

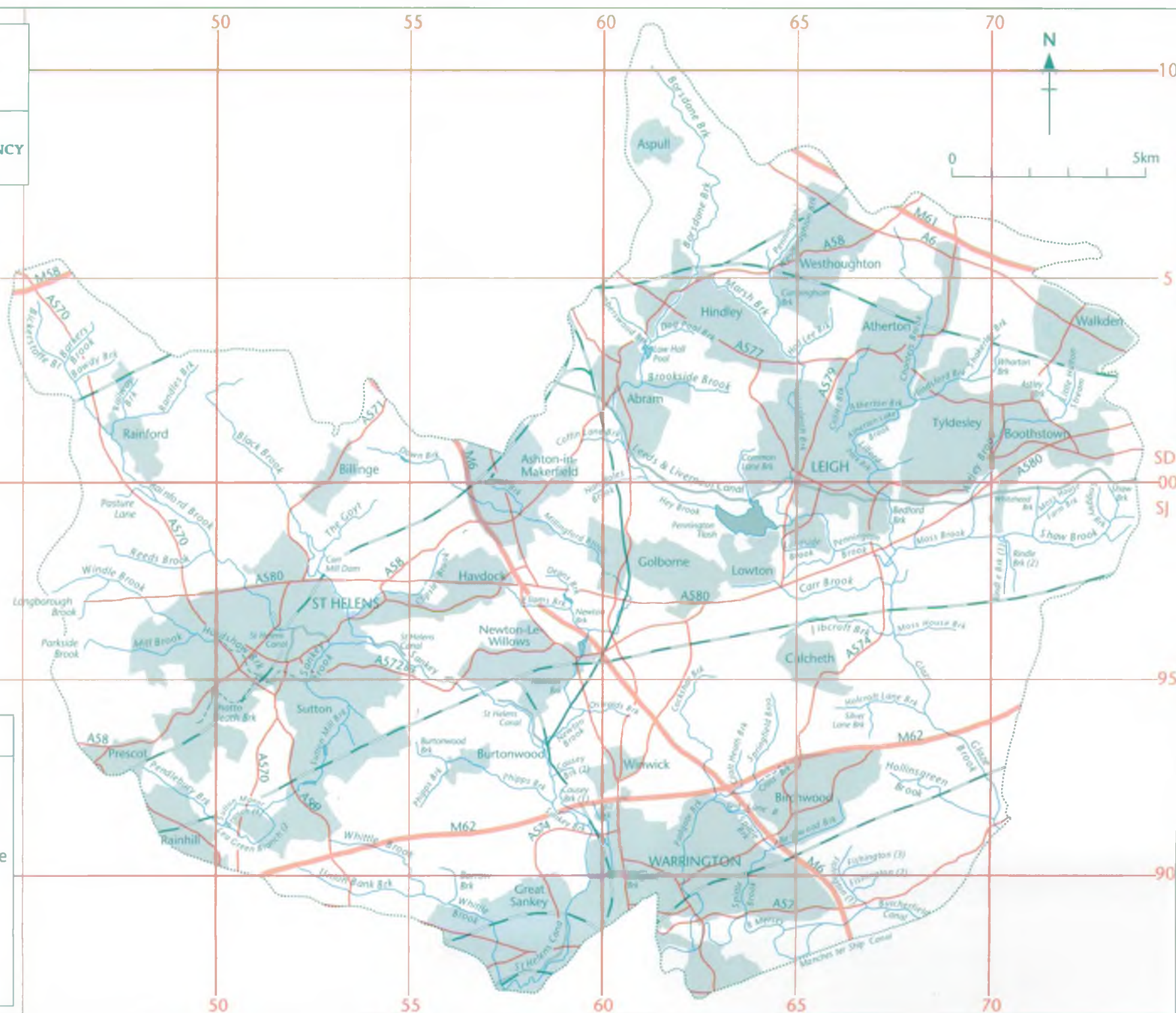
ENVIRONMENT AGENCY



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KEY

-  Catchment Boundary
-  Watercourse
-  Culverted Watercourse
-  Canal
-  Built up Area
-  Motorway
-  A Road
-  Rail Network





ENVIRONMENT AGENCY

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A better quality of life

If we all work towards sustainable development, then quality of life improves for everyone.

A better quality of life reaches across the full range of the Agency's activities. It highlights some of the key approaches that the Agency needs to apply to strengthen its contribution to sustainable development.

The most immediate impact the Agency makes on quality of life is through its primary functions. Regeneration is aided by the cleaning up of historic pollution and providing a clean environment within which new businesses might establish themselves. New markets are opened up by the drive for improved pollution abatement technologies, and waste minimisation can also reduce costs and improve competitiveness.

The Agency has an impact on quality of life through the way in which it carries

out its duties – by consulting widely, by engaging with others in partnership, and by forming close and responsive relationships with partners.

The Agency is involved in a wide range of partnerships and liaison arrangements, involving other national agencies; the Regional Government Offices; the Regional Development Agencies; industry and commerce; local authorities; non-government organisations in the environmental and social sectors; trusts; researchers; consultants and academia.

In the future, the Agency aims to develop even closer, more responsive and more inclusive styles of working with partners.

Achievements:

The Agency has sponsored/supported

the following projects (cross-section of complete listing):

- Sankey NOW Computer Information Point at Sankey Valley Visitor Centre, St. Helens.
- Sankey NOW Small Grants scheme for community projects. Assistance with events and activities initiated by local groups.
- Chanters Valley Action project – stream bank and footpath restoration, Hall Lee Bank Park.
- Bank-side improvements on River Glaze (Pennington Flash).
- St. Helens bridging study (contaminated land) comprising site investigation, risk assessment, review of remedial options and a leachate treatability trial.

An enhanced environment for wildlife

Conserving and enhancing the variety of animal and plant life and the habitats in which they live is vital in improving the state of the environment.

Many people value wildlife as one of the key elements contributing to their quality of life, whether in their own backyard or in the countryside. It follows that the variety and abundance of wildlife – plants, insects, fish, birds and mammals living on the land, in the water and around our coasts – provides a critical indicator of how successful we are in using our environment wisely.

Specifically, under the UK BAP, we have lead responsibility for 39 species and 5 habitats of wetland character.

By creating new habitats and removing threats to existing habitats, species will be encouraged to achieve their target distribution and status.

Water Vole (*Arvicola terrestris*) are most frequently found in densely vegetated banks of ditches, dykes, rivers and streams, generally where the current is slow and water is present throughout the year. They are predominantly herbivorous, eating many types of vegetation. Water voles have suffered a serious long-term decline this century and have disappeared from nearly 70% of their historical sites. In 1998 protection of water vole burrows was added to the Wildlife and Countryside Act 1981.

Reedbed/Bittern (*Botaurus stellaris*) Leighton Moss, Lancashire, is the only breeding site for bittern in North West England, with only 3-4 breeding pairs (about 25% of the UK breeding population). Bitterns need large wet reed beds to support a breeding

population, so the loss of these through drying out and scrub invasion, drainage, water abstraction and fragmentation has contributed to the decline of the bird. Poor habitat management and pollution can cause a loss of reed beds and affect food availability, particularly of eels and amphibians. There have been reports of non-breeding birds in smaller reed beds throughout the region, with birds regularly over-wintering at Wigan Flashes.

Achievements:

- Water vole survey carried out in the summer of 1998 on Sankey Brook and Whittle Brook has identified areas where water voles are present.
- Additionally, the Clear Glaze Partnership carried out a water vole survey in 1999 on Glaze Brook. The survey area covered 25% of the Glaze catchment.

Results indicate water vole population is present at locations throughout the catchment and recommendations for the annual monitoring scheme will allow further research to be carried out.

- Projects on the extent of channelisation and over-management have been carried out on watercourses. The results from one of these projects have shown the effect of channelisation on the water quality of Jibcroft Brook.

This was achieved by comparison of a channelled stretch and an unchannelled stretch of the brook. The study concluded that channelisation produces a more uniform water quality and a less diverse habitat than an unchannelled, semi-natural channel.

- Manchester Mosslands and Rixton Clay Pits recommended as possible Special Areas of Conservation (SACs).





Cleaner air for everyone

The implementation of the Government's air quality strategy should ensure that national objectives for a range of pollutants are met within 5-10 years. Pollution must be controlled in order to reduce the risk of harm to human health, the natural environment and quality of life.

On a local scale responsibility for air quality is split between the Agency and Local Authorities. The Agency is responsible for the regulation of major industries, whilst Local Authorities regulate minor industries, control domestic smoke, evaluate local air quality and produce local air quality management plans.

The Agency will work towards shared strategies with our partners at a local

level to improve air quality from all sources. Provision of information in an understandable, accessible format on air quality issues, including emissions inventories, will be a priority for the Agency.

An Environment Agency objective is to reduce the amounts of organic-based solvents that are released into the atmosphere. These can contribute to the generation of ground-level ozone

Achievements:

- Abram Alloys Ltd current authorisation air emissions limit for Zinc is 10 mg/m^3 . They have utilised a bag filter system that reduces the particulate emissions of Zinc from a non-ferrous metal process to below 2 mg/m^3 .
- PPG Industries Ltd installed a new oxy-fuel firing system to reduce oxides of Nitrogen emissions from a glass manufacturing process



Improved and protected inland and coastal waters

Clean waters with thriving wildlife help guarantee the health and safety of the water supplied to homes, the water used to produce food, and the waters valued for recreation. The appearance, quality and value of waters can be damaged by how land is used.

The Agency regulates the abstraction of water through a system of licensing. It plans the future use of water resources so as to balance the need for water supplies to homes, industry and agriculture alongside those of fisheries, recreation, water quality and conservation.

The Agency also monitors the quality of discharges from sewage treatment works and trades discharges; and monitors the condition of freshwater, groundwater and tidal waters.

The Agency has responsibilities for the conservation and management of all

freshwater fisheries. This includes the sustainable development of fisheries and the promotion of fishing.

Due to the work of the Agency along with other organisations including United Utilities and angling groups, water quality has improved to such an extent that we can now consider stocking rivers that have been devoid of fish in living memory.

Achievements:

- Pennington Flash entrance had 98 metres of Hey Brook eroding an old landfill site causing a very serious risk

of pollution, with unsightly deposits of glass and plastics that were being washed downstream. This made the entrance unattractive for the general public and the banks of Hey Brook very dangerous for anglers to fish from.

A partnership was formed with Wigan Council Leisure and Cultural Services, Pennington Flash Angling Association and the Agency. The aim of the partnership was to embark on a project to stop bank erosion by putting in a revetment, planting of shrubs and plants, and making defined walkways. This project has now been completed

and has enhanced the area for park users, wildlife and made a safer area for anglers.

- Haydock and Reginald Road Industrial Estates frequent intermittent pollution problems have been eliminated by completion of three engineered solutions.
- An Electro fishing survey was carried out on the Sankey catchment in 2000. Ten species of fish were recorded with Eel, Gudgeon and Roach being the most dominant species in terms of numbers.
- DEFRA (formerly DETR and now the Department for Environment, Food and Rural Affairs) confirmed in April 2000 that all of the improvements to unsatisfactory water company discharges proposed by the Agency within the Sankey Glaze LEAP area had been included within Asset Management Plan 3 (AMP3) for resolution by 2005.
- Pennington Flash is part of an Environment Agency national monitoring programme studying blue-green algae. Data on blue-green algae number, species and toxicity will be available from 2002.
- Surface water from the motorway at Burtonwood currently enters Sankey Brook at three locations. The Agency has been working closely with designers and contractors of the M62 widening scheme between junctions 8 to 9 and the reconstruction of junction 8 at Burtonwood. The Agency has secured an agreement to upgrade the drainage system to include oil interception facilities and pollution prevention measures at the three outlets. It will also include oil interception facilities for the Gemini link road being constructed alongside the main scheme.



land with healthier soils

Land is a finite resource and care is required to ensure that its potential is conserved and where possible enhanced.

Most remediation of contaminated land occurs through development under planning regulations. However, a new contaminated land regime (for dealing with contaminated land not being developed) was introduced in England in April 2000, under which corrective requirements are based on a 'suitable for use' approach. Where possible, those responsible for contaminating land are also held responsible for funding the necessary clean up. Arrangements for dealing with 'orphan' sites – where there is no responsible party – are also provided. The Pollution Prevention and Control Regulations, introduced in August 2000, oblige operators of permitted processes to take steps to

prevent current land contamination and, where it does occur, to carry out remedial restorative work. We have agreed a Memorandum of Understanding with the Local Government Association for work related to the contaminated land regime.

Bringing contaminated land back into beneficial use helps to conserve land as a resource and reduces pressure on greenfield sites, thus conserving agricultural land and natural habitats. Land redevelopment provides an opportunity to rectify the contamination and the Agency works closely with Local Authorities, landowners, developers, and other organisations to ensure that the environment is protected and improved during the redevelopment process.

Achievements:

- Sankey and Sutton Brooks A,B,C, sites St Helens. A bridging study, comprising further site investigation, risk assessment, review of remedial options and a leachate treatability trial successfully provided a much better understanding of the conditions and risks at the sites. To invest in a full scale pilot trial for one treatment technique would not be cost effective; it will most likely be a variety of methods. The bridging study suggested that the site be opened up to competition, inviting contractors to trial their innovative methods at the sites, while the Agency continues to provide site specific technical support and guidance.



A 'Greener' business world



It is recognised that businesses are major contributors to the economic wealth of the nation and that they operate in a global competitive economy. It is in the interest of businesses to minimise adverse impacts on the environment and to adopt a sustainable approach to their operations. The Agency seeks to encourage a shift to more sustainable production through smarter regulation and the use of economic instruments.

The Environment Agency regulates a wide range of industrial activities in England and Wales, including energy, manufacturing and service industries, chemical and steel works, oil refineries, waste incinerators, the water industry, the nuclear industry and some parts of food and agriculture.

Under Integrated Pollution Control (IPC) we regulate industrial processes with the

greatest pollution potential, ensuring that Best Available Techniques Not Entailing Excessive Cost (BATNEEC) are used to prevent or minimise pollution of the environment. We regulate the treating, keeping, movement and disposal of controlled waste, involving waste management sites waste carriers and brokers, so as to prevent pollution of the environment or harm to public health. We monitor sewage treatment works and

trade discharges; and monitor the quality of freshwater, groundwater and tidal waters. We also regulate the disposal of radioactive waste including nuclear sites. However, although a range of environmental legislation is in place, many environmental impacts of business remain largely unregulated, including transport and domestic sources.

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A Greener business world



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During 2000 the legislation that implements IPC will be superseded by the Pollution Prevention and Control Regulations, which implements the EU Directive on Integrated Pollution Prevention and Control (IPPC). The Directive is similar to IPC but covers a wider range of activities and industrial processes, including landfill sites and larger sewage treatment works. IPPC will be progressively applied to existing processes, with full implementation by 31 October 2007.

Environmental Management Systems (EMS) provide a means for businesses to manage their environmental impacts in a considered and structured manner. A number of initiatives are in place to encourage businesses to progress to EMS.

The Agency advocates the use of EMS by those we regulate and recognises that many aspects of an EMS are similar to our regulatory activities.

The Agency will target its resources on those sites presenting the greatest environmental risks.

The EU Landfill Directive applies to all landfills accepting waste on or after 16 July 2001. Larger landfills accepting greater than 10 tonnes per day or with a capacity for 25,000 tonnes or more, except for inert wastes, also fall under the Pollution Prevention and Control Directive. One of the main requirements of the Landfill Directive is to reduce the national quantities of biodegradable municipal waste sent to landfill sites. Their objective is a reduction to 75%, 50% and 35% of the amount produced

in 1995 by 2001, 2013 and 2020 respectively.

Achievements:

- The Agency has supported a number of wastes minimisation 'clubs' to help reduce water use, production of solid waste and energy consumption.
- The North West Business Environment Partnership has been formed to promote quality environmental services to businesses across the NorthWest, particularly small/medium sized enterprises (SMEs). The partnership includes specialists in both the environmental and business sector. Their ultimate vision is to achieve "an improved environment and economy for the NorthWest via the engagement of business in environmentally sustainable business practice."

Wiser, sustainable use of natural resources

Society's demands for water, energy and minerals are increasing. Continued and lasting improvements in resource efficiency are essential if we are to achieve sustainable development.

The Environment Agency is directly responsible for regulating the overall environmental performance of a broad range of activities that consume natural resources, and for controlling wastes. Through effective regulation we seek to protect or enhance the environment as a whole and to require or encourage more efficient use or management of natural resources.

This includes controls over the energy, manufacturing and service industries, chemical and steel works, oil refineries, waste management sites, and the water and nuclear energy industries.

The Agency **influences** a broad range of public and private sector organisations through:

- a role as consultee in strategic planning by local and regional government to control development, transport, minerals and waste management, and water demand;
- input to central government planning through the National Waste Strategy and the development of economic instruments aimed at influencing behaviours and environmental performance;
- provision of information on the environmental performance of industries and waste production;
- providing advice on waste minimisation and resource efficiencies and encouraging uptake of formal environment management systems such as EMAS and ISO14001.

Waste minimisation does not just focus on solid waste issues, but also covers water usage, discharges to sewer, emissions to air and energy usage.

There is a need to control the use of water within the LEAP area, to ensure the maintenance of a balanced and sustainable resource. The Agency achieves this by licensing abstractions from the river and groundwater systems and by promoting the efficient use of water amongst its customers. The 'Policy and Practice for the Protection of Groundwater' provides guidance on the management of groundwater resources.

In addition to this, from April 2001 'Catchment Abstraction Management Strategies' (CAMS) will be produced for all catchments in England and Wales.

Once implemented, CAMS will become the focus for water resources management within LEAP areas and will enable the Agency to meet many of the objectives outlined in *Taking Water Responsibly*¹. These objectives include a consistent and structured approach to water resources management, and an opportunity for greater public involvement. As experience is gained and techniques are improved, CAMS will evolve to provide an effective strategy for achieving and maintaining sustainability within a catchment.

¹*Taking Water Responsibly* – government decisions following consultation on changes to the water abstraction licensing system in England and Wales. (DETR March 1999).

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Wiser, sustainable use of natural resources



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Achievements:

- An Environment Agency Research and Development study on the most appropriate use of water for agriculture resulted in the publication of a technical report entitled 'Optimum Use of Water for Industry and Agriculture: Best Practice Manual'.

The report provides an authoritative source of water use figures and will ensure that licensed volumes are appropriate for particular agricultural purposes. This guidance has been incorporated into the work of licensing staff in their auditing of licence applications.

- Regional Waste Minimisation and Recycling Guide published in March 2000.
- Two-year programme of targeted enforcement of unauthorised metals recycling sites completed.
- Agency supported Envirowise

– a free service for businesses offering environmental advice and information. Helps to eliminate waste at source rather than through recycling or disposal.

- Eliminate – Waste Awareness Training game produced in partnership with Groundwork and WWF-UK. The game communicates the enormous benefits that can be brought to a company through waste minimisation.

Tyres in the Environment

Tyres have an essential yet often overlooked role in today's society. We rely on them for both personal and public transport. In the UK we travel some 650 billion-passenger kilometres by road every year, and about 65 per cent of goods are moved by road. Tyres are used in agricultural and industrial machinery, and for transport ranging from aeroplanes to bicycles. But the number of vehicles has doubled over the past 30 years and the distances travelled have nearly trebled over a similar period. More and more

tyres are being used and further increases are expected over the next 25 years. This consumption uses non-renewable resources in tyre production, causes emissions to air, land and water during their use, and required management at the end of use. The Agency has, therefore, chosen to look at tyres for several reasons:

- Tyres are very durable, but during their use fine particles are worn away. These are emitted to air or washed off in road runoff to watercourses, causing contamination. Traffic noise is caused predominantly by tyres above a certain speed, which is a cause of concern for people living near to roads.
- One of the main disposals routes for tyres may well be about to cease. A proposed European Commission Directive on landfill will ban the disposal of whole tyres to landfill by about 2003, and shredded tyres by 2006. More reuse, material recycling and energy recovery options are needed.
- Tyres, once they have reached the end of their useful lives, are a potential energy source with a similar energy content to coal. There are increasing demands for their use in cement kilns, and an overview of the environmental impacts of this option was needed.
- Stockpiled tyres, illegally dumped and other stores are a fire risk and cause aesthetic pollution. Fires in the past have caused severe air and water pollution, so we need to reduce this risk.

The Agency has considered all of these factors in a report – *Tyres in the Environment* (Nov. 98 ISBN 1 873 16075 5).



Limiting and adapting to climate change

Climate change occurs naturally; but increasing concentrations of greenhouse gases in the atmosphere from the burning of fossil fuels has increased the rate of change.

Climate change is expected to have a major effect both on the natural world and on human society. Temperature increases and changes in weather patterns have led to predictions that the pattern of the world's weather may change. There are likely to be more intense heatwaves, floods, droughts and storms, combined with rising sea levels. These changes would have a significant impact on water resources, agriculture, wildlife and human health. If we do not act to limit emissions of greenhouse gases, the world's temperature could rise between 1.4°C and 5.8°C by the end of this Century.

In future the Agency will focus on improving the efficiency of energy use and distribution as a key means of reducing fossil-fuel emissions and reducing energy demand.

The Agency will explore, in partnership with others, the most effective mixture of economic measures, negotiated agreements and direct regulation to ensure that significant cuts are made in 'greenhouse gas' emissions from industry and other sectors.

We will also be at the forefront of measures to inform the public about the issues and to help them take steps to

reduce risks and prevent damage and loss of life from inevitable changes to the climate – such as increased flooding.

A Powerful Proposition – Sustainability Northwest's report summarises the Northwest of England's regional renewable energy study that has:

- determined the region's potential for developing renewable energy resources;
- identified opportunities and constraints;
- developed targets for development to 2010; and
- proposed priorities for action and potential initiatives.

The different technologies considered include both on and offshore wind, biomass, solar, small-scale hydro, landfill gas and energy from waste. The targets proposed will see the region's renewable energy capacity increase from less than 1.3% of total electricity generation capacity today, to around 8.5% by 2010.

At present the Northwest has a renewable energy capacity of just 91 Megawatts (MW). This is supplied by 17 onshore wind projects, five small-scale hydro power units, ten sewage gas projects, 30 landfill gas power projects and between five and ten small roof-top photovoltaic (PV)

installations. An additional 10.5MW of currently unused capacity exists within a municipal waste incineration facility located near to Bolton. This 91MW of production contrasts dramatically with the region's 7,200MW of traditional, coal, gas and nuclear energy capacity.

There are already more than 50 organisations active in the field of renewable energy within the region and a number of renewable energy projects established under the Non-Fossil Fuel Obligation (NFFO) are yet to be completed. These are scheduled to deliver a further 200MW of capacity in the next few years.

The Renewable Obligation will create an entirely new market for electricity generated from renewable and is set to act as the main driver for the UK to achieve its 10% target by 2010.

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Reducing flood risk

Flood risk cannot be eliminated but it can be reduced. The Agency's flood defence strategy aims to minimise risk to life and property, while exploiting the benefits of natural flooding for biodiversity, in an integrated way that will accommodate the inevitable impacts of climate change.

Current estimates are that nearly two million properties are at risk from floods, affecting about ten per cent of the population. The projected growth in household numbers from 21 million in 1997 to 24 million by 2021 represents a 12 per cent increase in housing stock and will place flood risk areas under even greater development pressure.

A number of existing urbanised regions within the LEAP area have been highlighted as being vulnerable to potential flooding from rivers and watercourses. At the same time, pressure for the development of floodplains within

urban areas is increasing. The Agency opposes development within floodplains and aims to secure and, where necessary, restore their effectiveness for flood defence and environmental purposes.

The Agency's role in flood defence

requires it to understand the causes of flooding and to advise on appropriate risk management measures. Within this role, the Agency has to advise on the flood risk impact of both urban development and agricultural practices.

To allow the Agency to meet its objective of 'reducing the risk from flooding', the Agency has permissive powers to carry out maintenance works and build flood defences on designated main rivers.

The Agency is committed to safeguarding nature conservation sites and to minimising the potential impacts on biodiversity and the environment.

The Agency monitors rainfall, river levels and sea conditions, 24 hours a day and uses this information to forecast flooding from most major rivers and the sea where appropriate; many small rivers and streams rise too fast for warnings to be issued.

If flooding is likely, flood warnings are issued to the media and in some places direct to people at home or work. Arrangements for warning residents within a formal Flood Warning Zone have been agreed in consultation with local authorities and emergency services.

New Flood Warning Codes:



The new system was introduced on 12 September 2000 and has taken eighteen months to develop. The new warning codes, icons and definitions have been developed in close consultation with Agency practitioners, local authorities, the media, emergency services and the general public. The new system is designed to be easily understood. It is based on four stages – Flood Watch, Flood Warning, Severe Flood Warning and All Clear

– and will be wide reaching and more customer focused.

Achievements:

- As part of the Flood Warning Codes implementation, the addresses of all homes in known flood risk areas have been identified, and information regarding the new Flood Warning Codes sent to householders within designated Flood Warning Areas.
- Flood Defence staff have been acting as liaison with the various local authorities within the LEAP area to achieve High Level Targets issued by MAFF (Ministry of Agriculture, Fisheries and Food, now the Department for the Environment Food and Rural Affairs – DEFRA). There are fourteen targets in total, which cover a wide range of issues related to identifying risks and managing flood defences together with various environmental initiatives.
- The main focus of the effort in 2000/2001 has been to encourage each Local Authority to prepare a Policy Statement which is a publicly available document setting out its preliminary findings regarding flooding risks and the procedures for dealing with them. The Policy Statement identifies ordinary watercourses, which are deemed to be 'critical' because of their potential to cause significant flooding. Another target requires Local Authorities to provide information for inclusion in a national flood and coastal defence database to be maintained by the Agency.
- Abram Flashes Water Level Management Plan was completed in May 2001 and provides a formal basis for managing the land drainage system and water level requirements in order to provide a sustainable balance between the flood defence, conservation and agricultural interests in the area.
- Mapped floodplain data will be provided to local authorities to assist them in identifying problem areas for the purpose of planning future development. The Agency provides maps of flood risk areas on CD-ROM to all Local Authorities and will continue to update this data on an annual basis.





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The Environment Agency

Further information on the Environment Agency can be found at:
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