Policy Statement

Scottish Natural Heritage
All of nature for all of Scotland

STRATEGIC LOCATIONAL GUIDANCE FOR ONSHORE WIND FARMS IN RESPECT OF THE NATURAL HERITAGE

Policy Statement No. 02/02 **update March 2009**

Introduction

1. SNH's Renewable Energy policy statement 01/02, published in February 2001, sets out our approach towards renewable energy development. We endorse the importance of addressing the issues of climate change and welcome the Government's aim of seeking an 80% reduction in carbon emissions by mid-century. We recognise the valuable contribution that renewable energy can make to such a programme, alongside energy efficiency, better building standards and other measures such as low carbon transport fuels. Therefore, SNH supports the development of renewable energy – both for electricity and heat production - as an integral component of Government's climate change programme.

2. Some types of renewable energy development have the potential to make a significant impact on the natural heritage. SNH encourages developers, planning authorities and Government to adopt a strategic approach, in the interests of minimising these impacts. SNH seeks

   "*a strategic approach in which renewable energy development is guided towards the locations and the technologies most easily accommodated within Scotland's landscapes and habitats without adverse impact, and which safeguards elements of the natural heritage which are nationally and internationally important*" (para 43).

   The policy statement sets out a number of principles which should guide the location of renewables so as to minimise effects on the natural heritage. In particular, SNH considers it important that renewable electricity targets are met by a mix of renewable energy types, including those in the marine environment.

3. Since SNH published that policy, there has been a burgeoning of interest in onshore wind farm development, driven by the Renewables Obligation (Scotland) and recognition that wind energy is currently the cheapest form of renewable energy and which has the greatest development potential in the immediate future. SNH has therefore seen a need to further articulate the principles as they relate to onshore wind farm development.

4. The outcome is this **strategic locational guidance**. It has been written primarily to guide SNH staff and to promote a consistent approach within SNH but it is also intended to be helpful to planning authorities when preparing development plans and to wind farm developers undertaking site searches. It offers a strategic view of the sensitivities of the natural heritage across Scotland to onshore wind farm development, within the framework established by Scottish Planning Policy

(particularly SPP 6: Renewable Energy[1] and NPPG 14: Natural Heritage[2]). It should be read as guidance on the application of SNH Policy Statement 01/02: Renewable Energy, and supports the Government's policy to increase the generation of electricity from renewable sources in Scotland.

5. SNH is a statutory adviser to Scottish Ministers and planning authorities on natural heritage matters and is a statutory consultee within environmental assessment processes. National planning advice (PAN 45: Renewable Energy Technologies[3]) recommends that wind farm developers seek information from SNH on landscapes, species and habitats which may be affected by any proposed development. SNH will make use of this guidance when offering such advice on onshore wind farm developments.

6. This approach only takes account of natural heritage considerations, which lie within the domain of SNH's knowledge and expertise. SNH recognises that developers, and planning authorities when revising their development plans to guide wind farm development, will need to have regard to other factors such as wind speed, grid connections, low fly training areas, radar interference, cultural heritage interests, and landowner and community interests but these are matters for others to provide advice on.

7. The guidance only applies to the consideration of onshore wind farms and it excludes small wind developments of a domestic or small business scale, typically single turbines of under 50kW capacity, which may be accommodated satisfactorily in most landscapes. Further guidance on developments at this scale can be found on the SNH website[4]. The guidance does not apply to any other forms of development, such as mineral workings or indeed other types of renewable energy.

8. **This guidance provides SNH's broad overview of where there is likely to be greatest scope for wind farm development, and where there are the most significant constraints, in natural heritage terms, in order to safeguard Scotland's most valued natural heritage. At the strategic scale at which it is presented, this locational guidance cannot be prescriptive at the level of an individual site. The maps do not purport to provide guidance on the acceptability to SNH of any particular proposal in any given location. However they provide a starting point for the assessment that SNH will make and the advice that it will offer on individual proposals.**

9. This update has been published at a time of considerable change within the Scottish Planning System. During 2009 the Scottish Government will publish a new consolidated Scottish Planning Policy which will update and replace the existing series of Scottish Planning Policies (SPPs) and National Planning Policy Guidelines (NPPGs). Many of the references contained within this guidance to existing SPPs and NPPGs will therefore need to be updated towards the end of 2009. In addition, local planning authorities are currently producing spatial frameworks for windfarms in response to SPP6, Annex A. We recognise that this guidance will require revision in the near future to keep it closely aligned to both the emerging Scottish Planning Policy and the approach adopted by local

[1] SPP 6 Renewable Energy, The Scottish Executive, March 2007.
[2] NPPG 14 Natural Heritage, The Scottish Executive, January 1999.
[3] PAN 45 Renewable Energy Technologies, The Scottish Executive, January 2002.
[4] See "Natural Heritage Assessment of small scale windfarms which do not require formal EIA", SNH March 2008 and "SNH Guidance on Microrenewables" (due to be published later in 2009)

planning authorities and we will review this guidance again when it appropriate to do so.

The Need for Strategic Locational Guidance for Wind Farms

10. Scotland is recognised as having one of the best wind resources in Western Europe, extending right across the country. A 2001 study[5] for the Scottish Executive identified a theoretical potential 11.5 Gigawatts (GW) of wind energy available at under 3p/kWh generation cost. This size of resource is roughly equivalent to Scotland's current energy consumption and would require just under 2% of Scotland's land area. The past decade has seen wind energy become a mature technology in the UK, with declining costs enabling it to become economically competitive with more traditional forms of generation so that it is now considered the cheapest of the new renewable energy technologies.

11. Wind energy has therefore been identified by the Government as the form of renewable energy most likely to meet the bulk of new renewable energy generation that will be required under the new Renewables Obligation (Scotland). Targets for the years to 2010 have been overtaken by much higher ones; the Scottish Government has set a target that 50% of Scotland's electricity should be derived from renewable sources by 2020 (equating to approximately 8GW of installed capacity). There are also aspirations for Scotland to contribute significantly towards the wider UK's renewable targets.

12. In the short and medium term the scale of renewable energy development is therefore likely to be very substantial. As a measure of the level of interest at present, at the time of this revision (March 2009), in addition to over 6 GW (including hydro) either constructed or approved, there are consent applications outstanding for around 5.6 GW of wind generation capacity, a further 3.1 GW at the stage of scoping an Environmental Impact Assessment, and SNH has been party to informal discussions over at least a further 2 GW. The total capacity of all such proposals – nearly 12 GW - is almost double that required to meet the Executive's 2020 objective for renewable generation, without consideration of other types of renewables[6].

13. Wind farms can however bring about major changes to the Scottish landscape and have significant impacts on important species and habitats. Scotland is renowned internationally for the quality of its natural heritage, particularly the diversity of its landscapes and outstanding scenery. The extensive scale of our valued landscapes is part of their character and attraction. As well as contributing to the quality of life for those who live in Scotland, our landscapes are a major economic asset as a basis for the tourism industry, which is Scotland's largest employment sector. Concern for the future of this industry presents an economic argument to avoid adverse impacts, especially on those wild and dramatic aspects of the Scottish landscape which are most attractive to tourist visitors.

14. While wind power may present advantages in the short to medium term as a technology which is available on the market, SNH's view is that in the longer term wave and tidal power, and to some extent offshore wind, could in suitable locations provide the opportunity for electricity generation with a lesser overall

[5] Scotland's renewable resource 2001 – volume I: the analysis, Garrad Hassan and Partners Ltd, 2001
[6] Statistics taken from Renewables Trends in Scotland, Statistics and Analysis, SNH 2008 and from SNH database, NB does not take account of offshore wind, wave and tidal technologies

impact on the environment. In May 2004, SNH published a separate policy statement on 'Marine Renewable Energy and the Natural Heritage'[7] and we are working closely with the Scottish Government, Crown Estate and wider stakeholders to facilitate the development of marine renewables.

15. Wind farm development can be seen as the latest driver of extensive change in our landscapes, following earlier hydro-electric development, afforestation and fish farm development over the past 50 years or so. In some of these cases, action to develop a strategic view to guide change was not taken until after much of the impact had already occurred. With wind farms there is still an opportunity for a planned approach which encourages development in the most suitable areas and avoids areas valued for their scenic, recreational and undeveloped qualities or their high biodiversity interest. In Scotland, the proportion of proposals refused planning consent has been lower than in England and Wales, but there remains scope to raise the success rate further by a clearer shared identification of those areas most appropriate for wind farm development. If a strategic approach can gain the acceptance of the industry and planning authorities, it will be of major assistance in facilitating wind farm development across Scotland and in reducing to a minimum the wastage of resources in preparing, assessing and determining controversial and ultimately rejected schemes.

Input to local authority development plans

16. Scottish Government planning guidance on renewables development is laid down in SPP 6. This sets out how the planning system can make positive provision for renewables while at the same time meeting international and national statutory obligations to protect designated areas, species and habitats from inappropriate forms of development. Planning authorities are required to make positive provision for renewables within their development plans, having regard to environmental and amenity considerations. Annex A of SPP6 requires planning authorities to develop spatial frameworks for windfarms, identifying areas which are afforded significant protection, broad areas of search and 'other' areas where criteria will apply.

17. **This SNH guidance is of an advisory nature only and does not have statutory status. SNH expects that planning authorities (including, where appropriate, national park authorities) will wish to draw from this guidance, along with information on other constraints, when preparing development plan policies and Spatial Frameworks for windfarms. In this way the guidance should be helpful in fulfilling the requirement in SPP6 on planning authorities to plan positively for wind energy development. It is these development plans, including any locationally specific policies that they contain, against which planning authorities will have to assess individual wind farm proposals.**

The Potential Impacts of Wind farms on the Natural Heritage

18. Wind farms can have effects on the natural heritage not only as a result of the wind turbines themselves but also through the ancillary infrastructure

[7] Marine Renewable Energy and the Natural Heritage. SNH Policy Statement, May 2004. Available at www.snh.org.uk/pdfs/polstat/mrp.pdf

requirements, such as grid connections and access tracks. Detailed guidance on the assessment of these at the site-specific level can be found in *Guidelines on the environmental impacts of wind farms and small scale hydroelectric schemes*[8], published by SNH in 2001[9]. The two main impacts are on landscape and biodiversity.

19. An impact can be defined as any effect on the natural heritage which would not have occurred in the absence of the development. An adverse impact is one which leads to a loss of overall natural heritage value. Judging the significance of an impact requires consideration not only of the magnitude of the impact and its likelihood of occurring but also the sensitivity, including the value and importance, of the natural heritage resource. This document is about guiding development in such a way as to minimise significant adverse impacts on the natural heritage.

20. The very nature of wind farms means that they are not easily fitted into the landscape. In some parts of Scotland they are still a relatively novel and unusual form of development, whilst in other areas windfarm development is now common. They tend to be sited in prominent and open locations to maximise energy generating potential, although hill top and skyline locations are not the only option. Their scale and form, consisting of a number of very large structures spaced out over an extensive area, results in complex visual relationships between the turbines and their surroundings. The movement of turbine blades attracts the eye, and turbines can be highly visible from a long distance, especially in some lighting conditions, given the elevated locations of most developments.

21. Where two or more wind farms lie in the same area, their large visual 'envelope' can result in cumulative impacts over extensive areas. While a landscape may be capable of accommodating a single windfarm, it may not be able to accommodate multiple wind farms without significant change to its character or to the extent to which people value the area. The impact of multiple wind farms on critical bird species may also add up to a level which cannot be sustained in one area. Therefore increasing importance should be placed on the assessment of cumulative effects. Use should be made of such assessments to identify the most appropriate sites and to develop a view on the capacity of the area to accommodate such development. SNH has published separate guidance on the assessment of cumulative effects[10].

22. The trend is also towards wind farms and individual wind turbines becoming larger – proposals for wind farms of over 50 turbines extending over 12km^2 using turbines of over 120 metres height are now common. Wind farms with well over 100 turbines have been proposed and constructed, and larger turbines require greater separation. Hence the scale and impact of these kinds of development has grown significantly of late. There is potential for wide-ranging natural heritage impacts which warrant careful attention during wind farm siting and design.

23. Biodiversity issues include both species and habitat impacts. Turbine and track construction can result in habitat disturbance and loss. Wind farm operation and maintenance may disturb sensitive species, and there is a risk of bird collision

[8] Guidelines on the Environmental Impacts of Wind Farms and Small-scale Hydro-electric schemes. SNH February 2001. Hard copy only from SNH Publications

[9] Note – the design guidance contained in this document will be updated through the publication of 'Designing Windfarms in the landscape' later in 2009.

[10] Cumulative effects of windfarms. SNH Guidance, August 2003. Available on SNH Website.

with moving blades and any additional overhead wires. Collision risk is greatest where wind farms straddle regular flight lines, such as between roosting and feeding grounds or where birds such as raptors make use of a wind farm site for hunting. Raptors, geese, divers, some seabirds and seaduck are some of the species most likely to be subject to significant risks. Rare species, and those protected under EU and national legislation, require careful risk assessment on a site-specific, and species-specific basis.

SNH's Approach to the Location of Wind Farms

24. Some of the above natural heritage impacts are best avoided by locating away from areas of high natural heritage sensitivity. Others can be mitigated through sensitive detailed siting and design. SNH's locational approach offers a broad steer over which parts of Scotland are most suited to wind farm development, in natural heritage terms, and in which parts significant adverse impacts on the natural heritage are most likely to arise. At a strategic level it identifies the natural heritage sensitivities which should be addressed by developers and by planning authorities in planning positively for wind energy. It also provides a context within which SNH will respond to proposed wind farm developments.

25. Within SNH's Policy Statement 01/02: Renewable Energy, the guiding principles on the location of renewables which are applicable to wind farm developments and which have been interpreted through this guidance are:

- adverse effects should be avoided on the qualities safeguarded by national or international designations;
- to accommodate the scale of renewable development required, there is likely to be a need to accept change in some of Scotland's landscapes, which should be guided to landscapes which are already developed or noticably modified and relatively close to centres of population;
- areas where natural heritage value is associated with limited evidence of human intervention should be safeguarded from development detracting from these values;
- elsewhere in Scotland, SNH will support renewable development where it can be accommodated without significant adverse impact on landscape character.

26. This locational guidance takes the above principles and seeks to apply them across Scotland. The following maps and accompanying tables show the range of landscape and biodiversity sensitivities at the strategic level to be considered in locating wind farms. Sensitivity has been judged on the basis of the importance of the interest and its susceptibility to impact by wind farms. Maps 1 and 2 describe sensitivity associated with landscape and recreation interests, covering designated areas and wild land issues respectively. Maps 3 and 4 describe sensitivity arising from biodiversity and earth science interests, covering designated areas and non designated habitats and species respectively. Where areas of different sensitivity overlap, the sensitivity shown is that of the most sensitive interest. The final map, Map 5, combines these sensitivities into three broad zones representing relative levels of opportunity and constraint, adopting the rule that each area is categorised according to the highest sensitivity identified in the tables.

27. In each of these maps, sensitivity is categorised in three broad zones, of lowest, medium and high sensitivity in natural heritage terms as described below. It is stressed that these mapped zones are broad-brush categories. For any particular sensitivity it is important to refer to the detail of the text in the accompanying tables.

    - **Zone 1: Lowest natural heritage sensitivity** identifies areas at the broad scale with least sensitivity to wind farms, with the greatest opportunity for development, within which overall a large number of developments could be acceptable in natural heritage terms, so long as they are undertaken sensitively and with due regard to cumulative impact.
    - **Zone 2: Medium natural heritage sensitivity** identifies areas with some sensitivities to wind farms. However, by careful choice of location within these areas there is often scope to accommodate development of an appropriate scale, siting and design (again having regard to cumulative effects) in a way which is acceptable in natural heritage terms.
    - **Zone 3: High natural heritage sensitivity** identifies areas of greatest sensitivity to wind farms, which place the greatest constraint on their development, and where, in general, proposals are unlikely to be acceptable in natural heritage terms. There may, however, be some sites in this zone where wind farm development of appropriate scale and careful design could be accommodated if potential impacts on the natural heritage are fully explored and guarded against by employing the highest standard in siting and design.

28. The general approach taken to landscape sensitivity has been to include within Zone 3 areas whose landscape is protected at national or international level, while areas protected at a local or regional level are mapped within Zone 2. A preliminary search area for wild land is also mapped within Zone 3, reflecting the susceptibility of wild land qualities to wind farm development. This search area is provisional and relates to SNH's invitation to planning authorities to identify their wild land resource and to adopt related policies, as described in paragraph 37. Areas which may only in part be sensitive at either level are shown cross-hatched.

29. The main biodiversity sensitivities identified are the potential impact of wind farms on habitats through disturbance and loss through construction, and impacts on birds. The habitats identified as most sensitive are those with legislative protection and where either the habitat is so rare that any loss is regarded as serious; or where turbine installation or access tracks might interfere with the functioning of the habitat, e.g. peatlands which are dependent on their hydrology and coastal habitats like sand dunes and machair which are prone to erosion. Thus Zone 3 includes all habitats protected at international level and in addition peatland or coastal habitats protected at national level. Zone 2 includes all other habitats protected at national level and in addition non-designated areas containing good quality peatland and sand dune and machair habitats.

30. Birds are the main species thought to be potentially vulnerable to wind farms, through disturbance and/or collision risk with turbine blades. Special Protection Areas within which birds are protected at international level are mapped within Zone 3. Other bird sensitivities are mapped within Zone 2, based on a representative selection of breeding species considered most sensitive to wind farms and which are subject to international protection.

Implications

31. The detailed maps and tables which follow provide a broad overview of where there is likely to be greatest scope for wind farm development and where there are the most significant constraints, in natural heritage terms. As they are drawn at a strategic scale, they cannot be relied upon to provide guidance on the acceptability of any particular proposal in any given location. SNH may not object to a sound and sensitively designed proposal within Zone 3 (high sensitivity); equally SNH may express concern, and in some cases may advise against planning consent for proposals in Zone 1 if these are inappropriately sited or designed in relation to local natural heritage interests. Rather, the guidance provides a starting point for the assessment that SNH will make and for the advice that it will offer on individual proposals. The guidance assumes that developers will take due care in the siting, scale and design of any wind farm to minimise adverse impacts on the natural heritage. Within zones 1 and 2, in due course cumulative effects arising from the presence of multiple wind farms may increase the level of sensitivity to further development[11].

32. **Zone 1** includes the 15% of Scotland's land area in which SNH considers that there is the greatest opportunity for development from a natural heritage standpoint. In general terms habitats, species and earth science interest within this area are of lowest sensitivity to wind farm development. Zone 1 encompasses many of the more managed landscapes and habitats modified by man, such as agricultural and commercially forested landscapes. In Zone 1, the value placed upon landscape quality and recreational opportunity has not been sufficient to trigger national or local designation. In some parts of this zone, at least, it will be appropriate to accept changes in landscape character in order to meet the need for renewable energy generation, though there will be a need to consider the cumulative impact on the landscape of multiple developments. Further planning guidance on cumulative effects can be found in paragraph 51 of SPP6.

33. Within Zone 1, however, many important local natural heritage sensitivities are found which should be avoided or taken into account in the detailed design. These include local landscape features or sites of recreational importance, or important biodiversity interest with a localised distribution. Many species protected at European level (eg Annex I bird species in the Birds Directive, or Annex IV species in the Habitats Directive)[12] are to be found locally within Zone 1, including concentrations of geese which have been judged incompatible with several wind farm developments in the past – these are so local that no attempt has been made to map them on this broad national scale. There are also localised landscape features or sites of recreational importance which may be too small in scale to be subject to designation but are nonetheless sensitive. The high degree of inter-visibility and recreational popularity associated with coastal locations means that they are likely to require particular care. **It is important therefore to recognise that the inclusion of an area in Zone 1 does not imply absence of natural heritage interest.** Good siting and design should however enable such localised interests to be respected, so that overall, within Zone 1,

[11] SNH has published a map showing the location of most commercial windfarm proposals, available on our website

[12] see, for example, European Protected Species, Development Sites and the Planning System – Interim guidance for local authorities on licensing arrangements. Oct 2001. Scottish Executive.

natural heritage interests do not present a significant constraint on wind farm development.

34. Zone 1 also includes most of Scotland's middle and larger sized settlements, and much of the transport infrastructure. Generally there is a need for some separation between wind turbines and residential areas, not only for reasons of noise, safety and flicker, but also to avoid excessive intrusion into visual amenity[13]. Also, the countryside immediately surrounding a settlement often fulfils a valuable function for urban residents, by providing opportunities for informal recreation and access, and as a landscape setting for the town or city. Windfarms should not be sited where they will substantially diminish such benefits. However, a windfarm can de designed such as to retain an appropriate landscape setting for a town, and countryside recreation can co-exist with windfarm development, with new tracks sometimes presenting new opportunities for access. Therefore, while it may be appropriate to protect some areas immediately adjacent to settlements which are of particular value in this regard, SNH does not recommend the general adoption of "windfarm exclusion zones" around towns and cities or indeed a presumption against wind farms in green belts. This would have the undesirable effect of directing windfarm development and its associated natural heritage impacts towards areas of more remote countryside.

35. **Zone 2** comprises 55% of Scotland's land area. Here there are recognised natural heritage sensitivities, though around two thirds of the area is shown hatched to indicate that the sensitivities only affect a proportion of the area indicated. Some of these sensitivities are locationally well identified through designations (eg SSSIs and local landscape designations) while others, like the presence of sensitive species, require more detailed investigation in the area in question – only broad distribution data can be used at this scale. It is also important to note that Zone 2 encompasses areas subject to very different levels of planning policy guidance. SSSIs have a strong presumption against adverse natural heritage impacts (notwithstanding that it may be possible to site a wind farm on some types of SSSI without adverse impact) while, for example, the policy guidance relating to Regional Parks is concerned primarily with safeguarding public opportunities for countryside recreation and enjoyment. Thus SNH considers that, while there is often scope for wind farm development within Zone 2 it may be restricted in scale and energy output and will require both careful choice of location and care in design to avoid natural heritage impacts.

36. **Zone 3** comprises 30% of Scotland's land area where there are recognised natural heritage sensitivities with which it is judged that wind farm development would in general be incompatible. Zone 3 includes World Heritage Sites, National Scenic Areas, National Parks, Natura 2000 sites and peatland and coastal SSSIs. These are all subject to firm planning policy guidance which seeks to avoid adverse natural heritage impacts. Zone 3 also includes an indicative wild land search area. Through its policy statement on 'Wildness in the Scottish Countryside'[14], SNH is inviting planning authorities to identify their wild land resource and to adopt policies which reflect this interest in line with the general planning policy guidance in NPPG 14. The search area has been identified as an initial indication to planning authorities as to where such a wild land resource

[13] See for example SPP6, Annex A, paragraph 4 on 'communities'
[14] Wildness in the Scottish Countryside. 2002. Scottish Natural Heritage.

might be identified. It is expected that the nature and strength of such policies will evolve over time as a result of this dialogue.

37. Subject to the evolution of a more definitive view on the location of wild land, Zone 3 is the area with the greatest natural heritage sensitivity to wind farms. There may well be some sites within Zone 3 where a development of appropriate scale and careful design could be accommodated if potential impacts on natural heritage interests were fully explored and adequately guarded against by employing the highest standard in siting and design. However, SNH considers that this will be the exception rather than the rule: wind farm proposals are only rarely likely to be acceptable in natural heritage terms within Zone 3. Developers should be encouraged to look outwith Zone 3 for development opportunities.

Caveats

38. It should be noted that most natural heritage designations identify only the actual area of special interest, and do not normally include 'buffer areas' to provide protection from potential distant impacts. Associated regulations or policies usually cover this by referring to the need to avoid an adverse impact on the protected interest, even where the development is outwith the designated area. For example, Special Protection Areas designated to protect birds usually only cover core breeding and feeding territory, but the birds may range more widely and therefore be affected by windfarms at some distance from the site. There are a number of SPAs for protected goose species where only the night roosting areas are designated, with the birds feeding during daytime on undesignated farmland; the underlying requirements include that there should be no adverse effect on that goose population. For a protected landscape, or a wild land area, a windfarm outwith but close to the boundary may have an impact on the landscape experience within the protected area. The issue is not whether a windfarm is simply visible from within the protected area, but whether it will impact adversely on the landscape experience.

39. Such 'fringe' effects have not normally been included in the mapping except for National Scenic Areas (mapped in Zone 3), where because of the potential range of such impacts, an indicative 10km wide fringe area outwith the boundary has additionally been mapped as a cross-hatched Zone 3. Dependent on the local circumstances of visibility and the character of the NSA, the landscape experience within the NSA could be significantly affected by a windfarm within this range and in some cases at even longer range, especially where larger turbines are proposed.

40. It should be noted that this broad guidance provides a strategic steer only. The presence of important species and habitats which cannot be represented at this scale may result in higher sensitivity in some locations. While the guidance is based on the best information currently available, our understanding of the impact of wind farms on many biodiversity interests is incomplete. There will be a need to keep this guidance under review as our understanding develops. Where there is uncertainty over impacts on important species and habitats, we will look for a precautionary approach[15].

[15] The Precautionary Principle and the Natural Heritage, 2000, Scottish Natural Heritage Policy Summary 21.

41. Local landscape designations such as AGLVs and Regional Scenic Areas are difficult to map nationally with any consistency as these are frequently altered and updated in Local Plans. We endeavour to refresh and update the dataset every 6 months, but it must be noted that some local designations may be omitted or out of date. **It is therefore imperative that developers refer to the relevant Local Plan for accurate information on Local Landscape designations.** The presence of a Local Landscape designation will result in an area being identified as Zone 2.

42. This strategic approach does not set aside – indeed it reinforces – the need for care in the detailed location and site planning of new wind farms. In all cases it will be important that proposed developments are sensitively located with respect to their effects on landscape character, visual and recreation amenity, habitats and species. **Appropriate siting, good design and sound implementation are always required to ensure a satisfactory fit with natural heritage interests.**

Developing a more detailed local approach

43. In parallel with the development of these guidelines SNH has previously supported the preparation of regional wind farm landscape capacity studies. SNH commissioned the first such study in collaboration with Argyll and Bute Council, and further studies have been completed in Ayrshire & the Clyde Valley, North and East Highlands and Western Isles. These studies seek to explore the capacity of individual areas for wind farms based on the landscape's ability to accommodate this form of development, and in some cases explore the potential acceptability of landscape change as a result of large or extensive wind farm development. Whilst our understanding of the issues involved and the existing pattern of windfarm development has since moved on, these studies still provide a useful starting point when developing a more detailed local approach. Aspects of the methodologies used will also be useful elsewhere.

44. SPP6 places a duty on planning authorities to develop more detailed Locational guidance at the local authority level. This Strategic Locational Guidance should provide a starting point and SNH can provide further guidance and support to individual authorities where required.

45. SNH has recently (September 2008) published draft guidance on 'Designing windfarms in the landscape' for consultation. It is hoped that this guidance will be finalised and adopted in 2009. The principles contained within this new guidance will be of relevance to the strategic planning activities of Planning Authorities and should be seen as complimentary to this Strategic Locational Guidance.

46. In addition to the designated areas and sites identified within this Strategic Locational Guidance, there are a number of further designations which will need to be considered at the local level. These include, for example, Long Distance Routes[16], Local Nature Reserves and other local designations which cannot be meaningfully mapped at this national scale.

[16] As designated by the Secretary of State

Review

47. At the time of this review, this Strategic Locational Guidance has been in use for 7 years. However, our understanding of natural heritage impacts is still evolving as we learn more about the interactions between species and wind farms, and people's perception of these new features in the landscape. We will continue to work with the industry to build on our knowledge and share experience and we will review this guidance as and when we have sufficient new information to do so.

48. When this guidance was first published, in May 2002, only 6 wind farms had been constructed in Scotland, and turbines over 100m in height had yet to be deployed. Our understanding of the natural heritage impacts of wind farms has developed considerably, through our involvement in over 800 wind farm proposals to date. At the time of publication we indicated that we would review this guidance at an early date, and we have now done so four times, as detailed below. This review has not altered the underlying approach but has led to greater clarification of the sensitivities at a number of points in the text, particularly in relation to birds (Map 4) and National Parks (Map 1). We have also updated references to SPP6. We will continue to work with the industry and planning authorities to build on our knowledge and share experience and we will review this guidance in due course if further refinement is needed.

First published	May 2002
Updates to National Park Boundaries & Natura 2000	October 2003
First revision	July 2004
Update to mapping of Local Landscape Designations	May 2005
Update to mapping of designated sites and inclusion of RSPB bird sensitivity data	March 2009

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MAP 1: LANDSCAPE AND RECREATION INTERESTS – DESIGNATIONS

This map indicates natural heritage sensitivities relating to areas designated for their landscape or recreational value.

Cross-hatching indicates that the sensitivity does not apply to the entirety of that area, but only to a proportion.

Zone 1 comprises all land not mapped as sensitive below.

1.1 National Parks

National Parks are a national designation, designated by Scottish Ministers, identifying areas of outstanding national importance for its natural heritage or combination of natural and cultural heritage.

Locational Guidance

National Parks are internationally regarded as places of the highest conservation significance, where enjoyment of the natural and cultural heritage is a key function and provides the basis for much of the local economy. National Park aims are: • to conserve and enhance the natural and cultural heritage of the area; • to promote sustainable use of the natural resources of the area; • to promote understanding and enjoyment (including enjoyment in the form of recreation) of the special qualities of the area by the public; and • to promote sustainable economic and social development of the area's communities. The first of these aims is to be given greater weight in any case where there is a conflict. A National Park comprises an extensive area which taken as a whole is an area of distinctive character and coherent identity and of outstanding natural (or a combination of natural and cultural) heritage importance. However, not all parts of a National Park are necessarily of the highest natural and cultural heritage value, and areas with varying degrees of sensitivity to wind farm development may therefore be encompassed within a National Park. Reference should therefore be made to National Park Plans for further detail[17]. **Within a National Park the nature and scale of most commercial wind farms is such that it is unlikely to be possible to locate them without significant adverse impact on the qualities for which the Park has been designated. There may be scope for small-scale developments aimed primarily at serving individual properties or local communities. Wind energy should be given special consideration where it contributes to the sustainability of an isolated community.** **Elsewhere within a National Park, a highly sensitive approach to siting and design will still be required to ensure that any wind farms constructed do not have a significant adverse impact on the character and enjoyment of the National Park.**	**Zone 3** – the area mapped includes the current National Park boundaries. Consultation is currently underway on a proposed extension to the Cairngorms National Park and any agreed extension will also be included within Zone 3 in future mapping. **Note** – the identification of the areas within the National Parks as Zone 3 reflects the sensitivity to windfarm development within the Park boundaries. It does not imply any increased sensitivity in the surrounding areas, where impacts on those receptors within the Park are more likely to be addressed by appropriate criteria / policies (see para 37). SPP6 (jn annex A) makes it clear that 'buffer zones' should not be identified around designated sites.

[17] See for example Cairngorms National Park Local Plan, First modifications (June 2008) paragraph 33 or Loch Lomond and Trossachs National Park Park Plan (2007 -2012) paragraph 8.24

National planning policy guidance

Planning authorities are required to take particular care to safeguard the landscapes, flora and fauna of National Parks[18]. Planning authorities should identify and protect areas designated for their international and national heritage value in their development plans[19]. The Development Plan should also include policies for the protection and where appropriate enhancement of national designations. The policy test for national natural heritage designations is set out in NPPG14 para 25[20].

[18] Para 33, NPPG 14 Natural Heritage, The Scottish Executive, January 1999.
[19] Para 3, Annex A, SPP6 Renewable Energy, Scottish Executive, March 2007
[20] See Annex 1

1.2 National Scenic Areas

National Scenic Areas are a national designation identifying areas of outstanding natural beauty and amenity to be safeguarded as part of the national heritage.

Locational Guidance

Scotland's scenery is internationally renowned, and NSAs identify those areas considered to be of unsurpassed attractiveness. Such scenery provides the key resource for our biggest industry, tourism, and thus forms the basis for many local economies. **The nature and scale of most commercial wind farms means that it is unlikely to be possible to locate them within most NSAs without significant adverse impact on the qualities for which the NSA has been designated. There may be scope for small-scale developments aimed primarily at serving individual properties. Proposals of a modest scale should also be given especially sympathetic consideration where they contribute to the sustainability of an isolated community such as an island.**	**Zone 3** – the area mapped is the 36 NSAs outwith the two National Park areas.
Wind farms outwith but adjacent to NSAs may have an impact upon the landscape experience within them. The range of such impacts is very variable, and depends on topography and intervisibility, landscape character and the scale of the wind farm. The potential for such impacts on the character and enjoyment of NSAs is likely to require particular consideration in the surrounding area up to 10km from the boundary of an NSA. **In locating and designing wind farms adjacent to NSAs, significant adverse impacts on their character and enjoyment should be avoided. Within an area up to around 10km from an NSA careful assessment of any effect on the NSA is required.**	**Zone 3 hatched** – areas within 10km from NSA boundaries, shown as cross-hatched to indicate that sensitivity depends on location.

National planning policy guidance

Planning authorities are required to take particular care to ensure development in or adjacent to a NSA does not detract from the quality, character, integrity and setting of the landscape, and that the scale, siting and design are appropriate and of a high standard[21]. Planning Authorities should identify and protect areas designated for their international and national heritage value in their development plans[22] The Development Plan should include policies for the protection and where appropriate enhancement of national designations. The policy test for national natural heritage designations is set out in NPPG14 para 25[23].

Planning authorities must consult Scottish Natural Heritage on any wind farm within a NSA, and notify the Scottish Government if minded to approve an application contrary to SNH's advice.

[21] Para 26, NPPG 14 Natural Heritage, The Scottish Executive, January 1999; para 21, NPPG 6 Renewable Energy Developments, The Scottish Executive, November 2000.
[22] Para 3, Annex A, SPP6 Renewable Energy, Scottish Executive, March 2007
[23] See Annex 1

1.3 Regional Parks

Regional Parks are designated by local authorities for the important informal recreation opportunities they provide in attractive countryside close to large population centres

Locational Guidance

Regional Parks are areas identified as providing important opportunities for recreation and enjoyment of the countryside and are managed accordingly. They are usually close to urban population centres. There are currently three Regional Parks in Scotland. Wind farms within or adjacent to a Regional Park may adversely affect peoples' quiet enjoyment of the countryside. **Wind farms should avoid significant adverse impact on the character and enjoyment of a regional park, and will require sensitive siting and design.**	**Zone 2** – the area mapped includes the three Regional Parks – Clyde-Muirshiel, Lomond Hills and Pentland Hills.

National planning policy guidance

Local authorities are encouraged to safeguard countryside which contributes to existing and predicted future recreation needs[24]. Regional Parks play a valuable role in providing opportunities for urban populations to gain access to attractive areas of countryside for recreation and enjoyment.[25] Planning Authorities should use appropriate criteria to ensure that proposals satisfactorily address any impacts on the particular interest that a regional designation is intended to protect[26].

[24] Para 40 and 75, SPP11 Open Space and Physical Activity, Scottish Executive November 2007.
[25] Para 21, NPPG 14 Natural Heritage, The Scottish Executive, January 1999.
[26] Para 4, Annex A, SPP6 Renewable Energy, Scottish Executive, March 2007

1.4 Areas of Great Landscape Value (and similar local landscape designations)

Areas of Great Landscape Value (and similar designations) are a local designation safeguarding locally important areas of outstanding scenic character or quality

Locational Guidance

AGLVs and similar designations such as Regional Scenic Areas identify areas valued locally for their scenic qualities. Although not considered of the highest national merit, these areas have nonetheless been judged to contribute significantly to the quality of people's lives in the part of Scotland where they lie. They also collectively contribute substantially to the overall quality of Scotland's countryside. Reference should be made to the SNH and Historic Scotland 'Guidance on Local Landscape Designations' for more detailed advice on dealing with local designations[27]. **Wind farms should avoid significant adverse impacts on the character and enjoyment of these areas, and will require sensitive siting and design.**	**Zone 2** – the area mapped includes most AGLVs (and similar designations) based on data gathered in August 2008. NB **As yet there is not a consistent approach to local landscape designations among planning authorities, which makes it difficult to present a consistent national view of land considered of local or regional landscape value. The data used on map 1 is not complete and some local designations may be missing / out of date. Developers should always check with currently adopted local plans in each local authority area.**

National planning policy guidance

AGLVs have a potentially valuable role in protecting important local natural heritage interests. However, the level of protection is a matter for the planning authority, which should distinguish between local and national designations. Planning authorities should take account of the economic interests and aspirations of local communities, and ensure that designation does not impose unreasonable restrictions on the ability to work or develop their land[28].

[27] Guidance on Local Landscape Designations, SNH and Historic Scotland (2004)
[28] Para 61 - 62, NPPG 14 Natural Heritage, The Scottish Executive, January 1999.

1.5 Gardens and Designed Landscapes

Gardens and Designed Landscapes are historic designed landscapes or extensive planned gardens, often but not always established as the setting for a historic building. They are identified on a national inventory compiled and maintained by Historic Scotland. SNH only comments on the natural heritage aspects relating to Gardens and Designed Landscapes such as their links with landscape character and nature conservation.

Locational Guidance

Gardens and Designed Landscapes identified in the national inventory represent the most important in Scotland and comprise a national resource in cultural heritage terms as well as contributing to the character and enjoyment of the countryside. Most are closely bound up with their surroundings, with adjoining landscape features influencing their design while the designed landscape itself or features within it contribute to the character of the area. Gardens and Designed Landscapes are often important in terms of their scenic quality and historic interest and often contain valuable habitats and features of natural heritage interest[29]. A site's sensitivity will vary according to the importance placed on the range of values identified within the Garden and Designed Landscape Inventory. **A cautious approach is required to the siting of wind farms affecting Garden and Designed Landscapes so as to avoid significant adverse impact on their character and value. Any proposals require to be highly sensitive to these interests in their standard of siting and design.** An extension to the inventory is underway. The same considerations should apply to sites identified in this extension.	**Zone 2** – the area mapped includes only those Gardens and Designed Landscapes identified in the original inventory. Sites in the inventory extension will be added in due course.

National planning policy guidance

Development Plan Policies should set out how development can be accommodated without damaging the character of the historic environment[30]. Proposed development should be of high quality and respect its landscape setting[31]. Particular care is required when assessing development that could affect important vistas[32].

[29] Para 12, NPPG 14 Natural Heritage, The Scottish Executive, January 1999.
[30] Para 4, Annex A, SPP6 Renewable Energy, Scottish Executive, March 2007
[31] Para 16 and 38, NPPG 18 Planning and the Historic Environment, The Scottish Executive April 1999
[32] Para 40, PAN 45, Annex 2, Scottish Government, 2008

MAP 2: LANDSCAPE AND RECREATION INTERESTS – WILD LAND

This map indicates natural heritage sensitivities due to the susceptibility of wild land character to wind farm developments.

Cross-hatching indicates that the sensitivity may not apply to the entirety of that area, but only to a proportion.

Areas not mapped within the wild land search area are shown as **Zone 1.**

2.1 Wild land

Wild land is not a designation, but describes uninhabited and often relatively inaccessible countryside where the influence of human activity on the character and quality of the environment has been minimal[33].

Locational Guidance

Many areas, for example in the Highlands & Islands, possess mountain and coastal landscapes which are valued for their quality, extensiveness and wild land character. Some possess an elemental quality from which many people derive psychological and spiritual benefits.

SNH has published a policy statement on 'Wildness in the Scottish Countryside'[34]. Wild land is an increasingly limited resource, not easily re-created and more and more valued for its special and rare qualities, both here and abroad. The remaining larger blocks of wild land therefore represent an important national resource, but one which has not so far been mapped on a national basis. Some of this area is covered by natural heritage designations which reflect aspects of its wild land character, but not all.

'Wildness in the Scottish Countryside' identifies preliminary search areas for wild land. These are relatively remote areas whose nature and extent suggest that they are where the qualities of wildness will be best experienced. SNH will work with planning authorities, using these search areas as a starting point, to encourage identification of wild land and appropriate policies.

Wind farms should avoid significant adverse impact on the character and qualities of wild land. By its nature, wild land is sensitive to all forms of development. Given the likely scale and nature of wind farms, it is unlikely that these can be accommodated without loss of wild land qualities. Wild land can also be affected by developments outwith the area.

Zone 3 – the areas mapped are preliminary search areas for wild land. This is the indicative area used within SNH's policy on 'Wildness in the Countryside'. **It is emphasised that such areas are not designated though there is a high degree of overlap with NSAs.** The areas are cross-hatched to indicate that not all of the area may be confirmed as wild land and considered of the highest sensitivity once a detailed assessment of the specific area has been undertaken.

National planning policy guidance

Planning authorities are required to take great care to safeguard areas of wild land character including assessment of proposals for development outwith these areas which might adversely affect them[35]. The recreational value of rural areas, enabling people to experience the natural heritage are important[36]. The Development Plan should include policies for protecting and enhancing the character of landscapes of regional importance, including any areas of importance for their wild land character.

[33] Glossary page 24, NPPG 14 Natural Heritage, The Scottish Executive, January 1999.
[34] Wildness in Scotland's Countryside, SNH 2002
[35] Para 11 and 16, NPPG 14 Natural Heritage, The Scottish Executive, January 1999.
[36] Para 6, SPP 11 Open Space and Physical Activity, Scottish Government, November 2007

MAP 3: BIODIVERSITY AND EARTH SCIENCE INTERESTS - DESIGNATIONS

This map indicates natural heritage sensitivities relating to areas designated as of biodiversity or earth science importance.

Cross-hatching indicates that the sensitivity does not apply to the entirety of that area, but only to a proportion.

Zone 1 comprises all land not mapped as sensitive below.

3.1 World Heritage Sites

World Heritage Sites have been identified for their outstanding universal value under the World Heritage Convention, adopted by UNESCO in 1972 and ratified by the United Kingdom.

Locational Guidance

The Convention provides for the identification, conservation and preservation of cultural and natural sites of outstanding universal value for inclusion in a world heritage list, with inclusion on the UK's tentative list the first step in the nomination procedure. Responsibility for the nomination and subsequent protection and management of sites lies with national governments. No additional statutory controls result from designation but a clear policy framework and comprehensive management plan should be established to assist in maintaining and enhancing the quality of these areas. Scotland currently has five World Heritage Sites: St Kilda, The Heart of Neolithic Orkney, Edinburgh Old and New Towns, New Lanark and the Antonine Wall. Sites are largely covered by other designations, but World Heritage Site status indicates they are of sufficient importance to be the responsibility of the international community as a whole. Sites are designated for a mixture of natural and cultural heritage reasons. It is therefore difficult to offer generic guidance on the impacts of windfarms on these sites. However, their recognition as globally important features means that careful assessment of any windfarm proposal would be required. **Wind farms should avoid significant adverse impact on a World Heritage Site's interests. It is unlikely that developments of a large scale could be satisfactorily accommodated. Any proposed wind farm developments must be of the highest standard in their siting and design.**	**Zone 3** – World Heritage Site boundaries have not been mapped in detail, instead their location is marked by a symbol on Map 3.

National planning policy guidance

The impact of proposed development upon a World Heritage Site will be a key material consideration in determining planning applications[37], and planning authorities and developers are required to pay special attention to the desirability of preserving or enhancing their character or appearance[38].

[37] Para 15, NPPG 18 Planning and the Historic Environment, The Scottish Executive ,April 1999.
[38] Para 3, Annex A, SPP6 Renewable Energy, Scottish Executive, March 2007

3.2 Natura 2000 sites

Natura 2000 is a network of sites to maintain or restore the distribution and abundance of species and habitats of interest to the European Community. They comprise **Special Protection Areas** (SPAs) and **Special Areas of Conservation** (SACs)**.**

Locational Guidance

SPAs protect the habitat of rare, threatened or migratory bird species under the EU Wild Birds Directive[39]. This requires measures to conserve the habitats of rare and migratory species and to preserve a sufficient diversity of habitats for all species of wild birds naturally occurring in order to maintain populations at ecologically sound levels. SACs protect rare, endangered or vulnerable habitats or species of Community interest under the EU Habitats Directive [40]. This requires measures to maintain or restore the conservation status of natural habitats or species. While some of these species and habitats appear relatively common in Scotland, they may represent a large proportion of the European resource. The Conservation (Natural Habitats &c) Regulations[41] establish a statutory duty to meet the requirements of the Birds and Habitats Directives, define a procedure for assessing proposals and set criteria for permitting them. **All Natura 2000 sites deserve the utmost care in their protection. The requirements for protection within the European Directives and the associated Regulations are stringent.** The basic test is that a proposal should not adversely affect the integrity of the site. This includes avoiding adverse impact on the species and habitats for which the site is designated, and avoiding deterioration of or damage to any habitats on which they depend. SNH will seek to ensure the requirements of the Birds and Habitats Directives and the associated Regulations are fulfilled. **Wind farms should avoid significant adverse impact on the interest of Natura 2000 sites. It is unlikely that developments of any significant scale could be satisfactorily accommodated. Any proposed wind farm developments which are able to comply with these tests should be of the highest standard in siting and design in relation to their impacts on biodiversity.**	**Zone 3** – the area mapped comprises all SACs (including candidate SACs) and SPAs (including potential and intertidal SPAs).

National planning policy guidance

Government attaches great importance to its international obligations[42]. Proposals outwith a Natura site but likely to have a significant effect on an area require the same consideration. Development plans should include policies for the protection and where appropriate enhancement of international designations.

The policy test for Natura 2000 sites is set out in NPPG 14 para 42[43].

[39] EC Council Directive on the Conservation of Wild Birds (79/409/EC).
[40] EC Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EC).
[41] The Conservation (Natural Habitats &c.) Regulations 1994.
[42] Para 3, Annex A and para 17 of SPP6 Renewable Energy, Scottish Executive, March 2007
[43] See Annex 1

3.3 Ramsar Sites

Ramsar sites identify wetlands of international importance, especially as waterfowl habitat, under the Ramsar Convention on Wetlands of International Importance.

Locational Guidance

The Ramsar Convention requires the UK to promote the conservation of wetland sites and their wise use. Most Ramsar sites are also designated as Natura 2000 sites on account of their wetland habitats or bird species. **SNH's policy in relation to wind farm development is the same as for Natura 2000 sites.**	**Zone 3** – most Ramsar sites are also SPAs and are not mapped separately.

National planning policy guidance

Where Ramsar sites are not already classified as SAC or SPA, as a matter of Government policy they are afforded the same protection as SPAs[44]. Hence the above planning guidance for Natura sites applies.

[44] Para 39, NPPG 14 Natural Heritage, The Scottish Executive, January 1999; paras 40 - 42, Habitats and Birds Directives Circular, The Scottish Executive, June 2000.

3.4 Sites of Special Scientific Interest

Sites of Special Scientific Interest are a national designation, designated by SNH, identifying areas of special interest for their flora, fauna, geological or physiographical features.

Locational Guidance

SSSIs represent a national network of the best examples of all the different habitats, rocks and landforms. SNH has a statutory duty to seek appropriate protection for SSSIs. Not all of the interests identified are equally sensitive to wind farm development. Peatlands are particularly sensitive as turbine foundations or vehicle tracks can disrupt the hydrology on which the habitat depends. Coastal habitats may be particularly sensitive as they are prone to erosion and are often narrow and linear in their geography, making them easily fragmented. **Wind farms should avoid significant adverse impact on the interests of any SSSI. Within some types of SSSI there may be scope to accommodate wind farms if they are of a scale and are sensitively located and designed in such a way to avoid adverse biodiversity impacts.** **Peatland and coastal SSSIs are particularly sensitive, and it is unlikely that large scale wind farms could be satisfactorily accommodated. Any proposed wind farm developments should be of the highest standard in siting and design in relation to their impact on peatland hydrology or coastal habitats.**	**Zone 3** – SSSIs considered most sensitive are peatland and coastal SSSIs, and these are mapped in Zone 3. The peatland SSSIs are those listed in the Scottish Blanket Bog Inventory area portfolios. Coastal SSSIs are those where at least part of the SSSI falls within 200m of the coast. **Zone 2** – Other SSSIs, which may be less sensitive to wind farm development, have been mapped in Zone 2.

National planning policy guidance

Planning authorities are required to consult SNH when determining a planning application which might affect a site[45] and as a national designation deserve a high level of protection[46]. The Development Plan should include policies for the protection and where appropriate enhancement of national designations. The policy test for national natural heritage designations is set out in NPPG14 para 25[47].

[45] Para 28 – 29, NPPG 14 Natural Heritage, The Scottish Executive, January 1999.
[46] Para 3, Annex A and para 17 SPP6 Renewable Energy, Scottish Executive, March 2007
[47] See Annex 1

MAP 4: BIODIVERSITY AND EARTH SCIENCE INTERESTS – NON-DESIGNATED HABITATS AND SPECIES

This map indicates natural heritage sensitivities outwith designated areas due to habitats and species which are regarded as particularly susceptible to impacts from wind farms.

Cross-hatching indicates that the sensitivity does not apply to the entirety of that area, but only to a proportion.

Zone 1 comprises all land not mapped as sensitive below.

4.1 Sensitive habitats

Sensitive habitats – blanket bog, sand dune and machair, coastal grassland and heathland

Locational Guidance

Scotland is renowned for the extent and high quality of its semi-natural habitats, and the valued species that these support. Not all of these habitats are designated. The EU Habitats Directive requires the habitats listed in Annex 1 of the Directive to be maintained at favourable conservation status, including but not limited to those areas which are designated. Legislation also protects many species outwith designated sites.

SNH has identified peatlands and coastal habitats as important and of particular sensitivity to wind farm development. They are important due to their restricted distribution and high proportion of the global resource held in Scotland. Peatland habitats are sensitive to damage through disruption of the underlying hydrology by the building of turbine foundations and vehicle tracks. Coastal habitats are fragile, often prone to erosion, and as they are often linear features along the coastal edge, are easily fragmented.

Careful siting and design is required to avoid significant impacts on these important habitats and species. Where there is uncertainty about potential impacts, the ability to monitor and adapt the development in the event of significant adverse impacts being detected will be important when considering the acceptability of the proposal. As our knowledge of the effects of wind farms on biodiversity interests improves, the interests identified as sensitive will be refined.

Zone 2 – Coastal habitats included within Annex 1 of the EU Habitats Directive are mapped in full. These include coastal grassland and heathlands throughout Scotland based on the "maritime grassland" class, and sand dune and machair within the Outer Hebrides, Tiree, Coll and Sanday based on the "dune" class. These are all contained within the Land Cover of Scotland 1988.

Blanket bog is much more widely distributed and only the most important areas (10 x 10 km OS grid squares with at least 50% cover of good quality non-designated bog) have been mapped and shown as a brown-bordered square.

National planning policy guidance

Planning policy recognises that natural heritage interests are found throughout the countryside. Planning authorities are encouraged to safeguard and enhance the wider natural heritage beyond the confines of nationally designated areas (although the level of protection outwith designated sites will not normally be as high as that afforded to sites of national or international importance)[48]. Certain species and habitats enjoy legislative protection outwith designated areas and will need to be carefully assessed and taken into account[49]. The Development plan should provide for the protection and enhancement of the natural heritage outwith designated areas.

[48] Para 46 - 47, NPPG 14 Natural Heritage, The Scottish Executive, January 1999.
[49] Para 5, Annex, SPP6 Renewable Energy, Scottish Executive, March 2007

4.2 Sensitive bird areas

Sensitive bird areas are where there are concentrations of sensitive breeding birds

Locational Guidance

Although wind farms may impact on other species, it is the potential impact on birds which is most commonly of concern, either from disruption of habitat, disturbance to breeding birds, or collision risk[50]. The Birds Directive requires certain bird species identified on Annex 1 of the Directive to have their conservation status maintained. The wide ranging nature and dispersed distribution of several such species means that favourable conservation status is difficult to achieve solely through safeguarding designated sites. The Wildlife and Countryside Act 1981 also affords protection to many species outwith designated sites. Given the number of species and their differing distributions and flight behaviour, it is inherently difficult to map bird sensitivities at a national scale. For example, golden eagles forage over unforested moorland, using ridge lines for uplift, but when breeding spend a majority of time within a few kilometres of their nest; red-throated divers make regular feeding trips within well-defined corridors from their hill lochan nest sites to the sea; and Greenland white-fronted geese roost in wetland but make daily flights to and from agricultural land to feed. The acceptability of a windfarm in proximity to these species will depend upon a detailed analysis of such flight patterns with a view to minimising interference. Species such as hen harrier are of particular concern due to the fragile nature of the Scottish population, and some such as red kite and white-tailed eagle are the subject of special reintroduction programmes. RSPB and SNH have jointly produced a bird sensitivity map for Scotland[51]. The data underlying this map has been used to update this Strategic Locational Guidance and provides a greater level of detail than the data set used in the previous version of this guidance, which was based on a 10km by 10km dataset. This data therefore further refines this Strategic Locational Guidance (using data at 2km x 2km resolution) and is based on both detailed research and new understanding of the sensitivity of various bird species to windfarm development. Interpretation of the data and details of the species involved can be found in the original research report. Some sensitive species were not included due either to very localised distributions, or lack of recent digital data on their distribution (these include: osprey, marsh harrier, honey buzzard, whimbrel, merlin and short eared owl) and these may represent a constraint outwith the areas indicated on the map. **Careful siting and design is required to avoid significant impacts on important bird species. Where there is uncertainty about potential impact, the ability to monitor and adapt the development will be important when considering the acceptability of the proposal.** As our knowledge of the effects of wind farms on biodiversity interests improves, the interests identified as sensitive will be refined.	**Zone 2** – Areas identified as having 'high' sensitivity to in the RSPB/SNH data are represented as Zone 2. Areas identified as having 'medium' sensitivity in the RSPB/SNH data are represented as Zone 2 hatched.

[50] See SNH/BWEA Guidance on "Methodology for Assessing the Effects of Wind Farms on Ornithological Interests".

[51] J. Bright et. Al. (2006) Bird Sensitivity Map to provide locational guidance for onshore wind farms in Scotland. RSPB Research Report No 20 Available at: www.rspb.org.uk/Images/sensitivitymapreport_tcm9-157990.pdf

National planning policy guidance

Planning policy recognises that natural heritage interests are found throughout the countryside. Planning authorities are encouraged to safeguard and enhance the wider natural heritage beyond the confines of nationally designated areas (although the level of protection outwith designated sites will not normally be as high as that afforded to sites of national or international importance)[52]. Certain species and habitats enjoy legislative protection outwith designated areas and will need to be carefully assessed and taken into account[53]. The Development plan should provide for the protection and enhancement of the natural heritage outwith designated areas.

[52] Para 46 - 47, NPPG 14 Natural Heritage, The Scottish Executive, January 1999.
[53] Para 5, Annex A, SPP6, Renewable Energy, Scottish Executive, March 2007

MAP 5 COMBINED NATURAL HERITAGE SENSITIVITY

This map combines the landscape, recreation, biodiversity and earth science sensitivities from maps 1-4 to provide an overview of natural heritage sensitivity to wind farms. It identifies land with the greatest opportunity for wind farm development in natural heritage terms, and areas where natural heritage sensitivities indicate a medium or high level of constraint.

Cross-hatching indicates that the sensitivity does not apply to the entirety of that area, but only to a proportion.

Zone 1 lowest natural heritage sensitivity

Zone 2 medium natural heritage sensitivity

Zone 3 high natural heritage sensitivity

NATIONAL PLANNING POLICY TESTS

National natural heritage designations – NPPG14 para 25

The presence of a national natural heritage designation is an important material planning consideration. This does not mean that development is precluded by the presence of such a designation. Proposals require to be assessed for their effects on the interests which the designation is designed to protect. Development which would affect a designated area of national important should only be permitted where:

- the objectives of designation and the overall integrity of the area will not be compromised; or
- any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social or economic benefits of national importance.

Natura 2000 sites – NPPG14 para 42

A development which would have an adverse effect on the conservation interests for which a Natura 2000 area has been designated should only be permitted where:

- there is no alternative solution; and
- there are imperative reasons of over-riding public interest, including those of a social or economic nature.

Where a priority habitat or species (as defined in Article 1 of the Habitats Directive) would be affected, prior consultation with the European Commission is required unless the development is necessary for public health or safety reasons.

Datasets used in the preparation of Maps 1 to 4

Map 1 Designated landscape and recreation interests

- **Cairngorms & Loch Lomond and Trossachs National Parks** – Boundaries shown are those contained in the respective National Park designation orders.
- **National Scenic Areas** – The 40 NSAs are identified in the Countryside Commission for Scotland's report *Scotland's Scenic Heritage*, 1978.
- **Areas of Great Landscape Value** – Areas shown include most regional and local landscape/amenity areas identified by local authorities in their development plans, including those given names other than AGLV. Data has been refreshed in August 2008, but may not be complete. Some designations identified in older Local Plans may not be shown. **Developers should always refer to currently adopted Local Plans to check the extent and status of Local Landscape designations**.
- **Gardens and Designed Landscapes** – Sites are identified in the five volume *Inventory of Gardens and Designed Landscapes in Scotland* (Countryside Commission for Scotland, Historic Buildings and Monuments Directorate and Scottish Development Department, 1987). A survey of additional sites to supplement the original Inventory has been undertaken but this information is yet to be digitised and is not shown.
- **Regional Parks** – The three Regional Parks (Pentland Hills, Clyde-Muirshiel and Lomond Hills) are shown.

Map 2 Non-designated landscape and recreation interests

- **Search areas for wild land** – Areas identified in SNH's policy statement *Wildness in Scotland's Countryside* (2002) are shown.

Map 3 Designated biodiversity and earth science interests

- **World Heritage Sites** – Three sites of natural interest are shown. One has been inscribed on the World Heritage List (St Kilda). Two sites (the Cairngorm Mountains and the Flow Country) have been identified as likely to be proposed for nomination in the next 10 years (Department for Culture, Media and Sport, *World Heritage Sites. The tentative list of the United Kingdom of Great Britain and Northern Ireland*, 1999). Boundaries for tentative list sites are only indicative at this stage.
- **Natura Sites** – All sites identified as Special Areas of Conservation (including candidate SACs) and Special Protection Areas (including potential and inter-tidal SPAs), which are either designated or accepted by the Scottish Executive for nomination to the EC, as at January 2009.
- **Peatland SSSIs** – All SSSIs notified for peatland interest (listed in the *Scottish Blanket Bog Inventory 2001* area portfolios), designated as of March 2002.
- **Coastal SSSIs** – All SSSIs that lie within 200 metres of the coast, designated as of March 2002. The landward extent of these coastal SSSIs has been cut off at 2 Km from the sea.
- **Other SSSIs** – All other SSSIs, designated as of March 2002.

Map 4 Non-designated biodiversity and earth science interests

- **Sand dune, machair, coastal grassland and heathland** – Areas identified as 'maritime grassland class', and areas within the Outer Hebrides, Tiree, Coll and Sanday identified as 'dune class', within the *Land Cover of Scotland 1988* dataset (Macaulay Land Use Research Institute, 1993).
- **Sensitive peatland areas** – Areas of 10 x 10 km OS grid squares with at least 50% cover of good non-designated bog, identified from the *Scottish Blanket Bog Inventory 2001*.
- **Sensitive bird areas** – data is sourced from **'**J. Bright et. Al. (2006) Bird Sensitivity Map to provide locational guidance for onshore wind farms in Scotland. RSPB Research Report No 20.' The data presented on Map 4 is at 2km x 2km resolution. The data represented on Map 5 is at 1km x 1km resolution. A higher resolution of data is used on Map 5 where the location of sensitive nest sites is obscured by the combined datasets.