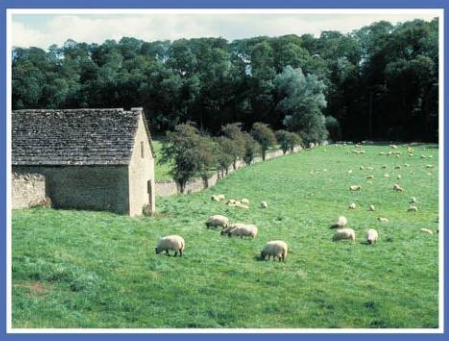
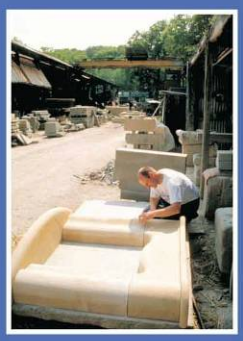
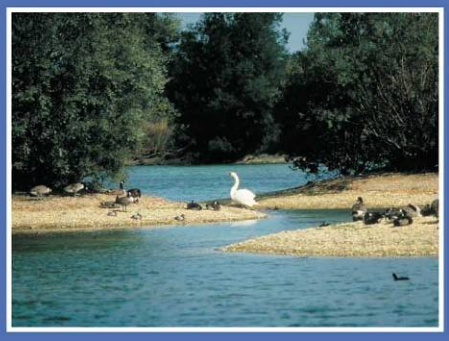
Gloucestershire COUNTY COUNCIL







GLOUCESTERSHIRE MINERALS AND WASTE DEVELOPMENT FRAMEWORK SUSTAINABILITY APPRAISAL

SCOPING REPORT UPDATE 3 JANUARY 2009

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1. Introduction

This is the Scoping Report (Update 3) for the Gloucestershire Minerals and Waste Development Framework (MWDF) Sustainability Appraisal (SA). It updates the Scoping Report (Update 2) produced in April 2006 and also incorporates added information contained in the report 'Sustainability Appraisal Context & Scoping Report for Strategic Waste Sites' which was consulted on for 5 weeks between Friday 11th July and Friday 15th August 2008. The following table shows all the reports produced to date for Gloucestershire's MWDF.

SA Document	Date
Original SA Framework Context & Scoping Report	August 2005
Update 1 SA Framework Context & Scoping Report	November 2005
Update 2 SA Framework Context & Scoping Report	April 2006
Update 3 SA Framework Context & Scoping Report	August 2008
Update 3 SA Framework Scoping Report	**This report – January 2009**
SA Framework Combined Context & Scoping Report for Waste Sites	June / July 2008
An SA Report for Waste Minimisation in Development Projects SPD	April 2006
An SA Report for the WCS Issues & Options	July 2006
An SA Report for the MCS Issues & Options	September 2006
An SA Report for the WCS Preferred Options	January 2008
An SA Report for the MCS Preferred Options	January 2008

It should be noted that the updated Context Report (Update 3), documenting relevant plans and programmes and the subsequent development of key sustainability issues and messages, is to be read in conjunction with this report, detailing as it does Stage A1 of the ODPM SA Guidance, thus providing a clear audit trail and links to the initial stages of the SA development.

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All SA documents are available at the following web address:

http://www.gloucestershire.gov.uk/index.cfm?articleid=11577

2. Existing Plans / New Plans / Addressing the SEA Directive

The Gloucestershire Minerals Local Plan (MLP) was adopted in April 2003. It balances a societal need for mineral products against the environmental, social and economic implications of extracting and transporting them. The Gloucestershire Waste Local Plan (WLP) was adopted in October 2004. The aim of the plan is to develop a sustainable waste management industry, ultimately to divert waste from landfill towards recovery/recycling and to reduce the amount of waste generated in the County. Strategic Environmental Assessments (SEA) were carried out for both plans.

The Planning and Compulsory Purchase Act 2004 changed the process of plan preparation. It providing a statutory basis for delivering sustainable development, fully integrating SA into the plan making process.

In terms of producing new development plans to update and replace the adopted Minerals & Waste Local Plans, Gloucestershire County Council has published a series of Minerals & Waste Development Schemes (MWDS) which are project plans or schedules showing what plans will be produced and when. Table 1. below provides the details:

Table 1. Gloucestershire's Minerals & Waste Development Schemes.

Minerals & Waste Development Scheme	Covering Period
No.1 Published in May 2005	May 2005 to May 2008
No.2 (a revision) Published in September 2006	September 2006 to September 2009
No.3 (a revision) Published in March 2007	April 2007 to March 2010
No.4 (a revision) Published in late 2008	Covering the period to December 2011

See Appendix 1. for the latest (No.4.) MWDS chart showing expected plan progress. See Table 2 below for the content & objectives of the MWDF documents which are now likely to be produced in accordance with the latest MWDS and which are subject to SA. Note: this latest MWDS reflects the fact that Government Office for the South West (GOSW) considered it appropriate for strategic sites for waste management to be included in the Waste Core Strategy in line with the new revised Planning Policy Statement 12 (PPS12) 'Local spatial Planning' June 2008.

Table 2. The Contents & Objectives of the MWDF Documents that are subject to SA.

Document Title	Contents & Objectives
Supplementary Planning Document (SPD) on Waste Minimisation in Development Projects	This SPD was adopted in September 2006. It was subject to SA and the appropriate SA reports were produced and consulted on. The SPD covers the issue of waste minimisation in development projects and supplements saved Policy 36 (from the adopted WLP). It is a material consideration in determining planning applications, but it does not have the statutory weight provided by Section 38(6) of the 2004 Planning Act.
Minerals Core Strategy (MCS)	This Development Plan Document (DPD) sets out the spatial vision, spatial objectives and strategy for minerals development in the County which could include other DPDs such as Mineral Site Allocations, Development Control Policies or Area Action Plans. This DPD deals with the implications for Gloucestershire of the sub-regional apportionment of sand and gravel and crushed rock. It will include any locational issues where they are of a strategic nature. It is due to be adopted in November 2012.
Waste Core Strategy (WCS)	This DPD sets out the spatial vision, spatial objectives and strategy for waste development in the County which could include other DPDs such as Waste Site Allocations, Development Control Policies or Area Action Plans. This DPD deals with the data aspects of managing waste in the County. This will comprise four main waste streams: Municipal Solid Waste (MSW), Commercial and Industrial Waste (C&I), Construction and Demolition Waste (C&D), and Hazardous Waste (HW). The WCS will include any strategic locational issues e.g. strategic sites for the management of municipal waste. It is due to be adopted in December 2011.
Development Control (DC) Policies DPD	If required this DPD will contain the policies against which planning applications for minerals and waste development will be determined in order

	to meet the strategic vision. However the publication of the revised PPS12 (June 2008) suggests that the content of this document would be much slimmer than originally envisaged, and it may transpire that the main issues that it was set to provide a framework for, will be covered elsewhere. Adoption due in 2015.
Mineral Sites Allocations DPD	If required this DPD will contain those allocations other than strategic sites contained in the MCS. The precise content of this DPD will relate closely to the form, content and outcome of the MCS preparation. Adoption due in 2015.
Waste Sites Allocations DPD	If required this DPD will contain those allocations other than strategic sites contained in the WCS. The precise content of this DPD will relate closely to the form, content and outcome of the WCS preparation. Adoption due in 2015.

Strategic Environmental Assessment – (SEA)
In 2001 the SEA Directive on the assessment of the effects of certain plans and programmes on the environment (2001/42/EC) was adopted. The Directive came into force in the UK on the 21st of July 2004 and applies to a range of plans and programmes in England including those within Minerals and Waste Development Frameworks.

Sustainability Appraisal – (SA)
Sustainability Appraisal (SA) includes a consideration of social and economic issues and impacts as well as environmental ones. It is has a broader scope and remit than SEA. Under the Planning and Compulsory Purchase Act 2004 Local Planning Authorities are required to undertake Sustainability Appraisals of Development Plan Documents (DPDs) and Supplementary Planning Documents (SPDs), this includes Minerals and Waste DPDS and SPDs (as detailed in Table 2).

The following Table 3 shows how the requirements of the SEA Directive have been met in this Scoping Report (Update 3) as well as in the accompanying Context Report (Update 3).

Table 3. Addressing the SEA Directive.

SEA Directive Requirement	**check**	**Addressed in:**
"an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes" - **Annex 1 (a)**	✓	Context Reports & SA Reports
"the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme" - **Annex 1 (b)**	✓	Sections 5, 6 & 7, Appendix 3 – Baseline Data & SA Reports
"the environmental characteristics of areas likely to be significantly affected" - **Annex 1 (c)**	✓	Sections 5, 6 & 7, Appendix 3 - Baseline Data & SA Reports
"any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC [the Birds Directive] and 92/43/EEC [the Habitats Directive]" - **Annex 1 (d)**	✓	Sections 5, 6 & 7, Appendix 3 – Baseline Data & SA Reports
"the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme…" - **Annex 1 (e)**	✓	Section 5, Context Reports & SA Reports
" The [Environmental] authorities [designated for the purpose of the SEA Directive in each EU Member State]…shall be consulted when deciding on the scope and level of detail of the information which must be included in the environmental report" - **Article 5 (4)**	✓	Consultation has been undertaken on original versions of this Context & Scoping Reports and on all SA Reports

3. Approach to Consultation

■ The Statement of Community Involvement (SCI)
A key part of the modernised process of plan preparation is to frontload consultation ensuring more meaningful community involvement. The Statement of Community Involvement (SCI) adopted in December 2005 sets out how interested parties will be involved in the process of preparing the Minerals and Waste DPDs and SPDs as well as consultation on planning applications. The vision for community involvement as stated in the SCI is:

"Enabling people to make a difference by providing them with an opportunity to actively participate in the development of options and proposals for mineral and waste planning".

■ Consultation on the SA Framework and SA Reports
SA is an integral part of the plan making process, that is, the objectives of the SA should aid policy development and site allocation. Therefore stakeholders' views are important in ensuring that the SA Framework includes the relevant social, economic and environmental objectives from the outset. For the original SA Framework Context and Scoping Reports, the views of 'Specific Consultation Bodies' (as prescribed in the SA guidance) were sought. These were a representative group of organisations, government agencies and local authorities. Additionally, in order to address the requirements of the SEA Directive, authorities with environmental responsibility in relation to the Directive were also consulted. These included:

- The Countryside Agency (now subsumed as part of Natural England)
- English Heritage
- English Nature (now called Natural England)
- The Environment Agency

A recent document published by the Department of Health 'Draft Guidance on Health in Strategic Environmental Assessment' (2007) recommends that the relevant Director of Public Health of a Primary Care Trust should also be consulted along with English Heritage, Natural England and the Environment Agency. The County Council have taken this on board as best practice for SA consultation.

A wide range of stakeholders (from our database of about 1300 people) have been, and will continue to be, consulted on the SA Reports that accompanied DPDs at each formal stage of consultation.

■ Keeping the SA Framework Up-to-Date
The Minerals and Waste Planning Policy Team have made every effort to keep the SA Framework up-to-date, relevant and based on accurate baseline data. Hence the regular updates to the Context and Scoping Reports.

■ Regular updates through Minerals & Waste Newsletters
Updated information relating to the SA process is also included in the regular series of Minerals and Waste Newsletters which are sent to stakeholders. These newsletters are also available on the Council's website at:

http://www.gloucestershire.gov.uk/index.cfm?Articleid=1405

■ Changes made as a result of Forum events
On the 16th October 2007 at the Guild Hall in Gloucester a Minerals Forum event was held in which stakeholders were invited to discuss the way forward for the Minerals Core Strategy. This event was facilitated by *Land Use Consultants*. One of the workshops involved a discussion about the SA process and the SA Objectives. From these discussions it was clear that some stakeholders were unhappy with the imprecise wording of some of the Objectives, and so changes were made in response to this.

■ Changes made as a result of Representations
Through consultation on both the SA Framework and SA Reports, appropriate changes have been made, both to the SA documents as well as to DPDs that were being tested. One of the most significant changes to the SA process resulted from the representation from Government Office for the South West (GOSW) on the WCS Preferred Options (March 2008). In it they expressed the view that the WCS should contain Strategic Sites for Waste Management particularly to meet the need to deal with residual Municipal Waste. Previously the WCS had only identified broad areas, but not sites based on guidance in PPS12 *Local Development Frameworks* (2004). GOSW's representation was reflective of the changes in the revised PPS12 *Local*

Spatial Planning (2008) which states at paragraph 4.6 that “Core strategies may allocate strategic sites for development”.

As a result of this GCC has taken the decision to included strategic sites in the WCS. However this has implications for the SA process. The existing SA Framework (and particularly the SA Objectives) that had been developed for a high level, non-site specific strategy would need to be amended or added to if sites were considered. In June and July 2008 a document was produced entitled *Sustainability Appraisal Context & Scoping Report for Strategic Waste Sites* (July 2008). This report was peer reviewed by Levett-Therivel Sustainability Consultants and consulted on for 5 weeks from 11th July to the 15th August 2008.

■ Peer Review by Independent Sustainability Consultants

The Context and Scoping Reports as well as SA Reports have been peer reviewed by Levett-Therivel Sustainability Consultants.

4. Sustainability Appraisal Process – Methodology

In September 2004 the Office of the Deputy Prime Minister (ODPM), now the Department for Communities and Local Government (DCLG), published the following draft Guidance:

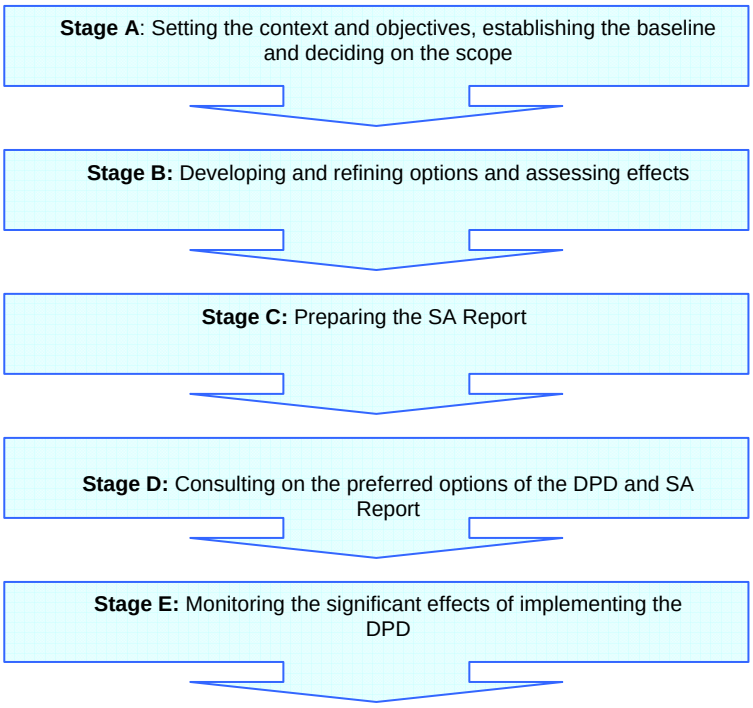
Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents

The original Context Report and Scoping Report were developed following this draft guidance. Subsequent reports and this (Update 3) are consistent with the final version DCLG Guidance which was published in November 2005.

This document is available via the link below:

http://www.communities.gov.uk/publications/planningandbuilding/sustainabilityappraisal

There are 5 key stages to the SA process outlined in the ODPM Guidance, see below:



The Minerals and Waste Policy Team has developed the SA Framework based on ODPM Guidance and a review of good practice in the public and private sector. The following (Table 3) is a summary of **Stage A** and a description of what the WPA have done to date.

Table 4. Action taken in relation to ODPM SA Guidance Stage A.

Stage A	Description	Action
1	Identify other relevant plans and programmes and sustainability objectives.	An approach was agreed for identifying relevant plans and programmes (A1 - See Section 5). Relevant plans and programmes were scoped to identify social, environmental and economic issues relevant to the development of minerals and waste policy, (A1 – See Section 5). This list of other relevant plans and programmes has been regularly updated and expanded through the various updates of the Context and Scoping Reports. Detailed information on Stage A1 is provided in the latest version of the Context Report.
2	Collect baseline information.	Contextual and output indicators were devised relating to the objectives, key messages and sustainability issues. These

		indicators have provided the basis for collecting baseline data. This baseline set has been regularly updated and expanded through the various updates of the Context and Scoping Reports. Gaps in data have been identified during this process as well as a programme for addressing this. (See Table 5, Sections 6 & 7 and Appendix 3).
3	Identify sustainability issues and problems.	The scoping process assisted in identifying key messages and highlighted sustainability issues and problems in Gloucestershire. (A3 - See Section 6 and Appendix 4).
4	Developing the SA Framework.	Headline SA Objectives as well as Waste Site Focused Objectives were devised on the basis of a scoping exercise. Their development is charted in Section 5.
5	Consulting on the scope of the SA.	The formal consultation on the original Context and Scoping Reports took place between 25th August and 29th September 2005 – the changes were reflected in Update 1. Stakeholders have been kept fully informed of further updates, the most significant of which was the addition of strategic waste site focused objectives. This aspect of the SA Framework was consulted on for the required 5-weeks from 11th July to the 15th August 2008.

Table 5. Potential limitations of the Stage A process.

Potential Impartiality Problem: There may be a concern that the process may not be impartial if carried out by members of the Minerals & Waste Policy Team. However the Government guidance recognises that SA may be conducted 'in-house' and in many ways there are positive benefits in doing so. For example: A local team are likely to be more familiar with the local issues and have a better understanding and knowledge of the baseline data. Officers who are drafting policy are more readily able to consider SA results and make appropriate changes as the process evolves.

Action: Targeted consultation will assist in ensuring that competing interests are incorporated into the SA Framework. Consultant peer review has been undertaken of the process to date, and all SA Reports accompanying DPDs will be subject to further peer review. Further it is likely that the scoring of sites will be undertaken by independent consultants.

Gaps in Baseline and Indicator Data Problems: The process of drawing up at list of appropriate indicators that are related to SA Objectives is a relatively straightforward exercise. However getting access to all the baseline data and keeping it up-to-date is more problematic and takes considerable time and resources.

Action: Some gaps in data have been identified, and through SA Framework updates an attempt will be made to fill them. However it has to be accepted that some trend-based data will not be available, but SA Reports and the Minerals and Waste Annual Monitoring Report (AMR) provide an opportunity to commence the collection of relevant data.

5. Relevant Plans and Programmes

In order to achieve sustainable development objectives and joined up spatial planning, it is essential to take account of National, Regional and Local guidance, plans and strategies. Development Frameworks need to reflect the spatial objectives of other relevant plans and strategies.

Through the series of Context Reports, a large number of relevant documents have been identified to ensure that all relevant strategies and objectives have been considered in developing the SA Framework for the MWDF.

Building on the Regional Spatial Strategy (RSS) Strategic Sustainability Assessment (SSA) Framework, further scoping of relevant documents has been undertaken to ensure that not only local matters, but also specific waste and minerals planning issues are fully considered.

ODPM Guidance on SA highlights the scoping of other relevant plans and documents as an important part of developing a SA framework for the following reasons:
- Identification of the social, environmental and economic objectives that should be reflected in the development Framework,
- Identification of external factors, for example sustainability issues, and
- To determine whether policies in other plans and programmes might lead to cumulative effects when combined with policies in the plan subject to SA.

Consideration has been given to which documents are relevant in the context of this Framework. In the compilation of the list of relevant documents the following points have been recognised:
- It is important to adopt a clear and consistent approach to what constitutes a relevant document.
- The list is not, and cannot be exhaustive. The review has only sought to identify key documents which reflect Local, Regional, National and International social, economic and environmental issues. These documents primarily emanate from central government, the South West Regional Assembly (SWRA), Authorities with environmental responsibility in relation to the SEA Directive, or have a statutory basis e.g. Local Plans, Local Development Frameworks and Community Strategies.
- New or revised documents are regularly emerging e.g. from the DCLG, notably replacements of Planning Policy Guidance Notes (PPGs) with Planning Policy Statements (PPSs). Therefore it is important to ensure that the list identified in Table 5. is kept under review and that the SA Framework is amended accordingly.

Table 5. below lists relevant plans, programmes and strategies. Table 6. provides a summarised justification as to the non-inclusion of certain plans and programmes. The **Context Report (Update 3)** provides additional, and more detailed information on the review of these documents.

Table 6. Relevant Plans and Programmes.
Key: No symbol = Original as per Context Report (Update 2) * = Added through strategic waste site report ** = Recent additions
International / European
* The World Summit on Sustainable Development, Johannesburg 2002 – Commitments arising from the Summit
* EU Air Quality Framework Directives
* EU Sixth Environmental Action Plan
* EU Drinking Water Directive
EU Water Framework Directive
EU Birds and Habitats Directives (i.e. EU Directive on the Conservation of Wild Birds (79/409/EEC) and EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC))

EU Landfill Directive
EU Mining Directive (Proposed)
EU Waste Framework and Hazardous Waste Directives
EU Waste Electrical and Electronic Equipment Directives
EU Packaging and Packaging Waste Directive
EU Incineration Directive
EU End of Life Vehicles Directive
EU Animal By-Products Regulation
National
PPS1: Delivering Sustainable Development
* PPS1: Climate Change Supplement
PPG2: Green Belts
PPG3: Housing
PPG4: Industrial, Commercial Development and Small Firms
PPS7: Sustainable Development in Rural Areas
PPS9: Biodiversity and Geological Conservation
PPG10: Planning and Waste Management
PPS10: Planning for Sustainable Waste Management
PPS10: Companion Guide
PPS11: Regional Spatial Strategies
PPS12: Local Development Frameworks Also including ▪ A Companion Guide to PPS12 ▪ Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks (Consultation Paper) ▪ PPS12 Monitoring Guidance
** PPS12: Local Spatial Planning
PPG13: Transport
PPG14: Planning Development on Unstable Land
PPG15: Planning and the Historic Environment
PPG16: Archaeology and Planning
PPG18: Enforcing Planning Control
PPG21: Tourism
PPS22: Renewable Energy

PPS23: Planning and Pollution Control
PPS23: Annex 1
PPS23: Annex 2
PPG24: Planning and Noise
PPG25: Development and Flood Risk
* PPS25: Development and Flood Risk
MPG1: General Considerations
** MPS1: Planning and Minerals (and Associated Good Practice Guidance)
MPG2: Applications, Permissions and Conditions
MPS2: Controlling and Mitigating the Environmental Effects of Mineral Workings
MPS2: Annex 1: Dust
MPS2: Annex 2: Noise
MPG3: Coal Mining and Colliery Spoil Disposal
MPG4: Compensation Regulations
MPG5: Stability in Surface Mineral Workings and Tips
MPG6: Aggregates Provision
National and Regional Guidelines for Aggregates Provision in England 2001 – 2016 (Update imminent but not yet available to be included in this Update 3)
MPG7: Reclamation of Mineral Workings
MPG8: Interim Development Order Permissions
MPG9: Interim Development Order Permissions - Conditions
MPG10: Provision of Raw Materials for the Cement Industry
MPG12: Treatment of Disused Mine Openings
MPG14: Review of Mineral Planning Permissions
Planning for Freight on Inland Waterways
Rural White Paper
Urban White Paper
Waste Strategy 2000
Review of England's Waste Strategy - A Consultation Document
Changes to Waste Strategy 2000
* Waste Strategy for England 2007

DEFRA Guidance on Municipal Waste Management Strategies
** DEFRA Natural Environment and Rural Communities Act 2006 – Section 41: List of Habitats and Species of Principal Importance in England 2008
UK Biodiversity Action Plan
National Sustainable Development Strategy
Waste not, Want not – A Strategy for Tackling the Waste Problem in England
The Sustainable Communities Plan
National Trails Publication
DTI Sustainability Strategy
A Development Plan for Marine Aggregate Extraction
* Wessex Water Resources Draft Management Plan
* Thames Water Resources Management Plan
* Severn Trent Water Draft Resources Management Plan
* Energy White Paper – Our Energy Future
* Rural Strategy 2004
* Working with the Grain of Nature: A Bio-diversity Strategy for England
Better Buildings
Planning for the Supply of Natural Building Stone
Planning for Waste Management Facilities
Collation of the Results of The 2005 Aggregate Mineral Survey for England and Wales
Survey of Land for Mineral Workings in England 2000
Survey of Arisings and Use of Construction, Demolition and Excavation Waste as Aggregate in England in 2003
Circular 1/97 Planning Obligations
Circular 6/98 Planning and Affordable Housing
Circular 15/97 The UK National Air Quality Strategy
Circular 02/98 Prevention of Dereliction through the Planning System
Circular 2/99 Environmental Impact Assessment
Circular 4/01 Control of Development Affecting Trunk Roads
Circular 1/03 Safeguarding Aerodromes
Circular 06/05 Biodiversity and Geological Conservation
Authorities with Environmental Responsibility in Relation to the SEA Directive
* Draft Guidance on Health in Strategic Environmental Assessment

The Countryside Agency, English Heritage, English Nature, Environment Agency -Environmental Quality in Spatial Planning
The Countryside Agency – The State of the Countryside in the South West
English Nature – Policy Position Statement on Aggregate Extraction and Nature Conservation
English Nature - Policy Position Statement on Non-Aggregate Mineral Extraction
English Heritage - A Strategy for the Historic Environment in the South West
The Environment Agency – Position Statement on Sustainable Construction
The Environment Agency – Position Statement on Managing Hazardous Waste
The Environment Agency – Position Statement on Resource Efficiency
Regional
Draft Regional Spatial Strategy for the South West
** Secretary of State's Proposed Changes (July 2008) to the Regional Spatial Strategy for the South West
South West Climate Change Impact Scoping Study
South West Biodiversity Implementation Plan
** South West Nature Map
Regional Economic Strategy for the South West of England
Our Environment Our Future -The Regional Strategy for the South West Environment
Regional Sustainable Development Framework for the South West
Regional Quality of Life Counts
Towards 2015 – Shaping Tomorrow's Tourism
The Sustainable Communities Plan 2003 – Focusing on Sustainable Communities in the South West
Just Connect – An Integrated Regional Strategy for the South West 2004 –2026 (Draft)
Regional Planning Guidance for the South West (RPG10 – Interim RSS10)
Regional Waste Strategy for the South West
County & Local
Municipal Waste Management Strategy for Gloucestershire
Gloucestershire Waste Partnership Joint Strategy Statement
**Gloucestershire Outline Business Case for Application for Private Finance Initiatives Credits
**Gloucestershire Infrastructure Delivery Plan
**Gloucestershire Strategic Flood Risk Assessment for Minerals & Waste Development Framework
Gloucestershire NHS Trust Annual Report (2003/4) + Excellence through Partnerships
Gloucestershire NHS Trust Service Delivery Strategy 2005 – 2008

Gloucestershire Education Development Plan Submission 2002 – 2007 – Gloucestershire a Learning County
Gloucestershire Landscape Character Assessment
Gloucestershire Renewable Energy Action Plan
The Community Strategy for Gloucestershire
* Gloucestershire Conference Sustainable Community Strategy
* Gloucestershire County Council's Draft Corporate Climate Change Strategy & Action Plan
** Gloucestershire Nature Map
** Gloucestershire Cotswolds Geodiversity Audit & Local Geodiversity Action Plan 2005
** West Gloucestershire Geodiversity Audit & Local Geodiversity Action Plan (In print / Aug 2008)
Local Agenda 21 Strategy for a Sustainable Gloucestershire
Gloucestershire Structure Plan Second Review (Adopted Plan)
Gloucestershire Local Transport Plan
Gloucestershire Local Transport Plan (2)
The Gloucestershire Economic Strategy
The Rural Economic Strategy for Gloucestershire
Biodiversity Action Plan for Gloucestershire
Cotswold Water Park Biodiversity Action Plan
** Cotswold Water Park Biodiversity Action Plan 2007 – 2016
Cotswold Water Park Supplementary Planning Guidance
Wye Valley AONB Management Plan
Cotswolds AONB Management Plan
Gloucester Local Plan
** Gloucester Local Development Framework
Gloucester Community Strategy
Tewkesbury Local Plan
** Tewkesbury Local Development Framework
The Partnership Plan for Tewkesbury
Stroud Local Plan
** Stroud Local Development Framework
Stroud District Community Strategy

Cheltenham Local Plan
** Cheltenham Local Development Framework
Cheltenham's Community Plan
Forest of Dean Local Plan
** Forest of Dean Local Development Framework
Forest of Dean Community Plan
Cotswold Local Plan
** Cotswold Local Development Framework
Cotswold Community Strategy

Table 7. Justification as to the non-inclusion of certain plans and programmes.

PPG / MPG	Justification for non-inclusion
PPG 5: Simplified Planning Zones	Not relevant to minerals and waste plans.
PPG 17: Sport and Recreation	Not relevant to minerals and waste plans.
PPG 19: Outdoor Advertisement Control	Not relevant to minerals and waste plans.
PPG 20: Coastal Planning	Not relevant to Gloucestershire.
PPG 22: Renewable Energy	Superseded by PPS 22.
PPG 23: Planning and Pollution Control	Superseded by PPS 23.
MPG 11: Noise	Superseded by MPS 2.
MPG 13: Peat	No significant peat workings in Gloucestershire.
MPG 15: Silica Sand	No significant silica sand workings in Gloucestershire.

6. Gloucestershire Context: Key Messages & Sustainability Issues

A number of key messages emerged through the scoping of relevant plans and programmes. See the SA Context Report (Update 3). These messages have contributed to the development of the SA Objectives and also provide the basis for developing indicators.

The following are considered to be some of the key sustainability issues/problems for Gloucestershire. In keeping with the principles of SA / SEA, social, economic and environmental issues are taken into account. It is a general list and certain issues are likely to have greater significance to the development of minerals and waste policy in Gloucestershire. (See Appendix 3, 4 & 5 for more details).

Table 8. Sustainability Issues and Problems in Gloucestershire.

No.	Sustainability Issues and Problems
1.	**Relatively high house prices in the County** Gloucestershire is a relatively expensive place to live, with some districts and areas clearly much more expensive than others. Generally it is the high prices in the Cotswolds that keeps the average high. The average price of a house in Gloucestershire in 2006 was £212,623 compared to the UK average in 2006 of £193,421. Since mid 2007 prices have been falling across the UK, but they are still *relatively* high in the County.
2.	**Low average income** In 2003 the average County income was £19,857, almost £1000 lower than the national average. However the average income in Tewkesbury and Cheltenham were well above the national average. The Forest of Dean was well below. The situation would appear to be improving as the County Average Weekly Earnings (Resident based gross – ASHE 2007) was £468 (figures from Gloucestershire First). The National figure in May 2008 was £436. (figures from ONS).
3.	**High crime levels in some areas** The following are in the Top 10% nationally most deprived wards in terms of crime and disorder: Lidney East 3 (FoD), Allsaints 3 (Cheltenham), Pitville 3 & 4 (Cheltenham), Springbank 2 (Cheltenham), Barton and Tredworth 2 (Gloucester), Kingsholm and Wotton 3, Moreland 7 (Gloucester), Westgate 1 & 3 (Gloucester).
4.	**Poor health in some areas / amongst certain groups** There are pockets of health related deprivation in Gloucester, Cheltenham and the Forest of Dean where life expectancy is lower than the rest of the county. All age, all cause mortality, early death rates from heart disease and stroke and from cancer are lower than the England rates and falling. The estimated percentage of healthy eating adults is lower in Gloucestershire than the England average. Although the death rate from smoking is low, smoking still kills around 950 people per year. Over the next 3 years, the Gloucestershire LAA has prioritised smoking, obesity, breastfeeding, alcohol misuse, independence for vulnerable people, and reducing falls in over 75s.
5.	**High levels of traffic congestion and associated impacts** The busiest routes in the County with over 1000 HGVs in a 24 hour working day are, sections of the A40, A417, M50, M5, A46, A438, A435, A4311. There is a trend that the number of vehicle kms is increasing year on year in the County.
6.	**The performance of the rural economy** Various pressures on the rural economy and rural communities as outlined in 'The Rural Economic Strategy for Gloucestershire'.
7.	**Areas of deprivation and social exclusion** According to Government Indices of Deprivation there are significant pockets of deprivation in the County mainly in the urban areas of Gloucester and Cheltenham. The Indices of Deprivation are made up of 7 domains: Income; Employment; Health deprivation and disability; Education, Skills and Training deprivation; Barriers to Housing and Services; Crime and Living Environment. These are combined to give the Index of Multiple Deprivation. For Gloucestershire the ID2007 Super Output Areas in the national top 10% (i.e. in the worst 10%) are: Podsmead 1, Matson & Robinswood 1, St Paul's 2, Westgate 1, Westgate 3 Kingsholm and Wotton 3 and St Mark's 1.
8.	**Potential for flooding** A very serious issue in Gloucestershire. High potential in some areas of the County as outlined in Gloucestershire's SFRA. The summer 2007 flood events resulted in 5,000 homes and businesses being flooded and many communities were cut off.
9.	**High levels of waste to landfill** Levels of all wastes to landfill are 'high' but they are slowly decreasing due to various measures such as the Landfill Tax and the Landfill Allowance Trading Scheme. While the quantity of MSW

	has been increasing, the amount going to landfill is steadily decreasing. In 2004/05 228,000 tonnes of MSW was landfilled. In 2006/07 this figure had fallen to 215,000 tonnes. The figure for 2007/08 is 192,025 (201,997 if the small amount of trade waste within the MSM stream is included). The County Council, under its municipal waste contract with Cory Environmental, uses two landfill sites – Hempsted in Gloucester City and Wingmoor Farm (West) in Bishops Cleeve, Tewkesbury Borough. These have a combined remaining voidspace of around 5 million m^3. It is likely that the voidspace currently permitted at Hempsted will be exhausted by 2013. Wingmoor Farm (West) could last considerably longer, but this is dependent on the success of waste minimisation and recycling strategies. (See Section 7 - Baseline for Waste Planning in Gloucestershire for more details).
10.	**Growing levels of waste in Gloucestershire** MSW growth in Gloucestershire over the past few years has been growing by an average of 3% per year, but it does appear to be slowing. The 2007/08 figures represented a slight reduction, but MSW has grown from 268,000 tonnes in 1999/00 to 323,000 in 2007/08. The Waste Disposal Authority (WDA) are currently undertaking more modelling work to determine projected growth rates for MSW to 2039/40.The WLP and WCS assume a 0% growth rate for C&I. It is difficult to establish growth rates for C&D and C&I waste as the figures tend to fluctuate.
11.	**Relatively poor recycling / composting rates** In 2004/05 the County had a household recycling and composting rate of 26%. This rose to around 30% in 2005/06 and 32% in 2006/07. The latest figure for 2007/08 is 36% (this is a combined composting and recycling figure). But the rates vary quite widely between Districts; Gloucester City's most recent figure (combined recycling and composting) is 25% while Cotswold District's is 43%.
12.	**Issues with mineral site restoration** The WLP indicates that there is some evidence that Gloucestershire lacks suitable inert material that could be used for appropriate restoration scheme following mineral extraction. However meetings with C&D operators highlight the fact that they consider that there are not enough disposal options for inert material. There are issues over the general quality of mineral site restoration and also problematic issues in the Cotswold Water Park regarding wet restoration and 'bird strike' issues in relation to the proximity of RAF Fairford.
13.	**Difficulties in terms of protecting Gloucestershire's environment whilst providing minerals needed by society** Minerals can only be worked where they are found and this is often in what is considered to be sensitive environments. In Gloucestershire the two principle limestone resource areas, the Forest of Dean and the Cotswolds are designated as Special Landscape Areas and AONB.
14.	**Relatively low levels of renewable energy generation** Gloucestershire's renewable electricity capacity has barely changed since 2007 whilst the South West's installed renewable energy generation has grown by 15% between 2007 and mid 2008. There is a potential conflict with aspirations to reduce biodegradable waste to landfill in that there will be a reduction in the production of biogas. It is unlikely that both renewable energy targets and targets to reduce BMW to landfill will be met in the early years.
15.	**The general state of Gloucestershire's biodiversity, the condition of SSSIs / sites protected under the Habitat's Directive / locally designated sites** Detailed information on the general state of biodiversity in Gloucestershire can be found in the latest Gloucestershire Biodiversity Action Plan (BAP) at: http://www.gloucestershirebap.org.uk/ There are 10 International/European sites in and close to Gloucestershire. There are possible threats to them from minerals and waste development although they are protected by law through the Habitat Regulations Assessment (HRA) process. A process which GCC is undertaking as part of plan preparation.
16.	**Decline in species biodiversity - in particular of certain bird species in Gloucestershire** Biodiversity decline: The specifics of various species are contained in the latest Gloucestershire BAP at: http://www.gloucestershirebap.org.uk/ Bird populations: In the South West between 1994 and 2002: Farmland birds = down 9%, Woodland birds = little change. In the South West from 1979-2005: Starlings declined by 71%, House sparrow declined by 52% Song thrush declined by 34%, Blackbirds declined by 31%. Farmland birds in Gloucestershire: Skylark, Grey Partridge, Corn Bunting, Linnet, Reed Bunting,

	Tree Sparrow, Bullfinch, Turtle Dove, Song Thrush and Lapwing have all declined in Gloucestershire, reflecting a national decline in numbers. (The specifics are contained in the Gloucestershire BAP) Other species of birds that have suffered dramatic declines include: Bittern, Nightjar, Woodlark and Spotted flycatcher. ("Birds are generally good indicators of the broad state of wildlife and the countryside, because they are wide-ranging in habitat distribution and tend to be at or near to the top of the food chain") Source: Government's indicators of sustainable development.
17.	**Increases in serious pollution incidents** No figures specifically relating to Gloucestershire but (at least) 1 serous incident in September 2006 = Chemical fire in Andoversford area in Cheltenham. January 2004 = Explosion at Lithium battery factory in Tewkesbury. November 2000 = serious fire at CSG waste transfer station in Sandhurst Lane Gloucester.
18.	**Potential for damage to the historic environment** Scheduled Ancient Monuments in Gloucestershire = 490. Conservation Areas = 264 covering 6233 ha. Number of listed buildings = 12,935. Local archaeological sites = 27,954. There are 31 Grade 1 and Grade II* Listed Buildings in Gloucestershire on the English Heritage Buildings at Risk Register. Figures for Gloucestershire Districts on the number of listed buildings and structures 'at risk'. Gloucester: 47 of 700+ Listed Buildings. Cheltenham: 1 of 2,602 Listed Buildings. Stroud: [No data as yet]. Forest of Dean: 27 of (unknown) Listed Buildings. Tewkesbury: 208 of 1,800+ Listed Buildings. Cotswold: 196 of 6,496 Listed Structures.
19.	**Detrimental changes in landscape character** There are three Areas of Outstanding Natural Beauty (AONB) in the County and other important areas many of which are outlined in the Gloucestershire Landscape Character Assessment available at: http://www.gloucestershire.gov.uk/index.cfm?articleid=13187 There is the potential for minerals and waste development to contribute to detrimental changes in landscape character in the County and plans should endeavour to minimise impacts as much as possible. The Gloucestershire Nature Map also identifies four Natural Areas in which the following Strategic Nature Areas (SNA) have been identified: Woodland, Unimproved Limestone Grassland, Unimproved Neutral Grassland, Lowland Wet Grassland and Heathland/Acid Grassland. Climate change represents a major threat to landscape character in the County e.g. with beech woods under particular threat from rising temperatures. More on the Gloucestershire Nature Map at: http://www.swenvo.org.uk/nature_map/Gloucestershire.asp

7. Summary of Baseline Data and Indicators

Collecting baseline data is an essential part of the SA process. It helps provide the basis for predicting and monitoring the effects of policies and in the identification of sustainability problems. The choice of baseline data has been informed by the previous stages in the SA process. As indicated previously, potentially a key limitation of the SA process are gaps in baseline data. Government Guidance on SA takes a pragmatic view in advising that it is acceptable to have data gaps, but that the resulting risks should be documented. The SA process (through the various updates to the Framework) and the Minerals & Waste AMRs provide an opportunity over a period of time to resolve this issue. However, it is important to identify the critical areas of information required to make a sound assessment of DPDs.

Indicators are useful in terms of identifying sustainability problems and through monitoring over a period of time they can indicate trends which are useful when assessing the impact of policies. Indicators can be roughly subdivided into contextual and output indicators. These can be used to gauge the impact of adopted minerals and waste policy through the development of targets and objectives. Contextual indicators measure change in the wider social, economic and environmental background within which the DPD policies will operate. Output indicators will help monitor the direct effect of any policy or strategy adopted (see Appendix 3 – Baseline Data for a list of indicators).

The 2004 Planning Act places a duty on planning authorities to prepare Annual Monitoring Reports (AMR). The first mandatory Minerals and Waste AMR was produced in December 2005, the second was produced in December 2006 and the most recent was produced in December 2007. These relate to the adopted Minerals and Waste Local Plans as well as indicating progress on key milestones required under the 2004 Act. Subsequent AMRs will be well related to the SA Framework monitoring progress on both contextual and output indicators.

Table 8 – Sustainability Issues and Problems in Gloucestershire provides some baseline data related to specific issues. Further more detailed data relating to Gloucestershire is provided in the summaries below and in **Appendix 3 – Baseline Data.** The following paragraphs provide an overview of:

- Baseline for Minerals planning in Gloucestershire.
- Baseline for Waste planning in Gloucestershire.
- Other baseline information related to Gloucestershire.

Baseline for Minerals Planning in Gloucestershire

Gloucestershire has a diverse geological base with significant mineral deposits of economic value. The County can be subdivided into the following mineral resource areas:

Table 9. Mineral Resource Areas in Gloucestershire.

Resource Area	Mineral Type
Forest of Dean	❑ Limestone (Carboniferous) ❑ Sandstone ❑ Clay ❑ Iron Ore ❑ Coal
Cotswolds	❑ Limestone (Jurassic)
Upper Thames Valley	❑ Sand and Gravel ❑ Clay ❑ Cornbrash (Jurassic Limestone)
Vale of Moreton	❑ Sand and Gravel
Severn Vale	❑ Sand and Gravel ❑ Clay

Mineral resources

Gloucestershire possesses a range of mineral resources of local, regional and national importance. These include primary land-won and recycled / secondary aggregates, energy minerals such as coal, and non-energy minerals that include clays and building stone. The map below gives a simplified indication of Gloucestershire's mineral resources.

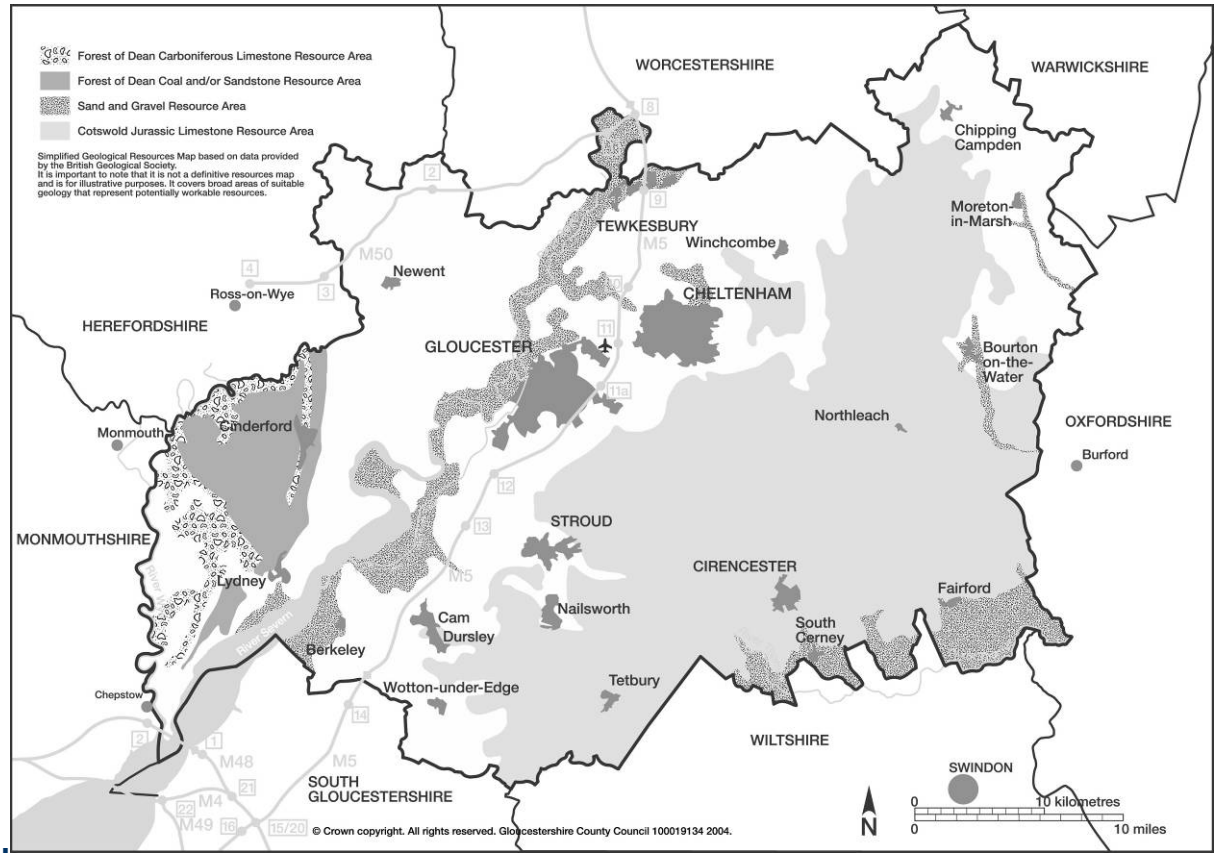


Figure 1. Gloucestershire's Mineral Resources.

■ Sand and Gravel

The sand & gravel resources of Gloucestershire comprise of fluvio-glacial and fluvial deposits that occur irregularly, but extensively over a number of lowland areas and river valleys around the County. Notable concentrations of sand & gravel deposits can be found to the southeast within the Upper Thames Valley, throughout the central lowland corridor of the Severn Vale, and to the far northeast of Gloucestershire, along a wide river valley area, called the Vale of Moreton. There are also some very small pockets of sand working around the Bromsberrow Heath area.

▪ Supplies

In 2007, 0.9 million tonnes of sand & gravel was supplied from Gloucestershire. The majority of this supply (about 97% of the total) was sourced from the Upper Thames Valley resource area. The remainder originated from sources elsewhere across the county. As of 01/01/2008 the Aggregate Reserve total was 8.72 million tonnes.

▪ Infrastructure

The vast majority of sand and gravel sites are concentrated within the Upper Thames Valley resource area. However, three relatively small operational sites were located along the Severn Vale corridor and in the Bromsberrow area. In terms of sand & gravel processing, the Upper Thames Valley area has the most capacity available in the county. Minerals Core Strategy Technical Evidence Paper MCS-A (July 2007) indicates that there are two concrete batching plants, four fixed processing plants and a block-making factory which benefit from planning permission. In addition, substantial processing opportunities can be found across the county boundary within Wiltshire. Example sites include: the Cleveland Farm Complex near Ashton Keynes and Eysey Manor Farm to the East of Latton. Outside of the Upper Thames Valley there is much less processing capacity, including two ready mixed concrete plants and several mobile processors. One of the ready mixed concrete plants is a stand-alone, satellite operation, which is fed by imported material some of which is occasionally barged along the River Severn and Sharpness Canal from Ryall quarry in Worcestershire.

▪ Sites

Sand & Gravel Working within the Upper Thames Valley

Gloucestershire Section:	**Wiltshire Section:**	**Oxfordshire Section:**
1. Spratsgate Lane	9. Manor Farm Complex	18. Sandshill
2. Shorncote	10. Cotswold Community	19. Faringdon
3. Cerney Wick	11. North End Works	20. Bowling Green Farm
4. Oaktree Fields	12. Kent End Farm	21. Hatford
5. Horcott	13. Wickwater Farm	22. Shellingford
6. Stubbs Farm	14. Cleveland Farm Complex	
7. Manor Farm	15. Latton Fields	
8 Thornhill Farm	16. Eysey Farm Complex	
	17. Roundhouse Farm	

See Page 17 of Minerals Core Strategy Technical Paper MCS-A Sand & Gravel Locations Report (2007) for mapped information.

▪ Markets

Market information for sand & gravel is based on washed and graded materials rather than as a finished aggregate product. Consequently, it is difficult to establish true market information and trends of local supplies as it is often transported from one site to another (sometimes across county and regional boundaries) depending upon the availability of plant and the proposed end-use. 2005 data would suggest that only a small fraction of sand & gravel is marketed directly within Gloucestershire. However, it is likely that a high proportion of the county's sand & gravel supplies are brought back to Gloucestershire as a finished aggregate product.

▪ Remaining years of the sand and gravel landbank

As of 01/01/2008 Gloucestershire has a remaining landbank of sand & gravel reserves equal to 7.65 years excluding dormant reserves and based on 2001-2016 Guidelines.

■ Crushed Rock

Gloucestershire's crushed rock resources can be divided into two specific types of limestone. These are separated over geological time and by geographical location. The older resources, known as Carboniferous limestone, occur within the Forest of Dean. And the younger resources, called Jurassic limestones are found in the Cotswolds. The Carboniferous limestones have the greatest degree of flexibility as an aggregate mineral. This is because they are more durable and harder than the Jurassic limestones. Whilst both limestone types can be used in general construction, it is generally only Carboniferous limestones that can provide for a wider range of high specification projects. Although two distinct crushed rock resource areas have been identified within Gloucestershire, the overall distribution of these resources is not confined to the County's administrative boundaries. For the Jurassic limestones of the Cotswolds, the resource area is much wider and covers parts of the neighbouring authorities of Bath & North East Somerset, Oxfordshire, Warwickshire, and Wiltshire. In the case of the Carboniferous limestones from the Forest of Dean, comparable resources have been worked in the adjoining Welsh authority of Monmouthshire and more significantly to the Northwest of South Gloucestershire. There are also significant crushed rock resources further a field, which may have a relationship to Gloucestershire. These are found within North Somerset and Somerset.

- Supplies

In 2007, 2.08 million tonnes of crushed rock was supplied from Gloucestershire, 1.53 million tonnes of Carboniferous limestone from the Forest of Dean and 0.55 million tonnes of Jurassic limestone from the Cotswolds. For comparison, in 2006, 1.81 million tonnes of crushed rock was supplied; a reduction on the 1.95 million total tonnage figure in 2005.

- Infrastructure

Minerals Core Strategy Technical Evidence Paper MCS-B (July 2007) states that, according to recent data a total of 20 quarries with the potential for crushed rock working are identified in Gloucestershire. Of these, 12 quarries are in active production, and 13 are classed as either not in production or only supplying other quarried products (e.g. building stone and agricultural lime) There are a further five un-worked and "dormant" quarries which will require additional planning permissions for schemes of conditions of working before their reserves can be worked.

Most of the County's crushed rock infrastructure and operational capacity is focused within the existing quarry sites of the Forest of Dean resource area. Minerals Core Strategy Technical Evidence Paper MCS-B details the fact that, according to recent figures there are three fixed processing plants, two roadstone coating plants, a concrete batching plant, a ready-mix concrete plant and several aggregate recycling facilities within this resource area. In contrast, crushed rock infrastructure within the Cotswold resource area are considerably less, with only two fixed processing plants, one concrete batching plant and one aggregate recycling facility in operation. Nevertheless, some mobile crushing plants are used intermittently at several hybrid-quarries that produce small amounts of crushed rock in association with building stone.

It should be noted that the majority of ancillary plant used in the Cotswold resource area is of a mobile nature and is also required for building stone purposes (e.g. cutting, dressing, bagging etc.) and agricultural lime production.

- Sites

Carboniferous Limestone Quarries (With potential for crushed rock working)	**Jurassic Limestone Quarries (With potential for crushed rock working)**
1. Drybrook	9. Stanleys
2. Stowfield	10. Shenberrow ~
3. Rogers ~	11. Oathill
4. Clearwell / Stowe Hill	12. Hornsleasow ~
5. Shakemantle ~	13. Three Gates ~
6. Tytherington *	14. Cotswold Hill
7. Wickwar *	15. Swellwold
8. Chipping Sodbury *	16. Huntsmans
	17. Brockhill
** - These three quarries are outside of the Administrative area of Gloucestershire*	18. Soundborough
	19. Oxleaze
	20. Birdlip
~ - These sites are termed as "dormant" and will require further planning permissions before they can be worked.	21. Daglingworth
	22. Shorncote
	23. Veizeys

See Page 16 of Minerals Core Strategy Technical Paper MCS-B Crushed Rock Provision & Locations Report (2007) for mapped information.

▪ Markets

In 2005, 46% of crushed rock supplies were marketed within Gloucestershire. The remaining 54% was marketed between elsewhere in the South West region, the West Midlands, Wales, and the South East including London. However, due to some external processing outside of the county a proportion of the non-Gloucestershire supply may actually end up back in the county as a finished construction product.

▪ Reserves

As at 01/01/2008 the countywide reserves of crushed rock totalled 31.98 million tonnes. The majority (17.76 million tonnes) was made up of Carboniferous limestones from the Forest of Dean. The remainder (14.01 million tonnes) was comprised of Jurassic limestones from the Cotswolds - see chart below. It is important to note that in 2006, the Department for Communities & Local Government (DCLG) clarified the methodology for calculating aggregate reserves. For survey data collected after 2005, reserves classified as 'dormant', should be removed from future reserve assessments. Thus for Gloucestershire the 01/01/2008 aggregate reserve excluding dormant reserves was 27.49 million tones (15.87 million tonnes in the Forest of Dean and 11.62 million tonnes in the Cotswolds).

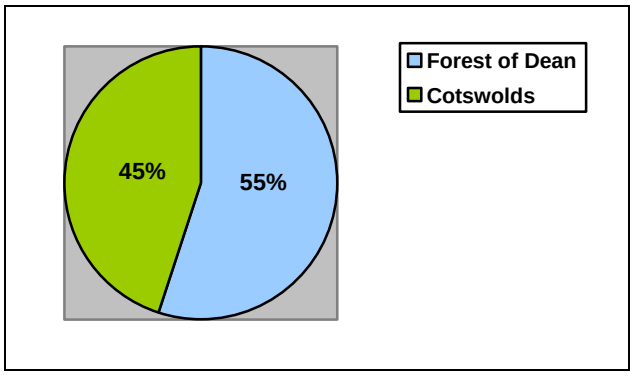


Figure 2. Forest of Dean / Cotswolds Crushed Rock Permitted Reserves Split.

▪ Remaining years of the crushed rock landbank

Based on 2001 to 2016 Guidelines, the remaining landbank in the Forest of Dean at 01/01/2008 is 9.28 years. The remaining landbank in the Cotswolds at 01/01/2008 is 15.9 years. There are comparable crushed rock resources within the neighbouring / nearby areas to Gloucestershire. A number of these resources are deemed as strategically significant to Gloucestershire, as they are relatively close and easily accessible to the county's key local markets.

■ Natural Building & Roofing Stone

The working of natural building & roofing stone is an important part of the mineral industry in Gloucestershire. It is required for the ongoing repair and maintenance of the county's rich and diverse historic built environment and for supplying new-build and specialist, high-grade architectural projects. Gloucestershire's natural building & roofing stone resources are divided into two mineral types: Limestone and Sandstone. These are separated over geological time and resource location across the county.

▪ Supplies

In 2007 the total sales of non-aggregate stone, for all uses such as walling, tiling, other building and agricultural uses was 126,846 tonnes. The breakdown is as follows: Cotswold limestone 80,346 tonnes, Forest of Dean limestone 38,722 tonnes, Forest of Dean sandstone 7,759 tonnes. For building and roofing stone the figures are as follows: Cotswold limestone 45,557 tonnes, Forest of Dean limestone 1,037 tonnes, Forest of Dean sandstone 7,578 tonnes, making a total of 54,181 tonnes.

▪ Sites

Forest of Dean Quarries (With permission for working Natural Building & Roofing Stone)		Cotswold Stone Quarries (With permission for working Natural Building & Roofing Stone)		
1. Stowfield	10. Monument	18. Stanleys	27. Brockhill	36. Park Farm
2. Clearwell	11. Nailbridge	19. Shenberrow	28. Cotswold Hill	
3. Drybrook	12. Meezy Hurst	20. Hornsleasow	29. Soundborough	
4. Birch Hill	13. Puddlebrook	21. Guiting	30. Syreford	
5. Bixhead	14. Knobb	22. Three Gates	31. Farmington	
6. Great Berry	15. Aston Bridge	23. Oathill	32. Daglingworth	
7. Mine Train	16. Wimberry	24. Tinkers Barn	33. Veizeys	
8. Wilderness	17. Perseverance	25. Huntsmans	34. Swellwold	
9. Copes		26. Grange Hill	35. Oxleaze	

See Page 15 of Minerals Core Strategy Technical Paper MCS-C Natural Building & Roofing Stone Report (2007) for mapped information.

▪ Markets

There are two principal markets for natural building & roofing stone – repair of historic buildings and new build projects. In Gloucestershire, the repair of historic buildings is a significant driver of local demand. The county has a renowned and rich built heritage, which includes over 12,000 listed buildings and 264 conservation areas. A significant number of buildings and structures covered by one of the listings or which lie within a conservation area will at some point require new stone for repair and maintenance purposes.

Despite the UK wide downturn in the production of building stone over the last 100 years or so, the local market has remained relatively constant. However, more recently there has been an upsurge in demand. This is due to the heightened public interest in building conservation, greater access to financial assistance and a buoyant national economy. Planning policies and controls have also had an influence on the strength of this local market. This is demonstrated through district local plans and technical planning guides wherein policy support is given for the use of natural local stone, where it will act as a direct or suitable replacement in the repair of the historic environment.

The other key market for local building stone is new build projects. This is concerned with maintaining vernacular styles and local distinctiveness through the greater use of local building materials. It also refers to the specific requirements of certain contemporary styles in both external and internal decoration (e.g. carved fireplaces, sculptures, ornaments and flagstones). Similar to the sector for historic stone, district planning policies look to encourage the use of local building stone, where it contributes to the quality of the built environment.

▪ Reserves

Due to the variability of the county's building stone resources, particularly those found in the Cotswolds it has proved extremely difficult to provide an accurate level of permitted reserves, which remain within the county. As well as having to contend with a wide range of different stone types within each of the key mineral resources, there are also considerable variations in the type of building stone products that can be produced. Furthermore, the variability in local resources can change significantly over a short space of time and within a relatively small area. Different layers / stone strata can become exhausted or revealed in a matter of weeks as quarry faces are worked through. A further complication in determining reserves is concerned with the opportunity to extract different quarried products alongside building stone. This is a key issue with the county's Carboniferous and Jurassic limestone, which also provides for a supply of crushed rock aggregate and small quantities of agricultural lime. Where reserve assessments are carried out at relevant quarries it can prove extremely difficult to distinguish between which part of the reserve will prove suitable as a building stone, or for another quarried product.

Nevertheless, local operators are still actively encouraged to provide annual estimates of their non-aggregate reserves. These estimates cover all natural building stone products, and agricultural lime, where it is also worked. As at 01/01/2008, non-aggregate reserves in Gloucestershire were estimated to be 4.2 million tonnes. 3.0 million tonnes is Jurassic limestone from the Cotswolds and 1.2 million tonnes is sandstone and limestone from the Forest of Dean.

■ Recycled Aggregates

Recycled Aggregates in Gloucestershire are principally derived from the reprocessing of waste materials from construction and demolition projects. It is mainly made up of concrete and hardcore, although can also

include railway ballast and road planings. The availability of recycled aggregates is very much dependant upon the level of activity of the construction industry and other infrastructure scheme such as road maintenance. The following Table 10 contains a list of Construction and Demolition (C&D) facilities in Gloucestershire with aggregate production potential. These are fixed waste facilities with planning permission for crushing, screening, transfer and / or road planing storage.

Table 10. C&D Facilities in Gloucestershire with Aggregate Production Potential.

Operator	Address
HC Stevens & Sons	Ham Villa, Charlton Kings, Cheltenham
Huntsmans Quarries	Buckle Street, Naunton
HT Waste Recycling	Honeybourne Rd, Tewkesbury
Hanson (Aggregates) Plc	Claydon Pike Gravel Pit, Nr. Lechlade
MPH Europe	Unit 7, Honeybourne Rd, Honeybourne
Valley Trading Ltd	Babdown Industrial Estate
Wilderness Recycling Ltd	Wilderness Quarry, Gloucester Road, Mitcheldean
Lydney Sand & Gravel Company	Unit 48, Lydney Industrial Estate, Lydney
Richards	Woodgate Farm, Organs Green, Newent
Tarmac Ltd	Stowfield Quarry, Scowles Pitch, Coleford
Clearwell Quarries Ltd	Stowe Hill / Clearwell Quarry, Stowe Green, St. Briavels
Allstone Sand & Gravel	Allstone House, Myers Road, Gloucester
Cory Environmental	Sudmeadow Landfill & HRC, Hempsted
Gloucestershire County Council (Highways)	Moreton Valence Chipping Dump
Smiths (Gloucester) Ltd	The Old Airfield, Moreton Valence
Moreton C Cullimore Ltd	Netherhills Transport Depot
Smiths (Gloucester) Ltd	Northway Lane WTS, Tewkesbury
Cory Environmental	Wingmoor Farm, Nr. Bishops Cleeve
Tewkesbury Borough Council	Lower Lode Depot, Lower Lode Lane, Tewkesbury
Elliott And Sons Ltd	Land At Shurdington Road, Bentham, Cheltenham
Hogarth Skip Hire Ltd	Drymeadow Farm, Drymeadow Lane, Innsworth
Keyway (Gloucester) Ltd	Barnwood, Gloucester

■ Secondary Aggregates

The availability of secondary aggregates in Gloucestershire is currently limited. The Forest of Dean coalfield represents the only notable source, associated with the re-working of old colliery spoil tips. Unfortunately the quality and marketability for this material is extremely variable and some spoil tips are constrained by environmental and other recreational interests. A further very limited source includes foundry ash and brick waste.

■ Energy Minerals

Energy minerals in Gloucestershire comprise of coal, and potential resources of gas and oil, which are principally used as a fuel in energy generation. Coal resources are focused around a 90km^2 area to the west of the County, in the Forest of Dean Coalfield. Less clear is the occurrence of potential gas and oil resources. Despite extensive seismic and other investigations, with exploratory drilling for hydrocarbons in the County between 1975 and 1990, oil and gas resources remain an unquantified resource in Gloucestershire.

■ Non - Energy Minerals

Non-energy minerals provide a small but no less important, contribution to Gloucestershire's mineral industry. These resources include non-aggregate limestone and sandstones from the Forest of Dean and non-aggregate limestone from the Cotswolds used for building stone and agricultural lime. In some areas these minerals are worked in-conjunction with crushed rock aggregate. In addition clay minerals that occur in the Severn Vale, Vale of Moreton and Forest of Dean are used as a bulk fill, landfill cover, flood defence and for brick manufacturing. Resources of Iron Ore located within Forest of Dean also fall into this category. However, this resource has not been worked in the County since the Second World War.

Baseline for Waste Planning in Gloucestershire

A large percentage of waste produced in Gloucestershire is still disposed of in landfill or landraising sites. The amount of waste managed in Gloucestershire in 2005 was around 1.26 million tonnes. The latest available data* showing the tonnage split between waste streams is set out below:

Table 11. Licensed Waste Management in Gloucestershire.

Waste Stream	Base Year	Total
MSW	2006/07	324,000
C&I (including metals)	2005	462,000
C&D	2005	403,000
Hazardous	2004	72,000
Total		1,261,000

See Waste Core Strategy *Technical Evidence Paper WCS – A Waste Data* (Page 3) for various caveats and more details. This is available online at: http://www.gloucestershire.gov.uk/index.cfm?articleid=18014
*MSW data is available for 2007/08 – as detailed in the paragraphs below.

■ Municipal Solid Waste (MSW)

Municipal Solid Waste (MSW) comes from households (about 96%) together with a small amount of 'trade' waste collected by local authorities from shops and businesses. MSW data is provided by the County Council's Waste Management Team - also referred to as the Waste Disposal Authority (WDA). The data in this section was supplied in November 2008 and contains the most up-to-data MSW data i.e. for mid 2007 to mid 2008. The WDA works with the Waste Collection Authorities (WCA), the county's six District Councils, to provide an appropriate strategy for managing MSW. This strategy has recently been adopted and is refered to as the Joint Municipal Waste Management Strategy (JMWMS). It is available online at: http://www.recycleforgloucestershire.com/joint_strategy/

The collective name for the WDA / WCA working group is the Gloucestershire Waste Partnership (GWP). For more information see the following web link:

http://www.recycleforgloucestershire.com/

MSW Arisings

In the year 2007/2008 Gloucestershire's households produced 322,796 tonnes of waste. This included:
- Residual (black bin) waste
- Some trade waste from some of the Districts
- Recyclables (including Green and Kitchen waste)
- Waste delivered to Household Recycling Centres
- Small amounts of third party reuse and recycling
- Small amounts of fly tipped waste

The following graph shows in percentage terms how this waste was managed. Note: about 15% of the total is composting, and residual treatment is shown on the chart key, but there are currently no facilities in the County for MSW residual waste treatment.

Municipal Solid Waste 2007/08

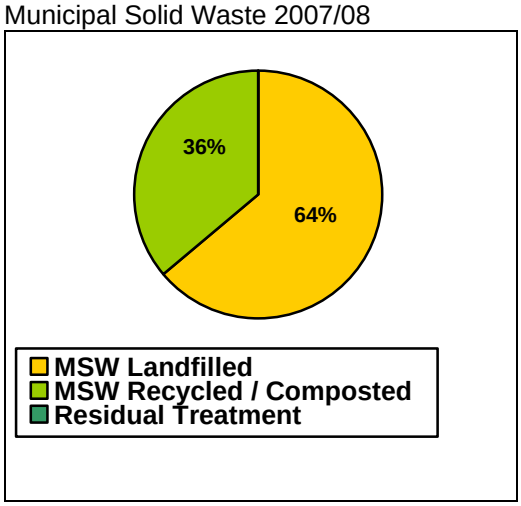


Figure 3. MSW % Landfilled / Treated / Recycled / Composted.

MSW Arisings Trend

The table below shows the MSW arisings pattern since 1999/2000. This indicates a steady growth up to 2006/07. The figures are total figures without transfer inclusive of the small tonnage of trade waste collected. Under current arrangements, all municipal waste is transported via the road network. Transferred waste is not included in the (below) MSW totals because it is all either recycled or landfilled and thus already included in those totals.

Table 12. Gloucestershire's Municipal Solid Waste Growth 1999/00 to 2007/08.

Year	Tonnes
1999/00	268,000
2000/01	268,000
2001/02	277,000
2002/03	284,000
2003/04	291,000
2004/05	309,000
2005/06	312,000
2006/07	324,000
2007/08	*323,000

*As with the figures for other years this figure is rounded to the nearest 1000. The exact figure is 322,796. Audited data provided by the WDA November 2008.

This is illustrated graphically below.

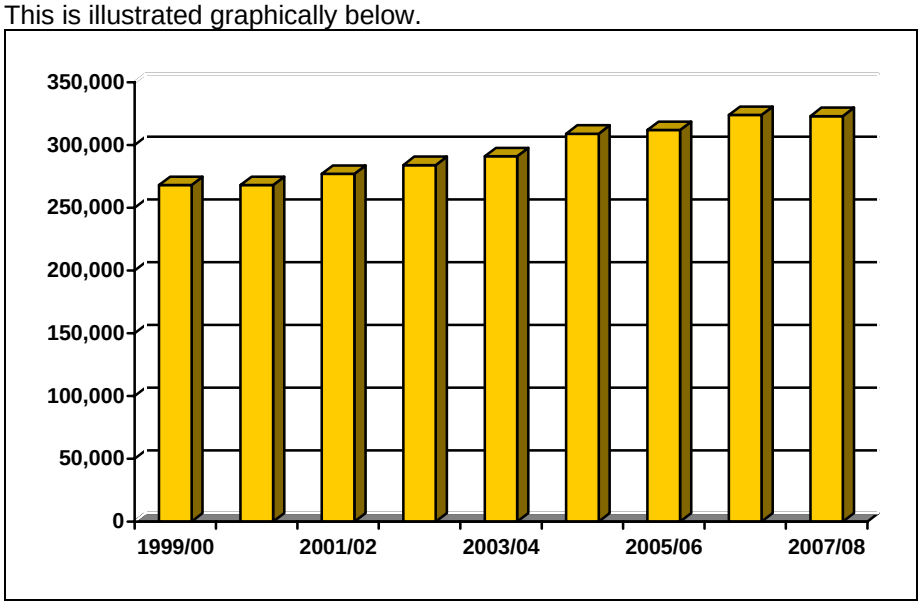


Figure 4. Graph of Gloucestershire's Municipal Solid Waste Growth 1999/00 to 2007/08.

The 2007/08 MSW arising figures show a small reduction from 2006/07. The WDA is reviewing these figures to assess any implications of this and to update the expected growth rates in Gloucestershire for future years.

Household Waste Per Head

In 2007/08 the household waste arising per head of population in Gloucestershire was 520 Kg. This figure is made up of Total Recycling (188 Kg per head) plus Total Landfilled (332 Kg per head).

The breakdown for Districts and Household Recycling Centres (HRCs) is shown in the table below.

Table 13. District and HRC Waste Data including Kg / Head.

Authority	% Recycling	% Composting	%Total Recycling	% Landfilled	% Kg/Head
Cheltenham BC	19%	12%	31%	69%	456
Cotswold DC	20%	23%	43%	57%	472
Forest of Dean DC	16%	22%	38%	62%	433
Gloucester City	17%	8%	25%	75%	428
Stroud DC	26%	0%	26%	74%	333
Tewkesbury BC	18%	11%	29%	71%	435
HRCs	33%	22%	55%	45%	117
County	22%	15%	36%	64%	520
	Recycling (Kg/Head)	**Composting (Kg/Head)**	**Total Recycling (Kg/Head)**	**Landfilled (Kg/Head)**	**Kg/Head**
Cheltenham BC	87	55	143	313	456
Cotswold DC	94	110	204	268	472
Forest of Dean DC	67	96	163	270	433
Gloucester City	72	36	108	320	428
Stroud DC	85	1	86	247	333
Tewkesbury BC	79	48	128	307	435
HRCs	38	26	65	52	117
County	113	75	188	332	520*

* This figure is made up of Total Recycling (188 Kg per head) plus Total Landfilled (332 Kg per head).

MSW Recycling and Disposal Composting Rates

In 2004/05 the WDA commissioned a study to find out the average composition of household waste. (Note: A more recent study is available from the WDA, but to date the material has not been presented graphically). For the 2004/05 figures, of the largest fractions, around 33% is organic material, 23% is paper, and 12% is glass. The full results are as follows in Figure 5.

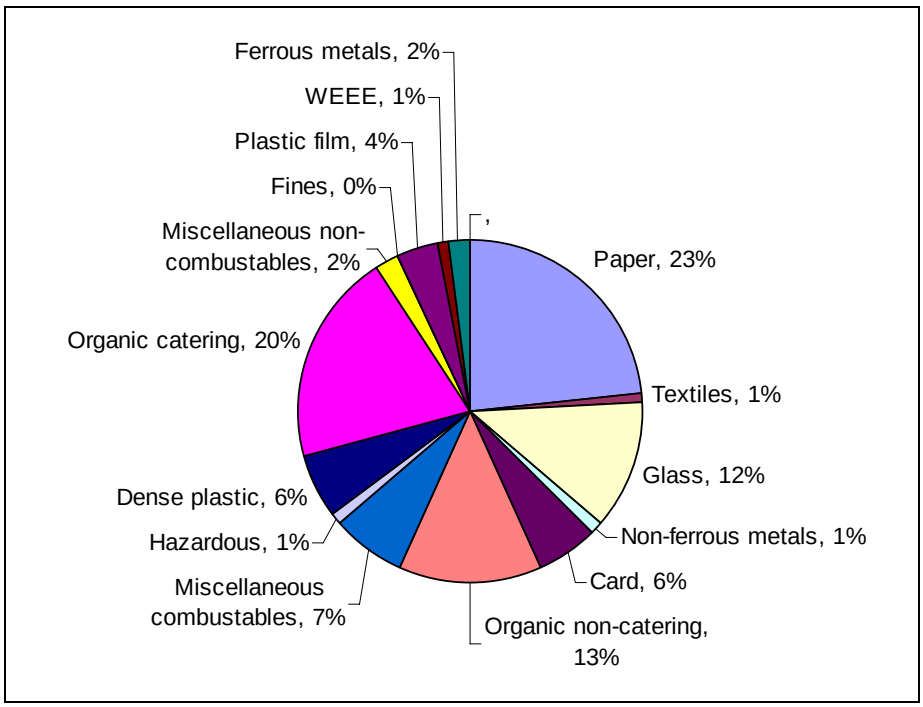


Figure 5. Contents of the Average Householder's Bin.

Approximately 70% of the materials produced by a household can be re-used, recycled or composted. Biodegradable materials comprise 68% of the waste stream, of which 33% is organic (kitchen and garden waste). In 2004/05 the County had a household recycling and composting rate of 26%. This rose to around 30% in 2005/06 and 32% in 2006/07. The latest figure for 2007/08 is 36% (this is a combined composting and recycling figure). The graph below shows the relative performance of the 6 Districts and HRCs in 2007/08.

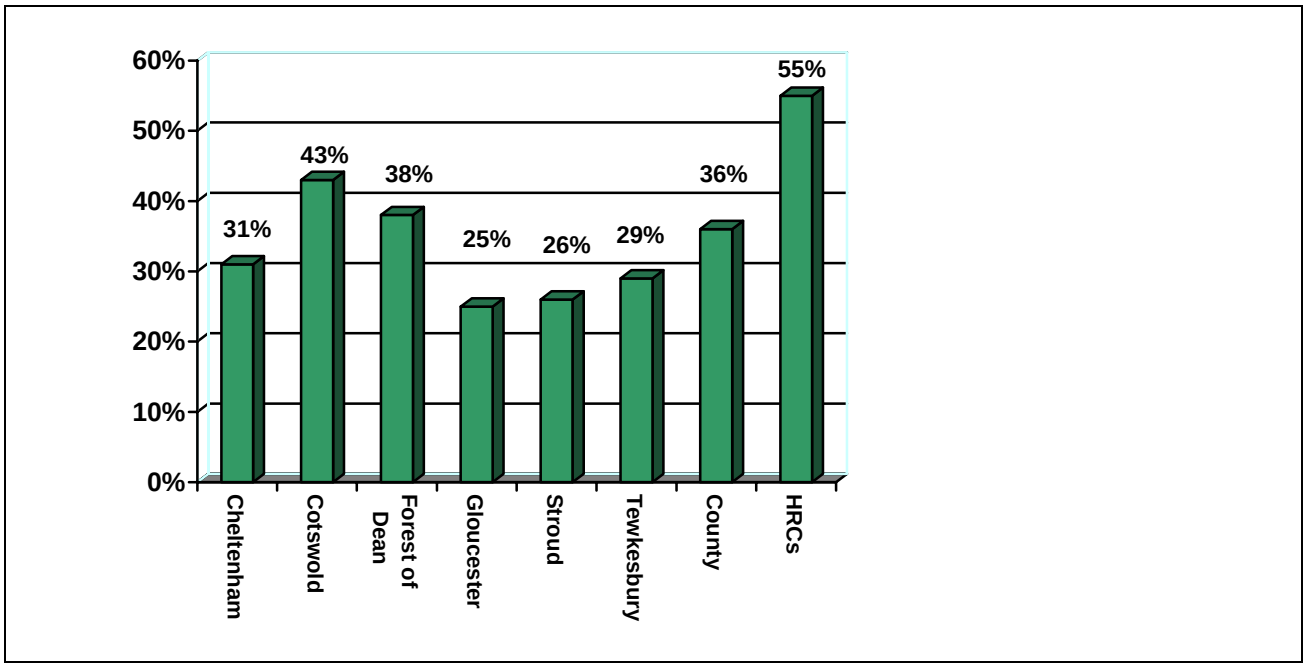


Figure 6. Recycling / Composting Performance of Gloucestershire Districts / County / HRCs (2007/08).

Household Recycling Centres (HRCs)

There are 5 HRCs in Gloucestershire: Fosse Cross (Cotswold), Hempsted (Gloucester), Pyke Quarry (Stroud), Oak Quarry (Forest of Dean), Wingmoor Farm (Tewkesbury). There is also 1 Civic Amenity site at Swindon Road (Cheltenham). The latest figures for HRC recycling, composting & landfilling are included in the table below. Note: the figures for Swindon Road Civic Amenity site are not included as it is owned and managed by Cheltenham Borough Council.

Table 14. HRC Data – 2007/08 and Capacity Tonnage from WCS Technical Paper WCS-A.

Site	Recycling	Composting	Total Recycling	DIY Recycling	Landfilled	Kg/ Head	Capacity /Tonnage
Fosse HRC	40.23%	15.10%	55.34%	5.94%	38.73%	10	12
Hempsted HRC	34.95%	18.85%	53.80%	7.92%	38.28%	31	15
Pyke Quarry HRC	26.35%	29.92%	56.26%	6.33%	37.41%	33	20
Oak Quarry HRC	34.60%	15.30%	49.91%	8.29%	41.80%	17	13
Wingmoor HRC	34.44%	24.69%	59.13%	8.01%	32.86%	25	11
County	32.76%	22.44%	55.20%	7.39%	37.41%	117	81 (Including the 10 for Swindon Road)

Kerbside Collection

In terms of kerbside collected recyclables*, and those from bring banks and HRCs, the following table presents the 2007/08 figures by District as well as a County total.

Table 15. District & County Kerbside Collection Tonnages – 2007/08.

Cheltenham BC	9158.29 tonnes
Cotswold DC	7560.36 tonnes
Forest of Dean DC	5323.70 tonnes
Gloucester City	7725.07 tonnes
Stroud DC	8925.34 tonnes
Tewkesbury BC	6078.49 tonnes
County Total	44771.25 tonnes

***** Batteries (Automotive), Batteries (Non Automotive), Cans, Cans (Kerbside), Cardboard, Cardboard (Kerbside), Furniture, Glass, Glass (Kerbside), Green Waste, Green Waste (Kerbside), Paper, Paper (Kerbside), Plastics, Plastics (Kerbside), Scrap Metal, Tetra-Pak, Textiles, Textiles (Kerbside), Oil, Wood.

Composting

Table 16. Composting Data – 2007/08.

	Tonnage	Site	End Use
Cheltenham BC	6,144 tonnes	Wingmoor Farm West	Land restoration
Cotswold DC	9,185 tonnes	Wingmoor Farm West / Sunhill / Bioganix	Land restoration / agriculture
Forest of Dean DC	7,803 tonnes	Rose Hill Farm, Dymock	On surrounding farmland
Gloucester City	4,063 tonnes	Hempsted	Land restoration
Stroud DC	115 tonnes	/	/
Tewkesbury BC	3,821 tonnes	Wingmoor Farm West	Land restoration
HRCs	12,553 tonnes	Hempsted / Wingmoor	Land restoration

MSW Targets

- **National**

The following are the national household waste recycling and composing targets in the Government's National Waste Strategy 2007:

- 40% in 2010
- 45% in 2015
- 50% in 2020.

New national targets have been set for the recovery of municipal waste. These are:
- 53% by 2010
- 67% by 2015
- 75% by 2020.

- **Regional**

Draft Regional Spatial Strategy (RSS) (Currently Incorporating the Secretary of State's Proposed Changes & due for Adoption 2009) Policy W1 states that: 'Waste Planning Authorities should make provision in their Local Waste Development Frameworks (involving joint working where necessary) for a network of strategic and local waste collection, transfer, treatment (including recycling) and disposal sites to provide the capacity to meet the indicative allocations for their area…'

The indicative allocations for Municipal Waste in Gloucestershire are as follows:

Table 17. RSS Indicative Allocations for Municipal Waste in Gloucestershire.

	Landfill Directive Target Years		
	By 2010	**By 2013**	**By 2020**
Source Separated Facilities (Source separated waste includes all municipal and household waste collected and segregated by material at source such as kerbside collection, bring banks and Household Waste Recycling Centres. It also includes separated organic materials sent direct to composting and anaerobic digestion systems).	Minimum capacity: 130,000 tonnes	Minimum capacity: 150,000 tonnes	Minimum capacity: 170,000 tonnes
Secondary Treatment Facilities (Secondary treatment is indicative of the types of technologies known and near market to treat the mixed residual waste streams from households. It necessarily includes mechanical and biological treatment methods, MBT and thermal treatment systems from conventional incineration to potential gasification and pyrolysis plants).	Maximum capacity: 80,000 tonnes	Maximum capacity: 120,000 tonnes	Maximum capacity: 200,000 tonnes
Waste to Landfill (Landfill figures are minimum assuming primary recycling and secondary treatment divert sufficient quantities of the biodegradable fraction of municipal waste from landfill to meet the requirements of the Landfill Directive as implemented by The Waste and Emission Trading Act and the draft Local Authority Trading Scheme Regulations).	Maximum capacity: 160,000 tonnes per annum.	Maximum capacity: 130,000 tonnes per annum.	Maximum capacity: 60,000 tonnes per annum.

- **Local**

In all cases Gloucestershire's District Councils exceeded their BVPI recycling targets for 2007/08. Note the figures are combined recycling and composting.

Table 18. Gloucestershire's BVPI Targets and Actual Recycling Rates.

Council	Actual Recycling Rate 2005/06	BVPI Recycling Target 2007/08	Actual Recycling Rate 2007/08
Cheltenham BC	26%	24%	31%
Cotswold DC	37%	30%	43%
Forest of Dean DC	34%	30%	38%
Gloucester City	16%	20%	25%
Stroud DC	22%	30%	26%
Tewkesbury BC	17%	21%	29%
County Total	30%	30%	36%

Waste to Landfill

Over the past few years the quantity of MSW has been increasing. 2007/08 saw a slight dip. The amount going to landfill is steadily decreasing. In 2004/05 228,000 tonnes of MSW was landfilled. In 2006/07 this figure had fallen to 215,000 tonnes. The total figure for 2007/08 is 201,997 tonnes. This includes some trade waste. 192,025 tonnes is the household waste element within the MSW stream. The County Council, under its municipal waste contract with Cory Environmental, uses two landfill sites – Hempsted in Gloucester City and Wingmoor Farm (West) in Bishops Cleeve, Tewkesbury Borough. These have a combined remaining voidspace of around 5 million m^3. It is likely that the voidspace currently permitted at Hempsted will be exhausted by 2013. Wingmoor Farm (West) could last considerably longer, but this is dependent on the success of waste minimisation and recycling strategies.

MSW Requirements and the Landfill Allowance Trading Scheme

Table 7 (Page 17) of Waste Core Strategy Technical Evidence Paper WCS-A Waste Data (2007) sets out the projected indicative tonnages of MSW needing to be managed based on a projected MSW arising figure of 332,000 tonnes in 2007/08 and an average annual growth rate of 1.6% to 2027/28. As indicated in Table 12 and Figure 4 of this report, the actual MSW arising for 2007/08 was 323,000 tonnes, so the 2007/08 MSW arising figures shows a small reduction from 2006/07 and is less than the projected figure. The WDA is reviewing these figures to assess any implications of this and to update the expected growth rates in Gloucestershire for future years. This review will be reflected in the WCS, the SA Framework updates and future WCS SA Reports.

The County Council is aiming to minimise waste arisings, and improve source-segregation of waste at the kerbside to increase recycling and composting to 60% by 2020. However, modelling has indicated that there is likely to be a LATS deficit in 2009/10. Waste costs are rising rapidly. The Waste Unit budget is currently about £16m and it has been forecast that if the County Council carries on landfilling on current trends, this could escalate to over £80m by 2020.

The following figures in Table 19 below are the broad capacity requirements for Gloucestershire (as a minimum) to manage its MSW arisings:

Table 19. Broad estimated MSW capacity requirements for Gloucestershire by 2020.

Windrow composting	18, 000 tonnes
In-vessel composting	71, 000 tonnes
Recycling (source separated and through HRCs and District schemes)	149, 000 tonnes
Residual treatment	A range of 150, 000 – 270, 000 tonnes

Transfer	71, 000 tonnes
Landfill	3.1 million m³ landfill capacity (over the period 2006/07-2020/21)

Clearly the above capacities may be altered to some degree dependent on the WDA's review of figures and depending on what solutions are brought forward by the waste industry. These updates will be reflected in the WCS and future SA Reports.

In terms of the potential sites needed to manage this waste and to provide the necessary capacity, the SEA Directive states in Annex 1 (c) that for such development there should be a description *of "the environmental characteristics of areas likely to be significantly affected."* This is provided in broad terms in Section 7 and Appendix 3 of this report. But in specific terms, looking at individual sites, this information will be provided in detail in future WCS SA Reports. However for the purposes of this SA Framework document the following broad information is available on the environmental characteristics of the sort of areas likely to be significantly affected. An initial 'long list' of potential waste sites will be sourced from:

Land within 16km of the key urban areas of Gloucestershire which:
- has been permitted for industrial use or has been allocated as employment land in District Local Plans under the Use Classes B1 (Business), B2 (General Industrial), B8 (Storage or Distribution);
- is derelict, redundant or has previously been developed, including former farm buildings;
- has previously be allocated for waste use in the Gloucestershire Waste Local Plan;
- is an extension to an existing waste site or an intensification of existing waste operations;
- is land that will support sustainable transport options other than road haulage.

■ Commercial and Industrial (C&I) Waste

C&I waste is made up of waste generated by businesses, shops, offices, manufacturers etc. It is predominantly biodegradable material or metal wastes. The data in this section is based on WPA analysis of Environment Agency (EA) license returns for the calendar year 2005.

In 2005 there was around 348,000 tonnes of biodegradable non-metal C&I waste managed in Gloucestershire. 267,000 tonnes of this went to landfill, 81,000 tonnes was diverted from landfill and 114,000 tonnes of metal went to metal recycling sites.

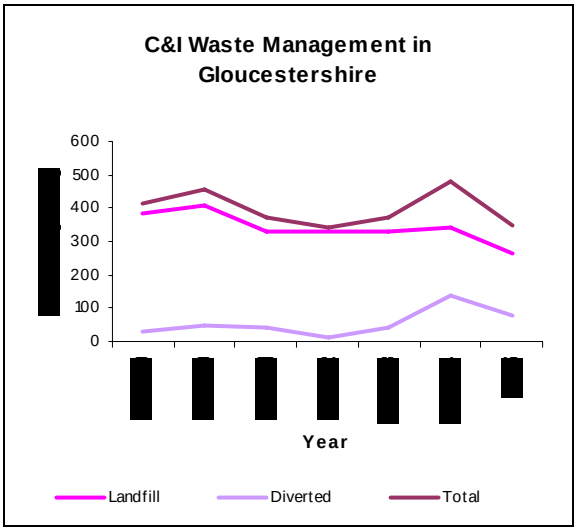
It is difficult to distinguish a trend in C&I waste management from the table and the graph below.

Table 20. C&I Waste Management in Gloucestershire.

C&I Waste Management in Gloucestershire
[not including metals] (000's tonnes)

	Landfill	Diverted	Total
1998/99	382	32	414
1999/00	407	50	457
2000/01	330	41	371
2001/02	333	11	344
2002/03	330	40	370
2003/04*	343	136	479
2005	267	81	348

**The data for this year has been provided by the EA in a non-aggregated format (from their response to the WCS I&O papers) and the 'diverted' figure has been calculated by combining the treated biodegradable waste + 25% of the transferred figure.*



■ Construction and Demolition (C&D) Waste

Construction and demolition (C&D) waste comprises mainly inert materials (brick, concrete, sub-soils etc.). Whilst biodegradable elements (timber, metal and plastic) will also be present these are in comparatively small quantities. This counter-balances the approach taken with C&I waste, which is largely biodegradable but with small amounts of inert material.

Data on construction & demolition (C&D) waste management has been provided by the Environment Agency (EA). The EA figures split the data into four broad categories: landfill; treated; transferred; and inert material from metal recycling sites.

During 2005 there was around 403,000 tonnes of C&D waste managed by licensed facilities in the County of which 222,000 tonnes was landfilled, 62,000 tonnes was recycled* and 238,000 tonnes went through transfer facilities of which a proportion will have been double counted (i.e. it will have been sent on for further management or disposal).

**EA advice on the transferred element is that some will have been sent on to landfill sites (and thus double-counted as part of the 'landfill' returns) and the remainder will have been recycled (and thus not included in other figures as the EA do not have a C&D 'recycled' category).*

In addition to waste that passes through licensed facilities there is also material that is managed on sites that have an EA waste management license exemption. In Gloucestershire there are 2,139 such 'exemptions' of which there are two types: *simple* and *complex.*

A *'simple exemption'* is one that the EA considers is a relatively low risk waste handling activity. Examples include: burning waste oil as a fuel in an engine; treatment of waste at place of production; and deposit of mineral exploration waste.

'Complex exemptions', whilst being exempt from licensing, still need to be checked to ensure that they will not harm the environment. The information required as part of this assessment must demonstrate that the proposals will meet the objectives of the exemption and will not cause pollution. The type and quality of information may well require advice from a technical specialist.

The graph below illustrates a six year period of C&D waste management in Gloucestershire. The amount being managed over the latest three years indicates considerable instability in levels.

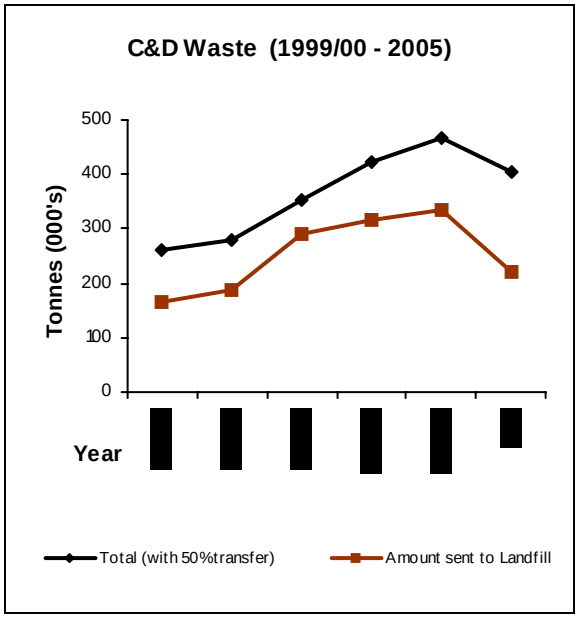


Figure 7. Construction & Demolition Waste Managed in Gloucestershire - 1999 to 2005.

Data for the South West indicates that regionally C&D waste arisings have fluctuated. For the purposes of planning, the Regional Waste Management Strategy (RWMS) and the adopted Gloucestershire Waste Local Plan (WLP) both assume future C&D waste growth to be zero. However, the figures in the graph indicate that for Gloucestershire this is not necessarily the case.

■ Hazardous Waste

The hazardous waste managed in Gloucestershire is primarily at one site: Wingmoor Farm East, Bishops Cleeve, Cheltenham. The County's landfill voidspace for disposing of hazardous is contained at this one site, the current planning permission for which expires in 2009. Hazardous waste data for Gloucestershire, is provided by the EA. The latest data is set out in the table below.

Table 21. Hazardous Waste Managed in Gloucestershire.

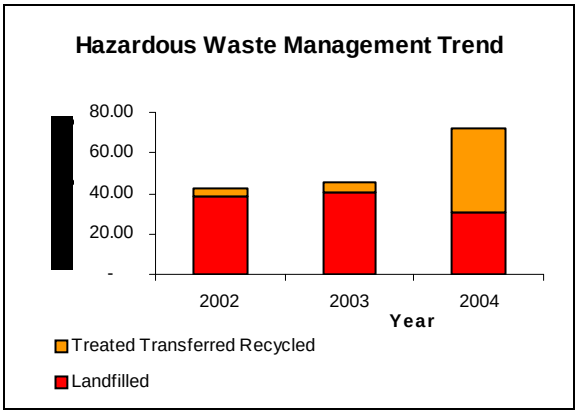
(000's tonnes)					
	2000	**2001**	**2002**	**2003***	**2004**
Arose in Gl'shire	53	37	25	28	39
Exported from Gl'shire	36	23	22	27	38
Imported into Gl'shire	69	49	39	44	71
Total Managed in Gl'shire	**86**	**63**	**42**	**46**	**72**

* These figures have been rounded, hence 2003 not adding up to 46.

The data for 2004 (the most recent available) indicates that there are variations year to year in the amount being managed. The method of management (indicated in Table 15) similarly varies, with the amount being landfilled decreasing but that the treated figure rising markedly (see below).

Table 22. Comparative Hazardous Waste Management Methods in Gloucestershire.

(000's tonnes) – EA figures			
	2002	**2003**	**2004**
Landfilled	38.94	40.44	31.09
Treated	0.02	2.58	38.18
Transferred	3.16	2.75	2.85
Recycled	0.13	0.09	0.06
Total	**42.25**	**45.86**	**72.18**



Other Baseline Information Related to Gloucestershire

Overview and character of the county
The heritage, culture and environment of the County helps support the County's quality of life and economy. Gloucestershire is substantially a rural county with the main urban focus in Gloucester and Cheltenham. It supports a wealth of international, national and locally important environmental assets, which need the appropriate level of protection from minerals and waste development.

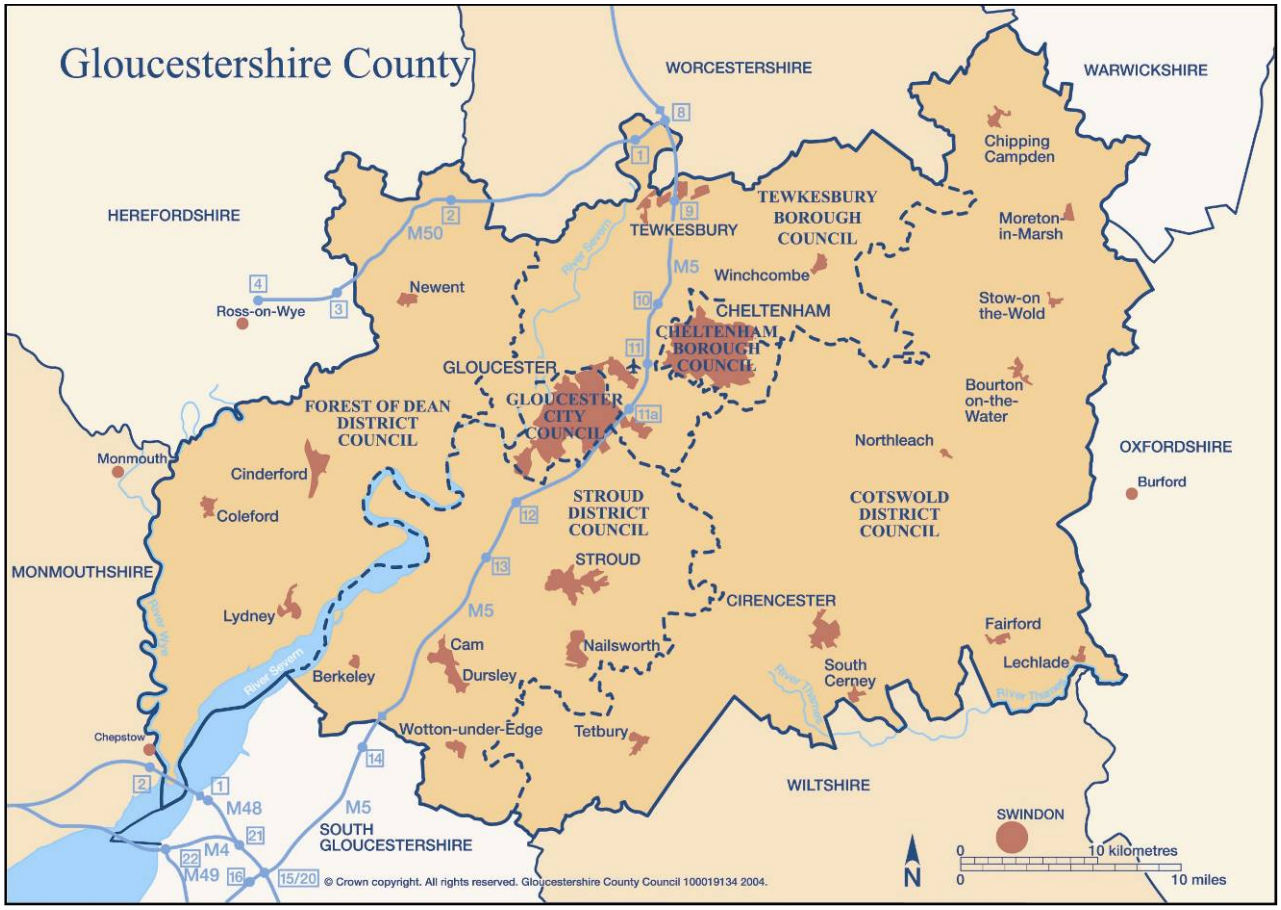


Figure 8. Gloucestershire and the six Districts.

Gloucestershire in relation to the factors in Annex 1 of the SEA Directive

Biodiversity

As a rural county Gloucestershire is relatively rich in habitats and species and much has been achieved through the Biodiversity Action Plan (BAP) process, see: http://www.gloucestershirebap.org.uk/ for more details. However certain species are still in decline and habitats are being lost. Climate Change may prove to be very serious long term threat adding to declines. The County has a wide array of nature conservation designations ranging from the International level to the Local. International nature conservation designations include Ramsar sites, Special Protection Areas (SPAs) and Special Areas of Conservation (SACs).

Ramsar sites are Wetlands of International Importance listed under the auspices of the Ramsar Convention on Wetlands (established in Ramsar, Iran, in 1971. SPAs are designated under the EU Birds Directive (79/409/EEC) in order to conserve the habitats of vulnerable species (listed in Annex I of the Directive) and of migratory birds. SACs are designated under the EU Habitats Directive (92/43/EEC). As a requirement of DPD preparation, the Minerals and Waste Planning Policy Team have undertaken a Habitat Regulations Assessment (HRA) of the plan it is producing. The purpose of HRA of land use plans is to ensure that

protection of the integrity of European sites is a part of the planning process at a regional and local level. The requirements are outlined in Article 6(3) and (4) of the European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ("Habitats Directive"). To date, the process has involved producing a Baseline report on European Sites (i.e. on SPAs and SACs) that are in and close to Gloucestershire well as a report at each stage of formal consultation which assesses options. See the link below for all the details on the HRA process:

http://www.gloucestershire.gov.uk/index.cfm?articleid=19453

Map 2 below and the related table details the European Sites in and close to Gloucestershire.

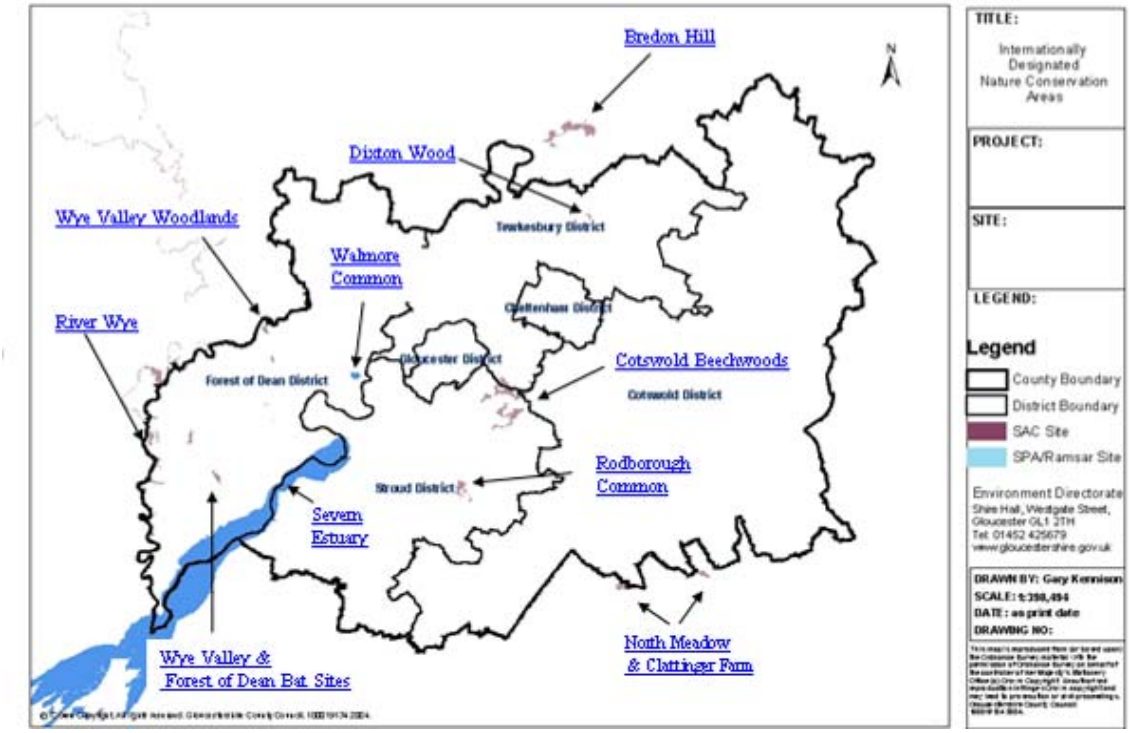


Figure 9. *European Sites In and Close to Gloucestershire.*

European Site	Designation	District / Area
Rodborough Common	SAC	Stroud
Dixton Wood	SAC	Tewkesbury
Wye Valley and Forest of Dean Bat Sites	SAC	Forest of Dean, Monmouthshire
River Wye	SAC	Forest of Dean, Monmouthshire, Herefordshire, Powys
Wye Valley Woodlands	SAC	Forest of Dean, Monmouthshire, Herefordshire
North Meadow and Clattinger Farm	SAC	Wiltshire
Cotswold Beechwoods	SAC	Cotswold
Bredon Hill	SAC	Worcestershire
Walmore Common	SPA & Ramsar	Forest of Dean
Severn Estuary	SPA & Ramsar	Stroud, Forest of Dean

All SPAs and SACs in Gloucestershire are also designated Sites of Special Scientific Interest (SSSI). SSSI are designated by Natural England to provide statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. Consultation is required if they are threatened in any way. There are over 100 SSSIs in Gloucestershire – see Map 3 below. Three of these have been additionally designated as National Nature Reserves (NNRs).

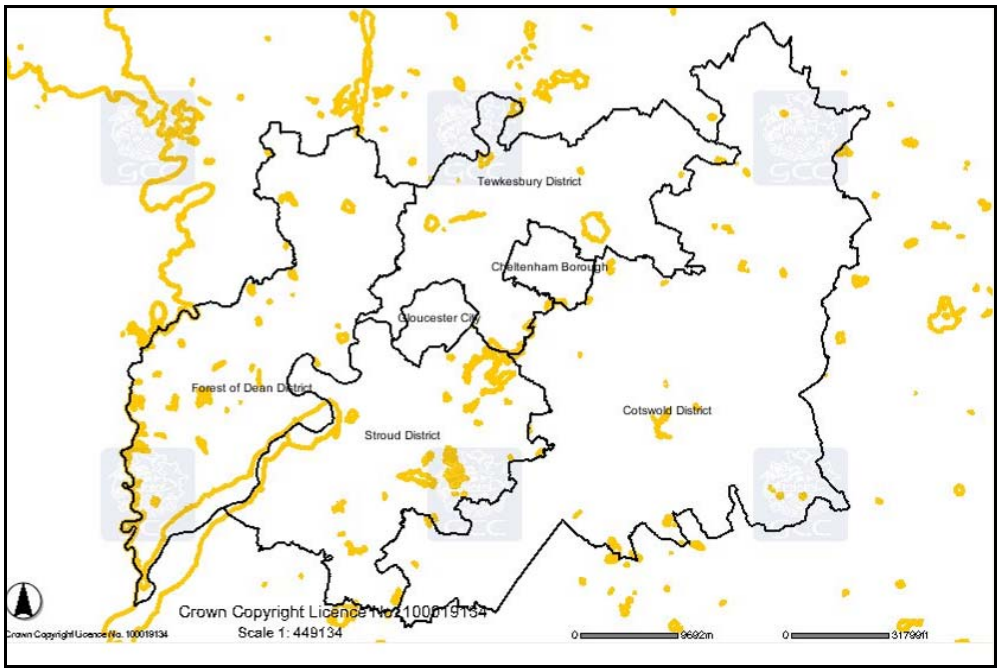


Figure 10. Broad View of SSSI in Gloucestershire.

The largest designation in terms of extent are the three Areas of Outstanding Natural Beauty (AONB) in the County: the Cotswolds, part of the Wye Valley and a very small section of the Malvern Hills. AONBs cover 136,400 hectares or 51.4% of the County area – see Map 4 below.

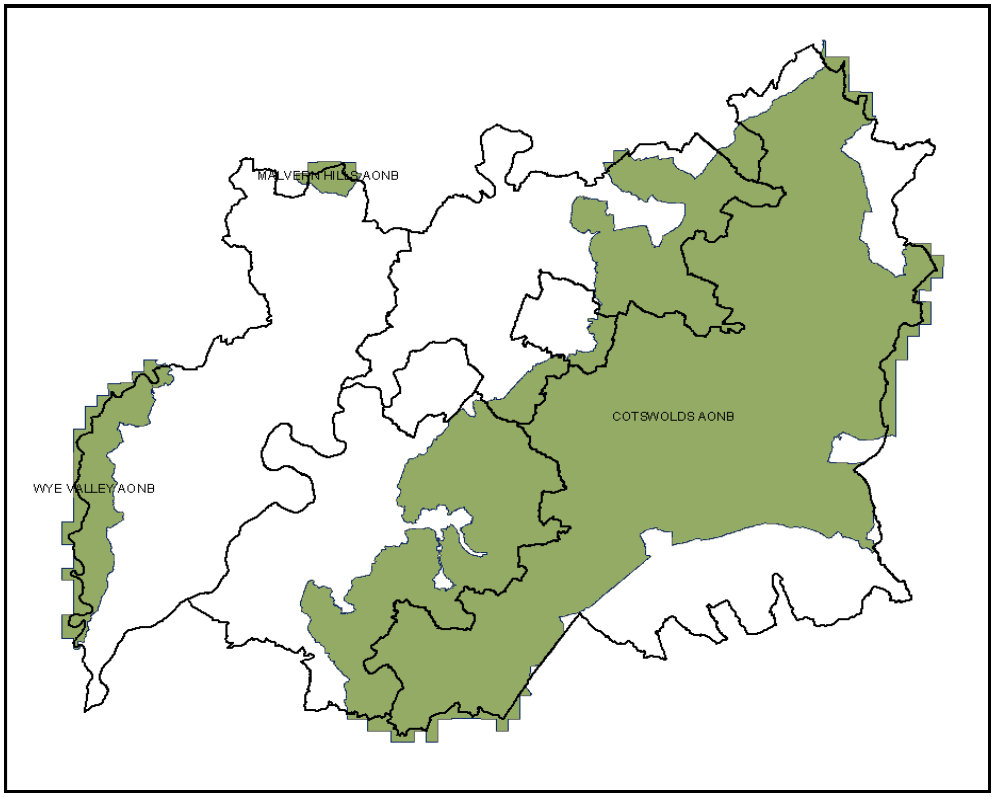


Figure 11. Extent of AONB in Gloucestershire.

Their primary purpose is to conserve and enhance natural beauty while taking into account the economic and social needs of the area. In addition to the above designation a large area of the Cotswolds AONB has been designated as an Environmentally Sensitive Area (ESA). The ESA designation is intended to protect landscapes that are at risk due to changing farming practices.

In addition to the international and national designations listed above there are a range of local designations including Key Wildlife Sites (see Map 4 below), Local Nature Reserves, Private Nature Reserves (for example those managed by the Wildlife Trust, Woodland Trust and Royal Society for the Protection of Birds (RSPB), Regionally Important Geological Sites (RIGS), Special Landscape Areas, Ancient Woodland Sites (see Map 5 below), and Registered Commons.

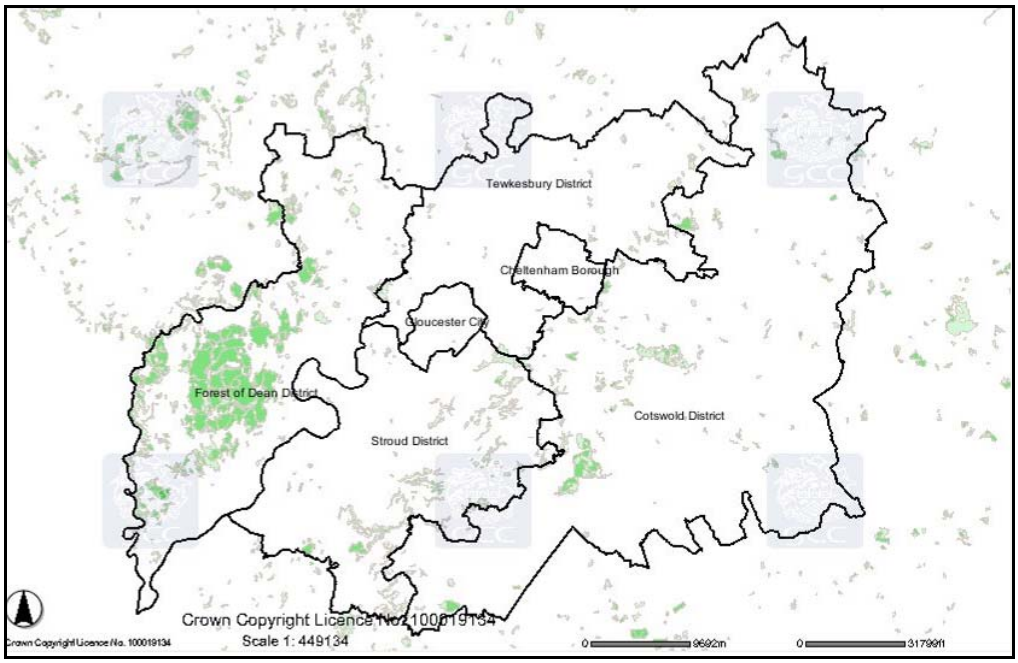


Figure 12. Extent of Ancient Woodland in Gloucestershire.

Population

There are approximately 577,000 people living in Gloucestershire. The large majority (95%) of people in Gloucestershire described themselves as "White British" in the 2001 Census. A further 2.4% (around 13,300 people) were also "White" but from a minority group (i.e. White Irish/ White Other). Around 16,000 people were from a BME (non-white) group, with Asian / Asian British people forming the single largest population within this category. The proportion of every minority group within the population of Gloucestershire was lower than the equivalent level for England as a whole. The County's population grew by 29,000 between 1991 and 2001 (the date of the last census) and is projected to grow by about 30,000 between 2001 and 2026, an increase of 5.3%. Most of the increase in population has resulted from net in-migration, which has averaged at about 2,250 per annum since 1991.Clearly this has implications in terms of the levels of housing and infrastructure required in the County over the next years. Population projections are used to estimate how many residential units might be required in future years. Figures will be influenced by planning policy in the Regional Spatial Strategy and Local Development Frameworks. Under a system of 'plan, manage and monitor', an identification of need may require plans to be reviewed in light of new projections. The purpose of modernising the planning system is to move away from the limitations of the land-use remit and to develop policy spatially. Therefore minerals, and more particularly waste planning policy, will need to support the sustainable development aims of emerging spatial strategies.

Tables 8 to 11 below detail the housing totals and phasing for Districts within Gloucestershire proposed in the RSS. Note: The Secretary of State's proposed changes (published 22nd July 2008) did not alter the recommendations of the Panel with respect to the proposed housing numbers for Gloucestershire.

Table 23. Gloucestershire Net Dwelling Numbers: RSS Period 2006-2026.

	Draft RSS	**Panel Mods**	**Difference**	
	2006-2026 Overall net increase in dwellings	2006-2026 Overall net increase in dwellings	Number	%

Gloucester & Cheltenham Housing Market Area	48,600	56,400	7,800	16.0%
Gloucester	11,500	11,500	0	0.0%
Cheltenham	8,500	8,100	-400	-4.7%
Tewkesbury	10,500	14,600	4,100	39.0%
Stroud	6,700	9,100	2,400	35.8%
Cotswold	6000	6,900	900	15.0%
Forest of Dean	5,400	6,200	800	14.8%

Table 24. Gloucestershire Annual Average Net Dwelling Requirements.

	Draft RSS	**Panel Mods**	**Difference**	
	2006-2026 Overall annual average net increase in dwelling requirements	2006-2026 Overall annual average net increase in dwellings requirement	Number	%
Gloucester & Cheltenham Housing Market Area	2,430	2,820	390	16.0%
Gloucester	575	575	0	0.0%
Cheltenham	425	405	-20	-4.7%
Tewkesbury	525	730	205	39.0%
Stroud	335	455	120	35.8%
Cotswold	300	345	45	15.0%
Forest of Dean	270	310	40	14.8%

Table 25. Gloucestershire Net Dwelling Numbers for Strategically Significant Cities & Towns i.e. Gloucester & Cheltenham - RSS Period 2006-2026.

	Draft RSS	**Panel Mods**	**Difference**	
	2006-2026 Overall net increase in dwellings	2006-2026 Overall net increase in dwellings	Number	%
Gloucester & Cheltenham Housing Market Area	48,600	56,400	7,800	16.0%
Gloucester & Cheltenham SSCT Area	30,000	34,800	4,800	16.0%
Gloucester	17,500	21,000	3,500	20.0%
Cheltenham	12,500	13,800	1,300	10.4%

Table 26. Gloucestershire Annual Average Net Dwelling Requirements for Strategically Significant Cities & Towns i.e. Gloucester & Cheltenham.

	Draft RSS	**Panel Mods**	**Difference**	
	2006-2026 Overall annual average net increase in dwelling requirements	2006-2026 Overall annual average net increase in dwellings requirement	Number	%
Gloucester & Cheltenham Housing Market Area	2,430	2,820	390	16.0%

Gloucester & Cheltenham SSCT Area	1,500	1,740	240	16.0%
Gloucester	875	1,050	175	20.0%
Cheltenham	625	690	65	10.4%

In terms of the local economy, key economic indicators show Gloucestershire in a favourable light. The County has historically low levels of unemployment, and gross value added per head similar to the national average. At a sectoral level the growth in the service sector and the decline in manufacturing over the last 10 years is likely to continue for a number of years. Unemployment in Gloucestershire is low at 1.5% in March 2008 (figures from Gloucestershire First), well below the national average at 5.4% for the three months to June 2008 (figures from Office for National Statistics (ONS)). In 2003 the average County income was £19,857, almost £1000 lower than the national average. However the average income in Tewkesbury and Cheltenham were well above the national average. The Forest of Dean was well below. The County Average Weekly Earnings (Resident based gross – ASHE 2007) was £468 (figures from Gloucestershire First). The National figure in May 2008 was £436.1(figures from ONS). For more information of Gloucestershire's economy see Appendix 3.

According to Government Indices of Deprivation there are significant pockets of deprivation in the County mainly in the urban areas of Gloucester and Cheltenham. The Indices of Deprivation are made up of 7 domains: Income; Employment; Health deprivation and disability; Education, Skills and Training deprivation; Barriers to Housing and Services; Crime and Living Environment. These are combined to give the Index of Multiple Deprivation. For Gloucestershire the ID2007 Super Output Areas in the national top 10% (i.e. in the worst 10%) are: Podsmead (1), Matson & Robinswood (1), St Paul's (2), Westgate (1), Westgate (3) Kingsholm and Wotton (3) and St Mark's (1). (See Figure 13 Below).

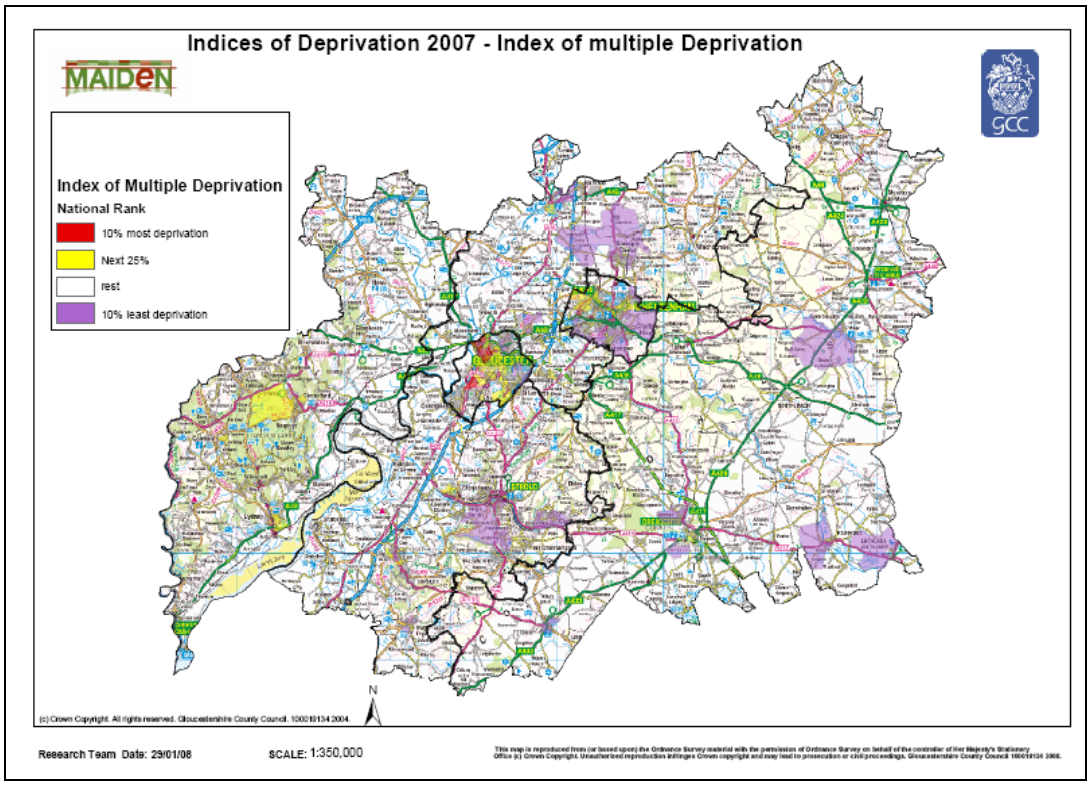


Figure 13. Gloucestershire Index of Multiple Deprivation 2007.

More information is available through *MAIDeN*, the multi-agency database for neighbourhoods in Gloucestershire at the following website:

http://www.maiden.gov.uk/

As well as pockets of deprivation in the main urban areas, in recent reports the County's Rural Economy Advisory Panel has highlighted significant problems of isolation and low household incomes in some rural communities, particularly in some parts of the Forest of Dean. This is being addressed in part through initiatives such as the Gloucestershire Rural Renaissance Programme.

In terms of crime rates the figures for Gloucestershire are relatively low, compared to the national average for the key crimes such as domestic burglaries, violent offences, vehicle crimes and robberies. However drug offences in the County are above the national average. (Source: The Gloucestershire Story 2006). See Map 7. below for an indication of Gloucestershire's crime 'hotspots'.

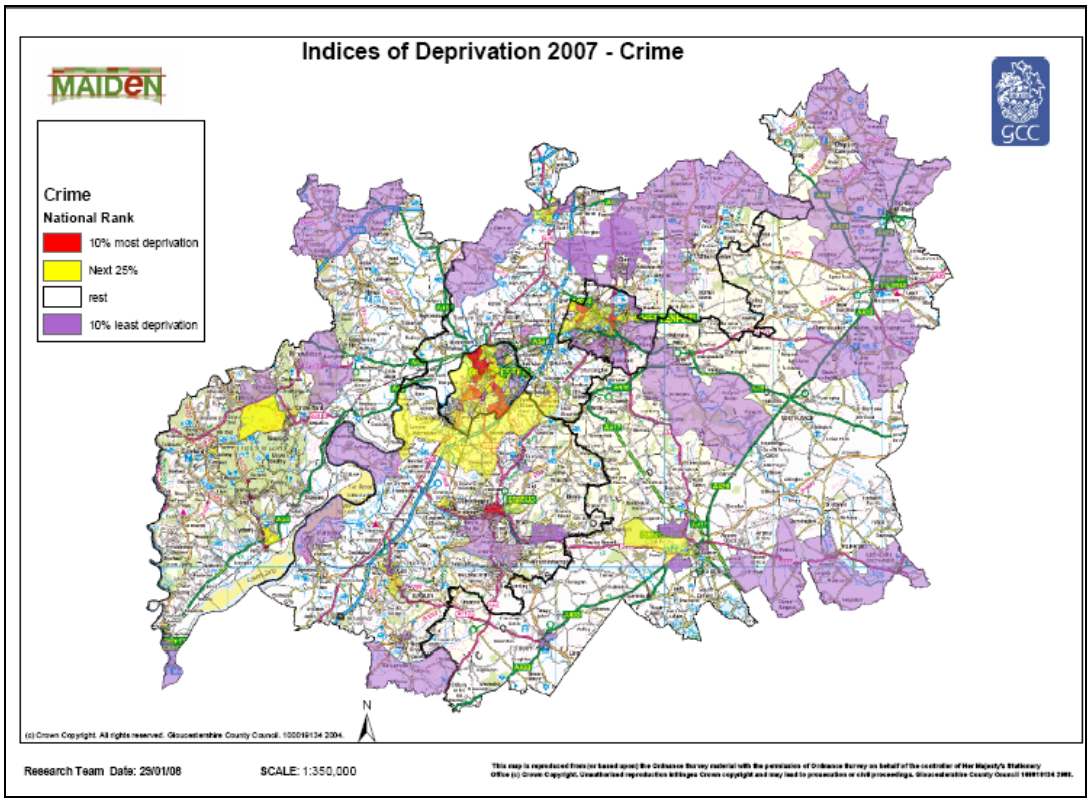


Figure 14. Crime 'Hotspots' in Gloucestershire..

Human Health

General health

The following information on health in Gloucestershire comes from a 2008 Health Profile which was funded by the Department of Health and produced annually by the Association of Public Health Observatories. Health indicators in Gloucestershire are generally better than for England. On average, people live longer than the England average. Levels of deprivation across Gloucestershire are generally low compared to the rest of England. However, there are pockets of deprivation in Gloucester, Cheltenham and the Forest of Dean where life expectancy is lower than the rest of the county. All age, all cause mortality, early death rates from heart disease and stroke and from cancer are lower than the England rates and falling. The rate of recorded violent crime is lower than England as a whole. The estimated binge drinking rate is low, as is the rate of alcohol related hospital Both children and adults are more physically active admissions than the England average. However, the estimated percentage of healthy eating adults is lower than the England average Although the death rate from smoking is low, smoking still kills around 950 people per year. Over the next 3 years, the Gloucestershire LAA has prioritised smoking, obesity, breastfeeding, alcohol misuse, independence for vulnerable people, and reducing falls in over 75s.

Life expectancy

The following chart shows that for both men and women, life expectancy at birth in Cotswold District, Tewkesbury Borough, Cheltenham Borough and Stroud District is higher than the average for England. Both Gloucester City and the Forest of Dean are very close to the average. Women in Gloucester and men in the Forest of Dean are below the English average.

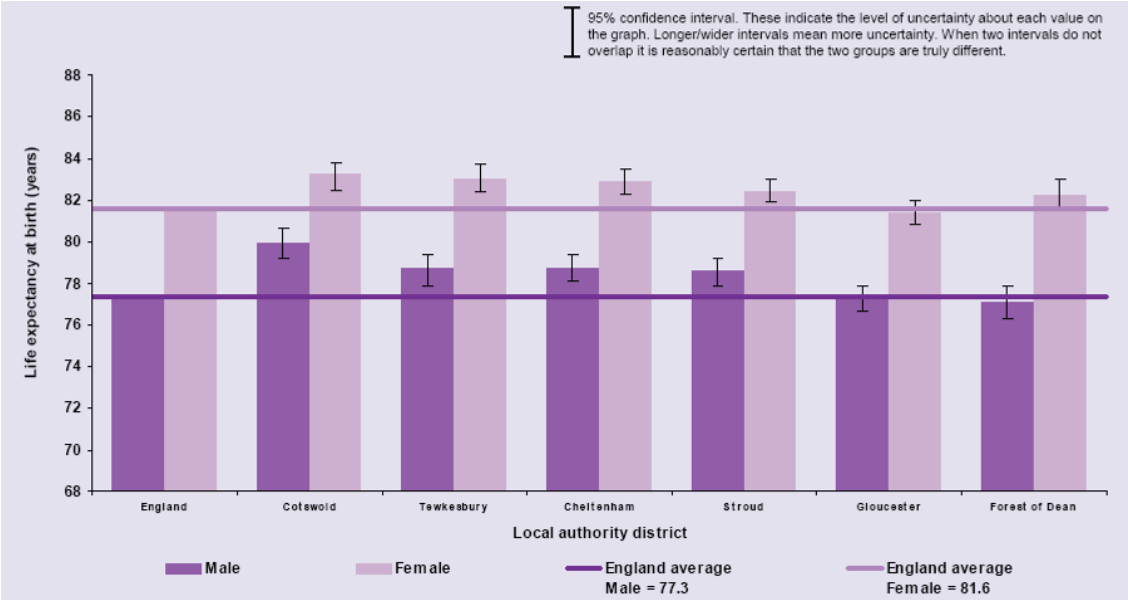
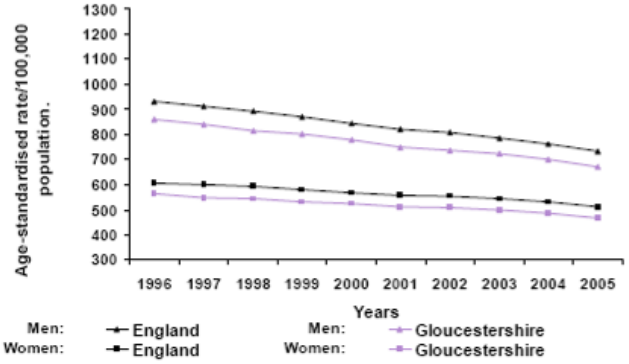


Figure 15. Life Expectancy at Birth – England & Districts in Gloucestershire.

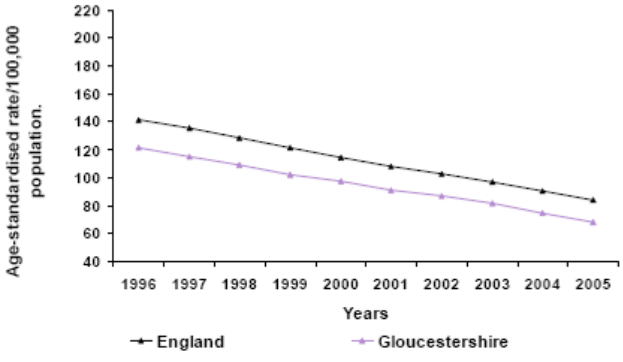
Key trends

The following trend charts showing 1. All cause mortality, 2. Early death rates from heart disease and stroke, 3. Early death from cancer indicate that broadly, for both men and women, Gloucestershire is following national trends in terms of improved health.

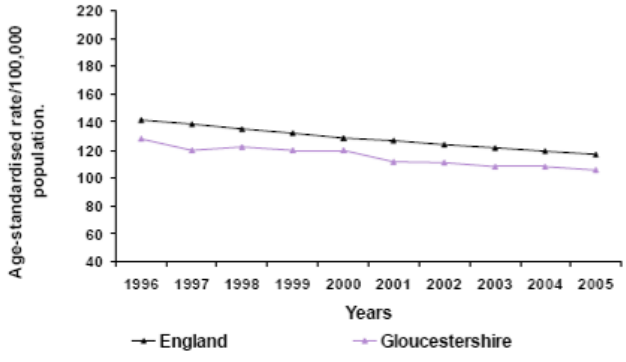
Trend 1:
All age, all cause mortality



Trend 2:
Early death rates from heart disease and stroke



Trend 3:
Early death rates from cancer



Flora and Fauna

Despite the large number of statutory and local designations, Gloucestershire has suffered from large-scale habitat and species loss over the last 50 years. This has largely been due to changes in farming practices. Among the species that have suffered from decline are farmland birds. At present approximately 100 species identified in the UK Biodiversity Action Plan (BAP) are thought to occur in Gloucestershire. The Gloucestershire Biodiversity Action Plan (2000) provides a framework for the conservation of biodiversity based on targeting resources towards protecting priority habitats. It contains individual action plans for 17 identified habitats and a total of 38 species of invertebrates, vertebrates, plants, fungi and lichens. Many of these species are also listed for protection under the European Union Habitats Directive including: the European Otter, the Dormouse, the Lesser Horseshoe and Greater Horseshoe Bat and the Pipistrelle Bat. Over 60 bird species listed under the EU Birds Directive have been recorded in Gloucestershire. Wetlands areas such as the Severn Estuary, Slimbridge Wildfowl Centre and the Cotswolds Water Park centre provide important habitats for over-wintering and migratory birds. Additional to the County BAP the Cotswold Water Park Biodiversity Action Plan 2007-2016 provides detailed information and biodiversity targets for this area of the County and into Wiltshire and Swindon. This recently published document is available via the following link:

http://www.waterpark.org/society/biodiversity_action_plan.html

In terms of the protection of flora and fauna, under Section 41(3) of the Natural Environment and Rural Communities Act 2006 (NERC) the Secretary of State must take steps (where they are reasonably practicable), and promote the taking of steps by others, to further the conservation of certain listed habitats and species. In light of this duty, seven sectors have been identified where actions taken by public bodies and other stakeholders could deliver significant conservation benefits for the habitats and species on the list.

The list is available on the DEFRA website at:

http://www.defra.gov.uk/wildlife-countryside/biodiversity/sect41-nerc.htm

Soil, Air and Water

Soil

Soil erosion is an increasing problem throughout the UK. About 50% of all land in the South West is thought to be at risk and about 6% of agricultural soils already suffer from erosion. Certain soils found in the far south west of the County, straddling the boundary with South Gloucestershire are listed as having an inherent vulnerability to high or severe structural problems. Such soils are easily sealed by heavy rain increasing the likelihood of local flooding and mud on roads. The increased sediment in rivers caused by soil runoff also poses a threat to aquatic ecosystems.

Air

Air quality is a less significant issue in Gloucestershire than in some counties as a result of the largely rural nature of the County. However, road transport is a major source of local air pollution and both Gloucester City and Cheltenham Borough exhibit significantly higher concentrations of pollutants associated with road traffic than the more rural districts. The issue of air quality has been considered in some detail within the Gloucestershire Local Transport Plan 2. The six district authorities in conjunction with Gloucestershire County Council have undertaken individual air quality reviews and assessments. These have examined the extent of any potential exceedances of national air quality objectives for nitrogen dioxide and particulate matter. The results from local authority air quality review and assessment work indicate that the contribution of road traffic emissions to local air quality is potentially significant within the County. However, an overall reduction of between 20 to 30%, and in some cases even greater, in the annual mean nitrogen dioxide was predicted between 1998 and 2005 across the County. For particulate matter concentrations, the predicted reduction in the annual mean between 1998 and 2004 was even greater, with a reduction of almost 50% predicted. Results from Stage 2 of this assessment work, indicate that exceedances are envisaged along the M5 motorway corridor, at receptors within 50 metres of the carriageway. A small number of road links have also been identified as having the potential to cause future exceedances of the air quality objectives.

The table below lists the Local Air Quality Management Areas that have been declared in the County. An Air Quality Management Area is defined where members of the public are likely to be exposed to exceedances

in the levels of pollutant. The higher the number of Air Quality Management Areas in a District would indicate generally higher levels of air pollution.

Table 27. Local Air Quality Management Areas in Gloucestershire.	
Gloucester City	Barton Street
	Priory Road / St Oswald's Road
	Painswick Road (West of Eastern Avenue)
Tewkesbury	Withy Bridge M5 / J10
Forest of Dean	None
Cheltenham	Old Bath Road (A46)
Stroud	None
Cotswold	Birdlip, Air Balloon Roundabout (A417)

Air quality and waste management facilities

Through the process of consultation on the Council's Waste Core Strategy DPD, some stakeholders have raised the issue of air quality near to waste management facilities, particularly the large landfill sites at Wingmoor Farm in Bishops Cleeve. The Waste Planning Authority recognises that for local residents near to certain types of waste management facilities, smells/odour/poor air quality (from waste) can be problematic and this is not potentially addressed by Districts in their identification of AQMAs which focus on vehicle emissions. Logically, due to the the concentration of large volumes of waste (particularly organic waste) in a landfill, as well as in the vehicles transporting it, there is the potential for bad odour and bad air quality in the local area. This is also the case with windrow composting facilities, and potentially with in-vessel composting facilities unless they are controlled by effective air management systems. However these sites are closely monitored by the Environment Agency as part of their Licensing and Pollution Prevention Control (PPC) remit. It is their job to ensure that air quality is kept within acceptable limits in strict accordance with the license for the facility. EA PPC permits specify what monitoring must be undertaken. If monitoring indicates that limits are being breached then facilities can be shut down. It is also the job of the Waste Planning Authority who granted planning consent to ensure that conditions attached to the consent are adhered to. In August 2008 the Minerals & Waste Planning Policy Team contacted the EA with regard to air quality issues around the landfill sites at Wingmoor farm, Bishops Cleeve. The summary of their response was that whilst there is a trend in regular complaints, according to their monitoring data, this does not necessarily equate to an established air quality problem. They do confirm that operational breaches have been looked at and dealt with by the EA in recent months. The details are available on the EA's Pollution Inventory web-pages.

http://www.environment-agency.gov.uk/business/444255/446867/255244/255281/?version=1&lang=_e

On the 30th of January 2006 Scrutiny Management and Audit Committee set up a joint scrutiny task group under the auspices of the Health Overview and Scrutiny Committee to examine the possible negative health impact of the Wingmoor Farm waste management sites. This was mainly focused on Wingmoor Farm West which is a hazardous waste landfill operated by Grundon Waste Management. The terms of reference for the task-group were as follows:

To understand existing monitoring arrangements at the Wingmoor Farm waste management site. Monitoring arrangements refer to operations, environment, and health. To gain clarification of the responsibilities of the different organisations involved in the monitoring of the site. To understand the range of possible health conditions that could be linked to waste management sites, the extent to which evidence supports a link between waste management sites and ill health, and the local health context. To report findings and make appropriate recommendations about future monitoring, and if necessary the further development of the Neighbourhood Health Profile.

The task group has met on 4 occasions, hearing from the following organisations:

- The Environment Agency
- The Health Protection Agency
- Cheltenham and Tewkesbury Primary Care Trust
- SWARD (Safety in Waste And Rubbish Disposal)
- Grundons Waste Management Limited
- Gloucestershire County Council Planning Officers

The group has also visited the Wingmoor Farm site and is awaiting the publication of the Primary Care Trust's Health Impact Assessment before producing its final report. When the report is complete the findings, particularly as they relate to air quality issues will be considered. The latest position as of September 2008 is that the completion of the PCT's Health Impact Assessment report is still awaited. The final HIA should be complete towards the end of the 2008 and thus the Health Overview and Scrutiny Committee's report could be concluded in January 2009.

Water

Gloucestershire has around 690 km of rivers (11% of the total in the South West), which are monitored by the Environment Agency for river quality – see Map 6 below. This is done using a system known as the General Quality Assessment which measures four aspects of river quality, namely: biology, chemistry, Nutrient content and aesthetic quality.

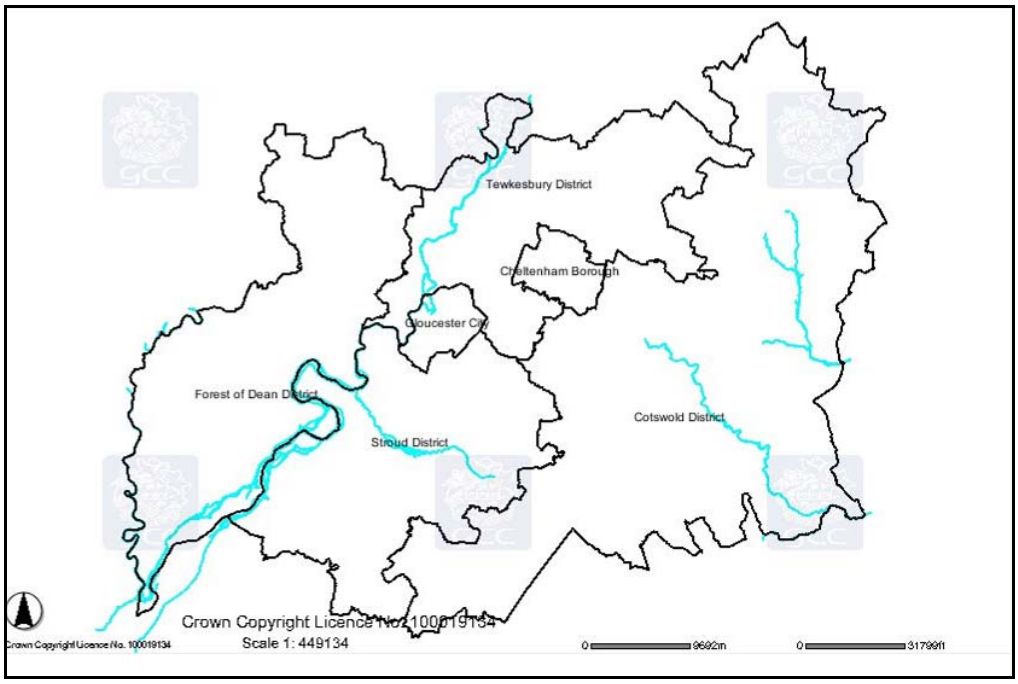
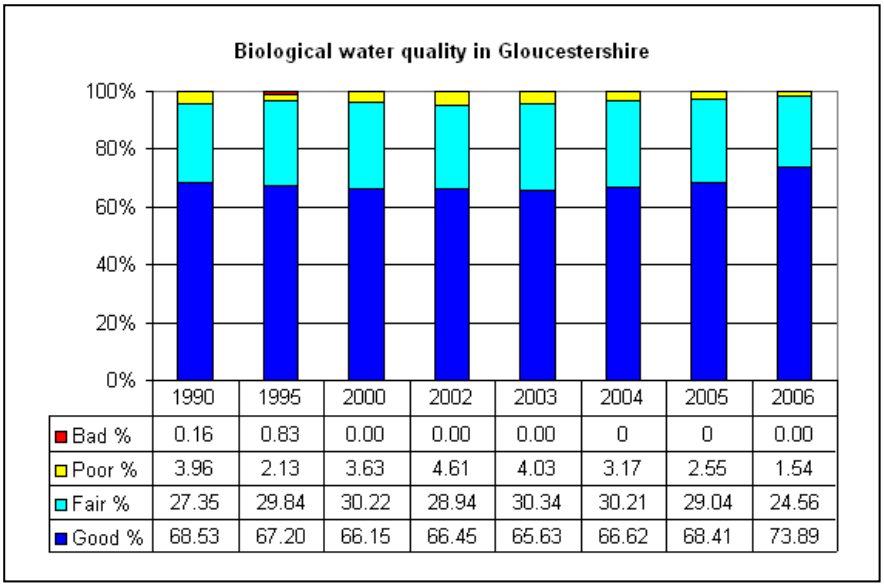


Figure 16. Gloucestershire's Main Rivers.

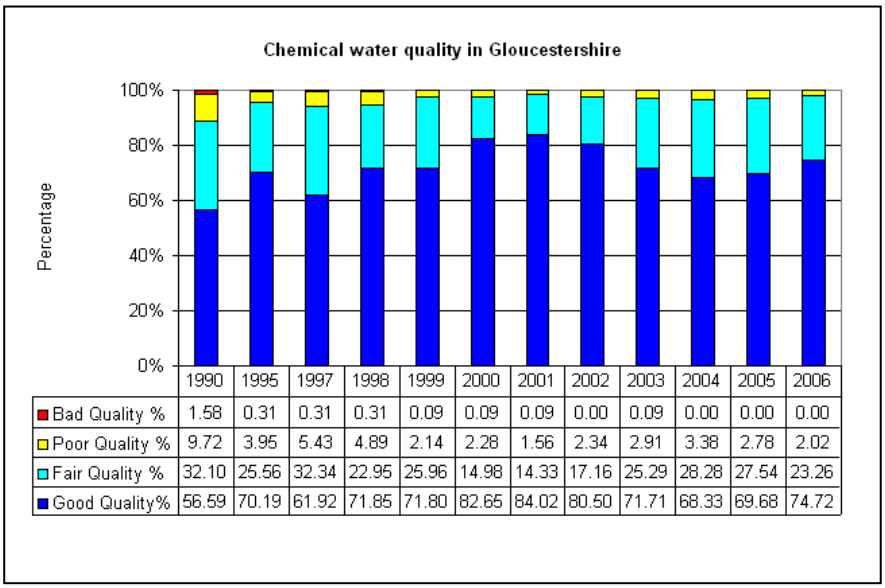
Biological river water quality in Gloucestershire has been consistently excellent, with 98.45% falling into the good or fair category in 2006. This reveals an increase of 2.57 percentage points on 1990 and 1 percentage point on 2005. 73.89% of all rivers monitored within the county had good water quality in 2006, the highest yet recorded. This marks an improvement of 5.48 percentage points on 1990 and 5.36 percentage points on 2005. There have been no incidences of bad water quality in the county since 1995, however, 1.54% of all monitored waters in the county were of poor quality. This shows an improvement of 2.42 percentage points on 1990 and 1 percentage point on 2005. In 2006, 98.91% of all monitored rivers in the South West has good or fair water quality, this was considerably higher than the mean of 94.45% for England and Wales.



	1990	1995	2000	2002	2003	2004	2005	2006
Bad %	0.16	0.83	0.00	0.00	0.00	0	0	0.00
Poor %	3.96	2.13	3.63	4.61	4.03	3.17	2.55	1.54
Fair %	27.35	29.84	30.22	28.94	30.34	30.21	29.04	24.56
Good %	68.53	67.20	66.15	66.45	65.63	66.62	68.41	73.89

Figure 17. Biological Water Quality in Gloucestershire.

Chemical river water quality is consistently excellent in Gloucestershire, with 97.98% of rivers falling in the good or fair category in 2006, a increase of over 9 percentage points on 1990 and 0.8 percentage points on 2005. 74.72% of all rivers monitored within the county in 2006 were of good water quality in 2006. Although this was 15.7 percentage points lower than the peak of between 2001 and 2004, it was 5 percentage points higher than in 2005. There have been no incidences of bad (chemical) water quality in the county since 2003. Just 2.02% of all rivers in 2006 were of poor quality, an improvement of 7.7 percentage points on 1990 and 4.28 percentage points on 2005. In 2006, 97.14% of all monitored rivers in the South West had good or fair water quality, this was considerably higher than the mean of 91.96% for England and Wales.



	1990	1995	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Bad Quality %	1.58	0.31	0.31	0.31	0.09	0.09	0.09	0.00	0.09	0.00	0.00	0.00
Poor Quality %	9.72	3.95	5.43	4.89	2.14	2.28	1.56	2.34	2.91	3.38	2.78	2.02
Fair Quality %	32.10	25.56	32.34	22.95	25.96	14.98	14.33	17.16	25.29	28.28	27.54	23.26
Good Quality%	56.59	70.19	61.92	71.85	71.80	82.65	84.02	80.50	71.71	68.33	69.68	74.72

Figure 18. Chemical Water Quality in Gloucestershire.

Much of Gloucestershire is underlain by major aquifers and groundwater is an important source of Public water supply. The vulnerability of groundwater reserves to pollution can be assessed according to various factors such as the water level, soil type, the thickness of overlying deposits, aquifer productivity and chemical analyses from boreholes. Much of Gloucestershire is underlain by a major aquifer with high to intermediate vulnerability. Groundwater is particularly susceptible to nitrate pollution caused by agricultural fertilizer. In order to protect groundwater against nitrate pollution certain areas of the County have been identified as groundwater nitrate vulnerable zones.

As a result of the European Union Water Framework Directive the system for managing water resources in England and Wales is currently undergoing a process of change. Catchment Abstraction Management Strategies make more information on water resource allocation publicly available and allow a balance between the needs of abstractors and those of the aquatic environment to be determined in consultation with local interested parties. The Severn Corridor Catchment Abstraction Management Strategy is currently being prepared and will cover the entire length of the River Severn down to the Severn Estuary. It will also include the Gloucestershire and Sharpness Canal.

Flooding in Gloucestershire

There is a long history of serious flooding in Gloucestershire. There was a major flood in 1947 and again in 2000. In June and July 2007, very heavy and prolonged rains caused major disruption in the County. 5,000 homes and businesses were flooded and many communities cut off. 200 people had to be rescued by boat, helicopter or land rescues. Electricity was lost to 48,000 homes for two days, and the whole county came close to having no power at. Over half the homes in Gloucestershire and 7,500 businesses were without any mains water for up to 12 days - and 17 days for drinking water. Across the County, 825 homes have had to be evacuated, resulting in approximately 1,950 people (including 490 children) seeking temporary accommodation. Widespread damage to the highways infrastructure was estimated to cost £25 million to repair. More information is available in the County Council's Flood Guide information booklet available at:

http://www.gloucestershire.gov.uk/utilities/action/act_download.cfm?mediaid=21048

In accordance with Planning Policy Statement 25 (PPS25), as one of the requirements for DPD production the County Council is required to produce a Strategic Flood Risk Assessment (SFRA). A Level 1 Assessment was produced for the County Council by *Halcrow Group Ltd* in September 2008. More information is available on this document and its implications in the Context Report (Update 3) that should be read in tandem with this report.

Climatic factors

Climate change is recognised as one of the greatest threats facing the world today. It is now widely accepted that man-made emissions of greenhouse gases are responsibly for the increase in temperatures and that temperatures are rising faster than previously thought. In the South West, 8 of the 10 warmest years have occurred since 1990, with the 1990s being the warmest decade on record. As shown in Tables 13 & 14 below, the changes resulting from global warming are likely to result in warmer, drier summers and milder, wetter winters.

Table 28. Future Seasonal Climate in the South West.

Season	Seasonal Climate 2050s*	Seasonal Climate 2080s*
Spring	Warmer by 1.0 to 2.0°C Precipitation totals similar to now	Warmer by 1.5 to 3.5°C Precipitation totals similar to now
Summer	Warmer by 1.5 to 3.5°C Drier by 15 to 30%	Warmer by 2.0 to 5.5°C Drier by 25 to 55%
Autumn	Warmer by 1.5 to 3.0°C Drier by 0 to 10%	Warmer by 2.0 to 5.0°C Drier by 5 to 15%
Winter	Milder by 1.0 to 2.0°C Wetter by 5 to 15%	Milder by 1.5 to 3.5°C Wetter by 10 to 30% Snowfall will decrease by up to 70 - 90%.

** The range of figures indicates Low and High Emissions scenario results.*
Source: UK Climate Impacts Programme.

Table 29. Summary of Potential Changes to the Climate of the South West by the 2050s.

Temperature	• Annual warming of 1.0 to 2.5°C (annual warming of 1.5 to 4.5°C in the 2080s) • Greater night-time than day-time warming in winter • Years as warm as 1999 (+1.2°C hotter than average) more common • Greater warming in summer and autumn than in winter and spring • Greater day-time than night-time warming in summer
Precipitation	• Winters 5 to 15% wetter (winters 10 to 30% wetter by the 2080s) • Heavy rainfall in winter becomes more common • Summers as dry as 1995 (37% drier than average) become more common • Snowfall totals decrease significantly • Summers 15 to 30% drier (summers 25 to 50% drier by the 2080s) • Greater contrast between summer (drier) and winter (wetter) seasons • Winter and spring precipitation becomes more variable
Cloud cover	• Reduction in summer and autumn cloud and increase in radiation • Small increase in winter cloud cover
Humidity	• Relative humidity decreases in summer • Specific humidity increases throughout the year
Soil moisture	• Decreases in summer • Slight increase in winter soil moisture
Storm tracks	• Winter depressions become more frequent including deepest ones
North Atlantic Oscillation	• North Atlantic Oscillation may become more positive in the future, bringing more wet, windy and mild winters

Source: UK Climate Impacts Programme.

It is likely that such changes will have significant and far-reaching effects on the man-made and natural environment. Changes in temperature are likely to alter habitats and it is likely that many species will not be able to adapt quickly enough to survive. Recent published research indicates that there has been a decline in over-wintering birds from Arctic areas. Increasing sea temperatures are likely to alter the balance in marine species and alter the marine food chain.

Rising sea levels and wetter winters will also increase the likelihood of flooding in low-lying areas. This issue is of particular relevance in Gloucestershire with significant numbers of people living close to, or in, the floodplain of the River Severn. The Summer 2007 floods in Gloucestershire highlighted the seriousness of the issue and demonstrated that extreme summer events may also have to be contended with. Very warm, dry summers may result in increased soil compaction which could result in increased runoff and consequently greater flood risk.

Materials assets

Motorways and major roads

The M5 runs through the County linking, northbound, to Birmingham and the West Midlands and, to the south, to Bristol, the South West and Wales. A dual-carriageway (A417/419) provides access to Swindon and the M4 with a two-hour drive time to Heathrow, three hours to the South East and channel ports. The M50 is on the County's northern boundary.

Rail links

High-speed rail services bring London Paddington and Heathrow within two hours reach. The regional network provides access to Birmingham, Bristol, Cardiff, Oxford and Swindon. Gloucestershire has railway stations at Ashchurch (Tewkesbury), Cam and Dursley, Cheltenham, Gloucester, Kemble (near Cirencester), Lydney, Moreton-in-Marsh, Stonehouse and Stroud. The rail network in Gloucestershire was reduced significantly during the Beeching era and there are now just four trunk lines. The mainline bisects

Gloucestershire north to south with tracks from Gloucester running to South Wales and from Stonehouse towards the South East. A line passes through Moreton-in-Marsh in the north east of the County. In the last decade however, the County Council and District and Parish councils have supported the building and re-opening of stations at Ashchurch (Tewkesbury), Cam & / Dursley and at Charfield.

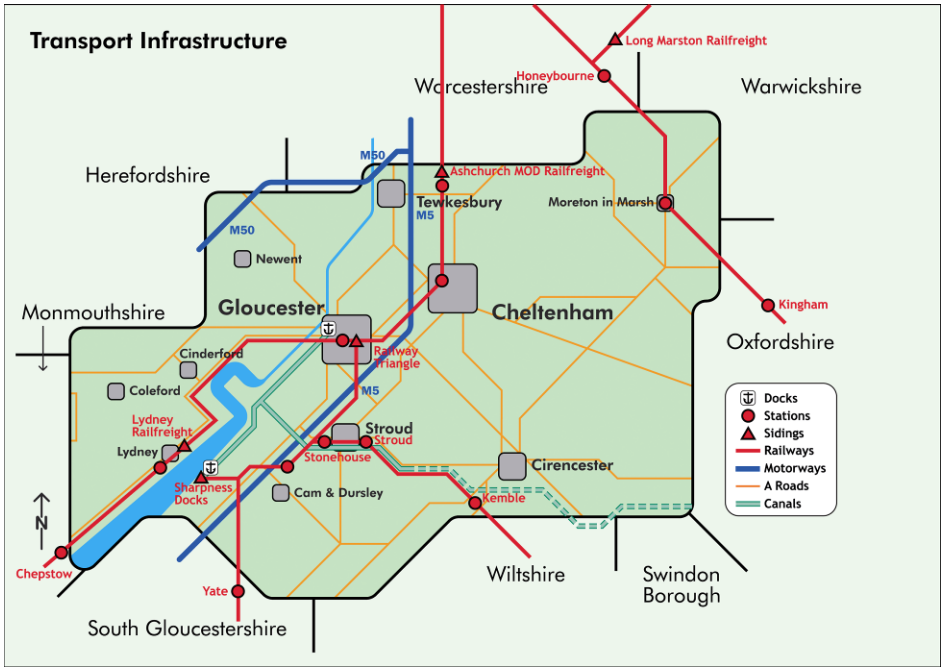


Figure 19. Transport Infrastructure in Gloucestershire.

In recent years Gloucester station has been under threat and serious consideration is being given to a new mainline station and multi-modal transport interchange at Elmbridge court between Cheltenham and Gloucester. This has taken the form of a Major Scheme bid, supported by Gloucestershire County Council, Gloucester City Council, Tewkesbury Borough Council and the Strategic Rail Authority.

Airports

Gloucestershire Airport is centrally located between Gloucester and Cheltenham providing facilities for air transport, executive jets, helicopters, charter flights, flying schools, aero engineering and maintenance. RAF Fairford is a significant material asset. It is designated as a TransOceanic Abort Landing site for NASA's Space Shuttle with its 3km long runway and NASA-trained fire and medical crews stationed at the base.

Docks

Gloucester Docks in the heart of the city is now a focal point for water-based leisure activities. Two working dry docks continue to provide ship repair and refit facilities with access to the sea through the Gloucester and Sharpness Canal. Sharpness Docks on the Bristol Channel provides extensive cargo-handling facilities and port-related services accommodating vessels up to 6,000 dead weight tonnes. In terms of waterbourne transport potential, at present the majority of traffic on the river Severn consists of privately owned small craft, although in early 2005 movement of sand and gravel has taken place from Ryall Quarry in Worcestershire to Gloucester. The river and the Gloucester and Sharpness canal provide Gloucestershire with the possibility to develop sustainable waterborne freight transport. This should be encouraged, particularly as other parts of the UK (London in particular) are very successfully transporting large volumes of waste by water.

Public rights of way

Gloucestershire has almost 3,500 miles of footpaths, bridleways and green lanes that make up its public rights of way network (PROW). They are an important landscape element in both rural and urban areas of the County, playing an important part in the daily lives of many people who use them for leisure, exercise and the up-keep of health, or as part of their daily routine. Nationally 15 per cent of all visitors to the countryside go walking, which brings many benefits from supporting the rural economy to improving the health and well being of participants. Three 'National Trails' run through Gloucestershire namely; the Thames Path, the Cotswold Way and Offa's Dyke Path. The PROW network is managed by the County Council who maintain a definitive map of all paths and rights of way in the County. Volunteers and local conservation groups assist in the maintenance of PROW.

Tourist assetts

The landscape and historic villages and towns of Gloucestershire are clearly a major material assett. In 2003, tourism accounted for 14 million visitor trips, 6.5 million visitor nights and about £914 million in spending. In 2005, directly and indirectly c.27,100 were employed in leisure and tourism in Gloucestershire = c.10.6% of the total employees.

Mineral resources, minerals working and geology

Gloucestershire has a diverse geological base with significant deposits of economic value. The County may be conveniently subdivided into the following resources areas:

Resource Area	Mineral Type
Forest of Dean	Limestone (Carboniferous), Sandstone, Clay, Iron Ore, Coal
Cotswolds	Limestone (Jurassic)
Upper Thames Valley	Sand and Gravel, Clay, Cornbrash (Jurassic Limestone)
Vale of Moreton	Sand and Gravel
Severn Vale	Sand and Gravel, Clay

The County's mineral resources are of local, regional and national importance. They include – limestone used as crushed rock and sand & gravel aggregates; limestone and sandstone for building stone; coal for energy generation; and clay used in brick making and civil engineering. Potential resources of gas and oil have also been surveyed in parts of the County. Historically, iron ore has also been worked, however this has not taken place since the Second World War. There are also records of working other metaliferous resources but this has been on a very historic basis. For more detailed information on mineral resources see the 'Baseline for Minerals Planning in Gloucestershire' section of this report.

Cultural heritage including architectural and archaeological heritage

The historic environment of the County has been formed as a result of the activities of human communities over many thousands of years in clearing, farming and settling the landscape. There is extensive evidence of the past in the form of prehistoric settlement and burial sites, Roman towns and villas, medieval churches and other features of more local importance. The historic legacy of agriculture, industry, architecture and social organisation makes a significant contribution to the distinctive landscapes found in Gloucestershire.

There are around 18,000 archaeological sites recorded in the Gloucestershire Sites and Monuments Record. Approximately 400 of these are Scheduled Ancient Monuments of national importance. Archaeological investigations continue to reveal many sites of historical importance in all areas of the County. These range from Neolithic and Iron Age sites, through extensive Roman and Romano British Settlements, important medieval sites, Regency and Georgian buildings, and the legacy of past industrial activities.

Conservation areas and the register of listed buildings held by district councils affords protection to areas of particular architectural or historic interest. The Cotswold district has by far the highest number of conservation areas of any district local authority in Great Britain at 144.

Gloucestershire's natural and historic environment makes an important contribution to the local economy in terms of its tourism value. Both minerals and waste development can have major impacts on their surroundings. Great care must be taken to ensure that such development does not intrude on the archaeological legacy of the County and does not result in damage to their wider settings, or alter their relationship with the wider rural area around them.

Landscape

Gloucestershire's landscape is characterised by three broad distinct areas. From west to east these are: the Forest of Dean, the Severn Vale and the upland limestone areas of the Cotswolds and Stroud. The Upper Thames Valley, (although a smaller area) may also be regarded as relatively distinct in terms of its landscape character and features. In terms of a more detailed landscape character assessment, the County is divided into 33 distinct areas (See Appendix 3). The Gloucestershire Nature Map, launched in the Spring of 2008, identifies the main natural habitats in the County as: Woodland, Unimproved Limestone Grassland, Unimproved Neutral Grassland, Lowland Wetland Grassland and Healthland/Acid Grassland. (See below).

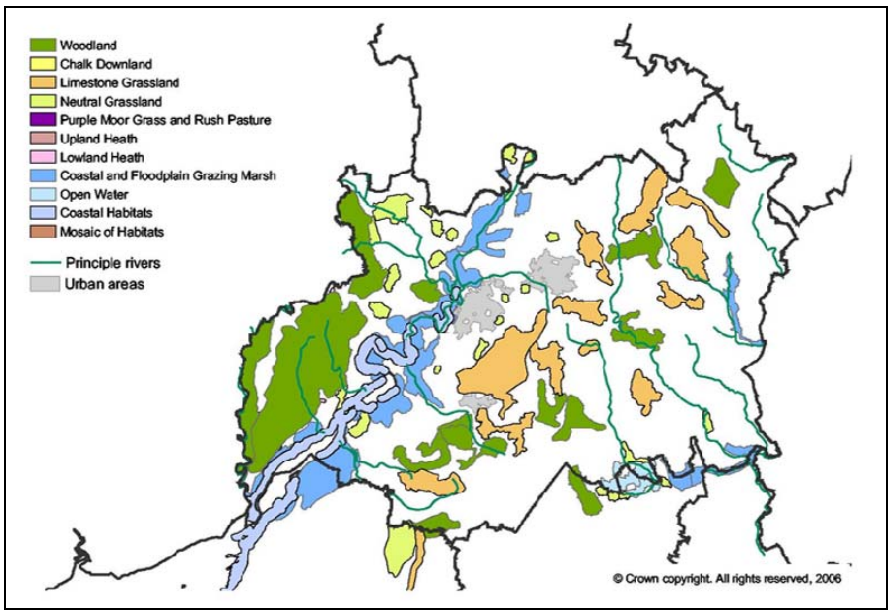


Figure 20. Gloucestershire Nature Map. From: http://www.swenvo.org.uk/nature_map/Gloucestershire_final.jpg

The different geological formations and soils of each area have determined the nature of the vegetation within the County as well as its building styles and settlement patterns. Many local industries have also left their particular mark on the landscape.

The Forest of Dean is situated on an upland trough of old red sandstone that has been overlaid twice by carboniferous limestone, and then by millstone grit containing iron ores and coal measures. It lies in a hilly area between the Rivers Wye and Severn and is still heavily forested with constrained access.

The Wye Valley, on the Forest of Dean's western boundary, is a designated Area of Outstanding Natural Beauty and contains some of the most important semi-natural woodland in Britain and some of the scarcest trees. The River Wye itself is also important as a largely natural system of high water quality and conservation interest. Settlement in the Forest has tended to be linear, following the watercourses and coal measures and villages are built of the grey-brown and red stone local to the area.

The Forest of Dean is one of England's largest ancient forests containing over 11,000 hectares of woodland. This area forms the largest single area of public access in the County, attracting over 1.5 million visits per year. The area of the Royal Forest still contains extensive areas of old oak woods with abundant flora and fauna in a variety of different habitats.
The area also has a range of habitats on the coal measures and sandstone, which are scarce in the County as a whole. The historic industries of tin mining and coal mining have left local features such as abandoned spoil heaps and dismantled railways that, now regenerated, give distinctive character. 'Free miners' continue to operate very small coal mines in the area and there are many kilometres of old underground mine workings and extensive natural cave systems which have contributed to a nationally important population of rare lesser and greater horseshoe bats.

The Severn Vale is an area created by the floodplain of the River Severn between the foot of the Cotswold escarpment and the hilly area of the Forest of Dean. It is this area of the County that is most urbanised with Cheltenham and Gloucester and major transport routes concentrated through it. The designated Green Belt between Gloucester and Cheltenham has been successful in defining limits to urban areas, but in recent years it has come under increasing pressure in terms of the need for sustainable communities and efficient transport networks.

The Severn Vale is of particular significance for bird life, with several sites in the floodplain of the River Severn seasonally providing ideal conditions for wintering wildfowl. As an estuarine system the Severn Estuary is an internationally important site.

The area known as 'The Cotswolds' contains a number of different landscape character areas. The dramatic edge landscape of the main escarpment runs south west to north east and is very steep in places, resulting in a strong visual impact. The many indentations within the escarpment run into the Cotswolds. On the north west side of the escarpment are five hills known as outliers. Around Stroud and Winchcombe the landscape

is more incised. In the northern part of the Cotswolds there is an area of high wold where the topography is softer with smaller and narrower valleys and broad plateau tops, which merge into a dip slope in the middle of the Cotswolds.

The Oolitic limestone belt from which the Cotswolds are formed has also resulted in unimproved limestone grassland habitat of great wildlife value. The grassland of commons, valleys and scarp contain ancient turf formed by grazing over many centuries and now support an abundance of attractive wild flowers and butterflies. They are also home to one of the prime areas of beech woodland in Britain. Beech woods are habitats for many scarce species. In addition, the unmistakable vernacular of Cotswold villages and towns has made it an international target for recreation and tourism.

The Upper Thames Valley, to the south / south east of the Cotswolds is dominated by the physical impacts of sand and gravel extraction. The development of recreation and natural areas in the Cotswold Water Park provide an excellent example of sensitive restoration of mineral workings. The lakes and wetland areas are gaining in wildlife importance, and increasing in national and international recognition.

The interrelationship between the above factors

There are obviously numerous and complex inter-relationships between all the baseline issues and factors that have been considered in Section 7 of this report. For instance the protection, preservation and enhancement of Gloucestershire's natural environment – its biodiversity, landscape, flora, fauna, soil /air /water quality has a direct relationship with people's quality of life and the benefit to the local economy in terms of the numbers of tourists who visit the County. Population increases will have a significant impact in coming years. Gloucestershire may see pressure for houses and services having an impact on the environment. More people produce more waste and this has to be managed, and there are numerous inter-linkages with other factors and issues. Waste management facilities can have a detrimental impact on the environment and communities, but everyone in Gloucestershire produces waste and it needs to be managed. The landfilling of waste is becoming increasingly expensive through e.g. both the landfill tax regime and LATS. It is also becoming socially and environmentally more unacceptable. Moving waste up the waste hierarchy, focusing on reduction, reuse and recycling is likely to be (and certainly should be) the focus in coming years. However there needs to be a realistic attitude to the disposal of residual waste.

In terms of mineral development a balance has to be struck between protecting Gloucestershire's environment, the amenity of its residents and visitors and providing minerals which are needed by society and from which we all derive benefit. Progress needs to be made in reducing the levels of primary minerals that are extracted, through the reduction, reuse and recycling of appropriate materials.

Arguably, of all the issues dealt with in this review of baseline, climate change has the greatest potential to have wide-spread and long lasting social, economic and environmental impacts.

In relation to the above summary of baseline in Gloucestershire, the following table indicates some potential effects on the environment of minerals and waste development and also the likely future environmental status in the absence of the MWDF. This information is also contained against indicators in the baseline table in Appendix 3.

Table 30. Potential Environmental Effects of Minerals & Waste Development and Likely Future Environmental Status in the Absence of the MWDF.

SEA Topic (SEA Directive 2001/42/EC Annex 1 (f))	Potential effects of minerals and waste development & likely future environmental (or other) status in the absence of the MWDF
Biodiversity (covered in Section 7 of this report and in Appendix 3 – Baseline table) **Flora** (covered in Section 7 of this report and in Appendix 3 – Baseline table) **Fauna** (covered in Section 7 of this report and in Appendix 3 – Baseline table)	Gloucestershire is a highly diverse County with a great variety of wildlife reflected in the large number of sites that have international, national or local designations. Biodiversity outside these areas should also not be neglected as habitats that have a linking function are very important. Potential negative effects are: ▪ Potential loss of species / habitats. ▪ Habitat loss and fragmentation due to land take.

Soil (covered in Section 7 of this report and in Appendix 3 – Baseline table)	▪ Changes in soil conditions and or quality. ▪ Changes in the quality of air and water. Pollution potential in terms of noise, vibration, light, dust. ▪ Creation of barriers or obstacles affecting wildlife. ▪ Changes in methods of habitat management. ▪ Introduction of new species / habitats. ▪ Changes in ecological balances of prey and predators. ▪ Changes in patterns of human activity. ■ Comment on the likely future environmental status in the absence of the MWDF: Minerals and waste plans aim to provide for the needs of society (i.e. minerals which we all use, and facilities for handling waste that we all produce). But in the process there may be damage to the natural environment. However plans contain policies which aim to protect the environment. Without these plans it is more likely that environmental designations would be damaged by un-regulated development.
Water (covered in Section 7 of this report and in Appendix 3 – Baseline table)	▪ Quarrying may have significant negative impacts on the water table and on surface water regimes. This is a particularly pertinent issue in Gloucestershire in relation to sand and gravel extraction in the Upper Thames Valley. ▪ In terms of landfill sites – most modern sites have engineered cells with an appropriate lining system that will seal waste from the surrounding rock, soil strata and water table. ■ Comment on the likely future environmental status in the absence of the MWDF: In the absence of the MWDF and policies aimed at the protection of the water environment, rivers, streams, lakes as well as subterranean hydrological regimes are more likely to be damaged as a result of un-regulated and environmentally insensitive development.
Air (covered in Section 7 of this report and in Appendix 3 – Baseline table)	▪ Traffic associated with mineral sites or waste collection / management facilities can increase dust and odour. Incineration, recycling and waste transfer can also lead to harmful impacts on air quality. Communities situated close to landfill sites / composting facilities may experience a loss of amenity due to dust and odour. ■ Comment on the likely future environmental status in the absence of the MWDF: Air quality may deteriorate in the County in the absence of policies which aim at the control and mitigation of the problem.
Climatic factors (covered in Section 7 of this report and in Appendix 3 – Baseline table)	▪ Landfill sites release very damaging greenhouse gases to the atmosphere. In the UK, about 2% of total greenhouse gas emissions are from landfill sites. ▪ Both minerals and waste products are, to a large extent, carried by road transport – emissions from which have negative impacts on the climate. ■ Comment on the likely future environmental status in the absence of the MWDF: In the absence of the MWDF and specific policies aimed at combating climate change and reducing the impacts, it is likely that contributions to climate

	change from minerals and waste development will not be appropriately controlled and mitigated.
Material assets (covered in Section 7 of this report and in Appendix 3 – Baseline table)	▪ Minerals and waste development may affect the value of nearby land, property or other material assets. This may also apply to land and property that lies on a lorry route. In terms of aerodromes (as material assets) there are potential safety issues related to the likelihood of birdstrike from e.g. landfill or other waste activity that attracts birds or open water created as part of mineral restoration. ■ Comment on the likely future status in the absence of the MWDF: In the absence of the MWDF there may be negative impacts, on material assets (and also safety concerns) as a result of un-regulated, un-mitigated or poorly planned development.
Population (covered in Section 7 of this report and in Appendix 3 – Baseline table)	▪ Populations may potentially be affected by both mineral workings and associated transportation and waste management activities. Communities can be very sensitive to increases in noise, traffic levels, odour, visual impacts and other negative impacts on amenity. Certain facilities e.g. those handling hazardous wastes may pose a threat to human heath if conditions and controls are not rigorous. ▪ Population increases, either natural increase or through migration may lead to increased levels of waste resulting in the rate at which landfill void space is depleted, and the need for more waste management facilities. ■ Comment on the likely future status in the absence of the MWDF: In the absence of the MWDF and appropriate policies there may be negative impacts on populations and communities as a result of un-regulated, un-mitigated or poorly planned development.
Human health (covered in Section 7 of this report and in Appendix 3 – Baseline table)	Minerals and waste development can have various negative impacts. In physical terms waste management facilities can cause congestion, noise, odours and visual impacts which may lead to psychological / stress effects on individuals and communities. There may be mental health and social wellbeing issues that may not be as tangible or obvious as some of the physical effects that have been identified in this document. There is a danger that existing inequalities in health between groups in a community may be exacerbated. It may be that those with resources and influence in a community can successfully object to what they regard as undesirable waste development. Poorer communities may not have the means or mobilisation. Those at particular risk of discrimination / disadvantage or are particularly vulnerable include, poorer communities (measured through a variety of indicators), black and minority ethnic people, people with disabilities, refugee groups, people seeking asylum, Gypsies and Travellers, single parent families; lesbian, gay, bisexual and transgender people; religious groups and carers. (Source: Gloucestershire NHS Primary Care Trust – August 2008).

	Noise from quarry working or associated traffic may disturb individuals sleep patterns – causing stress. Communities may feel that the fundamental nature of their community has changed as a result of a nearby waste disposal facility. ■ Comment on the likely future status in the absence of the MWDF: In the absence of the MWDF there may be negative impacts on human health as a result of un-regulated, un-mitigated or poorly planned development.
Cultural heritage including architectural & archaeological heritage (covered in Section 7 of this report and in Appendix 3 – Baseline table)	Waste management facilities and minerals sites along with ancillary development such as road construction, soil bunds and screening, processing and storage areas can potentially damage or destroy artefacts / sites of cultural and archaeological heritage. Indirect effects may include: ▪ A reduction in the legibility of archaeological landscapes as a result of the interruption of features extending beyond the extraction area. ▪ Dewatering and potential disruption to drainage regimes may damage waterlogged archaeological deposits and destroy a sites palaeo-environmental potential. ▪ Subsidence or ground settlement on upstanding monuments and historic buildings. ▪ Dust from workings can have a detrimental impact on historic buildings and monuments – especially if the dust particles are chemically active. ▪ In the long term the setting and character of a historic monument / archaeological landscape / listed building might be affected by extraction. Apart from visual aspects, there may be a detraction of amenity resulting from the disruption of rights of way and access and increased noise and heavy traffic. ■ Comment on the likely future status in the absence of the MWDF: In the absence of the MWDF and appropriate policies there may be damage to Gloucestershire's cultural heritage (including architecture and archaeology) as a result of un-regulated, un-mitigated or poorly planned development.
Landscape (covered in Section 7 of this report and in Appendix 3 – Baseline table)	Landscapes may be damaged where a development changes the physical character of a particular area. Changes to, or the physical removal of landscape elements e.g. trees, slopes, hedges, field boundaries may change the character of the landscape and how it is experienced. Views may be damaged, both in terms of composition and extent. Potential landscape / visual effects as a result of quarrying / landraise / landfill development may include: ▪ Natural topography being permanently damaged. ▪ Geological exposures in old disused quarries may be lost if they are backfilled. ▪ Loss of hedgerows and hedgerow trees. ▪ Rural character eroded as a result of operational areas, litter trapping fences, stockpiles and mounds, plant and buildings. ▪ Insensitive restoration may weaken the local distinctiveness of a landscape. ▪ On the positive side, mineral operations can create

	new landscape features such as lakes, ponds and wetlands. A good example being the Cotswold Water Park. ■ Comment on the likely future status in the absence of the MWDF: In the absence of the MWDF and appropriate policies there may be damage to valued landscapes within Gloucestershire as a result of un-regulated, un-mitigated or poorly planned development.
The **inter-relationship** between the issues referred to above (covered in Section 7 of this report and in Appendix 3 – Baseline table)	There are numerous, complex inter-relationships between all the aspects of the natural and built environment and all the other social and economic factors that have been considered. ■ Comment on the likely future status in the absence of the MWDF: In the absence of the MWDF and appropriate policies, development may cause unforeseen damage or produce knock-on negative impacts as a result of un-regulated, un-mitigated or poorly planned development.

8. SA Framework – Objectives

The SA process as advocated in ODPM SA Guidance is 'Objectives-led'. Once SA Objectives are developed they provide the basis for testing strategy and policy formulation of relevant aspects of the MWDF. The Objectives derived from this process are the basis for identifying appropriate indicators and targets against which the success of adopted strategies and policies may be judged.

The original SA Framework Objectives have changed and evolved with the MWDF. There are several reasons for this:

(a) SA is supposed to be an iterative and evolving process. The Framework is supposed to be regularly updated, particularly in terms of presenting up-to-date baseline data.

(b) The SA process is a consultative one, both in terms of the Framework documents and the SA Reports. The Minerals and Waste Planning Policy team have made every effort to take on board the comments of stakeholders and to make appropriate changes.

(c) Government guidance and planning legislation is constantly changing and being updated and the SA process has to reflect this. A good example of very significant recent changes is the recent publication of PPS12 'Local Spatial Planning' (July 2008) which replaces the previous version of PPS12 'Local Development Frameworks'. Core Strategies were originally non-site specific but the new PPS12 changes the nature of Core Strategies in that it states at Para 4.6 that "Core Strategies may allocate strategic sites for development. These should be those sites considered central to achievement of the strategy".

In terms of looking at the way in which the MWDF SA process has evolved, through consultation / stakeholder involvement and changes in government guidance / policy (right from the original Context & Scoping Reports published in August 2005 reports), all the original version and current version reports are available on the SA Framework webpage via the following link and Table 31 below details where these reports indicate changes.

http://www.gloucestershire.gov.uk/index.cfm?articleid=19449

Table 31. Dates of SA Framework Documents and Where to Find Descriptions of the Development of SA Objectives.

SA Framework Document	Date	Table of SA Objectives	Description of the Development of SA Objectives
Original SA Framework Scoping Report	August 2005	Table 5 on Pages 18 & 19	Appendix 5
Update 1 SA Framework Scoping Report	November 2005	Table 5 on Pages 18 & 19	Appendix 5
Update 2 SA Framework Scoping Report	April 2006	Table 15 on Pages 33 & 34	Appendix 5

Very few comments were received on the original SA Objectives at the original scoping stage and the changes that were recommended e.g. from statutory consultees such as the Environment Agency and others were incorporated. However following the Issues and Options consultations on both the Minerals Core Strategy & the Waste Core Strategy a small number of consultees expressed the view that some of the SA Objectives were too complex. Additionally a report from Land Use Consultants following a minerals forum on 16 October 2007 highlighted the same sorts of issues in relation to a number of the objectives. In the spirit of accommodating the views of stakeholders and following emerging best practice* the wording and structure of a few of the objectives was amended. It should be noted that stakeholders did not question the areas or the topics that the objectives cover, merely their wording and their structure. The revised objectives still cover the SEA topics as per SEA Directive Article 5 (1) Annex 1 (f). and have not altered the initial suggestions of statutory consultees. Table 32 below details these changes:

*The SEA Directive refers to *"information that may reasonably be required taking into account current knowledge and methods of assessment."*

Table 32. Changes to SA Objectives Following Issues & Options Consultation on the Minerals Core Strategy & Waste Core Strategy.

Original SA Objective	Amendment	Reasoning
1. To promote development that is socially, economically and environmentally sustainable. **2.** To give the opportunity to everyone to live in an affordable and sustainably designed and constructed home.	To promote sustainable development and sustainable communities in Gloucestershire in particular giving people the opportunity to live in an affordable and sustainably designed and constructed home. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f). Population, Material Assets.	A number of stakeholders considered that the original Objective 1 was too imprecise. The original Objective 2 was originally included as it was scoped as an important issue in Gloucestershire. The two objectives have been combined. The reference to 'sustainable communities' reflects central government requirements in the UK Government's Sustainable Development Strategies.
3. To safeguard sites suitable for the location of waste management facilities, or future mineral development from other proposed development.	No amendment. SEA topics as per SEA Directive Article 5 (1) Annex 1 (f). Material Assets.	
4. To protect and improve the health and well-being of people living and working in Gloucestershire as well as visitors to the County.	No amendment. SEA topics as per SEA Directive Article 5 (1) Annex 1 (f). Human Health.	
5. To contribute to a sustainable Gloucestershire which provides excellent opportunities for education, economic development, employment and recreation to people from all social and ethnic backgrounds.	To promote education and economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f). Population, Material Assets.	A number of stakeholders found that this objective was a bit complicated and overlapped to some extent with Objective 1. It has thus been simplified.
6. To safeguard the amenity of local communities from the potential adverse impacts of minerals and waste development.	No amendment. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f).	

	Population, Health.	
7. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	No amendment. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f). Material Assets.	
8. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	No amendment. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f). Population, Material Assets.	
9. To protect, conserve and enhance Gloucestershire's biodiversity, natural environment, landscape and tourist assets including the historic environment.	To protect, conserve and enhance Gloucestershire's wildlife and natural environment – its landscape and biodiversity. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f). Biodiversity, Fauna, Landscape. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets including its architectural and archaeological heritage. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f). Material Assets, Cultural heritage including architectural and archaeological heritage.	A number of stakeholders found that this objective was a bit complicated and included too many aspects within it. It has thus been split into two objectives one focusing on landscape and biodiversity and one focusing on cultural heritage, including architectural and archaeological heritage.
10. To prevent flooding, in particular preventing inappropriate development in the floodplain and to ensure that development does not compromise sustainable sources of water supply.	No amendment. SEA topic covered as per SEA Directive Article 5 (1)	

	Annex 1 (f). Water, Climatic Factors.	
11. To protect and enhance Gloucestershire's environment – (the land, the air and water) from pollution and to apply the precautionary principle.	To prevent the pollution of land, air and water in Gloucestershire and to apply the precautionary principle. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f). Soil, Water, Air.	This objective has been simplified and focuses on pollution prevention.
12. To reduce the adverse impacts of lorry traffic on communities, through reducing the need to travel, promoting more sustainable means of transport (including through sensitive routing and the use of sustainable alternative fuels) and to promote the management of waste in one of the nearest appropriate installations.	To reduce the adverse impacts of lorry traffic on communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport c) sensitive lorry routing d) the use of sustainable alternative fuels e) promoting the management of waste in one of the nearest appropriate installations. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f). Population, Human Health, Climatic Factors.	This objective has been restructured to provide greater clarity.
13. To restore mineral sites to a high standard in order to achieve the maximum environmental and nature conservation benefits.	To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f). Biodiversity, Fauna, Soil, Air, Water, Landscape.	This objective has been slightly modified to provide greater clarity.

14. To reduce waste to landfill and in dealing with all waste streams to actively promote the waste hierarchy (i.e. Prevent, Reduce, Reuse, Recycle, Dispose) to achieve the sustainable management of waste.	No amendment. SEA topic covered as per SEA Directive Article 5 (1) Annex 1 (f). Soil, Air, Water, Landscape, Population, Human Health.	
15. To reduce contributions to and to adapt to Climate Change.	No amendment. Water, Climatic Factors.	

■ SA OBJECTIIVES IN SUSTAINABILITY APPRAISAL CONTEXT & SCOPING REPORT FOR STRATEGIC WASTE SITES (JULY 2008)

As stated in Section 1 of this report, following the recent consultation on Gloucestershire's WCS Preferred Options, GOSW recommended that strategic sites for the management of MSW should be included in the WCS. Thus, given the need to include waste sites in the WCS, there is a need to 'scope in' SA Objectives that are site focused and there is a need to scope out the Objectives that are higher level and not appropriate for site assessment work. It is proposed to 'scope in' and 'scope out' Objectives using the 15 existing SA Objectives as the base (see Table 34 for the details).The reasoning being that these objectives have all been through the correct processes as per ODPM Guidance and they have been scoped and refined reflecting Gloucestershire issues. These new waste site focused Objectives have been tested against **A** to **G** below.

Table 33. Policy / Guidance / Directives / Stakeholder Involvement / Against Which New Waste Site Focused Objectives will be Tested.

A. Securing the Future – UK Government Sustainable Development Strategy – Key Objectives Living Within Environmental Limits Ensuring a Strong, Healthy and Just Society Achieving a Sustainable Economy Promoting Good Governance Using Sound Science Responsibly	**Reasoning:** This is the Government's overarching strategy for delivering Sustainable Development.
B. PPS10 – Appendix E (and the Objectives should also be in accordance with the Key Planning Objectives of PPS10.	**Reasoning:** This is key Government guidance on testing the suitability of sites and areas for waste management facilities.
C. SEA Directive Article 5 (1) Annex 1 (f).	**Reasoning:** Conformity with the SEA Directive is a key requirement to meet.
D. Key Messages / Sustainability Issues in Gloucestershire / Baseline.	**Reasoning:** According to Government guidance on SA, key messages, sustainability issues & problems and baseline evidence should be reflected in deciding what SA Objectives are appropriate.
E. The recent SEA of Gloucestershire's JMWMS.	**Reasoning:** This is recent and up to date. It has been through a process with Gloucestershire stakeholders. Directly relevant as the WPA's sites

	work is focused on strategic sites for MSW. The PPS10 Companion Guide, SA Guidance and DEFRA Guidance on producing JMWMSs all point to the desirability of some level of integration on SA / SEA work.
F. Strategic Flood Risk Assessment for the Minerals & Waste Development Framework Level 1.	**Reasoning:** PPS25 states that SFRAs should be freestanding assessments that contribute to the Sustainability Appraisal of plans.
G. The views of the statutory environmental consultation bodies designated in the SEA Regulations and other stakeholders who have the opportunity to comment on this Scoping report.	**Reasoning:** Incorporating the views of statutory consultees and other stakeholders is clearly important and required in guidance.

Table 34. Existing SA Objectives and the Scoping In / Out Process to Produce Waste Site Focused Objectives.

Existing SA Objectives	Scoping In / Out Commentary
1. To promote sustainable development and sustainable communities in Gloucestershire in particular giving people the opportunity to live in an affordable and sustainably designed and constructed home. ➔	This Objective should be 'scoped out' for the purposes of assessing waste sites, as this is too broad and relates more to minerals development (i.e. the materials that buildings and infrastructure are constructed from) and waste minimization in development.
2. To safeguard sites suitable for the location of waste management facilities, or future mineral development from other proposed development. ➔	This Objective should be 'scoped out' for the purposes of assessing waste sites as this is really a matter of deliverability. If a site is deliverable then it is capable of being successfully safeguarded.
3. To protect and improve the health and well-being of people living and working in Gloucestershire as well as visitors to the County. ➔	Keep this Objective but add a number of Sub-questions that will sharpen the focus of any assessment of site options: **1. To protect and improve the health and well-being of people living and working in Gloucestershire as well as visitors to the County.** <u>Sub-questions:</u> ▪ Will hazardous waste be reduced – or if it is generated how will it be controlled? ▪ What are the potential health impacts on communities? ▪ What are the potential health impacts on the employees at the site or facility?
4. To promote education and economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds. ➔	Add three related Objectives and add Sub-questions for each: **2. To educate the public about waste issues and to maximise community participation and access to waste services and facilities in Gloucestershire.** <u>Sub-questions:</u> ▪ Are there any groups who are particularly disadvantaged in terms of participation and access to waste services? ▪ Does the site option cater for future demographic changes and waste growth?

	3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds. <u>Sub-questions:</u> ▪ Does the site present opportunities for spin off employment or other opportunities? ▪ Will the number of waste based Community or Social enterprises change as a result of the site option? **4. To manage waste in an economically sustainable way through means that represent good value for tax payers in Gloucestershire.** <u>Sub-questions:</u> ▪ What are the costs? ▪ Are there costs in the longer term that may not be obvious at the present time?
5. To safeguard the amenity of local communities from the potential adverse impacts of minerals and waste development. ➔	Keep this Objective but add Sub-questions: **5. To safeguard the amenity of local communities from the adverse impacts of waste development.** <u>Sub-questions:</u> ▪ What are the impacts in terms of noise and vibration? (From PPS10 Annex E). ▪ What is the potential for significant problems with litter? (From PPS10 Annex E). ▪ To what extent are there potential landuse conflict issues? (From PPS10 Annex E). ▪ What is the potential for significant problems with vermin and birds? (From PPS10 Annex E). ▪ Are there any cumulative effects in terms of adverse impacts on environmental quality, social cohesion and inclusion or economic potential? (from PPS10 Para

	21). ▪ Does the site provide opportunities for the co-location of complementary activities? ▪ Will fly tipping in the County increase.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society. ➔	This Objective should be 'scoped out' for the purposes of assessing waste sites, as it is primarily minerals related, provided any sites don't sterilize viable mineral resource – which could be looked at in the site selection process.
7. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy. ➔	Retain this Objective and add Sub-questions: **6. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.** <u>Sub-questions:</u> ▪ How many new jobs are likely to be created? ▪ How far will employees have to travel to work? ▪ Are there opportunities for employees to use sustainable transport?
8. To protect, conserve and enhance Gloucestershire's wildlife and natural environment – its landscape and biodiversity. ➔	For the sake of clarity, split this Objective in to two and add Sub-questions: **7. To protect, conserve and enhance biodiversity in Gloucestershire.** <u>Sub-questions:</u> ▪ What are the potential impacts on sites which are Internationally and Nationally designated? (From PPS10 Annex E). ▪ Are there any other potential significant impacts over and above the effects on designated sites - including on local sites, protected species and habitats and species of principle importance for biodiversity? ▪ What potential is there for achieving biodiversity targets?

	8. To protect, conserve and enhance the landscape in Gloucestershire. <u>Sub-questions:</u> ▪ What are the impacts on AONB? ▪ What is the likely impact on specific landscape character as detailed in Gloucestershire's Landscape Character Assessment? ▪ What is the scope for landscape improvement / enhancement? **9. To ensure that waste sites have the potential for adequate screening and/or innovative design to be incorporated.** <u>Sub-questions:</u> ▪ Does the topography and setting naturally screen the site? (From PPS10 Annex E). ▪ What is the potential for design-led solutions? (From PPS10 Annex E).
9. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets including its architectural and archaeological heritage. ➔	For the sake of clarity, split this Objective in to four and add Sub-questions: **10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.** <u>Sub-questions:</u> ▪ What are the likely impacts on material, cultural and recreational assets? ▪ Have any material assets been overlooked? **11. To protect conserve and enhance geodiversity in Gloucestershire.** <u>Sub-questions:</u> ▪ What if any are the likely impacts on geodiversity?

	12. To protect conserve and enhance townscapes and Gloucestershire's architectural and archaeological heritage. Sub-questions: ▪ What are the potential adverse effects on heritage sites of International importance and / or sites or buildings with a nationally recognised designation. (From PPS10 Annex E). **13. To ensure that waste sites do not compromise the safety of commercial or military aerodromes.** Sub-questions: ▪ Is the site close to an aerodrome or low flying area? ▪ Will the site attract large numbers of scavenging birds / gulls etc?
10. To prevent flooding, in particular preventing inappropriate development in the floodplain and to ensure that waste development does not compromise sustainable sources of water supply. ➔	Retain this Objective and add Sub-questions related directly to the Flood Risk Objectives in the SFRA. **14. To prevent flooding, in particular preventing inappropriate development in the floodplain and to ensure that waste development does not compromise sustainable sources of water supply.** Sub-questions: ▪ Can the risk of flooding be minimised through site design? (From SFRA: Flood Risk Objective 1: To Seek Flood Risk Reduction through Spatial Planning and Site Design). ▪ Will surface water runoff be reduced? (From SFRA: Flood Risk Objective 2: To Reduce Surface Water Runoff from New Developments and Agricultural Land). ▪ Is there the potential to enhance and restore the river corridor? (From SFRA Flood Risk Objective 3: To enhance and Restore the River Corridor). ▪ Is there the potential to protect and promote areas for future flood alleviation schemes? (From SFRA: Flood Risk Objective 4: To Protect and Promote Areas

	for Future Flood Alleviation Schemes). ▪ Do proposals improve flood awareness and emergency planning? (From SFRA: Flood Risk Objective 5: To Improve Flood Awareness and Emergency Planning. *(SFRA References: Para 8.1)*
11. To prevent the pollution of land, air and water in Gloucestershire and to apply the precautionary principle. ➔	For the sake of clarity, split this Objective in to four and add Sub-questions: **15. To prevent pollution and to apply the precautionary principle in consultation with waste regulation authorities.** <u>Sub-Questions:</u> ▪ Is there a level of scientific uncertainty about risk such that the best available scientific advice cannot assess the risk with sufficient confidence to inform decision-making. (From PPS23, Planning and Pollution Control, Para 6). **16. To protect and enhance soil / land quality in Gloucestershire.** <u>Sub-Questions:</u> ▪ What is the landtake? ▪ Does the site suffer from potential land instability (From PPS10 Annex E). ▪ Is the site previously developed? ▪ If the site is or was previously contaminated – is there the potential for effective remedial clean up? **17. To protect and enhance air quality in Gloucestershire.** <u>Sub-Questions:</u> ▪ What is the proximity of sensitive receptors and to what extent can air emissions, including dust be controlled? (From PPS10 Annex E).

	▪ What is the proximity of receptors sensitive to odours, and to what extent can odours be controlled. (From PPS10 Annex E). **18. To protect and enhance water quality in Gloucestershire.** <u>Sub-Questions:</u> ▪ What is the proximity of vulnerable surface or groundwater? (From PPS10 Annex E). ▪ What are the impacts on water consumption?
12. To reduce the adverse impacts of lorry traffic on communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport c) sensitive lorry routing d) the use of sustainable alternative fuels e) promoting the management of waste in one of the nearest appropriate installations. ➔	Keep this Objective but add a number of Sub-questions that will sharpen the focus of any assessment of site options: **19. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:** **a) reducing the need to travel** **b) promoting more sustainable means of transport** **c) sensitive lorry routing** **d) the use of sustainable alternative fuels** **e) promoting the management of waste in one of the nearest appropriate installations.** <u>Sub-Questions:</u> ▪ What is the capacity of the site and transport infrastructure to support the sustainable movement of waste and products arising from resource recovery?. (From PPS10, Para 21). ▪ Will access be reliant on local roads? (From PPS10 Annex E).
13. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity. ➔	This Objective should be 'scoped out' for the purposes of assessing waste sites, as it is primarily minerals related.
14. To reduce waste to landfill and in dealing with all waste streams to actively promote the waste hierarchy (i.e. Prevent, Reduce, Reuse,	Retain this Objective and add Sub-questions.

Recycle, Recover, Dispose) to achieve the sustainable management of waste. ➔	**20. To reduce waste to landfill and in dealing with all waste streams to actively promote the waste hierarchy (i.e. Prevent, Reduce, Reuse, Recycle, Recover, Dispose) to achieve the sustainable management of waste.** <u>Sub-Questions:</u> ▪ What is the impact of any waste prevention and waste reduction activities? ▪ What are the levels of reuse, recycling (including composting) and recovery achieved by each site option? ▪ What is the diversion from landfill?
15. To reduce contributions to and to adapt to Climate Change. ➔	Add a new Objective drawn from the JMWMS Objectives ENV1 & ENV7and retain the original Climate Change Objective: **21. To reduce the global use of primary materials and minimise net energy balance requirements.** <u>Sub-Questions:</u> ▪ What is the impact on total material requirement? ▪ What are the energy balance impacts? **22. To reduce contributions to and to adapt to Climate Change.** <u>Sub-Questions:</u> ▪ To what extent does the site or facility offer the capacity for net electricity generation, community heating / combined heat and power or the production of waste derived biofuels / biogas. ▪ How flexible or adaptable is the site or facility in terms of a) adapting to Climate Change and b) using new technology as it develops.

More detailed information on site focused SA Objective development is available in the report: *Sustainability Appraisal Context & Scoping Report for Strategic Waste Sites* (July 2008) in particular:

- Table 5 on Page 64
- Appendix 1 on Page 71.
- Appendix 3 on Page 73.

This report was consulted on for 5 weeks between Friday 15th July and Friday 15th August 2008. It is available on the Council's website at the following address:

http://www.gloucestershire.gov.uk/index.cfm?articleid=19449

Table 35 details the responses to the consultation and the WPA's consideration.

Table 35. Stakeholder Responses to Consultation on Sustainability Appraisal Context & Scoping Report for Strategic Waste Sites (July 2008).

Consultees included:
- Specific Consultation Bodies as per Government Guidance on SA – including authorities with environmental responsibility in relation to the SEA Directive (Natural England, The Environment Agency, English Heritage and the Director of Public Health for Gloucestershire NHS Primary Care Trust).
- All stakeholders who responded to the WCS Preferred Options consultation i.e. those who were already interested and involved in the WCS process.

Stakeholder	Comments	WPA Response
Natural England	We would support the new site focused SA Objectives, with one small caveat. For Objective 8, the first sub-question should be revised as follows: 'What are the potential impacts on sites which are internationally and nationally designated and can adequate mitigation be provided?'. This should help screen out SSSI where there may be an impact but which could be protected if a development is appropriately designed.	Noted. Changes will be made as suggested.
The Environment Agency	▪ Page 10 – PPG 25 is referred to – this should be updated to PPS 25. ▪ Missing from the list of plans and programmes, and a fundamental document for assessing strategic waste sites, is the Gloucestershire Strategic Flood Risk Assessment (SFRA). This document is very close to completion. The draft version, whilst not yet 'signed off', is still an extremely useful; tool for assessing flood risk form all sources of flooding, and should be used in the interim until the final version is issued. (We appreciate that the SFRA as been	PPS 25 is included and considered in the Context Report (Update 3). Noted. The SFRA will be added to the Context Report (Update 3). As the EA point out, the SFRA is referred to frequently throughout the SA document and flooding issues will clearly be an important consideration in the assessment of sites suitable for waste management.

	incorporated later in the document see comments further down this letter – care should be taken to make sure the SFRA is included at all relevant points of the SA scoping document.)	
	▪ Page 40 (section 7 – summary of baseline) – mentions flood risk and the SFRA. This may need updating/revisiting once the SFRA is complete to provide a more accurate picture of the baseline environment (i.e. perhaps more detail on areas in functional floodplain, any relevant policy recommendations coming out of the SFRA).	Noted. There will be opportunities for updating once the SFRA is completed, and all site assessment work will clearly make use of the most up-to-date data on flooding.
	▪ We note that on page 55 the SFRA has been mentioned under F in the table. We welcome this.	Noted.
	<u>Table 4 (page 56 onwards):</u>	
	▪ We do not agree that 'promote sustainable development' (1) should be scoped out entirely. We accept the comments that sustainable development might be more relevant to minerals development and other forms of development, but the principles of sustainability are central to planning and therefore all forms of development. In the context of waste sites for instance, location, design, regulation should all take place with sustainability in mind so as to avoid pollution and flood risk for example. (there are also social and economic factors to consider as well). You may feel that these issues are covered by other objectives, however to remove the 'label' of sustainable development is not advised. If you do intend to scope this objective out, consideration to how this is worded/caveated in the SA document as well as the documents being appraised, should be made.	Noted: Although the broad SA Objectives will include the wording 'To promote sustainable development and sustainable communities in Gloucestershire…' (i.e. in SA Objective 1) this wording will also be added to the site focused objectives.
	▪ We approve of and support the recommended split objective on biodiversity under number 8 in the table.	Noted.
	▪ We also approve of and welcome number 10 – flood risk and SFRA. You may wish to	Noted.

	include a sub question on the PPS 25 Sequential Test: ▪ Has the PPS 25 Sequential Test been applied? (are there alternative sites at a lower risk of flooding?) ▪ If the Sequential testing of sites has already taken place, then it may not be appropriate to include this in the SA scope. However if the SA is the vehicle through which the Sequential Test is to be done, then it would be appropriate to include a sub-question like the suggested italics above in the document here. ▪ We strongly support the sub-split of objective 11 on pollution prevention. It is most welcome that you have taken a more active stance on the precautionary principle in PPS 23, as this is an approach that does not seem to have permeated into planning and ways of working in the industry that well yet despite PPS 23 being published at least 4 years ago now. ▪ We also strongly support the additional climate change objective (22). We would support the addition of a sub question here on the likelihood of greenhouse gas emissions associated with the site/activity. In addition it may also be appropriate to include a sub-question on the proximity of the site to built up areas, and/or the potential for using sustainable forms of transport to bring waste to the site (such as railways or canals). This is recommended by us in relation to reducing the carbon emissions produced in accessing the site/facility and therefore relevant to mitigating climate change. ▪ We welcome the inclusion in table 5 of the 'reflects SFRA' column.	Noted – this will be added. Noted. Noted. Noted, and support welcomed. We feel that the suggested sub-questions are fully covered by other Objectives and sub-questions. Noted, and support welcomed.
Gloucestershire NHS Primary Care Trust	Gloucestershire Primary Care Trust (PCT) welcomes the opportunity to make comments on the document during this period of	Noted, and PCT support welcomed.

	consultation. The involvement of the PCT through Public Health on SEA and SA relating to health elements is a welcome step to contributing to improving the health of the population and communities in Gloucestershire.	
	We note that in your baseline data on pages 35 and 36 that you have used some initial data sources relating to health, which we understand to be drawn from the 2001 census. The census provides us with valuable data but is understandably now some 7 years old. We enclose a health profile of Gloucestershire which contains more up to date information and contains more detail in areas which could be used to enhance your health summary which is quite limited in its current format.	The health data has been updated using the health profile of Gloucestershire provided (See pages 43 & 44).
	On page 44 we would seek that the potential negative impacts arising from waste development in its broadest sense in terms of mental health and social wellbeing are also addressed and not just relative to those stressors identified in the document. We would also seek to see how inequalities in health impacts between groups in a community are also addressed – particularly those at risk of discrimination, disadvantage or particular vulnerability: black and minority ethnic people; people with disabilities; refugee groups; people seeking asylum; Gypsies and Travellers; single parent families; lesbian, gay, bisexual and transgender people; religious groups; and carers.	The mental health and social wellbeing elements will be added to the table of potential effects of waste development. Also in relation to groups who are most at risk of discrimination, it is hoped that SA sites Objective 2 Sub-question 1 and SA sites Objective 3 Sub-question 5 will ensure that these matters are appropriately considered through the SA process. It should be noted that the County Council will also be undertaking Equality Impact Assessment (EIA) of its plans in addition to SA.
Principal Ecologist – Gloucestershire County Council	The sub-questions for the site focused SA objective biodiversity (8) are valid and a good test of the sustainability of different strategic waste site options.	Comments on the biodiversity related sub-questions are noted and welcomed.
	Additional plans to note (and add to the updated Context Report) ▪ Cotswold Water Park Biodiversity Action Plan 2007-2016. ▪ DEFRA (2008) 'Natural Environment and Rural	The additional plans have been added in the Context Report (Update 3).

	Communities Act 2006 – Section 41: List of habitats and species of principal importance in England. ▪ A Geological Action Plan for West Gloucestershire. ▪ A Geological Action Plan for the Cotswolds.	
British Waterways	Requested that the SA acknowledge the positive benefits of transporting waste and recyclates by water. The benefits of siting strategic sites for waste management on inland waterways/docks should be considered. The document should give reference to "Planning for Freight on Inland Waterways" DfT/DEFRA April 2004 and PPG13 (especially Para 45 and Paras 10 and 13 of Annex B).	The SA and indeed the WCS, is very positive about the use of waterways to transport waste (and minerals). The baseline section states: "The river and the Gloucester and Sharpness canal provide Gloucestershire with the possibility to develop sustainable waterborne freight transport". In response to British Waterways comments the following has been added: "This should be encouraged, particularly as other parts of the UK (London in particular) are very successfully transporting large volumes of waste by water". The Broad SA Objective (Objective 12) seeks "To reduce the adverse impacts of lorry traffic on communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels e) promoting the management of waste in one of the nearest appropriate installations. "e.g. by rail or water" will be added to the end of point b. The Waste Sites Focused SA Objective 19 will also have "e.g. by rail or water" added to the end of point b. Also the following Sub – questions will be added: ▪ What are the potential opportunities for the movement of waste by rail or water routes. The documents that British Waterways requests be considered have been added to the Context Report (Update 3).

National Grid	No comment to make, but wish to be kept informed of progress on the MWDF.	/
Network Rail	No comment to make.	/
Safety in Waste and Rubbish Disposal (SWARD)	▪ We believe there is a need for a third column so that the Appraisal can show what answers to the questions are likely to qualify under the proposed assessment methodology, and thereby save time in assessment and adjudication later. ▪ An answer which highlights a problem should be expanded to	In reference to the proposed third column 'Guidelines for answers' the WPA welcomes SWARD's input and appreciates the time taken to coordinate such a detailed response. However the WPA are of the view that: (a) This report is part of a Sustainability Appraisal incorporating Strategic Environmental Assessment (SEA). Although it is considering sites, the level of assessment is supposed to be strategic and not at the same level of detail as an Environmental Impact Assessment (EIA) which may be required with a planning application for a facility. Clearly there is then another very detailed 'check' – a political decision on a planning application through a planning committee (or Secretary of State decision) as to the acceptability of sites or facilities. (b) Authorities with environmental responsibility in relation to the SEA Directive (i.e. Natural England, The Environment Agency and the Director of Public Health for Gloucestershire NHS Primary Care Trust) did not suggest that the sub-questions were not detailed enough. (c) As the scoring of sites in any future SA Report is likely to be undertaken by independent consultants – it will be up to them how they undertake the assessment (obviously following the SA Framework), but it is highly likely that they will answer the questions raised in the Guideline for answers. In theory the elimination of a problem is the ideal solution and

	show the measures to be taken in order to eliminate the problem. The Strategy should be firm in requiring the elimination of a problem, not just minimisation, as minimisation is not precise enough. Neighbours of a site will have a more stringent definition of "minimal" than operators of sites who may find their neighbours' definition of "minimal" in conflict with their profits. It is reasonable to expect one land use not to have any impact on a neighbouring land use (in this case usually farming and housing). It is best for the Appraisal to define what is regarded by neighbouring land uses as an acceptable minimum in the first place, to avoid conflict and waste of time later. Neighbours and operators alike then have the opportunity to present their cases in justification of their views.	with regards to waste it is clearly one that should be worked towards. But the reality of industrial societies mean that with along with 'modern' benefits there are also 'modern' problems that are not easily eradicated. Planning has to aim at striking a balance. The SA can make appraisals or assessments at a certain level but some detailed matters will have to be tested though other means such as Public Examination of Plans, EIA, Planning Committee / Secretary of State decision.
	▪ We have ventured to show some indications which may be appropriate for a third column. We accept that this Report is focused on the provision of waste sites over the next two decades, but what comes out loud and clear from the text is that not enough attention is being devoted to waste reduction i.e. designing products and packaging so that no residual material falls into the hands of consumers in the first place. Marks and Spencer have their Plan A which aims to send nothing to landfill by 2012, and leave nothing in their customers' hands to send to landfill either. This is very ambitious but is the correct approach and one which the County should be pressing much harder in the commercial sphere as well as the household sphere. The ultimate result, of course, is that the existing landfill capacity should serve for long beyond the next two decades, and without the need for expensive treatments such as incineration and MBT either. We believe the County is under heavy pressure from Government to choose what looks like a quick fix (with seductive PFI funds), but we believe that such a quick fix will burden future council taxpayers with heavy financial and	In many respects the WPA is in agreement with SWARD. Prevention and reduction of waste are at the top of the waste hierarchy and this hierarchy is central to the Waste Core Strategy and is reflected in broad SA Objective 14 and site SA Objective 20. The matters related to residual Municipal Solid Waste (MSW) and PFI funding are matters for the County Council's Waste Management Team. The WPA certainly agree that residual waste reduction is crucially important for all the reasons stated by SWARD.

	unproductive costs. We believe that the Council should press for more funding for waste reduction measures and research, so that less residual waste is manufactured and/or retailed in Gloucestershire. The likely benefits will contribute not only to lower costs but to less pollution from manufacture and transport, less congestion, leading to better air quality and reduced emissions, which in turn will contribute to climate change objectives. ▪ We have found the texts and figures on pages 50, 51 and 52 confusing to the lay mind. In one paragraph it is shown that the increase in annual waste arisings is predicted to be 3%, in another 1.6%. The table on page 52 suggests that the Council does not expect to reach its "recently raised to 70%" target for recycling by 2020. We suggest that this table should reflect that 70% target, and the target figures for the years preceding be geared appropriately. PFI funding should be sought to provide the extra machinery and staff required to increase kerbside collections, raise business awareness so that Gloucestershire manufacturers and retailers provide goods redesigned with waste reduction in mind, and provide <u>recyclable</u> packaging, and that at a minimum quantity, compatible with safety and ensuring the purpose of the goods is not jeopardised, and not exceeded just for marketing. Likewise, businesses and the public should be encouraged to demand from their suppliers the minimum material in goods and packaging which require disposal. It is good to see that the Council itself is ensuring that its own house will be in order (page 28). By so doing it will set an example to other businesses in the county that such targets can be achieved. ▪ There are some other elements in the Report which you may wish to consider. Page 36 - Public Rights of Way - Second paragraph. The omission of the Cotswold Way national trail seems strange. This could pose a	The text and figures referred to are from the Waste Core Strategy Preferred Options Technical Evidence Paper WCS-A Waste Data (September 2007). The 3% annual MSW arisings is an average trend over the past 5 years. The 1.6% figure is a prediction of the growth rate from 2006/07 to 2030/31 and it is a lower figure than the 3% recent trend because it factors in the collection of green waste, changes and improvements at HRCs, reduced residual collection, new recycling and composting schemes and household / population growth. In terms of the table on page 52 and the 70% target, we have recently confirmed with the Council's Waste Management Team that the <u>adopted</u> JMWMS targets are as follows: At least: ▪ 40% recycling and composting by 2009/10. ▪ 50% recycling and composting by 2014/15. ▪ 60% recycling and composting by 2019/21. (JMWMS T3 Recycling and Composting on Page 21). Questions on this and the points raised in relation to PFI funding, are welcomed, but they should be directed to the Council's Waste Management Team or DEFRA. We welcome SWARD's support for the Council's efforts to get its own house in order via its Corporate Climate Change Strategy.

	constraint the length of the county, on any selected scarp site, or just below it. ▪ If the Gloucestershire Way is considered national then it may be reasonable to consider others. ▪ For example, the Heart of England Way, Wychavon Way and Oxfordshire Way terminate/start in the county and link with Gloucestershire designated footpaths (e.g. Wardens' and Windrush Ways) effectively providing through routes with national connotations. The Monarch's and Macmillan Ways pass through. There could be many sites affected by all these. ▪ Perhaps you could summarise by substituting the Gloucestershire Way with something like: "There are many well-known and promoted medium distance paths in the County which connect with similar ones outside the county, producing effectively many recreational paths of national significance." ▪ Page 36. Landscape, Biodiversity and the Natural Environment. First paragraph. "…three distinct areas…" should perhaps be "…four distinct areas…", to include the Upper Thames Valley which, in fact, is dealt with as a separate area on the next page. ▪ Page 39. Typographical error. "Climactic" should be "Climatic".	The reference to 'The Gloucestershire Way' should read 'The Cotswold Way' – which is a National Trail. This will be altered. Appropriate changes made. Point taken that the Upper Thames Valley has a distinctive landscape. Typographical error corrected.
Stoke Orchard Parish Council	▪ 1) Page 15: under implications for plan suggest insert: "...the measures that can be taken to improve air quality, in particular, effective strategic site planning and control of localised waste odour, and strategic site vehicle movements." ▪ 2) Page 39: Local Air Quality	Noted: This has been added to the Context Report (Update 3).

	Management Areas in Gloucestershire. Suggest insert a paragraph: "Data from Environment Agency Pollution Control audits at key strategic waste sites in the county, clearly identifies the long term established locally negative impact that waste site activity is having upon air quality." ▪ 3) Page 57: To safeguard the amenity of local communities from the adverse impacts of waste development. Suggest insert a leading priority sub question as follows: "The practical limitations of the legal pollution control of strategic waste sites which concentrate on legal indicators and thresholds, means that in some instances, notably for example odour control, they have not effectively safeguarded local communities from disamenity. How can the SA through its strategic waste site operators and partners, become more effective in this respect?" May we hope that these suggestions will help to highlight local strategic waste site issues in the document, make it less sanitised, and then provide a basis for a document that acknowledges and addresses them with vigour.	In response to the comments from Stoke Orchard Parish Council, the Minerals & Waste Planning Policy Team recently requested information from the EA regarding air quality issues proximate to both the Grundon & Cory operated landfill sites in Bishops Cleeve. As the EA are the Waste Regulation Authority and thus the lead monitoring agency we have added a paragraph reflecting their response and their views under the Soil, Air & Water section of Section 7. Noted.
The Coal Authority	No comment to make, but wish to be kept informed of progress on the MWDF.	
Friends of the Earth Gloucestershire Network	Gloucestershire Friends of the Earth Network (GFOEN) wish to make the following observations with regard to the Sustainability Appraisal for the Waste Core Strategy. As stated in our conversation GFOEN are concerned that the Government Officers of the South West are unaware of the recent	The Minerals & Waste Planning Policy Team (in their role as the Waste Planning Authority) have been instructed by the WDA (reflecting the views of the Council's Cabinet) not to discount a dispersed strategy. This has been the approach taken. The net has been cast very widely in the search for sites. In the initial search the following have been

	decision taken by the Cabinet of the Gloucestershire County Council to consider in depth the option of small facilities on several sites around Gloucestershire. This option is often referred to as a dispersed option/solution and is referred to on Gloucestershire County Council recycling site as well as being referred to in correspondence to DEFRA with regard to the PFI Funding bid. GFOEN believe that it is important to make it clear in the Sustainability Appraisal that small sites under 50,000tpa are also under consideration as well as sites that are over 50,000 tpa. At the present time the current Waste Local Plan refers to local sites as sites under 50,000tpa and sites over 50,000 tpa as strategic sites. The reference in the Sustainability Strategy of looking at Strategic Sites only could be inferred to mean that the Gloucestershire County Council are ONLY looking at sites OVER 50,000 tpa and are excluding sites UNDER 50,000 tpa. from the planning context of the Waste Core Strategy. This could be easily corrected by a sentence stating that "The Gloucestershire County Council Sustainability Appraisal applies to local sites under 50,000 tpa and strategic sites over 50,000tpa."	included: - All the strategic sites in the adopted Waste Local Plan (2002-2012). - All the local sites in the adopted Waste Local Plan (2002-2012) that are over 2 ha and within the 16km radius from Cheltenham & Gloucester. This is a prudent and flexible approach, following guidance in PPS10 in relation to waste site selection and reflecting the views of the Council that final decisions have not been made in terms of sites and technologies.
Waste Disposal Authority	For SA Objective 1, Sub-question 1: add 'or if it is generated how will it be controlled'? For SA Objective 20 add the following Sub-question: 'What is the diversion from landfill?'	Noted: These have been added to the Context Report (Update 3).

The outcome of the information so far in this Section is that::

1. The 'strategy' element of DPDs e.g. The overall vision, the strategic objectives etc (as per Para 4.1 of PPS12 (July 2008) will be assessed using the following broad SA Objectives. See Appendix 5, 6 and 7 for more information about the evolution and development of these Objectives.

Table 36. Broad SA Objectives.

Broad SA Objectives
1. To promote sustainable development and sustainable communities in Gloucestershire giving people the

opportunity to live in an affordable and sustainably designed and constructed home.
2. To safeguard sites suitable for the location of waste management facilities, or future mineral development from other proposed development.
3. To protect and improve the health and well-being of people living and working in Gloucestershire as well as visitors to the county.
4. To promote education and economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.
5. To safeguard the amenity of local communities from the potential adverse impacts of minerals and waste development.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.
7. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.
8. To protect, conserve and enhance Gloucestershire's wildlife and natural environment – its landscape and biodiversity.
9. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets including its architectural and archaeological heritage.
10. To prevent flooding, in particular preventing inappropriate development in the floodplain and to ensure that development does not compromise sustainable sources of water supply.
11. To prevent the pollution of land, air and water in Gloucestershire and to apply the precautionary principle.
12. To reduce the adverse impacts of lorry traffic on communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels e) promoting the management of waste in one of the nearest appropriate installations.
13. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity.
14. To reduce waste to landfill and in dealing with all waste streams to actively promote the waste hierarchy (i.e. Prevent, Reduce, Reuse, Recycle, Recover, Dispose) to achieve the sustainable management of waste.
15. To reduce contributions to and to adapt to Climate Change.

2. Strategic Waste Sites will be assessed using the following Waste Site Focused Objectives:

Table 37. Waste Site Focused SA Objectives.

SA Objective:	**Sub-Questions:**
Social	
1. To promote sustainable development and sustainable communities and to protect and improve the health and well-being of people	▪ Will hazardous waste be reduced or if it is generated how will it be controlled?

living and working in Gloucestershire as well as visitors to the County.	▪ What are the potential health impacts on communities? ▪ What are the potential health impacts on the employees at the site or facility?
2. To educate the public about waste issues and to maximise community participation and access to waste services and facilities in Gloucestershire.	▪ Are there any groups who are particularly disadvantaged in terms of participation and access to waste services? ▪ Does the site option cater for future demographic changes and waste growth?
3. To safeguard the amenity of local communities from the adverse impacts of waste development.	▪ What are the impacts in terms of noise and vibration? ▪ What is the potential for significant problems with litter? ▪ To what extent are there potential landuse conflict issues? ▪ What is the potential for significant problems with vermin and birds? ▪ Are there any cumulative effects in terms of adverse impacts on environmental quality, social cohesion and inclusion or economic potential? ▪ Does the site provide opportunities for the co-location of complementary activities? ▪ Will fly tipping in the County increase?
Economic	
4. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	▪ Does the site present opportunities for spin off employment or other opportunities? ▪ Will the number of waste based Community or Social enterprises change as a result of the site option?
5. To manage waste in an economically sustainable way through means that represent good value for tax payers in Gloucestershire.	▪ What are the costs? ▪ Are there costs in the longer term that may not be obvious at the present time?
6. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	▪ How many new jobs are likely to be created? ▪ How far will employees have to travel to work? ▪ Are there opportunities for employees to use sustainable transport?

7. To ensure that waste sites do not compromise the safety of commercial or military aerodromes.	▪ Is the site close to an aerodrome or low flying area? ▪ Will the site attract large numbers of scavenging birds / gulls etc?
Environmental	
8. To protect, conserve and enhance biodiversity in Gloucestershire.	▪ What are the potential impacts on sites which are Internationally and Nationally designated and can adequate mitigation be provided? ▪ Are there any other potential significant impacts over and above the effects on designated sites - including on local sites, protected species and habitats and species of principle importance for biodiversity? ▪ What are the potential impacts on the Strategic Nature Areas as indicated on the Gloucestershire Nature Map? ▪ What potential is there for achieving biodiversity targets?
9. To protect, conserve and enhance the landscape in Gloucestershire.	▪ What are the impacts on AONB? ▪ What is the likely impact on specific landscape character as detailed in Gloucestershire's Landscape Character Assessment? ▪ What is the scope for landscape improvement / enhancement?
10. To ensure that waste sites have the potential for adequate screening and / or innovative design to be incorporated.	▪ Does the topography and setting naturally screen the site? ▪ What is the potential for design-led solutions?
11. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	▪ What are the likely impacts on material, cultural and recreational assets? ▪ Have any material assets been overlooked?
12. To protect conserve and enhance geodiversity in Gloucestershire.	▪ What if any are the likely impacts on geodiversity?
13. To protect conserve and enhance townscapes and Gloucestershire's architectural and archaeological heritage.	▪ What are the potential adverse effects on heritage sites of International importance and / or sites or buildings with a nationally recognised designation?
14. To prevent flooding, in particular preventing inappropriate development in the floodplain and	▪ Can the risk of flooding be minimised through site design?

to ensure that waste development does not compromise sustainable sources of water supply.	▪ Will surface water runoff be reduced? ▪ Is there the potential to enhance and restore the river corridor? ▪ Is there the potential to protect and promote areas for future flood alleviation schemes? ▪ Do proposals improve flood awareness and emergency planning? ▪ Has the PPS 25 Sequential Test been applied? (are there alternative sites at a lower risk of flooding?)
15. To prevent pollution and to apply the precautionary principle in consultation with waste regulation authorities.	▪ Is there a level of scientific uncertainty about risk such that the best available scientific advice cannot assess the risk with sufficient confidence to inform decision-making.
16. To protect and enhance soil / land quality in Gloucestershire.	▪ What is the landtake? ▪ Does the site suffer from potential land instability? ▪ Is the site previously developed? ▪ If the site is or was previously contaminated – is there the potential for effective remedial clean up?
17. To protect and enhance air quality in Gloucestershire.	▪ What is the proximity of sensitive receptors and to what extent can air emissions, including dust be controlled? ▪ What is the proximity of receptors sensitive to odours, and to what extent can odours be controlled.
18. To protect and enhance water quality in Gloucestershire.	▪ What is the proximity of vulnerable surface or groundwater? ▪ What are the impacts on water consumption?
19. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: **a) reducing the need to travel** **b) promoting more sustainable means of transport e.g. by rail or water** **c) sensitive lorry routing** **d) the use of sustainable alternative fuels** **e) promoting the management of waste in one of the nearest appropriate installations.**	▪ What is the capacity of the site and transport infrastructure to support the sustainable movement of waste and products arising from resource recovery? ▪ Will access be reliant on local roads? ▪ What are the potential opportunities for the movement of waste by rail or water routes.
20. To reduce waste to landfill and in dealing with	▪ What is the impact of any waste prevention and

all waste streams to actively promote the waste hierarchy (i.e. Prevent, Reduce, Reuse, Recycle, Recover, Dispose) to achieve the sustainable management of waste.	waste reduction activities? ▪ What are the levels of reuse, recycling (including composting) and recovery achieved by each site option? ▪ What is the diversion from landfill?
21. To reduce the global use of primary materials and minimise net energy balance requirements.	▪ What is the impact on total material requirement? ▪ What are the energy balance impacts?
22. To reduce contributions to and to adapt to Climate Change.	▪ To what extent does the site or facility offer the capacity for net electricity generation, community heating / combined heat and power or the production of waste derived biofuels / biogas? ▪ How flexible or adaptable is the site or facility in terms of a) adapting to Climate Change and b) using new technology as it develops?

Extensive technical evidence / data will be used in the compilation of SA Reports. This is data that has recently been gathered by GCC and / or by external consultants and agencies commissioned by GCC. This should greatly aid the assessment of sites through the SA process. The following are the areas for which technical data is available.

- Water Resources
- Flood Risk (through the Gloucestershire SFRA Level 1 and Level 2 work) and any other updates undertaken by the EA
- Contaminated Land
- Geodiversity
- Archaeology
- Ecology / Biodiversity
- Landscape
- Highways and access
- Public Rights of Way
- Proximity to Sensitive Receptors
- Residential Receptors
- Locational Context – including recent site photographs
- Green Belt
- Aerodrome Safeguarding
- Existing Planning Status
- Land Ownership

ARC GIS maps / layers are available for the majority of the above.

9. Next Steps

To date, the following SA Reports have been produced and consulted on:

- SA Report on Waste Minimisation in Development Projects SPD (2006)
- SA Report on Minerals Core Strategy Issues & Options (2006)
- SA Report on Minerals Core Strategy Preferred Options (2006)
- SA Report on Waste Core Strategy Issues & Options (2008)
- SA Report on Waste Core Strategy Preferred options (2008)

Further SA reports will be produced (using the updated SA Framework) for any future consultations on Minerals and Waste Core Strategies including for DPD Submission stage. See Appendix 1 for more details. SA is not a one-off process, it is iterative. The Framework needs to be kept under review and up-to-date so as to best inform plan making and guide the monitoring and implementation of polices. This has been the purpose of the various 'updates' to the original Context and Scoping Reports produced in 2005.

10. Further Information

1. Gloucestershire Minerals and Waste Development Framework

Please contact:
Kevin Phillips
Minerals and Waste Policy Team Leader

Telephone: 01452 427979
Email: kevin.phillips@gloucestershire.gov.uk

Information relating to adopted Minerals and Waste Local Plans and the emerging MWDF can be found at the following website:
http://www.gloucestershire.gov.uk/index.cfm?articleid=1405

2. Sustainability Appraisal

For further information relating to the development and implementation of the SA Framework please contact:
David Ingleby
Principal Planning Officer

Telephone: 01452 426338
Email: david.ingleby@gloucestershire.gov.uk

3. Useful guidance related to the SA Process

Department for Communities and Local Government (DCLG) http://www.communities.gov.uk/corporate/

On the above website the following useful document should be available:

- The SEA Directive: Guidance to Planning Authorities.
- ODPM (November 2005) Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks.
- Planning Policy Statement 12: Local Spatial Planning and further related info at:

www.pas.gov.uk/planmakingmanual

See also:
http://www.sea-info.net/

Appendix 1. Draft Minerals and Waste Development Timeframe (From: Minerals & Waste Development Scheme - October 2008)

2008			2009											2010												2011											
O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
MCS																									O										P			S	
BVPI 200b																									3										3			4	
MCS SA																									O										P			S	
BVPI 200b																									3										3			4	
WCS									O														P				S		M		E							A
BVPI 200b									3														3				4				5							6
WCS SA									O														P				S											
BVPI 200b									3														3				4											
Proposals Map																																						
AMR																																						
BVPI 200c7													7														7											7

DOCUMENT KEY:

MCS	Mineral Core Strategy DPD
WCS	Waste Core Strategy DPD
MWDS	Minerals & Waste Development Scheme
AMR	Annual (Minerals & Waste) Monitoring Report
(SA)	Accompanied Sustainability Appraisal Report

KEY MILESTONES (2008 PPS 12 milestones in bold):

C	**Consult statutory bodies on SA scope***
O	Public participation on Options
P	**Publication of proposed submission papers**
S	**Submission to Secretary of State**
M	Pre Examination Meeting
E	Independent Examination
A	**Document Adoption**

* The consultation with the statutory bodies on the scope of the SA was undertaken before the submission of this revised MWDS. See individual document profiles for details.

BEST VALUE PERFORMANCE INDICATOR (BVPI) MILESTONE STAGES KEY:

Note – These BVPIs have now been replaced but no relevant indicator exists fro the MWDS or for minerals & waste DPDs.

For BVPI 200b

2	Consultation with statutory bodies on scope of SA scoping report for SA Report
3	Pre submission stages & SA Report
4	Submission of DPD and SA Report
5	Independent Examination of DPD
6	Adoption of DPD

For BVPI 200c

7	Publish Annual Monitoring Report by 31st Dec each year

Appendix 2. Annual Monitoring Report (AMR) Objectives and Indicators

AMR Objectives: These are the same as the existing broad SA Objectives. ⬇
1. To promote sustainable development and sustainable communities in Gloucestershire giving people the opportunity to live in an affordable and sustainably designed and constructed home.
2. To safeguard sites suitable for the location of waste management facilities, or future mineral development from other proposed development.
3. To protect and improve the health and well-being of people living and working in Gloucestershire as well as visitors to the county.
4. To promote education and economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.
5. To safeguard the amenity of local communities from the potential adverse impacts of minerals and waste development.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.
7. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.
8. To protect, conserve and enhance Gloucestershire's wildlife and natural environment – its landscape and biodiversity.
9. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets including its architectural and archaeological heritage.
10. To prevent flooding, in particular preventing inappropriate development in the floodplain and to ensure that development does not compromise sustainable sources of water supply.
11. To prevent the pollution of land, air and water in Gloucestershire and to apply the precautionary principle.
12. To reduce the adverse impacts of lorry traffic on communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels e) promoting the management of waste in one of the nearest appropriate installations.
13. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity.
14. To reduce waste to landfill and in dealing with all waste streams to actively promote the waste hierarchy (i.e. Prevent, Reduce, Reuse, Recycle, Recover,

Dispose) to achieve the sustainable management of waste.
15. To reduce contributions to and to adapt to Climate Change.
Contextual Indicators (CIs): These are baseline facts about Gloucestershire, putting the County in context. ⬇
Indicators are grouped within the following categories: Geographic and Locational CIs, Mineral Reserves and Supplies CIs, Waste Management CIs, Spatial CIs – Employment, Spatial CIs – Transport, Spatial CIs – Growth, Spatial CIs – The Environment, Spatial CIs – Renewable Energy, Spatial CIs – Minerals & Waste Planning.
Output Indicators (OIs): Output Indicators aim to measure quantifiable impacts and events which are directly related to the delivery of minerals and waste policies and strategies. There are two types of output indicators 1. Core Output Indicators 2. Local Output Indicators. ⬇
Under AMR / SA Objective 1: ◆ Core Output Indicator – 1. Annual production of secondary / recycled aggregates. ◆ Local Output Indicator – 1. Number of *'Major Development'* applications that include a Waste Minimisation Statement as advised by the adopted WLP and the Adopted Supplementary Planning Document (SPD) for Waste Minimisation in Development Projects.
Under AMR / SA Objective 2: ◆ Core Output Indicator – / ◆ Local Output Indicators – 1. The number and % of minerals and waste developments permitted upon existing sites or Preferred Areas identified within the adopted Minerals and Waste Local Plans (MLP & WLP). 2. The number of non-minerals & waste developments permitted upon Preferred Areas identified within the adopted Minerals and Waste Local Plans (MLP & WLP). 3. The number of non-mineral applications determined for sites within the Mineral Consultation Area, which required a minerals consultation.
Under AMR / SA Objective 3: ◆ Core Output Indicator – / ◆ Local Output Indicator – 1. The number and % of all permitted minerals and waste applications that were for operational *'improvements'* to existing sites that would reduce the risk to public health. 2. The number and % of all minerals and waste refusals where public health concerns acted as part of the reason for refusal.
Under AMR / SA Objective 4: ◆ Core Output Indicator – / ◆ Local Output Indicator – 1. Annual production of non-aggregate stone. Annual production of natural building & roofing stone. 2. The non-aggregate reserves (excluding clay). 3. Annual clay production. 4. Clay reserves.
Under AMR / SA Objective 5: ◆ Core Output Indicator – / ◆ Local Output Indicator – 1. The number and % of minerals & waste permissions, which include conditions relating to noise, hours of operation and lighting. 2. The number and % of minerals and waste refusals where amenity was cited within the reason for refusal.
Under AMR / SA Objective 6: ◆ Core Output Indicator – 1. Annual production of primary land-won aggregates (crushed rock and sand & gravel). ◆ Local Output Indicator – 1. Annual production of crushed rock divided between the two resource mineral areas of Gloucestershire – Forest of Dean and the Cotswolds. 2. Aggregate reserves for crushed rock and sand and gravel.
Under AMR / SA Objective 7:

◆ Core Output Indicator – / ◆ Local Output Indicator – 1. Number of new minerals and waste management developments permitted during the monitoring period.
Under AMR / SA Objective 8: ◆ Core Output Indicator – / ◆ Local Output Indicator – 1. The number of minerals and waste proposals determined upon international, national and local environmental designations. 2. The number and % of minerals and waste refusals where environmental matters such as landscape or designated sites, were citied in the refusal reasons.
Under AMR / SA Objective 9: ◆ Core Output Indicator – / ◆ Local Output Indicator – / 1. The number and % of minerals & waste approvals that included conditions related to archaeology. 2. The number and % of minerals and waste refusals where archaeology was cited as a reason for refusal.
Under AMR / SA Objective 10: ◆ Core Output Indicator – / ◆ Local Output Indicator – 1. The number and % of minerals & waste permissions located upon designated floodplain land. 2. The number and % of minerals & waste refusals where the floodplain and safeguarding water supplies acted as part of the reason for the refusal.
Under AMR / SA Objective 11: ◆ Core Output Indicator – / ◆ Local Output Indicator – 1. The number and % of minerals & waste approvals that included conditions concerning air or water pollution control. 2. The number and % of all minerals & waste refusals where environmental protection acted as part of the reason for refusal.
Under AMR / SA Objective 12: ◆ Core Output Indicator – / ◆ Local Output Indicator – 1. The number and % of minerals & waste permissions that included one or more of the following highway conditions: restricted vehicle numbers, restricted tonnages, restricted routings and highway mitigation measures – the need for wheel washing, lorry sheeting etc. 2. The number and % of all minerals and waste refusals, where highways was citied as part of the reason for refusal.
Under AMR / SA Objective 13: ◆ Core Output Indicator – / ◆ Local Output Indicator – 1. The number and % of mineral permissions that include conditions concerning the delivery of mineral restoration schemes.
Under AMR / SA Objective 14: ◆ Core Output Indicator – 1. Annual capacity of waste management facilities by waste type. 2. Amount of municipal waste arising, and managed by management type and the percentage each management type represents of the waste managed. ◆ Local Output Indicator – /
Under AMR / SA Objective 15: ◆ Core Output Indicator – / ◆ Local Output Indicator – 1. Energy capacity in mega watts from landfill and the % this represents of total renewable energy capacity from Gloucestershire.

Appendix 3. Baseline Data

SEA Directive requirements in relation to baseline: The 'Environmental Report' required under the SEA Directive should include:
- "the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme"
- "the environmental characteristics of areas likely to be significantly affected" (Annex 1 (b) and (c))

Broad SA Objectives & related Waste Site Focused SA Objectives

U **Under investigation - no data at the present time**

Commentary (below) includes *'likely evolution without plan implementation'*
Quality of Data: 1 = high / 2 = medium / 3 = low

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
Broad SA Objective 1. *To promote sustainable development and sustainable communities in Gloucestershire giving people the opportunity to live in an affordable and sustainably designed and constructed home* ***Waste Site SA Objective 1.*** *To promote sustainable development and sustainable communities and to protect and improve the health and well-being of people living and working in Gloucestershire as well as visitors to the county*						
NEW HOMES BUILT ON PREVIOUSLY DEVELOPED LAND	76% of completions the period of 01.04.2005 to 31.03.2006 and 56% of commitments at 1.4.2006 in the County were on brownfield land as defined by PPG3. On average completions on brownfield land = nearly 75%, and commitments about 62%. Gloucestershire is achieving the government target of 60% of new housing provision on brownfield land by 2008. It exceeds the provisional	The Government target is 60% by 2008.	79% of completions 65% of commitments in 2002. 70% of completions 64% of commitments in 2001. 57% of completions 60% of commitments in 2000. A positive trend for Gloucestershire, but the averages conceal a wide variation among Districts.	The likely evolution without the plan implementation is unclear in relation to this indicator. However, it is clear that previously developed land is also favoured for some waste operations.	Gloucestershire Housing Monitor (2006).	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Regional target of 50%.					
NET BUILDING RATE	65.2% of the Gloucestershire Structure Plan target was built by the end of April 2006 (32,615 dwellings). For the County as a whole the average build rate (over the Plan period) is about 2,200 dwellings a year (Structure Plan target = 2,500).	/	The numbers of completions have been increasing over the last few years. The net building rate is likely to continue to increase as some large sites have been identified around the main urban areas of Gloucester and Cheltenham.	/	Gloucestershire Housing Monitor (2006).	1.
POPULATION & PROJECTED POPULATION GROWTH	County population of c.577,000 in 2008. The County population is projected to grow by about 30,000 between 2001 and 2026, an increase of 5.3%. Most of the increase in population has resulted from net in-migration, which has averaged at about 2,250 per annum since 1991.	South West = 5,124,100 for mid-2006, making up 10% of England's population. The South West's population is expected to grow by a further 16% between 2006 and 2029. The latest figures for population density (2005) are 212 people per square km, the lowest figure for any English Region.	c.6% population increase 1991-2003. c.16% increase expected between 2006 and 2029.	The likely evolution without the plan implementation is unclear in relation to projected population growth. Plans will have little or no influence on population increase, but will have to address the issues of more people creating more waste & demanding more resources and housing etc. (See Section 7 of this report for more information on RSS housing figures).	The Gloucestershire Story (2006) – produced by the Research Team Chief Executives Support Unit – GCC. South West data from: State of the South West (2008).	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
AVERAGE HOUSE PRICES	Gloucestershire = £212,623 in 2006.	UK = £193,421 in Q1 of 2006. UK = £232, 033 in Q3 of 2007. SW = £239,489 in Q3 of 2007.	SW = £61,007 in Q1 of 1992 to £239,489 in Q3 of 2007. From a peak in Q3 of 2007, prices have been falling steadily in England and Wales.	The likely evolution without the plan implementation is unclear, but without robust minerals and waste plans, building costs could increase should there be a shortfall in materials.	DCLG Housing Statistics (2008) – Source: Regulated Mortgage Survey.	1.
PROJECTED HOUSING NEED	37,350 additional houses required by 2026 based on population projections. The projections suggest that a total of 27,300 residential units would have to be built between 2001-2016. (Note: RSS dwelling numbers are available in Section 7 of this report).		Uneven distribution of housing need. Falling household sizes. Increasing rate of household formation.	Without mineral plan implementation it is possible that there could be a shortfall in construction materials for housing and infrastructure – or increased costs.	The Gloucestershire Story (2006) – produced by Research Team Chief Executives Support Unit – GCC.	1.
NUMBER OF UNFIT HOMES PER 1,000 DWELLINGS	Gloucestershire = 50.74.	England = 55.89.	No clear trend.	Unclear evolution without implementation of plans.	Audit Commission QOL Indicators.	2.
PROVISION OF 'AFFORDABLE' HOUSING UNITS	The definition of 'affordable housing' varies according to the assessment of need by the District concerned. It may include housing from both the social rented and low-cost market sectors. The figures below show the number of affordable dwellings (net) that were originally scheduled on sites that had not been	/	Gloucestershire capacity at 01.01.2001 = 1135. Net Completions in 2002 = 277. Gloucestershire capacity as of 01.04.2004 = 5916. Net Completions in 2003/4 = 473.	The likely evolution without the plan implementation is unclear, but without robust minerals and waste plans building costs could increase should there be a shortfall in materials.	Gloucestershire Housing Monitor (2007).	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	completed at 01.04.2007. <u>Cheltenham</u> Capacity at 01.04.2007 = 284. Completions in 2006/7 = 381. <u>Cotswold</u> Capacity at 01.04.2007 = 167. Completions in 2006/7 = 152. <u>Forest of Dean</u> Capacity at 01.04.2007 = 272. Completions in 2006/7 = 66. <u>Gloucester</u> Capacity at 01.04.2007 = 811. Completions in 2006/7 = 519. <u>Stroud</u> Capacity at 01.04.2007 = 563. Completions in 2006/7 = 112. <u>Tewkesbury</u> Capacity at 01.04.2007 = 358. Completions in 2006/7 = 246.					

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Gloucestershire = Capacity at 01.04.2007 = 2,455. Completions in 2006/7 = 1476.					
EARNINGS / HOUSE PRICE AFFORDABILITY RATIO	Since 2003 the property price to earnings ratio has remained fairly steady in Gloucestershire at 8-9 times the average (mean) earnings of local working residents. 2003 Cheltenham: 7.5 Cotswolds: 12.1 FoD: 8.2 Gloucester: 6.8 Stroud: 8.3 Tewkesbury: 7.3 2004 Cheltenham: 9.1 Cotswolds: 11.7 FoD: 8.0 Gloucester: 7.8 Stroud: 9.2 Tewkesbury: 8.4 2005 Cheltenham: 8.8 Cotswolds: 11.4 FoD: 8.0 Gloucester: 7.5 Stroud: 8.0 Tewkesbury: 7.8	UK Average in 2003 – Q4 = 4.2. 2007 – Q4 = 5.4.	▪ Houses becoming unaffordable to a greater proportion of the County's population – but a fall in house prices has been witnessed since 2007. ▪ In-migration acting as a possible price driver. ▪ Second (holiday) homes are also a possible price driver. ▪ The Cotswolds is one of the most expensive property areas in the UK.	The likely evolution without the plan implementation is unclear, but without robust minerals and waste plans building costs could increase should there be a shortfall in materials – this might increase house prices and thus have an impact on affordability.	The Gloucestershire Story (2006) – produced by Research Team Chief Executives Support Unit – GCC. UK figures from *Nationwide* 2008.	2.
AVERAGE WEEKLY EARNINGS	Gloucestershire = £468 (2007 figure).	UK = £436 (2008 figure).	An improving situation for Gloucestershire a	/	Gloucestershire First – Newsletter	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	This is a resident based gross figure.		whole, but not necessarily for the more deprived areas or districts.		43 – Spring 2008. Office of National Statistics 2008	
Broad SA Objective 2. *To safeguard sites suitable for the location of waste management facilities, or future mineral development from other proposed development* ***Waste Site SA Objective /.***						
STRATEGIC SITES (SCHEDULE 1) IN THE ADOPTED WASTE LOCAL PLAN	5 Strategic sites* and 1 site which is ancillary to a Strategic site. ▪ Wingmoor Farm West. ▪ Wingmoor Farm East. ▪ Sudmeadow – Hempstead. ▪ Moreton Valence Industrial Estate. ▪ Sharpness Docks. ▪ Netheridge (ancillary to Sharpness). *As a result of a Secretary of State Direction (October 2007) these sites are no longer 'saved' as part of the Development Plan. However they do have a degree of material weight.	/	Only 3 sites have current waste management operations: ▪ Wingmoor Farm West. ▪ Wingmoor Farm East. ▪ Sudmeadow – Hempstead.	Strategic waste sites are identified as appropriate for larger scale waste management facilities. Without plan implementation these sites may attract other forms of development to the detriment of sustainable waste management in the County.	Adopted Waste Local Plan (2004).	1.
LOCAL SITES (SCHEDULE 2) IN THE ADOPTED WASTE LOCAL PLAN	15 Local sites* in the Waste Local Plan. *As a result of a Secretary of State Direction (October 2007) these sites are no longer 'saved' as part of the Development Plan. However they do have a degree of material weight.		A trend in Gloucestershire is that increasingly proposals for waste management are not on preferred sites. In 2004 –2005 44 waste proposals were submitted / determined, only 6 (13.6%) were on WLP preferred sites. 29	Local waste sites are identified as appropriate for certain waste management facilities. Without plan implementation these sites may attract other forms of development to the	Adopted Waste Local Plan (2004). Minerals & Waste AMR (2004 – 2005). Minerals & Waste AMR (2006 –	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
			(66%) were existing waste facilities and 9 (20.4%) were new waste facilities. In 2006 – 2007 28% of the 25 permitted waste applications were in a Preferred area, 24% were new waste sites, 48% were on existing sites.* * (Excluding existing operations in Preferred Areas).	detriment of sustainable waste management in the County.	2007).	
PREFERRED AREAS IN THE ADOPTED MINERALS LOCAL PLAN	Stowe Hill / Clearwell (Crushed Rock – Forest of Dean) Drybrook (Crushed Rock - Forest of Dean) Stowfield (Crushed Rock Forest of Dean) Daglingworth (Crushed Rock - Cotswolds) Huntsman's (Crushed Rock – Cotswolds) Dryleaze Farm (Sand & Gravel) Cerney Wick (Sand & Gravel) Horcott / Lady Lamb Farm (Sand & Gravel) Kempsford / Whelford (Sand & Gravel).	/	The total estimated mineral yield for crushed rock from MLP preferred areas is 8mt. The total estimated mineral yield for sand and gravel from MLP preferred areas is 11.25mt. (See detailed caveats in AMR).	Without the implementation of the plan there are implications for meeting provision.	Adopted Minerals Local Plan (2003). Minerals & Waste AMR (2006 – 2007).	1.
THE NUMBER AND % OF MINERALS DEVELOPMENTS	2006 to 2007 - Preferred Areas = 3 permitted minerals developments	/	/	/	Minerals & Waste AMR (2006 – 2007).	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
PERMITTED ON EXISTING SITES / PREFERRED AREAS	(27%). Existing sites = 8 permitted minerals developments (63%).					
MINERAL CONSULTATION AREAS (MCAS) IN THE ADOPTED MINERALS LOCAL PLAN	Currently there is a MCA to safeguard the sand and gravel resources of the Upper Thames Valley.	/	Potential in the County for other MCAs to be defined and for the introduction of local Mineral Safeguarding Areas (MSAs)	Without the implementation of the plan there are implications for MCAs and MSAs.	Adopted Minerals Local Plan (2003). Minerals Core Strategy Preferred Options (January 2008).	1.
Broad SA Objective 3. *To protect and improve the health and well-being of people living and working in Gloucestershire as well as visitors to the county* ***Waste Site SA Objective 1.*** *To promote sustainable development and sustainable communities and to protect and improve the health and well-being of people living and working in Gloucestershire as well as visitors to the county*						
AVERAGE LIFE EXPECTANCY	National Indicator 2007 – figures for Gloucestershire: Male = 78.4 years. Female = 82.5 years.	In 2002/04, the South West had the highest life expectancy of all the English regions for women (80.9 years) and men (77.8 years). --- National Indicator 2007 – England <u>Male</u> Av = 77.3 Worst = 73.0. <u>Female</u> Av = 81.6 Worst = 78.3.	Life expectancy is increasing for both men and women in Gloucestershire and England.	/	Health Profile Gloucestershire APHO and Department of Health. © Crown Copyright 2008.	1.
CANCER DEATH RATES	Between 2000 and 2002 the 'all cancers' death rate per 100,000 in	SW: Cancers collectively accounted for	Upward trend in the Forest of Dean – see Column 2, but broadly	/	The Gloucestershire Story (2006) –	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Gloucestershire among under-75s has consistently been below the national rate. With the exception of the Forest of Dean, all districts have also been consistently below the national rate. The Forest has been above the national average since 2001 and has seen a steady climb in rates from 2002. Gloucestershire = 687 early deaths from cancer in 2007.	around 26% of deaths in the South West in 2004. However, the mortality rate for all cancers in the South West is lower than compared to England as a whole. Local value: 105.5 Eng Ave: 117.1 Eng Worst: 167.8 Directly age standardised rate/100,000 pop. Under 75 – 2004-2006.	Gloucestershire is following national trends in terms of improved health.		produced by Research Team Chief Executives Support Unit – GCC. South West data from: State of the South West (2007). Health Profile Gloucestershire APHO and Department of Health. © Crown Copyright 2008.	
EARLY DEATH RATES FROM HEART DISEASE AND STROKE	Gloucestershire = 452 early deaths in 2007.	Local value: 67.9 Eng Ave: 84.2 Eng Worst: 142.4 Directly age standardised rate/100,000 pop. Under 75 – 2004-2006.	Broadly Gloucestershire is following national trends in terms of improved health.	/	Health Profile Gloucestershire APHO and Department of Health. © Crown Copyright 2008.	1.
% OF PEOPLE DESCRIBING THEIR HEALTH AS NOT GOOD	42,743 of the County's population (568, 500 in mid 2003) - about 7% described their health as 'not good' over the 12 months leading	/	/		The Gloucestershire Story (2005) – produced by GCC	3.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	up to the 2001 Census night.				Environment Directorate Research Team.	
Broad SA Objective 4. *To promote education and economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds* ***Waste Site SA Objective 2.*** *To educate the public about waste issues and to maximise community participation and access to waste services and facilities in Gloucestershire* ***Waste Site SA Objective 4.*** *To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds* ***Waste Site SA Objective 5.*** *To manage waste in an economically sustainable way through means that represent good value for tax payers in Gloucestershire*						
GVA PER CAPITA	£15,940 per capita.	England £15,633. SW £14,286. 4th highest of SW NUTS areas.	51% increase 1995-2002. 43% increase England.	The likely evolution without the plan implementation is that there could be a negative impact on the economy. Minerals are needed by society for a variety of uses and waste needs to be efficiently managed and reduced.	The Gloucestershire Story (2005) – produced by GCC Environment Directorate Research Team.	3.
AVERAGE (MEAN) EARNINGS	Gloucestershire: 2003 = £21,229 2004 = £21,465 2005 = £23,665	UK: 2003 = £21,740 2004 = £22,711 2005 = £23,854	Gloucestershire getting closer to the national average. But variations between Districts: Gloucester City in 2005 = only £19,703.	Quarries and waste facilities / activities provide employment opportunities and 'spin-off' jobs e.g. in transportation.	The Gloucestershire Story (2006) – produced by Research Team Chief Executives Support Unit – GCC.	3.
INDICES OF DEPRIVATION IN GLOUCESTERSHIRE	The Indices of Deprivation (2007) are made up of 7 domains: Income; Employment; Health deprivation and	SW: There are 113 South West Lower Layer Super Output Areas (LSOA)	In 2004 six of Gloucestershire's Super Output Areas appeared in the national top 10% for	/	MAIDEN website (2008). South West Observatory website (2008).	3.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	disability; Education, skills and training deprivation; Barriers to Housing and Services; Crime and Living Environment. These are combined to give the Index of Multiple Deprivation. The ID2007 Super Output Areas in the national top 10 % are: - Podsmead, Matson, Robinswood, St Paul's, Westgate, Kingsholm and Wotton and St Mark's.	among the most deprived 10% in England in the IMD. These make up about 3.5% of the 3,226 LSOAs in the region and contain just under 179,000 people (also around 3.5% of the total).	multiple deprivation. Seven appeared in 2007 – so a worsening trend.			
% OF WORKFORCE WITH NVQ LEVEL 3 QUALIFICATION AND ABOVE	46%	SW: 43.5% E&W: 45.0%	/	/	Department for Education & Skills. www.dfes.gov.uk Available in Gloucestershire Brief.	2.
% OF WORKFORCE WITH NO ACADEMIC / VOCATIONAL OR PROFESSIONAL QUALIFICATIONS	8.2%	SW: 26.2% E&W: 29.1%	/	/	Department for Education & Skills. www.dfes.gov.uk Available in Gloucestershire Brief.	2.
PROPORTION OF STUDENTS ACHIEVING 5+ GCSES AT GRADE A - C	60.7%	3rd highest in SW Region England: 53.4%	Steady increase from 56.1% in 1999.	/	Department for Education & Skills. http://www.dfes.gov.uk/rsgateway/LEAS/916.shtml	2.
ACCESS TO RECYCLING & HOUSEHOLD WASTE RECYCLING FACILITIES	Clearly all the 6 Districts have household waste and kerbside recycling collected	With only 6, Gloucester City has a very low	Recycling rates are improving in the County, but there are	/	Recycle for Gloucestershire website 2008.	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	and paid for through Council Tax. <u>Cheltenham BC</u> HRCs = Swindon Road, Cheltenham. Recycling bring banks = 20 in total. <u>Cotswolds DC</u> HRCs = Fosse Cross - near Cirencester, Pyke Quarry – near Horsley, Shipston-on-Stour (in Warwickshire which Gloucestershire residents can use). Recycling bring banks = 42 in total. <u>Forest of Dean DC</u> HRCs = Oak Quarry near Coleford. Recycling bring banks = 38 in total. <u>Gloucester City</u> HRCs = Hempsted, Gloucester. Recycling bring banks = 6 in total. <u>Stroud DC</u> HRCs = Pyke Quarry – near Horsley. Recycling bring banks = 44 in total. <u>Tewkesbury BC</u>	number of recycling bring banks relative to other Districts.	major differences between Districts e.g. Gloucester City's 2007/08 recycling (including composting) rate is 25%. The figure for Cotswolds is 43%.			

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	HRCs = Wingmoor Farm, Bishops Cleeve. Horsley, Shipston-on-Stour (in Warwickshire which Gloucestershire residents can use). Recycling bring banks = 56 in total.					
Broad SA Objective 5. *To safeguard the amenity of local communities from the potential adverse impacts of minerals and waste development* ***Waste Site SA Objective 3.*** *To safeguard the amenity of local communities from the potential adverse impacts of waste development*						
NO. OF ADDRESS POINTS WITHIN 1 KM AND 2 KM OF PREFERRED MINERALS SITES	I KM = 2,346 Address Points. 2 KM = 10,102 Address Points.	/	/	/	Gloucestershire ArcMap GIS 2008.	/
NO. OF ADDRESS POINTS WITHIN 1 KM AND 2 KM OF PREFERRED WASTE SITES	1 KM = 27,567 Address Points. 2 KM = 10,102 Address Points.	/	/	/	Gloucestershire ArcMap GIS 2008.	/
ROADS WITH RESTRICTIONS	Cotswolds AONB Scheme The county has proposed placing night-time curfews and 7.5t weight restrictions on all minor roads within the AONB. The night-time ban will affect all roads in the AONB between 9pm and 5am, except for the	/	/	/	Gloucestershire LTP2.	/

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	A40 and A417 which are national through routes. The 7.5t restrictions will affect all unclassified and 'C' class roads as well as a number of 'B' class roads. Lorry Watch In Gloucestershire in 2003/4 there were 314 Lorry Watch sites observations processed by Trading Standards.					
NO. OF INQUIRIES / COMPLAINTS TO COUNTY COUNCIL ENFORCEMENT	In 2007: No. of complaints = 180. % resolved by end of year = 94%. % condition related = 56%. % related to other matters = 44%. % resulting in formal action = 0.6% (BCN, Enforcement Notice - Town and Country Planning Act 1990 definition) % resulting in action = 7% (BCN, EF, PCN, Stop Notice, Temp Stop Notice).	/	Number of complaints in 2004 = 197 – so a downward trend.	The purpose of minerals and waste plans is to make provision for needed materials and facilities, whilst protecting amenity and the environment. The likely evolution without the plan implementation is that problematic / illegal development will increase.	Gloucestershire County Council Enforcement Team Data (2004 and 2007).	1.
Broad SA Objective 6. *To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society* ***Waste Site SA Objective /.***						

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
CRUSHED ROCK LIMESTONE RESERVES & PRODUCTION	As at 01/01/2008 the countywide reserves of crushed rock limestone totalled 31.98 million tonnes. 17.76 million tonnes from the Forest of Dean and 14.01 million tonnes from the Cotswolds. See Section 7 for more details and methodology explanation.	/	Expected contribution to meet SW Regional apportionment will contribute to deplete reserves.	Without the plan implementation, there may be doubts over Gloucestershire's contributions to regional apportionment.	GCC Minerals & Waste Planning Policy Annual Minerals Survey 2008.	1.
SAND & GRAVEL RESERVES & PRODUCTION	As at 01/01/2008 reserves = 8.72 million tonnes. Sand & Gravel production in 2007 was 0.9 million tonnes up from 0.72 million tonnes in 2006.	/	/	Without the plan implementation, there may be doubts over Gloucestershire's ability to contribute to regional apportionment.	GCC Minerals & Waste Planning Policy Annual Minerals Survey 2008.	1.
ALL NON-AGGREGATE USES COTSWOLD LIMESTONE: RESERVES & PRODUCTION	As at 01/01/2008 reserves = 4.2 million tonnes. Building & Roofing Stone production/sales in 2007 = 68,846t.	/	/	Without the plan implementation, there may be doubts over the sustainable supply of building stone, essential for maintaining the local vernacular in e.g. Cotswold villages.	GCC Minerals & Waste Planning Policy Annual Minerals Survey 2008.	1.
ALL NON-AGGREGATE USES FOREST OF DEAN SANDSTONE & LIMESTONE: RESERVES & PRODUCTION	As at 01/01/2008 reserves = 2.84 million tonnes. Non-aggregate Forest of Dean sandstone production in 2007 = 7,800 tonnes.	/	/	Possible issues over supply / control of development.	GCC Minerals & Waste Planning Policy Annual Minerals Survey 2008.	1.
CLAY MINERALS RESERVES & PRODUCTION	As at the end of 2005 = 1mt (made up of clay and colliery shale).	/	/	Possible issues of supply / control of development.	GCC Minerals & Waste Planning Policy Annual Minerals Survey	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	As at the end of 2006 the figure was 0.86mt. Clay production in 2006 = 70,000t.				2008.	
Broad SA Objective 7. *To provide employment opportunities in both rural and urban areas of the county, promoting diversification in the economy* ***Waste Site SA Objective 6.*** *To provide employment opportunities in both rural and urban areas of the county, promoting diversification in the economy*						
UNEMPLOYMENT PERCENTAGE RATE	Gloucestershire: Aug 1998 = 2.4% Aug 1999 = 2.2% Aug 2000 = 2.0% Aug 2001 = 1.8% Aug 2002 = 1.9% Aug 2003 = 1.8% Aug 2004 = 1.5% Aug 2005 = 1.5%	Great Britain: Aug 1998 = 3.8% Aug 1999 = 3.5% Aug 2000 = 3.0% Aug 2001 = 2.6% Aug 2002 = 2.6% Aug 2003 = 2.5% Aug 2004 = 2.3% Aug 2005 = 2.4%	Positive downward trend in the County, below national rates.	Non – implementation of the plan may have an impact on minerals and waste related employment.	The Gloucestershire Story (2006) – produced by Research Team Chief Executives Support Unit – GCC.	3.
UNEMPLOYMENT TOTALS	Gloucestershire: Aug 1998 = 8,185 Aug 1999 = 7,612 Aug 2000 = 6,817 Aug 2001 = 6,264 Aug 2002 = 6,432 Aug 2003 = 6,104 Aug 2004 = 5,116 Aug 2005 = 5,353		Positive downward trend in the County, below national rates.	Non – implementation of the plan may have an impact on minerals and waste related employment.	The Gloucestershire Story (2006) – produced by Research Team Chief Executives Support Unit – GCC.	3.
WORKING AGE CLIENT GROUP – KEY BENEFIT CLAIMANTS	Gloucestershire figures for May 2007: Total claimants – 36,120 (10.3%) Job seekers – 5,470 (1.6%) Incapacity benefits – 18,170 (5.2%) Lone parents – 5,060 (1.4%) Carers – 2,610 (0.7%)	May 2007 Comparative % for SW and GB Total claimants – SW = 11.7%, GB = 14.2%. Job seekers – SW = 1.4%, GB = 2.3%. Incapacity	Positive trend? Certainly Gloucestershire's figures are better than the SW and GB in terms of this indicator.	Non – implementation of the plan may have an impact on minerals and waste related employment.	Labour Force Survey www.nomisweb.co.uk	3.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Others – 1,200 (0.3%) Disabled – 2,590 (0.7%) Bereaved – 1,030 (0.3%) % is a proportion of resident working age people.	benefits – SW = 6.3%, GB = 7.2%. Lone parents – SW = 1.5%, GB = 2.1. Carers – SW = 0.9%, GB = 1.0%. Others – SW = 0.4%, GB = 0.5%. Disabled – SW = 0.9%, GB = 0.9%. Bereaved – SW = 0.3%, GB = 0.3%.				
VAT REGISTERED BUSINESSES	Gloucestershire = 21,385 in 2003. 23,130 at end of 2006.	No figures for SW or GB.		Unclear.	Labour Force Survey www.nomisweb.co.uk	3.
EMPLOYMENT SOC 2000 MAJOR GROUP 8 - 9 **- PROCESS PLANT & MACHINE OPERATIVES** **- ELEMENTARY OCCUPATIONS**	April 2006 to March 2007 figures for Gloucestershire: Process and plant operative = 17,800 – that is 6.2% of all persons in employment.. Elementary occupations = 29,000 – that is 10.1% of all persons in employment.	SW: Process & plant = 6.5%. Elementary = 11.6%. GB: Process & plant = 7.2%. Elementary = 11.5%.		Unclear.	Labour Force Survey www.nomisweb.co.uk	3.
DISTRIBUTION OF EMPLOYEES IN THE ENVIRONMENTAL TECHNOLOGIES SECTOR	This sector comprises: Demolition / wrecking of buildings; earth moving; construction of water	/	The sector is small and the number of employees has declined at a higher	2,300 employees in this sector is not insignificant.	Gloucestershire Labour Market Information Unit	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
IN GLOUCESTERSHIRE	projects; insulation work activities; manufacture of non-domestic cooling, ventilation equipment; electricity distribution and control apparatus; recycling; sewage and refuse disposal; collection, purification and distribution of water; technical testing and analysis. The sector accounted for 2,300 employees in 2005 amounting to 0.9% of total employees in Gloucestershire which is comparable with the SW region and the UK The largest sub-sector, accounting for 43% of the sectors employees, comprises Sewage and refuse disposal etc and the collection, purification and distribution of water.		rate of 15% in Gloucestershire between 2001 and 2005 compared to 3.8% in the South West and 7.5% in Great Britain.			
EMPLOYEES IN WASTE / MINING / QUARRYING	Wholesale of waste and scrap Gloucestershire = 100 Sewage & refuse disposal / sanitation and other similar activities Gloucestershire = 900 Mining & quarrying Gloucestershire = 400	Wholesale of waste and scrap SW = 900 GB = 9,900 Sewage & refuse disposal / sanitation and other similar activities SW = 8,200 GB = 107,000 Mining & quarrying	Uncertain.	/	Source: 2006 Annual business inquiry employee analysis ONS Crown Copyright Reserved [from Nomis]	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
		SW = 4,600 GB = 56,700				
Broad SA Objective 8. *To protect, conserve and enhance Gloucestershire's wildlife and natural environment – its landscape and biodiversity* ***Waste Site SA Objective 8.*** *To protect, conserve and enhance biodiversity in Gloucestershire* ***Waste Site SA Objective 9.*** *To protect, conserve and enhance the landscape in Gloucestershire* ***Waste Site SA Objective 10.*** *To ensure that waste sites have the potential for adequate screening and / or innovative design to be incorporated*						
NUMBER OF SSSI	122 sites covering 8883 ha.	Almost one fifth of English SSSI are in the SW.	/	The purpose of minerals and waste plans is to provide for the needs of society (i.e. minerals which we all use, and facilities for the handling waste that we all produce). At the same time plans contain policies which protect sensitive environmental designations. Without these plans it is likely that environmental designations would be damaged by un-regulated development.	County Ecologist / English Nature (2008).	2.
% OF SSSI IN A GOOD / FAVOURABLE CONDITION	Gloucestershire: % Area meeting PSA target = 87.50 % Area favourable = 74.28 % Area unfavourable recovering = 13.22 % Area unfavourable no change = 7.78 % Area unfavourable declining = 4.72	England: % Area meeting PSA target = 80.06 % Area favourable = 45.01 % Area unfavourable recovering =	From the 1999 figures, it is anticipated that there will be a decline in the area in favourable condition as a result of more stringent assessment guidelines.	As above.	Natural England (2008).	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	% Area destroyed / part destroyed = 0.00	35.05 % Area unfavourable no change = 13.74 % Area unfavourable declining = 6.14 % Area destroyed / part destroyed = 0.06				

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
LANDSCAPE CHARACTER AREAS IN GLOUCESTERSHIRE	There are 33 Landscape Character Areas in Gloucestershire: 1. Wooded Valleys 2. Limestone Hills 3. Limestone Plateau 4. Wooded Scarp and Lower Scarp Slopes 5. Wooded Syncline and Settled Forest Margin 6. Unwooded Vale 7. Drained Riverine Farmland & Grazed Saltmarsh. 8. Littoral Sands and Rock Outcrops 9. Undulating Farmland 10. Ridges and Valleys 11. Wooded Hills. 12. Floodplain Farmland 13. Vale Hillocks 14. Low Hills and Orchards 15. Undulating Hill Farmland 16. River Meadows 17. Wooded Outlier 18. Settled Unwooded Vale 19. Farmed Slopes 20. Clay Vale 21. Broad Valley Floor Farmland 22. High Wold 23. High Wold Dipslope 24. Dip Slope Lowland 25. River Basin Lowland 26. Escarpment 27. Secluded Valleys 28. Escarpment Valleys 29 Low Sandstone Hills 30. Low Limestone Ridge 31. Gently Undulating Lowland Farmland 32. Low Wooded Hills 33.	/	/	Minerals and waste plans aim to provide for the needs of society (i.e. minerals which we all use, and facilities for the handling waste that we all produce). But in the process there may be damage to the landscape. But plans contain policies which aim to protect the landscape. Without these plans it is likely that environmental designations would be damaged by un-regulated development.	Gloucestershire Landscape Character Assessment (2006)	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Urban.					

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
GLOUCESTERSHIRE NATURE MAP'S STRATEGIC NATURE AREAS	167 Strategic Nature Areas (SNAs) identified in the County these fall within the four Natural Areas of: - the Forest of Dean - the Severn Vale - the Cotswolds - the Upper Thames The SNA habitats include: - Woodland - Unimproved Limestone Grassland - Unimproved Neutral Grassland - Lowland Wetland Grassland - Healthland / Acid Grassland.	Gloucestershire Nature Map is linked to the SW Nature Map in the RSS. BAP targets.	SNAs are identified against a background of climate change impacts and the decline of native flora and fauna.	/	Gloucestershire Biodiversity Partnership (2008)	2.
EXTENT OF AONB	Gloucestershire = 136,400ha. (51% of County). Cotswold AONB = 129,800 ha. Wye Valley = 5,900ha. Malvern Hills = 700ha.	UK: There were 41 AONBs in England and Wales, 37 in England (covering about 15% of land area), and four in Wales. This reduced to 36 AONBs in England following the de-designation of the South Hampshire Coast AONB when the New Forest National Park was	/	Minerals and waste plans provide for the needs of society (i.e. minerals which we all use, and facilities for handling waste that we all produce). But in the process there may be damage to designations. But plans contain policies which aim to protect them. Without these plans it is likely that environmental designations would be damaged by un-regulated development.	County Ecologist (Aug 2007). DEFRA (2008).	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
		established on 1 March 2005. Designation started with the Gower in Wales in 1956; the most recent addition was the Tamar Valley in 1995.				
CHANGE IN COUNTRYSIDE CHARACTER (% OF COUNTY AREA)	U.I Requires GIS Calculation.	U.I	U.I	U.I	English Nature 'State of the Countryside in the South West 2004.'	/
NATURE RESERVES	National Nature Reserves = 4. - Cotswolds Commons & Beechwoods. - Highbury Wood. - Lady Park Wood. - The Hudnalls. Local Nature Reserves = 10.	/	Area of Local Nature Reserves per 100 of population = Up from 0.2112 ha (1999). 0.4138 ha in (2003).	/	County Ecologist (2005 and 2008).	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
SOILS AT RISK	Soils in Gloucestershire listed as being vulnerable – with high or severe structural problems are: Sites on silstone and fine grained sandstone (Middle Lias) and (Triassic Landscapes). Such soils can be found in the far south west of the county, east of the River Severn, straddling the boundary with South Gloucestershire.	Nationally 2.3 million tonnes of agricultural soils was lost between 1995 and 1998 About 50% of all land in the South West is thought to be at risk and about 6 % of agricultural soils already suffer from erosion.	/	Plans should have policies to protect soils at risk. Without such policies soils may increasingly be eroded/damaged.	South West Observatory Environment Module. (Accessed 2008). National Soil Resources Institute (2003).	2.
AGRICULTURAL SOILS	There is no current data on the qualities of soils in Gloucestershire specifically related to agriculture. However the following percentages are available for better/free draining soils: ▪ Freely draining acid loamy soils over rock = 2.55% ▪ Freely draining floodplain soils = 0.36% ▪ Freely draining lime-rich loamy soils =18% ▪ Freely draining slightly acid but base-rich soils = 2.55% ▪ Freely draining slightly acid loamy soils =11% ▪ Freely draining slightly acid sandy soils = 0.73%	The South West is the largest, most rural and most agricultural region in England with almost 20% of the total number of agricultural hectares in England.	/	Plans should have policies to protect and preserve high quality agricultural soils. Without such policies these soils could potentially be damaged / removed / sterilised by other development.	South West Observatory Environment Module. (Accessed 2008). Data from GCC Archaeology supplied by Cranfield.	2.
INTERNATIONAL SITES PROTECTED UNDER THE HABITATS DIRECTIVE (92/43/EEC)	Special Areas of Conservation (SACs) = 7 (5,907ha). 1.Cotswold Beechwoods	In England there are currently 66 Ramsar sites (Area = 317,212).	/	Minerals & waste development may potentially damage sensitive sites which	County Ecologist (2008). Joint Nature	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	2.Dixton Wood 3.Rodborough Common 4.Wye Valley & Forest of Dean Bat Sites 5.River Wye Sites 6.Wye Valley Woodlands 7.Severn Estuary. RAMSAR = 2 (4,660ha). 1.Severn Estuary – (also designated in Gwent, Somerset & South Glamorgan) 2.Walmore Common.	In the UK there are currently = 146 Ramsar sites (Area = 782, 727). In England there are currently 228 SACs. UK = 608. (Figures as of 31st August 2007).		are protected by law. The plan should ensure that such sites are fully protected. Non – implementation of the plan may result in damage as a result of to un-regulated / un-controlled / un-planned development.	Conservation Committee (2007).	
SPECIES PROTECTED UNDER THE HABITATS DIRECTIVE (92/43/EEC)	Gloucestershire: - Otter – in reserves at Coombe Hill Meadows, Frome Banks, Greystones Farm. - Dormouse - are known to be present on at least 10 nature reserves. - Lesser Horseshoe Bat - Greater Horseshoe Bat - Pipistrelle Bat - Early Gentian (*Gentianella anglica)* recorded at Hornsleasow Roughs/Oldhill Plantation (Note: Early Gentian is on the waiting list in terms of the Vascular Plant Red Data List for Britain).	Otters in England between 2000 and 2002 a survey of 399 sites - 83% of which showed positive signs of otters (an increase of 24% since the last survey 1991 - 1994).	/	The same comments apply for species as for sites (above).	County Ecologist (2005). Gloucestershire Wildlife Trust. South West Observatory website (2005). Gloucestershire Environmental Data Unit (GEDU) (2005).	2.
NUMBER OF KEY WILDLIFE SITES & THEIR CONDITION	Key Wildlife Sites (KWS) = 755 (over 13,000ha) in Jan 2007.	Targets for biodiversity are in the County BAP.	KWS in 2005 = 696. KWS in 2007 = 755.	The same comments apply for Key Wildlife Sites as for Habitats	County Ecologist from Gloucestershire	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
			A positive upward trend in numbers – but limited figures regarding condition.	Directive Sites & Species.	Wildlife Trust (2007).	
SPECIES PROTECTED UNDER THE BIRDS DIRECTIVE (79/409/EEC)	Gloucestershire: e.g. Avocet Annex 1 and WCA Schedule 1 birds that have been recorded within the administrative boundary of Gloucestershire = more than 60 bird species. To be confirmed by GEDU.	/	/	The same comments apply for Species Protected under the Birds Directive as for Habitats Directive Sites & Species.	County Ecologist (2005).	1.
SITES PROTECTED UNDER THE BIRDS DIRECTIVE (79/409/EEC)	Special Protection Areas SPA / RAMSAR 1.Severn Estuary – (also designated in Gwent, Somerset & South Glamorgan) 2.Walmore Common.	July 2005 SPAs in England = 77. SPAs in UK = 247. August 2007 SPAs in England = 78. SPAs in UK = 253.	National trend = increase.	The same comments apply for Sites Protected under the Birds Directive as for Habitats Directive Sites & Species.	County Ecologist (2007). Joint Nature Conservation Committee (2007).	1.
DECLINING BIRD SPECIES	In the South West between 1994 and 2002: Farmland birds = down 9%, Woodland birds = little change. In the South West from 1979-2005: Starlings declined by 71%, House sparrow declined by 52%, Song thrush declined by 34%, Blackbirds declined by 31%.	Targets are contained in the County BAP.	Trend = A decline in certain species.	(The same comments apply as above).	Gloucestershire BAP.	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Farmland birds in Gloucestershire: Skylark, Grey Partridge, Corn Bunting, Linnet, Reed Bunting, Tree Sparrow, Bullfinch, Turtle Dove, Song Thrush and Lapwing have all declined in Gloucestershire, reflecting a national decline in numbers. Other species of birds that have suffered dramatic declines include: Bittern, Nightjar, Woodlark and Spotted flycatcher.					

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
REPORTED LEVELS OF DAMAGE TO DESIGNATED SITES / SPECIES DUE TO DEVELOPMENT RESULTING FROM THE PLAN	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	/	/
ACHIEVEMENT OF BAP TARGETS DUE TO DEVELOPMENT RESULTING FROM THE PLAN	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	/	/
ACHIEVEMENT OF 'ACCESSIBLE NATURAL GREENSPACE STANDARDS' DUE TO DEVELOPMENT RESULTING FROM THE PLAN	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring)	/	/
NUMBER / AREA OF LOCAL NATURE RESERVES RESULTING FROM THE PLAN	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	(Data to be added as a result of monitoring).	/	/
EXTENT OF OLD ORCHARDS AND THEIR CONDITION	Estimated 280ha (No data currently available regarding the specific condition of Old Orchards but this will be monitored).	75% of Gloucestershire's orchards have been lost in the past 50 years.	Loss has now stabilised, 3000 fruit trees planted since 1992. Old Orchards are a locally important feature of Gloucestershire's landscape and the county is a nationally important area for their conservation. 'Old Orchards' are	Old Orchards may potentially be damaged as a result of minerals and waste development, but plan should contain policies to protect them. With the non-implementation of plans further orchards may be lost	DEFRA Agricultural and Horticultural Census (2002) http://www.orchard-group.uklinux.net/glos/overview.html	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
			defined as follows: *"Sites with a continuous presence since before 1950 of fruit or nut trees on vigorous rootstocks and at traditional standard spacing, with a grass sward usually either grazed by livestock or cut for hay."*	or damaged due to un-regulated / un-controlled / un-planned development.		
Broad SA Objective 9. *To protect conserve and enhance Gloucestershire's material, cultural and recreational assets including its architectural and archaeological heritage* ***Waste Site SA Objective 7.*** *To ensure that waste sites do not compromise the safety of commercial or military aerodromes* ***Waste Site SA Objective 11.*** *To protect, conserve and enhance Gloucestershire's material, cultural and recreational assets* ***Waste Site SA Objective 12.*** *To protect, conserve and enhance geodiversity in Gloucestershire* ***Waste Site SA Objective 13.*** *To protect, conserve and enhance townscapes and Gloucestershire's architectural and archaeological heritage*						
NO. OF SCHEDULED ANCIENT MONUMENTS	Gloucestershire = 490.	In 2008 for the whole of the UK = c.18,000 SAMS with c.1,200 being added every year. Potential for about 30,000 as a final figure on the Register.	In 2005 - Gloucestershire had 496 SAMs covering 1536.79ha. 2008 = 490 SAMS.	Minerals and waste development may potentially damage SAMs, but policies should ensure their protection. Non – implementation of the plan may result in damage due to un-regulated / un-controlled / un-planned development.	County Archaeology (2005 and update in 2008) English Heritage website (2008)	1.
EXTENT OF CONSERVATION AREAS	In 2005 = 264 Conservation Areas Covering 6233ha.	/	/	The same comments for SAMs apply to Conservation Areas.	County Archaeology	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
NO. OF LISTED BUILDINGS	12,935 in 2008.	The SW has nearly one third of the country's listed buildings. England has 30,544 buildings or groups of buildings listed Grade I and II*	Upward trend: 12,860 in 2005 12,935 in 2008	The same comments for SAMs apply to Listed Buildings.	County Archaeology (2008) & English Heritage Buildings at Risk Register and website.	1.
NO. OF LISTED BUILDINGS ON THE 'AT RISK' REGISTER	There are 31 Grade 1 and Grade II* Listed Buildings in Gloucestershire on the English Heritage Buildings at Risk Register. Figures for Gloucestershire Districts on the number of listed buildings and structures 'at risk'. Gloucester: 47 of 700+ Listed Buildings. Cheltenham: 1 of 2,602 Listed Buildings. Stroud: [No data as yet]. Forest of Dean: 27 of (unknown) Listed Buildings. Tewkesbury: 208 of 1,800+ Listed Buildings. Cotswold: 196 of 6,496 Listed Structures.	There are currently 149 entries in the SW (2007). In England 3.2% of Grade I and II* list entries – 1 in 30 – remain at risk of loss through neglect and decay. 1.9 – 2.4% at risk in the South West.	A probable negative trend i.e. more Listed Buildings are falling into the 'at risk' category.	The same comments for SAMs apply to Listed Buildings at risk.	English Heritage Buildings at Risk Register (2005 and 2007)	1.
LOCAL ARCHAEOLOGICAL SITES	27,954 sites listed in the SMR (05/2005).	/	/	The same comments for SAMs apply to Locally Important Archaeological Sites.	County Archaeology (2008).	1.
NO. OF PUBLIC RIGHTS OF	Approx 16,000 paths	/	/	PROW, or the	PROW,	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
WAY (PROW)	making up 9662 PROW.			public's enjoyment of them, may be lost or damaged as a result of minerals and waste development. But plan policies should afford them protection. Thus the non-implementation of plans may lead to damage to PROW as a result of un-regulated development.	Environment Dept, Gloucestershire County Council.	
PROW (MILES)	3397 miles in Gloucestershire.	/	/	(As above).	PROW, Environment Dept, Gloucestershire County Council.	2.
COMMERCIAL & MILITARY AERODROMES	▪ Gloucestershire Airport. ▪ Kemple Airport. ▪ RAF Fairford. ▪ RAF South Cerney. ▪ Little Rissington Airfield. ▪ Brize Norton (Oxfordshire) affecting.	/	/	/	GCC info & maps from MoD re: safeguarding areas (2008).	2.
WORKFORCE EMPLOYED IN LEISURE & TOURISM AND CONTIBUTION OF TOURISM TO THE LOCAL ECONOMY	In 2003, tourism accounted for 14 million visitor trips, 6.5 million visitor nights and about £914 million in spending. In 2005, directly and indirectly c.27,100 were employed in leisure and	In terms of tourism, the South West in 2005 attracted 21.25 million domestic visitors from the UK (UK Tourism Survey) and 2.1	Despite decrease in the number of employees in the leisure and tourism sector between 2004 and 2005 the trend over the last 5 years shows a 10% growth which is higher than the 6.2% and	Tourist assets may be damaged by minerals and waste development. But, as in the case of the Cotswolds Water Park, new opportunities can also be created.	Gloucestershire First – Investor Support Programme. Revised Report on Leisure & Tourism. (January 2006).	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	tourism in Gloucestershire = c.10.6% of the total employees.	million visitors from overseas (International Passenger Survey) together spending £4.7 billion, (UK Tourism survey).	6.4% shown by the SW and nationally.	Plans should aim to protect tourist assets. If plans are not implemented un-regulated development may have detrimental impacts.	The Economy of Gloucestershire 2006/7 – Chapter 3: Employment and Industrial Structure (GLMIU). State of the South West (2007).	
Broad SA Objective 10. *To prevent flooding, in particular preventing inappropriate development in the floodplain and to ensure that development does not compromise sustainable sources of water supply* ***Waste Site SA Objective 14.*** *To prevent flooding, in particular preventing inappropriate development in the floodplain and to ensure that waste development does not compromise sustainable sources of water supply*						
FLOODING & NUMBERS OF PROPERTIES AT RISK	Damage caused by summer 2007 flood events = 5,000 homes and businesses were flooded and many communities cut off. 200 people had to be rescued by boat, helicopter or land rescues. Electricity was lost to 48,000 homes for two days, and the whole county came close to having no power at all. Over half the homes in	/	The most recent serious floods prior to 2007 were in 2000, it is likely that as a result of climate change flooding will be an increasing problem in the County affecting more people.	Without the implementation of the plan and adherence in the plan making process to the SFRA, there is the possibility that waste development in particular could be inappropriately located.	Gloucestershire County Council (2008).	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Gloucestershire and 7,500 businesses were without any mains water for up to 12 days - and 17 days for drinking water. Across the County, 825 homes have had to be evacuated, resulting in approximately 1,950 people (including 490 children) seeking temporary accommodation. Widespread damage to highways infrastructure costing £25 million to repair. 20 schools damaged by flooding. 10,000 people stranded on the M5 motorway on 20th July. Flooded rail network leaving 500 rail commuters stranded at Gloucester. Flood damage has resulted in the need to replace 1,030 fridges, 1,252 cookers and 1,200 washing machines. <u>July 2007 Properties affected by flooding</u>					

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	1,831+ in Tewkesbury Borough 965+ in Gloucester City 623+ in Cheltenham Borough 900+ in Cotswold District 200+ in Stroud District 93+ in Forest of Dean District 500+ Businesses flooded including 175 farms 84 shops 60 factories 64 leisure/tourism					

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
MAIN WATER SUPPLIERS IN GLOUCESTERSHIRE	Most of the County is supplied by Severn Trent Water. The following areas are supplied by Thames water: Cirencester, Burford, Stow on the Wold, Kineton, Withington, Sapperton, Rodmarton or Kemble. The Tetbury area is supplied by Bristol Water.	/	/	/	Gloucestershire County Council – People & Community webpage.	/
RIVERS IN GLOUCESTERSHIRE	Gloucestershire has around 690km of rivers. Cotswolds: Rivers: Churn, Coln, Windrush, Dikler, Eye, Sherborne Brook, Leach, Evenlode; (Upper Thames catchment) Frome, Slad Brook, Painswick Brook, Isbourne (Lower Severn Catchment) Thames and Avon Vales: Rivers: Thames, Coln, Churn, Ampney Brook (Upper Thames Catchment) Severn and Avon Vales: Rivers: Severn, Avon, Cam, Wicksters Brook, Little Avon River, Swilgate, Leadon, Chelt (Lower Severn Catchment). Dean Plateau and Wye Valley: Rivers: Wye; (several smaller brooks such as Cinderford Brook, Cannop	Gloucestershire has 11% of the total rivers in the South West.	/	/	Gloucestershire Biodiversity Partnership (2005) http://www.swbiodiversity.org.uk/Habitats/Rivers/Rivers_glouc.htm	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Brook and Ell Brook drain the central Dean plateau and flow into the Wye or the Severn).					
Broad SA Objective 11. *To prevent the pollution of land, air and water in Gloucestershire and to apply the precautionary principle* ***Waste Site SA Objective 15.*** *To prevent pollution and to apply the precautionary principle in consultation with waste regulation authorities* ***Waste Site SA Objective 16.*** *To protect and enhance soil / land quality in Gloucestershire* ***Waste Site SA Objective 17.*** *To protect and enhance air quality in Gloucestershire* ***Waste Site SA Objective 18.*** *To protect and enhance water quality in Gloucestershire*						
RECORDED 1 & 2 LEVEL OF POLLUTION INCIDENTS AFFECTING AIR, LAND OR WATER	No figures specifically relating to Gloucestershire but (at least) 1 serous incident in September 2006 = Chemical fire in Andoversford area in Cheltenham. January 2004 Explosion at Lithium battery factory in Tewkesbury. November 2000 – serious fire at CSG waste transfer station in Sandhurst Lane Gloucester.	England & Wales: 2004: 114 Category 1 incidents - an increase of almost 18% or 20 incidents on 2003). 594 Category 2 (a decrease of around 14% or 685 incidents on 2003). SW: 2004: 11 Category 1 incidents & 69 Category 2 incidents.	Trend for the SW: Total substantiated pollution incidents in the SW have declined over the last few years. By 19.5% between 2001 and 2004. 11 of these incidents caused major harm to the environment in 2004, and increase from 3 in 2003. The number of pollution incidents caused by agriculture has steadily decreased (by 33% between 2001 & 2004). Water industry and domestic/residential incidents both showed small increases in 2003 but reduced in 2004.	Minerals & waste development needs to be carefully controlled and regulated. People and the environment need to be protected from potential pollution incidents. Without plan implementation minerals and waste development may not be appropriately located, regulated or controlled.	State of the Environment in the South West (2005 and 2006) Environment Agency.	2.
LEVEL 1 & 2 POLLUTION INCIDENTS ARISING FROM WASTE MANAGEMENT FACILITIES	No figures specifically relating to Gloucestershire. but see above CSG Category 1 incident.	SW: 2004: Origin of Category 1 incidents:	/	As above.	State of the Environment in the South West (2005 / 2006)	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
		▪ Agriculture: 3 ▪ Domestic / residential: 2 ▪ Manufacturing: 3 ▪ Waste management: 1 ▪ Not Specific: 2			Environment Agency.	
% OF RIVERS OF GOOD BIOLOGICAL QUALITY	Biological river water quality in Gloucestershire has been consistently excellent, with 98.45% falling into the good or fair category in 2006. This reveals an increase of 2.57 percentage points on 1990 and 1 percentage point on 2005. 73.89% of all rivers monitored within the county had good water quality in 2006, the highest yet recorded. This marks an improvement of 5.48 percentage points on 1990 and 5.36 percentage points on 2005. There have been no incidences of bad water quality in the county since 1995, however, 1.54% of all monitored waters in the county were of poor quality. This shows an improvement of 2.42 percentage points on 1990 and 1 percentage point on	In 2006, 98.91% of all monitored rivers in the South West has good or fair water quality, this was considerably higher than the mean of 94.45% for England and Wales.	A positive trend – see figures for Gloucestershire.	As above.	State of the Environment in the South West (2007) Environment Agency.	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	2005.					
% OF RIVERS OF GOOD CHEMICAL QUALITY	Chemical river water quality is consistently excellent in Gloucestershire, with 97.98% of rivers falling in the good or fair category in 2006, a increase of over 9 percentage points on 1990 and 0.8 percentage points on 2005. 74.72% of all rivers monitored within the county in 2006 were of good water quality in 2006. Although this was 15.7 percentage points lower than the peak of between 2001 and 2004, it was 5 percentage points higher than in 2005. There have been no incidences of bad water quality in the county since 2003. Just 2.02% of all rivers in 2006 were of poor quality, an improvement of 7.7 percentage points on 1990 and 4.28 percentage points on 2005.	In 2006, 97.14% of all monitored rivers in the South West had good or fair water quality, this was considerably higher than the mean of 91.96% for England and Wales.	A positive trend – see figures for Gloucestershire.	As above.	State of the Environment in the South West (2007) Environment Agency.	2.
FLYTIPPING INCIDENTS	The combined figures for the 6 Districts in Gloucestershire April 2004 – December 2005: Total Sum of Single Item Incidents = 1056 Total Sum of Car Boot or Less Incidents = 1557	April 2004 to March 2005 = on average over 88,500 fly tipping incidents were reported every month in England.	A total of 36,902 fly-tipping incidents were dealt with by LAs in the South West region between April 2006 and March 2007. This is a 14% increase from 2005-2006.	Without an effective and sustainable network of waste management facilities in the County it is likely that flytipping incidents will increase in number –	Flycapture Database Environment Agency (2006). South West Regional Observatory	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Total Sum of Small Van Load Incidents = 2628 Total Sum of Transit Van Load Incidents = 1464 Total Sum of Tipper Lorry Load Incidents = 1204 Total Sum of Significant Multiload Incidents = 47	April 2004 to March 2005 = 30,000 flytipping incidents were reported in the South West.	• Estimated clearance costs of illegally dumped waste in the South West region between April 2006 and March 2007 are shown to be £1.9 million. • 63% of recorded incidents in the South West region occurred on the highway and 18% on council land. • 55% of fly-tips dealt with by LAs in the South West region involved household waste (recorded under the two Flycapture categories household blackbag and other household waste).	particularly as the cost of waste management (and landfill in particular) increases.	(2005). South West Flycapture Results (April 2006 – March 2007).	

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
AIR QUALITY IN GLOUCESTERSHIRE	Gloucestershire Local Authorities: Averaged $N0^2$ background concentration for 2005: ▪ Gloucester: 22.6 ▪ Cheltenham: 19.5 ▪ Tewkesbury: 14.6 ▪ Stroud: 12.9 ▪ Cotswold: 12.8 ▪ Forest of Dean: 10.5 Particularly poor areas in Gloucester (subject to an air quality management area order) are Barton St. and Priory Rd.	SW: 2004 = a below average number of poor air quality days in all of its representative urban sites but an above average record in Yarner Wood - one of the representative rural sites. --------- Requirements / targets under local air quality management timetable: April 2006 = Updating & screening assessment for all Authorities. 2008 = Annual progress report for all Authorities.	A mixed picture in terms of improvements. Strong link with levels of traffic and traffic 'hotspots'.	There is the potential for air pollution to become an increasingly serious problem – particularly as it is linked to increasing traffic levels. Increasingly warm summers are also an important consideration.	Appendix F – Air Quality Management – Gloucestershire Local Transport Plan 2001/2002 – 2005/2006. South West Regional Observatory Website.	1.
AIR QUALITY & WASTE MANAGEMENT FACILITIES	Waste Core Strategy stakeholders have raised the issue of the problem of air quality, particularly close to landfill sites. In terms of the landfill sites at Wingmoor Farm – Bishops Cleeve there is a regular trend in complaints to the EA but they are of the opinion that from their	/			The Environment Agency June/July 2008. GCC Monitoring & Enforcement Data October 2007 to October 2008.	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	monitoring there is not an established air quality problem. (See Appendix 7 of this report). In terms of odour related complaints to GCC Monitoring & Enforcement from October 2007 to October 2008: In total 8 waste related complaints and 7 of these related to odour or methane.					
Broad SA Objective 12. *To reduce the adverse impacts of lorry traffic on communities, through means such as: a) reducing the need to travel, b) promoting more sustainable means of transport, c) sensitive lorry routing, d) the use of sustainable alternative fuels e) promoting the management of waste in one of the nearest appropriate installations* ***Waste Site SA Objective 19.*** *To reduce the adverse impacts of lorry traffic on communities, through means such as: a) reducing the need to travel, b) promoting more sustainable means of transport e.g. by rail or water, c) sensitive lorry routing, d) the use of sustainable alternative fuels e) promoting the management of waste in one of the nearest appropriate installations*						
NO. OF REGISTRATIONS OF 28T TRUCKS OR OVER	No data currently available for Gloucestershire. U.I	(2003 – 2004) Western Area = 14,730. Nationally = 102,946. 105,000 registrations of 28T trucks at the end of 2003 in the UK.	Nationally there has been a 14% increase in trucks over 28T since 1994.	Minerals & waste sites generate significant lorry movements. Without plan implementation these movements may not be appropriately planned regulated or controlled.	Western Traffic Area Traffic Commissioners website. Transport Statistics Great Britain 2004 (DfT).	2.
NO. OF MOVEMENTS ON COUNTY ROADS (BY VEHICLE TYPE AND ROAD TYPE)	U.I	U.I	U.I	U.I	/	/
GLOUCESTERSHIRE	Gloucestershire: 2004 =	Nationally, total	1994 = 4,815 / 1995 =	Minerals & waste	DfT National	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
MILLION VEHICLE KMS	5,941.	road traffic volume in 2003 was estimated to be 20% higher than in 1990 and 7% higher than in 1998. It has more then doubled since 1970.	4,941 / 1996 = 5,127 / 1997 = 5,234 / 1998 = 5,307 / 1999 = 5,509 / 2000 = 5,561 / 2001 = 5,644 / 2002 = 5,741 / 2003 = 5,844 / A clear trend in increasing vehicle Kms in the County.	sites generate significant lorry & other vehicle movements. Without plan implementation these movements may not be appropriately planned regulated or controlled.	Road Traffic Survey. Sustainable Development Indicators 2004 – National Statistics.	
HGV 24 HOUR WORK DAY FLOWS IN GLOUCESTERSHIRE	The busiest routes in the County with over 1000 HGVs in a 24 hour working day are, sections of the: A40 A417 M50 M5 A46 A438 A435 A4311.	/	No trend figures but a high likelihood of increasingly large HGV flows in line with the above indicator.	Minerals & waste sites generate significant lorry & other vehicle movements. Without plan implementation these movements may not be appropriately planned regulated or controlled.	Gloucestershire Local Transport Plan 2001/2002 – 2005/2006.	2.
PROXIMITY OF HGV GENERATORS TO LOCAL VILLAGES	For more information see Gloucestershire Advisory Freight Route Map pages 6 & 7 and Appendix 2 of Minerals & Waste Core Strategies Joint Technical Evidence Paper WCS-MCS1 Transport.	/	/	/	Gloucestershire Freight Quality Partnership & Gloucestershire LTP2.	2.
USE OF SUSTAINABLE ALTERNATIVE FUELS	As yet no figures available for Gloucestershire, but it is likely that their use is currently very limited.	EU Directive 2003/30/EC 'The Biofuels Directive' came into force in Dec 2004 with the objective of 20% substitution in	No current trend and some contention about the environmental benefits of biofuels.	/	EU Directive 2003/30/EC.	/

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
		road transport by 2020. Targets for 2005 = 2% and 2010 = 5.75%.				
WATER NETWORK IN GLOUCESTERSHIRE	Canals & navigable waterways = The River Severn, the Gloucester – Sharpness Canal, parts of the Cotswold Canals & Thames and Severn Canal. Docks = Gloucester Docks and Sharpness Docks. Wharfs = Reclaimed Canal Land – Netheridge, Bristol Road, Gloucester. For more information see text and map of transport infrastructure in Section 7 of this report.	/	/	/	Minerals & Waste Core Strategies Joint Technical Evidence Paper WCS-MCS1 Transport (2008).	2.
RAIL NETWORK IN GLOUCESTERSHIRE	See text and map of transport infrastructure in Section 7 of this report.	/	/	/	Minerals & Waste Core Strategies Joint Technical Evidence Paper WCS-MCS1 Transport (2008).	2.
Broad SA Objective 13. *To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity*						
NO. OF MINERAL SITES WITH COMPREHENSIVE RESTORATION PLANS	U.I	U.I	U.I	U.I	/	/
EXTENT (HA) OF SITES RESTORED AFTER USE	U.I	U.I	U.I	U.I	/	/

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
Broad SA Objective 14. *To reduce waste to landfill and in dealing with all waste streams to actively promote the waste hierarchy (i.e. Prevent, Reduce, Reuse, Recycle, Recover, Dispose) to achieve the sustainable management of waste* ***Waste Site SA Objective 20.*** *To reduce waste to landfill and in dealing with all waste streams to actively promote the waste hierarchy (i.e. Prevent, Reduce, Reuse, Recycle, Recover, Dispose) to achieve the sustainable management of waste*						

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
TOTAL MUNICIPAL SOLID WASTE ARISINGS (MSW)	2007 / 2008 = 323,000 tonnes (rounded up from 322,796).	SW: in 2006 / 2007 all municipal waste = 2.97 million tonnes. UK: in 2006 / 2007 – all Municipal waste = 29.1 million tonnes. The total amount of collected municipal waste has increased to an estimated 29.1 million tonnes in England in 2006/2007 compared to 28.7 million tonnes in 2005/2006, an increase of 1.4%. The average annual increase in municipal waste from 2001/2002 to 2006/2007 was 0.2%.	In Gloucestershire - a steady rise equating to a 35% increase since 1994. 309,000 tonnes in 2004 / 2005. 312,000 tonnes in 2005 / 2006. 324,000 tonnes in 2006 / 2007.	Everyone produces waste and there is a need for it to be effectively managed. Without the implementation of the plan the effective management of waste in the County would be compromised.	Gloucestershire figures from County Council Waste Management (2008) Regional data from: State of the Environment in the South West (2007) Environment Agency.	1.
MSW GROWTH	3% annual MSW arisings is the average trend over the past 5 years. 1.6% was* the predicted growth rate from 2006/07 to 2030/31. It is a lower figure than the 3%	SW: in 2006 / 2007 all Municipal waste Increased by 1%.	1.6% per year was average growth rate. This figure is being revised (November 2008).	As above.	Gloucestershire figures from County Council Waste Management in Waste Core	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	recent trend because it factors in the collection of green waste, changes and improvements at HRCs, reduced residual collection, new recycling and composting schemes and household / population growth. *The WDA are currently undertaking new modelling so this rate may be revised. (November 2008).	UK: in 2006 / 2007 – all Municipal waste increase of 1.4%.			Strategy Technical Paper WCS-A Waste Data (Sept 2007). Regional data from: State of the Environment in the South West (2007) Environment Agency.	
% OF WASTE RECYCLED / COMPOSED IN GLOUCESTERSHIRE	Figures for 2007 / 2008: Cheltenham BC = 31% Cotswold DC = 43% Forest of Dean DC = 38% Gloucester City = 25% Stroud DC = 26% Tewkesbury BC = 29% HRCs = 55% County = 36%.	The BVPI Recycling Targets for 2007/08 = Cheltenham BC = 24% Cotswold DC = 30% Forest of Dean DC = 30% Gloucester City = 20% Stroud DC = 30% Tewkesbury BC = 21% County = 30%.	Positive trend in terms of Gloucestershire's composting and recycling rates: 2004 / 2005 = 26% 2005 / 2006 = 30% 2006 / 2007 = 32% 2007 / 2008 = 36%	Everyone produces waste and there is a need for it to be effectively managed. In the event of the non-implementation of the plan this effective management would be less likely.	Figures from County Council Waste Management (2008).	1.
% OF SUBMISSION OF WASTE MINIMISATION STATEMENTS AS PART OF 'MAJOR' PLANNING APPLICATIONS	Only 6 Waste Minimisation Statements received for a total of 286 'major development' applications. Note: Some applications may have included information on waste minimisation in	Target: To obtain 100% submission of Waste Minimisation statements as part of 'Major' planning applications by	No trend data. The ODPM's Development Control Statistics for England, define 'major' development by site size. For residential developments, a major	In the event of the non-implementation of the plan more primary materials and resources will be wasted.	Gloucestershire County Council: SPD on Waste Minimisation in Development Projects (2006). Gloucestershire	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Environmental Reports or Sustainability sections of supporting statements – but this is not adequate in terms of the requirements of the SPD.	2008 (this date was chosen as it ties in with one year after SPD adoption).	site is one where 10 or more dwellings are to be constructed or, if this is not known, where the site area is 0.5 hectares or more. For other types of development a major site is one where the floorspace to be built is 1,000 square metres or more, or the site area is 1 hectare or more.		County Council: AMR (2006-2007).	
ANNUAL LEVELS OF BIODEGRADABLE MUNICIPAL WASTE TO LANDFILL	Gloucestershire: 2007 / 2008 = 192,025 tonnes (201,997 tonnes if the small amount of trade waste within the MSW stream is included).	LATS target years and figures: By 2009/10: 107,428 tonnes allowed to landfill. By 2012/13: 71,555 tonnes allowed to landfill. By 2019/20 tonnes allowed to landfill.	(Figures in 1000 Tonnes). 1993/4 = 198 1994/5 = 204 1995/6 = 199 1996/7 = 215 1997/8 =234 1998/9 = 229 1999/00 = 239 2000/01 = 232 2001/02 = 239 2002/03 = 236 2003/04 = 229 2004/05 = 228 2005/06 = x 2006/07 = 215 2007/08 = 192	The likely evolution without the plan (with its role in informing the JMWMS) is that there will only be small reductions in BMW to landfill which will result in a failure to meet LATS targets. Large fines will result which are likely to be transferred to the tax payer.	Figures from County Council Waste Management (2008).	1.
ANNUAL TONNAGE OF MUNICIPAL WASTE RECYCLED	2007/08 Cheltenham BC = 15,894 tonnes. Cotswold DC = 16,991 tonnes. Forest of Dean DC = 13,304 tonnes.	/	Positive trend in terms of Gloucestershire's composting and recycling rates and thus in terms of the increase in the actual annual tonnages of material	In the event of the non-implementation of the plan it is unlikely that targets will be met. This cost (i.e. the cost of fines) is likely to be	Figures from County Council Waste Management (2008).	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Gloucester City = 12,198 tonnes. Stroud DC = 9,503 tonnes. Tewkesbury BC = 10,083 tonnes. HRCs = 30,878 tonnes. County = 108,852 tonnes.		being recycled year on year.	transferred to tax payers.		
HOUSEHOLD WASTE KG PER HEAD	2007/08: Cheltenham BC = 456. Cotswold DC = 472. Forest of Dean DC = 433. Gloucester City = 428. Stroud DC = 333. Tewkesbury BC = 435. HRCs = 117. County = 520 (Total recycling per head + total landfilled per head) .	In 2003/04 the production of household waste in the County was 51kg per head of population higher than the national average.	1998/99 = 445kg. 1999/00 = 464kg. 2000/01 = 458kg. 2001/02 = 473kg. 2002/03 = 483kg. 2007/08 = 520kg.	In the event of the non-implementation of the plan it is likely that targets for the reduction of household waste going to landfill will not be met.	Figures from County Council Waste Management. (2005 & 2008).	1.
LANDFILL VOID CAPACITY	The County Council, under its municipal waste contract with Cory Environmental, uses two landfill sites – Hempsted and Wingmoor Farm West. These have a combined remaining void space of around 5 million m^3.	Due in part to its geology, Gloucestershire has quite significant levels of landfill void remaining relative to other Counties.	Steady reductions of all wastes to landfill.	/	Waste Core Strategy Technical Evidence Paper WCS-A Waste Data (2007).	1.
COMMERCIAL AND INDUSTRIAL WASTE	Gloucestershire: In 2005 around 348,000 tonnes of commercial and industrial waste was managed in Gloucestershire. 267,000 tonnes of this went to landfill, 81,000 tonnes was diverted from landfill and 114,000 tonnes of metal went to metal recycling	/	The majority of C&I waste is still landfilled although the situation which may be attributed to the introduction of the landfill tax. The situation is better in relation to metals due to the market – the economic value of	In the event of the non-implementation of the plan it is likely that targets for the reduction of C&I waste will not be met.	Figures from the Environment Agency (2005).	1.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	sites.		scrap metals.			
CONSTRUCTION AND DEMOLITION WASTE	Gloucestershire: In 2005 around 403,000 tonnes of construction and demolition waste was managed in the county in licensed facilities. Of this 222,000 tonnes was landfilled, 62,000 tonnes was recycled and 238,000 tonnes went through transfer facilities of which a proportion will have been double counted i.e. it will have been sent on for further management or disposal. In addition there are 2,139 exemptions – simple and complex.	/	The *percentage* of C&D waste going to landfill has been reducing in recent years (attributable to the landfill tax) and the tonnage of construction and demolition waste being diverted from landfill has trebled since 1999.	In the event of the non-implementation of the plan it is likely that targets for the reduction of C&D waste will not be met.	Figures from the Environment Agency (2005).	1.
WASTE MANAGEMENT FACILITIES BY TYPE	Materials Recycling / Recovery and Treatment Facilities = 5. Composting Facilities = 4. End-of Life Vehicle Dismantling & Metal Facility =27. Household Recycling Centres = 6. Waste Transfer Stations = 31. Sewage Treatments Works / Operations = 87.	/	/	In the event of the non-implementation of the plan it is likely that facilities for the management of waste in the County will not be adequately provided for – or planned and regulated.	Annual Monitoring Report (2004-2005) + updated information.	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	Hazardous Waste Treatment Facilities = 1. Thermal treatment / pet cremation = 2. (2004/05) Landfill/Landraise Operations Hazardous = 1. Non-Hazardous - Bio-degradable = 4. Non-Hazardous – Inert = 12.					
HAZARDOUS WASTE PRODUCED / MANAGED IN GLOUCESTERSHIRE	2004 figures: (the latest available). Transfer = 2,850 tonnes. Recycled = 60 tonnes. Treatment = 38,180 tonnes. Landfill = 31,090 tonnes. Total = 72,180 tonnes. The hazardous waste managed in Gloucestershire is managed primarily at one site: Wingmoor Farm East, Bishops Cleeve, Cheltenham. The operator has provided more recent data showing that the tonnage dropped to 62,000 tonnes in 2005 before rising to 83,000 tonnes in 2006.	/	Managed in Gloucestershire figures - an up and down trend. From a high in 2004 (86,000 tonnes) reducing to 46,000 tonnes in 2003 and then rising to 72,000 tonnes in 2004. The tonnage dropped to 62,000 tonnes in 2005 before rising to 83,000 tonnes in 2006.	In the event of the non-implementation of the plan it is likely that facilities for the management of hazardous waste in the County will not be adequately provided for – or appropriately planned and regulated.	The Environment Agency. Updated figures from the EA sent on 24 October 2005. Grundon (2007).	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
Broad SA Objective 15. *To reduce contributions to and to adapt to Climate Change* ***Waste Site SA Objective 21.*** *To reduce the global use of primary materials and minimise net energy balance requirements* ***Waste Site SA Objective 22.*** *To reduce contributions to and to adapt to Climate Change*						
INSTALLED CAPACITY OF RENEWABLE ENERGY INSTALLATIONS (MW)	Gloucestershire = 9.844MW. This is enough to power the equivalent of 17,742 homes. Number of projects = 20. Wind = 0.5 MW. Hyro = 0.025 MW. Landfill gas = 7.919 MW. Sewage gas = 1.205 MW. Advance treatment of waste = 0 MW. CHP = 0 MW. Solar PV = 0.190 MW. As shown from the figures above, the vast majority of Gloucestershire's renewable energy capacity comes from three landfill gas sites and three sewage gas sites.	Target for Gloucestershire = the production of 40 to 50 MW by 2010. Gloucestershire has the lowest % of the regional total by county area at 6.531% By comparison Cornwall and the IOS have 100 projects generating 57.284MW which = 38.008% of the regional total by county area.	Gloucestershire's renewable electricity capacity has barely changed since 2007. The South West's installed renewable energy generation has grown by 15% between 2007 and mid 2008.	There is a potential conflict with aspirations to reduce biodegradable waste to landfill in that there will be a reduction in the production of biogas. It is unlikely that both targets, renewable energy targets and targets to reduce BMW to landfill will be met.	Survey of Renewable Electricity and heat projects in South West England (June 2008).	2.
INSTALLED CAPACITY OF RENEWABLE HEAT	Gloucestershire = 3.015MW. Number of projects = 43 MW. Biomass Thermal = 1.867 MW. Heat pumps = 1.125 MW. Sewage gas CHP = 0 MW. Solar thermal = 0.023 MW. CHP = 0 MW.	Gloucestershire has the second lowest % of the regional total by county area at 7.6% but this is broadly comparable to Dorset and Somerset.	The number of renewable heat projects in Gloucestershire has tripled since 2007 from 14 to 43 and the total heat capacity for the county has more than doubled. The majority of this increase is due to two biomass installations in schools	/	Survey of Renewable Electricity and heat projects in South West England (June 2008).	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
			in the Stroud area. The South West's installed renewable heat capacity has increased by 33.8% since 2007. There are now 968 projects – more than double the number recorded in the 2007 survey.			
CO^2 EMISSIONS	End User Carbon Dioxide Emissions 2006: No Gloucestershire figures. Figures for the South West: ▪ Industrial, Commercial, Public = 17 million tonnes. ▪ Domestic = 13 million tonnes. ▪ Transport = 12 million tonnes. TOTAL = 42 million tonnes.	Total emissions in the South West have risen from 41 million tonnes in 2005 to 42 million tonnes in 2006. Total emissions in England have risen from 430 million tonnes in 2005 to 434 million tonnes in 2006.	From these figures it would appear that there is a lack of progress in achieving reductions at both a regional and a national level.	In the event of the non-implementation of the plan it is likely that unregulated minerals & waste development will continue to produce harmful emissions.	Local Authority $C0^2$ Emissions Estimates 2006 (Sept 2008).	2.
POSSIBLE CLIMATE CHANGE IMPACTS	There are numerous potential impacts on the County and the Region. A particularly significant one for Gloucestershire could be the increased incidence of flooding from various sources. See also section 7 of this report.	For a detailed look at many potential impacts throughout the SW see: The SW Climate Change Impact Scoping Study (2003) or information on climate change on the SW Observatory	/	In the event of the non-implementation of the plan it is likely that unregulated minerals & waste development will (a) continue to contribute to climate change (b) suffer the negative effects of climate change e.g. be subject to increased	South West Regional Observatory Website	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
		website.		incidents of flooding.		
WASTE TO ENERGY FACILITIES	Hempsted (Gloucester City) and Wingmoor Farm (Tewkesbury Borough) landfill sites both produce small amounts of electricity utilising methane release. There is currently no incineration in the county apart from small scale and for clinical or animal / pet crematorium use.		/	Unclear.	Gloucestershire Waste Local Plan (Adopted 2004).	1.
LEVELS OF NO^2 AND OTHER POLLUTANTS FROM ROAD TRAFFIC	Averaged NO2 background concentration (µg/m3) for Districts in Gloucestershire 2005 = Gloucester = 22.6 / Cheltenham = 19.5 / Tewks = 14.6 / Stroud = 12.9 / Cots = 12.8 FoD = 10.5 / From modeling results, the highest concentrations of NO2 in 1998 came from vehicle emissions along the length of the M5, with NO2 concentrations ranging between 50-56µg/m3 along the seven identified sections of the motorway. Other links/areas included the A417(j) link east of Cirencester and the A417(f) link south east of Gloucester. Two further road links were estimated to contribute to the annual mean concentrations of NO2 of between 25-	LTP8 Indicator Air pollutant levels within AQMA areas (two in Gloucester and one near Tewkesbury M5 Junction 10). Annual mean of below 40 microgrammes per cubic metre by the end of 2009. Currently the readings are: - Prior Road, Gloucester = 42 - Barton St, Gloucester = Between 42 and 46 - Tewkesbury M5 Junction 10 = 42.	The 2005 figures are significantly higher than those for 1998.	Minerals & waste operations / development are associated with significant levels of lorry traffic. In the event of the non-implementation of the plan it is likely that traffic movements may not be appropriately planned regulated or controlled.	Gloucestershire County Council Local Transport Plan (1) Appendix F: Air Quality Management.	2.

Indicator	Figures for Gloucestershire	Comparators and Targets	Trend	Commentary	Source	Quality of Data
	30µg/m3 in 1998, and these were links A40d, A40(f), A40(g) and A40(h) to the immediate west of Gloucester, and between Gloucester and Cheltenham. The most heavily trafficked link, the A40d, has a smaller percentage of heavy goods vehicles along it compared to other A40 links, suggesting the volume of traffic to be more significant than % HGV at a given speed.					

Note: When assessing the quality of data used in the baseline, the following criteria were used:

1 = The data is readily available, locally relevant, directly relevant to the SA/SEA process and up to date.
2 = Up to two of the above criteria were not met i.e. data available at regional level, not up to date, etc.
3 = The quality of the Data is less good or not directly relevant to minerals and waste matters.
/ = There is no data at the present time and so the quality has not been assessed.
This categorisation entails a degree of subjectivity and was based on the professional opinion of the assessor.

Appendix 4: Sustainability Issues / Problems

SEA Directive requirements in relation to sustainability issues / problems: 'The Environmental Report' required under the SEA Directive should include:
▪ "any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC [the Birds Directive] and 92/43/EEC [the Habitats Directive] (Annex 1 (d))

The following are the Key Messages and Sustainability Issues as detailed in Appendix 4 of (Update 2) SA Scoping Report (April 2006) available via the downloads section at the following web address: http://www.gloucestershire.gov.uk/index.cfm?articleid=19449

1. High house prices.	10. Growing levels of waste in Gloucestershire.
2. Low average income.	11. Recycling / composting rates (Poor in comparison with some areas / authorities).
3. Crime levels (High in certain areas).	12. Minerals restoration (A potential lack of inert materials).
4. Health (Poor for certain segments of the population).	13. Protecting Gloucestershire's environment whilst providing minerals needed by society (Potential conflicts of interest).
5. Traffic impacts and congestion.	14. Renewable energy (A relatively low proportion of renewable energy generated in Gloucestershire).
6. Rural economy (Certain areas in need of support).	15. The general state of Gloucestershire's biodiversity, the condition of SSSIs, sites protected under the Habitat's Directive and locally designated sites
7. Areas of deprivation and social exclusion.	16. Decline in species biodiversity (in particular of certain bird species in Gloucestershire).
8. Potential for flooding (High in certain areas of the County).	17. Increases in serious pollution incidents.
9. Waste to landfill (Increasing levels).	18. Possible damage to the historic environment.
	19. Detrimental changes to landscape character.

The following are the Key Messages and Sustainability Issues as detailed in the Final Environmental Report for the Gloucestershire JMWMS (September 2007):

Environmental Issues
Protection of the countryside and landscape in Gloucestershire.
Need for more efficient use of resources and increased recycling and composting.
The need to reduce greenhouse gas emissions.
Improving the transport network, in particular by promoting alternatives to transport by private car and goods

vehicles.
Protection and enhancement of air, water and soil quality.

Social Issues
Improving access to services for everyone.
Improving access to education and information.
Creating vibrant communities with greater community involvement.
Reducing poverty and social exclusion.
Helping to create healthier communities.

Economic Issues
Creating and maintaining a strong, healthy and dynamic economy.
A competitive, innovative knowledge-based business sector.
Obtaining value for money in the provision of services and improving access to jobs.

In terms of the inclusion of Waste Site Focused SA Objectives in Gloucestershire's SA Framework, their inclusion is fundamentally linked to the following Sustainability Issues from the above lists:

- Increasing levels of waste going to landfill.
- Growing levels of waste being produced.
- Relatively low, but improving recycling rates in Gloucestershire in comparison with the best performing areas / authorities.
- The need for more efficient use of resources and increased recycling and composting.
- Obtaining value for money in the provision of services and improving access to jobs.
- The need to reduce green house gas emissions.

For more detailed information on this matter see Column 5 of the table in Appendix 5 of this report. See also Sections 5 & 6 of the Sustainability Appraisal Context and Scoping Report for Strategic Waste Sites (July 2008) available from the downloads section at the following web address:

http://www.gloucestershire.gov.uk/index.cfm?articleid=19449

Appendix 5. Waste Site Focused SA Objectives & A Test of Their Appropriateness Against a Number of Factors

New Site Focused SA Objectives (Ordered under broad Social / Economic / Environmental categories)	UK Government Sustainable Development Strategy – Key Objectives	PPS10 Annex E	SEA Directive Article 5 (1) Annex 1 (f)	Reflects Key Messages / Sustainability Issues in Gloucestershire / Baseline	The SEA / Environmental Report of the JMWMS	Reflects SFRA	The Views of Stakeholders through Consultation
Social							
1. To protect and improve the health and well-being of people living and working in Gloucestershire as well as visitors to the County.	Yes, accords with 2. Ensuring a Strong, Healthy and Just Society.	Health is not listed in PPS10 Annex E.	Human health, population.	Yes, as this is an unchanged objective – as detailed in Appendix 5 of SA Scoping Report Update 2.	Identical to Objective SOC1.	Na.	The Environment Agency wanted the inclusion of the wording 'to promote sustainable development'. This was added.
2. To educate the public about waste issues and to maximise community participation and access to waste services and facilities in Gloucestershire.	Yes, accords with 2. Ensuring a Strong, Healthy and Just Society.	Na.	Population.	Seen as an important issue in the County through evidence gathering and consultation on the JMWMS.	Similar to Objective SOC4.	Na.	/
3. To safeguard the amenity of local communities from the adverse impacts of waste development.	Yes, accords with 2. Ensuring a Strong, Healthy and Just Society.	Yes, in terms of air emissions including dust, odours, vermin and birds, noise and vibration, litter & land use conflict.	Human health, population.	Yes, as this is an unchanged objective (apart from the deletion of 'minerals' – as detailed in Appendix 5 of SA Scoping Report Update 2.	Linked to ENV10.	Na.	/

Economic							
4. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	Yes, accords with 3. Achieving a Sustainable Economy.	Na.	Population and inter-relationships.	Yes, as this is a very similar objective to original SA Objective 4. – as detailed in Appendix 5 of SA Scoping Report Update 2.	Closely linked to ECON1.	Na.	/
5. To manage waste in an economically sustainable way through means that represent good value for tax payers in Gloucestershire.	Yes, accords with 3. Achieving a Sustainable Economy.	Na.	Population, material assets and inter-relationships.	This objective reflects priorities in the JMWMS. Addresses the LATS issue.	Closely linked to ECON2.	Na.	/
6. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	Yes, accords with 3. Achieving a Sustainable Economy.	Na.	Population, material assets and inter-relationships.	Yes, as this is an unchanged objective – as detailed in Appendix 5 of SA Scoping Report Update 2.	Linked to ECON1.	Na.	/
7. To ensure that waste sites do not compromise the safety of commercial or military aerodromes.	Yes, accords with 3. Achieving a Sustainable Economy.	Yes, covers vermin and birds.	Population, material assets.	This new objective reflects baseline in Gloucestershire and representations from the MoD on the WCS Preferred Options.	Tentative link to ENV10.	Na.	/
Environmental							
8. To protect, conserve and enhance biodiversity in Gloucestershire.	Yes, accords with 3. Achieving a Sustainable	Yes, covers nature conservation.	Biodiversity.	Yes, reflects key issues and baseline in the County.	Link to ENV2.	Na.	Natural England requested a minor change to one of the Sub – questions. Changes

	Economy.						were made.
9. To protect, conserve and enhance the landscape in Gloucestershire.	Yes, accords with 1. Living Within Environmental Limits.	Yes, covers nature conservation.	Landscape.	Yes, reflects key issues and baseline in the County.	Link to ENV9.	Na.	/
10. To ensure that waste sites have the potential for adequate screening and / or innovative design to be incorporated.	Yes, accords with 1. Living Within Environmental Limits.	Yes, covers visual intrusion.	Population, landscape.	Yes, reflects key issues and baseline in the County related to landscape and also PPS10 requirements for good design.	Link to ENV9.	Na.	/
11. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	Yes, accords with 1. Living Within Environmental Limits & 4. Promoting Good Governance.	Yes, covers historic environment and built heritage.	Material assets.	Yes, as this is a similar objective to original SA Objective 9. – as detailed in Appendix 5 of SA Scoping Report Update 2.	Link to ENV9.	Na.	/
12. To protect conserve and enhance geodiversity in Gloucestershire.	Yes, accords with 1. Living Within Environmental Limits.	Yes, covers historic environment and built heritage.	Cultural heritage, including architectural and archaeological heritage, landscape.	Gloucestershire has significant geodiversity that need protecting. A separate objective is added for completeness sake. Stakeholders may be able to advise further through the consultation process.	Link to ENV9.	Na.	/

13. To protect conserve and enhance townscapes and Gloucestershire's architectural and archaeological heritage.	Yes, accords with 1. Living Within Environmental Limits.	Yes, covers historic environment and built heritage.	Cultural heritage, including architectural and archaeological heritage, landscape.	Reflects baseline and is a similar objective to original SA Objective 9. – as detailed in Appendix 5 of SA Scoping Report Update 2.	Link to ENV9.	Na.	/
/14. To prevent flooding, in particular preventing inappropriate development in the floodplain and to ensure that waste development does not compromise sustainable sources of water supply.	Yes, accords with 1. Living Within Environmental Limits & 4. Promoting Good Governance.	Yes, covers protection of water resources.	Population, water, material assets, inter-relationships.	Yes, as this is an unchanged objective – as detailed in Appendix 5 of SA Scoping Report Update 2.	Tentative link to ENV8.	Yes – directly related to the SFRA.	/
15. To prevent pollution and to apply the precautionary principle in consultation with waste regulation authorities.	Yes, accords with 1. Living Within Environmental Limits, 2. Ensuring a Strong. Healthy and Just Society & 4. Promoting Good Governance.	Yes, covers protection of water resources, nature conservation, air emissions, odours, noise and vibration, litter.	Population, human health, fauna, flora, soil, water, air, climatic factors, inter-relationships.	Reflects baseline and is a similar objective to original SA Objective 11. – as detailed in Appendix 5 of SA Scoping Report Update 2.	Relates to a number of objectives e.g. ENV4, 5, 6, 8.	Na.	The precautionary principle element was welcomed by the Environment Agency.
16. To protect and enhance soil / land quality in Gloucestershire.	Yes, accords with 1. Living Within Environmental Limits.	Soils are not listed in PPS10 Annex E.	Soil.	Reflects baseline and is a similar objective to original SA Objective 11. – as detailed in Appendix 5 of SA Scoping Report Update 2.	Relates to ENV4.	Na.	/

17. To protect and enhance air quality in Gloucestershire.	Yes, accords with 1. Living Within Environmental Limits.	Yes, covers air emissions, including dust.	Air, climatic factors.	Reflects baseline and is a similar objective to original SA Objective 11. – as detailed in Appendix 5 of SA Scoping Report Update 2.	Identical to ENV6.	Na.	/
18. To protect and enhance water quality in Gloucestershire.	Yes, accords with 1. Living Within Environmental Limits.	Yes, covers protection of water resources.	Water.	Reflects baseline and is a similar objective to original SA Objective 11. – as detailed in Appendix 5 of SA Scoping Report Update 2.	Relates to ENV8.	Yes.	/
19. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport c) sensitive lorry routing d) the use of sustainable alternative fuels e) promoting the management of waste in one of the nearest appropriate installations.	Yes, accords with 1. Living Within Environmental Limits, 2. Ensuring a Strong, Healthy and Just Society & 5. Using Sound Science Responsibly.	Yes, covers traffic and access.	Population, human health,	Yes, as this is an unchanged objective.	Relates to SOC5.	Na.	British Waterways requested that this Objective include the phrase 'e.g. by rail or water' after point (b).
20. To reduce waste to landfill and in dealing with all waste streams to actively promote the waste hierarchy (i.e. Prevent, Reduce, Reuse, Recycle, Recover,	Yes, accords with 1. Living Within Environmental Limits, 2.	Na.	Population, human health, fauna, flora, soil, water, air, climatic	Yes, as this is an unchanged objective – as detailed in Appendix 5 of	Relates to Objective ENV3.	Na.	/

Dispose) to achieve the sustainable management of waste.	Ensuring a Strong, Healthy and Just Society & 5. Using Sound Science Responsibly.		factors, inter-relationships.	SA Scoping Report Update 2.			
21. To reduce the global use of primary materials and minimise net energy balance requirements.	Yes, accords with 1. Living Within Environmental Limits & Using Sound Science Responsibly.	Na.	Climatic factors, material assets.	Added, reflecting JMWMS and PPS1 Supplement on Climate Change & GCC's Climate Change Strategy.	Combines ENV1 and ENV7.	Na.	/
22. To reduce contributions to and to adapt to Climate Change.	Yes, potentially accords with all Objectives: 1. Living Within Environmental Limits, 2. Ensuring a Strong, Healthy and Just Society, 3. Achieving a sustainable Economy, 4. Promoting Good Governance & 5. Using Sound Science Responsibly.	Na.	Climatic factors, inter-relationships.	Yes, as this is an unchanged objective – as detailed in Appendix 5 of SA Scoping Report Update 2.	Relates to Objective ENV5.	Na.	Strongly supported by the Environment Agency and additional Sub-questions recommended and added.

Appendix 6. Internal Consistency of SA Objectives

For a test of the internal consistency of the broad SA Objectives see Appendix 6 of SA Framework Scoping Report (Update 2). This report is available as a download from the following web address: http://www.gloucestershire.gov.uk/index.cfm?articleid=19449 Below is a matrix of the internal consistency of the Waste Sites focused SA Objectives:

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
1.		B	A	B	B	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
2.			B	B	B	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
3.				B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
4.					B	A	C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5.						B	C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
6.							B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7.								C	C	C	C	C	C	C	C	C	C	C	C	A	C	C
8.									A	C	A	B	C	A	A	A	A	A	A	A	A	A
9.										A	A	A	A	A	A		C	A	A	A	A	A
10.											A	A	A	C	C	C	C	C	C	C	C	C
11.												A	A	A	A	A	A	A	A	A	A	A
12.													C	C	C	C	C	C	C	C	C	C
13.														A	C	C	C	C	A	C	C	C
14.															A	A	C	A	B	B	C	A
15.																A	A	A	A	A	A	A
16.																	A	A	A	A	A	A
17.																		A	A	A	A	A
18.																			A	A	A	A
19.																				B	A	A
20.																					A	A
21.																						A
22.																						

A	Consistent
B	Consistent but with areas of potential conflict
C	No direct link
D	Inconsistent or potentially inconsistent

Comments and Recommendations: There are no clear inconsistencies identified although it should be recognised that there will always be some conflicts of interest particularly in terms of economic drivers and environmental concerns.

Glossary of Terms

In the interests of reducing the size of this document a full Glossary is not included here but the reader may refer to **Joint Minerals & Waste Technical Evidence Paper WCS-MCS-8 Glossary** which is available via the following web link.

http://www.gloucestershire.gov.uk/index.cfm?articleid=18014

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