

Water

1.1 Water

Policy Context

Directive 2000/60/EC Establishing a Framework for the Community Action in the Field of Water Policy (The Water Framework Directive)

The Water Framework Directive has the following key aims:

- Expanding the scope of water protection to all waters, surface waters and groundwater;
- Achieving "good status" for all waters by a set deadline;
- Water management based on river basins;
- "Combined approach" of emission limit values and quality standards;
- Getting the prices right;
- Getting the citizen involved more closely; and
- Streamlining legislation.

Objectives, Targets and Indicators

Requires all Member States to achieve 'good ecological status' of inland water bodies by 2015, and limits the quantity of groundwater abstraction to that portion of overall recharge not needed by ecology.

Nitrates Directive (91/676/EEC)

The Directive addresses water pollution by nitrates from agriculture. It seeks to reduce or prevent the pollution of water caused by the application and storage of inorganic fertiliser and manure on farmland. It is designed both to safeguard drinking water supplies and to prevent wider ecological damage in the form of the eutrophication of freshwater and waters generally.

Objectives, Targets and Indicators

Every four years member states shall report on polluted or likely to be polluted waters and designed vulnerable zones, and measures and actions taken to reduce the pollution from nitrates. Polluted waters are:

- Surface freshwaters, in particular those used or intended for the abstraction of drinking water, that contain or could contain, more than the concentration of nitrates laid down in accordance with Directive 75/440/EEC;
- Ground-water containing or that could contain more than 50 mg/l nitrates; and
- Natural freshwater lakes, other freshwater bodies, estuaries, coastal waters and marine waters found or likely to be eutrophic.

PPG 25 – Development and Flood Risk

This guidance explains how flood risk should be considered at all stages of the planning and development process in order to reduce future damage to property and loss of life. It sets out the importance the Government attaches to the management and reduction of flood risk in the land-use planning process, to acting on a precautionary basis and to taking account of climate change. It summarises the responsibilities of various parties in the development process.

Objectives, Targets and Indicators

Consider the information available on the nature of flood risk and its potential consequences and accord it appropriate weight in the preparation of development plans and in determining applications for planning permission and attaching conditions where permission is granted.

Luton Local Plan (Second Deposit Draft)

The Local Plan is to guide development and the use of land. It contains policies and proposals for land use and transportation.

Objectives, Targets and Indicators

Not to allow development that would result in an increased flood risk.
To ensure appropriate water conservation measures are incorporated into development proposals.
To ensure a development will not pose an unacceptable risk of pollution to groundwater or surface water.

Mid Beds Local Plan (First Review Deposit Draft)

The Plan guides development and the use of land over the next 10 years. The policies and proposals for land use and transportation are used to give planning advice and form the basis for determining planning applications.

Objectives, Targets and Indicators

Refuse development that would result in an increase of flood risk, intensify the risk of flooding or be at an unacceptable risk of flooding.
Developers must take full account of the proposals on surface water drainage and infrastructure and incorporate appropriate controls.
Encourage Anglian Water Services to invest and upgrade existing sewerage infrastructure, where necessary, so as to facilitate the development of land allocated for development in the Local Plan and on other suitable sites as appropriate.

South Bedfordshire Local Plan (Review Deposit)

The Local Plan was adopted in 2004 and provides comprehensive planning guidance for development in the area up to the year 2011. It develops the policies and general proposals of the Structure Plan and relates them to precise areas of land in the area. It sets out policies for environmental planning and management, in particular relating to conservation and improvement of the environment, efficient use of land and resources and the management of traffic.

Objectives, Targets and Indicators

Protect and enhance the natural and physical environment.
Repair environmental damage and minimise pollution.
Control development which may affect the quality of ground or surface water.
Control water abstraction for development.
Control development in areas at risk of flooding.
Control surface water run-off from development.

Bedford Borough Council Local Plan

The Bedford Local Plan was adopted in 2002 and sets out policies and proposals to encourage development to occur in suitable forms and locations with the aim of improving the quality, convenience and sustainability of the environment. The Local Development Framework process will gradually replace the Local Plan and deliver the spatial planning strategy for Bedford.

Objectives, Targets and Indicators

Development will not be permitted that compromises the capacity of the floodplain, balancing ponds, drainage pipes, channels and other flood defence and works to alleviate flooding, or would be at risk

of flooding, or would unacceptably increase the risk of flooding or pollution through seepage or run-off.

Marston Vale – The Surface Waters Plan

The Surface Water Plan has been published on behalf of the Marston Vale Surface Waters Group. It describes some of the key challenges and opportunities facing Planning and Land Drainage Authorities, Landowners and Developers, and other parties concerned with the management of surface waters in the area of Forest of Marston Vale. The Plan seeks to face up to the challenges and see advantage taken of the opportunities by promoting a series of policies to encourage an integrated and sustainable approach in the context of major proposed development in the area.

Objectives, Targets and Indicators

- Provide mitigation from flooding.
- Provide strategic facilities to control run off from large developments.
- Protect and, if possible, enhance, the existing functions and environmental features of Elstow Brook and its tributaries, including its flood plains.
- Encourage schemes that result in a range of benefits including management of flood risk and enhancement of the environment.

Bedford Borough Council Core Strategy and Rural Issues Paper Sustainability Appraisal

The Local Development Framework is a series of documents which will gradually replace the Local Plan and deliver the spatial planning strategy for Bedford. These will set out the Council's policies for meeting the community's economic, environmental and social aims for the future where they affect the development and use of land. Preparation of the Local Development Framework will be a continual process with new documents being prepared at different stages to ensure that they are up-to-date.

The Core Strategy will set out the long term vision and overarching policies for the Borough. Consultation is taking place in connection with preparing the 'Core Strategy and Rural Issues Plan'. The 'Options Paper' will be out to consultation until 14 October 2005.

In order to ensure that the Core Strategy and Rural Issues Plan contributes to the aims of sustainable development, the Council is required to undertake a Sustainability Appraisal of its policies and proposals. This document underwent consultation in parallel with the Policies Options paper.

Objectives, Targets and Indicators

Maintain a high quality environment in terms of air, soil and water quality.
Reduce the risk of flooding.

Baseline Review

- 1.1.1 This section reviews baseline water quality, resources and flood risk in Bedfordshire County and Luton Borough, with particular regard to mineral extraction. Impacts on water can arise from aquatic discharges, surface run-off, groundwater extraction and dust emissions / deposition. The impact of aggregate minerals extraction (such as sand and gravel) on the river environment should also be considered if extraction is to occur in or adjacent to a river or stream.

Targets (European)

- 1.1.2 The Water Framework Directive 2000/60/EC places a number of obligations on Member States (MS). It requires all inland and coastal waters to reach "good status" by 2015. It will

do this by establishing a river basin district structure within which environmental objectives and targets will be set, for all ground and surface waters.

Groundwater

- 1.1.3 The primary requirement is that groundwater is protected at least to the same level as that required by the existing Groundwater Directive (80/68/EC). Beyond this MS must strive to ensure that all groundwater bodies are of good status – in terms of water quality, this is based on thresholds for the chemical constituents of groundwater and their impact on ecosystems. This is also relevant to surface water ecosystems and so highlights groundwater's important place in the hydrological cycle. This will be important with regard to mineral extraction, for example, if extraction takes place from a groundwater body or there is the potential for discharge from the extraction process into the groundwater.

Surface Waters

- 1.1.4 A general requirement for ecological protection, and a general minimum chemical standard, has been introduced to cover all surface waters. These are the two elements "good ecological status" and "good chemical status". Good ecological status is defined in Annex V of the Water Framework Directive, in terms of the quality of the biological community, the hydrological characteristics and the chemical characteristics.
- 1.1.5 Compliance with good chemical status is based on a comparison of monitoring data with quality standards existing in EU legislation on nitrates, plant protection and biocidal products, which set threshold values, i.e. maximum permissible concentrations, in groundwater for a number of pollutants. With regard to pollutants that are not covered by EU legislation, the proposed Directive requires Member States to establish threshold values by June 2006. These threshold values can be defined at the national, river basin or groundwater body levels.

Targets (UK)

- 1.1.6 Water quality targets are established and monitored by the EA and Local Authorities.
- 1.1.7 For each stretch of a river the Environment Agency establishes a river quality objective. This reflects the uses to which the waters are put and is the basis for deciding the discharges which can be allowed. The objectives will generally be expressed in terms of quality grades (like those described below in monitoring water quality) which reflect the general health of the waters. General Quality Assessment (GQA) and chemical water quality is also assessed and monitored.
- 1.1.8 Under the Private Water Supply Regulations 1991, there is a duty on Local Authorities to ensure that the quality of water from private supplies serving domestic or commercial premises is 'wholesome', meeting certain quality standards. These regulations were passed under the European Union Directive 80/778/EC. Directive 98/83/EC is an update of the original directive and states that all supplies should be compliant by Dec 25th2003

Water Quality

National

- 1.1.9 Between 1990 and 1998 there was a net improvement in water quality in 25% of the monitored length of rivers and canals in England and Wales. In England, the length of good quality watercourses rose from 44% to 55% while the length with poorer water quality has been reduced from 17% to 11%.

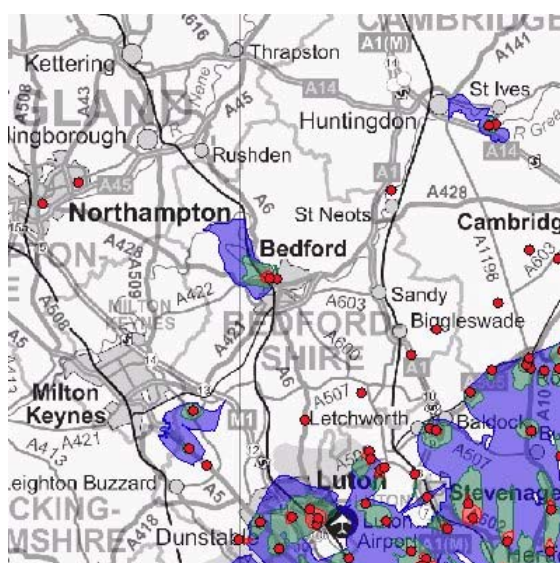
Rivers and canals: % length in England in each GQA chemical grade						
	Good		Fair		Poor	Bad
	A	B	C	D	E	F
1990	13.9	29.6	24.8	15.1	14.0	2.5
1998	21.2	33.3	22.2	12.1	10.4	0.8

- 1.1.10 In 1997, 82% of rivers in England and Wales complied with their river quality objectives. The Government's target is to improve our rivers by developing and implementing a programme of measures to eliminate at least half of the shortfall in compliance by 2005.

Water Quality in Bedfordshire

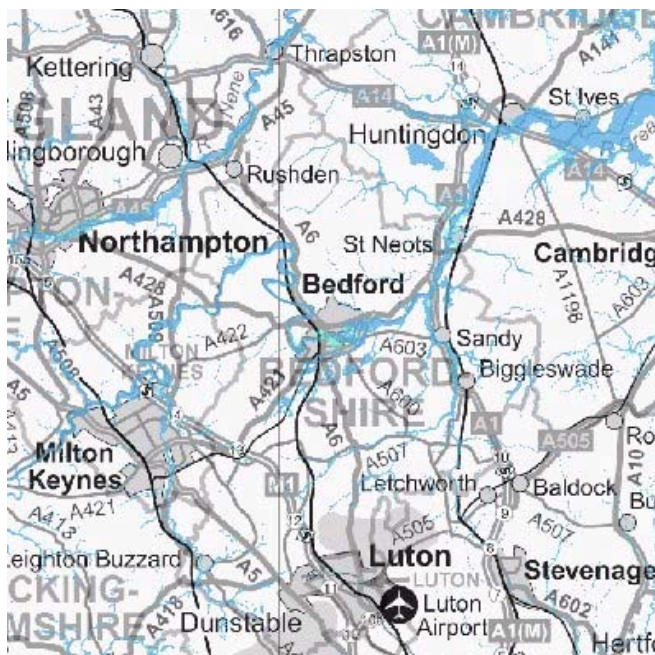
- 1.1.11 The entire county has been designated a nitrate vulnerable zone.
- 1.1.12 According to the Bedfordshire Structure Plan 2011; River and canal quality is largely good and drinking water quality is improving at the tap, though not necessarily at source.

Groundwater



- 1.1.13 Only a small part of Bedfordshire lies within a groundwater Source Protection Zone. These zones show the risk of contamination from any activity that might cause pollution in the area, the closer the activity, the higher the risk. The map shows three main zones, (inner, outer and total catchment).

Flood Risk in Bedfordshire



- 1.1.14 According to the Environment Agency; areas at risk of flooding are chiefly those adjacent to, or within a few hundred metres of the Counties rivers. Areas away from these rivers do not appear to be at risk.

Water in South Bedfordshire

- 1.1.15 Although water is not a dominant feature in the South Bedfordshire countryside, the Rivers Ouzel, Lea and Flit, the Grand Union Canal, the few remaining natural ponds and wetlands and the artificial lakes in gravel pits and quarries are important elements of the natural environment providing natural drainage and key wildlife habitats. They are also important in amenity terms and for their open space and recreation potential.
- 1.1.16 The water resource of the District is under pressure from a variety of sources, in particular agriculture, and urban development. The Environment Agency, British Waterways and the District Planning Authority are keen to avoid further exploitation and currently the following local planning policy will apply:
- 1.1.17 South Bedfordshire Local Plan (Adopted 2004) Review POLICY NE5 states that in considering applications for development in association with rivers, canals, watercourses

and other bodies of water, the district planning authority (in consultation with the environment agency and british waterways) will need to be satisfied that:

- (i) The development is designed to provide for the conservation and enhancement of the natural environment of river corridors, canals, etc.
- (ii) The development promotes public access for recreation where this can be achieved without environmental damage.

1.1.18 Development which will have an adverse impact on the environment and wildlife habitats of the river ouzel, lea and flit and their tributaries, the grand union canal, ponds, lakes and wetlands or which restricts public access to them will not be permitted.

1.1.19 Mineral workings often present good opportunities for recreation and if the pit is a wet pit lying below the water table there is scope for developing the lake for water recreation, a type of recreational resource which is very limited in South Bedfordshire at present.

Water in Bedford

1.1.20 Parts of the borough, particularly near to the River Great Ouse and the Elstow Brook, have a moderate (between 1 in 75 and 1 in 200) chance of flooding, although some limited areas have a significant (greater than 1 in 75) chance of flooding.

1.1.21 The water quality of the River Great Ouse is monitored for chemistry (organic pollution and dissolved oxygen), nitrate and phosphate. The latest data published is for 2002 and shows that the chemistry score was (B) good, whereas that for nitrate was high and that for phosphate was very high.

1.1.22 Anglian Water supplies and treats water in Bedford.

Water in Luton Borough

1.1.23 Three Valleys Water PLC supply Luton with mains water for both domestic and commercial premises. Luton is served by two different sewerage companies, who own and manage the network of public foul and surface water sewers. The river Lea flows through Luton. According to the Environment Agency, it scored grade D (fair) for biology in 2000, grade C (fairly good) for chemistry in 2001 and grade 4 (moderate presence of nutrients) for nitrates in 2001.

Water in Mid Bedfordshire

1.1.24 According to Mid Bedfordshire Local Plan: First Review: Deposit Draft Incorporating Proposed Modifications (PM). The River Great Ouse forms the administrative boundary of Bedford Borough and Mid Bedfordshire between Willington and Little Barford. The river is regarded as one of the County's particularly attractive features and is acknowledged as an important wildlife resource as well as providing drainage and flood protection. The river catchment area is also subject of the Bedford Ouse (Lower Reaches) Catchment Management Plan, produced by the former NRA (now the Environment Agency) which

highlights concerns and proposed measures to assist management of the water environment of the river catchment.

- 1.1.25 To protect the attractive characteristic appearance of the riverside environment the Borough Council has defined 'River Protection Areas' based upon known floodplain boundaries, wherein development will not normally be permitted. To reflect the policies of the adjoining Bedford Borough Council and to ensure a consistency in local decision making, this Council has similarly defined a River Protection Area.

Sources of data

- Defra <http://www.defra.gov.uk/environment/water/iw/index.htm>
- EUROPA http://europa.eu.int/comm/environment/water/water-framework/index_en.html
- Environment Agency <http://www.environment-agency.gov.uk/maps/>
- English Nature
- Bedfordshire County Council www.bedfordshire.gov.uk/
- Luton Borough Council http://www.luton.gov.uk/internet/transport_and_streets
- Bedfordshire and Luton Biodiversity Action Plan
<http://www.ukbap.org.uk/lbap.aspx?id=369>
- Sustainability Appraisal of the Core Strategy and Rural Issues Plan
<http://www.bedford.gov.uk/bedford/planning/CS%20Scoping%20Report%20final.pdf>
- Bedfordshire Structure Plan 2011
<http://www.bedfordshire.gov.uk/BedsCC/SDsps.nsf/Web/ThePage/Bedfordshire+Structure+Plan+2011>
- South Bedfordshire Local Plan (Adopted 2004) Review
http://www.southbeds.gov.uk/Local_Plan/contentsfr.html

Data Gaps

- 1.1.26 No flood information obtained for Luton Borough. River quality statistics that summarize quality in the county as a whole cannot be found. Further consultation with EA required in order to obtain water quality data for county.

Trends

- 1.1.27 Water quality in the County is generally improving. However, the potential for mineral development to affect water courses and flooding is still an important consideration in forward planning and development control.

Implications for minerals planning and SA in Bedfordshire

Key issues arising from the policy context:

How the minerals local plan should address water issues

- 1.1.28 The plan should ensure that potential contaminated runoff from mineral working sites and associated developments are considered, along with the impacts of mineral developments on groundwater in their vicinity. The plan should have regard to PPG 25, through ensuring minerals operations do not increase flood risk in sensitive areas, and through ensuring minerals operations (for instance in riverbed gravel areas) are not threatened by flooding. Liaison with the Environment Agency is recommended. Efficiency in water use by mineral extraction operations should also be considered within the plans.

Relevant objectives for the SA

- MLDF will have a significant role to play in protecting and managing water resources. It is important that the issues and measures presented in the Water Framework Directive are considered in the MLDF.
- MLDF should be aware of all potential flooding and adaptation issues.
- The MLDF should be aware of where any river basin management plans are within the plan area and consider issues raised by these management plans.

Key issues arising from the baseline review:

- Areas at risk of flooding are chiefly those adjacent to, or within a few hundred metres of the Counties rivers. Areas away from these rivers do not appear to be at risk.
- Only a small part of Bedfordshire lies within a groundwater Source Protection Zone, therefore these areas need to be protected from potential impact.
- The water resource for much of Bedfordshire is under pressure from a variety of sources, in particular agriculture, and urban development and the entire county has been designated a nitrate vulnerable zone.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- Need to separate out water quality and water supply issues
- bullet 1 – this is a statement of fact. It should be clarified to confirm the presence of floodplains at each proposed allocation location
- bullet 2 – agree
- bullet 3 – greater emphasis on the ‘urban development’ issue, as a drain on the water resource. Agriculture and Nitrite issue could be undertaken as a separate point (water quality)

- bullet 4 – on-line with main rivers where possible (biodiversity benefits)
- Restored river valley sites can play a role in flood alleviation
- potential use of sites for public water supply – dependent on location and geology

What are the main implications of these issues for minerals and waste planning?

- 1.1.29 Water pollution can be controlled through careful design and location of sites, management, restoration, mitigation, compensation, clear conditions and consideration of enforceability. All these need to be dealt with in the MWDF.

What sustainability objectives do you think should be set for each of these topic areas?

- reduce the risk of flooding through development of ex-mineral extraction sites (potential) to enable the reduction in levels of flooding in urban areas
- deterrence of minerals extraction sites within Groundwater Source Protection Zones. Direct to minor/non-aquifer locations
- improvement of water quality (issue outside of minerals plan?) Consider nitrate vulnerable areas and agricultural activities?
- increase areas for restoration and biodiversity especially in those sites located within close proximity to urban areas. Marrying the need of the industry with the provision of social ends
- seek to ensure water tables are maintained or raised, rather than lowered