

Strategic Environmental Assessment

Guidance for Practitioners



SEA Topic: Landscape

Countryside Council for Wales



Foreword

This Guidance Note forms one of a series which covers six of the topics which need to be taken into account when undertaking Strategic Environmental Assessment (SEA) of plans and programmes. The topics covered are:

- Air
- Biodiversity
- Cultural Heritage
- Landscape
- Soil
- Water

CCW will also be producing guidance on climate change for internal use and in the specific context of Wales and CCW's remit, whilst guidance on the 'Material Assets' topic is under discussion with the DCLG and the other SEA consultation bodies.

Guidance Notes on the SEA 'Topics of Population' and 'Human Health' have not been produced as these topics are largely outside the remit of CCW.

The aim of the Guidance Notes is to highlight the key topic related issues that need to be considered by practitioners who are carrying out or providing input into SEA. The notes have been written in non-technical language in order that they are accessible to a wide audience.

The Guidance Notes have been produced for CCW by the Centre for Sustainability (C4S) with specialist input from environmental consultants ADAS for some of the topics. They have been written in consultation with the Environment Agency (Wales) and Cadw, the Welsh Assembly Government's historic environment service.

It is intended that the Notes will be updated periodically in order that they remain current and relevant, taking into account changes in legislation, guidance and baseline trends.

The authors would like to thank officers from CCW, the Environment Agency and Cadw for the topic specific input they have provided in the preparation of the Guidance Notes. They would also like to acknowledge the contributions provided by officers from DCLG and WAG in relation to the generic text and document structure, and to officers from local authorities for providing input from their perspective as potential users of the guidance.

Lead Editors: Charlotte Brannigan, Rob Gardner and Clare Harmer (C4S)

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"This is a report commissioned by the Countryside Council for Wales. The Council has a programme of research in scientific and other areas, which supports the development of policies and practical work and helps point the way towards new countryside legislation. However, the views and recommendations presented in this report are not necessarily those of the Council and should therefore not be attributed to the Countryside Council for Wales"

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Purpose and Structure of the SEA Topic Guidance Notes

This is one in a series of guidance notes from the Countryside Council for Wales (CCW) on topics to be covered in Strategic Environmental Assessment (SEA) under the SEA Regulations for Wales¹ which implement the European Directive on SEA². The aim of these notes is to provide guidance to Welsh **Responsible Authorities** (the authorities by which, or on whose behalf the SEA is prepared) and others conducting SEA of plans and programmes, how issues related to certain SEA topics can be considered in the SEA of plans and programmes. These Guidance Notes also aim to help Responsible Authorities provide robust and sound reports which will enable CCW to comment and advise during the SEA process.

CCW provides information and advice related to the Habitats Directive and Regulations, and to protected species, designated sites including Sites of Special Scientific Interest (SSSIs) (including geological SSSIs), National Nature Reserves (NNR), Special Areas of Conservation (SAC) and candidate SACs, Special Protection Areas (SPA) and proposed SPAs.

Consultation in the SEA Process

CCW, Cadw and the Environment Agency (EA), have been designated as statutory '**Consultation Bodies**' in Wales in relation to the SEA Directive, and must be consulted at a number of stages during the SEA process (adapted from *The Practical Guide*):

- **Screening** – Determining whether a plan or programme requires SEA (NB: this is only required in a small number of cases);
- **Scoping** – Deciding on the scope, extent and level of detail of the information that must be included within the Environmental Report;
- **Reporting** – During full public consultation on the draft plan or programme and the Environmental Report; and

The advice that the Consultation Bodies aim to provide during periods of consultation is detailed in the '*Consultation Bodies' Services and Standards for Responsible Authorities in Wales*' (Environmental Agency *et al*, 2005).

NB: Where a plan or programme is likely to have significant effects on the environment in another Member State of the European Union, the SEA Directive requires that transboundary consultation should take place.

Annex 1(f) of the SEA Directive outlines the environmental topics that should be covered by the SEA process wherever relevant. These include Air, Biodiversity, Climate Change, Cultural Heritage, Human Health, Landscape, Material Assets, Population, Soil and Water. CCW is the statutory body responsible for advising on countryside, access, landscape and wildlife conservation in Wales. As regards SEA, CCW is primarily responsible for providing SEA consultation feedback and information on Biodiversity (including flora and fauna), Landscape and some aspects of Cultural Heritage issues, but also has an interest in the Soil, Water, Air, Climate Change and Material Assets topics.

Particular reference has been made to the requirements of "The SEA Regulations for the implementation of the Directive in Wales" and to the "Practical Guide to the SEA Directive" produced by ODPM³, the Administrations in Wales, Scotland and Northern Ireland (referred to hereafter as *The Practical Guide*). This guidance note uses the SEA process as set out in *The Practical Guide* as a framework for the topic-related guidance (see Figure 1).

¹ The SEA Regulations for the implementation of the Directive, 'Welsh Statutory Instrument 2004 No. 1656 (W.170): *The Environmental Assessment of Plans and Programmes (Wales) Regulations 2004*'.

² 'Directive 2001/42/EC of the European Parliament and of the Council on the Assessment of the Effects of Certain Plans and Programmes of the Environment' (June, 2001)

³ ODPM, the Office of the Deputy Prime Minister, was superseded by DCLG, the Department for Communities and Local Government, in May 2006

Link to the Environment Strategy for Wales

The Environment Strategy for Wales was published in May 2006 and includes a series of procedural and environmental 'outcomes' which the Welsh Assembly Government aims to achieve in the period up to 2026. Many of the Environment Strategy 'outcomes' are closely linked to the SEA topics and they have indicators which will be used to measure progress towards achieving the 'outcomes'.

The Strategy is supported by an Action Plan that provides details of the actions that will be taken to deliver the Strategy. This Action Plan includes milestones and responsibilities. It is also accompanied by a policy map which identifies the various influencing factors that will help in successful implementation of the Strategy. One of the contributory tools that is listed is Strategic Environmental Assessment.

Environmental Strategy outcomes which are linked to the SEA topics include:

- Climate change (outcomes 7 & 8); Material assets (waste) (9, 10, 11 & 39);
- Material assets (resources) (12, 17 & 18); Water (13, 14, 15, 31, 32, 35 & 36);
- Soil (16); Biodiversity (19, 20, 21 & 22); Landscape (23); Cultural heritage (26);
- Air quality (33); Human health (37 & 38).

NB: There are also other outcomes which cut across more than one SEA topic.

The 'outcomes' from the Strategy could be used when developing objectives for the plan that is subject to SEA.

Where appropriate the Indicators that are included in the Strategy should be considered for incorporation into the SEA assessment and monitoring frameworks.

Environment Strategy outcomes and indicators relating to the Landscape topic can be seen in Table 5.

The Environment Strategy can be found at:

<http://new.wales.gov.uk/topics/environmentcountryside/epq/Envstratforwales/?lang=en>



STAGE A: Setting the context and objectives, establishing the baseline and deciding the scope	A1: Identifying other relevant plans, programmes, and environmental protection objectives
	A2: Collecting baseline information
	A3: Identifying environmental problems
	A4: Developing SEA Objectives
	A5: Consulting on the scope of SEA
STAGE B: Developing and refining alternatives and assessing effects	B1: Testing the plan or programme objectives against the SEA objectives
	B2: Developing strategic alternatives
	B3: Predicting the effects of the draft plan or programme, including alternatives
	B4: Evaluating the effects of the draft plan or programme, including alternatives
	B5: Considering ways of mitigating adverse effects
	B6: Proposing measures to monitor the environmental effects of plan or programme implementation
STAGE C: Preparing the Environmental Report	C1: Preparing the Environmental Report
STAGE D: Consulting on the draft plan or programme and the Environmental Report	D1: Consulting on the draft plan or programme and the Environmental Report
	D2: Assessing significant changes
	D3: Decision making and providing information
STAGE E: Monitoring implementation of the plan or programme	E1: Developing aims and methods for monitoring
	E2: Responding to adverse effects

Figure 1: SEA Process and Stages (Adapted from *The Practical Guide*)

This Guidance Note focuses primarily on the topic specific advice at SEA Stages A, B and E and is supplementary to guidance on the SEA stages as set out in *The Practical Guide*.

Responsible Authorities should refer to *The Practical Guide* at all stages of undertaking SEA for Plans and Programmes, which sets out the SEA Directive legal requirements, procedures and methods.

See also *References and Further Reading* at the end of this note, for more topic specific information.

Landscape in the context of the CCW Remit



In terms of Landscape, CCW is primarily concerned with the natural and historic landscape (see also CCW SEA Topic Paper on Cultural Heritage for more information on historical landscapes). Although others (such as Cadw) take a closer look at the built heritage and townscape, issues concerning landscape and townscape are not easily delineated. For example, urban areas can contain natural heritage interest and urban development can spread and impact on nearby countryside. This means CCW is potentially interested in all landscapes, whether rural, peri-urban or urban.

CCW aims to protect the special qualities of Wales' landscape through demonstration projects, finance, advice and promotion, in association with various partner organisations. CCW is concerned both with designated landscape areas such as National Parks and Areas of Outstanding Natural Beauty, but also with landscape in the wider countryside within Wales, striving for efficient countryside management throughout the country.

CCW's remit extends to both terrestrial and maritime resources within Wales. Seascape, particularly through the interaction of land and sea along the coast, has an equal importance to landscape in the assessment of plans and programmes.

CCW has listed key principles that guide their landscape work in Wales. These are as follows:

- An 'all landscape' approach (recognising and protecting all landscapes);
- Recognising landscape diversity in Wales (capturing what makes one place different or similar to another);
- A multi-aspect approach (understanding the individual underlying natural and human processes that have combined to shape the landscape – geological landscapes, landscape habitats, historic landscapes, cultural landscapes and visual and sensory landscapes);
- Landscape as an integrating concept (the interrelationships between otherwise very separate natural and human processes);
- An approach that recognises the 'natural heritage framework' (understanding the underlying patterns of distribution of the different landscape elements and features within the area, not just the spatial extent of the character area);
- A functional approach to landscape (considering the various landscape functions, including natural life support systems, resource banks to functions associated with our living and lifestyles, such as providing accessible open country or raw materials for industry);
- Sustainability as a concept applied to landscapes, for example, understanding landscape sensitivities and capacities better to ensure pressures that erode, degrade or eventually destroy aspects of the landscape's natural heritage resource, are minimised;
- Landscapes are dynamic, not static (understanding the effects of our actions on the landscape cumulatively and over time and monitoring changes); and
- Landscape futures visioning (predicting what our dynamic landscape will be like in the future if current forces for change continue, and how we could intervene now to make better landscape futures).



Background to the Topic: Landscape

A working definition of landscape is “the physical reality of the environment around us, the tangible elements that give shape and diversity to our surroundings. But landscape is also the environment perceived, predominantly visually but additionally through our senses of smell, touch and hearing. Our appreciation of landscape is affected, too, by our cultural backgrounds, and by personal and professional interests” (CCW, 2001). CCW has adopted the European Landscape Convention (ELC) definition of landscape which is as follows: “‘Landscape’ means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors. The term ‘landscape’ is defined as a zone or area as perceived by local people or visitors, whose visual features and characters are the result of the action of natural and/or cultural (that is, human) factors. This definition reflects the idea that landscapes evolve through time, as a result of being acted upon by natural forces and human beings. It also underlies that a landscape forms a whole, whose natural and cultural components are taken together, not separately” (ELC, 2005).

Within the SEA process, landscape is often only looked at in terms of quality, character and tranquillity. However, it should also cover access to natural areas for recreational purposes, and the effects of human activity on the landscape.



Landscape Designations in Wales: Wales’ landscape is renowned for its beauty. To support this, Wales includes five Areas of Outstanding Natural Beauty (AONB) (Wye Valley (spanning England and Wales), Anglesey, Clwydian Range, Gower and Llyn), and three National Parks (Snowdonia, Pembrokeshire Coast and Brecon Beacons), which cover 20% of the country. There are also 495kms of heritage coast, three national trails (Offa’s Dyke Path, Glyndwr’s Way and Pembrokeshire Coast Path), and 58 examples of different historic landscape types within the Register of Landscapes of Historic Interest in Wales (CCW, 2001). Within the maritime environment there is a marine nature reserve at Skomer, SSSIs within the Dee and Severn estuaries, and Special Areas of Conservation (SACs) in the seas around Anglesey, Llyn Peninsula, Cardigan Bay, Pembrokeshire and Carmarthen Bay



The State of the Welsh Environment 2003 (WAG, 2003) describes the Welsh landscape as being largely pastoral, with agriculturally improved grassland of low biodiversity value being the single most extensive habitat type, followed by semi-improved grassland. Over most of Wales there is a mosaic of hedgerows and stone walls, small woodlands and individual trees, and areas of wetland or open moorland that contribute to the overall diversity of the landscape, and also to biodiversity within the landscape. The seascape around Wales is characterised by a mix of open sea with many small rocky islands and sandy

bays with steep cliffs, alongside more sheltered areas of mudflats, sand dunes and salt marshes.

Marine Landscape: The marine landscape is another area of importance that may need to be taken into account when developing certain plans or programmes. The ‘UKSeaMap’ project (JNCC, 2007) provides a broad picture of the underwater landscape around the coast of the UK, producing a map of the sea that shows 44 large-scale marine landscapes. It is envisaged that this work will help to inform decision making relating to environmental assessment and spatial and strategic planning. The project is part funded by CCW.

Landscape Character: The character of the landscape is important as it relates to the environment that affects everyone's daily lives. Landscape character has been defined as 'a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse' (Landscape Character Network, Undated). Landscape Character Assessments (LCA) are often used to describe landscape types.

LANDMAP

LANDMAP has been developed in Wales by CCW as a tool (and a form of LCA) which enables the gathering, organisation and evaluation of landscape data into a nationally consistent data set. Both objective data (such as rock type, historical information) and more subjective data (sensory responses and cultural interpretation) are contained within *LANDMAP*'s database. The landscape has been split into five separate aspects within *LANDMAP*:

- *Geological Landscape* – geology, geomorphology and hydrology of the area;
- *Landscape Habitats* – distribution of vegetation and habitats, basis for landscape ecology;
- *Visual and Sensory* – identifies landscape qualities that are perceived through the senses (physical attributes of landform/cover, visual patterns of distribution, relationships between them);
- *Historic Landscape* – archaeological and historical sites, relationship between them and the surrounding landscape;
- *Cultural Landscape* – Relationship between people and places, how people have given meaning to places, how landscape shapes their actions, and how actions have shaped the landscape.

By mid-2007, it is also expected that CCW will have a seascape assessment at a sub-regional scale for the whole of Wales.

Historic Landscapes: CCW, Cadw and ICOMOS UK in association with the Welsh Archaeological Trusts and the Royal Commission on Ancient and Historical Monuments in Wales (RCAHMW) are also involved in the *Register of Welsh Historic Landscapes*. There are two main parts to the register, historic parks and gardens of Wales, and the historic landscapes of Wales. More information on Wales' historic landscapes can be found in the CCW Cultural Heritage SEA Topic Paper.



Tranquillity: Tranquillity is also an important aspect of the landscape environment. 'Tranquil areas' have been defined as "places which are sufficiently far away from visual or noise intrusion of developments or traffic to be considered unspoilt by urban influence" (CPRE, 1995). Original methodologies for tranquillity mapping were based upon the use of distance-based criteria (e.g. distance from visual/noise intrusion of transport/development). CPRE (2005) have recently built upon this methodology by using extensive public consultation exercises to redefine what is considered to be a 'tranquil area'. The revised mapping method

now includes these sources of disturbance which people feel actually damage tranquillity and weighted them in proportion to people's perceptions of their relative impacts on tranquillity. The method therefore takes into account the importance of the subjective views of tranquillity when referring to landscape. Within Wales, the loss of tranquillity has really only been an issue in the past in the built-up areas of the M4 corridor in the south and the A55 in the north. However the increasing development of wind farms in rural Wales has been seen by many as a new threat to the tranquillity of these hitherto peaceful areas, and has reopened the tranquillity debate. There is a currently a lack of Wales level data relating to tranquillity⁴.

CPRE research regarding light pollution in the UK revealed that between 1993 and 2000, light pollution has increased UK wide. However, the increase in Wales was more moderate. Light pollution can affect the tranquillity of an area, but can also contribute to climate change (via associated greenhouse gas emissions) (CPRE, 2003).

Recreation and Access: Recreation and access to the countryside is also very important. The economic contribution made to the Welsh economy by the environment in goods and services is estimated to be £8.8bn a year (Bilsborough and Hills, 2002). This is the equivalent of 9% of Wales' GDP, and generates 1 in 6 Welsh jobs. This confirms the importance of recreation and the environment in terms of economic benefits. Social and health benefits are also gained as a result of access to the countryside. CCW is involved in promoting sustainable access to and recreation within the



countryside and along the coast. Specific programmes, in partnership with other organisations, include the 'Walking the Way to Health' initiative, open access to moorlands and commons, a new Country Code and work with disadvantaged groups and disadvantaged communities to improve access facilities. In addition CCW is working to secure improvements along the three National Trails and the overall improvement of Public Rights of Way and their management throughout the principality and specifically within the three National Parks. Improved access to and along the whole of the Welsh coast is a key CCW objective

Development Impacts on Landscape: Development and infrastructure can have a number of negative effects on the landscape. These include visual intrusion, impacts on local distinctiveness, air, light and noise pollution, land-take and resulting impacts on specific natural and historic features. However, development (particularly transport infrastructure) can also result in benefits in terms of improving accessibility to the landscape, and providing relief from traffic for bypassed villages and communities (LCN, 2006).

⁴ CPRE tranquillity maps were updated in 2007. However, these updated maps do not include Wales. CCW plans to commission a project to undertake tranquillity mapping for Wales in 2007.

Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope

A1: Identifying other relevant plans, programmes and environmental protection objectives

Table 1 below lists relevant plans, programmes, policies and legislation that should be taken into account in relation to SEA work on the Landscape topic and Table 2 provides an example of a review of one document. It should be noted that the list below is not definitive as legislation and guidelines are subject to change.

Table 1: Potential plans, programmes, objectives, policies and legislation to be taken into consideration for the Landscape Topic

International
<ul style="list-style-type: none"> • European Landscape Convention • World Heritage Convention
National
<ul style="list-style-type: none"> • Countryside and Rights of Way Act (CRoW) (ODPM, 2000) • Draft Strategy for Wales on Integrated Coastal Zone Management (ICZM) (2006) • Review of the National Park Authorities in Wales (2004) • WAG guidance on the statutory duties on relevant authorities to have regard to the purposes of NPs and AONBs • Environment Strategy for Wales (2006) • Planning Policy Wales (2002) • Wildlife and Countryside Act 1981 • Wales Spatial Plan 2004 • TAN 5 – Nature Conservation and Planning (1996) • TAN 6 – Agriculture and Rural Development (2000) • TAN 7 – Outdoor Advertisement Control (1996) • TAN 8 – Renewable Energy (2005) • TAN 11 – Noise (1997) • TAN 12 – Design (2002) • TAN 13 – Tourism (1997) • TAN 14 – Coastal Planning (1998)
Regional/Local
<ul style="list-style-type: none"> • Area of Outstanding Natural Beauty (AONB) Management Plans • Agri-environmental schemes (Tir Gofal) • Farming for Future • National Park Management Plans (CCW – Under preparation)

Table 2: Example of review of other relevant plans, programmes, objectives etc

European Landscape Convention	
<p>The European Landscape Convention (ELC) was developed by the Council for Europe and came into force in 2004. The aims of the convention are to promote European landscape protection, management and planning and to organise European co-operation on landscape issues. Nations that sign the Convention agree to take action to raise the standing given to landscape in public policy. The UK signed the ELC in February 2006, and it was ratified in November 2006. It came into force in the UK on 1st March 2007.</p>	
Objectives, requirements and targets	Implications for the Plan or Programme being developed
<p>The ELC sets out four general measures and five specific measures:</p> <ul style="list-style-type: none"> • To recognise landscapes in law as an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity; • To establish and implement landscape policies aimed at landscape protection management and planning; 	<p>The plan should consider the implications of this convention and seek to help the achievement of both the general and specific measures.</p>

- To establish procedures for participation of the general public, local and regional authorities, and other parties with an interest in the definition and implementation of landscape policies;
- To integrate landscape into its regional and town planning policies and in its cultural, environmental, agricultural, social and economic policies, as well as in any other policies with possible direct or indirect on landscape;
- Awareness-raising: involves increasing awareness among civil society, private organisations and public authorities of the values of landscape, their role and the changes to them;
- Training and education: involves promoting: training for specialists in landscape appraisal and operations, multidisciplinary training programmes in landscape policy, protection, management and planning;
- Identification and assessment: involves mobilising the interested parties with a view to improving knowledge of the landscape and guiding the landscape identification and assessment procedures through exchanges of experiences and methodology. Each Party should: identify its own landscapes, analyse their characteristics and the forces and pressures transforming them, take note of change and assess the identified landscapes;
- Landscape quality objectives: involves framing landscape quality objectives for the identified landscapes; and
- Implementation: involves introducing instruments aimed at protecting, managing and/or planning the landscape.

Informal consultation, with statutory consultees (referred to here as 'Consultation Bodies') and non-statutory consultees, is also a useful tool for identifying relevant plans, programmes, objectives etc (see Stage A5 for more information on consultation).

A2: Collecting Baseline Information

Box 1 below describes some potential sources of baseline data for the Landscape topic. Box 2 provides some key facts and figures about this topic. Once again, consultation bodies and non-statutory consultees may be good sources of data.

Box 1: Relevant and Appropriate Sources of Baseline Data – Landscape

UK level

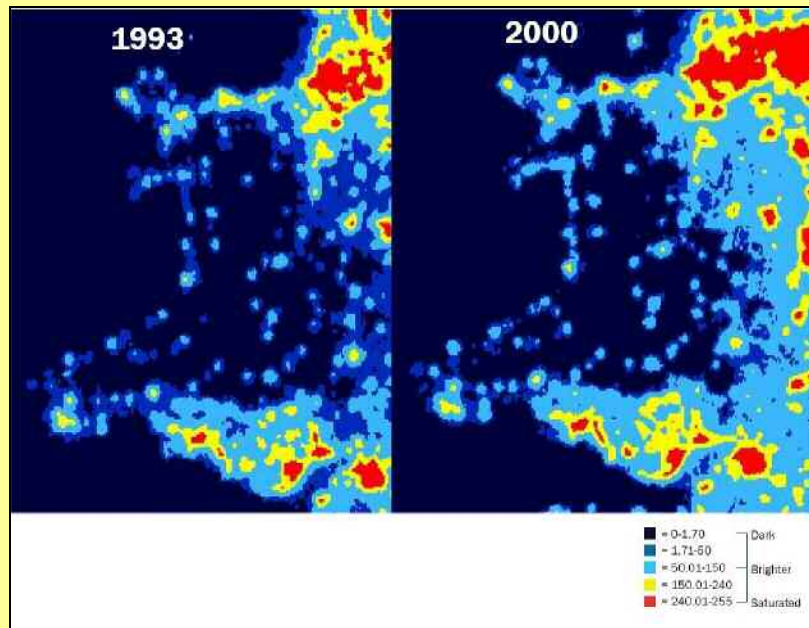
- Night Blight in England and the UK (CPRE Light pollution Maps): www.cpre.org.uk
- Atlas of Field Boundaries
- Defra - Integrated Administration and Control Systems (IACS) – agricultural census information: <http://www.defra.gov.uk/corporate/regulat/forms/iacs/index.htm>
- Forestry Commission tree cover statistics
- Local authority common land statistics
- Land Cover Map 2000: <http://science.ceh.ac.uk/data/lcm/LCM2000.shtm>

National level

- LANDMAP: <http://landmap.ccw.gov.uk> (landscape data and information)
- Register of Landscapes of Historic Interest in Wales: www.ccw.gov.uk
- State of the Welsh Environment 2003: www.wales.gov.uk/subienvironment/topics-e.htm
- Landscape Character Assessments for Wales (currently in development)
- Review of National Park Authorities in Wales: www.wales.gov.uk/subicountry/content/national-parks-review/review-e.htm
- Access and recreation statistics from CCW
- CCW "Valuing our Environment" reports
- CCW Open Access maps

Box 2: Wales Landscape Facts and Figures

- Three National Parks cover 20% of Wales (Brecon Beacons, Snowdonia, and Pembrokeshire Coast).
- There are five Areas of Outstanding Natural Beauty (Wye Valley (spanning England and Wales), Anglesey, Clwydian Range, Gower and Lleyn).
- Around 70% of the Welsh coastline now lies within Special Areas of Conservation designated under the EC Habitats Directive.



Night Blight in the UK in 1993 and 2000: close up of Wales (CPRE, 2003)

- Environmental goods and services in Wales are estimated to be worth £8.8bn (9% of Welsh GDP) (Bilsborough and Hills, 2002).

A3: Identifying Environmental Issues and Opportunities

Environmental issues and opportunities are identified following the work undertaken in stages A1 and A2 and stage A3 often benefits from stakeholder workshops. Table 3 provides examples of various Landscape issues in Wales and their trends, based on available baseline information.

Table 3: Examples of Landscape Issues in Wales

Landscape Issues affecting Wales	Description
Development Effects	<ul style="list-style-type: none"> • Wales is renowned for its beautiful landscape. Any development and infrastructure can potentially have a negative effect on landscape, townscape and seascape character if not appropriately located and designed. • A particular issue for Wales may include the location of wind farms and their impact on the visual landscape/seascape. • The distinctive character of the Welsh landscape has been, and remains, under threat. Particular threats in the past have been from inappropriate agricultural use and by the planting of conifer forests. Major current threats are from intrusive developments particularly related to energy, transport and tourism, the latter concentrated especially along the coast, and in National Parks.

Table 4 below is a non-exhaustive list of potential Landscape-related environmental issues that plan-makers may identify in the preparation of various plans and programmes.

Table 4: Potential Landscape-Related Environmental Issues and Opportunities

Type of Plan or Programme	Potential Environmental Issues and Opportunities
Transport	<ul style="list-style-type: none"> New routes in open countryside can be visually damaging unless well designed. This could particularly be an issue in AONBs, National Parks and along Heritage Coasts. New transport hubs such as airports are very destructive of landscape as it is not possible to retain many existing landscape features. Air pollution can cause deterioration of buildings and monuments. Vibration can cause damage to sites and structures. New transport infrastructure could lead to the potential loss or damage to known and previously undiscovered cultural heritage or historic landscapes. Congestion in and surrounding Conservation Areas. Street clutter, including inappropriate signage and inappropriate use of materials can cause visual impacts.
Urban expansion / new development	<ul style="list-style-type: none"> Pressure for development on designated sites and areas (National Parks, AONBs etc). Impacts of new development on conservation areas or historic landscapes. Potential loss or damage to known and previously undiscovered archaeological remains. Negative effects on the landscape could be realised if developments or new infrastructure are not appropriately located or designed. The effect of ad-hoc developments is often cumulative. Urbanisation of rural areas and litter, fly tipping and light pollution.
Mineral	<ul style="list-style-type: none"> Mineral workings are very damaging to landscape, visually, and in terms of tranquillity, but normally at a local scale. There are opportunities for sympathetic restorations, post-mining.
Waste Management	<ul style="list-style-type: none"> The disposal and management of waste processes have a permanent effect on landscapes, including the deposit of refuse or waste materials, or the construction of plants, buildings or machinery to treat, store, process or dispose of waste materials.
Agriculture / Forestry / Fisheries	<ul style="list-style-type: none"> Agricultural improvement through field enlargement and the introduction of forest plantations can damage local landscapes. In the future the impact of agriculture is likely to be more in terms of changing land use, new crops, and conversions of farm buildings, all of which have the opportunity for sensitive development. Changing farming or other land management practices (e.g. forestry) can alter the landscape character or erode quality of National Parks, AONBs or Heritage Coast.
Energy / Industry	<ul style="list-style-type: none"> Wind farm development, both on and off-shore, can have detrimental effects on the visual landscape.
Telecommunications	<ul style="list-style-type: none"> Erection of telecommunications masts and other infrastructure can impact on the quality of landscapes.
Tourism	<ul style="list-style-type: none"> Tourism developments can be damaging from a visual and tranquillity point-of-view, and need special care, if not to destroy the very features that they are designed to take advantage of. National trails, recreation routes and major countryside recreation sites or rural tourism locations rely on the quality of the landscape.
Water and Flood Management	<ul style="list-style-type: none"> River modification, water and flood storage schemes and drainage schemes can all have significant effects on landscape and landscape processes.

A4: Developing SEA Objectives

SEA Objectives are not a legal requirement but are a useful way of analysing the environmental affects of a plan or programme. Table 5 and Table 6 below describe some possible landscape-related outcomes, objectives, sub-objectives and indicators. Those in Table 5 have been taken from the Wales Environment Strategy, with Table 6 providing a wider range which could be used in sector or area specific SEAs.

Table 5: Wales Environment Strategy Outcomes and Indicators: Landscape

Environment Strategy Outcomes	Indicators
The quality and diversity of the natural and historic character of our landscape and seascape is maintained and enhanced	Indicators, measuring quality and diversity, to be selected on completion of CCW landscape characterisation work

Table 6: Examples of SEA Objectives/Sub-Objectives and Indicators for Landscape

Example Objectives (in bold) and Sub-Objectives (in italics)	Example Indicators
<i>Conservation</i>	
Value, conserve and enhance Wales' landscape	<ul style="list-style-type: none"> Changes to Landscape Character (when maps are available⁵) Vehicle flows on roads passing through sensitive areas (areas to be determined) Hectares of land given over to development each year
<i>To protect and enhance landscape character and townscape from the negative effects of land use changes</i>	<ul style="list-style-type: none"> Extent of urbanised roads in rural areas Hectares of land given over to development each year Landscape moving towards or further away from the potential of that landscape (forces for change / landscape potential) Proportion of tree cover Number and condition of field trees and veteran trees Length of walls, banks and hedges removed/ restored Number of uses of the CCW Greenspace Toolkit⁶
<i>To encourage compliance with duties in National Park and AONB Management Acts</i>	<ul style="list-style-type: none"> Number of approved AONB Management Plans and/or National Park Management Plans
<i>To encourage appropriate future uses of derelict land</i>	<ul style="list-style-type: none"> Area of derelict land returned to open space The number of derelict sites restored
<i>Tranquillity</i>	
<i>To minimise loss of tranquillity and light pollution</i>	<ul style="list-style-type: none"> Number of developments using full cut-off lighting Change in light pollution (CPRE) Lengths of roads with overhead lighting columns Proportion of tranquil areas
<i>Landscape Character</i>	
<i>To take sensitive locations into account when siting development, and to promote high quality design</i>	<ul style="list-style-type: none"> Number of designated areas where the character or distinctiveness have been changed by development (National Parks, AONBs, Heritage coasts etc.)
<i>Recreation / Accessibility</i>	
<i>To promote enjoyment of areas of high landscape quality and special character and to enhance other landscape areas</i>	<ul style="list-style-type: none"> The extent and quality of public open space Number of park and green space management plans produced Area of Wales designated as open access land Length of coastline with access Number of local authorities using or have used the green space toolkit Statistics relating to common land Visitor numbers to National Parks, AONBs etc Public perception surveys

⁵ It is expected that updated Landscape Character maps will be available in 2007/08.

⁶ The Greenspace Toolkit can be obtained by contacting CCW.

Link to Welsh Assembly Government Sustainable Development (SD) Indicators

As part of its commitment to achieving sustainable development the Welsh Assembly Government has developed a series of indicators which will be used to measure progress towards that commitment⁷.

Some of these indicators may not be suitable for many SEAs, particularly those for plans at a local level, as they are fairly 'broad-brush' and will not be able to either be measured at a local level, or respond to the policies and measures included within individual plans and programmes. Nevertheless they should be considered for inclusion wherever appropriate.

NB: a revised set of indicators is currently being developed and some of these are likely to be more appropriate for incorporation into SEAs.

Other indicators reported by the Welsh Assembly Government at a national level include those in the Environment Strategy (WAG, 2006) and those from the Key Environment Statistics Indicators.

WAG reports each year on its suite of sustainable development indicators, some of which include environmental indicators. It also reports separately on progress in implementing its Environment Strategy using a number of ES indicators, some of which overlap with its suite of SD Indicators. These reporting mechanisms provide useful data which can be used to inform SEA scoping and environmental reports. They also help to form a framework against which environmental indicators for the plan or programme can be developed.

A5: Consulting on the Scope of SEA

In addition to the three statutory Consultation Bodies (CCW, Cadw and EA) there are other organisations or bodies who could be consulted on the scope of the SEA, and on the Environmental Report. For the Landscape topic, these may include:

- Local archaeological services;
- Campaign for the Protection of Rural Wales (CPRW);
- Local Wildlife Trusts;
- WWF Wales;
- Farming Unions (NFU, FUW); and
- Countryside and Landowners Association (CLA); and
- AONB Management Partnerships.

Stage B: Developing and Refining Alternatives and Assessing Effects

The Practical Guide provides guidance for undertaking SEA Stages B1 (Testing the plan or programme objectives against the SEA objectives), B2 (Developing strategic alternatives) and B3 (Predicting the effects of the draft plan or programme, including alternatives). This note provides no topic specific guidance for these stages.

B4: Evaluating the effects of the draft plan or programme, including alternatives

At Stage B4 the significance of the environmental effects forecast in Stage B3 is evaluated. Part of this concerns the interrelationship of the landscape topic with other SEA topics and Table 7 below describes some of these interrelationships.

⁷ Sustainable Development Indicators for Wales can be found at:
<http://new.wales.gov.uk/topics/statistics/headlines/sustain-2007/?lang=en>

Table 7: Interrelationships with other SEA topics

SEA Topic	Interrelationship with Landscape Topic
Biodiversity	Protection of landscape also provides protection for biodiversity.
Climate Change	The changing climate will have an effect on Wales' distinctive landscapes and seascapes. Changes in weather patterns and soil conditions will alter the vegetation that is an important landscape feature. Climate change can also have an effect on flooding or increases in temperatures may also present challenges for the landscape. Coastal areas may be most at risk. Responses to changing climate such as the introduction of new crops and land uses will also have an impact on the visual appearance of the landscape.
Health	Through promoting access to landscape and the countryside, it is possible that health benefits can be gained through increases in walking, cycling and other physical outdoor activities. It is thought that there may be additional mental health benefits of reduced stress.
Cultural Heritage	The quality of historic assets will have a direct effect on the quality of many Welsh landscapes. There is a close relationship between landscapes of historic interest and landscape in general.
Material Assets	Extraction of minerals and aggregates can be damaging to landscape. Restoration and aftercare of minerals sites may lead to inappropriate land use but may also provide opportunities for landscape enhancements in areas where the landscape may have been degraded.
Soil	Changes in soil conditions can affect the vegetation which in turn can affect landscape character.
Water	Flooding may potentially affect landscapes, particularly in low lying or coastal areas.

Stage C: Preparing the Environmental Report

Refer to *The Practical Guide* for details relating to SEA Stage C.

Stage D: Consulting on the Draft Plan or Programme and the Environmental Report

Refer to *The Practical Guide* for details relating to SEA Stage D.

Stage E: Monitoring Implementation of the Plan or Programme

Whilst generic guidance on SEA Stage E is provided in *The Practical Guide*, some topic specific information of relevance to Stage A2 is provided below.

NB: many of the examples provided could be used not just when responding to adverse effects, but also to enhance the environmental outcomes of a plan from the outset.

E2: Responding to Adverse Effects

Plans can be used to deliver responses to adverse effects identified during SEA in a variety of ways. Specific examples of responses relevant to the landscape topic include:

- Ensure that strategic and locational decisions take into account the needs of areas of landscape importance;
- Encourage sensitive location and promote high quality design for new developments, particularly in sensitive and distinct areas such as along the coast;
- Promote landscape character assessment and historic landscape characterisation as the underpinning element of landscape policy;

- Carry out detailed landscape character assessments;
- Promote sustainable forms of development that reflect and enhance local distinctiveness and use of local materials;
- Ensure appropriate levels of protection are provided to areas of designated landscape;
- Consider townscape enhancement schemes⁸;
- Reflect the objectives of National Park, AONB and Heritage Coast Management Plans;
- Maintain open spaces within settlements and establish strategic green networks between urban greenspace and peripheral countryside;
- Consider how new development can help to restore and strengthen areas where a sense of place has been eroded;
- Promote the management of recreation opportunities within the capacity of the landscape and natural resources;
- Encourage the management of access points to open spaces to minimise adverse effects such as on-lane parking or congestion;
- Maximise opportunities to get to open access land by public transport;
- Manage the need for formalised or noisy recreational activities where:
 - They can be accommodated within environmental capacity;
 - They are accessible by public transport wherever possible;
 - The provision of quality facilities could divert pressure from more sensitive environments; and
 - Opportunities for wider community benefit in terms of job creation, dual use, additional market for local outlets /services are maximised;
 - Use lighting equipment which minimises light pollution.

⁸ See RCEP (2007) *'The Urban Environment'*.

References and Further Reading

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