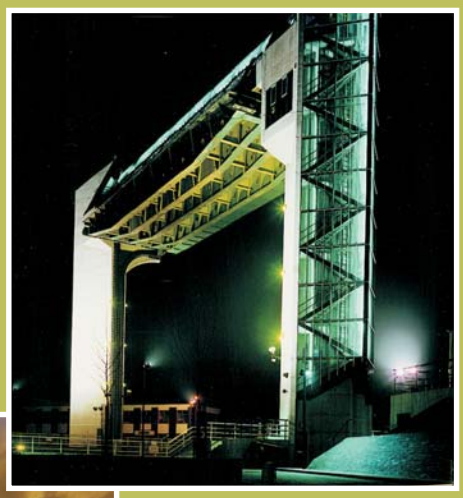
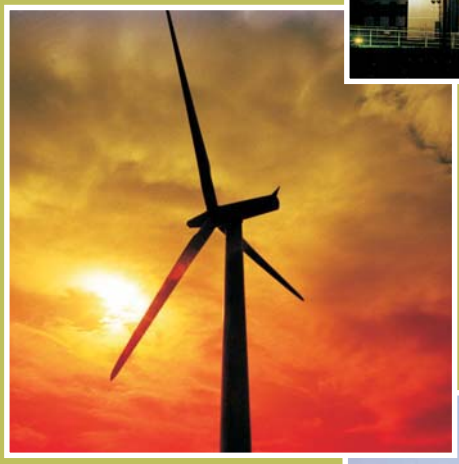
# Managing natural processes and resources

***Aim:***

***To encourage the efficient use of natural resources and manage the effects of natural processes***





Section C

11

## Objectives

- to maintain and improve air, land and water quality
- to encourage the development of renewable energy resources
- to manage and avoid where possible the risk of flooding and coastal erosion

# 11 Managing natural processes and resources

This chapter sets out the approach to protecting and encouraging the sustainable use of the JSP area's natural resources and managing the effects of natural processes. It identifies areas at risk from flooding and establishes a framework for avoiding such risk. It provides guidance on coastal erosion and associated risks. The chapter also sets out priorities for maintaining and improving air, land and water quality and encouraging the use of renewable energy resources.

## Introduction

**11.1** Air, land and water are fundamental **natural resources**. For example, groundwater provides the main source of public water supply, serves industrial and agricultural needs and maintains the base flow of rivers. The JSP area is particularly rich in high quality agricultural land (Grades I and II), which accounts for nearly 50% of land in the JSP area (compared to 16% nationally). The JSP area also contains significant potential mineral supplies.

**11.2** Natural resources can be easily damaged through inappropriate development or pollution and this can have major effects on our health and prosperity and on the environment. It is essential to maintain the quality of these resources through careful management. This should allow more sustainable approaches to be developed in relation to using natural resources, for example, ensuring that new development incorporates energy conservation measures and generating more renewable energy through wind and wave generated power.

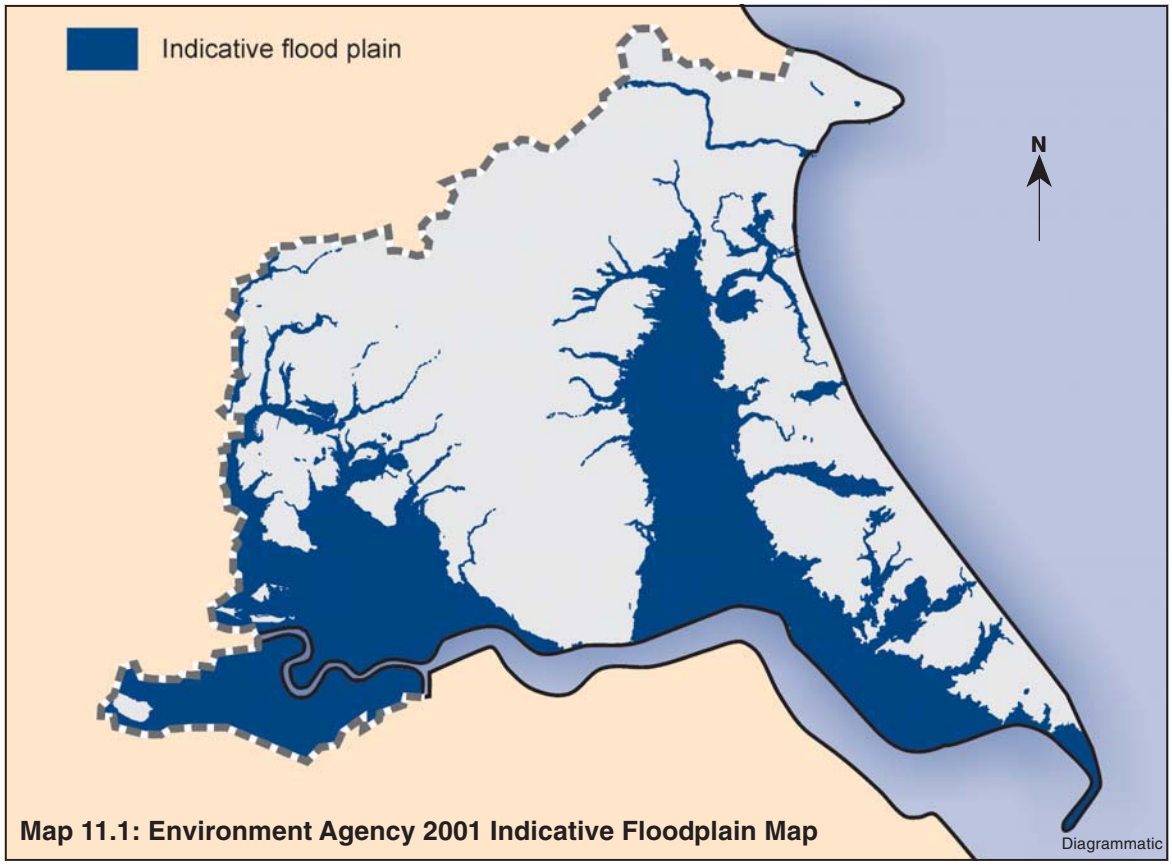
**11.3** **Environmental processes** such as coastal erosion and flooding represent potentially major environmental hazards in the JSP area, with social, economic, safety and environmental implications. Risks associated with these processes are likely to worsen with global warming and rising sea levels. Such processes do not respect local authority boundaries and close liaison with neighbouring authorities and other relevant organisations is often required to ensure that they are managed in a co-ordinated way.

# Managing natural processes

## Flood risk

**11.4** Global and local climate change raises far reaching implications for society and our environment. Storms, floods and droughts across the world provide evidence of the very real threats posed by such change. Annual temperatures are rising globally and mean sea levels in the Humber Estuary and along the Yorkshire coast have also risen. These trends raise major issues for the JSP area with its predominantly low lying geography and the relationship with the North Sea, the Humber Estuary and the various other rivers and watercourses. Large parts of the JSP area fall within the **indicative floodplain area**, as defined by the Environment Agency. Areas included within the indicative floodplain (shown on Map 11.1) have a high risk of flooding from tidal and/or fluvial sources.

**11.5** *Planning Policy Guidance(PPG) 25 - Development and Flood Risk* (2001) and *Regional Planning Guidance(RPG) for Yorkshire and the Humber* both emphasise the need to adopt a 'risk-based' approach to considering proposals for development in, or affecting flood risk areas. A Strategic Flood Risk Assessment (SFRA) has been produced for the East Riding. An initial SFRA has also been prepared for Hull although further work is underway. Both of these assessments have been prepared to inform the preparation of this Plan. These assessments, which took into account the best information available at the time, provide the basis for developing a strategic approach for




**Map 11.1: Environment Agency 2001 Indicative Floodplain Map**

managing the risk from flooding. These draw on the distinctions made in Table 1 of PPG 25 for development in high risk areas, between developed areas, undeveloped areas, and functional floodplain areas. The implications for new development in each of these areas are discussed more fully in Policies NAT2 - NAT4.

**11.6** Within each of the areas mentioned above, the degree of risk from flooding will vary. Information is not currently available to establish a 'gradient of risk'. It is important that more detailed settlement-specific work is undertaken when preparing Local Development Frameworks (LDFs). The Environment Agency have prepared 'Extreme Flood Outline Maps' for the whole of the country. These take into account the volume of water in a river (which directly influences the amount of overtopping that can be expected), as well as the surrounding topography. The coverage of detailed information on ground levels has also been increased.

**11.7** At a local level, information about the adequacy, condition and type of flood defences also needs to be considered further through flood risk assessments. For example, distances from existing or proposed development to the defence line and whether the defences are hard or soft, will have an important influence on the implications of any breach or overtopping incidents. The JSP development strategy provides a framework for prioritising settlement-specific assessments (by indicating the settlements that are likely to accommodate most new development). Site specific flood risk assessments may also be required to enable the implications of individual development proposals to be considered.

**Policy NAT1**

**Comprehensive flood risk assessments will be required to inform the preparation of Local Development Frameworks. These should have regard to:**

- **(i) the type and standard of existing flood defences;**
- **(ii) the distance between existing and/or proposed development and existing and/or proposed flood defences;**
- **(iii) ground levels and the likely depth of flooding;**
- **(iv) the nature of the flooding source; and**
- **(v) the capability to incorporate any remedial/protection works required.**

## Developed floodplain areas

**11.8** Across the JSP area, there are a number of settlements that fall entirely or partially within a floodplain. Most of Hull lies within the indicative floodplain. The areas that are particularly vulnerable in Hull are immediately adjacent to the River Hull and the Humber Estuary, particularly land immediately behind the flood defences, where the velocity and depth of flooding would be highest, if they were breached or over-topped. In the East Riding, a wide range of settlements are at risk from tidal and/or fluvial flooding. For example, places such as Goole, Howden and Tickton lie entirely in the indicative floodplain area whilst parts of Beverley, Driffield, Stamford Bridge, Cottingham and Snaith lie within it.

**11.9** The need to promote urban renaissance and the drive towards making more efficient and effective use of previously-developed land and buildings are highlighted as priorities in this Plan. Many of the settlements identified in the development strategy are also at risk from flooding. PPG25 specifically refers to situations in Eastern England where developments in high risk zones may be necessary, to avoid social and economic stagnation or blight, or to allow existing development to be adequately defended. A balanced approach is therefore required between the need for development and the need to minimise the risk from flooding. Much can be done at site selection, site layout and building design stages to manage and reduce the risk from flooding.

**11.10** New development in settlements within the developed floodplain should avoid the lowest lying areas of land and/or areas where depth of flooding is likely to be greatest (particularly for residential and other 'sensitive' uses). Preparing comprehensive flood risk assessments provides a means to do this. The same principle should also apply to any extensions to settlements that fall entirely within the floodplain. Where places fall partially in the floodplain, the risk from flooding can be minimised by directing development to areas of least, or no risk (in accordance with the sequential approach set out in PPG25).

**Policy NAT2**

**Development within settlements in a floodplain should where possible avoid the risk from flooding by:**

- **(i) avoiding the lowest lying areas of land and/or areas where the depth and velocity of flooding is likely to be greatest;**
- **(ii) avoiding locations immediately adjacent to existing or planned flood defences; and**
- **(iii) avoiding sensitive ground floor uses and incorporating appropriate safety and/or flood proofing measures.**

## Undeveloped floodplain areas

**11.11** The JSP area is largely rural with agriculture (mainly arable) the predominant land-use. Isolated farmsteads and rural communities are spread throughout. Much of the floodplain in the JSP area is therefore **undeveloped** and less likely to be defended to a high standard. Policy DS4 seeks to focus only limited development towards smaller settlements in the JSP area and Policy DS5 seeks to restrict development in the countryside where this can support the function of the countryside as an attractive and viable environmental, economic and recreational resource. PPG25 highlights that only development of an essential nature will be allowed in the undeveloped floodplain.

**11.12** Due consideration will need to be given to the 'sensitivity' of any development with regard to the impact of flooding. In order to ensure personal safety and to reduce the likelihood of damage to property, development in such areas should avoid residential uses at the ground floor level (homes with a first floor provide people with a place of safety) and should incorporate appropriate minimum ground floor levels. Consideration will also need to be given to the risk of flooding in other areas as a result of development in an undeveloped floodplain area.

**Policy NAT3**

**Development in the undeveloped floodplain should be limited to that which is essential and should have full regard to the risk posed by flooding.**

## Functional floodplain areas

**11.13** Functional floodplain areas are designed to flood or to have water regularly flow over them during flooding events. A number of existing (and potential) functional floodplain areas have been identified in the JSP area. These include:

- existing natural and man-made washland areas adjoining the River Aire at Snaith and Gowdall, the Aire and Calder Navigation, the River Went, the Market Weighton Canal and the River Derwent (the creation of new washland areas is also being considered through flood defence management studies);
- areas subject to managed realignment proposals, including selected sites adjoining the Humber Estuary, and the Rivers Ouse and Trent; and
- inter-tidal habitat areas along the Humber Estuary, created to offset losses resulting from the realignment of defences or rising sea levels (often referred to as coastal squeeze) including a scheme that is currently underway at Thorngumbald (other sites are being investigated in the outer and inner estuary and along the Rivers Ouse and Trent).

**11.14** New development within washland areas can interfere with their storage role, increasing the risk of flooding elsewhere and, in addition, can be highly vulnerable to flooding. Locating new development immediately behind existing flood defences could pose significant risk to human life and property, due to the likelihood of strong flows and deep accumulations of water that would rapidly result from the overtopping or breach of tidal defences.

**11.15** Inappropriate development should be avoided immediately adjacent to any flood defences, to enable inspection and engineering works to take place. The managed realignment of defences, with or without habitat creation, can help to make the defences last longer and provide more effective protection. Development could undermine realignment approaches, or itself be undefended and therefore be highly liable to flood.

**Policy NAT4**

**Inappropriate development should be avoided in the functional floodplain particularly in areas:**

**(i) of existing and potential washlands;**

**(ii) alongside the tidal flood defences of the Humber Estuary;**

**(iii) immediately behind existing flood defences;**

**(iv) subject to the managed realignment of flood defences; and**

**(v) proposed for new inter-tidal habitats.**

### Environmental flood risk management

**11.16** Soft and hard engineering works can provide environmental solutions for reducing the risk from flooding, both on site and across a wider area. For example, the creation of water storage areas can create new habitat areas and provide flood management benefits (often in a cost-effective way). Sustainable urban drainage systems can reduce the quantity of surface water discharges, improve the quality of surface water run-off (prior to discharge to a watercourse or sewerage system) and create new habitat areas, such as ponds and wetlands. The extensive network of drains, washlands and watercourses in the JSP area performs an important water collection and disposal function. The integrity of this network could be impaired by inappropriate development or infrastructure works.

**Policy NAT5**

**Environmental management methods will be promoted where possible to reduce the risk of flooding and enhance biodiversity, by:**

**(i) using sustainable urban drainage systems;**

**(ii) creating new habitat and water storage areas; and**

**(iii) protecting the integrity of existing watercourses, washlands and land drainage systems.**

## Coastal management

**11.17** The whole of the coast is subject to varying degrees of coastal erosion. This includes chalk and boulder clay cliffs, and sand and shingle beaches. It is one of the fastest eroding coastlines in North-West Europe, with an average rate of loss, over its whole length, of 1.8 metres per year.

**11.18** Coastal processes have a direct bearing on natural resources such as land and on the protection of internationally important nature conservation sites in the Estuary and along the coast. Chapter 10 highlights the strategic nature conservation importance of the coast and the archaeological significance of coastal and wetland areas. Chapter 9 also highlights the landscape value of the coast.

**11.19** Coastal erosion can also have material loss and cost consequences when it involves, for example, the loss of a built asset such as a home, farm building or a caravan. The majority of the coastline consists of undeveloped open countryside and agricultural holdings, interspersed with the main seaside resort towns of Bridlington, Hornsea and Withernsea, other smaller settlements and caravan/holiday parks.

**11.20** Many environmental, economic and social challenges, issues and opportunities arise for coastal communities, as highlighted throughout this Plan. An *Integrated Coastal Zone Management (ICZM) Plan* has been prepared for the East Riding. This is a relatively new approach to coastal management that recognises the inherent linkages in coastal management between geographical areas and social, economic and environmental sectors. It seeks to bring all decision-makers together to resolve issues – ensuring integration between policies and plans. Key issues for managing development along the coast in the JSP area are summarised in Table 11.1.

**Table 11.1: Key issues relating to development on the coast**

| |
|---|
| The coast is particularly vulnerable to climate change in terms of rising sea levels, changing patterns of tidal flooding and the warming of sea waters. |
| An increased rate of coastal erosion and landslide leads to loss of property and agricultural land. |
| The shape of the coast line is changing with the loss of coastline material and the presence of irregular shaped cliff lines and landslides, along the soft boulder clay cliffs of Holderness. |
| Flood risk issues are largely associated with the Humber Estuary and smaller watercourses, such as drains and dykes. |
| The towns along the coastline and Easington Gas Terminal are defended by coastal protection schemes. Away from these areas, the coast is largely undefended. |

**11.21** The *Shoreline Management Plan* (SMP) for the Holderness Coast (Flamborough Head to Sunk Island) forms the 'coastal defence plan' for the area for the next 50 years. The recommendations of this strategy were that urban/main settlements should be protected, whilst largely rural/agricultural areas should remain unprotected, allowing natural processes to continue. Areas are identified where development is likely to be affected by erosion (within the lifetime of a building), including on land close to eroding cliffs and coastline, on land on the seaward side of coastal defences and in areas subject to managed retreat or monitor/review defence approaches.

**11.22** The ICZM plan and SMP both suggest that 'roll back' (where businesses or dwellings are physically moved further inland) may be the best response to coastal erosion in some areas. LDFs provide the opportunity to identify (and regularly update) the areas of land likely to be subject to erosion in conjunction with the ICZM.

**Policy NAT6**

**Development in coastal areas should, in general, be focused on existing settlements in accordance with the development strategy. Any new development proposed at an undeveloped coastal location, or the roll back of existing development, should avoid:**

- **(i) the risk from flooding, erosion and landslip, within the lifetime of a building;**
- **(ii) areas subject to managed realignment or monitor/review of coastal defence management measures.**
- **(iii) a requirement to construct new or to extend or enhance existing coastal protection or flood defences;**
- **(iv) significant interference with natural coastal or estuarine processes; and**
- **(v) increasing the risk of flooding and coastal erosion, or affecting accretion and deposition of eroded materials on sites elsewhere.**

# Managing natural resources

## Water

**11.23** Water is a vital component of the environment – it is essential for the health and survival of human, animal and plant life. Water resources are required for domestic use, industry, agriculture, recreation and provide a habitat for wildlife. Many activities can have a harmful effect on the water environment, for example:

- pollution from domestic, industrial or agricultural processes (or the physical effects such as soil erosion caused by these processes);
- sewage discharge;
- waste disposal;
- over abstraction;
- inefficient and wasteful use of water;
- surface water run-off from developed areas;
- mineral extraction; and
- commercial or recreational activities such as shipping or fishing.

**11.24** International and national policies all focus on safeguarding and improving a sufficient water supply. Much has been done nationally and locally through regulation and investment to improve water quality. However, there still remains much to be done to overcome the legacies of outdated processes and infrastructure. RPG highlights the need to maintain adequate potable and industrial water supplies from environmentally sound resources as being necessary in order to allow continued development in the region. The integrated management approaches of shoreline management plans and river management plans (produced by the Environment Agency) also offer key opportunities to address water quality issues. Table 11.2 lists the various water resources in the JSP area that are regarded as being of strategic importance.

**Table 11.2: Strategically important water resources**

Groundwater supplies in the JSP area are found in the chalk aquifer that underlies the Yorkshire Wolds and in the Sherwood Sandstone aquifer, to the west of Goole. Once polluted, the restoration of a groundwater aquifer is difficult, prolonged and expensive and therefore prevention of pollution is important. Over-exploitation is also a significant concern.

Groundwater is particularly sensitive to contamination in parts of the Wolds where the drift cover of the chalk aquifer is thin or absent. Driffield and the Headwaters of the River Hull, which are mostly fed by springs from the chalk Wolds, are highlighted as being sensitive to the risk of groundwater contamination.

There are 12 public supply boreholes and 3 adit systems in the JSP area. Groundwater Source Protection Zones are designated by the Environment Agency around all of these to highlight potential risks of contamination. Zones are defined according to the estimated travel time of pollutants (ranging from 50 to 400 days). In each zone, guidance relating to the types of development considered to be acceptable is provided, with greater restrictions applying to sites closer to the particular borehole or adit.

Three river intake zones are identified in the JSP area at Elvington, Loftsome Bridge and Tophill Low.

**11.25** With increasing population levels and demands on water use, many sewer systems and waste water treatment works have become or are likely to become overloaded. Major investment in new waste water treatment works has taken place at Goole, Withernsea, Saltend (adjacent to Hull) and at Bridlington. Further works are proposed, for example at Hornsea. Improvements to existing treatment works are based on current demand and/or on new development allocations set out in existing local plans. Yorkshire Water has indicated that further capacity at the new waste water treatment plants along the Humber Estuary can be created to deal with additional development.

**11.26 Sustainable Urban Drainage systems (SUDs)** can significantly reduce the risk of overloading combined foul and surface water drainage systems. This minimises pollution discharged into watercourses and reduces the quantity of water discharged while increasing the amount of ground water recharge. Yorkshire Water has identified Hessle, North Ferriby, Hedon, Willerby, Brough, Anlaby, Cottingham and Withernsea as being areas that are subject to flooding from sewers. SUDs could contribute positively to addressing such problems in these and other areas. As discussed in paragraph 11.16, SUDs can also have significant ecological benefits.

**11.27** The JSP area's water resource needs to be carefully managed and protected. Inappropriate new development can have a significantly adverse affect on the quality and quantity of this resource.

**Policy NAT7**

**Surface, marine and groundwater resources will be protected from development, which would harm their quality or quantity. Particular attention should be given to:**

**(i) protecting the integrity of the Groundwater Source Protection Zones;**

**(ii) protecting the integrity of river intake zones;**

**(iii) conserving water at source, such as through Sustainable Urban Drainage Systems;**

**(iv) avoiding risks to fisheries and nature conservation interests;**

**(v) ensuring that adequate water resources exist to serve development proposals; and**

**(vi) maximising efficiency of water use through design of new development.**

## Land

**11.28** The Government highlights land as being a key natural resource that should be included in development plans. The Government's overall policy aim with respect to soils, as highlighted in the emerging *Soil Protection Strategy*, is to ensure that as a nation we use and protect soils in a way that is both sustainable in its own right and also contributes to our wider aim of achieving sustainable development. The Government is seeking to ensure that soil receives as much protection as air and water. There are a number of measures which can be implemented to help conserve soil and land resources, including:

- minimisation, recycling and re-use of waste;
- land restoration following mineral extraction or landfill;
- remediating and bringing forward derelict, contaminated and previously-developed sites and disused buildings for redevelopment;
- promoting good land management practices;

- minimising inappropriate development associated with, for example, industrial and agricultural process; and
- avoiding the future pollution of land.

**11.29 Contaminated land** covers cases where the state of land is such that significant harm to health, ecology, property or water is occurring or is likely to occur. In the past, landfilling with waste sometimes took place without adequate precautions against leaching or the escape of landfill gases. Uncertainties about remediation requirements and the liability for them can cause blight, adding to pressures on greenfield sites and affecting urban regeneration.

**11.30** A new regime for dealing with contaminated land came into effect in April 2000 (Part IIA of the *Environmental Protection Act 1990*). The basic premise that the polluter, or the current landowner, should treat contamination on their sites remains. Local Authorities were required to identify contaminated sites and produce a register by July 2001.

**11.31** Tackling dereliction and contamination is critical in creating realistic redevelopment opportunities and improving the overall attractiveness of our towns and cities as places to live, work and invest in. Regeneration programmes and funding will continue to be essential in bringing forward previously-developed land for development. Recycling land, particularly in Hull, has a major role to play in providing opportunities to help meet national and regional targets for house building.

**11.32** Agricultural land is a national resource and important to the rural economy. In particular, **Best and Most Versatile** (BMV) agricultural land (comprising grades 1,2 and 3a) represents the most flexible, productive and efficient land. Within the JSP area, the proportion of BMV agricultural land is very high, with 47% of agricultural land in Grades 1 and 2, compared to 16% for England (information is not currently available to distinguish between grades 3a and 3b).

**11.33** National guidance recommends that development of BMV agricultural land should not be permitted unless opportunities have been assessed for accommodating development needs on previously-developed sites, on land within the boundaries of existing developed areas, or on poorer quality farmland. An overriding need for development should be demonstrated before the loss of such land is allowed. In addition, careful consideration will need to be given to other sustainability issues, for example, any nature conservation value present on the land, the need to protect natural resources or the amenity value of such land.

**Policy NAT8**

**Land in the JSP area will be maintained and improved by:**

**(i) reclaiming currently derelict and contaminated land;**

**(ii) avoiding the contamination of land through development proposals; and**

**(iii) avoiding where possible development that would result in the loss of Best and Most Versatile agricultural land. Where there is an overriding need for development, this will be directed, where possible, to land of the lowest grade first unless other sustainability considerations suggest otherwise.**

## Mineral resources

**11.34** Minerals are an important national resource and certain areas are safeguarded from development to protect potential mineral supplies. *Minerals Planning Guidance Note 1* highlights the need to conserve minerals as far as possible whilst ensuring an adequate supply to meet needs. RPG highlights the need to reconcile the requirement for an assured supply of different types of minerals as far ahead as possible, with the potentially adverse effects that large-scale extraction can have on:

- the natural environment;
- quality of life for local communities (often for extended periods of time); and
- environmental, amenity and congestion costs of transporting large volumes of materials by road.

**11.35** The JSP area contains a wide range of mineral types, found mostly in the more rural parts of the East Riding. These include aggregate sand and gravel and crushed rock. The *Joint Minerals Local Plan* (JMLP) identifies 'areas of search' and, where appropriate, 'preferred areas' for each of these minerals. These locations are summarised in Table 11.3.

**Table 11.3: Identified mineral resources in the JSP area**

| **Aggregate sand and gravel** | **Aggregate crushed rock** |
|---|---|
| **preferred area**<br>Catwick<br>Brandesburton<br>North Cave | **preferred area***<br>none |
| **areas of search**<br>Brandesburton<br>Leven<br>Gransmoor & Lissett<br>North Cave | **areas of search ***<br>Greenwick, Huggate<br>Swinescaif , South Cave |
| *sensitive extensions to existing quarries should result in fewer significant environmental impacts than the opening of a new quarry. | |

**11.36** Mineral resources are a finite resource. Over-exploitation or sterilisation would leave future generations without the raw materials to meet their needs. Potential effects on the JSP area's environment, transportation network and local communities need to be carefully considered through the preferred areas and areas of search identified in the JMLP and summarised above. Loss of these areas through other forms of development would hinder mineral supply in the JSP area resulting in increased net importation of minerals and/or the need for alternative sites. Site reclamation provides a long-term opportunity to enhance the environment.

**11.37** Using recycled and 'secondary' aggregates is regarded as a sustainable alternative to the use of primary aggregates. Proposals which help to increase the use of such resources (as an alternative to primary aggregates) will be supported.

**Policy NAT9**

**(a) Provision will be made for a supply of minerals that makes an appropriate contribution towards local, regional and national needs. Important mineral resources should be safeguarded from sterilisation by other development. Proposals for the extraction of mineral resources should provide for a high standard of reclamation to secure landscape, nature conservation and community benefits from the site's after use.**

**(b) Proposals that help to minimise the use of primary aggregates by using recycled and secondary aggregates will be supported.**

## Waste management

**11.38** The Government's national strategy for waste management is set out in *Waste Strategy 2000*. This sets a vision of sustainable waste management in England and Wales for the next 20 years and the steps by which it can be achieved. The strategy aims to maximise the amount of value we recover from waste through increased recycling, composting and energy recovery. It sets challenging targets for better waste management, for example:

- recovering value from 45% of municipal waste by 2010 (at least 30% through recycling or composting); and
- recovering value from two thirds of municipal waste by 2015 (at least half of that through recycling and composting) and to go beyond this in the longer term.

**11.39** The strategy also highlights the need to develop new and stronger markets for recycled materials and to substantially reduce the amount of waste sent to landfill. The *EU Landfill Directive*, when agreed, will require the amount of municipal waste going to landfill to be reduced to 35% of 1995 levels by 2020. Methane emissions are expected to decline as a result of waste and landfill management policies.

**11.40** *PPG10 - Planning and Waste Management* (1999) highlights the important role that the planning system has to play in achieving more sustainable waste management. Objectives include:

- meeting the needs of society for the re-use, recovery and disposal of waste;
- meeting the needs of businesses;
- encouraging sensitive waste management practices;
- minimising adverse environmental impacts and in particular protecting areas of designated landscape and nature conservation value;
- considering the need for new waste facilities; and
- ensuring that opportunities are taken to incorporate re-use/recycling facilities in new development.

**11.41** Moving towards a vision of sustainable waste management is set out in the *National Waste Strategy 2000* and the *Yorkshire & Humber Regional Waste Strategy - Lets Take It From The Tip* (2003). This sets out the objectives and an action plan to develop more sustainable waste management systems across the region. It also proposes policies for inclusion in the 2003/4 selective review of RPG. This *Draft Revised RPG* (2003) requires local authorities in the Humber sub-region to make provision for facilities to recycle or compost a minimum of 137,000 tonnes of municipal waste per annum (tpa) by 2005/6, 239,000 tpa by 2010/11 and 260,000 tpa by 2015/16. In

due course these figures will be further subdivided to provide targets for the local authority areas within the Humber sub-region. These targets will only be achieved by providing new infrastructure such as Materials Recycling Facilities and composting plants. The type, mix and location of waste facilities will be determined to meet the Best Practicable Environmental Option (BPEO). This is the waste management solution that provides the most benefits or least damage to the environment at acceptable costs.

**11.42** *Draft Revised RPG* sets out the importance of an acceptable and well-managed network of 'bring' sites to which people can take their waste. These include larger 'civic amenity' sites (both authorities refer to these as Household Waste Recycling Sites) and smaller 'bank' facilities (e.g. paper, plastic and bottle banks). *Draft Revised RPG* identifies a need for 4 additional household waste recycling sites in the Humber sub-region, to achieve a standard of 1 per 15,000 households. The East Riding of Yorkshire Council already exceeds this standard, and Hull City Council has a programme to create 7 additional sites, which will exceed the standard by 2007. For 'bank' facilities *Draft Revised RPG* recommends a standard of 1 facility per 750 households. Both Councils have a continuing programme to develop further sites in partnership with businesses, developers, schools and community and environmental groups.

**11.43** The *Joint Waste Local Plan* (First Deposit Draft March 2001) sets out the *Joint Waste Management Strategy* for Kingston upon Hull and the East Riding. Its objectives include:

- identifying future waste management needs and the capacity of existing facilities to deal with all types of waste;
- promoting the management of waste more sustainably, in line with the national waste strategy; and
- seeking to protect people and the environment from the harmful effects of waste development.

**11.44** An important first step towards a more sustainable approach to waste is to reduce the amount of waste being produced. The processing and disposal of waste requires the use of land which itself is a finite resource, sensitive to disturbance and pollution. Re-using waste materials helps to put waste to beneficial use and reclaim its value. Disposing of waste as close as possible to its point of arising helps to avoid transporting waste over long distances which increases the consumption of fuel and creates more pollution. Waste management operations should not have any adverse impacts on the JSP area's environment, transport network or on local communities.

**Policy NAT10**

**(a) Waste plans and management strategies should seek to reduce levels of waste production, decrease the amount of waste going to landfill and encourage re-use and recycling. Provision should be made for waste facilities that support this approach.**

**(b) Waste plans and management strategies should make provision for waste facilities that will enable the targets and standards set at regional level to be met. This provision will include recycling and composting facilities, and household waste recycling sites and 'bank' facilities.**

**(c) Decisions on waste management facilities should be based on the following principles:**

- **(i) consideration of the Best Practicable Environmental Option (BPEO) for each waste stream;**
- **(ii) sub-regional self-sufficiency;**
- **(iii) the proximity principle; and**
- **(iv) the waste hierarchy.**

**(d) Ancillary development which contributes towards creating viable markets for reusing and recycling waste materials will also be supported where this accords with other plan policies.**

## Renewable energy

**11.45** Renewable energy sources, particularly from the sun, wind, and water offer the potential to increase diversity and security of supply and reduce harmful emissions to the environment. The Government's White Paper *Our energy future - Creating a low carbon economy* identifies the need to address both climate change and the implications of reduced oil, gas and coal produced power by 2020 and has set a target to generate 10% of U.K. electricity from renewable sources by 2010 and 20% by 2020. *PPS22 – Renewable Energy* (2004) recognises the part planning can play in facilitating more renewable energy development, and encourages planning authorities to develop criteria to help identify broad areas where development of particular types of renewable energy may be appropriate. Specific sub regional assessments and targets in *Planning for Renewable Energy Targets in Yorkshire and the Humber* (2004) will assist LDFs in determining the likely proportion that each authority could accommodate within the JSP area.

**11.46** The *Selective Review of RPG12* (2004) (the adopted version of *Draft Revised RPG*) indicates that the region could increase the proportion of electricity consumed regionally from renewable resources to 9.4% by 2010 and to 22.5% by 2020. The Humber sub-region has a vital role to play in achieving these targets. A sub-regional target of 146MW of energy is proposed by 2010 (this figure includes 26MW of existing capacity). This sub-regional target equates to 22% of the total regional target. In addition, it is proposed that 160MW of power will be generated from offshore sources. The combined onshore and offshore targets equate to just over 45% of the regional target. This information has come from a specific study (*Planning for Renewable Energy Targets in Yorkshire and the Humber* (2004)) commissioned by the Government Office for Yorkshire and the Humber. In the absence of a sub-regional target beyond 2010, it is intended that further renewable energy development will be encouraged and that this will contribute towards meeting regional and national targets.

**11.47** The target quoted within Policy NAT11 relates to on-shore capacity as offshore facilities are normally outside the control of the local planning authorities. Offshore energy capacity is however very significant in this area and servicing and transmission facilities on-shore will be required to support such development. Any such development should normally be focussed on the existing developed parts of the coastline having due regard to other policies within this and other chapters of the JSP.

**11.48** In the JSP area, there has been considerable interest in realising the area's potential for wind power. This has been along the estuarial and coastal locations of Holderness with its reliable and high wind speeds and in The Wolds. These areas also tend to have significant ecological value and landscape character. Because these areas are generally attractive in landscape terms and in the case of the coast fairly flat, there may be concerns about the potential for new structures to be visually intrusive (Policies ENV4 and SP4 deal with these issues respectively). Given the area's close relationship to the North Sea and the Humber Estuary, consideration should also be given to the potential for generating power from tidal processes although, over the plan period, it is likely that the contribution from this source will be limited. Other forms of renewable energy generation such as, for example, bio-mass or solar energy may also have a part to play in the JSP area, especially in future years.

**11.49** Proposals for renewable energy development will generally be supported in recognition of the positive contribution that such development can make to meeting sub-regional, regional and national targets, However, the benefits from any proposal will always have to be weighed against other environmental, economic and social effects. In particular, given the anticipated potential that exists in this area for wind energy, LDFs have an important role to play in establishing criteria based policies to assess the impact of such development. Suitable locations will clearly need to satisfy the operational requirements of renewable energy development but will also be based on the appropriateness of the area to accommodate such development.

**Policy NAT11**

**(a) Development involving the generation of energy from renewable resources will be supported where this contributes towards meeting the sub-regional target of 146 MW of additional on-shore capacity by 2010 (and to meeting national and regional targets beyond this date) where this does not result in a significant adverse environmental, economic or social impact.**

**(b) Wind energy development will be encouraged except in areas covered by international and national environmental designations. Servicing and transmission facilities serving off-shore wind energy development will also be supported with preference being given to locations within existing developed parts of the coastline (in accordance with Policy NAT6). Local Development Frameworks will establish criteria based policies for use in the assessment of the impact of proposed developments.**

| Table 11.4: Monitoring table – Managing natural processes and resources | | | | |
|---|---|---|---|---|
| **Policy** | **Indicator** | **Target** | **RPG link** | **Implementation** |
| **Flood risk** (NAT1) | % of JSP area covered by comprehensive flood risk assessments | 100% coverage in indicative floodplain | R2 | LDFs |
| **Developed floodplain areas** (NAT2) | Number of planning applications permitted contrary to the advice of the Environment Agency where the objection was made on flood defence grounds | Nil | R2 | Determination of planning applications, LDFs |
| **Undeveloped floodplain areas** (NAT3) | Number of planning applications permitted for non-essential developments in the undeveloped floodplain | Nil | R2 | Determination of planning applications, LDFs |
| **Functional floodplain areas** (NAT4) | Number of planning applications permitted for non-essential developments in the functional floodplain | Nil | R2 | Determination of planning applications, LDFs |
| **Environmental flood risk management** (NAT5) | Number of developments incorporating environmental management methods to reduce the risk of flooding | Increase | R2<br>R3 | Comprehensive flood risk assessments, LDFs |
| **Coastal management** (NAT 6) | Number of planning applications permitted for non-essential developments in areas identified to be at risk from flooding, erosion and landslip | Nil | R1 | LDFs, Integrated Coastal Zone Management Plan, determination of planning applications |
| **Water** (NAT7) | Number of developments incorporating sustainable urban drainage systems or water conservation measures<br><br>Number of planning applications granted for development within groundwater source protection zones and river intake zones which would harm their quality or quantity | Increase<br><br>Nil | R3 | LDFs, determination of planning applications |

| Policy | Indicator | Target | RPG link | Implementation |
|---|---|---|---|---|
| **Land** (NAT8) | Amount of Best and Most Versatile agricultural land lost due to development<br>Area of derelict or contaminated land which has been regenerated | No net loss<br><br>Establish baseline data and set appropriate targets | N3<br>N5 | LDFs, determination of planning applications, Citybuild |
| **Mineral resources** (NAT9) | Number of planning applications permitted for developments affecting important mineral resources<br><br>Number of restoration and afteruse schemes implemented following mineral extraction | Establish baseline data and set appropriate targets<br><br>Increase | R4 | Joint Minerals Local Plan, determination of planning applications |
| **Waste management** (NAT10) | Tonnage of waste in landfill sites<br>% of waste recycled | Reduce<br>Increase | R5 | Joint Waste Local Plan, Municipal Waste Management Strategy |
| **Renewable energy** (NAT11) | Energy generated from renewable sources | At least 10% by 2010 Contribute to sub-regional target of 146 MW of energy by 2010. | R6<br>S5 | LDFs, determination of planning applications |