FINAL REPORT

Regional Partners in the North East

Valuing the Environment of the North East of England

June 2001

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Reference 7033

For and on behalf of
Environmental Resources Management

Approved by: Alistair Fulton

Position: Director of Policy & Strategy

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CONTENTS

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Steering Group:

National Trust
Environment Agency
One North East
Royal Society for the Protection of Birds
Countryside Agency

Also with thanks to:

Alnwick District Council
British Trust for Conservation Volunteers
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Council for the Protection of Rural England
Country Land Owners Association
Durham City Council
Durham County Council
Durham Wildlife Trust
English Heritage
English Nature
Environmental Industries Federation
Farming & Rural Conservation Agency
Farming and Wildlife Advisory Group
Forest Enterprise
Forestry Commission
Gateshead Metropolitan Borough Council
Government Office for the North East
Great North Forest
Groundwork Trust
Middlesbrough Borough Council
National Farmer Union
North East Regional Assembly
NECESI University of Durham
Newcastle City Council
NFU North East Region
North Tyneside Metropolitan Borough Council
Northumberland County Council
Northumberland Estates
Northumberland National Park
Northumberland Wildlife Trust
Northumbria Tourist Board
Northumbrian Water
Redcar & Cleveland Borough Council
Sunderland City Council
Tees Forest Partnership
The Northern Energy Initiative (TNEI)
Tynedale District Council
Wildfowl & Wetlands Trust
Wildlife Trusts in the North East

GLOSSARY:

BTCV - British Trust for Conservation Volunteers
CBI - Confederation of British Industry
CPRE - Council for the Protection of Rural England
CSS - Countryside Stewardship Scheme
DETR - Department of Environment, Transport and the Regions
DTI - Department of Trade and Industry
EA - Environment Agency
EFT - Environmental Task Force
EIF - Environmental Industries Federation
EGS - Environmental Goods and Services
EN - English Nature
ESA - Environmentally Sensitive Area
ETBPP - Environmental Technology Best Practice Programme
ETSU - Energy Technology Support Unit
FTE - Full time equivalent (employment)
FWAG - Farming and Wildlife Advisory Group
GDP - Gross Domestic Product
GONE - Government Office for the North East
IEMA - Institute of Environmental Management and Assessment
JEMU - Joint Environmental Markets Unit
LA21 - Local Agenda for sustainable development for the 21^{st} century
MAFF - Ministry of Agriculture Fisheries and Food
MBC - Metropolitan Borough Council
NFFO - Non Fossil Fuel Objective
NVQ - National Vocational Qualification
ONS - Office of National Statistics
RDP - Rural Development Programme
RES - Regional Economic Strategy
RPG - Regional Planning Guidance
RSPB - Royal Society for the Protection of Birds

VALUING THE ENVIRONMENT OF THE NORTH EAST

EXECUTIVE SUMMARY

INTRODUCTION

Aims: The environment of the North East of England is one of the region's biggest assets. For the first time, this study quantifies the contribution of the environment to the region's economy and provides recommendations for increasing this contribution in the future.

The study has been made possible by the co-operation and enthusiasm of regional partners including the National Trust, One North East, the Environment Agency, the Countryside Agency, the RSPB, English Heritage and the Government Office for the North East. It has been undertaken by Environmental Resources Management Ltd (ERM) and the Centre of Urban and Regional Development (CURDS) at the University of Newcastle.

Scope: The study focuses on the economic significance of the natural and historic built environment in terms of:

- activities which aim to protect or improve the environment, such as the manufacture of pollution control equipment;
- activities which generate income from environmental good practice; and
- activities which depend on a high quality environment, such as many tourism activities.

In particular, the study covers:

- **The Environmental Industry** - private, public and voluntary sector organisations involved in environmental improvement.
- **Land Based Industries** - environmental improvement and conservation activities in land based sectors such as agriculture and forestry.
- **Capitalising on a High Quality Environment** - the importance of the environment to activities such as tourism, leisure, films and media, and the role of the environment in helping to attract investment to the region and contributing to quality of life for residents and visitors.

HEADLINE FINDINGS

THE CURRENT SITUATION:

The study shows that at least 51,666 jobs in the North East are directly related to the environment. These jobs represent 6% of total current employment in the North East (920,000) and are clearly significant when compared to employment in other sectors in the North East (see *Table 2).*

The contribution of the environment to regional employment in the North East is larger than that in other regions, such as the North West and West Midlands, where it generates around 5% of employment.

These activities contribute approximately 5% of the North East total GDP (£1,106 million, out of a total of £24,300 million).

Table 1 ***Environmental Employment in the North East***

Category of environmental employment:	Employment	GDP £ million
The Environmental Industry:		
Private Sector Environmental Suppliers	14,099	
Construction related employment	1,200	
Environmental Management jobs in Industry	425	
Public sector environmental posts	3,761	
Environmental jobs in Academic Institutions	400	
Environmental jobs in the Voluntary Sector	454	
	20,339	£480
Land Based Industries:		
Environmentally beneficial farming	1,918	
Environmentally beneficial forestry	635	
Organic farming	46	
Regional Produce	900	
Fisheries, sports and leisure	570	
	4,069	£81
Capitalising on a High Quality Environment:		
Tourism employment based on a high quality environment	27,000	
Film & Media based on the high quality environment	258	
	27,258	£545
Total	**51,666**	**£1,106**

Note: Employment shown as Full Time Equivalent jobs (FTE).

Table 2 ***Comparison with employment in selected other sectors in the North East***

Sector:	Sector Employment
Environment related employment	**51,666**
Construction	50,800
Chemicals manufacture	24,000
Motor vehicle manufacture	13,000
IT equipment manufacture	7,500
Transport & communications	42,000

FUTURE OPPORTUNITIES:

Analysis of future growth potential shows that employment relating to the environment in the North East could increase by approximately 26,400 by 2010 to 78,000. Growth areas include:

- **The Environmental Industry** - Significant growth opportunities for the region's suppliers of environmental goods and services are being driven by factors such as the increasing demand for waste management and expansion of environmental regulations. There is also scope for increasing the number of environmental management posts in manufacturing industry in the North East and growth in academic posts.
- **Land Based Industries:** There is significant scope for expanding environmentally beneficial farming and forestry, organic produce and 'regional produce'. Growth in these activities will help to secure farm incomes and sustain rural communities badly hit by the recent foot & mouth epidemic. The growth will be driven by increased Government and European funding and increasing consumer demand for high quality regional and organic produce - sales of organic produce, for example, have doubled annually over the last four years and look set to continue to grow strongly in the future.
- **Capitalising on a High Quality Environment:** As recognised by the Northumbria Tourist Boards strategy for 1998-2002, there is scope for expanding tourism based on the region's unique natural and historic built environment. This growth will need to be managed carefully in order to avoid damaging the very environment on which it is based.

RECOMMENDED ACTIONS:

Recommended actions for capitalising on the growth potential of the environmental sector are described in detail in Section 6 of the report and summarised below.

Actions will need to tie into strategies and funding programmes to develop the North East, including: implementation of the Regional Economic Strategy; the European Objective 2 programme; the Rural Development Programme; the Single Regeneration Budget; New Deal and the Neighbourhood Renewal Action Plan.

1

Support growth in the environmental goods and services industry in the North East.

Environmental businesses already generate over 14,000 jobs in the North East and have good potential for future growth in the face of increasing demand for environmental technologies and services at home and overseas. Experience from elsewhere has shown that environmental businesses can benefit significantly from carefully targeted business support, including support relating to:

- identification of market opportunities at home and overseas;
- assisting access to funding sources, 'business angels' and available business support;

- company marketing activities and trade missions;
- involvement of environmental businesses in initiatives to develop regional supply chains and business clusters in other industry sectors;
- development of innovative environmental technologies & services and links to academic R&D;
- better networking between environmental businesses;
- advice on business best practice, e.g. use of IT and doing business overseas.

By Whom:
A well co-ordinated sector support programme needs to build on existing environment sector initiatives in the region and work closely with industry bodies such as the Environmental Industries Federation (EIF). Key regional partners that should be involved in environmental business support initiatives include One North East, the Small Business Service, the Environment Agency and Local Authority economic development functions.

Funding Opportunities:
One North East cluster development fund; business development and competitiveness funding under Objective 2.

2

Continue to help industry in the North East make cost-effective improvements to environmental performance.

A minority of companies in the North East have demonstrated the cost savings achievable through environmental good practice such as waste minimisation, energy audits, recycling and environmental management systems. Significant scope exists for more widespread adoption of cost effective environmental good practice which will help enhance industry's competitiveness.

Regional partners need to work together to design and deliver high quality regional projects and make best use of available resources through funding programmes such as Objective 2. The actions of different support providers need to be effectively co-ordinated, targeted and designed to ensure that they meet the needs of businesses and increase rates of participation, particularly amongst SMEs.

By Whom:
Business groups, Chambers of Commerce, Government Office, One North East, the Small Business Service, the Environment Agency, Local Authorities, providers of environmental support to businesses.

Funding Opportunities:
Objective 2 Programme, One North East business competitiveness and innovation funding.

3

Undertake high profile, flagship environmental improvement projects in the North East.

Support the development of high profile environmental improvement projects in the North East (of the scale of 'Turning the Tides') which generate major social and economic benefits, as well as environmental gains. Potential future flagship projects include:

- Major environmental improvements in the Northumberland Coalfield, e.g. around the Blyth and Wansbeck estuaries, which suffer from a legacy of environmental degradation.
- Region-wide application of sustainable construction practices as identified in "Building-in Sustainability: a guide to sustainable construction and development in the North East" prepared by Durham County Council and regional partners. Examples of specific projects include the Wallington Underground House being constructed by the National Trust for community use and to demonstrate sustainable building techniques.

By Whom:
Sub-Regional Partnerships and Local Authorities, One North East, NGOs (such as: the RSPB, Wildlife Trusts, the National Trust, BTCV and Groundwork), English Nature, English Heritage, the Environment Agency, the Countryside Agency and businesses such as Northumbrian Water.

Funding Opportunities:
Examples include: the Objective 2 Programme, regional and sub-regional regeneration programmes, the New Deal / Environmental Task Force programme, Heritage Lottery Fund.

4

Expand community-led environmental regeneration projects in the North East.

There are a number of very successful community-led environmental regeneration projects in the North East and plenty of opportunities to expand these initiatives through programmes such as Objective 2, Neighbourhood Renewal Action Plans, Community Strategies and the New Deal Environmental Task Force.

Regional partners should therefore work with communities to develop high quality environmental improvement projects which help strengthen local communities, address social inclusion, provide skills and employment for disadvantaged groups, improve local environments, quality of life and make areas more attractive for investment.

In particular, regional partners should help community groups develop project ideas, access funding (e.g. Objective 2), disseminate good practice on community led regeneration and work with groups to implement successful, sustainable projects across the region. Examples include projects undertaken by Groundwork and the National Trust's White Lea Farm project at Easington on the Durham Coast.

By Whom:
Local Strategic Partnerships, Sub-Regional Partnerships and Local Authorities, One North East, NGOs such as Groundwork, the National Trust and the RSPB, the Government Office, the Countryside Agency, the Forestry Commission, the Environment Agency, English Heritage and private sector land owners and businesses.

Funding Opportunities:
Objective 2 Programme, One North East regional and sub-regional regeneration programmes, Local Authority regeneration budgets, Neighbourhood Renewal Action Plan and New Deal / Environmental Task Force.

5

Increase the uptake of environmentally beneficial countryside management practices in the North East.

Provide support in order to increase the rate of participation amongst land based businesses (farmers, forestry) in agri-environment schemes, conversion to organic production and sustainable forestry production. These initiatives bring environmental improvements and help to diversify and sustain rural economies.

Specific actions include increasing awareness amongst the region's farmers of available agri-environment and organic conversion support and technical assistance to farmers in making the changes.

By Whom:
Farming and forestry businesses, the Countryside Agency, the Forestry Commission, the National Trust, MAFF, the NFU, Farming & Rural Conservation Agency, the Farming and Wildlife Advisory Group, One North East, the Environment Agency and Local Authorities.

Funding Opportunities:
Rural Development Programme for the North East.

6

Continue to develop 'regional' and organic produce in the North East.

Consumer demand is growing for high quality 'regional' and organic produce which involves environmentally beneficial production, generates economic benefits for rural food producers and health benefits for consumers. 'Regional' and organic production is relatively undeveloped in the North East and large amounts of produce are supplied from outside the region. There is, therefore, clear potential for strengthening the region's production capacity and marketing to supply markets in the North East and further afield.

Regional partners should continue to work with food producers and processors to develop regional produce and to market these products. These initiatives should build on existing activities such as Northumberland County Council's support to regional food businesses, the Countryside Agency's 'Eat the View' initiative and the National Trust's project to brand and sell organic produce produced by farmers on Trust land.

By Whom:
Food producers organisations, the Countryside Agency, One North East, landowners such as the National Trust, Sub-Regional Partnerships and Local Authorities.

Funding Opportunities:
Rural Development Programme. One North East business and cluster development funding.

7

Develop tourism and recreation in the North East based on the high quality natural and historic built environment.

Recommended actions for capitalising on opportunities to increase the economic value of tourism activities which are based on a high quality environment in the North East include:

- Formulating a strategy for developing environment-related tourism in the region – linked to the region's/Northumbria tourism strategy.
- Strengthening links between environmentally based attractions in the region and encourage owners and operators to develop signposting and collaborative marketing to broaden and lengthen visits to the region.
- Developing stronger branding to attract people from outside the region and increase visits from within the region. Target different market segments with different marketing images and messages.
- Developing infrastructure such as high quality accommodation and rural transport services (including sustainable transport projects - e.g. Sustrans network).
- Promoting environmental good practice (e.g. Green Globe) in the region's tourism industry.

By Whom:
Northumbria Tourist Board, One North East, English Heritage, Local Authorities and Sub-Regional Partnerships, National Trust, the Countryside Agency.

Funding Opportunities:
One North East business development programmes, Objective 2 programme, English Tourism Council programmes.

8 Making it happen

The study has highlighted the contribution of the environment to regional economic development, social regeneration and sustainable development in the North East.

This type of thinking is increasingly recognised in strategic documents such as the Regional Economic Strategy, the Objective 2 programme and the Regional Strategy for Sustainable Development.

However, the future growth potential associated with the environment will not be achieved unless regional partners work together to turn these strategic commitments to the environment into effective action on the ground. Environment needs to be 'mainstreamed' into core economic development and social regeneration practices in the North East.

The study has identified actions through consultation with regional partners. It is now up to organisations such as the Regional Assembly, members of the Environment Sector Group, the Government Office and One North East to ensure that these actions are delivered effectively on the ground and that the region lives up to its potential in expanding the contribution of the environment to the development of the North East.

We therefore recommend that the Regional Assembly and members of the 'Environment Sector Group' should incorporate the study findings and recommended actions into their action plans and strategies for developing the region. These 'lead' organisations should work with and act as a catalyst for others in the North East to implement the recommended actions.

Strategic documents for developing the North East (e.g. the Objective 2 Programme) contain strong 'hooks' for environmental improvement activities. The Environment Sector Group and the Regional Assembly can play a very valuable role in ensuring that high quality environmental projects are developed which take advantage of these hooks and make the best use of available funding.

The Regional Assembly and the 'Environment Sector Group' should also monitor progress against the recommended actions and work with regional partners to increase the contribution of the environment to the region's long-term development.

1 INTRODUCTION

1.1 STUDY AIMS

The study aims to highlight the long term importance of the environment to the region's development - in terms of jobs, contribution to GDP and other less quantifiable measures such as quality of life. The study examines:

1. **The Current Situation** - The current contribution of the environment to the regional economy of the North East (in terms of employment & GDP).
2. **Growth Potential** – The future potential for increasing the contribution of the environment to the economy and quality of life in the North East.
3. **Recommendations for Capitalising on the Growth Potential** – Practical recommendations for capitalising on this future growth potential, including priority actions and funding opportunities.

The study has been commissioned by a group of regional partners including the National Trust, One North East, the Environment Agency, the RSPB, the Countryside Agency and the Government Office for the North East and undertaken by Environmental Resources Management Ltd (ERM) and the Centre of Urban and Regional Development (CURDS) at the University of Newcastle.

The approach of the study has been firmly based on widespread consultation with private, public and voluntary sector organisations throughout the region. This has been key to identifying the recommendations for making future progress and we are grateful for the enthusiasm and assistance provided by these organisations.

1.2 STRUCTURE OF THE REPORT

After this Introduction, which also sets out the study scope, the report is structured into the following sections:

Section 2 - Regional Context. Provides an overview of the economic setting and environment of the North East.

Section 3 - The Environmental Industry. Presents the current size and nature of the environmental industry in the North East.

Section 4 - Land Based Industries. Describes activities in land based industries in the North East designed to bring environmental improvements, as well as benefits such as diversification of rural economies and sustaining rural employment.

Section 5 - Capitalising on a High Quality Environment. Examines the contribution of the environment to economic activities in the North East such as tourism and inward investment.

Section 6 – Growth Potential and Recommendations. Assesses the future potential for increasing the contribution of the environment to the region's economy and recommends actions for achieving this growth.

1.3 *STUDY SCOPE*

The study scope has been defined as:

1. activities which aim to protect or improve the environment;
2. activities which generate income from environmental good practice; and
3. activities which are dependent on a high quality environment.

Box 1.1 Summary of Study Scope

1. **The Environmental Industry**:

- Businesses supplying environmental goods and services.
- Environmental management in industry - Activities to improve environmental performance and potentially to reduce costs and thereby enhance competitiveness of businesses.
- Public sector environmental protection and improvement activities - by organisations such as the Environment Agency, Local Authorities, the Countryside Agency, English Heritage etc.
- Academic institutions undertaking environmental education and research, or providing environmental services.
- Voluntary sector organisations involved in environmental protection or improvement, such as the RSPB, the National Trust, Wildlife Trusts and Groundwork.
- Intermediate Labour Market activities relating to the environment – e.g. Environmental Task Force projects.

2. **Land Based Industries**:

- Agriculture - agricultural practices which explicitly seek to bring environmental improvement, such as agri-environment schemes and organic farming.
- Forestry – Forestry practices which explicitly seek to bring environmental improvement, such as sustainable woodland management schemes.
- Regional Produce – produce where value added and branding is based on environmental quality.
- Countryside Sport & Leisure activities which are dependent on a high quality environment, such as coarse fishing.

3. **Capitalising on a High Quality Environment:**

- Tourism, recreation & leisure activities which are dependent on a high quality environment.
- Attracting inward investment and skills – the influence of the quality of the environment.
- Film & media activities which are based on the high quality environment.
- Quality of life benefits for residents stemming from the environment.

The study covers the natural environment and the historic built environment. Activities meeting these criteria have been categorised under three headings (*Box 1.1*). The scope is consistent with that used in similar studies in other regions of the UK including the South West, the North West, the East of England and the West Midlands - which allows comparison between regions.

1.3.1 *The Environmental Industry*

Activities in the environmental industry (covered in *Section 3*) are defined using DTI (JEMU) [1] and the OECD [2] definitions as goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems. This diverse range of activities is outlined in *Box 1.2*.

Box 1.2 *Examples of Environmental Goods and Services*

- **Air pollution control** – The supply of air pollution control technologies and services, including gas scrubbers, dust collectors, incinerators; and installation and servicing of this equipment.
- **Water & Wastewater treatment** – The supply of technologies and services for water and wastewater treatment, including aeration systems, separation technologies, chemical treatments, construction and operation of water & wastewater treatment systems; and the provision of drinking water and wastewater treatment services for industrial and domestic customers.
- **Solid waste management** – Supply of waste management technologies and services, including waste collection, treatment, disposal, recycling & minimisation. Technologies covered include bins, waste management vehicles, waste minimisation, regulatory advice, recycling (metals, plastics, compostables, glass, demolition & construction wastes etc).
- **Contaminated land remediation and physical regeneration** – The supply of technologies and services for remediating contaminated land and groundwater; and bringing derelict land back into use.
- **Environmental monitoring and instrumentation** – Supply of technologies and services for measuring environmental quality and monitoring polluting emissions. Includes technologies such as pollution monitoring equipment and services such as emission monitoring and laboratory analysis.
- **Energy Management** - Energy management and efficiency products and services such as energy audits, insulation in buildings, combined heat and power plants.
- **Renewable Energy** – Technologies and services for the generation of renewable energy – including wind, biomass, photovoltaics and solar energy sources.
- **Noise and vibration control** – Technologies and services for monitoring and reducing noise and vibration. Technologies include mufflers and silencers and services such as noise monitoring.
- **Process control and clean technologies** – Supply of technologies and services to improve the environmental performance of manufacturing processes and minimise waste at source rather than adopting 'end-of-pipe' pollution control techniques.
- **Environmental consulting services** – Provision of a wide range of consultancy services including environmental management systems advice, life cycle assessment, environmental impact assessment, advice on environmental regulations and sustainability appraisals.
- **Conservation and preservation of the natural & built environment** – Services to promote nature conservation and biodiversity – includes ecological impact studies, habitat improvement schemes.
- **Landscape design & contracting** – The supply of products and services for landscape improvement – including landscape design and contracting services and the provision of products for landscape improvement schemes, such as trees & shrubs.
- **Marine pollution control** – Supply of technologies & services for controlling and minimising marine pollution – products such as oil absorbents and booms; and marine pollution prevention, monitoring and clean-up services.

Based on definition of the environmental goods and services sector by JEMU and the OECD

(1) JEMU = the UK Government's Joint Environmental Markets Unit
(2) OECD (1999), The Environmental Goods and Services Manual.

1.3.2 *Land Based Industries*

This category (covered in *Section 4*) focuses on activities in the land based sectors of agriculture, forestry and fisheries which aim *explicitly* to improve the environment or are dependent on a high quality environment. Many of these activities can also promote the diversification of rural economies. The following activities are covered:

- **Agri-Environment** – Agricultural activities which receive financial grants or subsidies in return for undertaking environmental protection or enhancement work, for example:

  - ***Environmentally Sensitive Areas (ESAs)*** Incentives are offered to farmers within these areas to adopt agricultural practices which will safeguard and enhance the rural environment and create improvements in public access.
  - ***Countryside Stewardship Scheme*** targets the conservation and enhancement of some key English landscapes, features and habitats, and where appropriate, improvements in public access.
  - ***CSS Arable Stewardship Scheme****:* Relates to wildlife enhancement in arable areas
  - ***Moorland Scheme****:* The Moorland Scheme, now closed to new applicants, provides money to upland farmers outside ESAs to reduce stocking densities and manage land to improve the condition of moorland.
  - ***Habitat Scheme****:* The Habitat Scheme gives annual payments per hectare for extensive management or set-aside of waterside land. This scheme is also now closed, although a number of agreements are still in operation.

- **Organic Farming** – This is included in the study because organic farming tends to involve production techniques which reduce environmental impacts, such as not using pesticides.

- **Regional Produce** - Whilst regional produce does not inherently involve environmental improvement or protection, much regional produce is branded on the quality of the environment.

- **Environmentally Beneficial Forestry** - As with agriculture, the study focuses on forestry activities which aim to bring environmental improvements. All woodland creation and management activities are covered in the study because these are required by the UK Forestry Standard [(1)] to be carried out in a way which promotes environmental improvement and sustainable development. The study does not include timber processing (e.g. sawmilling) and marketing of forestry products because the links between these activities and environmental improvement

[(1)] The Forestry Commission (1998). The UK Forestry Strategy - The Government's Approach to Sustainable Forestry are less explicit.

- **Countryside Sport & Leisure** - Many leisure and recreational activities are based on the quality of the environment and these activities can provide health benefits as well as income and opportunities for diversifying rural economies.

1.3.3 Capitalising on a High Quality Environment

A high quality environment is increasingly recognised as contributing to economic activities such as tourism and inward investment, as well as overall quality of life, making a region a more attractive place in which to live and work. Under this category (see *Section 5*), the study covers:

- **Tourism** - Tourism activities which are dependent on a high quality natural or historic built environment, e.g. visits to much of the North East's coastline, Northumberland National Park, North Pennines, the Cheviot Hills, Hadrian's Wall and historic Durham.

- **Inward Investment** - Locational decisions by businesses are influenced by a range of factors such as proximity to markets, availability of skilled workforce, cost base, availability of grant incentives, quality of transport links *and* the quality of the local/regional environment. Although difficult to quantify, the study examines the significance of the environment to inward investment decisions in the North East.

- **Quality of Life** – A high quality environment can promote quality of life, which in turn helps to retain and attract skilled personnel and investment to a region. This effect is difficult to quantify in terms of job numbers or contribution to regional GDP, the study therefore provides a qualitative examination of the relationship.

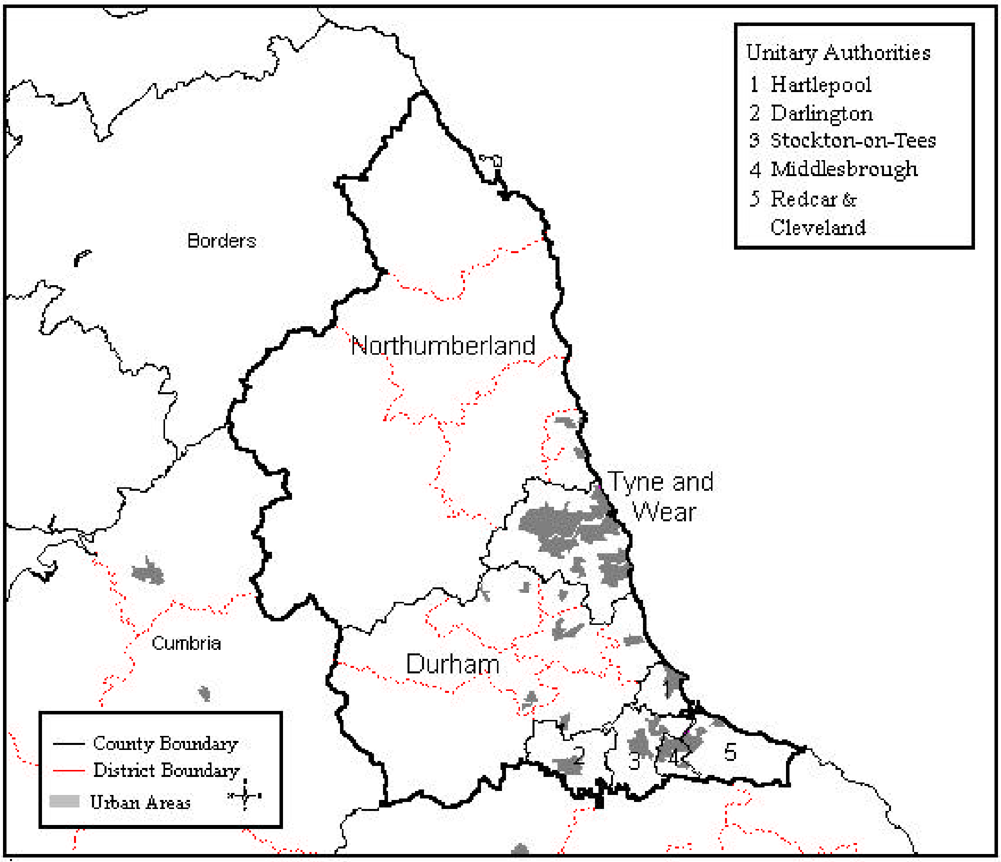
2 REGIONAL CONTEXT

This section gives an overview of the region's economy and its environment as background to the study's analysis and recommendations.

2.1 OVERVIEW OF THE REGION'S ECONOMY

The North East region comprises Northumberland, County Durham, Tyne & Wear and Tees Valley (see *Figure 2.1*) and has a population of 2.6 million, representing approximately 4% of the UK total.

Figure 2.1 North East of England



Total employment in the North East is 920,105 (1) and unemployment in 1999 ran at 7.6%, compared to the UK average of 5.4 (2). GDP per head in the North East is £9,819 compared to the UK average of £12,621 (3).

The North East economy has experienced major structural change since the mid-1970s with a sharp decline in heavy industry. In the early 1970s, manufacturing accounted for 40% of regional employment, but this had fallen to 21.2% by 1998 - a loss of 97,000 manufacturing jobs in the period.

(1) Office of National Statistics, 1998
(2) DETR Regional Indicators, 2000
(3) Government Office for the North East, 2000 (1998 data)

Out of the 504 wards in the North East, 30% are ranked amongst the 10% of most deprived wards in England and nearly half of the wards in the North East are amongst the 20% most deprived wards in the country. Deprived areas include industrial areas such as Easington, Middlesbrough, Hartlepool, Redcar, Cleveland, and Stockton-on-Tees, as well as areas in Newcastle-upon-Tyne, South and North Tyneside and Gateshead.

Despite the dramatic reduction in the region's heavy industrial sectors, manufacturing is still very important to the regional economy, and generates 28% of the North East's GDP, compared to 8% elsewhere in the UK. This in part reflects high rates of inward investment - during 1999/2000, for example, 47 inward investment projects created 3,399 (1) new jobs in the region contributing to a continuing diversification of the economic base into new areas such as microelectronics, the offshore industry, biotechnology and automotives.

Growth has occurred in the region's service sectors - for example, more than £280 million has been invested in the North East's telecommunications network over the last five years, and over 40 call centres in the region now employ over 30,000 people (predicted to rise to 45,000 by 2008). Other important sectors include Retail which accounts for 10% of all businesses and Tourism which employs 67,000. Public administration, the education and health sectors are also significant employers in the region. See *Figure 2.2*.

The rural economy accounts for 13% of regional employment (2) and generates approximately 11% of the region's GDP (3). The contribution to GDP is higher in the more rural counties of Northumberland (34% of GDP) and Durham County (21% of GDP). Agriculture, forestry and fishing accounts for only 1% of the region's employment. This proportion is marginally lower than the national average. As in the rest of the UK, agricultural employment has been in decline in recent years and looks set to diminish further in the future. Despite this decline, agriculture is clearly still central to rural economies. Farm diversification and growth of rural and farm based tourism are providing additional employment opportunities and safeguarding existing jobs in rural areas.

However, agriculture, tourism and the whole of the rural economy have been severely hit by the foot and mouth epidemic which could cost the region between £420 million and £600 million (4). The epidemic has brought into sharp focus the fragility of rural economies. The current study highlights how the environment can contribute to the economic needs of rural areas in the North East.

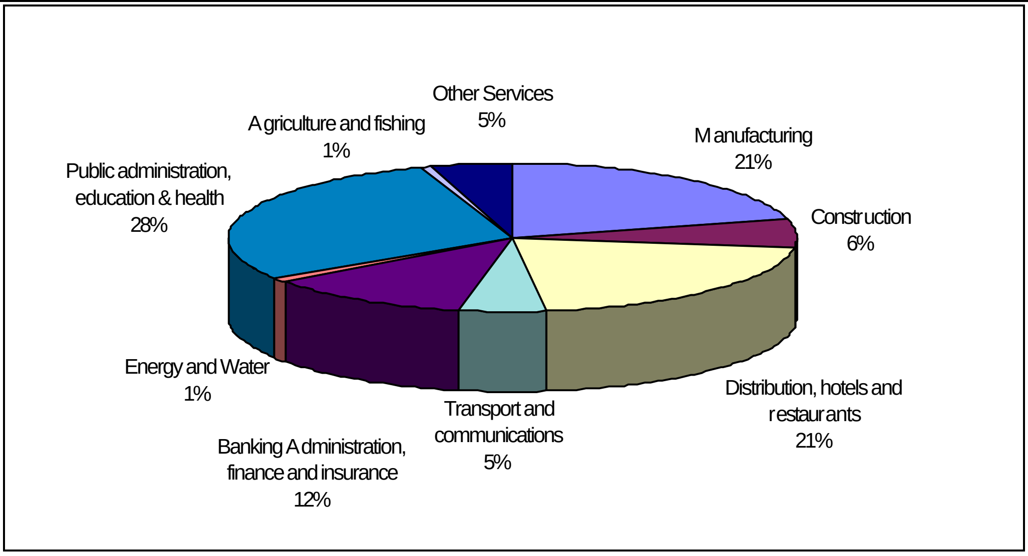
(1) Invest in Britain Bureau (IBB), 2000

(2) England Rural Development Programme - North East Chapter, MAFF, 2000

(3) Data relating to 1995, provided by ONE using data from the Centre for Rural Economy, University of Newcastle.

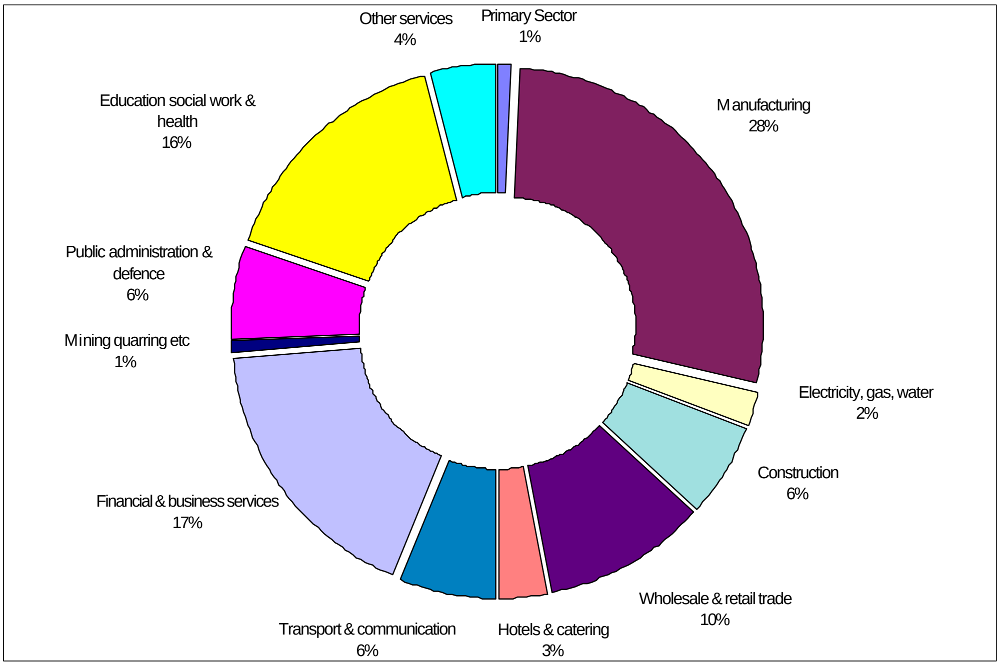
(4) Costs of Foot and Mouth epidemic to the North East estimated using national cost estimates extrapolated to the region - using national figures contained in D.Harvey, CRE, Newcastle University, 2001.

Figure 2.2 Employment structure of the North East 1998



Source: ONS Annual Employment Survey, 1998

Figure 2.3 Regional Economic Output (GDP) in the North East, 1998



Source: Regional Trends 1999

Other priorities for developing the region's economy are highlighted in the Regional Economic Strategy (1) and include the need to:

- create wealth by building a diversified, knowledge driven economy
- establish an entrepreneurial society
- build an adaptable and highly skilled workforce
- place universities and colleges at the heart of the region's economy
- meet the 21st century transport, communication and property needs

(1) Regional Economic Strategy for the North East, One North East , 1999

- accelerate the renaissance of the North East – through flagship regeneration projects, local regeneration plans, empowering communities and balancing urban and rural regeneration needs

The study shows how the quality of the environment can contribute to these development priorities. Implementation of initiatives to address these priorities will also generate potential positive and negative impacts on the environment of the North East.

In this respect, as stated in Regional Planning Guidance for the North East (1), there is "Growing recognition of the environment's importance in maintaining opportunities for future generations" and that "Although major economic and physical restructuring of the region is continuing, problems still remain. The aim must be to continue to strengthen and diversify the regional economy, improve living conditions and safeguard the region's outstanding cultural and natural heritage".

Similarly, the Rural Development Plan (2000) states that "One of the North East Region's major assets is the natural beauty of its landscape. The importance of this in relation to its capacity to generate income, for example through tourism and as an attractive place in which to live and work should not be undervalued".

2.2 *ENVIRONMENT IN THE NORTH EAST*

2.2.1 *The Natural Environment:*

The North East has a very diverse environment - see *Figure 2.4*. To the west are the hills, moorlands and forests of the North Pennines, to the North the Chieviot Hills and Kielder Forest lead to the border with Scotland. The south of the region borders the North York Moors, and the 160 kilometre North Sea coastline forms the spectacular Eastern border, on which industrial conurbations are grouped around the main river estuaries of the Tyne and the Tees.

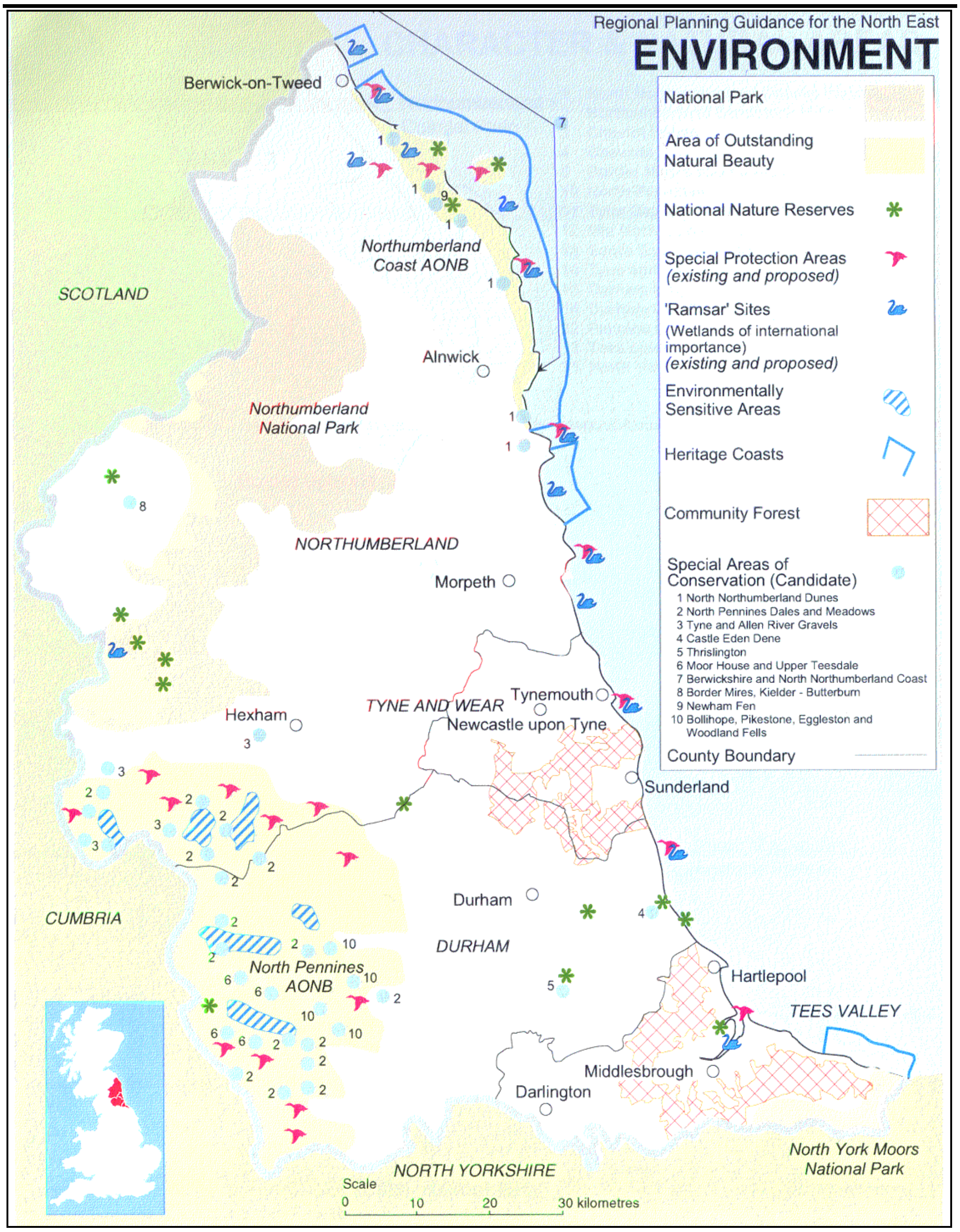
The quality of much of the region's landscape is amongst the best in Europe with 30% of the region officially designated as National Park or Area of Outstanding Natural Beauty (AONB). Environmental assets include:

- 2 National Parks - Northumberland National Park and part of the North York Moors National Park
- 2 AONBs - North Pennines and the Northumberland Coast
- 2 Heritage Coastlines
- 3 Ramsar sites
- 7 special protection areas
- 10 special areas for conservation
- 14 national nature reserves

(1) Regional Planning Guidance for the North East, North of England Assembly, May 1999

- 245 SSSI
- 2 community forests
- 9,655km rights of way
- 2 national trails

Figure 2.4 Environmental Designations in the North East



Source: Regional Planning Guidance for the North East

The coastal areas of the North East are particularly striking and include the unspoilt and dramatic coastlines of Northumberland and County Durham that have undergone significant environmental improvements following the closure of coal mining operations. The coastal sand dunes, saltmarsh and limestone cliffs are important along the entire length of the region's coastline for wildlife.

Large parts of the conurbations of South and North of the Tyne and Wear, central and east Durham and south east Northumberland have been affected by the demise of the coal mining industry, resulting in job losses and environmental degradation. Radical economic restructuring and regeneration schemes are achieving success in job creation and environmental improvement. Much has been achieved, but a major reclamation programme is still underway to deal with existing derelict sites in the region.

2.2.2 *The Historic Built Environment:*

The North East of England has an outstanding historic heritage with many areas of national and international significance. These include Hadrian's Wall; important sites for early English Christianity associated with the Venerable Bede (AD 673-735) in South Tyneside and Lindisfarne off the Northumberland Coast; the border town of Berwick; famous castles and battle fields; the Castle and Cathedral of Durham and Grainger Town at the historic heart of Newcastle upon Tyne. Both Hadrian's Wall and Durham Cathedral are World Heritage Sites.

The region's industrial built heritage is also rich, including remains of the lead industry in the North Pennines. Fewer traces survive of the coal and steel industries of the North East, but there are nevertheless important structures, such as the Bowes Railway (1826) at Woodthorn Colliery, Northumberland.

The North East has over 1,037 Grade I or II listed buildings, and nearly 1,200 scheduled ancient monuments.

As stated in RPG, "Valuable historic features exist throughout the North East in urban and rural locations. Restoring this heritage has an important part to play in achieving regeneration in older industrial areas as well as in rural market towns. It can provide a quality of environment important not just for the region's own pride, but in attracting visitors and investment to the North East".

2.3 *SUMMARY*

The natural and historic built environment is one of the North East's greatest assets which contributes to employment and regional development. This is increasingly being recognised in strategic documents such as the Regional Economic Strategy, Regional Planning Guidance, the Rural Development Plan and the Regional Sustainable Development Framework for the North East.

This study builds on this recognition by quantifying the contribution of the environment to the region's economy and highlighting ways in which the environment can further contribute to economic and, indeed, sustainable development in the North East.

3 THE ENVIRONMENTAL INDUSTRY

3.1 OVERVIEW

This section examines the economic significance of the 'environmental industry' in the North East. The private, public and voluntary sector organisations in the 'environment industry' of the North East employ over 20,000.

Table 3.1 Summary of Employment in the North East's Environmental Industry

	Number of employees	Output (GDP) £ million[2]	*Section Reference:*
Businesses Supplying Environmental Goods and Services	14,099[1]	£352	*3.2*
Construction related employment	1,200	£30	*3.2*
Environmental management in industry	425	£11	*3.3*
Public Sector environmental posts	3,761	£67	*3.4*
Environmental academic institutions	400	£14	*3.5*
Voluntary sector organisations	454	£6	*3.6*
Intermediate Labour Markets	3,510 [3]	N/a	*3.7*
Total	20,339	£480 million	

Note 1: Based on Environmental Industries Federation (EIF) data. Note 2: Based on GDP per head figures ranging between £15,000 - £25,000 per head. Note 3: 3,510 young people have been *participating* in ETF projects, rather than being full time *employees,* they are therefore not included in the employment total of 20,339.

3.2 BUSINESSES SUPPLYING ENVIRONMENTAL GOODS & SERVICES

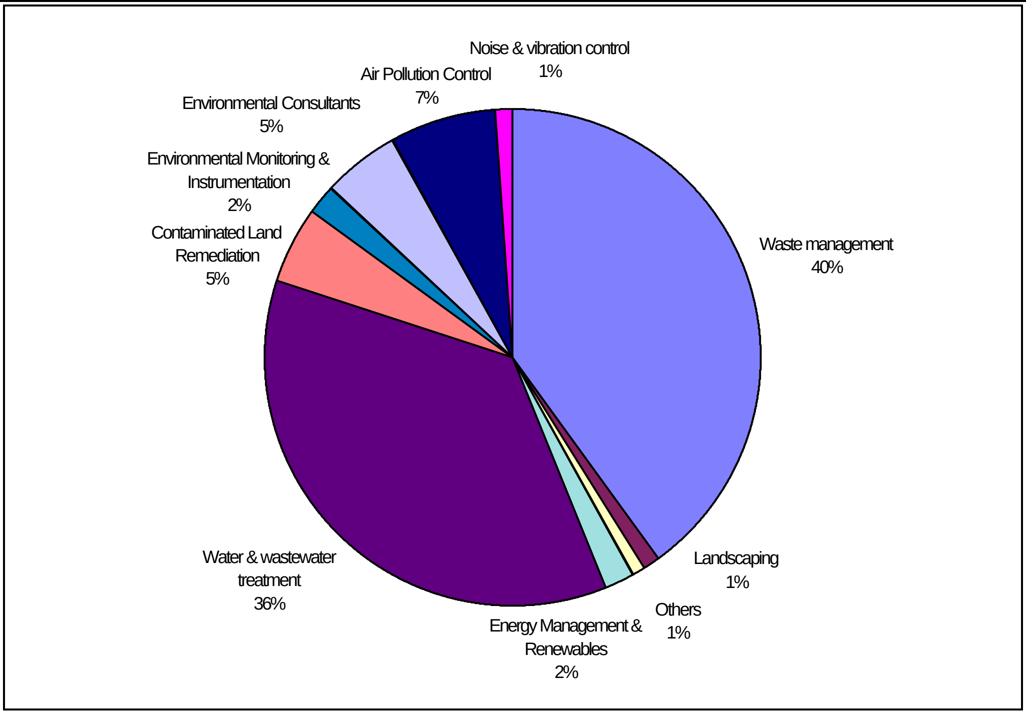
The environmental industry is a diverse and dynamic sector which has experienced high rates of growth in OECD countries, including the UK, over the last 20 years. The sector has its roots in long established activities such as waste water treatment, air pollution control and solid waste management – but more recently has expanded to into fields such as renewable energy, environmental monitoring and 'clean' technologies. Its growth in the last 20 years has been driven by factors such as a growing array of environmental regulations, rising expectations on industry to improve its environmental performance, a growing recognition that environmental improvement in industry can reduce costs and the increasing adoption of economic instruments (such as the landfill levy, the EU Packaging Directive and the climate change levy) which raise the costs of 'poor' environmental performance.

The world market for environmental goods and services is estimated to be worth approximately £220 billion (1) and the UK market worth approximately £9 billion. The market in the North East is estimated at £400 million broken down by sub-sector as shown in *Figure 3.1*. Waste management and water

(1) Market size data based on JEMU data and 'Environmental Expenditure by EU Institutions' Eurostat 1999.

and wastewater treatment activities represent over 70% of the regional market – a pattern which is consistent with other UK regions.

Figure 3.1 Sub-Sector Breakdown of Environmental Markets in the North East



Analysis of the region's environmental businesses is based on business surveys undertaken by the Environmental Industries Federation (EIF) and data from the UK Government's Joint Environmental Markets Unit (JEMU). With One North East funding, the EIF has mapped the environmental goods and services sector of the North East and identified approximately 700 companies supplying environmental goods and services, employing over 14,000 people and generating turnover of over £400 million.

Table 3.2 shows the activities of suppliers in the North East. Waste management & recycling, environmental services and water and effluent treatment are the largest sub-sectors in terms of companies - consistent with the pattern elsewhere in the UK. These sub-sectors are described in more detail below.

Table 3.2 *Activities undertaken by Environmental Businesses in the North East*

	No. of suppliers	% of company activities
Waste Management & Recycling	295	24%
Environmental Services	176	14%
Water & Effluent Treatment	124	10%
Air pollution control	110	9%
Contaminated Land Remediation	105	9%
Environmental Monitoring & Instrumentation	103	8%
Energy Management	102	8%
Landscape Services	78	6%
Noise & Vibration Analysis	55	4%
Environmental laboratories	49	4%
Marine Pollution Control	36	3%
Total quantified	1,233	**100**

Source: EIF mapping exercise, September 2000.
Note: Total of 1,233 exceeds the 700 companies because individual companies are often active in more than one sub-sector.

SMEs account for over half the sector's employment – this pattern is typical of the industry and consistent with other regions in the UK. There are, however, larger companies in the sector including Northumbrian Water and international waste management businesses such as SITA.

Table 3.3 *Size of Suppliers of Environmental Goods & Services in the North East*

No of Employees	No of Companies	Total Employees
1-5	106	318
6-10	36	288
11-50	78	2,340
51-100	17	1,275
101-250	14	2,450
251-500	10	3,750
501+	4	2,400
Declined to answer	101	303
Subtotal	366	**13,124**
Assumptions based on non-returns	325	975
Total	691	**14,099**

Source: EIF - Environmental Industries Federation - Mapping Exercise September 2000.

As well as direct employment in environmental businesses, construction personnel are also employed in the installation and construction of pollution control equipment and environmental infrastructure such as flood defence schemes and waste management sites. An estimated 1,200 construction jobs in the North East are based on environmental investments [(1)].

3.2.1 Waste Management and Recycling

Waste management is the largest sub-sector in the environmental industry of the North East. There are approximately 295 companies providing waste management and recycling goods and services in the region.

(1) Estimate based on European Commission data on environmental expenditure and employment in the EU. Estimated that 50% of £400 Mn NE environment market relates to capital expenditure and that construction represents 30% of total capital expenditure. This indicates that the construction element of environmental expenditure in the North East is ~£60 Mn. Based on an ratio of spend/employment of £50,000 per job, this gives 1,200 construction jobs.

3.2.2 *Employment in waste management and recycling:*

An estimated 4,500 people are employed in waste management and recycling in the North East. This represents 5% of the 90,000 people are employed in the waste management and recycling industries in the UK (DETR, 1999) [(1)] . Approximately 880 of these 4,500 jobs relate to recycling [(2)] .

High rates of growth in the waste management sector are being driven by Government policy commitments (e.g. the UK Waste Strategy 2000 and use of the landfill levy) and European Regulations (e.g. the EU Landfill Directive) which aim to reduce reliance on landfill disposal and increase waste minimisation and rates of recycling (including aggregates, plastics, glass, tyres, oils etc), composting and waste reuse. The 'Waste Strategy 2000', for example, sets targets such as:

- by 2005, reduce industrial & commercial waste landfilled to 85% of 1998 levels
- by 2005, recycle or compost at least 25% of household waste (rising to 33% by 2015)

Measures to meet these targets in the North East will be contained in the forthcoming Regional Waste Management Strategy.

Within the North East the amount of controlled waste production is estimated to be approximately 8 million tonnes annually. Landfill is the main method of disposal, although there is some incineration of domestic waste in Cleveland and Tyne and Wear. Currently only about 2% of the region's household waste is recycled, compared to 8% in the UK as a whole. DETR data shows that 17kg of waste was recycled per person in the North East in 1998/99, compared to an average for England of 45kg per person. There is therefore clear scope for increasing recycling rates in the North East.

Several schemes (partly funded through the Landfill Credits Scheme) are promoting recycling in the North East, for example, in the Castle Morpeth Local Authority area, 36.6% of waste is recycled (the second highest in the UK after Bournemouth). However, few other local authorities in the region have achieved these targets and out of the "worst 25 Local Authority Recyclers", 12 are in the North East (Friends of the Earth, 1999).

(1) This estimate is based on the North East population being 5.2 percent of the UK total and the region's manufacturing GDP being 5.1 percent of UK total.
(2) This estimate is based on current UK employment in recycling of 17,000 (Waste Watch 1999). The estimate is confirmed by Annual Employment Survey data which shows 840 jobs in recycling sector in the North East in 1998 (ONS 1998).

Box 3.1 Examples of Waste Management Businesses in the North East

Waste Exchange Services Ltd.(WES) in Stockton on Tees is a well established industrial recycling consultancy, which has been in business for over ten years providing a wide range of services to industry, including national waste exchange and brokerage services. WES also operates plastics recycling plants and a silica gel regeneration plant. The company currently employs about 30 people and expects to expand operations substantially over the next five years.

The ABLE Group, based on the River Tees employees 500 people in its UK and overseas operations - 100 of whom are in the North East. The Group's main business activities comprise: specialised decommissioning and recycling of large redundant facilities such as power stations, North Sea oil and gas installations and petrochemical plants; industrial land remediation and urban renewal projects. The company achieves high rates of materials reuse and recycling (>90%) in its decommissioning operations. ABLE also operates the 'Seaton Meadows' special waste landfill facility.

North East Recycling Ltd employs 9 people and was established in 1989. The company collects around 120 tonnes of pre-separated waste, comprising polythene, paper, cermoforn plastics, glass, cans and textiles. The waste is collected from schools, community groups, offices and manufacturing industry. The waste is reprocessed and sold as industrial raw materials. Only 5% of the pre-separated wastes entering the company are not recycled. The company reports that future business prospects are good and expects annual growth in excess of 50% over the next 5 years.

Aim Services, based in Gateshead provides consultancy advice on recycling, waste minimisation, packaging waste regulations. It subcontracts waste collection, recycling and recovery activities to over 300 processors throughout the region. The company is expecting to develop its plastics recycling services in Gateshead and employ an additional staff as industrial customers gradually become increasingly aware of waste issues, driven by factors such as awareness raising campaigns led by the Environment Agency.

Source: EIF, Wespack, Aim Services, ABLE, North East Recycling Ltd

3.2.3 *Water & Wastewater Treatment Industry*

The water and wastewater treatment sector in the North East is dominated by Northumbrian Water and has seen substantial investments in water and wastewater treatment infrastructure. These investments have generated employment, economic and social benefits by enabling activities such as quayside and waterfront developments, tourism & recreational use of waterways and availability of high quality water resources for manufacturing industry in the region. Major projects include Keilder Water and the Bran Sands & Tees Estuary Environment Scheme.

Box 3.2 Northumbrian Water Group

The Northumbrian Water Group employs 3,300 people in the North East. Northumbrian Water Limited is the principal subsidiary and provides drinking water and sewage treatment services to 2.6 M people and over 69,000 businesses in the North East. The group also includes other environmental businesses such as NLTRC (Northumbrian Lyonnaise Technology & Research Centre) a leading player in water mains and sewer research; Entec UK Ltd, the environmental and engineering consultancy; Analytical and Environmental Services (AES) Limited involved inenvironmental monitoring; and ULG Northumbrian and Agrer involved in international aid funded water projects.

Between 2000 and 2005, Northumbrian Water is undertaking a massive investment programme of £730 million which will bring the region in compliance with the Urban Wastewater Treatment Directive and includes the construction of 17 new or extended sewage treatment works along the North East coastline, as well as improved emergency sewer overflows to protect the region's rivers.

The company is also a leading player in the North East in the management and conservation of the natural environment and on its land holdings include 2,000 ha of nature conservation sites. NWL is also involved in environmental improvement partnership projects local authorities, NGOs and local communities – e.g. the River Skerne restoration project, the Tweed River Heritage Project and the Turning the Tide project on the Durham coast.

Bran Sands & the Tees Estuary Environment Scheme: In the heart of one of Europe's main petrochemical centres on Bran Sands, Northumbrian Water has invested £200 million in the Tees Estuary Environment Scheme (TEES) and the Regional Sludge Treatment Centre (RSTC) to provide waste treatment and disposal of sewage sludge from the North East. The projects was completed in 2000 and is the first sewage sludge disposal facility in the UK that dries raw sludge to produce a product (biopellets) that can be used as fuel for industry, fertiliser for agriculture or a raw material for the production of bricks. The investment meets the requirements of the European Urban Waste Water Treatment Directive and brings an end to sewage sludge to sea and provides Teesside with a modern industrial and municipal waste treatment facility and significant improvements to water quality in the River Tees.

Kielder Water: Completed in 1982, the Kielder Water Scheme has capacity to meet industrial water demand of 1 100 million litres per day (compared to actual demand of approximately 500 Mdl in 1995). Kielder Reservoir thereby ensures an abundant supply of water for future industrial expansion in the region. Kielder also provides major 'spin offs' for the region in terms of tourism and has helped boost the economy and employment in the North Tyne Valley following a period of mine closures and structural changes in agriculture. Each year, more than 250,000 people visit the two visitor centres at Kielder generating a turnover of more than £6 million per year (1999) for the local economy.

Source: Northumbrian Water

3.2.4 Environmental Consultancy Services

Many new businesses providing environmental consultancy services have been established in the North East in the last 10 years. The range of services provided to private and public sector clients includes environmental management advice to industry, environmental audits, advice on environmental regulations and pollution control, environmental impact assessments for infrastructure projects, ecological studies, sustainability appraisal, life cycle assessment and landscape character assessments.

Box 3.3 Environmental Consultancies in the North East

Environmental Technology Consultants (ETC) employs 10 staff and is based in Gateshead. It provides environmental engineering expertise and a range of environmental consultancy services to the construction sector including land assessment and remediation, groundwater leachate management and treatment, environmental audit and impact assessment, noise assessment and control and environmental management systems. The company expects a doubling in staff over the next 5 years. Major remediation projects include a number of key sites in Tyneside such as St Anthony's Tar Works, Felling Riverside and the high profile redevelopment area at Gateshead Quays where the Regional Music Centre is being built.

The company has recently branched into environmental management systems where they have seen a growing demand for ISO 14000 services. Supply chain demand is one of the key drivers for industry to take on ISO 14000 certification along with a growing corporate awareness of the need to improve environmental performance.

Source: EIF and ETC

3.2.5 Energy Management and Renewable Energy

Energy Management Businesses: Over 100 firms in the North East reported that they provide energy management products or services such as energy efficiency audits.

As well as direct benefits of income and employment in these businesses, these companies can also help industry in the region achieve valuable cost savings through improved energy efficiency. Annual energy cost savings achievable in the North East are estimated at £25 million [(1)].

Renewable Energy: Around 35 businesses [(2)] supply renewable energy technologies and services and employ approximately 175 [(3)] staff.

Renewable energy sources currently contribute less than 1% to the region's electricity generating capacity. Installed capacity for electricity generation from existing renewable sources (see *Table 3.4 & 3.5*) totals 48 MW (1998), compared to a proposed 2010 target of 240 - 416 MW[(4)].

(1) £25 million energy cost savings are estimated on the basis of annual savings achievable nationally by the Energy Efficiency Best Practice Programme extrapolated to the North East on the basis of manufacturing GDP.
(2) DTI Directory of UK Renewables Industry, 1999.
(3) This employment estimate is based on DETR figures which show that there are 700 renewable energy companies in the UK, employing 3,500 personnel.
(4) Proposed Targets for the Development of Renewable Energy in the North East to 2010, Govt Office for the NE, 2000

Table 3.4 Renewable Energy Sources of electricity in the North East, 1998

Renewable Energy Source	No. of Renewable energy sources
Semi offshore	1
Medium scale wind on land	1
Micro wind chargers	12
Building integrated photovoltaics	2
Hydro	4
Municipal Waste Combustion	2
Specialised waste combustion	1
Landfill gas	2
Anaerobic digestion of sewage sludge	6
Total	31

Source: Regional Energy Strategy, 1999

Table 3.5 Current Generation of Renewable Energy in the North East

Energy Source	%
Municipal/Industrial waste Combustion	56
Landfill gas	17
Wind	15
Hydro	12
Other (photovoltaic, biomass)	-
Total	100

Source: Chris Blandford Associates, 2000

A number of initiatives have been established to promote renewable and alternative energy in the North East, such as Renew North, the region's renewable energy agency and part of the Northern Energy Initiative (TNEI). Through TNEI, the region was the first in the UK to develop a Regional Energy Strategy, which also focuses upon the development of renewables.

Other areas of innovation include the piloting of 'green' powered vehicles in the North East using alternative fuel technologies such as electricity, liquid petroleum and compressed gas, biomass diesel and photovoltaics. Important players in this area include the centre for excellence at the University of Northumbria. Other regional initiatives include the North East Solar Club, organised by Energy North, to encourage the use of solar heating.

Box 3.4 Examples of Energy management and Renewable Energy Businesses in the North East

TNEI - The Northern Energy Initiative is a European Centre for the development and promotion of energy technologies, supported by the Government Office, European Regional Development Funding, One North East and key energy related businesses in the North East of England. It aims to develop the scientific and technological base of the energy sector and exploit its commercial potential in order to generate economic and environmental benefits for the North East. It supports business improve energy efficiency and environmental performance and also supports the development of energy efficiency technologies and services, including renewables. TNEI has been a key player in the development of the Regional Energy Strategy and is leading regional projects to develop the North East's renewable energy generation.

AMEC Border Winds: The north east is playing a leading role in developing wind energy in the UK. The country's first offshore project is being developed off the coast at Blyth, Northumberland by a consortium, called Blyth Offshore Wind Limited, comprising Border Wind, PowerGen Renewables (a joint venture between Abbot Group and PowerGen), Nuon UK and Shell Renewables. The turbines (enough in total to power 3,000 average households), will be the largest erected offshore in the world. The first electricity is expected to be generated in 2000. The turbines are being manufactured in Denmark, rather than in the North East. The £4 million project is receiving financial support from the European Commission Thermie Programme. The consortium is also developing two on-shore wind farms in the region: 4 x 750 kW wind turbines at Great Eppleton near Hetton-Le-Hole, and 3 x 600 kW turbines at Kirkheaton , north of Hexham.

Northern Energy Associates, established in 1992, develops small scale renewable energy projects, working with local, often remote, communities to develop small scale off-grid energy projects from wind, wood and sun. Projects have included the development of a 20kw wind turbine for farms and small businesses which has led to the establishment of a new company, Gazelle Wind Turbines Ltd.

Source: TNEI, AMEC and Northern Energy Associates

3.2.6 Sustainable Transport

Greenhouse gas emissions from transport, projected increases in car ownership and growing congestion have highlighted the need to increase the sustainability of transport in the region. Priorities for the North East, as contained in the Regional Transport Strategy, include promoting sustainable transport and reducing congestion on hot spots such as the A1 and A19 corridors. Whilst the study has not identified the scale of employment associated with sustainable transport projects in the North East, there are nevertheless good examples of sustainable transport projects which generate environmental, economic and social benefits - which can be built upon in the future. *Box 3.5* provides examples.

Economic benefits of sustainable transport include reduced costs of congestion, reduced fuel costs through more efficient use of fuels, direct employment in the provision of public transport services and business opportunities through the supply of sustainable transport technologies and know-how. Reduction of road traffic can also clearly improve the quality of life in urban areas, making them more attractive places in which to live and work, as well as bringing economic and social benefits through reduced incidence of traffic related health problems.

Box 3.5 North East Examples of Sustainable Transport Projects

Hadrian's Wall Bus Service: 90% of visitors to Northumbria National Park travel by private car. The Hadrian's Wall Bus Service was established to reduce the environmental pressures of car use and provide public transport links between train services to Newcastle and Hadrian's Wall. The scheme has received the Bus in the Countryside Award which is designed to highlight best practice examples of sustainable transport schemes. The bus service has helped to increase visitor numbers and income at the same time as reducing environmental impacts. The service is linked to reduced entry charges and special events at a number of sites on the Wall. Source: Northumberland National Park Annual Report 1999/2000

Metro & Sunderland Light Railway Extension: The Metro light railway system, opened in 1980 at a cost of £284 m (1984 prices) forms the backbone of the sustainable transport system in Tyneside. It carries 35 million people over its 59 km network each year and employs 683 people. Work is currently underway to extend the route by 25% to Sunderland, adding 12 new stations. The new £98 million section to open in 2002 will interact with a new transport interchange and connect Sunderland University. The new extension is planned to reduce congestion and environmental impacts of car use, with a projected usage of an extra 11 million people. Source: NAUS.

Sustainable Transport to the Metro Centre: A scheme called Centre Link is being developed to create a dedicated bus link from Gateshead Metro Interchange in the town centre to the MetroCentre shopping complex. This £26m scheme includes a combination of priority bus measures and dedicated busways using state of the art buses to increase the attractiveness of bus travel. The scheme aims to encourage more people to travel to the Metro centre by public transport and to increase the attractiveness of public transport more generally through upgrades to the metro/bus interchanges. Source: GONE 2000.

Public Transport for Rural Attraction: Transport companies provide special services for visitors to the region's countryside. ARRIVA Northumberland offers North East Explorer tickets which provide travel to attractions in the North East such as Hadrian's Wall, Belsay Hall, Alnwick Castle, and Holy Island. In addition, Tyne Valley Train Trails link walks with rail routes between Wylam and Haltwhistle on the Newcastle to Carlisle line. Source: Arriva.

Newcastle's Cycling Strategy: To promote modal shifts in transport use, Newcastle City Council have appointed a cycling officer and produced a Cycling Strategy to increase the percentage of journeys made by bike. Targets have been set and the Council aims to double cycle use within the city by 2004 to 4% of all journeys through initiatives such as installing high quality cycle routes, training children and adults in cycling proficiency and providing adequate cycle parking.

Leamside Rail Line: The Leamside line is a disused rail line between the east coast mainline at Ferry Hill and the Newcastle to Sunderland line at Heworth. The line closed early 1990s, but proposals are now being considered to reopen the line to provide a link between Teesside and Tyneside for east coast mainline operators, a commuter link for towns in Durham such as Belmont, Fencehouses, and Ferry Hill and to relieve freight traffic from the busy east coast mainline. Source: GONE 2000

The Newcastle Energy Initiative's 'Clean and Green Transport' programme promotes alternative fuels such as gas. A recent TNEI conference entitled 'Tomorrow's Fuels at Yesterdays prices' showed operators how they can cut fuel bills by up to 50% using the latest HGV gas powered vehicles. Alternative fuels are also used in parts of the leisure industry with 'Karting North East' in Sunderland having converted its fleet of go-karts to liquid petroleum gas. Source: TNEI Website

3.3 *ENVIRONMENTAL MANAGEMENT IN INDUSTRY*

As well as businesses supplying environmental goods and services, it is estimated that there are 425 internal environmental management posts in industry in the North East - mainly in manufacturing sectors(1).

Experience clearly demonstrates that companies can make significant cost savings by adopting environmental good practice. These savings stem from activities such as waste minimisation, environmental management systems, control of air emissions and solvent use, effluent management, recycling, effective use of packaging and use of 'clean' technologies in production processes which minimise waste at source.

The Government's *Envirowise* programme states that waste can cost an average manufacturing company 4% of its turnover per year(2). *Envirowise* shows that there is plenty of scope for reducing these costs through the adoption of environmental good practice, which also brings environmental benefits and benefits for local communities.

If manufacturing industry in the North East was able to achieve cost savings through environmental improvements equivalent to 1% of turnover, this would represent a saving equivalent to approximately £70 million in GDP, equivalent to the level of GDP generated by 2,860 additional jobs(3) in the region.

A number of firms in the North East have demonstrated significant cost savings through improved environmental performance (*Box 3.6*). But the rate of uptake of environmental best practice is still relatively low - for example, of the 76 EMAS (the European Union's environmental standard for businesses) registered sites in the UK, only 5 are based in the North East (4).

(1) Estimate based on Institute of Environmental Management and Assessment (IEMA) data of between 7,000 and 10,000 environmental management posts in the UK. Extrapolating on the basis of regional manufacturing GDP in the North East (5% of UK total), gives 350 to 500 employees (mid point of 425) in environmental management posts in industry in the NE.
(2) Envirowise/ETBPP publication "Have you accounted for waste?" ETBPP Publication Ref ET033.
(3) Calculation: Manufacturing GDP in the North East (£6863 million) x 1% = £68.63 million; multiplied by 2.5 to give a turnover equivalent; divided by £60,000 to give the employment effect = 2860 jobs.
(4)EMAS Helpdesk web-site, (2000). (Data is not available on how many of the 1,400 ISO 14001 sites in the UK are located in the North East)

Box 3.6 Cost Effective Environmental Improvements by Industry in the North East

J.G. Plastics manufactures coloured plastic compound for the plastic injection moulding industry in the form of small beads and used to supply these beads to customers in individual plastic bags, which were placed on wooden pallets and then transported to the customers. The bags required a great deal of manual handling and caused disposal problems for the company's customers and were costly to J.G. Plastics because of Producer Responsibility (Packaging Waste) obligations.

The company examined alternative forms of packaging and opted for durable, reusable folding plastic boxes, which were from customers to J.G Plastics. This has reduced the need for manual handling of the finished product, reduced packaging disposal costs for the company's customers and saved J.G.Plastics around £16,000 per year in reduced packaging costs.

Marr Foods: In 1996, Marr Foods, a fish processing company learnt that trade effluent costs would increase significantly in January 2001. The company responded by implementing a waste minimisation programme that focused on water and effluent issues. The company analysed water use and effluent generation for different processes and produced water balances for the company's two sites. This allowed clear identification of opportunities for reducing water use. Implementation of various water efficiency measures resulted in savings of £96,000 per year and a 58% reduction in water use. Investments had a payback period of just 36 weeks.

Walkers Snack Foods Ltd: A waste minimisation project at Walkers Snack Foods Ltd at Peterlee reduced the site's waste generation and water use dramatically and generated net cost savings of £960,000 in the first year.

Philips Components in the North East implemented an environmental management system certified under ISO 14001 in 1998. The system helped achieve: savings of £350,000 in one year through reductions in copper wastage; 50% reductions in cardboard packaging costs; and reduced landfill disposal costs of chemical drums by 60%.

Source: Envirowise case studies, DETR 2000 and 'Thinking Business', CSD.

A number of projects and organisations in the region provide industry with support to improve environmental performance, including advice on compliance with environmental regulations, information on available grants and financial support and assistance with waste minimisation and environmental management systems. Examples of these initiatives include:

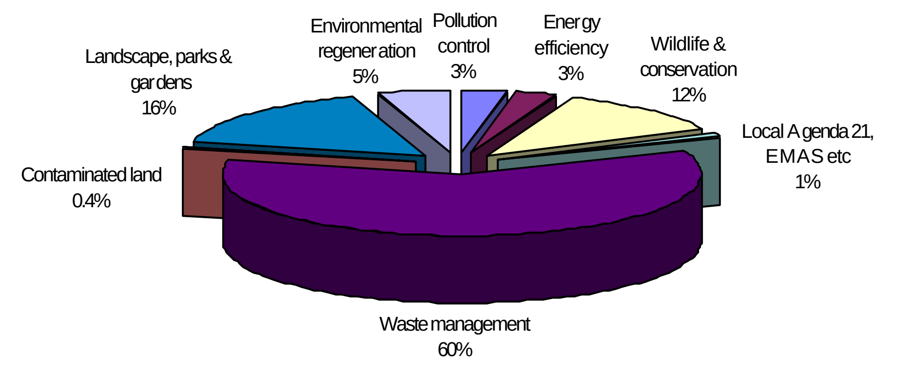
- Government backed waste minimisation clubs in the North East such as Project Tyneside.
- Durham Business Environment Action Group.
- The Weir Forum.
- Hartlepool Green Business Club.
- Productivity North East (Quality and Environment Group).
- The Newcastle Initiative Environmental Services - TNIES.
- Cleveland Wildlife Trust - Teeside Environmentally Aware Business Association.
- Energy efficiency initiatives for businesses provided by The Northern Energy Initiative (TNEI).
- Business support activities by the Centre for Sustainable Development, University of Sunderland.

3.4 *ENVIRONMENTAL POSTS IN THE PUBLIC SECTOR*

There are approximately 3,761 people employed in environmental posts in public sector organisations in the North East.

Local Authorities - Data provided by surveyed local authorities[(1)] in the North East, extrapolated to the whole of the region on the basis of population, indicates that there are 2,570 employed in environmental posts within local authorities and County Councils in the region. *Figure 3.2* shows the activities covered by these local authority environmental posts.

Figure 3.2 Environmental Posts in Local Authorities



Source: Local Authority Survey, 2000

The Environment Agency - The Environment Agency employs 302 people in the North East region in a range of activities, including waste management licensing, water resource management, groundwater management, IPPC inspection, flood defence, fisheries and nature conservation.

Other Public Sector Organisations - A survey of other public sector organisations in the North East undertaken during this study identified a further 889 employees in environmental posts – see *Table 3.6*.

(1) Estimates are based on data received from four local authorities : Berwick-upon-Tweed, Stockton-on-Tees, Tynedale and Durham City Council and extrapolated to all Local Authorities in the North East.

Table 3.6 Environmental Posts in Other Public Sector Organisations

Organisation:	Posts (FTE)
AONBs [1]	1.5
British Waterways	341
Countryside Agency	27
English Heritage	72
English Nature	30
Farming & Rural Conservation Agency	31
Forest Enterprise [2]	291
Forestry Commission	12
Government Office North East	30
Northumbria National Park	53
Total	888.5

Source: Survey responses, 2001.
Note 1: Local authorities also work with AONBs, this staff is included in section 3.3.
Note 2: includes 180 contractors engaged directly by Forest Enterprise.

3.5 ENVIRONMENTAL ACADEMIC INSTITUTIONS

Approximately 400 [(1)] people are employed in environmental research in academic institutions (5 Universities and 25 Further Education establishments) in the North East. This includes research into the natural environment and environmental aspects of manufacturing process and product design. Examples of departments in the region providing environmental courses and undertaking environment related research include:

Northumbria University - Centre for Environmental and Spatial Analysis and Environmental Consultancy Services at the Department of Geography; Sustainable Cities Research Institute.

Sunderland University - Centre for Environmental Informatics at the School of Environment, Department of Environmental Sciences, The Renewable Energy Centre, The Centre for Sustainable Development and Integra Environmental which is the environmental consultancy and training arm of Sunderland University.

Newcastle University - Department of Agricultural and Environmental Science, Centre for Urban and Regional Development Studies, Solid and Hazardous Waste Research Unit, Centre for the Rural Economy, the Organic Food Centre.

Durham University - Environmental Research Centre; Environmental Thinking and Awareness; and North East Centre for Environmental Science & Industry (NECESI).

These departments and research centres could play an important role, in partnership with environmental suppliers in the region, in developing

(1) Estimate based on telephone survey of sampled institutions in the North East.

innovative environmental technologies and services and thereby capitalise on emerging market opportunities. The departments may also have potential for spinning-off new environmental businesses.

3.6 *VOLUNTARY SECTOR ORGANISATIONS*

The range of voluntary sector organisations in the North East involved in activities to protect and enhance the natural and historic built environment include those shown in *Table 3.7.* Over 450 people are directly employed by these organisations, which also leverage significant amounts of funding into the region and are directly involved in delivering environmental improvement projects funded through programmes such as:

- the Single Regeneration Budget (SRB);
- European Structural Fund Programmes (e.g. Objective 2 Programme for the North East) and the European Social Fund (ESF);
- the Government's New Deal programme including the Environmental Task Force;
- the Community Investment Fund (CIF);
- Redundant Building Grants; and
- the Landfill Tax Credits Scheme.

As well as direct employees, voluntary sector organisations also involve large numbers of volunteers - as shown by a survey undertaken by the Wildlife Trusts in the North East which identified 2,970 volunteers active in nature conservation work in the North East generating environmental benefits and improving health, community development, social inclusion and skills development. In terms of work input, this volunteer contribution is estimated to be worth £59 million per year.

The broad range of activities in which these organisations are involved generate clear environmental, economic and social benefits through activities such as:

- conservation and enhancement of the natural environment;
- conservation and enhancement of the historic built environment in urban and rural areas;
- support to businesses in environmental management good practice and energy efficiency;
- projects to encourage environmental good practice and energy efficiency in households and communities - e.g. community recycling schemes;
- projects to promote diversification of agriculture and rural economies - e.g. support for the development of organic farming schemes;
- projects linking environmental protection activities with health projects - e.g. 'Green Gyms';

- environmental education;
- community led regeneration projects such as improvements to the physical environment in inner city areas;
- social inclusion and environmental employment projects (e.g. Intermediate Labour Market projects - see *Section 3.7*).

Table 3.7 Voluntary Sector Organisations in the Environment in the North East

Organisation	Employees	Wages & Expenditures (£ 000)
British Trust for Conservation Volunteers	15	800
CEED [1]	5	108
Durham Wildlife Trust	15	350
Farming and Wildlife Advisory Group	5	100
Going for Green	7	n/av
Groundwork Trusts in the North East	72	3,500
Hadrian's Wall Tourism Partnership	5	150
Marine Conservation North East	0	3
National Trust	250	3,600
Natural History Society of Northumbria	5	108
Northumberland Wildlife Trust	15	800
Royal Society for the Protection of Birds	15	800
Tees Valley Wildlife Trust	25	1,000
Wildfowl & Wetlands Trust	15	800
World Wide Fund for Nature	5	1,100
Total	454	**13,219**

Source: Study survey (2000) and data from survey by the North East Wildlife Trusts (2000).
Note 1: CEED = Centre for Economic and Environmental Development.

Box 3.7 Voluntary Sector Environmental Projects

The National Trust in the North East employs 250 staff and spends approximately £3.6 million, much of which goes to local businesses and suppliers. In 1997, 921 volunteers gave a total of 47,863 hours, equivalent to 28 full time staff; 29 young people were trained by the National Trust on the European Social Fund and the Trust now operates a scheme with 15 places locally per year under the New Deal programme. The Trust's environment related projects include the White Lea Farm project, at Easington on the Durham Coast.

In 1999 the National Trust purchased White Lea Farm with a grant from Turning the Tide. This is now part of National Trust property on the Durham Coast.. The Trust uses the Farm to help improve the environment and provide opportunities for local people to develop skills and access the coast and countryside. Features of the project include: creation of a community business to market the organic produce; educational benefits through involvement of local schools in White Lea Farm (e.g. farm visits to increase knowledge of conservation and environmental good practice and other subjects such as ecology, local history and business studies); training schemes in land management and nature conservation, horticulture and organic produce; community strengthening through encouragement of community volunteering to participate in White Lea Farm; health benefits which contribute to local health strategies by providing fresh organic vegetables for local consumption (including provision to local schools, hospitals and OAP homes) and various physical activities and exercise; and education and awareness raising about the local industrial heritage such as Easington Colliery and coal mining on the Durham coast.

Groundwork Trust: Groundwork's wide range of initiatives link environmental improvement to enhancing business competitiveness, community regeneration and social inclusion for disadvantaged groups. Programmes such as 'Changing Places' and 'Connecting the Community' help transform derelict or under-used industrial land into community assets. Groundwork West Durham, for example, leads Intermediate Labour Market projects in the Wear Valley, South Bishop Auckland, Derwentside and Chester-le-Street, through a partnership between local communities, training organisations and Groundwork. Projects are designed to deliver a wide range of environmental improvements, provide training and employment opportunities within areas of high unemployment and social deprivation. Local Community Groups identify environmental improvements priorities which are then undertaken by the ILM projects, providing young unemployed with paid employment, skills and inclusion in local communities.

Groundwork East Durham also operates award winning Intermediate Labour Market (ILM) projects in Easington, Durham and Peterlee. Projects include construction of woodland paths, planting, fencing and landscaping gardens for a Community House, general clearance work, drystone wall building as well as constructing access ramps and walkways. Participants develop valuable new vocational skills, self confidence, motivation and discipline of work, enhancing prospects of subsequent employment. In the longer term, Groundwork hope to a develop community enterprises and other long term job opportunities within the environmental sector. Within six months of starting the project, 14 unemployed people have been employed on the Programme and 4 have already moved on into other jobs, and 0.5 hectares of land have been improved for the local community. The Groundwork ILM projects in the North East have involved 103 participants, 60% of whom have moved into subsequent employment. Source: Groundwork, 2000.

3.7 INTERMEDIATE LABOUR MARKET PROJECTS

Intermediate labour market schemes such as the Government's 'Environmental Task Force' (part of the New Deal programme) help young unemployed people develop skills and access employment opportunities through environmental improvement work. These projects also help regenerate local communities by making areas more attractive places in which to live and work.

Three to four hundred ETF projects are currently running in the North East, involving participants for 26 week periods. Since its establishment in January 1998, approximately 3,510 young people taken part in ETF projects in the North East.

The Employment Service in the North East currently deals with 14 contractors throughout the region, mainly Local Authorities and NGOs (such as Groundwork and the National Trust) and some private sector companies. *Box 3.8* provides examples.

Box 3.8 ***Environmental Taskforce Projects in the North East***

NACRO NCT - NACRO is a national crime reduction charity which works with ex-offenders, disadvantaged people and deprived communities to help them build a better future. The Tees Valley 'branch' runs ETF projects in nature conservation, horticulture, environmental awareness raising and construction. Examples of projects undertaken include:

- The Cycle Task Force - involving improvements of cycle ways, proficiency tests in cycling, analysis of demand and need for awareness raising, actual awareness raising of locals
- PERCY - a waste reclamation centre project, collecting paper waste from local businesses in the Tees Valley and recycling for the use in arts and crafts lessons in schools. The project also undertakes visits to the schools to talk about the importance of waste and the opportunities for recycling.
- Wildlife Reserves - the participants of the ETS are integrated in the daily conservation activities of the wildlife trusts and local authorities
- Regeneration of old allotments with relaying of pipes, fences and plants

Around 25% of participants have found subsequent employment, 70% of which are in the private sector. The popularity and success of ETF projects in the Tees Valley is growing as people, local communities and businesses become more aware of the range and benefits of the projects and of the skills being developed by the young people. Source: NACRO, personal communication

INTO Work - 'INTO Work', based in Sunderland, was established as an intermediate labour market organisation in 1997. ETF projects are identified through discussion with local resident groups and include construction and landscaping - e.g. walkways for the local community, developing school playground facilities, stone/brick walling, planting of trees, bushes and shrubs, converting council land into community and private gardens to reduce crime problems, creation of children's play areas, development of community gardens. To date, 39 large scale projects have been undertaken and outcomes include:

- *Employment*: 58% of the participants leaving the 'INTO Work' find long term employment, including in projects such as construction of the local light rail link between Sunderland and the existing Tyneside network.
- *Environment*: Locally identified 'INTO Work' projects have brought real improvements to the quality, attractiveness and safety of the local environment, helping to transform previously run down areas.
- *Social benefits*: The environmental improvements have been accompanied by social benefits such as community strengthening, reduced social exclusion and reductions in local crime and vandalism.

INTO Work' currently employs 22 full time staff and 110 project participants. Monthly expenditure of around £125,000 is funded through the Single Regeneration Budget, the European Social Fund, the Landfill Tax Credits Scheme, the local Training and Enterprise Council and New Deal (ETF). The programme aims to expand the number of participants to 255 and is exploring the development of new projects such as white goods refurbishment, IT refurbishment for developing countries, energy efficiency projects relating to home insulation, re-cycling projects and a home/community security project for local businesses and residents. Source: INTO Work, personal communication

3.8 *ENVIRONMENTAL CONSERVATION AND ENHANCEMENT*

The conservation sector includes organisations and businesses directly involved in the conservation and enhancement of the natural and historic built environment. Clearly a number of organisations are already covered under the categories above - for example, Northumbrian Water, the Environment Agency, English Nature, English Heritage, the Forestry Commission, local authorities and non-profit making organisations such as the RSPB and Wildlife Trusts. For this reason, the employment estimate for these activities has not been added to the regional total in order to avoid double counting.

Organisations surveyed during this study reported that at least 425 people are involved in conservation activities in the North East. In addition, surveyed organisations reported that they work with approximately 2,970 volunteers.

Box 3.9 Environmental Conservation and Enhancement

Skerne River Restoration: An EU LIFE funded project to restore the River Skerne was undertaken in the mid-1990s to demonstrate how restoration techniques can be used to re-create natural eco-systems in urban areas. Public participation and support was a key element of the project. The project covered a 2 km section of the river which runs through an area of parkland near Darlington city centre. Prior to restoration, the channel was straight, featureless, overgrown and subject to pollution. The project has restored the stretch of river to a more 'natural' state by creating meanders, backwaters and wetlands, providing local residents and visitors with a recreational facility, a more attractive neighbourhood and increasing awareness of the river as a wildlife and educational resource. The restoration was carried out at a cost of £295,000.

A survey of public perception of the restoration showed that local residents very much welcomed the improvements and 62% of residents indicated that they would be prepared to pay between £18 and £40 extra in additional taxes per annum for the river restoration and believe they have gained substantial benefits from the restoration. Ecological monitoring has shown that the project has led to increases in bird and plant life in the area. Source: Middlesex University (2000).

Working with Waders: The project aims to work with local communities, land managers and decision-makers to find ways to secure the future for populations of birds and other wildlife in the North Pennines. Project partners include local communities, the Countryside Agency, the North Pennines LEADER programme, English Nature and the RSPB. Initiatives undertaken through the project include:

- a monitoring programme of the Countryside Stewardship Programme to measure the impact on breeding waders, involving volunteer surveyors from local communities and local farmers;
- a *Working with Waders* Upland Education Resource Pack, distributed to all schools in the North Pennines;
- development of nature trails along the banks of the River East Allen, with information on the story of Allendale, the river and some of its wildlife;
- establishment of a circular trail around the Whitwham Farm in the South Tyne Valley which supports large numbers of breeding birds and participates in the Countryside Stewardship and Woodland Grant Scheme. Source: The Wader Project, RSPB, 2000

3.9 *ENVIRONMENTAL REGENERATION*

In addition to intermediate labour market projects, public sector organisations in the North East, such as One North East, the Local Authorities, private and voluntary sector partners are also involved in large scale regeneration projects which address dereliction through major investments to improve the physical environment in urban and rural areas of the North East.

Public sector regeneration funding programmes include the Single Regeneration Budget, the EU Objective 2 Programme, the Neighbourhood Renewal Action Plan and additional funding streams from organisations such as local authorities, One North East, English Heritage, English Nature, the Environment Agency and the Countryside Agency.

Regeneration projects generate considerable economic, employment, social and environmental benefits for the North East, and whilst it has not been possible to quantify these impacts in this study, the examples in *Box 3.10* illustrate the range of benefits that arise from this very significant aspect of environmental improvement activities in the North East.

Improvements to the historic built heritage of the North East are a major part of regeneration activities in the North East and help enhance living and working conditions for the region's residents as well as boosting tourism and business investment to the North East. Examples of improvements which generate social, economic and environmental benefits are shown in *Box 3.11*.

Considerable sums are invested in the conservation and improvement of the historic built heritage, generating employment amongst suppliers in the region and helping to attract visitors. English Heritage, for example, invested over £2.6 million in the North East between 1994/5 to 1998/99 in improvements to the historic built environment in 'Conservation Area Partnership' schemes, which have also leveraged in significant private sector funding [(1)] .

There are many businesses and personnel employed in undertaking conservation and improvement work to the historic built environment. The National Trust and English Heritage in the region have at 75 specialist businesses providing building restoration and conservation services.

(1) English Heritage (1999) - "The Heritage Dividend: Measuring the Results of English Heritage Regeneration".

Box 3.10 Environmental Regeneration

Turning the Tide: Coal mining was an economic mainstay of the Durham coast over the last 100 years and the dumping of colliery spoil on beaches and in the sea caused significant environmental impact. The Turning the Tide Partnership was established in 1996 to regenerate the coastline and involves 14 organisations such as Durham County Council, the District Council of Easington, the National Trust, the Countryside Agency, One North East and Northumbrian Water. The project is investing £10 million, including £4.5 million from the National Lottery Fund, in the reclamation of derelict land and buildings, spoil removal, habitat creation, improvements to coastal recreation and access and new visitor facilities. The programme will be completed in 2001 and, as well as environmental improvements, has provided many employment opportunities and a major boost to the local economy through increased tourism activity. Source: Durham County Council

Clean Up and Regeneration Along the River Tyne - The River Tyne is now a vibrant river, with one of the highest salmon populations in England, but was virtually 'dead' 20 years ago. Pollution in the River Tyne rose during the industrial revolution and with increases in bankside populations - several outbreaks of cholera occurred in the 19th century. By 1970, there were 20 major outfalls into the Tyne estuary and most of Tyneside's sewage was discharged directly into the river.

However, sewage treatment investments of over £150 million in the last 20 years have brought substantial improvements in river quality making the Tyne a major attraction and recreational facility for local residents and visitors, as well as being at the heart of redevelopment along its banks. Nature conservation sites, gardens and recreation areas have been created on former derelict land and a heritage trail has been created along the river's northern bank. New business and residential developments have replaced disused waterfront properties and derelict sites. Specific riverside regeneration projects include:

- *Dunstan Riverside* was previously an industrial area close to the mouth of the river Tyne and is being reclaimed and remediated for residential development, including social housing. The remediation and preparation cost is £2-5M and housing investment of £16M.
- *Gateshead & Newcastle Quays area* is being reclaimed and developed through investment of £154M in Gateshead Quays alone. Private funding is additional to this. The area includes: a £60-80M music centre, the contemporary art centre at the Baltic Flour Mill developed for £46M, hotels, housing and business development. The new £20M millennium pedestrian bridge links the two riverbanks.
- *Newburn riverside area* covering 250 acres and almost one mile of river bank of derelict land, formerly the location of several heavy industrial operations such as a coal fired power station, a graphite plant and a first World War ammunitions factory. Significant improvements in water quality and natural habitats have boosted local wildlife, including the return of the otter. Total investment amounts to £40M, of which £22-23M was allocated to the remediation works. Source: One North East, 2000

Box 3.11 Regenerating the Historic Built Environment

Grainger Town is at the historic heart of Newcastle upon Tyne, based around the classical streets built by Richard Grainger in the 1830's and 1840's. 40% of buildings in the area are listed buildings. In the 1980's and early 1990's, the once prosperous area of Newcastle was overtaken by new centres of retail and commercial activity, eroding the economic base and leaving properties to fall into disrepair. Around one million sq ft of floorspace was unoccupied and the residential population was falling. The Grainger Town initiative was established in 1997 as a partnership between Newcastle City Council, English Partnerships and English Heritage with the objective of transforming and rejuvenating Grainger Town. The £120 million regeneration programme will continue until 2003, improving historic buildings, retail and office space; reintroducing housing; stimulating new business start-ups; improving public transport and high profile leisure and tourist attractions. Anticipated benefits include employment opportunities for local residents (particularly amongst the young), establishment of new businesses, doubling of the residential population and significant environmental improvements to public areas. Source: English Heritage and Newcastle City Council.

Hadrian's Wall Enrichment: Hadrian's Wall is the North East's largest tourism attraction in terms of visitor numbers (1.25 million visitors each year), it generates an estimated £200 million in visitor expenditure and supports at least 750 tourism businesses mainly in rural areas. The Hadrian's Wall Partnership was awarded £1.68 million under Round 6 of the Single Regeneration Budget and obtained an additional £1 million in match funding to develop the Hadrian's Wall Corridor in line with its UNESCO World Heritage Site status. The initiative has aimed to: improve visitor facilities, attractions and the natural environment along the Wall; co-ordinate marketing activity; develop sustainable transport networks; improve educational facilities and strengthen links with local communities and businesses. Outcomes of the improvements are anticipated to include: 50,000 additional visitors, including more school visits; 50% increases in bus usage; establishment of 30 new tourism businesses; Intermediate Labour Market projects to improve the physical environment and facilities and develop skills amongst participants and increased volunteer involvement. Source: Hadrian's Wall Tourist Partnership.

Sunderland Regeneration: The City of Sunderland has been awarded £272 million since 1995 through Single Regeneration Programmes (SRB) as well as match funding from other public and private sector investments. Redevelopment activities are specifically targeting physical regeneration and environmental improvements, helping to improve the attractiveness of the area for investment, increase skills, employment and the overall quality of life for local residents. Initiatives include:

- *Conservation Area Grants*, within the 'Work and Learn' (SRB I & II). A £16 million programme which provides financial assistance to businesses to carry out improvement works in eligible areas. The Conservation Area Grants combine the conservation of the City's historic building with the appropriate reoccupation of vacant premises. Most of the buildings in Sunderland City area are of architectural and historic interest and are designated conservation areas.

- *Changing the Face of the Coalfield* has a budget of £31 million with £6 million coming from the SRB programme. The project includes activities to involve young people in local environmental improvement work - including improvements and re-use of vacant sites and 'eyesore' buildings, redevelopment of shop-fronts, narrowing of carriageways and construction of new housing. Businesses contribute to the work of Youth Work which invests £10 million per year in supporting community and environmental projects.

- *Pride in Pennywell*' runs from 1997 to 2004 with a total budget of £55 million. By July 2000, activities had included the improvement and development of more than 9 ha of land and 3 buildings were brought back into use. The project includes community led environmental improvements such as a comprehensive physical regeneration of the area between the A19 and the coast.

3.10 *SUMMARY*

Analysis has shown that the environmental industry in the North East is an important sector which employs over 20,000 people and generates benefits in terms of:

- generating direct income and employment in environmental businesses and helping to diversify the region's economy towards growth markets;
- addressing dereliction and improving the physical environment in rural and urban areas in order to enhance quality of life and the attractiveness of the region for investors and visitors;
- enhancing the competitiveness of industry through cost effective improvements in environmental performance; and
- conserving and enhancing the natural and historic built environment.

Section 6 of the report examines the potential for growing the environmental industry in the future and recommends actions for supporting this growth.

4 LAND BASED INDUSTRIES

4.1 OVERVIEW

This section examines the importance of the environmentally beneficial activities in the land based industries of agriculture, forestry and fisheries. It covers:

- Agriculture: agri-environment schemes, organic farming and regional produce.
- Environmentally beneficial activities in the forestry sector
- Fisheries and aspects of countryside sports.

These activities generate or help to sustain approximately 4,068 jobs in the North East (*Table 4.1*). Whilst this total is relatively small when compared with total employment in the region, the number is significant when viewed in the context of the 12,700 employed in the agricultural sector. Taken together, these activities play an important role in sustaining and diversifying rural economies and communities in the North East.

Table 4.1 Environment Related Jobs in the Land Based Industries of the North East

Activity	Employment	Section Reference:
Agri-Environment Schemes	1,918[1]	4.1
Organic farming	46	4.2
Regional produce	900	4.3
Environmentally beneficial forestry	634	4.4
Fisheries, Countryside Sport & Leisure	570	4.5
Total	**4,068**	

Note 1: The figure of 1.918 includes 1,818 jobs which agri-environment schemes have helped to secure (rather than create).

4.2 AGRICULTURE IN THE NORTH EAST

Agriculture and forestry in the North East accounts for 67% of the region's land area [(1)] . As shown in *Table 4.2,* the majority of this land is pasture or rough grazing. The western parts of the region are dominated by poorer soils and support upland and hill grassland, as well as moorland and forestry. The remaining areas support mostly arable land use.

Table 4.2 Agricultural Land Use in the North East

Land Use	Percentage of agricultural land
Arable Cropping	27%
Temporary Grassland (< 5 years)	6%
Permanent Grassland (>5 years)	30%
Rough Grazing	26%
Farm Woodland, set-aside and other land	11%

(1) The total agricultural land area of the region amounts to 579,291 hectares. This represents just over 6% of the agricultural area of England. Source: RDP, 2000.

In 1997, 12,702 people were employed in primary agriculture. Agricultural employment represents 1.4% of the regional total. Employment in the sector fell by 14% between 1987-97.

Agriculture's contribution to regional GDP was estimated at £203 million in 1997, which represents 1% of the regional GDP (1) (close to the UK average). As in the rest of the UK, the sector's contribution to regional GDP has been declining in recent years (farm incomes have dropped by 90% (2) in the North East in the last 5 years), in part because of reduced farm gate prices, and looks likely to reduce further in the future – not least because of the foot and mouth epidemic. Despite this decline, agriculture remains central to the economies of rural communities and has a major influence on the character and quality of the region's environment.

There are currently 5,178 farm holdings in the region, a decrease of 4% over the period 1987 - 97, reflecting the national trend towards fewer, larger holdings.

As stated in the Rural Development Programme (RDP), recent reform of the EU's Common Agricultural Policy (CAP) is shifting the emphasis away from production support, towards providing the framework for the expansion of environmentally responsible agriculture. The RDP will significantly increase the area covered by schemes to conserve and improve the environment and bring substantial expansion of funds for programmes such as the Countryside Stewardship Scheme and the Organic Farming Scheme.

The RDP will also assist in the creation of more diverse and competitive agricultural and forestry sectors, encouraging the development of new products and markets and launching new schemes such as the Energy Crops Scheme.

4.3 *AGRI-ENVIRONMENT SCHEMES*

The study focuses on agricultural activity which explicitly aims to make a positive contribution to the quality of the environment. In particular, it examines the economic significance of agricultural activities which receive financial grants or subsidies in return for undertaking environmental protection or enhancement work. The following schemes have been identified in this context:

- Environmentally Sensitive Areas (ESAs);
- Countryside Stewardship Scheme;
- Other MAFF schemes (Moorland Scheme, Habitat Scheme);
- Wildlife Enhancement Scheme (English Nature);
- English Nature Management Agreements.

(1)MAFF website, http:\\www.maff.gov.uk\
(2) England Rural Development Plan - NE Regional Chapter, 2000

Table 4.3 *Environmental Schemes under agreement*

	Number of participating sites	Uptake Area (hectares)	Annual commitment (£ million)
Environmentally Sensitive Areas [1]	365	15,020	3.4
Countryside Stewardship Scheme	555	16,511	1.99
English Nature Wildlife Enhancement Scheme	180	40,734	0.4
English Nature Conservation Schemes	62	8,300	0.12
Other MAFF Schemes	-	2,901	n/a
National Park Schemes	-	165	0.68
Total		83,631	6.59

Notes 1: The annual commitment for the ESA include parts of Cumbria and North Yorkshire in the North Pennines.

Environmentally Sensitive Areas (ESAs): In the North East, ESAs include South Tyne with Nent Valley, West Allendale, East Allendale, Rookhope, Weardale and Baldersdale with Lunedale. ESAs are parts of the country of particularly high landscape, wildlife or historic value which are threatened by changes in farming practices. Incentives are offered to farmers within these areas to adopt agricultural practices which will safeguard and enhance the rural environment and improve public access. Farmers enter into 10 year management agreements (with an option to withdraw after 5), and payments range from £8 to £500 per hectare depending on the practice adopted. Payments are also available for the provision of new public access and for certain capital works. Over 20,000 ha are eligible under ESAs in the North East and uptake stands at 67%.

In 1996, an economic review (1) of 5 ESA schemes was undertaken by ADAS for MAFF. Farmers participating in the schemes were asked how this had affected employment and income on their farms. The results showed that the schemes had increased on-farm employment, although this varied between the different ESAs by between 3% and 38%.

Countryside Stewardship Scheme: Outside ESAs, the Countryside Stewardship Scheme targets the conservation and enhancement of key English landscapes, features and habitats, and provides, where appropriate, improvements in public access. The scheme offers 10-year management agreements with annual payments per hectare and a wide range of accompanying capital grants. Areas covered in the North East include:

- The Northern Uplands, specifically The North Pennines and Northumberland National Park;
- Areas of UK priority habitats such as fen, limestone grassland and coastal habitats;
- Countryside around towns, including the Tees Forest and its associated recreational strategy and the Great North Forest;
- The Hadrian's Wall World Heritage Site.

(1) Economic Evaluation of Stage 1 ESAs, Report for MAFF Economics (Resource Use) Division, ADAS, 1996

These areas make up 16,511 hectares or 2.8% of the region's agricultural area. The 1999/2000 budget for agreements in the region is £1.99 million, Northumberland accounts for 58% of this total. Uptake of Countryside Stewardship agreements is evenly distributed across the region at approximately 50%.

Other Agri-Environmental Schemes include:

- ***The Moorland Scheme***, now closed to new applicants, which provides money to upland farmers outside ESAs to reduce stocking densities and manage land to improve the condition of heather and other shrubby moorland. Annual payments are per ewe removed. There are nine schemes in place in the North East, covering 2,901 ha of moorland.

- ***Wildlife Enhancement Scheme:*** English Nature offers management agreements for Sites of Special Scientific Interest (SSSIs). Currently, there are 176 WES agreements in the North East, covering 39,173 hectares [(1)].

- ***Northumberland National Park Authority Initiatives:*** The Northumberland National Park Authority provides grant aid for conservation work to encourage farmers to maintain and enhance features of landscape and wildlife interest on their holdings and improve public access. Projects cover activities such as dry stone walling, amenity tree planting, woodland management, repairs to traditional farm and other vernacular buildings, heather management, bracken control, wetland conservation and footpath restoration. In the financial year 1999/2000, the Park Authority granted £67,800 in aid schemes for farmers and landowners, covering 165 ha of agricultural land within the Park.

4.3.1 *Employment Effect of Agri-Environment Schemes:*

It is estimated that 100 jobs are created on farms by agri-environment schemes in the North East. In addition, agri-environment schemes are recognised to play an important role in helping to sustain existing farm jobs. This is estimated to make 1,818 [(2)] farm jobs more secure. In total, therefore, it is estimated that 1,918 farm based jobs are created or sustained in the North East through agri-environment schemes.

The estimated 100 jobs created by agri-environment schemes in the North East is based on data from a 1996 study [(3)] undertaken for the Countryside Commission on the net changes in farm employment due to the Countryside Stewardship Scheme. The study found that the scheme generated additional labour equivalent to 50 full time equivalent (FTE) jobs across the whole of England and increased the use of outside contractors and advisors equivalent to 220 FTE jobs nationally per year. Extrapolating to the North East region on

(1)English Nature, personal communication, 2000

(2) This is based on an average figure of '1' job for every 46 ha (including part time, full time and casual or seasonal jobs) - applied to the 83,631 hectares covered by agri-environment schemes in the North East .

(3)Countryside Commission, CEAS Consultants, University of Reading (1996) Socio-Economic Effects of the Countryside Stewardship Scheme, paper published in the Journal of Agricultural Economics, vol 49, no 2, Spring 1998 the basis of hectares covered by the CSS (the North East regions contains 11.5% of the total for England's CSS) gives 23 FTE jobs created directly. If this effect is extrapolated to other agri-environmental schemes in the North East (on the basis of areas of land covered - but recognising that in reality employment intensities per hectare vary with different types of agricultural scheme), 157 extra full time equivalent jobs are created on-farm through agri-environment schemes.

4.4 *ORGANIC FARMING*

The extent of growing and rearing organic produce and livestock in the North East is limited, but growing.

It is difficult to provide accurate figures for the area under organic management as there are a number of organisations from whom farmers can obtain a license. Furthermore, Soil Association licenses record the total farm size, which may include organic and non-organic parts of the farm, and not all organic producers are covered by Government organic support schemes.

Farms in the North East with Soil Association organic licenses cover an area of 935 hectares. In addition, the total area in the North East within the MAFF funded Organic Aid Scheme (1) (closed to new applicants) and the Organic Farming Scheme (2) is 3,517 hectares. This represents just 0.6% of the overall agricultural area in the region of nearly 579,291 hectares. The low figure compared to other parts of the UK partly stems from the lower incidence of horticultural holdings in the region.

Existing studies have shown that an estimated 20% to 100% more labour is required on organic farms, depending on the diversity of the enterprise, the extent of on-farm marketing and processing activity and the crop type (3). Small organic farms tend to have higher labour requirements per hectare than larger enterprises. Taking 60% as a mid-point estimate of the extra labour required on organic farms compared to non-organic farming, it is estimated that organic farming in the North East currently generates 46 additional jobs, based on a regional average for the sector as a whole of 1 'job' per 46 hectares (this includes full-time, part-time and seasonal/casual labour).

(1) Organic Aid Scheme, There were two agreements in Northumberland, totalling 90.65 ha, and one in Durham, covering 80.11 ha. There were no agreements in Tyne & Wear and the Tees Valley (MAFF, Northalterton, personal communication).
(2) Organic Farming Scheme, there are six agreements in Northumberland, totalling 3,215 ha and one agreement in Durham, covering 131 ha. There were no agreements in Tyne & Wear and the Tees Valley.
(3)Southern Pennines Environmental Economy Scoping Study, DTZ Pieda Consulting, for the Countryside Agency, January 2000.

Box 4.1 *Examples of Organic Farming in the North East*

North East Organic Growers is a co-operative established in 1995 based at Earth Balance in Bedlington. It produces vegetables to Soil Association standards and delivers vegetable boxes to 240 customers and organic meat produced on land owned by Wansbeck Council. Vegetables are also sourced from several organic farms in the region. Local sourcing from other certified organic growers helps to keep 'food miles' to a minimum. They deliver throughout the North East and have created 5 FTE jobs, plus seasonal work in the summer months.

Earth Balance visitor centre, Bomarsund, Northumbria Earth Balance centre is home to three enterprises - an organic beef and cereal producer, a vegetable growers co-operative and a horticultural training centre and nursery. The centre was set up 10 years ago with land donated by the District Council.

The Rising Sun Country Park in North Tyneside, includes a 200 acre organic farm, with a strong social and educational role, providing a day service for people with leaning difficulties and offering opportunities for individuals, schools and other groups to get involved in organic agriculture and participate in farm life. The Farm runs a veg box scheme and sells produce at local farmers markets. The Park also runs a Countryside Centre which supports a number of small businesses including a café.

Organic vegetable boxes provide opportunities for new businesses and provide health benefits. Schemes are on the increase in the North East and include examples such as: a Hexham horticultural training unit which runs a seasonal box scheme; a market garden recently converted to organic production at Otterburn, Havens Organics; Lets Go Organic delivers organic vegetables throughout the region. As well as organic producers, the North East also has expertise in the form of the Organic Food Centre at the University of Newcastle upon Tyne.

Box 4.2 *Newcastle University Organic Food Centre*

The Organic Food Centre was established at the University of Newcastle upon Tyne, in October 2000 and is co-funded by Tesco and the University, as well as receiving contract income from the EU, MAFF, the DTI and businesses (retailers and food producers). It currently employs 15 academic staff and runs a farm producing organic crops and raising organic dairy cattle in the Tyne valley (Nafferton Farm). Areas of research include: organic production efficiency, soil fertility, crop management, crop protection, animal husbandry, new product development, marketing and consumer research.

4.5 REGIONAL PRODUCE

The development of speciality regional produce helps add value to food production and reflects a growing desire amongst consumers' to support local producers and demand for high quality produce that consumers can trust in terms of quality of product and production methods.

Whilst there is not necessarily a link between regional produce and the environmental impact of agricultural methods used to produce the goods, there are nevertheless some examples of regional products where the environmental benefits of the production methods are an important part of their marketing message. In addition, the promotion of local purchasing of food can bring environmental benefits through reduction of 'food miles' (the distance which food is transported), and indirectly through supporting local agriculture, as well as through links with tourism initiatives. Local and regional produce also tends to be produced at a smaller scale than mass market produce, and therefore tends to be more labour intensive.

The region has a number of smaller, speciality food producers, especially in Northumberland where the County Council's Food from Northumberland Initiative has provided assistance and marketing support to companies including Northumberland Cheese Company and North East Organic growers Ltd (*Box 4.3*). However, the scale of the speciality food sector in the North East is very much smaller than in any other regions of the UK, in terms of the number of companies, income and employment (*Table 4.4*).

Box 4.3 Examples of Regional Produce from the North East

Northumberland Cheese Company - Based in Blagdon, Northumberland Cheese Company was established in 1984 as part of the diversification of a sheep and cattle farm and now supplies cheeses made from sheep's milk throughout the North East and elsewhere in the UK.

Stormy Hall Farm - Stormy Hall Farm is one of 5 farms in the village of Botton in Danby Dale. A home for mentally handicapped people. The 5 farms (covering 555 ha) are farmed organically producing a wide range of products from milk products, vegetables, potatoes and meat. Produce from the farms is either consumed in the village or sold locally. Recently the farms have started a seed workshop, growing and selling organic vegetable seeds by mail order.

Barn Bakery - Barn Bakery produces high quality bread using organic, local and 'fairly traded' ingredients as part of farm diversification plan. Its products are certified by the Soil Association. The business employs three full time and five part time members of staff. The Bakery sells it produce through local markets and farmers markets as well as supplying direct to speciality shops in Northumberland. The Bakery has established customers who are keen to support local businesses and appreciate the local links and knowledge of production methods. Source: Countryside Agency, 2000

Northumbrian Quality Meats - Monkridge Hill Farm near the village of Otterburn in Northumberland has established the brand Northumbrian Quality Meats and all products will be certified as Organic by the Soil Association. The farm was established five years ago and is managed in order to conserve wildlife, habitat and promote high standards of animal welfare - as reflected by its pledge to direct 10% of profits from meat sales back into a range of conservation projects on the farm. Projects include heather regeneration, hardwood planting, riverside management and wetland conservation. The farm has recently expanded from 570 acres to 790 acres and has received a farm diversification grant of £8,000 as well as Countryside Stewardship Grants. The meat is supplied directly to consumers through internet ordering and regional farmers markets, as well as direct to butchers and hotels in the region. The farm has created a successful local brand for high quality produce which can command a 20% price premium. Source: Countryside Agency, Monkridge Farm.

Table 4.4 *Speciality Food Producers by Region*

	No. of Companies	Estimated Employment	Gross Turnover £ million
North East	**60**	**900**	**90**
Scotland	440	7,700	520
South West	510	7,200	510
Greater London	360	6,500	420
Eastern	270	6,200	440
South Eastern	390	6,000	430
North West	180	3,600	180
Wales	270	3,400	240
Northern Ireland	70	3,300	220
Yorks & Humber	190	3,000	170
East Midlands	160	2,600	270
West Midlands	200	1,700	90
Total	**3,100**	**52,000**	**3,580**

Source: Rural Development Programme - North East Chapter, MAFF, 2000.

Even allowing for climatic and environmental conditions, which limit the range of produce that can be grown locally, there is an opportunity for further development of this sector. Scale is important in collaborative marketing in helping small, locally based niche market groups attain and maintain a significant presence in the market. Unlike a number of other UK regions, the North East does not have a region-wide collaborative speciality food group or marketing organisation (e.g. Heart of England Fine Foods) and the links between the food sector, primary production and tourism are relatively weak.

The Countryside Agency has launched the 'Eat the View' programme which aims at reinforcing the link between the countryside and the consumers' tables (*Box 4.4*) and One North East is developing initiatives to support regional producers in the North East.

Box 4.4 ***'Eat the View'***

In 2001, the Countryside Agency launched the 'Eat the View' programme to stimulate the development of markets for products which are produced in a way which protects or enhances the countryside's environment and landscape. The project will help farmers develop new products, market these products using product labels, access new markets through collaborative marketing, help producers add value and address price pressures, and raise consumer awareness of the role they can play in supporting local countryside businesses through purchasing decisions.

Source: The Countryside Agency, 2001

4.6 FORESTRY

Forests and woodlands are a renewable resource which, when well-managed, can bring important economic, social and environmental benefits - as highlighted in the Government's forestry strategy[1] see *Box 4.5.*

(1)Forestry Commission (1998) England Forestry Strategy: A New Focus for England Woodlands.

Box 4.5 Benefits of Woodlands and Forests

The Government's forestry strategy provides a framework for sustainable forest management which recognises the potential economic, environmental and social benefits.

Economic benefits include:

- direct employment within the forestry sector through planting and woodland management;
- indirect employment in sectors associated with forestry, including recreation and tourism;
- helping to maintain rural economies through incomes received from forestry activities;
- increasing the attractiveness of urban areas and helping to induce inward investment.

Environmental benefits include:

- enhancing the beauty of the countryside
- enhancing attractiveness of urban areas
- regenerating derelict areas
- enhancing wildlife and biodiversity
- reducing & filtering pollution, leading to healthier cities
- a renewable energy source

Social benefits include:

- opportunities for recreation
- community participation and health benefits
- improved quality of life
- increasing the attractiveness of areas for living and working

In line with the new national priorities set by the England Forestry Strategy there will now be greater emphasis on targeting:

- the creation of larger woodlands where they can bring greater benefits including the production of high quality timber;
- the creation of woodlands in the urban fringe including community woodlands;
- the restoration of former industrial land and new woodlands as a setting for permitted development;
- reversing the fragmentation of ancient woodlands in priority areas.

4.6.1 Forestry and Woodlands in the North East

Forests and woodlands cover 11% of the North East total area, with the majority contained in Northumberland (80%) and County Durham (15%). Forests in the North East account for 10% of total forest cover in England. 74,500 ha of the region's 99,500 ha total forest cover has been planted since the 1930s, it consists predominantly of conifers.

State managed forests (owned by the Forestry Commission) account for 49,920 ha of woodland in the North East, most of which are within the Kielder Forest District, the largest contiguous plantation forest in Europe. The private sector owns 48,300 ha of the region's woodland, including 90% of broadleaved woodlands.

Employment: As shown in *Table 4.5*, aspects of the forestry sector in the North East being covered in this study employ 634 people and generate annual turnover of £47 million.

Table 4.5 *Environmental employment and turnover in North East's Forestry Sector*

	Employees	Turnover (£ Million)
Contractors	340	n/a
Forest Management / Nurseries	260	6.1
Forest based tourism, wildlife & conservation	34	41.2
Total	634	47.3

Source: C J Piper & Co, 2000. Kielder Forest District, personal communication
Note: Number of jobs in forest based tourism is included in forest management/nurseries.

Recreation: Forest based tourism in the North East is estimated to generate £40 million turnover per year [(1)]. The Forestry Commission estimates there are over 700,000 informal visits per annum to Kielder Forest alone. Woodland being established through the Community forest programmes will also improve access and recreation around the region's towns. There are two community forests in the region - the Great North Forest and the Tees Community Forest. These two forests will provide approximately 9,780 ha of new, urban woodland and bring a variety of regeneration and recreational benefits to the region.

Forestry Grant Schemes: A significant proportion of woodland is not managed, especially small, farm-based woodlands. With little or no current economic return (but often considerable potential), they tend not to be valued and may lose their wildlife interest. The Woodland Grant Scheme (WGS) and the Farm Woodland Premium Scheme have been successful in encouraging the establishment of small broad-leaved woodlands in parts of the North East and encouraging more active management of woodlands to improve biodiversity and make use of timber resources as well as increase public access for recreation.

The WGS annual expenditure is administered by the Forestry Commission (FC) to encourage the creation and sustainable management of non-FC owned woodlands and forests. In NE England the WGS has an annual expenditure of about £1 million. This enables an annual new planting programme of 300ha, about half of which is new community woodland with public access. In total, approximately 20,000 ha of woodland in the North East has now benefited from management under the WGS. Woodland managed under WGS is increasing by approximately 1,000 ha each year as a result of the addition of previously unmanaged woods and new planting.

(1) C J Piper & Co, 2000.

Box 4.6 Forestry and Recreation Case Studies

The Tees Community Forest, Teeside - Since 1991, 778 ha of woodland have been planted in the Tees Forest. Almost a quarter of all farms within the Tees Forest are now part of the Countryside Stewardship Scheme and private and public sector support for the forest has been £2.3 million since 1997. Projects within the forest include:

- Summerhill - a 40 ha urban fringe site which is being transformed from a grazing site to a conservation and outdoor sport site. A partnership was formed between Hartlepool Borough Council, Tees Forest, Countryside Agency, Forestry Commission, user groups and organisations. £2 million in funding has been received EU and Lottery funds.
- Admiralty Ecology Site is situated next to the Elementis Chromium works at Urlay Nook near Stockton-on-Tees. It combines woodland, wetland and grassland habitats, formed from the natural regeneration of industrial land. Employee volunteers from Elementis Chromium manage the site. Since 1998, The Tees Forest has worked closely with the company to increase community involvement through activities such as 'green' summer camps for young people from disadvantaged areas.
- Cowpen Bewley Woodland Park - a 52 ha site transformed from a landfill tip, the Park provides a resource for environmental education activities. The site is located on the Sustrans National Cycle Route and at the edge of a large residential area and provides opportunities for recreational use. The sites and 250,000 newly planted trees were donated by ICI Chemicals and Polymers to the local community. Funding comes from the Landfill Tax scheme and the Northumbrian Environmental Trust.
- People Trees and Partnership is a tree-planting project involving the planting of 10,000 trees by pupils at Wilton Primary School in the village of Lazenby, bringing The Tees Forest closer to the doorsteps of village residents. The project is a result of a partnership between industry, local people and the Forestry Commission, with the majority of the funding coming from the Landfill Tax credit scheme that enables tax credits from ICI landfill operations to be ploughed back into environmental projects.

The Great North Community Forest was established in 1990 to help regenerate green belt and urban fringe countryside and is funded in partnership by the Countryside Agency, the Forestry Commission and five local authorities. It covers 62 square miles and has a core team of four people employed full time, a part-time forester attached to the forest. The community forest initiative has helped to diversify agricultural activity, conserve natural habitats, sport and recreation, safeguard archaeological and historical sites, promote community involvement and environmental education. The Forest has helped the area to attract industry and is now one of the fastest growing industrial sites in the North East - the 'leafy' character of the Doxford Business Park has helped attract large companies such as Nike, Royal and Sun Alliance and Sunderland College.

Kielder Forest District is responsible for the management of all Forestry Commission land in Northumberland, Tyne and Wear and Durham plus the forests of Kershope and Spadeadam in Cumbria. The forests are managed as multipurpose concerns, including tree planting and maintenance, harvesting & haulage, as well as recreation & tourism and wildlife & conservation. 111 people are directly employed by Forest Enterprise, assisted by contractors employing a further 180. One of the primary activities of the Forest District is recreation and it includes: 3 educational centres; regular events programme including 70 events through the year, e.g. guided walks, bat watches; 2 visitor centres; forest classrooms; waymarked walks, cycle trails and horse routes; many picnic sites, play areas and orienteering courses. Source: Great North Forest 10 Year Plan.

4.7 COUNTRYSIDE SPORT AND LEISURE

4.7.1 *Walking in the Countryside*

The North East contains some significant National Trails, such as the Pennine Way through County Durham and Northumberland and the Cleveland Way. The Hadrian's Walk National Trail is due to be completed by 2002, and it is estimated that this trail will potentially support 80 rural jobs in the region and generate £6.94 million in visitor spending.

There is currently only one Countryside Access Scheme in the North East. However, there are a number of access agreements known as Conservation Walks under the Countryside Stewardship Scheme and the Environmentally Sensitive Area scheme – see *Table 4.6*.

Table 4.6 Registered Conservation Walks

County	Number of agreements	Open Access (ha)	Linear Access (ha)
Northumberland	34	758	30,451
Tyne & Wear	2	0	3,575
Co Durham	10	223	3,139
Former Cleveland	14	57	17,499

Source: Rural Development Plan. MAFF, 2000.

4.7.2 *Freshwater Fisheries / Angling*

The region's rivers and still waters are important to the rural economy through tourism and the links with cultural heritage, environment and landscape. Angling is particularly valuable to the economy and it is estimated from a MAFF commissioned study that one rod caught salmon is worth over £4,700 in terms of income in the North East.

The Tyne and North Tyne generates £156,000 per year from the sale of fishing rights and additional spend in the rural economy comes from food and accommodation for visiting anglers.

The River Tweed catchment in Scotland is estimated to be worth £13 million per year and supports over 500 jobs. However, the number of rod catches is less in the North East which points to the potential for building on the work of the Northumbrian Rivers Project in developing the river habitat and strengthening the links with the tourism sector through better marketing. Coarse fish occur in the lower reaches of the Rivers Tyne and Wear and in other, mostly still water locations.

Box 4.7 Salmon Fishing on the River Tyne

> The River Tyne has since become one of the best rivers for salmon fishing in England. The net annual economic value of the Tyne salmon fishery amounts to £16 million, **supporting 570 direct FTE jobs**. Anglers spend on average £40 per day (visitors and residents) over a total of 15,875 days. The declared salmon catch is around 1,500 per year. Source: The Environment Agency, 2000.

4.8 *SUMMARY*

The land based activities covered in the study create or help to sustain at least 4,000 jobs. Whilst this total is small in comparison with total employment in the region, the figure is nevertheless significant in relation to agricultural employment and in terms of helping to diversify and sustain rural economies.

There is clearly scope for expanding these activities in line with increasing government funding for agri-environment and organic conversion schemes and growing demand for organic and high quality regional produce that is branded on quality of the environment. The potential future significance of these activities to rural economies has been highlighted by the foot and mouth epidemic. *Section 6* explores the growth prospects in more detail and recommends actions for supporting future growth.

5 CAPITALISING ON A HIGH QUALITY ENVIRONMENT

5.1 OVERVIEW

This section covers the contribution made by a high quality environment to:

- Tourism activities in the North East
- Inward investment and skills retention;
- Films and media; and
- Quality of life benefits for residents and visitors.

Analysis shows that at least 27,000 jobs in the tourism sector of the North East are dependent on a high quality environment. Whilst a high quality environment can contribute to attracting inward investment and quality of life, it has not been possible to quantify these effects.

5.2 TOURISM DEPENDENT ON A HIGH QUALITY ENVIRONMENT

A high quality environment can underpin activities in the tourism sector in a number of ways, for example:

- Specific 'environmental' attractions, coastlines, historic buildings and nature reserves provide a direct reason for tourists to visit an area.
- A high quality environment is often a prerequisite for many activity-based holidays, e.g. cycling, walking, canoeing.
- Adding value - It contributes to a general positive attitude towards the region, which can help to attract all types of tourists, from conference guests to families.

Tourism is an important growth sector in the regional economy and, whilst starting from a relatively low base, the North East is one of England's fastest growing tourism regions. Between 1985 and 1995, it experienced a 112% increase in the number of trips to the area by visitors from overseas (1).

Approximately 67,000 (2) people are employed in the tourism industry in the North East - which represents 7% of regional employment. Of this total, an estimated 27,000 tourism jobs in the North East are directly dependent on a high quality natural and historic built environment.

The North East has many environmental assets which attract visitors from outside and inside the region. Attractions include those outlined in *Box 5.1* and *5.2*.

(1) Regional tourism strategy, Northumbria Tourist Board, 1998
(2)The 67,000 tourist jobs are Full Time Equivalent posts and is based on the Standard Occupational Classifications (SOC) - source: Northumbria Tourist Board and GONE, personal communication 2000.

Box 5.1 Tourism based on the Region's Environment

- **Hills and landscapes** - Northumbria National Park, North York Moors National Park, Cheviot Hills, Kielder Forest, River Tweed, High Force Water Fall, Tynedale, West Durham and the Cleveland Hills.
- **Roman sites** - Hadrian's Wall, Housesteads Roman Fort, Vindolanda.
- **Castles** - Bamburgh Castle, Durham Castle, Berwick Castle, Barnard Castle, Etal Castle, Warkworth Castle.
- **Cathedrals & abbeys** - Durham Cathedral, Hexham Abbey.
- **Historic homes and gardens** - Belsay Hall, Wallington, Cragside, Washington Old Hall, Howick Hall, Seaton Delaval Otterburn Hall.
- **Industrial heritage sites** - Woodhorn Colliery, Ashington; Wylam railway.
- **Coastline** - Amble Links, Bamburgh, Beadnell Bay, Low Newton, Farne Islands and Lindisfarne, Seahouses, Warkworth, Seaton Carew, Cullercoats, Longsands South, Seaburn, Roker, Cleveland Heritage Coast, Whitley Bay, Tynemouth and South Shields.
- **Watersports** clearly linked to the quality of the natural environment, include: swimming, salmon fishing, rowing, canoeing, sailing, water-skiing, windsurfing, sub aqua, surfing; along the coast and in the River Tweed, Kielder, the River Tyne, Tynemouth, Roker, the River Wear and the River Tees.
- **Wildlife and nature reserves** - Farne Islands and Coquet Island boat trips for seal and bird spotting; Newton Pool Nature Reserve; Scotch Gill Wood Local Nature Reserve.
- **Country Parks** - Tyne Green, Hexham and Tyne Riverside, Woodhorn Colliery heritage museum and country park (the site of a former colliery spoil heap, now has a new woodland and 40-acre lake).

Box 5.2 Examples of Tourism Based on the Region's Environment

Kielder Water: The Kielder Water Reservoir, completed in 1982, is amongst the top 5 visitor attractions in the region with over 250,000 visitors each year to the two Visitor Centres - Tower Knowe Visitor Centre and Kielder Castle Visitor Centre. Kielder provides a wide variety of attractions, scenery, and activities relating to the forest and water resources - e.g. water skiing, sailing, cycling, golf and walking. Visitors spent £6.1 million in 1999 (accommodation and non-accommodation), which generates approximately 250 tourism jobs and is clearly very important to local employment and the local economy, particularly at a time of falling farm incomes and employment.

Offshore Wildlife: In Seahouses and Amble many local businesses are dependent on visitors to the local wildlife. The Farne Islands Nature Reserve (under National Trust ownership) are home to colonies of puffins and seals as well as other sea birds, and generates business for three firms running boat trips to and from the reserves. One of the operators, Billy Shiels Boat Trips, has been running since 1918 and offers five different tours taking in the birds and seals of the Farnes and historic Holy Island. Other boats operate out of Seahouses offering fishing charters, capitalising on the presence of mackerel and codling, and there are five diving charters. Access to Coquet Island RSPB reserve also requires a boat charter, thus providing an income for one company in Amble. The National Trust receives approximately £60,000 per year in income from visits to the Farne Islands. Total income from boats to the islands exceeds £1 million per year. Source: Northumberland Wildlife Trust.

Farm Based Tourism: Farm based tourism dependent on the quality of the rural environment is very important for diversifying rural and farm incomes. The Rural Development Plan states that more than half of all farmers are now running a non-farming business to supplement incomes and many of these are in the tourist sector. Tourism will increasingly form the diversification strategy pursued by many farmers.

Coast to Coast Cycle Route: The 140 mile Sustrans Coast to Coast (C2C) cycle route runs from the Lake District and finishes in the North East. Completed in 2000, the stunning environment and high quality facilities attract over 15,000 people per year. Its success has been recognised through the Global Tourism for Tomorrow Award 1995 and the Smithsonian Environment Award 1998. Attractions en route include the Washington Wetlands Centre, the 1838 Victoria Viaduct and the Penshaw Pallion Path, a haven for wildflowers and butterflies. The route supports the economy of several villages and towns in rural areas through provision of accommodation, food and maintenance services. C2C contributed an estimated £1.5 million to the local economy between April and October 1996 and has grown further since then. Source: Sustrans and Countryside Agency.

5.2.1 Tourism Data

The quality of the region's natural and historic built environment is clearly an important motivation for many visits to the North East, as is demonstrated by a range of recent visitor surveys:

- Analysis of visits to tourism sites (1) in the North East shows that 8.9 million (or 62%) of a total of 14.4 million visits to attractions were clearly based on the quality of the environment (see *Table 5.1*). (In addition, there are many other tourism and recreational trips in the region which are not focused on specific sites and therefore not recorded in this data).

(1) Regional Tourism Facts, 1999. Northumbria Tourist Board

- A survey by the National Trust (2000), shows that 44% of interviewed visitors to the North East stated that their *primary* reason for visiting the North East was down to the quality of the natural or built environment (*Table 5.2)*.

- 4 of the top 10 tourism attractions in the North East charging admission in 1998 related to the natural or historic built environment (Table 5.3). 6 of the top 10 non-charging attractions related to the environment (Table 5.4).

- A Northumbria Tourist Board survey (1999) of the activities undertaken by visitors in the North East, showed that 38% of the reported activities were strongly dependent on the quality of the region's natural and historic built environment (Table 5.5).

- A survey by Northumberland National Park Authority (1999) showed that the Park had 1.4 million visitor days (40% day visits and 60% overnight stays). It also showed that what motivated visitors to the park: 70% of visitors said that enjoyed the scenery, landscape and clean air; and over half of the visitors enjoyed the park for its piece and quiet and good walking opportunities.

On balance, it appears that at least 40% of tourism visits in the North East are motivated by the quality of the region's natural and historic built environment. When this proportion is applied the region's tourism employment total of 67,000, it indicates that 27,000 of these tourism jobs are dependent on the quality of the environment.

Table 5.1 ***Visits to Environmental Attractions in the North East, 1998***

Attraction	**Number of visitors per year (millions)**
Historic properties	2.1
Zoos	0.4
Gardens	0.1
Country parks (and associated visitor centres)	1.8
Forest Enterprise [1]	0.7
National parks [2]	1.4
Walks	0.6
Parks	0.3
Picnic Areas	0.2
Other	0.6
Total visits	**8.9**

Source: Northumbria Tourist Board 1998. [1] estimate of Kielder Forest District. [2] Northumberland National Park (1.4 million visitors) - North York Moors National Park (7.8 million visitors) is not included, as only partly situated in the North East .

Table 5.2 *Primary motivation for visiting the North East, in relation to the environment*

Main motivation for visit	% of interviewed visitors
The coastline	8%
The mountains and hills	1%
Wildlife and habitats	1%
Historic houses, parks and gardens	2%
Wildness/remoteness	2%
Archaeological sites	2%
AONBs	7%
Peace and quiet	6%
Roman heritage	14%
Christian heritage	1%
Total	**44%**

Source : Visitor Survey commissioned by the National Trust (2000), System Three.

Table 5.3 *10 Attractions Charging Admission in 1998*

	Site	Visits
1	Metroland, Gateshead	650,000*
2	Beamish, The North of England Open Air Museum	326,450
3	Hancock Museum, Newcastle	128,394
4	**Cragside Estate, Rothbury**	**121,482**
5	**Bamburgh Castle**	**121,442**
6	**Housesteads Roman Fort**	**114,003**
7	Preston Hall Museum, Cleveland	105,776
8	Captain Cook Birthplace Museum, Middlesbrough	95,000*
9	**Wallington, Morpeth, Northumberland**	**94,914**
10	National Glass Centre, Sunderland	90,000*

Note: * estimates. Sites highlighted in bold text are dependent upon a high quality environment. Source: Northumbria Tourist Board, 1999.

Table 5.4 *10 Attractions Not Charging Admission in 1998*

	Site	Visits
1	**Durham Cathedral**	**466,559***
2	Laing Art Gallery	258,118
3	**Druridge Bay Country Park, Morpeth**	**250,000***
3	**Stewart Park, Marton, Middlesbrough**	**250,000***
5	**Kielder Water, Northumberland**	**249,585**
6	South Shields Museum and Art Gallery	244,833
7	**Derwent Walk, Derwent Valley**	**221 000***
8	Newcastle Discovery Museum, Newcastle upon Tyne	201,501
9	**Bolam Lake Country Park, Belsay**	**160,000***
10	Northumbria Craft Centre, Morpeth	158,073

Highlighted sites are areas dependent upon a high quality environment. Lists are based on attendance agreed for publication. Source: Northumbria Tourist Board, 1999

Table 5.5 ***Activities Undertaken by Visitors in the North East***

Activities undertaken by visitors to the North East:	**% of visitor**
No activity	32%
Visit 'heritage' sites (castles, monuments/churches etc.)	**15%**
Hiking/walking/rambling/orienteering	**14%**
Swimming	10%
Visiting artistic or heritage exhibits (museums/art galleries/heritage centres, etc.)	7%
Visiting a theme park or activity park	6%
Field study/nature study/bird or wildlife watching	**5%**
Watching any sport/sporting event	4%
Cycling/sailing/yachting/boating/canoeing/windsurfing	**4%**
Watching performing arts - theatre, concert, opera etc.	4%
	100%

i.e. 38% of reported activities clearly relate to the environment (highlighted in bold).
Source: Northumbria Tourist Board, Tourism Facts, 1999.

5.3 *ATTRACTING INWARD INVESTMENT & SKILLS*

Assessing the impact of the value of environmental amenity in the attraction of inward investment is extremely difficult despite the many claims made in this area. Evidence suggests that a range of other, non-environmental, factors play a greater role in determining flows of inward investment, including the availability of land and premises, appropriate labour supply, financial incentives, 'social infrastructure' to attract executives (appropriate housing, education, etc).

The North East has for a long time been very successful in attracting "mobile" investments, though these have frequently been in mature sectors like chemicals and car manufacture (*Table 5.6)*

Table 5.6 ***Inward Investment and Employment Effects 1997-2000***

Period	**Inward Investment (Mil £)**	**Jobs created**	**Jobs safeguarded**
April 96 - March 97	300.7	n/a	n/a
April 97 - March 98	41.95	1,719	1,374
April 98 - March 99	131.5	1,255	1,284
April 99 - March 00	n/a	4,572	5,222
Total	474.15	7,546	7,888

Source: Invest in Britain Bureau (IBB). N/a = data not available.

However, the region has been less successful in attracting new investments in higher order corporate functions, R&D, management and early stage manufacturing functions. This goes for older sectors as well as for the new emerging service and IT industries.

Development agencies, though, continue to stress environmental attributes in their promotional material, including One North East. Access to the countryside and recreational activities are important aspects of the quality of life in the North East which may have contributed to business investment. However, it is likely that such locational factors are only of marginal importance for many investments, particularly large, multi-national corporations.

One aspect of the North East's environment which has definitely helped attract investment in recent years is its water supply. Kielder Reservoir in the North Tyne valley, is the largest man-made lake in Europe and is able to yield a high quality, relatively cheap (compared to other regions) supply of up to 200 million gallons per day - ensuring that the Region's domestic, commercial and industrial supply can be met well into the next century.

The availability of this water supply was a factor in the attraction of major microelectronic investments which require large quantities of clean water, including Fujitsu and Siemens (although both plants have subsequently closed because of fluctuations in international microchip prices).

The quality of the environment is also considered important for attracting entrepreneurs and businesses to locate in rural areas on the basis of a high quality of life in an attractive environment. This helps to diversify rural economies, but needs to be undertaken in such a way as to avoid increasing environmental impacts in these areas.

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5.4 *QUALITY OF LIFE*

It has not been possible in the current study to quantify some of the less tangible benefits that the region's environment brings to residents of the North East, the UK index of quality of life [1] combines a range of socio-economic and environmental data to reflect quality of life across the UK. On this basis the North East region performs well in comparison to other regions.

(1) Quality of Life Index prepared by the Reward Group Ltd, 1998.

Table 5.7 *Regional Quality of Life Index*

Region	Index
North West	+ 6.8
North East	+ 5.2
Scotland	+ 5.0
Yorkshire	+ 1.8
East Midlands	- 1.1
Eastern Counties	- 1.9
South West	- 3.4
West Midlands	- 3.7
Greater London	- 7.6
South East	- 7.6

Source: The Reward Group, March 1998

In addition, a recent supplement in the Guardian newspaper (The North East Moving Up, June 2000), highlighted the quality of life benefits which are on offer by living in the 'regions' rather than London. In particular, it cited the high quality natural environment and stock of historic buildings and other quality of life features such as less congestion, pollution, access to the coastline and countryside and new cultural opportunities especially in areas such as in the Gateshead Quays area.

Box 5.3 ***Health Walks in Northumberland National Park***

Northumberland National Park Authority in partnership with Health Action Zone launched a pilot walking initiative in 1999 in the National Park called 'Walking the Way to Health'. The initiative aims to increase overall health and well being for populations living in and around the National Park. 256 guided walks were provided targeting patients with diabetes, heart problems and people over 60 from three communities. Source: Northumberland National Park Annual Report 1999/2000.

However, there are also areas in the North East where a poor quality environment has a negative impact on quality of life.

Box 5.4 ***Linking Pollution and Health***

The Teesside Pollution Injustice Project involves working with the communities living closest to polluting factories in Teesside. These communities have been identified as some of the poorest in the UK by the Government's Index of Deprivation and are adjacent to pollution hotspots. The project aims to gain measurable reduction targets for the factories located nearest to the communities living within the project area. Source: Newcastle Environment Forum

5.5 *FILM AND THE MEDIA*

The distinctiveness of the region's natural and historic environment has been used on many film and drama productions. Examples are shown in Table 5.8 This generates direct income and employment and helps to demonstrate the environmental assets of the North East to a wide national and international audience, thereby encouraging potential scenery to potential visitors.

In 1997-98, for example, 65 productions took place in the region, generating revenue of over £5 million, as well as employment, boosting local businesses and exposing the region's impressive scenery to potential tourists.

Table 5.8 Film and Drama Productions filmed in the North East

Production	Location	Year
Billy Elliot	Easington	1999
Get Carter	Gateshead	1970
Shallow Grave	Tyne Bridge	1994
Stormy Monday	Gateshead	1986
Women in Love	Bedlington Colliery	1968
Border Crossing	Whitley Bay	1993
Elizabeth	Durham	1997
Road	Easington	1987
The Loss of Sexual Innocence	Central Station	1997
Catherine Cookson's The Secret	North Shields/Blyth/ Newcastle	1999
Ivanhoe	Durham	1996
The Black Velvet Gown	Seaton Delaval	1990
Jude	Beamish	1995
Sons and Lovers	Beamish	1980
When the Boat comes In	North /South Shields	1975
Monocled Mutineer	Beamish	1985
Badger	Alnwick	1999
Spender 1, 2 & 3	Tyne and Wear Metro system	1989
The Cinder Path	Beamish	1994
The Famous Five	Sunderland	1995

Source: Northern Screen Commission.

Box 5.5 Northern Screen Commission

Northern Screen Commission (NSC) was created in 1992 to attract more film and television productions to the North of England. More than 280 inquiries to the Northern Screen Commission resulted in 65 productions with an estimated value of over £5 million taking place in northern locations in the financial year 1997-98. These created employment, boosted local businesses and exposed the impressive scenery of the north which could attract more tourism to the region. During the last 18 months NSC has generated expenditure of £9 million, which represents approximately half the value of the production which has actually taken place. In terms of employment, an estimated 258 FTE jobs in the North East were created by these projects.

5.6 SUMMARY

The quality of the environment makes a significant contribution to economic activities in the North East, particularly in relation to tourism. The role of the region's environment is less clear in terms of attracting investment and retaining skilled personnel because of the significance of other locational factors such as cost base, availability of skills and proximity to markets. Nevertheless, there is clear evidence that the environment can help attract business investments as well s contributing to the quality of life of residents and visitors.

This section examines the potential for increasing the contribution of the environment to the region's economy and recommends actions for capitalising on this growth potential. The analysis is based on discussion with study consultees, emerging regulations and policy trends at the regional, national and European levels. The recommended actions have been developed in consultation with regional partners.

It is important to emphasise that the growth potential associated with the environment will not be achieved if effective support actions are not delivered on the ground. We have seen in the past the difficulties of mainstreaming environmental priorities into economic development strategies and actions, and how easy it is to revert to business as usual activities which focus on economic objectives rather than broader sustainable development objectives.

Real commitment is therefore required by regional organisations to implement the recommendations in order to really achieve the growth potential associated with the environment.

6.1 SUMMARY OF GROWTH POTENTIAL

As summarised in *Table 6.1*, employment relating to the environment in the North East has the potential to increase by approximately 26,400 by 2010 to 78,000.

Table 6.1 Growth Potential in Employment relating to the Environment

	Forecast Annual Growth Rate	Forecast Employment:		
		2000	2005	2010
Environmental Industry - Private Sector	8%	14,099	20,716	30,439
Environmental Suppliers				
Construction related employment	5%	1,200	1,532	1,955
Environmental Management jobs in Industry	5%	425	542	692
Public sector environmental posts	0%	3,761	3,761	3,761
Environmental jobs in academic institutions	5%	400	511	652
Environmental jobs in the Voluntary Sector	5%	454	579	740
Sub-total		*20,339*	*27,641*	*38,238*
Land based industries	5%	4,069	5,193	6,628
Tourism based on the environment	2%	27,258	30,095	33,227
Total		**51,666**	**62,929**	**78,093**

6.2 *THE ENVIRONMENTAL INDUSTRY*

6.2.1 *Business Supplying Environmental Goods and Services*

The mapping exercise by the Environmental Industries Federation (EIF) has shown that there is a significant environmental sector in the North East, which, in the light of expanding market demand for environmental goods and services at home and overseas, has considerable potential for future growth.

6.2.2 *Opportunities for Environmental Suppliers:*

The following analysis of market opportunities for environmental suppliers in the North East takes account of market and policy trends, discussions with companies and reference to forecasts by the DTI's Joint Environmental Markets Unit [1] and initiatives such as the DTI's Foresight Panel (*Box 6.1*).

Box 6.1 ***Future Environmental Technology Needs Identified by the Foresight Panel***

The Foresight programmes' Energy and Natural Environment Panel [2] has identified opportunities for future development of environmental technologies in areas such as:

- improvement / application of cleaner technologies;
- understanding of regional / local eco-systems;
- sustainable transport;
- products and production methods using orders of magnitude less energy and materials;
- products using non-hazardous, biodegradable materials;
- new energy bases (hydrogen, low carbon);
- low carbon and non-carbon based chemistry and materials;
- environmental sensors;
- socio/institutional frameworks for new modes of production and consumption.

High rates of growth are forecast in the following environmental markets:

Waste management: Significant market opportunities exist in the field of waste management throughout the UK and Europe. These are being driven by UK Government policy (e.g. the UK Waste Strategy 2000 and use of the landfill levy) and European Regulations (e.g. the EU Landfill Directive) to reduce reliance on landfill and to increase waste minimisation and rates of recycling (including construction aggregates, plastics, glass, tyres, oils etc), composting and reuse. Targets in the 'UK Waste Strategy 2000', to reduce industrial & commercial waste going to landfill by 85% of 1998 levels, by 2005; and to recycle or compost at least 25% of household waste, by 2005 (rising to 33% by 2015) will drive significant expansion of demand from industry and local authorities for waste management technologies and services.

(1) Global Environmental Markets: An Update (1997), JEMU. JEMU forecast 7% annual growth rates for world markets to 2010

(2) Foresight Energy and Natural Environment Panel, 2000.

The same drivers will also stimulate demand for product design skills in order to allow for increased reuse and recycling; environmental consultancy services such as Life Cycle Assessment (LCA); and waste management products such as waste shredders, compactors, sorting systems, bins, waste-to-energy incinerators and waste management vehicles.

Demand for recycling services and recycled materials will depend to a large degree on the development of markets for recycled products and price conditions in international markets for commodities such as paper, plastics and oil. In order to generate the waste volumes necessary to enhance the economic viability of recycling activities, it will be important that waste recycling initiatives are adequately co-ordinated within the North East, and with other regions such as the North West and Yorkshire & Humberside in order to obtain the economies of scale necessary to make operations economically viable.

Demand will also increase for training of employees in the waste management industry and there will be an important role for Learning and Skills Councils in helping the industry to meet these staffing needs.

***Land Regeneration & Remediation**:* Land regeneration activities in the North East will drive demand for suppliers of site investigations, contaminated land remediation and landscape services. Key market drivers include:

- One North East programmes regenerate derelict areas and develop sites and premises.
- Section 57 of the Environment Act 1995 which requires Local Authorities to undertake reviews of contaminated sites and to develop strategies for remediation.
- Government target for 60% of new housing to be on reclaimed land, as will planning requirements ('sequential testing') relating to retail developments on brown field sites.

***Renewable Energy**:* Climate change issues will drive future demand for renewable energy technologies and services. Specific drivers include the Government's target for 10% of electricity to come from renewable sources by 2010 and recently announced sites for off-shore windfarms in North East as well as Government funding to support development of renewable technologies such as photovoltaics. Within the North East region less than 1% of electricity use is currently supplied by renewable projects located within the region. Within the UK, some regions will make a less than 10% contribution and others will therefore have to exceed the target. Partners in the North East have recently undertaken a review of future renewable energy potential for the region and findings indicated that the region's renewable energy production could increase by 1150% by 2010, supplying up to 13.5% of the region's current electricity demand and creating significant new jobs and demand for technologies such as offshore wind turbines which could make use of engineering and shipbuilding skills in the North East.

Energy Management*:* Demand for energy management and energy efficiency equipment and services is anticipated to increase in line with: possible future expansion of ‘carbon’ and ‘energy taxes’, the Climate Change Levy, the responsibility of energy companies to promote energy efficiency; and the fact that energy efficiency is now included under the new Integrated Pollution Prevention & Control (IPPC) Regulations.

There is significant scope for investing in improved insulation, adopting new construction techniques, controls, lighting and monitoring equipment. The development of new multi-scale CHP initiatives within the region has the potential to assist community regeneration and to reduce energy costs

Box 6.2 identifies some of the key drives/ opportunities in the environmental goods and services sector:

Demand from industry for water and wastewater technologies and services is likely to increase – driven by rising costs of water use and effluent discharge, as well as by tighter enforcement of environmental regulations.

Box 6.2 Key Drives / Opportunities in the Environmental Goods and Services Sector

- ***Environmental Management in Industry**:* Demand for environmental management and waste minimisation services from industry in the region will increase in line with an expanding array of environmental regulations, tighter enforcement of regulations and greater use of economic instruments (e.g. landfill tax and climate change levy). There is significant scope for more companies to adopt cost effective improvements in environmental performance and opportunities for companies to develop products that are innovative in terms of low environmental impacts.

- ***Climate Change**:* As well as driving future demand for renewable energy technologies, climate change issues will drive demand for 'adaptation' measures which aim to minimise impacts of climate change (e.g. construction of flood defences) and 'mitigation' measures which aim to tackle the causes of climate change (e.g. pollution abatement, industrial process changes to reduce emissions, clean engine technologies to reduce releases of greenhouse gases and advice to industry on carbon trading).

- ***Clean Processes, Process Control, Materials & Product Design:*** The increasing economic costs of poor environmental performance will continue to drive industrial demand for process control techniques and clean technologies to improve resource efficiency and minimise waste at source. Demand will also increase for new materials and product design techniques, such as the use of computer-based 'process simulation' which allow products and processes to be designed and tested on-screen in order to optimise their environmental performance at the design stage.

- ***Environmental Consultancy Services**:* Demand for the wide range of environmental consultancy services (e.g. environmental impact assessments, environmental management systems for industry, environmental audits, advice on environmental legislation, waste minimisation services, life cycle assessment etc) is expected to increase over the next ten years in line with increasing costs of waste disposal, tightening environmental legislation for industry, growing public expectations for environmental improvement in industry and industry's interest in reducing costs through environmental improvement.

- ***Air pollution control:*** A number of air pollution control suppliers report that the UK market is currently depressed ("because of delays in enforcement of regulations"). However, demand for air pollution control products and services is likely to increase over the next ten years because of future tightening of air pollution regulations (e.g. emissions of volatile organic compounds from industrial sites, regulated under Local Authority Air Pollution Control Regulations) and increasing concern about greenhouse gases and 'micro-pollutants such fine particulates and dioxins

- ***Environmental Monitoring & Instrumentation*** Demand for environmental monitoring and instrumentation (equipment and services) will increase as the Environment Agency and Local Authorities tighten monitoring requirements for industry - emissions to air, ambient air quality in cities, land contamination, solid waste monitoring, emissions to water and water quality.

- ***Noise & Vibration Control:*** Demand for noise & vibration control technologies and services will increase in response to the growing recognition of noise as a form of pollution in urban and rural areas. Regulations such as the EU Noise Directive will require mapping of noise levels in urban areas and is likely to generate increased demand for noise control services and technologies.

- ***Water & wastewater treatment:*** Very large investments have already been made in the region's water and wastewater infrastructure. It is unclear how rates of investment will change beyond 2005 – on the one hand, many investments to comply with legislation such as the EU Urban Waste Water Treatment Directive will be nearing completion; on the other, new EU regulations are likely to emerge in the future which will continue to drive water and wastewater investments.

6.2.3 *Recommended Actions to Support Environmental Suppliers:*

There is significant scope for growing environmental businesses in the North East and organisations such as One North East are increasingly recognising the benefits of supporting the sector's development. Other regions in the UK and internationally are gearing up their support for environmental industries and it will be important the North East businesses have access to high quality support in order to remain competitive.

The North East has the advantage of having an existing and strong industry led organisation in the Environmental Industries Federation which will help target effective support to environmental businesses. One North East and other business support providers such as the Small Business Service and Learning and Skills Councils will need to work closely with the EIF in order to provide demand-led support that meets the needs of business, rather than supply-led initiatives.

High priority actions for supporting growth in environmental businesses in the North East are shown in *Box 6.2.*

Box 6.3 ***Initiatives for Supporting Environmental Businesses in the North East***

- Assistance in identifying market opportunities at home and overseas.
- Advice on potential funding sources (e.g. improving access to 'business angels') and sources of business support.
- Support with marketing activities, at home and overseas (e.g. regional catalogues of environmental suppliers to raise the profile of suppliers amongst end-users in the North East).
- Involving environmental businesses in supply chains in other sectors in the region, thereby linking environmental suppliers more closely to industry end-users.
- Assistance in developing new environmental technologies & services, including links with academic based R & D, in line with future environmental demands (using the Foresight analysis of future technology needs – e.g. fuel cells, PV, solar, alternative fuels).
- Support to new environmental 'spin-off' businesses from industry and academic institutions.
- Help businesses in other sectors, e.g. engineering, explore and diversify in line with environmental market opportunities.
- Support in strengthening networks and collaborations between environmental suppliers within the region.
- General business training, e.g. business best practice, use of IT, doing business overseas.
- Trade missions - carefully focused on company needs and well organised.
- Encourage cluster development, networks and collaboration between environmental suppliers.
- Carry out an assessment of skills and training needs for the environmental sector, including higher and further education.

Funding opportunities include One North East cluster development fund; business development and competitiveness funding under Objective 2.
It is important that this supply-led, that the work of different support providers is co-ordinated across the region and that support is targeted on growth companies and high growth market opportunities. Possible funding opportunities include One North East cluster development fund and business

development fund and business development and competitiveness funding under Objective 2.

In addition, public sector organisations can play an important role in stimulating demand for environmental businesses in the North East. Recommended actions are outlined in *Box 6.4*.

Box 6.4 Public Sector Roles in Stimulating Demand for Environmental Businesses

- **Public sector organisations** should commit to improving their own environmental performance and greening their purchasing policies (e.g. green energy, recycling products, organic produce, purchasing from suppliers in the region) thereby stimulating demand for environmental goods and services.
- **One North East, the Small Business Service, Government Office, the Environment Agency and bodies such as the North East Waste Industry Partnership** should work together to encourage manufacturing industry in the North East to adopt environmental improvements – thereby stimulating industrial demand for environmental goods and services. Actions include waste minimisation clubs and linking environmental suppliers into industrial supply chains and business cluster groups in other industry sectors.
- **The Environment Agency and local authorities** should continue to apply strict enforcement of environmental regulations on the region's industry.
- **One North East and regional partners' (e.g. city councils and local authorities)** should continue the expansion of physical regeneration activities in the region and in doing so encourage the use of innovative remediation techniques where appropriate.
- **Regional partners** should accelerate the development of environmental infrastructure in the region, such as waste management facilities which enable an increase in recycling activities (key role for statutory planning bodies).

6.3 ENVIRONMENTAL IMPROVEMENTS IN INDUSTRY

6.3.1 Opportunities:

Best practice companies in the North East have demonstrated the possible cost savings achievable through environmental improvement. Many more companies of all sizes could achieve these cost savings and thereby enhance their competitiveness as well as helping to improve the region's environment.

A range of organisations in the region are involved in assisting businesses improve their environmental performance. These include the GONE, the Groundwork, a number of academic institutions and organisations such as TNEI. The challenge for these organisations is to increasing the take-up of environmental support by industry in the North East. To achieve this, it will be important to ensure that environmental support initiatives are of the highest quality, meet the needs of companies and are effectively co-ordinated across the region.

6.3.2 Recommended Actions:

Regional partners (e.g. GONE, One North East, the Small Business Service, the Environment Agency, Local Authorities, academic institutions and voluntary sector support providers) should work closely together develop high quality projects to support environmental improvements in industry that can hang on the funding 'hooks' established within the EU Objective 2 programme for the North East. If projects fail to come forward, there is a risk that these funds will be allocated to other activities.

Regional partners should work closely together to ensure that support is targeted at the key companies, delivers the appropriate support that meets company needs and avoids duplication.

Regional partners should review and apply best practice from within the North East and from other regions in getting companies (including SMEs) to participate in environmental improvement projects.

6.4 VOLUNTARY SECTOR ENVIRONMENTAL IMPROVEMENT PROJECTS

Voluntary sector organisations have been very active in the North East in delivering environmental improvements and linking these to economic and community regeneration needs (e.g. work of the National Trust, Groundwork, RSPB, Wildlife Trusts and Environmental Task Force projects).

6.4.1 Opportunities:

Growth in these environmental organisations is expected in the future as general public awareness of environmental issues increases. Funding sources such as, Objective 2 programmes, the Heritage Lottery Fund, the Landfill Credits Scheme and One North East regeneration programmes will help resource the work of these groups.

6.4.2 Recommended Actions:

Voluntary sector organisations in the region should continue to develop high quality projects which combine environmental improvement with social regeneration, employment creation and economic benefits (e.g. using Objective 2 funds, SRB, Environmental Task Force etc) – including expansion of successful Intermediate Labour Market Projects.

Deliver a number of flagship regeneration and restoration projects in the region, through effective partnerships – relating to the natural and historic built environment, e.g. of the scale and profile of 'Turning the Tide' and the Grainger Town project.

6.4.3 Potential future flagship projects include:

A major environmental improvement project in the Northumberland Coalfield - including areas between and around the Blyth and Wansbeck estuaries which have suffered from a legacy of environmental degradation.

Region-wide application of sustainable construction practices as identified in "Building-in Sustainability: a guide to sustainable construction and development in the North East" prepared by Durham County Council and regional partners. Examples of specific projects include the Wallington

Underground House being constructed by the National Trust to demonstrate sustainable building techniques and community involvement.

These projects need to be designed so that they maximise social regeneration and economic benefits, as well as environmental gains.

6.5 LAND BASED INDUSTRIES

6.5.1 *Environmentally Beneficial Farming:*

6.5.2 *Opportunities:*

Structural change in land based industries means that farming and forestry income and employment will increasingly need to diversify into new products (e.g. high quality and high value organic and regional produce, farm based tourism and recreation) and adopt practices which promote environmental and social benefits. Opportunities will be driven by:

- Increasing demand for regional produce and organic produce.
- Expansion of funding sources for agri-environment schemes (see *Box 6.5)*.
- Increasing demand for farm based tourism: fishing, horse riding, guided walks, conservation work.

Box 6.5 Agri Environment Schemes within the Rural Development Programme

Rural Development Programme - The Government's Rural Development Programme aims to bring a shift away from production-related payments, towards:

- sustaining publicly valued goods in the countryside (i.e. landscapes and habitat)
- diversification of farm incomes and improved efficiency; and
- an expansion of environmentally sustainable farming practices / agri-environment schemes - for example, existing schemes such as ESAs, CSS, Organic Farming Scheme, the Farm Woodland Premium Scheme, the Woodland Grant Scheme; new schemes such as the Energy Crops, Vocational Training and Rural Enterprise schemes; and re-focusing support for Less Favoured Areas by introducing the Hill Farm Allowance;

As a result, agri-environment schemes in UK regions will receive £1,052 million between 2000 and 2006, which represents an increase in annual spending of 126% on 1999/2000 levels. This will lead to significant increases in the area covered by schemes to conserve and improve the environment and encourage the development of new products and markets.

Rural Enterprise Scheme - This major new scheme will provide targeted assistance to support the development of more sustainable and diversified agriculture. Nine categories of project are covered, including:

- diversification of agricultural activities;
- agricultural water resources management and marketing of quality agricultural products;
- renovation and development of villages;
- protection and conservation of the rural heritage and the protection of the environment.

The agreed budget for the North East amounts to around £15 million over 7 years. Rural communities, farmers, rural businesses and partnerships will be able to apply.

Vocational Training – There is a need for agricultural training in line with the changing focus of agricultural practices towards land-management, nature conservation and diversification. The scheme provides skills development for conservation skills, training in information and communication technology, business skills, marketing, personal development, diversification and new ways of working, farm food production and procession skills. £614,000 is budgeted for the 7 year period in the North East.

6.5.3 Recommended Actions:

Actions for regional partners (e.g. MAFF, Countryside Agency, One North East) are set out in *Box 6.6.*

Box 6.6 *Recommended Actions - Agri-Environment*

- Increasing awareness among the region's farmers of available agri-environment and organic conversion support and assist farmers access this funding, and provide technical assistance in making the changes.
- Provide farmers with a one-stop contact on the full range of environmental schemes with signposting to suitable schemes, and promote free advice.
- Streamline and improve co-ordination of existing agri-environment schemes at the next national review in 2002/03.
- Develop multiple-farm agri-environment schemes to increase the take-up of agri-environment funding in the region.
- Develop environmental training programmes linked to agri-environment schemes using funding available through the RDP, training in practical conservation skills – e.g. skills in restoring hedgerows and dry stone walling (*Hill Farm Allowance)* and conservation skills in land management.
- Regional partners (e.g. One North East, Northumbria Tourist Board, Countryside agency) need to work with farm businesses to increase the quality of farm based tourism accommodation and facilities. Half the farming accommodations in the region were not occupied the summer season of 2000 - high quality accommodation will be less susceptible to seasonal fluctuations or poor summer weather.

6.6 ORGANIC AND REGIONAL PRODUCE

6.6.1 Opportunities:

Organic Produce - Growing demand for high quality organic produce and major retailers are also increasingly committing themselves to providing organic produce. However, UK production of organic produce falls well short of current demand for products such as organic cereals, meat and poultry, with 70% of organic produce sold in the UK being imported. Furthermore, the North East has low levels of organic production compared to national levels (although the amount of land which is registered or converting to organic production has grown rapidly) - around 0.25% of agricultural holdings are organic or in conversion, compared to about 1.2% nationally.

Regional Produce - Growing demand for regional produce is being driven by: increasing public interest in food quality, safety and production; growing interest in alternative forms of retailing (markets, internet, direct deliveries); increasing interest and need amongst farmers to 'add value' to their products and diversify into new, higher value markets.

Farmers Markets are growing in numbers and popularity. However, they are often run on an individual basis without regional co-ordination between farmers, processors and distribution outlets. Greater co-ordination would help regional producers capitalise on market opportunities.

Processing & Marketing Grant Scheme - This scheme is being reintroduced (£1.1 million over the 7 years in the North East) to improve marketing channels, guide production towards market trends, improve production processes, eliminate wastes and enhance environmental benefits.

6.6.2 *Recommended Actions:*

- Regional partners should support the development of marketing and supply strategies for North East producers – building on initiatives such as: the Countryside Agency's 'Eat the View' initiative; Northumbria County Council's regional food producer projects; One North East's food sector strategies; and the National Trust's support to local food producers in branding, marketing and supplying organic and regional produce over the internet.

- Support the provision of advice and R&D to farmers and the food processing industry in the North East in developing production methods, markets and new products. Initiatives should involve organisations in the North East such as the Organic Food Centre at the University of Newcastle upon Tyne.

- Provide producers with guidance on accessing funding and promote good practice such as successful co-operatives developing regional produce and income from farm based visits / tourism.

- Develop stronger links between regional produce and regional tourism, and also between rural producers and urban markets in the North East.

- Public sector organisations should support North East producers through regional procurement of regional and organic produce.

- Initiatives to support regional produce should require that the produce is produced in an environmentally beneficial way - not just that it is produced regionally.

6.7 *ENVIRONMENTALLY BENEFICIAL FORESTRY*

6.7.1 *Opportunities:*

Opportunities for growth in the forestry sector linked to environmental management, protection and enhancement are outlined in *Box 6.7*

[1]Box 6.7 *Opportunities for Developing Environmentally Beneficial Forestry*

- The Woodland Grant Scheme (WGS) and the Farm Woodland Premium Scheme (FWPS), both of which have been increased under the Rural Development Programme.
- Grants from other sources of funding such as Objective 2 funding and the Northwoods initiative.
- 'Priority Areas' being established by the Forestry Commission in respect of the implementation of the England Forestry Strategy programmes.
- Initiatives and actions to support rural areas under the Regional Economic Strategy and One North East funding streams.
- Role of forestry in physical regeneration activities in the region and increasing recognition of the role for community forests in providing recreational, social and health benefits.
- The success of urban woodland projects and community forests points to scope for further expansion in the North East.
- The increase in planting and management of small woodlands across the region has created a need for the development of businesses related to forestry products to enhance the economic output from these woodlands.
- Potential for the development of energy production from biomass. Possible funding sources include the Non Fossil Fuel Obligation, the Rural Development Programme (e.g. the Energy Crop Scheme, short rotation coppice projects) and Objective 2 funding. Increased injection of private sector funds will also be needed in order to enhance the commercial viability of these schemes.
- The introduction of the Energy Crops Scheme (ECS) has the potential to make a significant contribution to the Government targets to reduce greenhouse gas emission and for renewable energy generation. The aim is to plant 20-25,000 hectares of energy crops (short-rotation crops and elephant grass) over the next 7 years in England and Wales with a total budget of £30.5 Mn. The North East has clear potential for developing biomass - e.g. large amount of derelict land in former coal districts and farm land available, dispersed rural populations etc.

6.7.2 *Recommended Actions:*

- Regional partners (e.g. Forestry Commission, Forest Enterprise, One North East) should adopt actions to further link environmental improvement to the development of the region's timber industry - e.g. development of timber products and technical skills in the industry.
- Action to strengthen the links between locally produced wood products and local markets.
- Actions to develop forest based renewable capacity in the North East – e.g. development short rotation coppicing, use of wood residues and biomass projects to generate renewable energy and strengthen links between biomass producers and power generators.
- Build on existing programmes to improve access of urban and rural communities to the region's forests and woodlands.
- Examine the scope and potential benefits of expanding community forests, trees and woodlands in and around towns and cities and in appropriate rural areas.
- Examine opportunities for increasing new woodland on brownfield land as part of regeneration programmes (within the context of the England Forestry Strategy).

6.8 *CAPITALISING ON A HIGH QUALITY ENVIRONMENT*

The study has shown that environmental quality can have an important impact on economic activities such as tourism and inward investment, as well as improving quality of life in a region.

6.8.1 *Tourism based on a high quality environment*

The North East's natural and historic built environment provides significant assets on which to base tourism activities. Scope exists for increasing the contribution of these activities to the region's economy.

Highlight opportunities in the management of the natural environment - more people now interested in wildlife and new activities driven by Biodiversity Action Plans (BAPs) etc.

6.8.2 *Recommended Actions:*

Recommended actions for capitalising on opportunities for increasing the economic value of tourism activities which are based on a high quality environment in the North East are outlined below. These would involve partners such as the Northumbria Tourist Board, One North East, English Heritage, Local Authorities, National Trust, the Countryside Agency and tourism businesses and should link to initiatives such as the Northumbria Tourism Strategy.

- Formulate a strategy for developing environment-related tourism in the region – linked to the region's tourism strategy.
- Strengthen links between environmentally based attractions in the region and encourage owners and operators to develop signposting and collaborative marketing to broaden and lengthen visits to the region.
- Regional partners to develop stronger branding to attract people from outside the region and increase visits from within the region. Target different market segments with different marketing images and messages.
- Develop the infrastructure such as high quality accommodation and rural transport services (including sustainable transport projects - e.g. Sustrans network).
- Promote environmental good practice (e.g. Green Globe) in the region's tourist industry.
- These activities need to be managed carefully in order to avoid damaging the very environment on which they are based.

6.8.3 *Funding Opportunities:*

One North East business development programmes, Objective 2 programme, English Tourism Council programmes.

6.9 *ATTRACTING INWARD INVESTMENT AND SKILLS*

6.9.1 *Opportunities:*

Scope exists for attracting entrepreneurs and companies to locate in rural areas in the region on the basis of a high quality of life in an attractive environment. This will help diversify rural economies and is particularly relevant for knowledge based businesses which are footloose. This needs to be undertaken in such a way as to avoid increasing environmental impacts in these areas.

There is also scope for retaining and attracting skilled personnel in the region on the basis of the quality of life and environment (in addition to other benefits that the region offers inward investors).

6.9.2 *Recommended Actions:*

- Rural development initiatives should use the quality of environment and quality of life benefits in rural areas as an incentive for attracting appropriate businesses into appropriate rural areas in order to help diversify rural economies. Care clearly needs to be taken to avoid damaging the environment through this process.

- Regional regeneration programmes should accelerate improvements to the physical environment so as to improve the environment and enhance the attractive of the region as a place in which to live and work.

- Inward investment and economic development organisations in the region need to recognise and promote the role of the environment in retaining and attracting investment and skilled personnel in the region.

6.10 *QUALITY OF LIFE*

6.10.1 *Opportunities:*

The North East has the benefits of space, affordable housing, and a high quality environment which makes a relatively healthy lifestyle possible. There is a need for further health actions. There is little sense in promoting the environmental values outside the North East, if regional inhabitants don't also realise the benefits of the region, and are provided the means of enjoying and benefiting from the high quality environment.

6.10.2 *Recommended Actions:*

- Regional partners should further assist the development of community led regeneration projects - combining environmental, social (health, skills, neighbourhood) and economic benefits. For example, Groundwork projects and the work of the BTCV to improve urban fringes and peoples' own doorsteps.

- Regional partners to support the development of sustainable transport projects - particularly those which combine environmental and health benefits.

- Regional partners to develop ‘green gym’ style projects for community led regeneration which combine health and environmental benefits.

- Ensure that project bids to funding such as ERDF, regeneration budget, Interreg etc. are demand led (meeting the needs of local communities) - regional partners should promote good practice in this respect.

- Support the development of community based businesses and local skills for environmental improvement activities - e.g. community recycling projects and restoration of the local built heritage.

6.11 MAKING THINGS HAPPEN

The study has highlighted the contribution of the environment to regional economic development, social regeneration and, indeed to social sustainable development in the North East.

This type of thinking is increasingly recognised in strategic documents such as the Regional Economic Strategy, the Objective 2 programme and the Regional Strategy for Sustainable Development.

However, the future growth potential associated with the environment will not be achieved unless regional partners work together to turn these strategic commitments to the environment into effective action on the ground. Environment needs to be ‘mainstreamed’ into core economic development and social regeneration practices in the North East.

The study has identified actions through consultation with regional partners. It is now up to organisations such as the Regional Assembly, members of the Environment Sector Group, the Government Office and One North East to ensure that these actions are delivered effectively on the ground and that the region lives up to its potential in expanding the contribution of the environment to the development of the North East.

We therefore recommend that Regional Assembly and members of the ‘Environment Sector Group’ should incorporate the study findings and recommended actions into their action plans and strategies for developing the region. These ‘lead’ organisations should work with and act as a catalyst for others in the North East (including Sub-Regional Partnerships) to implement the recommended actions.

Strategic documents for developing the North East (e.g. the Objective 2 Programme) contain strong ‘hooks’ for environmental improvement activities. The Environment Sector Group and the Regional Assembly would play a very valuable role in ensuring that high quality environmental projects are developed in order to hang on these hooks and make best use of available funding for achieving environmental improvements which also generate economic and social benefits.

The Regional Assembly and the 'Environment Sector Group' should also monitor progress against the recommended actions and work with regional partners to increase the contribution of the environment to the region's development.

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