



NORTH YORK MOORS NATIONAL PARK
LANDSCAPE CHARACTER ASSESSMENT
DECEMBER 2003

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CONTENTS

	Page No
1.0 INTRODUCTION	1
1.1 Background to the Report	1
1.2 The North York Moors National Park	1
1.3 Context and Scope of the Study	1
1.4 The Study Area	2
1.5 Relationship to Previous Studies	2
1.6 Relationship to Studies Undertaken within Areas Bounding the National Park	5
1.7 Methodology	6
1.8 Structure of the Report	7
1.9 The Next Steps	7
2.0 THE NORTH YORK MOORS NATIONAL PARK	8
2.1 Key Characteristics	8
2.2 Landscape Character	8
2.3 Physical Influences	9
2.4 Historical and Cultural Influences	10
2.5 Buildings and Settlement	11
2.6 Land Cover	11
3.0 CHANGE IN THE LANDSCAPE	12
3.1 Introduction	12
3.2 Agriculture	12
3.3 Upland Management	14
3.4 Biodiversity Aims	14
3.5 Trees, Woodland and Commercial Forestry	15
3.6 Recreation and Tourism	16
3.7 Settlement Change and Expansion	17
3.8 Communications, Power Generation and Distribution, Military Infrastructure	17
3.9 Roads and Traffic	18
3.10 Mining and Quarries	19
3.11 External Influences	19
3.12 Air Pollution and Climate Change	19
3.13 Geological and Archaeological Resource	19
4.0 LANDSCAPE CHARACTER TYPES AND AREAS	21
Moorland	22
(1a) Western Moors	25
(1b) Central & Eastern Moors	26
(1c) Northern Moors	28
Narrow Moorland Dale	30
(2a) Ryedale	33
(2b) Bilsdale	34
(2c) Bransdale	35
(2d) Farndale	36
(2e) Rosedale	37
(2f) Hartoft	38
(2g) Baysdale	38
(2h) Westerdale	39
(2i) Danby Dale	39

(2j) Fryup Dale	40
(2k) Glaisdale Forest	41 42
(3a) Cropton	44
(3b) Langdale/Harwood Dale/Newton House	45
(3c) Dalby	46
(3d) Wykeham	46
Coast and Coastal Hinterland	48
(4a) Boulby - Whitby	51
(4b) Whitby – Cloughton	53
Limestone Hills	55
(5a) Southern Hambleton /Tabular Hills	58
(5b) Tabular Hills	59
(5c) Southern Dales and Southern Moor Foot	60
Narrow Glacial Channel and Griffs	62
(6a) Newtondale and Hole of Horcum	65
(6b) Forge Valley	66
Limestone Dale	67
(7a) Hackness	70
(7b) Upper Harwood Dale	71
Central Valley	72
(8a) Commondale-Upper Eskdale	75
(8b) Lower Esk Valley	76
Upland Fringe	78
(9a) Cleveland Foothills	81
(9b) Western Fringe	82

BIBLIOGRAPHY

FIGURES

Figure 1 Landscape Types and Character Areas within the North York Moors National Park

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White Young Green 2003

1.0 INTRODUCTION

1.1 Background to the Report

In May 2003, White Young Green Environmental Ltd (WYGE) were appointed by the North York Moors National Park Authority (NYMNP) to undertake a landscape character assessment of the National Park in a form that could be presented as a short report and would form part of the authority's Geographic Information System.

1.2 The North York Moors National Park

The North York Moors National Park was designated in 1952 and covers an area of 1436 square kilometers. It comprises an isolated upland area about 60km across from east to west and 35km from north to south whose distinctive character lies in the open expanse of its moors (which cover 35% of the National Park and represent the largest area of heather moorland in the country), together with areas of farmland, deciduous woodland, conifer forests and an impressive stretch of rocky coastline. The Park is bounded by the North Sea to the east, the Cleveland Basin to the north and the Vales of Mowbray and Pickering to the west and south.

The distinctive character of the North York Moors relates closely to its underlying Jurassic geology, which has created a landscape that is visibly different from e.g. the Pennines or the Yorkshire Wolds. The upland areas of the moors are separated by narrow dales, which form the heartland of the area; to the west and north are steep scarps 300m high, which afford views over surrounding areas; to the east dramatic coastal scenery including the highest cliffs in England at Boulby (203m); and to the south the hills slope gently to the Vale of Pickering. Successive generations of hunters, herdsman, farmers, monks and miners have left their mark, contributing to the distinct local variations in landscape character. The Park has a population of 25,560 people and receives 7.9 million day visits people every year.

The Park is administered by the North York Moors National Park Authority for the purposes of conserving and enhancing its natural beauty, wildlife and cultural heritage and to promote opportunities for the understanding and enjoyment of the special qualities of the Park by the public. The Authority also has a duty to seek to foster the economic and social well being of the local communities within the Park area in pursuing its primary purposes. The Authority is the statutory planning authority for development control and other planning policy matters.

The coastal areas of the National Park were designated as part of the North Yorkshire and Cleveland Heritage Coast in 1974 by the Countryside Commission. The purpose of this designation was to identify it for protection purposes and to focus attention on the management needs of the coast and issues affecting the coast.

The special qualities of the North York Moors result from a combination of the visual qualities of the landscape, the qualities of the natural environment in particular its plants and wildlife, and the cultural heritage of the Park giving the added dimension of a sense of time, depth and history, together with the more intangible qualities appreciated by residents and visitors such as tranquility, solitude, wildness, open space, inspiration and the escape the Park offers from urban living.

This landscape assessment in combination with the Biodiversity Action Plan for the Park and a forthcoming historic character assessment of the Park will assist the greater understanding and appreciation of the special qualities of the National Park and guide future decision making, policy and management.

1.3 Context and Scope of the Study

Landscape character assessment is an objective, value-free assessment of landscape concerned with character rather than quality or value, although following the process of characterisation judgements may be made about particular landscapes and values may be assigned to them to inform particular decisions.

Landscape character is defined as a distinct and recognisable pattern of elements that occur

consistently in a particular type of landscape. Patterns of geology, landform, soils and vegetation, land use, field patterns and human settlement combine together to create character. At the broad scale character makes each part of Britain distinctive and gives each its sense of place; at the local scale there may be distinct character differences between different areas of a single valley or dale.

The objectives of the National Park Authority in relation to the landscape of the National Park, as set out in the National Park Management Plan 1998, are as follows:

- To maintain and enhance the scenic character of the North York Moors;
- To ensure that changes to the appearance of the North York Moors respect the views of residents and users;
- To safeguard the “spirit of the place” of the North York Moors and be aware of the intangible elements that make up feelings for a place:- wildness, tranquillity, space, freedom, security, intimacy, season, atmosphere, memories, experiences, light, colour, sound, time of day and night;
- To maintain and enhance the special landscape characteristics of distinct areas within the North York Moors.

The purpose of this landscape character assessment, as identified by the National Park Authority, is to provide an assessment that identifies landscape types and areas, their characteristics and attributes and potentially damaging and beneficial measures. The information will be used to inform the National Park Management Plan policies, conservation and grant aid scheme development and planning policy implementation. It may also be used in public consultation as part of the National Park Management Plan process.

This landscape character assessment has the following objectives:

- to classify the landscape into distinct landscape character types and areas, identifying their key characteristics and the way these interact to produce character, summarised in a series of bullet points;
- to summarise potentially damaging and beneficial pressures on the landscape in a clear succinct form;
- to be presented as both a report and map and as part of the authorities Geographic Information System; and
- to co-ordinate the assessment with other landscape character assessments that have been undertaken on Park boundary areas.

Due to the short length of the project period and resource limitations, the project brief did not allow for stakeholder participation in the characterisation process, although officers of the National Park Authority have been fully involved throughout the process.

1.4 The Study Area

The study area extends to the boundaries of the National Park, shown on Figure 1. The majority of the Park falls within the County of North Yorkshire (Hambleton and Ryedale Districts and Scarborough Borough). A small part of the Park (in the north) falls within Redcar and Cleveland unitary authority.

The boundaries of the National Park coincide with the eastern edge of the Howardian Hills Area of Outstanding Natural Beauty (AONB) in the south west. The coastal areas of the National Park form part of the North Yorkshire and Cleveland Heritage Coast.

1.5 Relationship to Previous Studies

This assessment has been undertaken against the background of a number of previous landscape assessment studies:

- a) The North York Moors National Park Management Plan 1998, which divided the National Park into a number of draft landscape character types and areas as follows:

Table 1: North York Moors National Park Management Plan 1998 Draft Landscape Character Types and Areas
<p>Moorlands (1a) Hambleton Hills/ Western Moors (1b) Central & Eastern Moors (1c) Cleveland Hills/ North of Esk Valley</p>
<p>Central Dales (2a) Bilsdale/ Snilesworth (2b) Bransdale (2c) Farndale (2d) Rosedale/ Hartoft (2e) Westerdale (2f) Danby Dale (2g) Fryup (2h) Glaisdale</p>
<p>Forests (3a) Cropton (3b) Dalby/ Wykeham</p>
<p>Coastal Area (4a) Boulby - Whitby (4b) Whitby – Cloughton</p>
<p>Southern Hambleton/Tabular Hills (5a) Sutton Bank - Cropton Area (5b) Pickering - Lockton Area</p>
<p>Forge Valley/Harwood Dale Area (6) Forge Valley - Harwood Dale Area</p>
<p>Esk Valley (7) Esk Valley</p>
<p>Western Fringe (8a) Northern Area (8b) Southern Area</p>

The zones were defined on a schematic map within the National Park Management Plan document although were not accompanied by any descriptive text. The zones were based on detailed local knowledge but which did not arise out of a formal assessment process using Countryside Agency guidelines.

It was the National Park Authority's intention that the work would develop and build upon these draft types and areas. The National Park Authority accepted that the present study would result in refinement of this earlier study but it was not the authority's intention that the work would result in a significant increase in or subdivision of areas.

The consultants have found the draft types and areas to be soundly based and have refined and developed upon them in identifying the landscape character types and areas within the present study.

b) The Countryside Commission's Countryside Character Initiative Volume 3: Yorkshire and the Humber. The Countryside Character Initiative documents define and describe the 159 regional landscape character areas of North East England, of which one, Character Area 25: North York Moors and Cleveland Hills closely coincides with the boundaries of the North York Moors National Park to the west and east (although excluding the area in the immediate vicinity of Whitby) but which extends beyond the National Park boundary in the north as far as the A174 (which extends west from Saltburn-by-the-Sea) and in the south as far as the A170. The National Park boundary also encompasses a very small area of Character Area 29: Howardian Hills, in a triangular area extending west and north from Oswaldkirk. The information provided within Volume 3 has provided useful background for the present study and has formed the basis for the overall description of the Landscape of the National Park in Section 2.

c) The Countryside Agency's Level 1 Typology of Landscape Character for England 2002, which subdivides the regional character areas into a series of Landscape Description Units (LDU's), based on the determinants of physiography, ground type, landcover and cultural patterns. The LDU's are intended to provide a structured framework that can be used as a basis for defining landscape character types. Within the North York Moors National Park the following LDU's have been identified:

Table 2: Countryside Agency's Level 1 Typology Landscape Description Units within the North York Moors National Park
HDO (high hills, heath and moorland, unsettled/open land)
UDW (low hills, heath and moorland, wetland/waste unwooded)
VCA (upland vales and valleys, clayland, wooded – ancient woods)
RCA (intermediate physiography, clayland, wooded – ancient woods)
UCA (low hills, clayland, wooded – ancient woods)
UDS (low hills, heath and moorland, wooded – secondary)
ULA (low hills, chalk and limestone, wooded - ancient woods)
LCD (lowlands, clayland, dispersed unwooded)
LCN (lowlands, clayland, nucleated unwooded)

The present study has utilised the LDU's as a broad basis for the identification of landscape types although the LDU boundaries have been further refined by the consultants through fieldwork in arriving at the identification of landscape type boundaries.

d) The North Yorkshire Moors Upland Land Management Initiative Integrated Characterisation and Environmental Capital Assessment, April 2000 (prepared for the Countryside Agency by Land Use Consultants with Blaise Vyner, Tees Valley Archaeology). This study was undertaken in a pilot area of the National Park (encompassing the parishes of Danby, Comondale and Westerdale within the Upper Esk valley) to assist with the identification of integrated local management objectives.

The present study has drawn on the findings of this earlier study in undertaking the landscape character assessment of this part of the National Park.

e) Farndale Landscape Assessment, January 1995 (prepared for the NYMNPA by The Landscape Practice). This study was commissioned as a benchmark against which changes to the landscape resulting from the National Park Farm Scheme would be assessed.

The present study has reviewed the findings of this earlier study in undertaking the landscape character assessment of this part of the National Park.

f) George F Peterken's report 'Native Woodland Development in the North York Moors and Howardian Hills' identifies a number of landscape zones within which the woodland characteristics are assessed and measures proposed for the restoration of woodland habitats. This study has provided useful background information to inform the present study.

g) Landscape Assessment of Hambleton District (prepared for the Hambleton District Council by Woolerton Truscott). This study included the parts of the district that fall within the National Park, although the character types are subdivided into quite small units. The following landscape types fall within the National Park boundary:

- 1a Upland Plateau - forested
- 1b Upland Plateau – semi-natural heather moorland
- 2a Escarpment - wooded
- 2b Escarpment - open
- 3 Isolated minor landform
- 4a Intensive farmed lowland (varied topography) - enclosed
- 4b Intensive farmed lowland (varied topography) – intermediate enclosure
- 4c Intensive farmed lowland (varied topography) - open
- 5a Intensive farmed lowland (simple topography) - enclosed
- 5b Intensive farmed lowland (simple topography) – intermediate enclosure
- 6b Linear River Landscapes – minor river valleys
- 6c Linear River Landscapes – broad upland ‘dale’
- 7b Estate Landscape (including parkland) – of general interest

This study has provided useful background information to inform the present study.

h) A number of small scale landscape assessments have been carried out at key areas along the Heritage Coast, the need for which was identified within the North Yorkshire and Cleveland Heritage Coast Strategy 1995. The purpose of the assessments was to achieve landscape enhancements to further National Heritage Coast targets. Assessments have been carried out between Runswick Bay and Staithes, between Kettlethorpe and Goldsborough and between Cloughton Wike (within the National Park) and Scalby Ness (beyond the boundary).

These studies have provided useful background information to inform the present study within the relatively small areas covered.

1.6 Relationship to Studies Undertaken within Areas Bounding the National Park

Hambleton and Ryedale Districts and Scarborough Borough have each undertaken landscape character assessments for the areas that fall outside the National Park boundary. Redcar and Cleveland will be undertaking an assessment over the next 1-2 years. The assessments for Ryedale, Hambleton and Scarborough were taken into account as part of the present identification of character types and areas within the Park to ensure continuity across the Park boundary. The landscape types that have been identified on the Park boundary areas as part of these studies are summarised in Table 3 below. None of these studies identified landscape character areas below the level of the identified landscape types.

Table 3: Landscape Types and Landscape Character Areas on National Park Boundaries	
<i>Authority and Document Reference</i>	<i>Character Types bounding North York Moors National Park (and Regional Landscape Character Areas indicated in italics)</i> <i>VP =Vale of Pickering Regional Character Area</i> <i>FOM =Fringe of the Moors Regional Character Area</i> <i>NYMCH =North York Moors and Cleveland Hills Regional Character Area</i> <i>VOY = Vale of York Regional Character Area</i> <i>HH =Howardian Hills Regional Character Area</i>
<i>The Howardian Hills Landscape (Countryside Commission 1995)</i>	Plateau (<i>VP & HH</i>) Southern Moors Fringe (<i>HH</i>) Vale of York (<i>VOY & HH</i>)
<i>The Landscapes of Northern Ryedale (Gillespies for Ryedale District Council August 1999)</i>	A Undulating Farmland (<i>VP & FOM</i>) B Riverside Farmland (<i>VP & FOM</i>) C Sloping Wooded Farmland (<i>FOM</i>) D Sloping Open Farmland (<i>FOM</i>) E Wooded Dales (<i>FOM</i>) F Linear Scarp Farmland (<i>FOM</i>) G High Eastern Farmland (<i>FOM</i>) H Open Vale Farmland (<i>VP</i>) I Western Vale Farmland (<i>VP</i>)

	K Enclosed Linear Farmland (<i>VP</i>)
Landscape Assessment of Hambleton District (Woolerton Truscott for Hambleton District Council -not dated)	Landscape Character types that fall within and on the boundary of the North York Moors National Park 1a Upland Plateau - forested 1b Upland Plateau – semi-natural heather moorland 2a Escarpment - wooded 2b Escarpment - open 3 Isolated minor landform 4a Intensive farmed lowland (varied topography) - enclosed 4b Intensive farmed lowland (varied topography) – intermediate enclosure 4c Intensive farmed lowland (varied topography) - open 5a Intensive farmed lowland (simple topography) - enclosed 5b Intensive farmed lowland (simple topography) – intermediate enclosure 6b Linear River Landscapes – minor river valleys 6c Linear River Landscapes – broad upland ‘dale’ 7b Estate Landscape (including parkland) – of general interest
<i>Authority and Document Reference</i>	<i>Landscape Units bounding North York Moors National Park (and Regional Landscape Character Areas indicated in italics)</i>
<i>Scarborough Borough Council Local Plan Fact Sheet 7 Landscape Appraisal (Scarborough Borough Council May 1994)</i>	B Vale of Pickering (<i>VP</i>) H Moors Fringe North of Seamer and Ayton (<i>NYMCH</i>) i Scarp Slope and Foothlope ii Dip Slope I Moors Fringe North of Snainton and Brompton (<i>NYMCH</i>) J Land North of Scalby (<i>NYMCH</i>) i Moors Fringe East of Railway ii Coastal Area East of Railway L Sandsend – Whitby Coastal Zone (<i>NYMCH</i>) M Abbey Plain Coastal Zone (<i>NYMCH</i>) N Spital Vale (<i>NYMCH</i>) O Larpool and Stainsacre Beck (<i>NYMCH</i>) P Low Dale, Sleights (<i>NYMCH</i>) Q Esk Valley (<i>NYMCH</i>) i West of Sleights ii Between Briggswath and Ruswarp iii East of Ruswarp R Moors Fringe (<i>NYMCH</i>)

1.7 **Methodology**

The methodology used for this assessment has followed that recommended in the Landscape Character Assessment Guidance prepared on behalf of the Countryside Agency and Scottish Natural Heritage by Land Use Consultants and the Department of Landscape, University of Sheffield, 2002. Briefly, the process included:

- familiarisation with the area through information gathering, sieve analysis and desk study, culminating in the preparation of a map of draft landscape types and character areas compatible where possible with those identified across boundary areas;
- site survey including completion of field survey forms, photography and other field recording to check draft character types and areas and refine as necessary; prepare final draft map indicating boundaries and consult with Park Authority;

-
- consultation with key individuals to assist the team in understanding landscape character and in particular recent and future pressures for change and trends;
 - identification of key characteristics of each character type and area;
 - identification of positive and negative pressure for change in relation to each landscape character type;
 - prepare GIS map with links between identified map areas and relevant sections of text;
 - report text, illustrative sheet and map production and submission to Park Authority.

1.8 Structure of the Report

This report sets out the findings of the landscape character assessment in four sections:

- following this introductory section, Section 2 describes the landscape character of the North York Moors as a whole together with the physical, historic and cultural, settlements and buildings and landcover influences that have shaped the landscape;
- Section 3 considers the pressures for change that are acting on the landscape;
- Section 4, the main body of the report, sets out the key characteristics of each of the character types and areas identified and summarises the pressures for change facing individual landscape types. Each of these character areas is accompanied by an illustrative colour sheet to convey the key visual qualities of the area.

1.9 The Next Steps

Landscape character assessment is essentially a baseline study that can act as a starting point for further studies which can assist the National Park Authority in fulfilling its statutory duties. Landscape character assessment can be applied or developed in the following ways:

- it can form the basis for the preparation of a landscape strategy and management guidelines;
- it can form the basis for determining the capacity of the landscape to accept certain development or to determine the development potential of particular areas;
- it can inform development control, guide the design of and assess the suitability of development proposals and guide appropriate landscape mitigation;
- it can form the basis for guiding woodland expansion;
- it can act as a baseline for devising and targeting agri-environment schemes;
- it can guide the development of local plan policies and the preparation of the National Park Management Plan;
- it can act as a basis for public consultation or information regarding the special qualities of the landscape of the National Park.

2.0 THE NORTH YORK MOORS NATIONAL PARK

2.1 Key Characteristics

- Upland plateau landscape underlain mainly by sandstone and mudstone of Middle Jurassic age, and in the south, calcareous sandstone and limestone of Upper Jurassic age, with areas of undulating land arising from deposits of glacial till, sand and gravel.
- Plateau dissected by a series of dales, often broad and sweeping, but with steep-sided river valleys in places, and flooded by Lower Jurassic shales.
- Extensive areas of heather moorland on plateau and hills, creating a sense of space, expansiveness and openness.
- Arable landscape to south and east, but part still on elevated, sweeping plateau and hills.
- Sparsely settled, with population concentrated in the dales and around the fringes.
- Valley landscapes characterised by predominantly pastoral farming with clear demarcation between the enclosed fields, farms, settlements and the moorland ridges above. The transition is often marked by bracken fringes.
- Panoramic views over moorland ridges, dales, surrounding lowland vales and the sea.
- Extensive areas of coniferous plantations, especially on the Tabular Hills in the south east and Hackness north of Pickering; with remnant areas of predominantly ancient semi-natural woodland occurring mainly on valley side slopes, on escarpments and fringing hills.
- Traditional stone walls and hedgerows enclosing fields in the dales and lower fringing farmland - now often replaced by fences.
- Farms and villages built of predominantly rubble limestone or dressed sandstone, with red pantile or slate roofs.
- Distinctive and dramatic coastal landscapes with high cliffs, small coves and bays, coastal towns and fishing villages.
- Rich archaeological heritage from many different periods, especially on the high moorland plateaus.

2.2 Landscape Character

The North York Moors and Cleveland Hills are a very clearly demarcated block of high land in the north east of the counties of Yorkshire and Cleveland. To the north east the boundary is the North Sea, while to the north and west there is a steep scarp slope rising above the Tees valley and the Vale of Mowbray. Here a curiously shaped, conical outlier of Lower Jurassic rocks, Roseberry Topping, has become a distinctive and well known landmark. The Cleveland Hills are the highest area, but they merge in to the Hambleton Hills in the south west, which in turn drop sharply down to the Vale of York. Along the south margin the Tabular Hills dip gently to the south and east, but there is still a distinct change in slope where the land drops down to the Vale of Pickering.

The most notable feature of the area is the expansive sweep of unenclosed, predominantly heather moorland at a remarkably low altitude, with long and panoramic views in all directions. This creates a strong feeling of space, expansiveness, openness and, sometimes, solitude and wilderness. The sense of remoteness is enhanced by the relatively few roads and settlements

which are visible on the moorland plateaus. The upland plateaus contrast with the dales with their scattered farmsteads and patterns of drystone walls enclosing small pastures. The central core of moorland is the watershed; the dales tend to run north - south. The dales running south tend to be broad and sweeping in their upper reaches, but are narrow and twisting where the rivers cut through the limestone and calcareous sandstone of the Tabular Hills; these include Newtondale and Forge Valley which were cut by glacial meltwater. Other dales, such as those containing the tributaries of the Esk and the River Derwent, are narrower, with fields and settlements contained by the moors, and rivers winding round shoulders of rock. In some steep slopes create dramatic narrow gorges often clothed with woods. However, Eskdale which separates the North York Moors from the Cleveland Hills is a much broader valley and lacks the sense of enclosure of many of the other valleys. It has fine stone villages and extensive woodland but the limestone which influences some of the other dales is missing and the flora is not as rich.

The upland extends eastwards to one of the highest stretches of cliff along England's North Sea coast. The close proximity of the sea to the high moors and the sheltered dales adds greatly to the character of the area. The coastline itself is dramatic, with high precipitous cliffs dipping down, in places, to sandy or rocky bays. Small fishing villages cling to the steep valley sides in sheltered locations. The coastline includes some classical areas of British geology.

The highest land, on the moorland plateaus, lacks any tree cover, so the wooded areas that do exist are often particularly prominent. In the south and east extensive conifer plantations cloak stretches of moorland and valley sides. Elsewhere there are small broadleaved woodlands on the side slopes of the dales, many of these have been replanted as mixed woodland in the Hambleton and Tabular Hills. The isolated farmsteads in the upper dales are sometimes sheltered by groups of sycamores. Bracken is an important landscape feature too, forming a fringe to the moorland and marking the transition from moor to valley pastures. Often there are strong colour contrasts, most notably the purple of the heather in late summer, the russet of the bracken through the winter months, the green of the enclosed grasslands in spring and early summer and the darker areas of the conifers all year round. All these complement the grey or sandy colours of the stone buildings, villages and drystone walls.

The scale of the landscape is generally large and sweeping and contrasts dramatically with some intimate views within the dales and wooded areas. In the south and east, where there are deeper soils, large fields are devoted to arable and root crops. The scale of the landform, the extensive views, and the lack of boundaries, other than occasional fences, nevertheless continue the feeling of openness from the moorlands down these lower slopes. The arable landscape also extends along the coastal strip, where glacial deposits create good quality soils; here there is a striking contrast as the farmed landscape extends right up to the edge of the high cliffs, which then drop suddenly straight down to the sea. This coastal strip widens out in the north, until it meets the East Cleveland Hills, an area of rough pasture and moorland.

2.3 Physical Influences

This upland area of north east Yorkshire and Cleveland is underlain by rocks of Jurassic age, which rise sharply from the adjacent lowland regions. Much of the raised plateau lies at over 360 metres in altitude, but it has also been folded, with a major anticline running east-west, a subsidiary dome that is revealed at the coast near Robin Hood's Bay. A syncline contains the Esk valley, with a further less pronounced east-west anticline to the north, between the coast and Guisborough. The whole block tilts gently to the south and east, and erosion over time has resulted in a singularly simple and majestic landform. Streams and small rivers have cut deeply into the plateau, with the Esk running east to the coast, and the Derwent and its tributaries draining south. Thick sandstones and thin impure limestones of Middle Jurassic age underlie most of the upland area to the north of the Tabular Hills. It is these rocks that form the dramatic scarp slope that rises sharply from the vale landscapes in the north and west, and the precipitous cliffs along the coast from Kettlewell to Scarborough. The fossiliferous limestone and calcareous sandstone of the Upper Jurassic Corallian Group create the distinct form and character of the Tabular Hills in the south, and the Hambleton Hills in the west/south-west. The Tabular Hills include scarps that rise impressively about the moors, but the rocks dip to the south to drop below the Upper Jurassic clays of the adjacent Vale of Pickering. The Corallian Group also forms a cap to the hard resistant sandstones which form the Hambleton Hills, rising some 250 metres

above the vale as a precipitous scarp slope.

Lower Jurassic Lias Group rocks underlie the entire area and are exposed in the deeper inland dales and along the coast. They are predominantly shales which were exploited for alum, jet and cement stone concretions but also include seams of ironstone. Coal was also worked from Middle Jurassic rocks. These important mineral resources led to industrial activity over time, especially in the Cleveland Hills. More recently potash and associated halite salts have been extracted from Permian Rocks at great depth at the Boulby mine.

This block of hard rocks resisted the glaciers of the last glaciation which moved down from the north and west, deflecting the ice sheet to the west and east. Glacial action is therefore only revealed in the deposition of glacial till and sandy gravel in the north, and along a coastal strip only a few miles wide. These deposits result in a more undulating landform in these areas. Vigorous scouring by water associated with the glaciers has also cut deep valleys, notably the narrow gorge of Newton Dale which forms a link between the Esk Valley and the Vale of Pickering to the south.

2.4 Historical and Cultural Influences

Signs of settlement and activity from prehistoric times onwards are still visible, particularly on the moors where the remains have largely been protected by the heather moorland. There are barrows dating from the Neolithic period, but the moors are rich in cairns, tumuli and stone circles of the Bronze Age, indicating that the area was populated at a time when the climate was warmer and drier, and these areas were thinly wooded and easily cultivated. Later generations seem to have been less inclined to settle in the area. The most notable Roman artifacts which have been found are Cawthorn Camps, a training camp, Wade's Causeway, a track running in a north to south direction over the moors, and signal stations along the coast.

Place names indicate extensive settlement and farming by Angles along the south-facing Tabular Hills, while the Danes settled in the north-east, and along the north and west sides of the upland block. Later Norse settlers moved in over most of the uplands. Carved stone crosses still remain from these early days of Christianity, and often form striking landmarks along moorland roads and tracks.

Parishes tend to be large. Small nucleated villages arose in the valleys where there was sufficient cultivatable land to operate open field systems to provide basic crops, while livestock were grazed on the higher land. A royal forest, centred upon Pickering, stretched far to the west and north, with small villages existing within it.

Major changes came with the arrival of monasteries in the 12th century, seeking to benefit initially from the remoteness of the area and then from the opportunities for sheep rearing. Rievaulx and Byland Abbeys were the most dominant, controlling extensive areas of moorland, and establishing outlying granges. Enclosures of small fields around villages began at this time. Extensive enclosure of the open field system occurred after the dissolution of the monasteries, from the late 16th century, while larger enclosures, dividing up the outlying pastures and common grazings on the moorland, resulted from the Parliamentary enclosures of the late 18th and 19th centuries. However much of the moorland still remains unenclosed.

From medieval times small scale industrial workings, of stone quarries, coal and ironstone, have supplemented the agricultural economy, and the legacy of this activity, including disused railways, is still visible on the moors and hillsides. Along the coast jet has been extracted since the Bronze Age but reaching a peak in the 19th century. Alum, for use in tanning and dyeing, was extracted by open quarries which have locally altered the landform, especially along the coast. In the Cleveland Hills ironstone working has been locally important and indeed in this area these are more obvious industrial influences than in the more southerly parts.

As production of wool and meat became more important, the upland villages turned more of their fields over to permanent pasture and hay making, and this, in turn led on to the pattern of mixed agriculture currently in operation, albeit with silage replacing hay. Grouse shooting became an important activity on the heather moors. On lighter soils at lower altitudes arable crops were favoured, and since the 1960s cover large areas especially to the south and east. In these areas

planting of extensive coniferous plantations in the 1920-1960s altered the character of the landscape.

2.5 Buildings and Settlement

The scattered farmsteads, villages and walls which are characteristic of the area are built from local stone. This creates a visual unity and links the settlements closely to the surrounding landscape. The pattern of villages was laid down early on, at the time of settlement by the Angles, Danes and Norse. These villages are small and nucleated and built of the local sandstone or limestone, and roofed with red pantiles which is unusual in an upland area. This, coupled with the careful control of new development, has resulted in strikingly attractive small villages. The main market towns are located around the fringe of the upland block, and include Helmsley, Pickering, Whitby and Guisborough. Helmsley, Pickering and Guisborough are attractive inland market towns closely linked with the surrounding rural area, while Whitby is a coastal town, with its economy based on tourism and fishing. The effect of tourism on the coastal settlements of the Park is significant.

The tight-knit fishing villages tucked into bays on the coast arose later than the inland farming villages, with Sandsend first recorded in 1254, and Staithes in 1415. Rights to take profits from wrecks seem as significant as harvesting the products of the sea in these early times. Dwellings in the coastal fishing villages, such as Staithes and Robin Hood's Bay, are tightly packed together in narrow valleys leading down to the bays. Without gardens, and built almost on top of each other, the houses are connected by alleys and stepped lanes.

Rievaulx Abbey, the ruins of a Cistercian monastery established in the 12th century, has become one of the most famous sights of the area. Set in its own small twisting valley it is picturesque and evocative of times past, and has inspired many artists and poets. More recent structures also have a notable impact on the landscape, including: the chimney of the potash works at Boulby; the towering pyramid of the MOD installation at Fylingdales, which has now replaced the earlier 'golfballs' familiar to many people, the transmission mast at Bilsdale; and large caravan parks on the cliff tops.

2.6 Land Cover

The area contains the largest continuous expanse of heather moorland in England and Wales. The dominant heather (*Calluna Vulgaris*) thrives on the acidic peaty soils in an area of relatively low rainfall while cotton grass and other species of rush and heath occur on more boggy ground. Since the Second World War much moorland has been reclaimed to grow arable crops or planted with conifers. The moorlands which support a good cover of ling and associated species are those under a sound management regime, usually related to grouse shooting or moorland flock management. They often support a range of moorland birds such as curlew, golden plover and merlin.

Bracken represents a distinct transition zone, occurring as a fringe to the moorland, on the free-draining side slopes of the moors and valleys. Elsewhere the area is dominated by rough pastures and improved grasslands, supporting the rearing of sheep and cattle. The grasslands of the dales have been subject to continued agricultural improvement since the war, with the consequent loss of semi-natural grassland and moorland to improved grass. In addition, the trend has been away from hay to silage, resulting in much more homogenous green swards of vigorous grasses instead of species rich hay meadows. A substantial part of the area is covered by coniferous forestry, and wide arable landscapes occur on the limestone slopes and in the coastal areas. Broadleaved woodland remains an important landscape component.

3.0 CHANGE IN THE LANDSCAPE

3.1 Introduction

The landscape of the North York Moors National Park has evolved from the combination of many centuries of man's use of the land and the inherent geological, topographical and hydrological characteristics of the area. The landscape continues to evolve in response to forces for change, which may be imposed by land use practice and wider economic, global and demographic factors.

The North York Moors, by virtue of its National Park status, tends to avoid major built-development pressures that occur in other parts of the country but is not immune to global changes or to the consequences of national demographic, economic and lifestyle changes. The main forces driving change in the landscape character of the National Park have been, and are likely to remain, developments in agricultural practice and the effect of numerous small-scale, minor developments. The latter can add up to important cumulative effects, which can considerably weaken and detract from the character of the wider landscape.

Forces for change in the recent past have led to impacts on landscape character including:

- loss of heather moorland;
- loss or degradation of hedgerows and stone walls;
- increase in fencing;
- loss of rough pasture to improved pasture;
- loss of meadows;
- decline in species rich grasslands;
- decline in wetlands / wet grasslands;
- drainage of upland areas;
- construction of new larger farm buildings;
- inappropriate conversion or dereliction of farm buildings;
- farm diversification projects;
- highway improvements;
- tourism impacts;
- suburbanisation;
- loss and decline of broadleaved woodland;
- historic impact of past mineral workings.
- impact of masts in certain areas.

The impact of the above changes, most notably those relating to changes in agricultural practice and habitat loss has led to the development of a number of schemes both nationally and within the National Park aimed at addressing agri-environment issues, habitat protection and diversity and woodland management. Whilst beneficial, these schemes in themselves promote changes that are likely to have a noticeable effect on future landscape character within the National Park.

Predicted pressures for change, both positive and negative, which may shape the future landscape of the National Park are summarised below under topic headings.

3.2 Agriculture

- Agri-environment schemes including the North York Moors Farm Scheme (involving some 150 farms on whole farm management schemes), Countryside Stewardship, English Nature's Wildlife Enhancement Scheme and the Farm and Rural Community Scheme are beginning to result in the halting or reversal of the decline of traditional farming practices, loss of habitat and landscape features.
- Dereliction of both hedges and stone walls has also been largely halted in the central areas of the moors where there are agri-environment schemes in operation but remain a problem where such schemes do not operate.

- Much attention has been given in recent years to the loss of heather moorland, which is an important feature of this landscape, and to the health and condition of the areas that remain. This loss has now all but ceased through the process of designation of heather moorland and the reversal of losses to farming and forestry that have occurred through changes in government policy.
- Pressure for fencing of roadsides has reduced although pressures for fencing of the open moors remains high, due to the practice hefting of moor tops. The flocks on the open moor tops operate territorially, keeping to a traditional territory that they have learned through generations of shepherding. If a flock is withdrawn from the moor top, the sheep tend to spread into the vacated area, which may result in them spreading out to such an extent the farmers management of the flock becomes unviable. To avoid this problem, there is pressure to fence the moor tops to avoid the spreading of flocks, which to date the National Park has resisted by supporting additional shepherding. This pressure is likely to continue. Temporary fencing has been accepted in certain areas e.g. where heather regeneration is needed or for hefting purposes.
- Continued intensification of agricultural management in areas not covered by agri-environment schemes, including land drainage, re-seeding and fertiliser application, results in continued impact on ecological diversity and landscape character. Levelling of pastures and destruction of historic and small scale topographic features may also occur as a result of intensification.
- Where extensive grazing or 'ranching' is practiced, the need for small fields is obviated which may lead to boundary features including hedges and walls becoming redundant and falling into disrepair. As these features are expensive to maintain they are sometimes replaced with timber or wire fencing causing further erosion of landscape character. (The Countryside Commission document Landscape Change in the National Park 1991 identified that within the North York Moors National Park, from the 1970's to late 1980's, some 80km of walls and 198km of hedgerows were lost, compared to a gain of 91km in fencing).
- Issues such as global markets, concerns over food safety, consumer demands and new technology will have an impact on our current farming system, leading to a predicted need for new approaches and priorities if a sustainable agricultural industry which conserves the character of the countryside is to be maintained. Reform of government policy and of the Common Agricultural Policy, in the form of reductions in production subsidies and changes in the support of sustainable farming, is predicted as a key issue in the 21st century, which will enable greater integration between agriculture and environmental management.
- Consumer demand and changing preferences e.g. for specialist foods/organic foods/farmers markets may result in less intensive agricultural production which may support landscape and biodiversity aims. Development of markets in farm products from particular landscapes (e.g. the Countryside Agency's 'Eat the View' initiative) may strengthen the rationale for maintaining distinctiveness of those landscapes.
- Pressure for the introduction of new farm buildings, (e.g. large sheds to over winter stock and slurry tanks) or inappropriate conversion or (occasionally) dereliction of redundant buildings is likely to continue. New buildings, which can bring important agricultural benefits, may be out of scale with traditional buildings, may detract visually from traditional farmstead groups or may be constructed from unsuitable modern materials. Similarly, vernacular buildings may be neglected when they are no longer suited for modern farming purposes. Pressure may arise to convert redundant agricultural buildings for employment, residential or holiday use, providing an alternative source of farm income but sometimes resulting in loss of traditional character. These factors combine to weaken the distinctive vernacular architecture of buildings within the Park. Loss of farm buildings within villages may also change settlement character.
- Around 20% of the Park is under arable farming which has resulted in loss of landscape

features and degradation of landscape since the last war and which creates its own pressures in areas of the Park where it is prevalent, including the southern edge and the coastal strip where farming is quite intensive.

- Neglect is a concern now in marginal farming areas. Land that is not easily farmed may not be managed at all, leading to invasion by coarse grasses, bracken or scrub. As yet there has been no abandonment of farms, although many of the upland farms are marginal. There is potential for farms to go out of business in the future, leaving a vacuum in upland management. There is also a research proposal to consider the rewilding of the landscape which, if implemented would involve taking a number of farms out of production.

3.3 Upland Management

- Well-managed moorland areas, mostly managed for red grouse shooting, form a complex mosaic of heath, upland grassland and bog of significant value for both plants and breeding birds, in addition to their expansive, open visual character. Pressure from under- or overgrazing or drainage has in the past led to decline in these habitats. Many landowners are now working with conservation agencies to redress the effects of historic changes and to enhance moorland habitats (for example the Countryside Stewardship Scheme and the National Park's Moorland Regeneration Programme). It is predicted that this trend will continue, resulting in the creation of a more diverse moorland character.
- Shooting requirements represent one of the main activities on the moors. The replacement or surfacing with stone of previously grassy tracks used by shooting parties can affect landscape character especially where newly laid or surfaced in materials that are not local to the area which may stand out starkly from the darker heather moors.
- Small areas of bracken have little effect on landscape character but more extensive swathes can reduce visual diversity. Bracken encroachment in the National Park has now been halted or possibly reversed. Providing existing appropriate management measures continue this is expected to remain the case.
- The Countryside and Rights of Way Act 2000 will enable open access over moorland areas. This may lead to future impacts such as increased erosion or vegetation damage, particularly near to obvious viewpoints or summits.

3.4 Biodiversity Aims

- Following the 1992 Earth Summit in Rio the importance of bio-diversity has gained greater recognition, being promoted at National level in the UK in 1994 by the publication of *Biodiversity: The UK Action Plan*, followed locally within the National Park by publication of its own Biodiversity Action Plan in November 2001. The broad objectives of the plan are:
 1. To conserve and where practicable enhance:
 - a) the populations and ranges of native species and the quality and range of wildlife habitats;
 - b) internationally important and threatened species, habitats and ecosystems;
 - c) species, habitats and managed ecosystems that are characteristic of local areas;
 - d) the biodiversity of natural and semi natural habitats where this has been diminished over recent past decades.
 2. To increase public awareness of and involvement in conserving biodiversity.
 3. To contribute to the conservation of biodiversity at the global scale.

- Aspects of the plan which encourage change and which may have noticeable effects on landscape character include:
 - an increase in new native woodland cover within the National Park by 1000ha by 2012, particularly to reverse the fragmentation of existing native woods; a further 100ha of woodland and scrub at the moorland edges, and the restoration of 1500ha of plantations on ancient woodland sites by 2012;
 - improving management of grasslands to improve floristic variety;
 - reinstatement of small wetland areas to improve habitat quality and encourage breeding birds;
 - moorland management to protect wet heath and bog communities, block grips, undertake bracken control, stop invasion of trees, encourage removal of conifers from moorland;
 - encouragement of the creation of strips of diverse riparian habitat along watercourses.
- In broad terms, biodiversity action plans support the preservation and creation of distinctive habitat and landscape character types, or the beneficial diversification of others such as the large expanses of acidic grassland, thereby supporting landscape character objectives.
- There are clear links between characteristic habitat types and the birdlife they support, which in turn adds to the visual diversity and richness of the Park e.g. moorland areas supporting golden plover, short-eared owl and merlin. As the BAP meets its aims, the subtle, landscape character benefits provided by wildlife should increase.

3.5 Trees, Woodland and Commercial Forestry

- The England Forestry Strategy (Forestry Commission 1998) sets out strategies which if implemented could affect landscape character, including the protection of ancient woodland and more particularly the reversal of the fragmentation of existing native woods through replanting and the creation of new woodlands. The latter strategies are reinforced by George F Peterken's report 'Native Woodland Development in the North York Moors and Howardian Hills', which includes the following proposals which may impact upon landscape character:
 - increasing the area of native woodland outside plantations (with particular emphasis on completing linkages within the western fringes as far as Bilsdale and on new planting in farmland in these areas; reinforcing links in the Southern Hills, particularly the ridge south from Lockton Low Moor and the diffusely wooded zone at the southern end of Pockley and Skiplam Moors; expanding small isolated woods in the Moorland valleys and Esk catchment; new plantings within coastal areas or allowing scrub development; reinforcing riparian woodlands within the moorland, moorland valleys and Esk catchment and coastal plain, throughout their length and into headwaters; expanded and linked woods within the coastal valleys and scrub on cliffs with coastal belts of forest habitats);
 - diversification of plantations;
 - improved management of ancient and native woodland;
 - planting and maintenance of tree cover in non wooded areas (e.g. maintaining wood pasture and creation of new wood pasture; maintaining pasture woodlands on moorland fringes and reinforcing by planting in bracken banks; replacing farmland trees; increasing density of field trees in moorland valleys and Esk valley on lower ground where they can reinforce riparian woodlands and on upper ground where they can reinforce the moorland fringe; develop wood meadows in association with open spaces in Southern Hills woodland and plantations).
- The National Park Management Plan sets out similar intentions including improvement of the environmental quality and maintenance of the productive potential of plantations; the encouragement of the expansion of existing woodland and the creation of new

woodland in appropriate locations. These initiatives are likely to have a significant effect on future landscape character, which is expected to be beneficial if woodland design guidelines are followed and inherent landscape characteristics are respected.

- Coniferous plantations have had a significant impact on the landscape of parts of the National Park and cover some 15% of the land area. The Forestry Commission manages some 13.5% of the land area of the National Park the remaining areas being in private ownership. Forestry of areas has created permanent damage to the fabric of the landscape in certain areas. The Forestry Commission has improved the appearance of many of these forested areas through the implementation of Forest Design Plans, which improves their visual appearance through attention to the edge shape and profiles of the forests and through the introduction of species and habitat diversity. Certain forested areas still retain a blocky shape such as those at the head of Glaisdale and Wheeldale, and others remain inappropriately sited including the forest at the head of Bransdale.
- Woodland decline has occurred and is still occurring due to neglect and changes in management practice, for example the use of woodlands for shelter and grazing of livestock, a reduction in management; little new woodland planting has taken place in recent years. Grazing by rabbits and deer is also a factor in preventing woodland regeneration. Wood pasture is a traditional woodland form within the National Park but needs careful stock management to both maintain its pasture characteristics and also allow woodland regeneration. Established National Park policy and grant schemes such as the Forestry Commission's Woodland Grant Scheme is expected to address these issues, leading to an improvement in the health of existing woodlands.
- Although loss of hedgerows has been halted by the introduction of the Hedgerow Regulations, the quality of hedges continues to decline through neglect and lack of management, due to management practice, for example mechanical cutting of hedgerows which may in turn lead to a loss of hedgerows. These practices may lead to the loss of existing hedgerow trees and prevent natural regeneration. The National Park Management Plan recognises and seeks to address this issue. The Hedgerow Regulations may prevent removal of historic or ecologically valuable hedgerows, however, no comparable legislation exists to protect walls.
- Exotic species may be appropriate within historic parks and gardens, or within settlements, leading to positive landscape benefits. Planting of ornamental or non indigenous trees on garden boundaries, in farmland and within country estates can, however, have a cumulative detrimental influence if it is out of keeping with the character of the landscape. Although awareness of this issue is improving, such planting is difficult or impossible to control and it remains a pressure.

3.6 Recreation and Tourism

- The last half of the 20th century has seen increasing growth in access to the countryside. Traffic is regarded as the biggest pressure on the landscape by members of the public. With a rising average population age, increasing mobility and availability of leisure time it is predicted that the trend of rising visitor numbers will continue in the future. Tourism plays a vital role in the economy of the Park but it also places considerable strain on some areas, particularly the coastal areas e.g. Robin Hood's Bay, where large numbers of visitors concentrated within villages can lead to adverse environmental impacts and significant effects on local residents. Examples of pressures include footpath erosion particularly of popular routes (e.g. Cleveland Way, Coast to Coast Walk) or impact on wildlife; indirect effects include loss of tranquility, increased traffic, parking problems (and consequent damage to roadside verges), buying of holiday homes, inappropriate development of tourist-related business, a general pressure for new development to provide for and to attract visitors and increased demands on utilities infrastructure. There is potential for visitor numbers to increase to the point where they undermine the character and enjoyment of the National Park.
- Static holiday caravan sites are presumed against in the Local Plan and are not

therefore anticipated to create further pressure for change within the Park. Measures are being put in place to improve their integration through screen planting. Pressure to increase provision of log cabins for holiday use remains an issue.

- Rock climbing, pot holing, mountain biking, hang gliding and parasailing are becoming increasingly popular, and may lead to minor physical erosion (e.g. climbing and mountain biking) or visual impact and loss of tranquillity where concentrations of use occur. Often these pursuits occur in open areas such as moorland or cliffs, where the ability of the landscape to absorb visual impact is limited.
- Following implementation of the Countryside and Rights of Way Act 2000, impact on fragile open moorland areas may increase. Conversely, the argument exists that the availability of access over open areas may reduce the damaging effects of the present concentration of access along limited public rights of way.
- The use of motorised recreational vehicles (in particular four wheel drives and motorcycles) that can cause significant damage to unsurfaced routes may decline marginally following the implementation of the Countryside and Rights of Way Act. The Act contains some limited changes to legislation that require vehicle users to prove their claims for vehicular rights on routes of unclear status. However, the effectiveness of the legislation will continue to be dependent upon the willingness and ability of the police and the Crown Prosecution Service to take enforcement action.

3.7 Settlement Change and Expansion

- Changes within the social and physical fabric of settlements are occurring, reflecting the transition from an agricultural economy to one of increasing reliance on tourism, the national trend of migration from urban areas to the countryside and the adoption of urban tastes and values. This change is manifested in the loss of functional building uses (for example barns and farms may no longer be used for agricultural purposes) and consequent pressures for conversion, pressures for infill development, gentrification of properties and requirement for increased lighting as security for properties. The production of village appraisals or village design statements is beginning to address these issues.
- Increasing demand for commuter use, work-from-home use, retirement or second homes within the National Park is leading to pressure for provision of more affordable housing for local people, or pressure to convert redundant or under-used agricultural buildings. Many settlements in the Park have few, if any, remaining sites capable of further development and any change could affect the relationship between settlement and landscape that is a special attribute of the Park.
- Numerous small-scale changes result in the suburbanisation of settlements and buildings such as inappropriate door and window replacements and garden boundary treatments. Highway-related changes, including major road improvement schemes and minor changes such as kerbing, parking controls, signage and lighting contribute to this effect. Cumulatively, these small scale changes could have a significant impact on otherwise unspoilt settlements or areas of landscape.
- Village improvement schemes have the potential to enhance the character and visual quality of settlements, especially if following on from the production of village appraisals or village design statements.
- Pressure for the introduction of new farm buildings or conversion of redundant buildings, as noted previously, can have a significant impact on landscape character.

3.8 Communications, Power Generation and Distribution, Military Infrastructure

- Given strong policy protection, large-scale telecommunications masts are not predicted to be a major future source of change within the National Park. Cumulative

'suburbanising' effects could arise, however, from pressure to provide mobile phone networks, particularly as technology within the industry changes and customer use becomes more widespread and service coverage expectations increase. Masts, buildings and tracks can have a very significant effect on sensitive landscapes.

- Large-scale wind turbine developments are unlikely to be permitted within the National Park, but proposals for individual wind turbines for isolated farmsteads, where they would not detract from the character or amenity of the area, may be allowed. Pressure may therefore arise for numerous small wind turbine developments, which, whilst being compatible with wider sustainability objectives, could have a cumulative visual impact on landscape character.
- Overhead power and telecommunications lines, although generally small in scale, are a feature of even the most remote areas and contribute both individually and cumulatively to a decline in the unspoilt character of both landscapes and traditional settlements. Settlement expansion, employment provision or conversion of outlying buildings may result in the pressure for new utility service lines although the Local Plan supports the placement of new services underground. Pressures for the upgrading of the Northern Electric overhead line to Whitby (supported on pylons) may arise in the future.
- The use of satellite dishes may increase as digital television becomes obligatory. Although dishes can be sited discretely and coloured recessively their cumulative use may still impart a 'suburbanising' effect, particularly within otherwise unspoilt villages and hamlets.
- Pressure may increase for the use of solar panels in buildings. As for satellite dishes, these can potentially exert a suburbanising influence within settlements, although with design development (for example being designed to the same form and colour as roof tiles) they may be unobtrusively incorporated into traditional buildings.
- In response to global warming and energy issues, future pressure may arise for the construction of hydroelectric schemes or increased reservoir provision within the National Park.
- Although the proportion of military land is not high, the requirement to increase security at Fylingdales, or possibly extend it for use as part of the Star Wars programme, may result in localised pressures. The impact of Fylingdales on the night sky is significant.

3.9 Roads and Traffic

- Many roads within the National Park remain narrow and winding adding to the distinctiveness of the landscape. With increasing visitor numbers and changes to vehicle sizes (for example increasing coach and HGV size) pressure may arise for local road improvement schemes, which may lead to loss or dilution of existing character. Improvement in roads can also bring increasing traffic. Similar pressure for change may occur at historic bridges, which can act as a constraining factor on the road network, yet are often important features within the landscape. A considerable range of measures are outlined in the Local Plan to balance highway needs with preservation of local character but it must be assumed that pressure for change will remain while the number of road users increases.
- Many highway improvements are not subject to planning controls and are undertaken as part of ongoing safety or maintenance works. Pressure for these types of improvement is ongoing. Lighting, kerbing and road signage can all lead to loss of distinctive local character or intrude upon the tranquil night-time scene and dark skies, but may be necessary to meet safety requirements. An increase in the number of visitor attraction signs (brown signs) has occurred in recent years, adding to roadside clutter.
- Road verges are a minor overall part of landscape character but can play a significant role in the appreciation of the Park by visitors. Verge damage may be caused where

there is pressure on parking facilities and inappropriate management can diminish species diversity and visual character of verges. Pressure on verge, tree and hedgerow management is likely to be directly related to available highway maintenance budgets and awareness amongst maintenance staff of ecological management issues (e.g. correct mowing times, frequency of cutting, tree care issues).

3.10 Mining and Quarries

- The deep potash mine, Boulby Mine, has visually prominent buildings but has limited additional impact on the landscape as spoil is tipped either within the mine or piped out to sea. The mine is likely to continue for about 25 years unless economic circumstances change.
- Two limestone quarries in the south of the Park at Spaunton and Spikers Hill will cease quarrying within the next few years and be returned to limestone grassland within the quarry bottom.
- Given the planning controls that within the National Park, it is unlikely that new quarries or lateral extension of the existing larger quarries will occur.
- Stone for local buildings is provided for by small stone quarries in the central part of the Park although there is no small limestone quarry to provide for local building need in the south of the Park, which may cause local difficulty with the appropriate repair of local buildings. Small quarries may be reopened in the future to supply for such needs, but would be unlikely to have a significant effect on landscape character.

3.11 External Influences

- Increasing pressure for developments such as wind farms, telecoms masts, transmission lines, large-scale forestry, water management (e.g. pipelines, service reservoirs, pumping stations) or highway improvement schemes may result in impact to the landscapes surrounding the National Park, which may in turn impact on areas of outward facing landscape within the National Park.

3.12 Air Pollution and Climate Change

- Air pollution and climate change may impact adversely on all habitats within the National Park but certain habitats would be more sensitive to change. For example, montane and open water habitats would be subject to damage by acid rain whilst mires and heathlands would be vulnerable to nutrient deposition. In landscape character terms these changes may be subtle, occurring over long periods of time but could erode existing upland character and distinctiveness through loss of habitat and the wildlife it supports.
- Increasing rainfall may have implications for upland drainage patterns and washland areas within the valley bottoms, leading to increased erosion and provision of flood defence structures, which may be damaging or visually inappropriate.

3.13 Geological and Archaeological Resource

- Coastal erosion, resulting in an average loss of 5 metres of land every 10 year period, together with coastal defence measures around coastal villages to tackle this problem e.g. at Runswick Bay and Robin Hoods Bay (which can have significant visual impact).
- River engineering and flood defence improvements can adversely impact on fluvial sites.
- Gradual loss of geomorphological features due to agricultural improvement, forestry and woodland/tree planting.

- Afforestation or woodland development can obscure or damage geological and archaeological exposures.
- Recreational or commercial mineral and fossil collecting can damage exposures or old mine tips.
- Mine spoil may be depleted for agricultural or engineering use, for example in the construction and maintenance of hardstandings and tracks.
- Road safety or maintenance improvements can lead to the loss of roadside geological and archaeological features.
- Although many of the pressures are of a small-scale nature their cumulative effect could lead to a general deterioration of the important geomorphological, geological and archaeological resource within the Park.
- Erosion of paths and tracks across moorland causes damage to the resource.
- Damage also results from insufficient information or care i.e. during heather cutting, grouse butt creation or maintenance, bracken crushing etc.

4.0 LANDSCAPE CHARACTER TYPES AND AREAS

The outcome of the study is presented in the section that follows. The National Park area has been classified into 9 distinct landscape character types and 31 landscape character areas, as set out below:

1. Moorland
 - (1a) Western Moors
 - (1b) Central & Eastern Moors
 - (1c) Northern Moors

2. Narrow Moorland Dale
 - (2a) Ryedale
 - (2b) Bilsdale
 - (2c) Bransdale
 - (2d) Farndale
 - (2e) Rosedale
 - (2f) Hartoft
 - (2g) Baysdale
 - (2h) Westerdale
 - (2i) Danby Dale
 - (2j) Fryup Dale
 - (2k) Glaisdale

3. Forest
 - (3a) Cropton
 - (3b) Langdale/Harwood Dale/Newton House
 - (3c) Dalby
 - (3d) Wykeham

4. Coast and Coastal Hinterland
 - (4a) Boulby - Whitby
 - (4b) Whitby – Cloughton

5. Limestone Hills
 - (5a) Southern Hambleton /Tabular Hills
 - (5b) Tabular Hills
 - (5c) Southern Dales and Southern Moor Foot

- Narrow Glacial Channel and Griffs
 - (6a) Newtondale and Hole of Horcum
 - (6b) Forge Valley

- Limestone Dale
 - (7a) Hackness
 - (7b) Upper Harwood Dale

- Central Valley
 - (8a) Commondale-Upper Eskdale
 - (8b) Lower Esk Valley

- Upland Fringe
 - (9a) Cleveland Foothills
 - (9b) Western Fringe

For each landscape type and landscape character area, the key characteristics are presented. The potentially damaging and beneficial pressures on the landscape are set out in tabular form for each landscape type and the potential significance of the pressures to the character of the landscape is assessed.