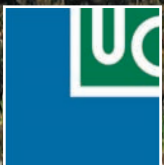


# DORSET LANDSCAPE CHANGE STRATEGY: PILOT METHODOLOGY

**A Report to  
Dorset County Council & Partners**

**Prepared by  
Land Use Consultants**

**January 2010**





**DORSET LANDSCAPE CHANGE  
STRATEGY:**

**PILOT METHODOLOGY**

**Prepared for Dorset County  
Council, Natural England, Dorset  
AONB, Purbeck and West Dorset  
District Councils  
by  
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**January 2010**

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# I. INTRODUCTION

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## BACKGROUND

- I.1. Land Use Consultants (LUC) was commissioned by Dorset County Council (with other funding from Natural England, West Dorset District Council, Purbeck District Council and the Dorset AONB) in August 2009 to test a pilot methodology for the development of a Landscape Change Strategy for the county.
- I.2. This work has built from a desire by planners in Dorset to gain more information on landscape sensitivity across the county, using the recently completed Landscape Character Assessments as a framework. Rather than the traditional focus on undertaking landscape sensitivity studies focussing only on renewable energy development, this work sought to develop a methodology which could apply to a range of planning issues, and therefore be more cost-effective. As outlined in the brief for this work, the Landscape Change Strategy will aim to:

*“...provide a planning tool to help manage change in the county whilst minimising impacts on landscape character and where possible enhancing it.”*

- I.3. This focus on thinking about change in a positive, rather than negative way challenges the usual method of identifying constraints when thinking about landscape sensitivity. The approach builds on recent research undertaken by LUC in the South West (on behalf of Natural England) to review the use and effectiveness of a range of landscape tools to inform planning decisions. The research concluded that sensitivity studies should be clear, concise and based on key landscape characteristics – this approach is central to the concept of Landscape Strategies on which this Dorset pilot is based. It is hoped that the evolution of this pilot project may emerge as national best practice in taking forward a new positive approach in thinking about and responding to landscape change.

## STUDY AREA AND SCALE OF THE STRATEGY

- I.4. This study is focused on a study area broadly stretching from Dorchester in the west to the edges of the Poole conurbation in the east. It then extends northwards to Bere Regis and southwards along the coastal stretch of the Dorset AONB, including Lulworth Cove. The broad study area is shown in **Figure 1.1** below.
- I.5. It was agreed that the Landscape Change Strategy should take the form of individual Strategies based on Landscape Character Areas (LCAs) identified in the district and AONB assessments<sup>1</sup>. The LCAs are formed from a framework of Landscape Description Units (LDUs) defined as part of a Dorset-wide assessment. Although existing data on Landscape Sensitivity is held within the LDUs' attributes in GIS (subdivided into ecological, cultural, visual and tranquillity), the planning authorities felt that this was not practical or useable in its current form – another reason for the commission of this study.

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<sup>1</sup> Purbeck District Council (January 2008) *Landscape Character Assessment and Management Guidance – areas outside the AONB*

West Dorset District Council (February 2009) *West Dorset Landscape Character Assessment*

Dorset AONB (2008) *Conserving Character: Landscape Character Assessment & Management Guidelines for the Dorset AONB*

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**Figure 1.1: Study area for the Dorset pilot landscape strategy**



- 1.6. The pilot work initially focused on 16 LCAs<sup>2</sup> within the study area, with the intention that, dependent on future funding, the remaining LCAs will be completed followed by a roll-out across the county. The 16 shortlisted LCAs aimed to cover a wide geographical range and variety of landscape types within the study area. Those selected are listed in **Table 1.1** and mapped in **Figure 1.2** on the next page.

**Table 1.1: Shortlisted LCAs for the pilot study**

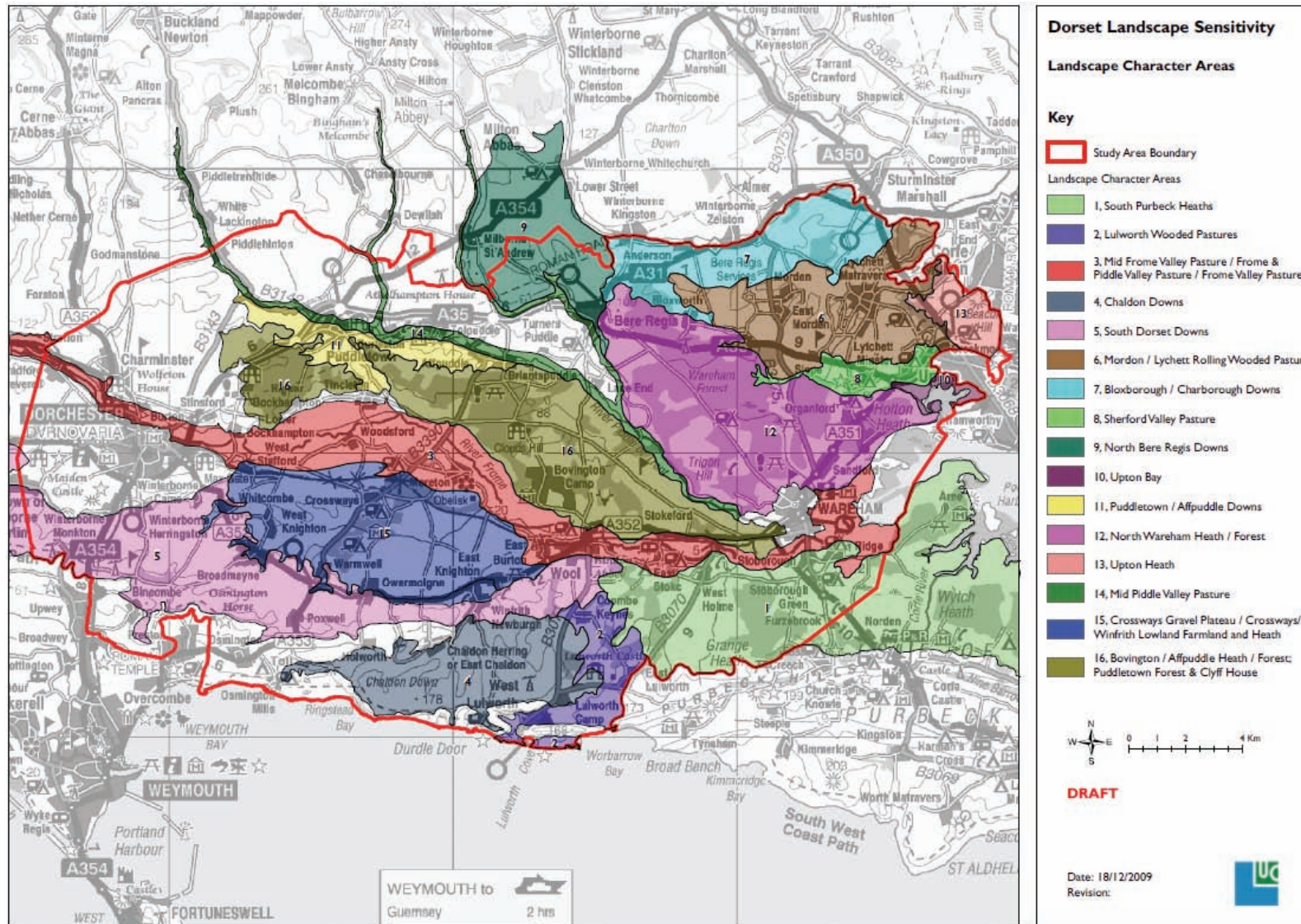
<b>LCA Name</b>	<b>District / AONB</b>
South Purbeck Heaths	AONB / Purbeck
Lulworth Wooded Pasture	AONB / Purbeck
Mid Frome Valley Pasture / Frome & Piddle Valley Pasture / Frome Valley Pasture	Purbeck / West Dorset / AONB
Chaldon Downs	AONB / West Dorset
South Dorset Downs	AONB / West Dorset / Purbeck
Mordon / Lychett Rolling Wooded Pasture	Purbeck
Bloxborough / Charborough Downs	Purbeck
Sherford Valley Pasture	Purbeck
North Bere Regis Downs	Purbeck
Upton Bay	Purbeck
Puddletown / Affpuddle Downs	Purbeck
North Wareham Heath / Forest	Purbeck
Upton Heath	Purbeck
Mid Piddle Valley Pasture	Purbeck
Crossways Gravel Plateau / Crossways/Winfrith Lowland Farmland and Heath	Purbeck / West Dorset
Bovington / Affpuddle Heath / Forest; Puddletown Forest & Clyff House	Purbeck / West Dorset

<sup>2</sup> Any cross-administrative boundary LCAs were merged to form one Landscape Character Area for the purposes of this study.

Note that some of the LCAs extended beyond the study area boundary (see Figure 1.2). In these cases the Strategy only applies to areas within the limits of the study area.



Figure 1.2: Location of the 16 LCAs forming the basis for the Landscape Change Strategy pilot



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File: S147004719 Dorset Landscape Sensitivity/GIS/Themes/ArcGIS-24719-01\_001\_Field\_Work\_Map.mxd

1.7. The remainder of this report is structured as follows:

**Chapter 2:** outlines the methodology adopted for the production of the pilot Landscape Change Strategy.

**Chapter 3:** gives an overview of the key forces for change acting on the landscapes of Dorset as relevant to the study area.

**Chapter 4:** is a bibliography of references used to inform this study.

Land Use Consultants

13 January 2010

## 2. METHODOLOGY ADOPTED FOR THE LANDSCAPE CHANGE STRATEGY

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### I. DESK-BASED STUDY

#### *Review of existing Landscape Character Assessments*

- 2.1. Once the 16 LCAs were selected for the pilot Strategy, information from the three Landscape Character Assessments (for Purbeck, West Dorset and Dorset AONB), along with both the current and previous Dorset County assessments<sup>3</sup>), was used to do the following:
- **Identify the key positive landscape attributes for each LCA:** the key characteristics included in each LCA description from the assessments formed the basis for this first task, to be added to and refined during fieldwork. The ‘key positive landscape attributes’ are those aspects of the landscape that one would “*want to hang on to*”; which, if they were no longer present, would have a significant [negative] impact on landscape character. A list of positive attributes was compiled in short, bulleted format to form the basis for each LCA’s Landscape Change Strategy.
  - **Collate information on the landscape condition of each LCA:** text was lifted and summarised from the assessments on current landscape condition, again to be checked and added to after fieldwork.
  - **Compile a list of past, current and future forces for change impacting on the positive attributes:** none of the LCA descriptions contain a specific section on forces for change, although information was gleaned from the descriptions where it was clear relevant forces for change were being referred to (e.g. in the condition statements of the Dorset AONB and Purbeck assessments, and the ‘detrimental features’ section of the West Dorset LCA description).
  - **Collect information to inform the preparation of landscape management guidelines:** planning and land management guidelines are detailed at the Landscape Character Type (LCT) level for the Dorset AONB and Dorset county (the latter in separate documents available for download from Dorset County Council’s landscape web pages). Those of relevance were selected for each LCA to help inform each landscape strategy’s section on ‘Guidelines for Managing Landscape Change’ (see paragraph 2.6, fourth bullet point).

#### *Wider scoping of past, present and future forces for change*

- 2.2. A wider scoping of information on forces for change currently, or likely, to affect the landscapes of the study area was undertaken. This particularly focused on the impacts of development pressure and climate change – the two key forces for change likely to grow in significance over the coming decades.

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<sup>3</sup> Current county Landscape Character Assessment and interactive mapping available at <http://maps.dorsetforyou.com/landscape/>  
Landscape Design Associates (April 1993) *Dorset County Landscape Assessment*

- 2.3. A general overview of forces for change identified through this task is given in Chapter 3, with a full list of references used to inform the scoping exercise detailed in Chapter 4.

## 2. FIELDWORK VERIFICATION

- 2.4. A week of fieldwork was undertaken in October 2009 to:
- confirm the key positive landscape attributes identified for each of the 16 LCAs;
  - gather further information on landscape condition – particularly focusing on the condition of the positive attributes identified above and also considering the structure of the landscape as a whole; and
  - identify any visible forces for change currently affecting the landscape.
- 2.5. Once the fieldwork was completed the Landscape Change Strategies for each of the 16 LCAs were prepared in draft form, for comment by the Steering Group.

## 3. PREPARATION OF THE LANDSCAPE CHANGE STRATEGIES

- 2.6. The format of the individual Landscape Change Strategies for each of the LCAs was agreed with the Steering Group as follows:
- **Section A: Landscape Description:** this section includes the key characteristics directly copied from the relevant source landscape character assessment(s), followed by the summary bullet-pointed list of key positive attributes defined for the LCA in question. The full list of key characteristics is included at the beginning of each Strategy to give the reader a clear picture of landscape character and link back to the original assessment documents.
  - **Section B: Landscape Evaluation:** a boxed description of current landscape condition is provided at the beginning of this section, informed by information gleaned from the source landscape character assessments as well as fieldwork observations. This is followed by a summary list of forces for change impacting on the LCA's positive attributes, first considering past/present forces, and second looking at potential future forces for change. This section ends with a summary box detailing the landscape sensitivities / vulnerabilities of the positive attributes, drawing on the forces for change information presented in this section.
  - **Section C: Vision and Strategy:** this section sets out the long-term vision for the landscape in boxed format, ensuring that all of the positive attributes are referred to and that their continued presence in the future landscape is explained [and justified] in terms of the multi-functional benefits they provide. This seeks to paint an inspirational yet achievable picture of how the landscape should respond to change whilst the positive aspects of underlying landscape character are managed and enhanced to reinforce sense of place.

The vision is followed by an overall strategy statement setting out how the vision will be achieved. As noted in the current Landscape Character Guidance<sup>4</sup>, a Landscape Strategy identifies “*what change, if any, is desirable for any landscape character area as a whole*”. The strategy statement also uses ELC terminology as applicable to the LCA concerned, as follows:

- **protect:** measures to preserve the present character and quality of the landscape which will be greatly valued on account of its distinctive natural or cultural configuration.
- **manage:** change steered to improve landscape character, with an emphasis on the regular upkeep of the landscape and its evolution to ensure that the landscape vision is achieved.
- **plan:** the process by which new landscapes are created to meet the aspirations of the vision. The purpose of this planning is to radically reshape damaged landscapes.

Where an LCA’s strategy is to ‘**plan**’ for landscape change, further detail is given in this section on how this should be achieved. Where relevant, this draws on information from Dorset County Council’s emerging Landscape Restoration Strategies<sup>5</sup>, which are prepared at a LCT level.

- **Section D: Guidelines for Managing Landscape Change:** this section sets out the ‘means to achieve’ the vision and strategy outlined in the previous section. It starts with a ‘Development Considerations’; detailing which of the LCA’s key positive attributes would need to be taken account of in terms of planning any new development. It also provides a link back to the main aims of the landscape strategy, ensuring that these are given full account by planners using the Strategies to inform appropriate locations for development.

The second part of this final section lists the Landscape Management Guidelines that should be followed to meet the strategy and vision for the LCA, in tabular format. This clearly sets out guidelines for the relevant positive attributes, showing in a corresponding column the multiple benefits each guideline will achieve to strengthen and enhance the landscape for the future.

- 2.7. An example Landscape Change Strategy is included at **Appendix I** (for the Wareham Heath / Forest LCA).

#### **4: TESTING THE APPROACH**

- 2.8. The Landscape Change Strategies provide a guide at a landscape-scale to assist planners to understand, in general terms, the different factors affecting landscape character and the main areas where [generic] change could be incorporated. **It cannot, on its own, be used to assess sensitivity to specific types of change.**

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<sup>4</sup> Swanwick, C. and Land Use Consultants (2002) *Landscape Character Assessment Guidance for England and Scotland*. Prepared on behalf of the Countryside Agency and Scottish Natural Heritage.

<sup>5</sup> Draft Mineral Restoration Strategies for Landscape Types (October 2009) – internal DCC document

- 2.9. **The strategy and guidelines in Sections C and E can be used to enable planners to consider whether an individual proposal responds to landscape character and is in line with the strategy, and will enable developers to ensure their proposals respond to landscape character. What it doesn't do is give answers as to where development should go or how much can be accommodated.**
- 2.10. This pilot study tested specific approaches to assess sensitivity against two potential development scenarios building on the information contained in the Strategies:
- Wind turbine development (at a single LCA scale)
  - Mixed use development (at a single LDU scale).
- 2.11. The pilot testing is included in Chapter 5 of this report.

### 3. OVERVIEW OF KEY FORCES FOR CHANGE OF RELEVANCE TO THE STUDY AREA

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- 3.1. This Chapter provides a general overview of the key current and future forces for change of relevance to the study area. This covers both positive and negative forces in terms of their impacts on landscape character.

#### DEVELOPMENT

##### Settlement expansion

###### *Existing force for change (expected to continue)*

- Increased building and settlement expansion (and related infrastructure) to meet demands of growing population. Heathland on the settlement fringe is vulnerable to increased development pressure and associated recreational uses (including anti-social behaviour).

###### *Potential future force for change*

- Continued settlement expansion pressures at larger settlements such as a number of proposals for development within Wareham, Bere Regis, Wool (housing extension policy SS34) and Dorchester. However designated sites of nature conservation interest (particularly within the Dorset Heathlands SAC / SPA / Ramsar) often extend to the existing settlement edge and therefore restrain the availability of potential sites.

###### **SUMMARY: Predicted impacts on landscape character**

- Impact on habitats on settlement fringe, directly through loss of habitats but also through secondary uses e.g. trampling, litter, vandalism etc.
- Loss/fragmentation of visual relationships of open heathland/downland landscape.

##### Industry

###### *Existing force for change (expected to continue)*

- Reduction in 'heavy' industries as production moves abroad, providing a potential opportunity for site reclamation and habitat creation.
- Mineral extraction on settlement edges eroding the heathland landscape, particularly on the edge of the Poole-Bournemouth conurbation as well as ball clay extraction on the edge of Wareham.
- Construction of infrastructure such as wind farms and power stations to provide energy for a growing local population. The Alaska wind farm is a potential project

that proposes 4 turbines within an operational quarry at East Stoke, west of Wareham.

**SUMMARY: Predicted impacts on landscape character**

- Ex-industrial sites may become available for habitat restoration / re-development.

## **Infrastructure and Services**

### ***Existing force for change (expected to continue)***

- Necessary associated infrastructure (hard and soft) associated with new development such as highways, drainage and Green Infrastructure. This would include the implementation of the South East Dorset Green Infrastructure Strategy (including provision for recreation, parks and greenspace). Also A35 Highway improvements at Moreton, proposed Green Belt extensions and heathland recreation zones – all of which are proposed in the LDF.

**SUMMARY: Predicted impacts on landscape character**

- Increased infrastructure within the landscape with associated reduction in tranquillity.

## **Recreation and tourism**

### ***Existing forces for change (expected to continue)***

- Increased visitor numbers could have a significant impact on the local market towns (through an increase in pollution, litter, pressure on infrastructure / services / resources) that act as focal points within the area, although increased revenue would boost the local economy.
- Raised awareness of rising levels of obesity may result in an increased promotion of countryside as a resource for improving health, fitness and well-being.
- Landscape change implications of visitor facilities and tourism infrastructure for key sites.

### ***Potential future forces for change***

- As summer temperatures increase as a result of climate change people may seek recreational opportunities in shaded areas and streamside and through new outdoor pursuits/water based recreation. A decrease in water availability in the summer and an increase risk of flooding in the winter could affect the type, location and use of recreational resources (e.g. fishing which is currently popular in freshwater streams may be threatened due to a potential fall in water levels.)
- Potential disruption to rights of way networks and access due to increased risks of flooding.



- Increased visitor numbers in ‘natural’ areas highlights a potential risk to habitats (such as littering, vandalism, etc) and wildlife yet also provides potential opportunities for increased investment and conservation due to increased revenue from tourism. Increased visitor numbers could result in a loss of the ‘wilderness’ quality which often attracts visitors in the first place.
- Changes in the timing of growing seasons (earlier spring and later autumns) may affect timing of visitor peaks (e.g. flowering of bluebells, turning of leaf colour etc)

**SUMMARY: Predicted impacts on landscape character**

- Increased pressure on landscape and local towns through greater visitor numbers.
- Increased demand and pressure on water resources for recreation in hotter summer months, as a result of climate change.
- Potential change in recreational activities and timings due to climate change.

## **AGRICULTURE**

### **Cropping systems**

#### ***Existing force for change (expected to continue)***

- Encouragement of Higher Level Stewardship uptake to restore Dorset’s rich grassland landscapes, particularly in the AONB.

#### ***Potential future forces for change***

- Changes in types and varieties of new crops, irrigation, pests, diseases and soil erosion; drought tolerant species will thrive whereas current crops may not survive in a changing climate. Longer growing seasons may result in larger areas under cultivation.
- Potential changes in crop species e.g. grapes, sunflowers, navy beans, soya, lupins borage, evening primrose, tea and olives becoming more extensively grown. Increased temperatures could see apple and pear orchards vanishing and replaced with peach, apricots, walnuts and other fruits and nuts.
- Effect on livestock farming as temperatures increase and animals suffer from heat stress.

**SUMMARY: Predicted impacts on landscape character**

- Change in crops planted favouring drought tolerant species due to higher summer temperatures and lower precipitation levels due to climate change.
- Increased areas used for food production as the supply from abroad becomes threatened by the impacts of climate change.
- Increase in tree planting and water to provide shade and water for animals.

## Hydrology

### ***Potential future forces for change***

- Increased demand on irrigation requirements throughout drier summers.
- Potential installation of winter storage reservoirs to reduce the need for water abstraction in summer.

#### **SUMMARY: Predicted impacts on landscape character**

- Contraction of chalk stream network, the headwaters of chalk streams and dew ponds may dry out and therefore no longer be a characteristic of the area
- Potential introduction of water storage facilities

## Soil erosion

### ***Potential future force for change***

- Increase in arable farming (as discussed above) and higher levels of winter rainfall due to climate change increasing levels of soil erosion.
- Linked increased risks to watercourses as pesticides and other farm inputs are washed into streams and rivers through soil erosion, damaging habitats and biodiversity.

#### **SUMMARY: Predicted impacts on landscape character**

- Potential impacts on wetland habitats through eutrophication, silt build up and the depletion of nutrients.

## Change in agricultural practices

### ***Existing force for change (expected to continue)***

- Gradual change from grazing land to arable as growing seasons become longer. Arable land becomes concentrated in valleys, on floodplains and on plateau tops as steep slopes cannot be ploughed.
- Introduction of monoculture landscape (particularly in relation to biofuels). This could result in the loss of grasslands, floodplains and wetlands and impact on the historic landscape pattern of medieval fields and the area's buried archaeological resource.

### ***Potential future force for change***

- Winter grazing could become more limited due to wetter winters and increased flooding as a result of climate change.

### **SUMMARY: Predicted impacts on landscape character**

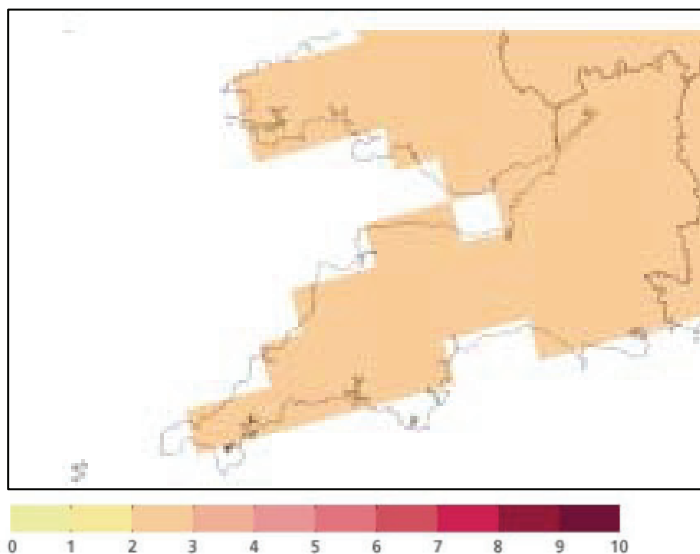
- Potential effects on historic landscape e.g. loss of underground earthworks due to erosion, ploughing etc.
- Alteration in landscape character and the perceptual qualities of the landscape as land use changes from grazing to arable.
- Introduction of monocultures (particularly in relation to biofuels)
- Increase in the size of agricultural buildings to house larger and more machinery to cope with growing productivity demands.

## **CLIMATE CHANGE (ALSO CROSS-CUTS OTHER THEMES)**

- 3.2. A review was undertaken of the latest UK Climate Projections data (UKCP 09), to understand the broad predictions for Dorset and the South West more generally. This is included below.
- 3.3. The following maps have been taken from the UKCP09 data<sup>6</sup> and give indications of probable changes in climate. The data displayed has been selected by the following principles.
- 3.4. Firstly the 2050 timeslice has been chosen as it is seen to be the most practical to base predictions on in relation to policy and planning which should be taken into account in current decision making. This is because the 2020s predictions are seen to be unlikely to be altered by current actions, and the 2080s are seen to be too far into the future and therefore too ambiguous in relation to possible climate change effects.
- 3.5. In all cases the 50% probability has been chosen as the central estimate.

### **Figure 3.1: Change in Annual Mean Temperature (°C): Medium emissions scenario**

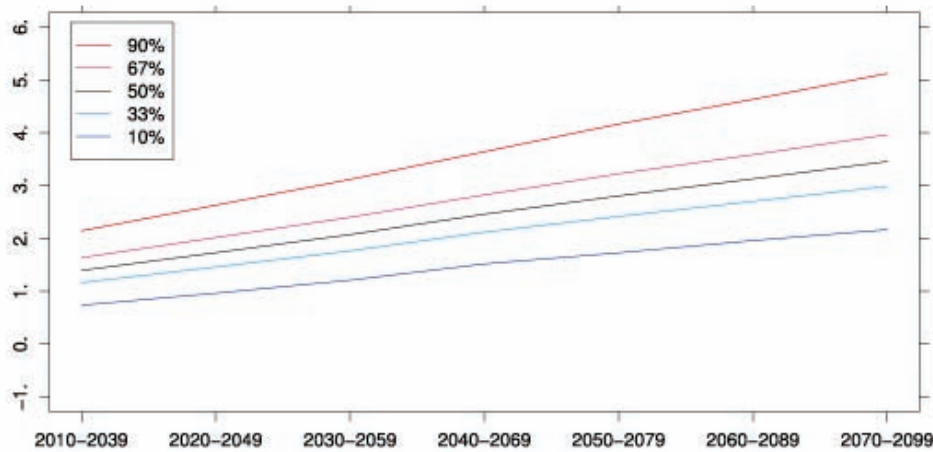
2050s 50% probability level: Central Estimate



This map shows a probable 2-3°C temperature increase over the South West region by 2050

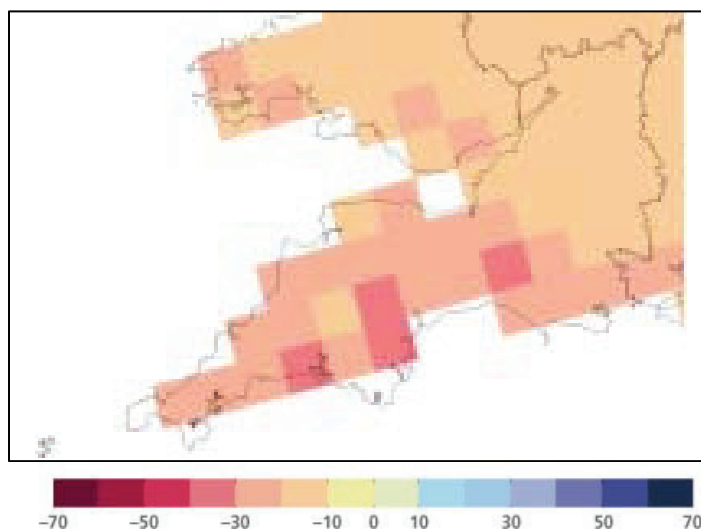
<sup>6</sup> <http://ukclimateprojections.defra.gov.uk/>

**Figure 3.2: Medium emissions scenario: Varying probability levels**



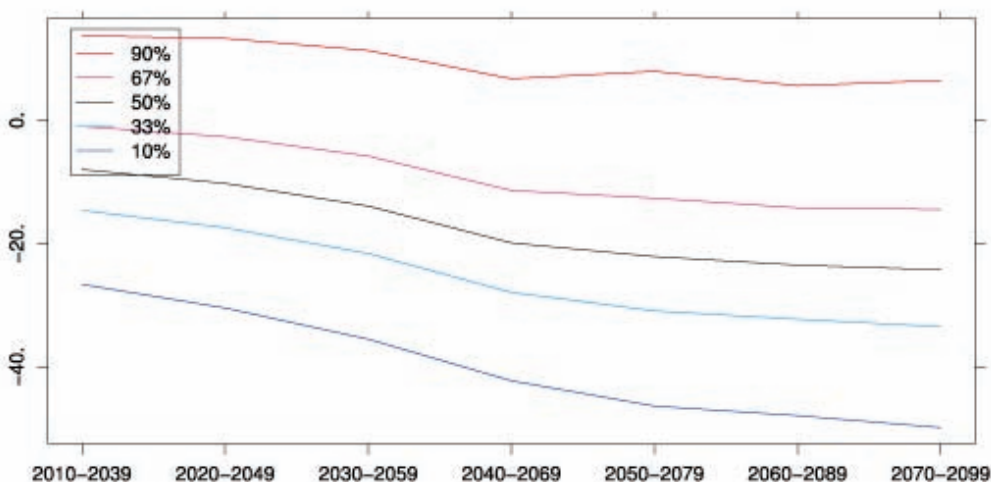
This graph highlights the scale of temperature rise in relation to the different probability levels.

**Figure 3.3: Change in summer precipitation (%): Medium emissions scenario**  
2050s 50% probability level: Central estimate



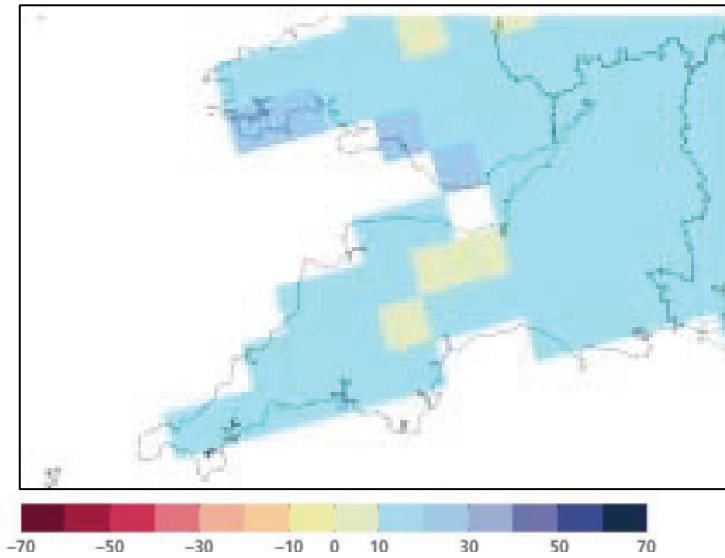
This map shows a varied probable change with the study area predicted to experience a decrease in precipitation of around 30%, resulting in drier summers. The South West region in general shows a more significant probable reduction of summer precipitation in comparison to other regions.

**Figure 3.4: Medium emissions scenario: Varying probability levels**



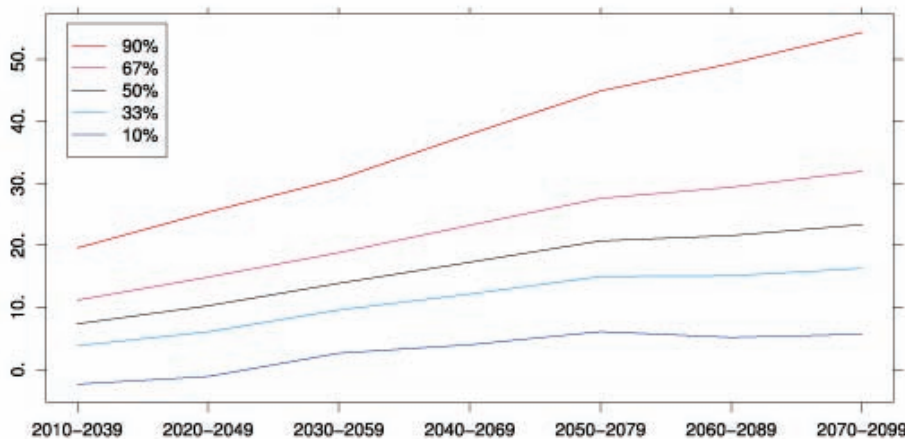
This graph shows the fall in summer precipitation levels under the different levels of probability.

**Figure 3.5: Change in winter precipitation (%): Medium emissions scenario**  
 2050s 50% probability level: Central estimate



This map shows a predicted overall increase in winter precipitation levels of around 20% for the study area.

**Figure 3.6: Medium emissions scenario: Varying probability levels**



This graph shows the increase in winter precipitation levels based on different levels of probability.

3.6. The potential landscape impacts of climate change, based on the above predications, are included below.

**Potential future forces for change**

- An increase in the frequency and severity of heat waves and storms with associated impacts on landscape features, particularly woodland and trees.
- Warmer summers may increase the risk of fires in the area (the heathlands and thatched historic buildings are particularly vulnerable).
- Wetter winters could result in damage to buildings and buried archaeology, with river flooding, soil loss, soil waterlogging, and difficulties to access land for animals and machines.

- An increase in temperature would result in an increase in midges and other pests, which may lead to a decrease in visitor numbers to the area (with associated impacts on the local economy).

**SUMMARY: Predicted impacts on landscape character**

- Loss of veteran trees through increased strong winds and drought
- Reduction in beech woodlands due to inability to survive in drier conditions
- Increase in Lime populations due to increase in temperature
- Increased growth of species such as gorse, bracken and scrub.

**Flooding and coastal erosion**

***Existing force for change (expected to continue)***

- Coastal erosion due to sea level rise.
- Increasing rainfall in winter will have impacts on historic features (due to erosion and increasing growth of scrub and vegetation) as well as water quality due to an increase in the amount of silt, nutrients and pesticides that run into rivers and water systems as ground becomes saturated.

***Potential future forces for change***

- Increased risk of flooding through breaching of flood defences. This may provide potential for habitat creation through an increase in intertidal and floodplain wetland habitats.
- Reduced rainfall in the summer will impact on the amount of water available for human consumption, agriculture and fisheries.
- Extreme sea levels will be experienced more frequently and will take land out of production due to flooding and saltwater ingress.

**SUMMARY: Predicted impacts on landscape character**

- Stress on freshwater aquifers with salt water incursion resulting in a drastic change in wetland habitat types.
- Erosion of marshland habitats through increased water levels (e.g. on the River Frome) and increased coastal erosion

**Climate change mitigation: renewable energy**

***Potential future forces for change***

- Open chalk plateau could become increasingly attractive for the location of wind farms.

- Possible increase in crops used as biofuels e.g. miscanthus, willow and poplar. Demand for biofuels could result in an increased management of woodlands e.g. coppicing, of benefit for biodiversity and landscape character.

**SUMMARY: Predicted impacts on landscape character**

- Increase in renewable energy development affecting landscape character (e.g. wind turbines, monoculture bioenergy crops etc.)

## **SOCIAL/CULTURAL CHANGE**

### ***Existing forces for change (expected to continue)***

- Increased demand for organic food, increased awareness in food miles and local sourcing/eating seasonally.
- Growing public support for renewable energy as awareness and understanding grows.
- Increased demand for eco-tourism.

**SUMMARY: Predicted impacts on landscape character**

- Potential change in crops responding to consumer demand and raised awareness of local food sourcing/food miles





## 4. BIBLIOGRAPHY

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4.1. Below is a full bibliography of all references used for this study.

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West Dorset District Council (February 2009), *West Dorset Landscape Character Assessment*

### **Websites**

Dorset County Council: The Dorset Landscape:  
<http://maps.dorsetforyou.com/landscape/>

UK Climate Projections: <http://ukclimateprojections.defra.gov.uk/>

### **Mapping**

Ordnance Survey Explorer Maps OL15, 117, 118

Natural England, Nature on the Map <http://www.natureonthemap.org.uk/>

Google Earth © 2009 Europa Technologies © 2009 Teleatlas

Dorset County Council, Historic Landscape Characterisation

CPRE Tranquillity, Intrusion and Dark Night Skies Mapping

Tranquillity mapping: Reproduced courtesy of The Campaign to Protect Rural England, Natural England and Northumbria University. OS Licence number 100018881

Intrusion mapping: Original copyright CPRE & Countryside Commission (1995). 2007 map created for CPRE by LUC

Night Skies: CPRE/LUC nighttime satellite imagery. Data obtained and manipulated/analysed by and on behalf of CPRE by Land Use Consultants and Nigel Press Associates.

### **Databases**

Land Use Consultants (2005) *Fine Grained Landscapes: Compiling Fine Grained Landscape Information to inform Environmental Stewardship Targeting*. Database prepared on behalf of the Countryside Agency.

## 5. PILOT TESTING

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### WIND TURBINES

#### Approach for Dorset

- 5.1. There is currently no agreed method for evaluating the sensitivity or capacity of different types of landscape to development such as wind turbines. However, the approach taken in this pilot builds on current guidance published by the Countryside Agency and Scottish Natural Heritage including the Landscape Character Assessment Guidance<sup>7</sup> and Topic Paper 6 that accompanies the Guidance<sup>8</sup>, as well as LUC's considerable experience from previous and ongoing studies of a similar nature, including for Pembrokeshire Coast National Park, the Peak Sub Region and West Sussex.
- 5.2. It is also in line with an emerging document setting out Natural England's approach to assessing wind turbine development: *Making Space for Renewable Energy: Natural England's approach to assessing on-shore renewable energy development* (unpublished). This advocates a three-staged approach: firstly is to identify and assess the range of factors that need to be taken into account; secondly to make a judgement against each of those factors; and, thirdly to make an overall professional judgement about the impact that wind energy developments is likely to have on the areas concerned. The Dorset approach follows this broad method through the use of carefully selected landscape criteria (also in line with Natural England's thinking on how to apply their approach to spatial plans and renewable energy assessments – likely to be published as a daughter document to the above).
- 5.3. The Dorset approach taken is rooted in the information contained in existing Landscape Character Assessments, as well as field work verification. As such, the Landscape Change Strategy, prepared for each LCA, provides the baseline information to undertake an assessment for wind turbines in the Dorset study area, although we recommend that this is followed up by specific field work verification. Because the impacts of any wind turbine development apply on a landscape scale, using Landscape Character Areas (LCAs) or Landscape Character Types (LCTs) are the most appropriate scale for assessment. In Dorset's case we trialling the approach on one LCA (as LCAs form the units of the Landscape Change Strategy).
- 5.4. The pilot LCA was selected in agreement with the Steering Group as the Bovington-Affpuddle Heath/Forest LCA (which straddles the Purbeck and West Dorset boundary). This LCA was selected because it contains areas of development as well as tracts of designated heathland, and also features large areas of coniferous plantation which could, in theory, be used to filter views of turbines or associated infrastructure.

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<sup>7</sup> Countryside Agency and Scottish Natural Heritage (2002) Landscape Character Assessment: Guidance for England and Scotland CAX 84

<sup>8</sup> The Countryside Agency and Scottish Natural Heritage (2002) Landscape Character Assessment Guidance for England and Scotland. Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity.

**Criteria for determining sensitivity to wind energy development**

- 5.5. Landscape attributes can be used to indicate the suitability of a landscape to accommodate wind energy development. In devising the sensitivity criteria, suggestions detailed in the Landscape Character Assessment Guidance have been followed, as well as information in Topic Paper 6.
- 5.6. Topic Paper 6 suggests that judging landscape character sensitivity ‘requires professional judgement about the degree to which the landscape in question is robust, in that it is able to accommodate change without adverse impacts on character...’

Para 4.2 goes on to say:

*‘...Judging landscape character sensitivity requires professional judgement about the degree to which the landscape in question is robust, in that it is able to accommodate change without adverse impacts on character. This involves making decisions about whether or not significant characteristic elements of the landscape will be liable to loss... and whether important aesthetic aspects of character will be liable to change’*

- 5.7. The pilot assessment method recognises that some aspects of the landscape may be more susceptible to change as a result of wind energy development. Criteria for determining the ability of a landscape to accommodate wind turbine development are based on attributes of the landscape most likely to be affected. These are detailed in **Table 5.1** below.

**Table 5.1: Criteria for assessing landscape sensitivity to wind turbines**

Characteristic/attribute	Aspects indicating greater ability to accommodate wind energy development	↔	Aspects indicating lower ability to accommodate wind energy development
<b>Wind Turbines</b>			
Scale	Large scale	↔	Small scale Human scale indicators
Landform	Absence of strong topographical variety Featureless, convex or flat	↔	Presence of strong topographical variety or distinctive landform features
Landscape pattern and complexity	Simple Regular or uniform	↔	Complex Rugged and irregular
Settlement and man-made influence	Concentrated settlement pattern Presence of contemporary structures e.g. utility, infrastructure or industrial elements	↔	Dispersed settlement pattern Absence of modern development, presence of small scale, historic or vernacular settlement
Skylines	Non-prominent /screened skylines Presence of existing modern man-made features	↔	Distinctive, undeveloped skylines Skyline that are highly visible over large areas or exert a large influence on landscape character Skylines with important historic landmarks

Characteristic/attribute	Aspects indicating greater ability to accommodate wind energy development	↔	Aspects indicating lower ability to accommodate wind energy development
<b>Wind Turbines</b>			
Inter-visibility with adjacent landscapes	Little inter-visibility with adjacent sensitive landscapes or viewpoints	↔	Strong inter-visibility with sensitive landscapes Forms an important part of a view from sensitive viewpoints
Perceptual aspects (sense of remoteness, tranquillity)	Close to visible or audible signs of human activity and development	↔	Physically or perceptually remote, peaceful or tranquil

### **Presentation of the results**

5.8. The assessment is presented in tabular form for the LCA in question (see example at the end of this Section). Reading from left to right across three columns, the table is structured as follows:

- **1<sup>st</sup> column:** contains the landscape attributes of the landscape type applied against the assessment criteria (as described above).
- **2<sup>nd</sup> column:** summarises the sensitivity judgement and lists the key landscape attributes that would be sensitive to the development of wind turbines. The overall assessment is based on different levels of impact (see **Table 5.2.** below).
- **3<sup>rd</sup> column:** provides specific guidance on the siting of the renewable technology concerned within the landscape type.

5.9. An additional column should be added in-between the 1<sup>st</sup> and 2<sup>nd</sup> columns above for those LCAs lying within a protected landscape (e.g. the Dorset AONB). This column should summarise the ‘special qualities’ of the designated landscape to ensure that the guidance in the final column takes them into account – any development should not detract from these special qualities. The example at the end of this Chapter does not include this column as it does not fall within a protected landscape.

5.10. The table therefore provides a logical sequence across the columns; linking the generic guidance and assessment ‘score’ back to the landscape type’s key landscape attributes. The sensitivity score is based on the different levels of impact that the development of wind turbines are likely to have on the landscape concerned. **Table 5.2** below sets out this sensitivity scoring.

**Table 5.2: Sensitivity levels and definitions**

Sensitivity Level	Definition
<b>High</b>	Key characteristics of the landscape are highly vulnerable to change from the type of renewable energy being assessed. Such development would result in a significant change in character.
<b>Moderate-high</b>	Key characteristics of the landscape are vulnerable to change from the type of renewable energy being assessed. There may be some limited opportunity to accommodate the renewable energy

Sensitivity Level	Definition
	development without changing landscape character. Great care would be needed in locating turbines/energy crops (as applicable).
<b>Moderate</b>	Some of the key characteristics of the landscape are vulnerable to change from the type of renewable energy being assessed. Although the landscape may have some ability to absorb some development, it is likely to cause some change in character. Care would be needed in locating turbines/energy crops (as applicable).
<b>Moderate-low</b>	Few of the key characteristics of the landscape are vulnerable to change from the type of renewable energy being assessed. The landscape is likely to be able to accommodate turbines/energy crops (as applicable) with only minor change in character. Care is still needed when locating turbines/energy crops to avoid adversely affecting key characteristics.
<b>Low</b>	Key characteristics of the landscape are robust and would not be adversely affected by the turbines/energy crops (as applicable). The landscape is likely to be able to accommodate turbines/energy crops (as applicable) without a significant change in character. Care is still needed when locating turbines/energy crops to ensure best fit with the landscape.

## Limitations

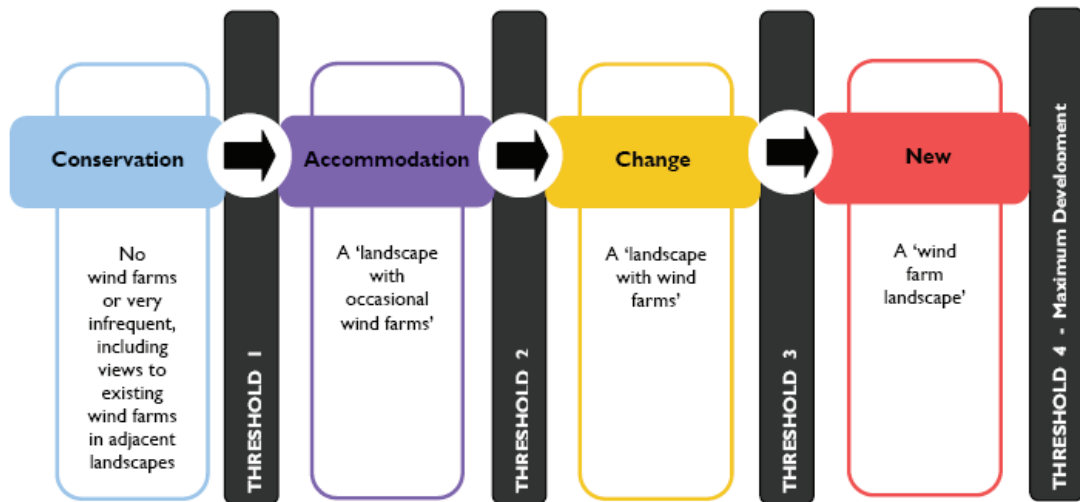
- 5.11. While this approach provides an initial indication of the relative landscape sensitivity of different areas to wind turbine development, it should not be interpreted as a definitive statement on the suitability of a particular landscape for development.
- 5.12. The assessment is based on an assessment of landscape character using carefully defined criteria, and assumes that it is desirable to conserve existing landscape character. The assessment methodology is based on the key characteristics of the landscape and does not cover ecological issues associated with nature conservation designations or bird flight paths, cultural heritage/archaeological issues associated with designated sites, or visual amenity issues associated with particular viewpoints and viewers – these are issues that will also need to be taken into account at the time when individual proposals are being put forward.

### *A note on cumulative impacts relating to wind*

- 5.13. Planning policy and the development control process can be used to guide renewable energy proposals so as to either keep them apart to avoid cumulative issues, or to cluster them in certain parts of the landscape to avoid development in more valued areas. A note on cumulative impacts relating to wind energy development should be included for each landscape character area, as per the example at **Table 5.3**. It will also be important that adjacent turbines/ wind farms in other LCAs respect each other in terms of scale and design to minimise cumulative impacts.
- 5.14. It is likely that the siting of medium and large scale wind turbines would result in a change in landscape character in many locations, however this assumption would need to be clarified through assessment). However, if these scales of turbine are to contribute to renewable energy production, a policy decision would need to be made as to whether to accept landscape change in some areas. In order to illustrate this,

**Figure 5.1** shows, theoretically, how the relationship between different thresholds of landscape change resulting from commercial wind farm development can vary with different landscape objectives or strategies. This is where the Landscape Change Strategy can provide valuable information in guiding if and where landscape change could, theoretically, be accommodated within the Landscape Character Areas.

**Figure 5.1: Diagrammatic representation of the relationship between different thresholds of landscape change and landscape objectives**



### Piloting the approach on an example Dorset LCA

5.15. **Table 5.3** overleaf forms the landscape sensitivity assessment for the Bovington-Affpuddle Heath / Forest LCA in relation to wind turbines. This was based on three wind turbine categories:

- **small scale turbines** (under 25m to blade tip) that are likely to be proposed by consumers and businesses interested in generating their own renewable energy (i.e. microgeneration);
- **medium scale turbines** (25-90m to blade tip) that may be proposed by larger consumers and businesses, form part of neighbourhood scale renewable schemes, or form part of a commercial enterprise; and
- **commercial [large] scale wind turbines** (usually in the region of 90-125m to blade tip) that are likely to be proposed by the wind industry.

5.16. All turbines are assumed to be the standard horizontal-axis 3 bladed type like the one shown below.



**Table 5.2: Pilot sensitivity assessment for the Bovington-Affpuddle Heath / Forest LCA**

<b>LCA: BOVINGTON / AFFPUDDLE HEATH/FOREST</b>		
<b>Districts: Purbeck and West Dorset</b>		
<b>Landscape attributes</b>	<b>Sensitivity Judgement &amp; Key Landscape Sensitivities</b>	<b>Guidance</b>
<p><b>Scale</b> – Large-scale landscape owing to its large tracts of open heathland and extensive woodland and forestry plantations.</p> <p><b>Landform</b> – Gently undulating landform enhanced by significant blocks of woodland and plantation.</p> <p><b>Landscape pattern and complexity</b> – irregular pattern of open heathland, mixed woodland, scrub and conifer plantations surrounded by a mixture of medieval fields and planned enclosure contributing to a rich mosaic.</p> <p><b>Settlement and Man-made Influence</b> – the Bovington Camp complex, Holton Heath industrial estate and visitor attractions at Monkey World and the Tank Museum, linked by busy road corridors, contrast with the sparse settlement pattern elsewhere. Sand and gravel pits and golf courses introduce further man-made influence in the east of the LCA.</p> <p><b>Skylines</b> – open skylines often characterised by woodland, which plays a role in filtering views of nearby development.</p> <p><b>Inter-visibility with Adjacent Landscapes</b> – outward views mainly</p>	<p>The large landscape scale, simple, undulating landform and presence of development and industry may indicate lower levels of sensitivity to wind turbine development. However, the complexity of its land cover, its valued heaths and woodlands, visibility from major centres of population, its largely dispersed settlement pattern, and relative sense of remoteness across much of the landscape increase sensitivity to this type of development.</p> <p>The landscape strategy for this area is to protect and manage the positive landscape attributes of this landscape to improve landscape condition and overall resilience to climate change, including through the large-scale reversion of conifer plantations to heathland to the north and west of Bovington Camp. This will be accompanied by a strategy to plan for a new landscape structure within and surrounding locations of development at Bovington Camp and sand/gravel sites in the east of the character area.</p> <p>This landscape type is therefore considered to have a <b>moderate-high</b> sensitivity to the development of large scale wind turbines and</p>	<ul style="list-style-type: none"> <li>• There may be some opportunities to locate turbines as part of the strategy to restructure the landscape around Bovington Camp and associated with the multi-functional restoration of sand/gravel sites in the east of the LCA, as long as it is in accordance with the following guidance.</li> <li>• Keep turbines away from valued tracts of lowland heathland.</li> <li>• Utilise the screening effects of the area’s woodlands to incorporate development into its landscape setting.</li> <li>• Avoid areas of fragile vegetation (particularly heathland) which are difficult to restore.</li> <li>• Keep development away from the most tranquil parts of the landscape.</li> <li>• Consider landform when developing wind farm proposals of more than one turbine - ensure layouts reflect the shape of the landform to avoid visual confusion. Aim to achieve good composition from key viewpoints.</li> <li>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.</li> </ul>



**LCA: BOVINGTON / AFFPUDDLE HEATH/FOREST**

**Districts: Purbeck and West Dorset**

constrained by the area's high woodland cover, and particularly the presence of tall conifer species. However, more open areas, particularly the heathlands, afford long views from elevated positions, including to the Poole conurbation in the east and Wareham to the south.

**Perceptual Aspects** – away from the development at Bovington Camp, Holton Heath and on the fringes of Wareham, the landscape retains a relative sense of peace and tranquillity particularly on the open heath and within wooded areas.

a **moderate** sensitivity to medium and small scale wind turbines. The key landscape attributes that could be sensitive to any scale of wind turbine development are:

- the open and undeveloped tracts of lowland heathland with a relative sense of remoteness and tranquillity;
- medieval field patterns;
- undeveloped wooded skylines;
- dispersed settlement character.

**A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this open landscape, with large tracts of internationally designated heathland, it is likely to be better to avoid substituting a greater number of smaller turbines for fewer larger turbines to keep disturbance to a minimum. Any multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts.

## MIXED-USE DEVELOPMENT

### Approach for Dorset

- 5.17. The suggested approach for assessing landscape sensitivity to a mixture of residential and commercial development draws on a similar approach being developed by LUC in the East of England<sup>9</sup> and also being applied for a landscape sensitivity study on behalf of North Hertfordshire District Council for an urban extension to the north of Stevenage (proposal for 5,000 new homes).
- 5.18. This methodology uses a similar approach to the wind turbine assessment shown in the previous section, with the selection of landscape attributes sensitive to the development in question, and appropriate criteria developed to inform a judgement on sensitivity.
- 5.19. The Dorset work benefits from a framework of Landscape Description Units (LDUs) which sit below the larger Landscape Character Areas and Landscape Character Types. These can therefore be used to provide a smaller scale of unit to more effectively consider specific types of change, such as residential / commercial development. However, there are some limitations to using LDUs to inform specific planning decisions – see from paragraph 5.27.

### Criteria for determining sensitivity to mixed-use development

- 5.20. **Figure 5.3** identifies some common landscape attributes for generic development change, by which key landscape characteristics may be grouped as a basis for assessing sensitivity.
- 5.21. It should be noted that the selection of landscape attributes may vary according to the specific type of change being assessed, and that different attributes will be sensitive in different ways to specific types of change. For example, the presence of human scale built interventions or settlement features in a landscape may indicate a lower sensitivity to comparable residential proposals, but a higher sensitivity to large-scale infrastructure projects.
- 5.22. In addition, attributes relating to visual sensitivity, including views and intervisibility with adjacent landscapes, can often help inform a judgment of overall sensitivity to change. As the characteristics of visual attributes are, by their very nature, specific to the location in question, targeted fieldwork would need to be undertaken to make an informed judgment on their sensitivity to the change in question – if it is felt that visual sensitivity is an important consideration to the specific development. This additional assessment has been shown in the pilot LDU at the end of this Chapter.

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<sup>9</sup> Land Use Consultants (January 2010) *Guidance on assessing the sensitivity of the landscape of the East of England*. Prepared for Landscape East.

**Figure 5.3: Example landscape attributes**

<b>Example landscape attributes</b>	
<b>Scale</b>	– whether or not the landscape include human scale elements, presence or absence of enclosing features
<b>Landform</b>	– whether undulating, rolling or flat. Level of landform variation, gradient
<b>Landscape pattern and complexity</b>	– presence or absence of cultural pattern, time depth, landscape structure/fabric, enclosure patterns, interplay of colour and texture
<b>Settlement and human influences</b>	– time depth, age, nature, form and level of settlement
<b>Skylines</b>	– whether open or framed, settled etc
<b>Perceptual aspects such as sense of remoteness, tranquillity</b>	– also including aesthetic attributes, texture, pattern, colour, movement, light, reflection

5.23. **Table 5.3** below shows how landscape sensitivity relates to the attributes described in Figure 5.3. It should be noted that landscape sensitivity will be to an extent relative to the scale of the change being proposed.

**Table 5.3: Examples of attributes and relative sensitivities**

<b>Landscape Sensitivity Assessment Criteria</b>		
<b>Characteristic/attribute</b>	<b>Aspects indicating lower sensitivity to residential /mixed use development</b>	<b>Aspects indicating higher sensitivity to residential/mixed use development</b>
<b>Residential</b>		
Scale	Presence of human scale	↔ Absence of human scale
Landform	Absence of strong topographical variety Featureless, convex or flat	↔ Presence of strong topographical variety or distinctive landform features
Landscape pattern and complexity	Simple Regular or uniform Large scale, or eroded landscape pattern	↔ Complex/mosaic Rugged and irregular Intact or small scale landscape pattern and structure
Settlement	Concentrated settlement pattern Presence of contemporary structures e.g. utility, infrastructure or industrial elements Hard or eroded settlement edge	↔ Dispersed settlement pattern Absence of modern development, presence of small scale, historic or vernacular settlement Porous/soft landscape edge, with settlement well integrated with the landscape
Skylines	Non-prominent /screened skylines Developed/built or cluttered skyline character	↔ Distinctive, undeveloped skylines Skylines with important historic landmarks

Landscape Sensitivity Assessment Criteria		
Characteristic/attribute	Aspects indicating lower sensitivity to residential /mixed use development	Aspects indicating higher sensitivity to residential/mixed use development
Residential		
Perceptual aspects (sense of remoteness, tranquillity)	Close to visible signs of human activity and development	↔
		Physically or perceptually remote, peaceful or tranquil

2.13. When sensitivities have been assigned to the individual landscape attributes, these can then be used to build up a profile of overall landscape sensitivity. In assigning a sensitivity judgement it is important to note why a particular judgment has been made in explanatory text.

### Presentation of the results

5.24. Our suggested approach presents each LDU assessment in tabular format – with the left column listing the relevant criteria to inform the assessment, and the right column providing a commentary and judgment for the LDU based on the information available from the source documents (and field work observations). The bottom two rows include an overall sensitivity judgment for the LDU, as well as a guidance statement for the development type concerned, drawing on information in the Landscape Change Strategy.

5.25. A five point sensitivity scale has been defined, as shown in **Figure 5.4** below. It should be noted that this will not necessarily be appropriate for ‘finer scale’ sensitivity analysis (i.e. site-specific situations), which might require more detailed sensitivity scales and matrices.

**Figure 5.4: Sensitivity scale and definitions**

Sensitivity level	Definition
<b>High</b>	Key characteristics of the landscape are <b>highly vulnerable</b> to the type of change being assessed, with such change likely to result in a <b>significant change in character</b> .
<b>Moderate-high</b>	<b>Many</b> of the <b>key landscape characteristics</b> are <b>vulnerable</b> to the type of change being assessed, with such change likely to result in a <b>potentially significant change in character</b> . Considerable care will be needed in locating and designing change within the landscape.
<b>Moderate</b>	<b>Some</b> of the key characteristics of the landscape <b>may be vulnerable</b> to the type of change being assessed. Although the landscape may have <b>some ability to absorb change</b> , some <b>alteration in character may result</b> . Considerable care may be

Sensitivity level	Definition
	needed in locating and designing change within the landscape.
<b>Moderate-low</b>	The <b>majority</b> of the landscape characteristics are <b>less likely</b> to be adversely affected by change. Although change can <b>potentially</b> be <b>more easily</b> accommodated, <b>care would still be needed</b> in locating and designing change in the landscape.
<b>Low</b>	Key characteristics of the landscape are <b>less likely</b> to be <b>adversely affected</b> by change. Change can <b>potentially be more easily accommodated</b> without significantly altering character. <b>Sensitive design would still be needed</b> in relation to accommodating change in the landscape.

- 2.16. The sensitivity judgments should be linked to guidance in respect of siting, design and management, to ensure that change is focused in the most positive way. Guidance should clearly and concisely link back to understanding of landscape character (key characteristics and landscape attributes). It should also be targeted as specifically as possible to the type and scale of landscape change in question.
- 5.26. To help with the guidance, the ‘Vision and Strategy’ and ‘Guidelines for Managing Landscape Change’ sections of the relevant LCA Landscape Change Strategy should be referred to.

### Limitations

- 5.27. It is not the purpose of sensitivity judgments to say that development or change is automatically to be rejected on account of a sensitivity rating. Indeed, as the Landscape Change Strategy seeks to do, it must be recognised that landscapes are dynamic and ever evolving, and that change is as much a characteristic of the landscape as a source of impact upon it.
- 5.28. LDUs are still relatively large units when considering specific development proposals. As is illustrated in the example LDU below, this means that variations in character (e.g. settlement pattern and density) across the landscape are still present even at the LDU scale, meaning that a generic sensitivity assessment is difficult to apply across the whole unit. We would therefore suggest that, whilst providing a further level of detail to the LCA Landscape Change Strategies, a finer grained assessment should be used to assess residential or mixed use development change (potentially through the further division of LDUs into ‘landscape parcels’). The same approach can be followed, whilst information can be more effectively tailored to the site / location / type of development in question.

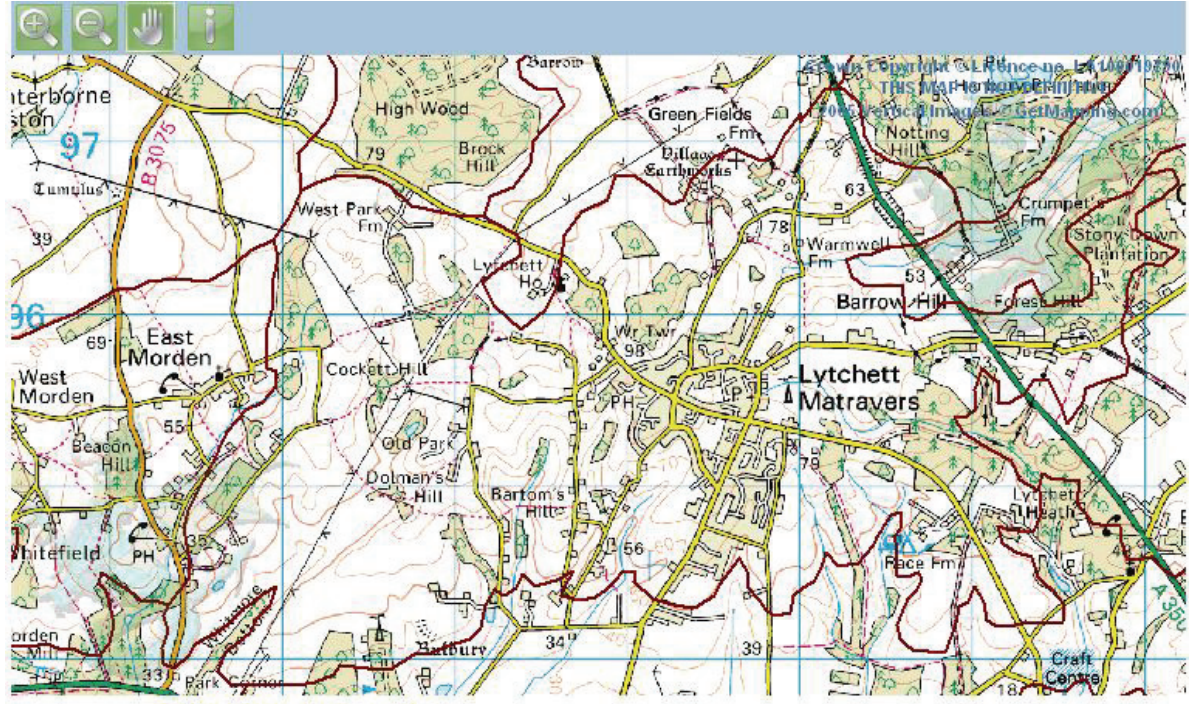
### Applying the approach to an example Dorset LDU

- 5.29. **Figure 5.4** shows a working example of the grouping of landscape characteristics for LDU number 318, within the Morden / Lytchett Rolling Wooded Pasture LCA. Please note that this worked example is only based on the available information (not

verified in the field) and applies to a potential general scenario of new medium-density mixed development within the LDU<sup>10</sup>. Therefore gaps and further detail would need to be refined through more focused study at the LDU scale.

**Figure 5.4: Location of the LDU**

(downloaded from <http://maps.dorsetforyou.com/landscape/>)



Use this link to [open the map up in a new window](#)

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<sup>10</sup> This LDU was selected as an example because the draft RSS identifies Lytchett Matravers as the location of a potential urban extension to the Poole conurbation, with a proposal for 185 new homes.

**Figure 5.5: Sensitivity analysis**

<b>LDU: 318</b> <b>Overarching LCA: Morden/Lychett Rolling Wooded Pasture</b>	
<b>Criteria</b>	<b>Comments and sensitivity judgement – medium density mixed development</b>
<i>Landscape</i>	
Landscape scale	An intimate scale landscape with historic, small-scale field patterns particularly around settlements. A dense, interlinking hedgerow network and frequent blocks of woodland provide further containment. As such the area has a <b>high</b> sensitivity to mixed use development in terms of landscape scale.
Landform	Landform is gently undulating, with distinctive folded valley landforms around Lytchett Matravers. The distinctive character of the landform around Lytchett Matravers, and the undulating form throughout, indicate a <b>moderate</b> sensitivity to mixed use development for the LDU as a whole.
Landscape pattern and complexity	This LDU is defined by the harmonious links between its natural and traditional built environment. Dense hedgerows surround small medieval pastoral fields linked to frequent blocks of mixed and ancient woodlands to provide landscape interest. Together with a dispersed settlement pattern of small farms and hamlets surrounding Lytchett Matravers, connected by a strong rural lane network, these elements result in a relatively complex landscape with a <b>moderate-high</b> sensitivity to mixed use development. This particularly applies to the areas outside the curtilage of Lytchett Matravers, unless it comprises very dispersed and small scale development respecting the existing character of the built environment.
Settlement and human influences	Lytchett Matravers is the largest settlement within the LDU – nucleated in form with some modern development extending in liner form along its surrounding roads. The rest of the LDU is defined by a dispersed settlement pattern with small farms and clustered settlements linked by a minor road network. The strongest human influence within the wider landscape is the prominent pylon line dissecting the west of the LDU. The landscape as a whole has a strong historic character owing to its medieval field patterns and traditional buildings. The historic settlement of East Morden, with its

**LDU: 318****Overarching LCA: Morden/Lytchett Rolling Wooded Pasture**

<b>Criteria</b>	<b>Comments and sensitivity judgement – medium density mixed development</b>
	<p>prominent church, is a local feature.</p> <p>As such sensitivity to mixed use development would be <b>high</b> outside the current limits of Lytchett Matravers (<b>moderate</b> within the settlement), unless very small scale development which retains this historic settlement pattern and dispersed character.</p>
Skylines	<p>The majority of the LDU is characterised by wooded, undeveloped skylines – although pylon lines in the west interrupt these characteristic outlines. Open skylines in elevated positions afford long views to distant horizons such as Poole harbour and the Purbeck Hills. Skylines are, on the whole, largely undeveloped in character and sensitivity to mixed development would therefore be <b>moderate-high</b>.</p> <p>(This would require field work verification)</p>
Perceptual qualities (colour/texture, light/reflection, movement, tranquillity, remoteness)	<p>This is an essentially rural ‘mosaic’ landscape, with the interplay of the many landscape elements creating visual interest and variety. Hedgerows, hedgerow trees, blocks of woodland and pasture create colour and texture within the landscape. Character is relatively tranquil, with some settlement ‘edge’ influences around Lytchett Matravers (including development out of keeping with local vernacular styles and materials). The prominent pylon line in the west detracts from perceptions of tranquillity, and views of the Poole conurbation also reduce feelings of remoteness. These elements reduce overall sensitivity to <b>moderate</b> in perceptual terms.</p> <p>(This would require field work verification)</p>



**LDU: 318**

**Overarching LCA: Morden/Lychett Rolling Wooded Pasture**

<b>Criteria</b>	<b>Comments and sensitivity judgement – medium density mixed development</b>
<i>Visual</i>	
Visual relationships and views	<p>Views are essentially contained by the LDU’s tree cover - associated with its dense hedgerows and frequent woodland blocks – as well as its undulating topography. However, elevated areas within the LDU afford long views across the surrounding landscape and beyond. Such views would have a <b>high</b> sensitivity to change.</p> <p>(This would require field work verification)</p>
Level of intervisibility	<p>There is intervisibility with the Poole conurbation, Poole harbour and the Purbeck Hills from elevated positions. Current views to development from some positions give this attribute a <b>moderate-high</b> sensitivity to medium density development.</p> <p>(This would require field work verification)</p>
<b>Overall landscape sensitivity</b>	<p>Overall sensitivity is judged to be <b>moderate-high</b> in landscape terms, based on the information available (not verified in the field). This is in view of the overall small scale and dispersed settlement character of the landscape, along with the close relationship between existing settlements and their wooded / farmed landscape setting.</p>
<b>Guidance statement</b>	<p><i>Focus development within the existing settlement footprint of Lytchett Matravers if possible. Elsewhere, use landform variation to ‘absorb’ development and rooflines as far as possible within the landscape. Conserve landscape features such as ancient woodland blocks, plantations and hedgerow field boundaries as an integral part of a green infrastructure network – particularly focused in the east of the LDU between Lytchett Matravers and Stony Down Plantation. Seek to ‘break’ development with green space swathes incorporating sensitive landscape features such as ancient woodland and historic landscape structure. Such landscape structure would be especially important to conserve in relation to cumulative development issues.</i></p>

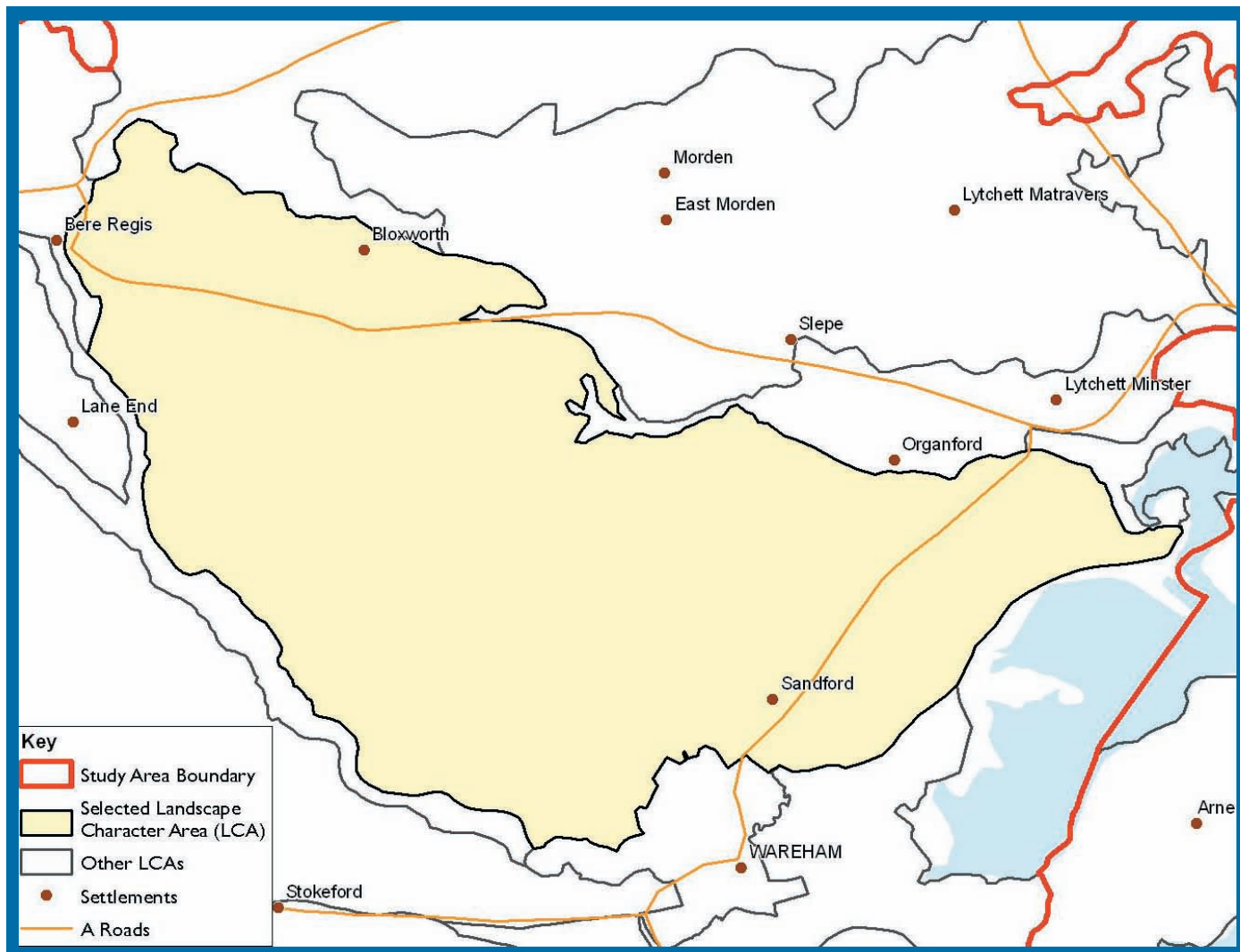


**APPENDIX I**  
**EXAMPLE LCA STRATEGY**





# NORTH WAREHAM HEATH / FOREST



# NORTH WAREHAM HEATH / FOREST

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This Landscape Character Area falls within the following District(s):

- Purbeck

## A. LANDSCAPE DESCRIPTION

### Key landscape characteristics<sup>1</sup>

- An undulating, open and expansive heathland landscape.
- Bounded by Piddle Valley along its western and southern edges and the fringes of Poole Harbour along its eastern side.
- Unspoilt across much of the area with a patchwork of heath, forestry, scrub and farmland.
- Conifer plantations create hard edges but act as screening and landscape features.
- Recreational use and conservation management a key feature across the area.
- Urban/industrial impacts along the south east parts of the area.
- Straight and fast roads often lined with plantation wood/forest.
- Morden Bog is a distinctive and open landscape feature.
- Woolsbarrow Fort and Woodbury Hill (both scheduled ancient monuments) are key local landmarks.
- The area around Keyworth Farm forms a locally distinctive parkland landscape.

### Key positive landscape attributes

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>• Extensive rolling heathland landscape with large tracts of internationally designated habitats (part of the Dorset Heathlands SAC, SPA and Ramsar).</li><li>• Land cover characterised by a patchwork of mixed woodland, scrub, heath and farmland ranging in coverage from small fragments to large expanses.</li><li>• Enclosed and smaller scale landscape structure within Wareham Forest.</li></ul> | <ul style="list-style-type: none"><li>• The distinctive open wetland at Morden Bog – designated as a National Nature Reserve.</li><li>• Historic landscape features such as parkland at Keyworth Farm, prominent Iron Age hillforts at Woolsbarrow and Woodbury Hill, and numerous tumuli, barrows and lookout towers.</li><li>• Long views and a sense of openness within heathland areas.</li><li>• High levels of tranquillity associated with the forest core and associated heathlands.</li></ul> |
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<sup>1</sup> The key landscape characteristics are taken directly from the relevant Landscape Character Assessment(s) for this LCA. For more information on the Landscape Change Strategy methodology, please see the accompanying project report.

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## B. LANDSCAPE EVALUATION

### Current condition

This landscape is dominated by wide expanses of heathland which have been significantly fragmented by large-scale conifer planting in the 20<sup>th</sup> century. Today's landscape comprises a mixed patchwork of extensive conifer plantations, tracts of open heathland, scrub and woodland which contributes to a varied landscape mosaic. Surrounding the heathland core is intensively managed arable farmland, often marked by a weak hedgerow network with lengths of post-and-wire fencing diluting field patterns. The landscape has been fragmented by urban fringe and industrial / commercial uses (including clay extraction and industrial estates); as well as recreational provision such as caravan sites located on the edges of the heathland. The heathland itself has declined in condition in some locations, with a spread of birch, bracken, pine, rhododendron and *Molinia* grasslands replacing heather due to a lack of traditional management (particularly grazing). Natural England's current assessments show that generally less than 40% of the heathland SSSIs are in favourable condition, although the reintroduction of grazing and tree/scrub clearance programmes are working to improve this.

### Forces for change impacting on positive attributes

#### *Past / current forces for change*

- Planting of large-scale conifer plantations with 'hard' edges on areas of heathland.
- Post-war intensification of farming surrounding the heathland, with a predominance of arable fields surrounded by undermanaged hedgerows, often replaced by wire fencing.
- Diffuse water pollution from agriculture into the Piddle catchment, which is part of the wider Frome Priority Catchment defined as part of the England Catchment Sensitive Farming Delivery Initiative. It is also a Nitrate Vulnerable Zone.
- Regenerating birch and pine along woodland edges and amongst the heath due to a lack of traditional management, particularly grazing and burning.
- Significant pressures from the urban fringe (due to the close proximity of Wareham and the Poole conurbation), visitor pressure and industrial/commercial uses.
- Increased levels of intrusion (from the 1960s) associated with prominent pylon lines and key transport corridors such as the A35 and A351 (CPRE, 2007).

#### *Future forces for change*

- Settlement growth associated with Wareham and related recreational pressures on the heath and forest. The town forms part of a wider Strategically Significant City and Town<sup>2</sup>, with the Purbeck Core Strategy<sup>3</sup> proposing 438 new dwellings up to 2026 under the Preferred Option.
- Recreational pressure on the urban fringe leading to an increase in demand for land for horse- keeping / hobby farming on the heathland edges.
- Increased pressure on infrastructure due to a growing sub-regional population leading to increased traffic levels on main roads and the development of more overhead power lines.
- Continued agricultural change with changes in crop and land use as a consequence of climate change and response to changing markets (new / novel food crops and bioenergy planting).
- Continuing decline in traditional heathland management, particularly livestock grazing, leading to a further loss of open habitats and incursion by scrub and trees.

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<sup>2</sup> Part of the South East Dorset SSCT, as defined in the Draft Revised Regional Spatial Strategy for the South West incorporating the Secretary of State's Proposed Changes (for Public Consultation, July 2008)

<sup>3</sup> *Planning Purbeck's Future: Core Strategy Public Consultation Draft (7 September to 30 October 2009)*

### **Potential impacts of climate change:**

- Potential change in woodland / tree species composition and the accelerating growth of species such as birch. Individual trees may become more susceptible to damage from the increasing frequency and magnitude of storm events.
- Increased prevalence of pests and diseases due to warmer, wetter conditions – including red band needle blight which could affect the commercial viability of the area's plantations.
- Increased temperatures and a decline in precipitation levels in the summer months may result in the drying out of wetland habitats and an alteration in stream flows.
- A change in the vegetation composition of heathlands, with rising temperature and greater atmospheric CO<sub>2</sub> / nitrogen levels favouring grasses (e.g. purple moor grass and acid grassland) rather than heather.
- Drought conditions in the summer could also increase the susceptibility of the remaining heath to fire damage.

### **Landscape sensitivities / vulnerabilities**

#### ***Heathland***

- Heathland vulnerable to higher temperatures and lower rainfall in the summer resulting in a drying out of wet areas, more susceptibility to fire damage and a change in species composition from heather to grass and birch woodland.
- Wetland areas within the heath, including Morden Bog, sensitive to higher temperatures and reduced rainfall as a result of climate change – potentially leading to a drying out of these nationally important habitats.
- Open heathland and expansive views vulnerable to a continuing decline in traditional heathland management (grazing and controlled burning). This could result in a dominance of woodland and scrub reducing landscape variety and biodiversity interest but potentially helping to screen nearby development (including new development).
- Heathland fragments may be vulnerable to development or cropping to meet demands for both food and non-food crops, which may further fragment the remaining resource.

#### ***Woodlands / trees***

- A changing climate may result in a change in the species composition of the landscape's woodlands as less drought tolerant species die back and new diseases/pests spread. This may mean that non-native species become more common.
- The commercial viability of the area's conifer plantations may also be affected by the spread of pests and diseases affecting trees, particularly red band needle blight.

#### ***Field patterns and boundaries***

- The hedgerow network may be affected by a lack of management blurring the underlying medieval landscape. Hedgerow species may be sensitive to the impacts of climate change, with less drought-tolerant species dying back and weakening the network.
- Traditional hedgerow boundaries and the historic field patterns surrounding the heath may be affected by increased pressure for recreational pony paddocks around urban areas, with associated pony tape and fencing at odds with landscape character.

#### ***Farmland***

- The mixed farmland character of the landscape surrounding the heath / forest sensitive to intensification to meet future food / energy crop production demands.



### **Historic features**

- Historic features sensitive to an increase in recreational pressure as well as scrub /tree encroachment where located on heathland.

### **Levels of tranquillity**

- The rural fringes of Wareham, Sandford and industry at Holton sensitive to further development impacting on local levels of tranquillity.

## **C: VISION AND STRATEGY**

### **Vision**

*An interlinking, intricate mosaic of expansive open heathland with visible archaeological features, areas of wet bog, mixed woodlands and fringing farmland reconnected and strengthened to prepare the landscape for the challenges of the future. A widescale removal of conifer plantations within and surrounding Wareham Forest has restored the landscape to its previous open heathland character; restoring links to surrounding 'islands' of heath to create an intact, reconnected and resilient habitat resource. In the south of the landscape near Wareham, areas of conifer plantation are retained as recreational green spaces off the heath, linked to the town by new green infrastructure networks. Patches of woodland within the landscape surrounding the heath are traditionally managed and enhanced through the planting of a new generation of broadleaf species and coppice management to create a varied age / species range and provide a ready, low-carbon source of woodfuel for local communities. Habitat links are restored from woodlands to an intact hedgerow network framing a mixed agricultural landscape around the heathland core – where a strong hedgerow network assists in reducing soil erosion and pollution of the surrounding watercourses. New low carbon development within and on the edges of Wareham and Sandford is integrated into its landscape setting through native woodland planting, including as part of the newly created green infrastructure links.*

### **Overall Landscape Strategy**

The main aims are to **protect** and **manage** the positive landscape attributes of this landscape to improve landscape condition and overall resilience to climate change, with major restoration to open heathland in the north-west of the LCA currently occupied by large-scale conifer plantations. This will be accompanied by a strategy to **plan** for new landscape restructuring in areas under development pressure on the edges of Wareham.

Landscape change to meet the strategy requires:

- **Large-scale heathland restoration around Wareham Forest:** There should be a long-term strategy for the widescale removal of conifer plantations on areas of heathland in the north and west of the LCA including at Wareham Forest, Gore Heath and Bloxworth Heath. This will strengthen the overall resilience of the nationally important habitat by reconnecting currently fragmented areas to allow species migration within the landscape, whilst restoring the traditional open heathland framework of the area. Limited areas of conifer plantation should be retained in locations where they provide a role in filtering views of development as well as where they could act as alternative recreational spaces off the heath.
- **Planning for the creation of multi-functional green infrastructure on the fringes of Wareham:** The planned new housing development in Wareham is likely to increase pressure on the nearby heathlands for recreational activities. The landscape immediately north and west of the town, which already includes a golf course and sand/gravel extraction sites, should be comprehensively planned and enhanced as a multi-functional green space and wildlife habitat to support this demand. Links could be provided between the town and areas of conifer plantation and mixed woodland in the southern part of the LCA, including at Northport Heath, Carey Heath and surrounding Cold Harbour Heath (all which currently include significant areas of plantation), with the sand/gravel extraction areas restored to a mosaic of wildlife habitats and greenspace including heath, woodland and wetlands. As

well as providing recreational space in a natural environment, this landscape restructuring will have additional benefits for biodiversity, climate change resilience and health and wellbeing.

- **Integrate new development into the landscape through woodland planting and conifer plantation retention:** Views from the open heath to new and existing development, particularly along the main roads out of Wareham (including Sandford and the industrial estate at Holton Heath) should be filtered by new native woodland planting. Conifer plantations already providing a primary role in softening views of development should be retained, although these should be restocked over the long-term with broadleaves to enhance longevity and soften ‘hard’ edges. Any new woodland planting should be carefully sited to ensure it does not encroach onto areas of open heathland.

## D. GUIDELINES FOR MANAGING LANDSCAPE CHANGE

### Development considerations (for housing and commercial development)

This character comprises large tracts of unsettled open heathland and forest, with limited settlement and industrial development concentrated along main roads in the south and east. Any new development should respect the following key positive attributes of the landscape:

- The intricate patchwork of semi-natural habitats, forestry and farmland.
- The long views and open character of the heathlands.
- The presence of numerous sites and monuments of archaeological significance, including two hillforts designated as Scheduled Monuments.
- The international nature conservation importance of the heathland. The Dorset Heathlands SAC, SPA and Ramsar site covers large parts of Wareham Forest along with parts of Hyde and Holton Heaths.
- A strong sense of tranquillity associated with the heathland and forest cores with overall absence of development.

It should also proactively meet the Landscape Change Strategy aims for this Landscape Character Area, as outlined on page 4:

- To protect and manage the positive landscape attributes of this landscape to improve landscape condition and overall resilience to climate change.
- Large-scale heathland restoration around Wareham Forest.
- Planning for the creation of multi-functional green infrastructure on the fringes of Wareham.
- Integrate new development into the landscape through woodland planting and conifer plantation retention.

### Landscape management guidelines and benefits provided

Landscape management guideline	Benefits delivered (*red indicates primary benefit(s))
<b>Heathland:</b> Manage existing areas of wet and dry heathland, including boggy areas, through grazing, controlled burning and scrub clearance to maintain a varied landscape mosaic, open heathland landscape character and to bring the habitat into optimal condition to build resilience to climate change. Sensitive grazing will also help protect the character and setting of the landscape’s important archaeological features.	* <b>Habitat / species resilience to climate change</b> Sense of place Cultural heritage (traditional management) Water storage (water captured in the area’s bogs to alleviate downstream flooding)
<b>Woodland:</b> Actively manage woodland through coppicing to create a diverse age structure.	* <b>Habitat / species resilience to climate change</b>

Landscape management guideline	Benefits delivered (*red indicates primary benefit(s))
<p>Undertake the large-scale removal / thinning of conifer plantations where located on the open heath to restore the integrity of the heathland (particularly the area stretching north west from Wareham Forest). Retain individual Scots pines as characteristic landscape features. Protect areas of woodland and undertake new planting where trees help to soften the edges of development. New planting should not take place within the heathland.</p>	<p><b>*Carbon sequestration</b>  <b>*Tranquillity</b> (woodland shield to development)            Fuel (woodfuel for local communities from woodland management)            Sense of place            Cultural heritage (traditional woodland management)</p>
<p><b>Farmland:</b> Maintain the mixed farmed character of the landscape fringing the forest / heathland core. Strengthen hedgerow networks and field patterns through the re-planting of lost sections and re-stocking of hedgerow trees with native species. Restore links to areas of new and existing woodland to create an intact wildlife network. A restored hedgerow network will also help to reduce soil erosion, run-off and diffuse pollution in the nearby River Piddle<sup>4</sup> which runs to the south of the LCA.</p>	<p><b>*Sense of place</b>  <b>*Habitat / species resilience to climate change</b>            Erosion control            Water purification</p>
<p><b>Habitat linkages:</b> Aim to enhance and restore links between areas of heathland (including Decoy Heath, Gore Heath, Cold Harbour Heath, Lower Hyde Heath and Bloxworth Heath), particularly where they have been fragmented by large-scale conifer plantations, as well as to farmland and other semi-natural habitats (including restored sand/gravel extraction sites) to create a larger, more resilient habitat network and local landscape diversity. Refer to the Strategic Nature Areas of the South West Nature Map.</p>	<p><b>*Habitat / species resilience to climate change</b>            Sense of place</p>
<p><b>Recreation:</b> Manage recreational pressure. Focus activity away from the most sensitive heathland habitats and minimise signage and other infrastructure. Enhance recreational opportunities and infrastructure provision within the area's conifer plantations and explore the creation of alternative areas of green space in proximity to the main centre of Wareham to reduce pressure on sensitive heathland habitats and wildlife.</p>	<p><b>*Recreation</b>            Habitat / species resilience to climate change</p>
<p><b>Horse keeping ('horsiculture')</b>: Ensure any new pony paddocks do not encroach onto the edges of heathland to prevent further fragmentation of the remaining habitat resource. Enhance the condition of areas of horsiculture through the restoration of an intact, well managed hedgerow network and retaining a diverse grass sward by preventing overgrazing.</p>	<p><b>*Habitat / species resilience to climate change</b>            Sense of place            Erosion control</p>

<sup>4</sup> The root structures of hedgerows help prevent soil erosion and run-off through stabilising the soil. Hedgerows also play a role in aiding water infiltration through reducing soil compaction (the soil surface is broken by root structures allowing water to filtrate through) and reducing cross-land flows.

***Also refer to the Purbeck District Landscape Character Assessment for more detailed management guidelines for this Landscape Character Area.***

**Further references for this LCA**

Dorset Heathlands Interim Planning Framework (to be extended to 2012 until the Joint DPD is produced)

Dorset Heathlands Joint Development Plan Document (forthcoming)