, a small Air Quality Management Area (AQMA) was identified and declared to the south of Coleshill, Stonebridge.

North Warwickshire Borough Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Nuneaton and Bedworth Borough

A Local Air Quality Management Action Plan for the A47 Leicester Road Gyratory Air Quality Management Area within Nuneaton, was established in 2007. As a key strategic point in/out of the town, achieving traffic reductions in the A47 area to improve air quality is considered challenging, but solutions include the implementation of a package of measures to achieve modal shift towards sustainable transport modes and restrain traffic growth.

Subsequent annual air quality progress reports identified another potential exceedence of the NO_2 annual mean objective in Corporation Street/Midland Road, as mentioned in Quality of Life report (2009). A detailed assessment confirmed the monitoring results, and a second AQMA was declared in October 2009. The B4114 approach to the town also carries a significant volume of vehicles to/from a number of residential areas in North West Nuneaton. The use of this corridor is also likely to intensify in the future with the planned redevelopment of the former Judkins Quarry and further regeneration in and around Camp Hill.

Rugby Borough

Rugby Borough Council declared a single AQMA that covers the whole urban area of Rugby town bounded by the southern boundary with Daventry District Council, A5, M6, minor roads to the west of Long Lawford, A45 and M45. The full pedestrianisation of the town area, with traffic being diverted away certain streets, has reduced NO_2 emissions considerably.

With the Rugby Western Relief Road finalised in September 2010, studies carried out by Warwickshire County Council indicated that traffic on Bilton Road had dropped by 79%, the B4642 Main Street in Bilton was down 28%, the number of vehicles using the A426 Newbold Road had fallen by 26%, and the A428 at Church Lawford was down 14%.

Air Quality

Stratford District

An Air Quality Management Area (AQMA) was declared in Studley in 2006 for exceedences of the NO_2 annual mean objective. In 2008, a detailed assessment for Stratford-upon-Avon and Henley-in-Arden was carried out, as concentrations of nitrogen dioxide exceeded the objectives, and it was concluded that further AQMAs were required. The geographical extent of the above mentioned areas was the subject of detailed public consultations in 2009, following which it was decided to declare the whole of Stratford town and just the affected junction and surrounding area of Henley-in-Arden as AQMAS. The Stratford AQMA came into effect in January 2010.

There have been no new relevant industrial installations and no new or substantially altered roads within Stratford-on-Avon District. There are also no new significant commercial, domestic or fugitive sources of emissions.

Warwick District

In March 2011, an AQMA was declared in Warwick for the area on the east side of Coventry Road from the Crown Hotel to the Junction incorporating Montgomery Court, due to exceedences of NO_2. Warwick District Council also operates an automatic monitoring site at Leamington Spa, part of the national Automatic Urban and Rural Network (AURN) and one in Warwick.

There are, however, some developments, which are in the early stages of the planning process which may need consideration. These include the redevelopment of the Old Ford Site in Leamington and a new hotel at Warwick racecourse which could generate potential traffic. These areas will be further reviewed within the Updating and Screening Assessment due in 2012.

At a Super Output Area level there is indicator data available to view on Benzene, Nitrogen Dioxide, Particulates and Sulphur Dioxide. Click on the interactive map button to view this data.

For more detailed information on air quality performance please click on the interactive map button.

Outlook

Warwick District Council is currently preparing a New Local Plan for which will guide the area's future development for the next fifteen years. The first stage in the process is a consultation to ask the public about what they think are the important issues and challenges facing local communities today, and how they would like to see their local area and the district change in the future to address those issues.

Warwickshire's Climate Change Strategy sets out the framework of what Warwickshire County Council and its partners in Warwickshire intend to do to tackle climate change. The Strategy identifies five key areas where actions locally can assist in both mitigating the impacts of climate change, in energy, transport and resource efficiency and addresses the steps needed to adapt to the climate change that is already happening and will happen whatever is done from now on. The overarching aim of this strategy is 'to reduce greenhouse gas emissions in Warwickshire to at least the level set out by Government policy, a 15% - 18% reduction by 2010 and a 60% reduction by 2050 (against 1990 levels). We will achieve this whilst maintaining and improving the quality of life of Warwickshire'.

Further Information

For further information on the causes and effects of air pollution and what is being done to improve air quality, visit **www.airquality.co.uk/archive**.

Information on Warwickshire's Air Quality Strategy can be found at **www.warwickshire.gov.uk/ltpmain/section_12715353187.html** and district action plans can be found on their individual websites.

More information on Air Quality Management Areas can be found on the Department for Environment, Food and Rural Affairs (Defra) website: **http://www.defra.gov.uk/environment/quality/air/air-quality**