Published:	January 2018
Updated:	

DAERA Environmental Advice for Planning

EIA scoping advice

Wind Farms

Sources of information

1. The DAERA website http://www.daera-ni.gov.uk includes:

   - Details of all regional, national and international designated sites in Northern Ireland
   - Northern Ireland Biodiversity Strategy
   - Northern Ireland Habitat and Species Action Plans
   - Areas of Outstanding Natural Beauty
   - Landscape Character Areas
   - Environmental Legislation

2. Useful information on planning and natural heritage, including survey specifications, can be found on the DAERA website at https://www.daera-ni.gov.uk/topics/environmental-advice-planners

3. Information on the flora, fauna and geology of Northern Ireland can be obtained from the Habitas website: http://www.habitas.org.uk/

4. Site specific environmental data (e.g. species records) can be obtained from the Centre for Environmental Data and Recording (CEDaR). These can be accessed by contacting CEDaR, National Museums NI, 153 Bangor Road, Cultra, Holywood, BT18 0EU. Website: http://www.nmni.com/cedar

   NIEA, Natural Environment Division promotes the submission of biodiversity data to CEDaR, and recommends that species records generated as part of the EIA process are submitted to CEDaR by going to: http://www.nmni.com/um/Collections/CEDaR/Recording/Submitting-your-records

5. We recommend the Supplementary Planning Guidance published by NIEA, *"Wind Farm Development in Northern Ireland's Landscapes"*, which provides broad, strategic

guidance in relation to the visual and landscape impacts of wind energy development. The document can be downloaded from here: http://www.planningni.gov.uk/index/policy/supplementary_guidance/spg_other/supplementary_guidance_wind_energy_development_in_ni_landscapes-2.html

General Scoping Guidance

Guidance on the scoping stage of Environmental Impact Assessment (EIA) and on the information to be included in an Environmental Statement (ES) is provided by the European Commission and can be found at: http://ec.europa.eu/environment/eia/eia-support.htm.

NIEA recommends *"Guidelines for Ecological Impact Assessment in the UK"* produced by the Institute of Ecology and Environmental Management (IEEM). This provides best practice guidance for assessing the ecological impact of projects and plans. The document can be downloaded from http://www.ieem.net/ecia/index.html

NIEA would emphasise the following:

- The ES should describe both habitats and species of flora and fauna present. It should cover both the proposed site and the surrounding area. It should include any designated sites and protected species which may be affected.
- Proposals which may impact on a European site, however distant (i.e. Special Areas of Conservation and Special Protection Areas), will require a Habitats Regulations Assessment (HRA). Sufficient information must be provided to the competent authority to enable them to complete this.
- The topography, geology, soils and water environment of the site and surrounding area should be described.
- For sites that are hydrologically connected to a designated site, NIEA would advise that buffers are provided to watercourses on site in which there should be no infill, disturbance, construction activity or storage of materials. For upland sites this is recommended to be at least 50m.
- The ES should include a description of the likely significant effects, both positive and negative, at all stages of the development to include direct, indirect, secondary and cumulative effects in the short, medium and long term. A description of the forecasting methods used to predict these effects should also be included.
- A description of proposed measures to prevent, reduce or offset any significant adverse effects on the environment (i.e. Avoidance, Mitigation, Compensation, and Enhancement) must be included.

- An indication of any difficulties encountered during the EIA process, limitations of surveys and any uncertainties in the data must be included.

- The different chapters of the ES should be inter-related and the ecology chapter should be cross referenced where appropriate.

Flora and Fauna

- The ecological baseline of the site must be characterised. Following from this, the extent and nature of any further survey work that may be required should be identified. Surveys must cover flora and fauna present in all seasons.

- A habitat survey (i.e. JNCC Phase 1) should be carried out to map the habitats on site and identify areas which are likely to be of high nature conservation value or particularly vulnerable to impact from the proposed development. Areas thus identified should be subject to more detailed survey, i.e. National Vegetation Classification (NVC). See http://jncc.defra.gov.uk/default.aspx?page=1425 for further information.

- If the Phase 1 Habitat Survey identifies a frequency of devil's-bit scabious *Succisa pratensis* within the site we may require further survey work to determine the presence of marsh fritillary butterfly *Euphydryas aurinia*.

- Faunal surveys should include a full breeding bird survey and protected species surveys. The timing of surveys is critical and they must be carried out at appropriate times of year.

- Surveys should highlight any Northern Ireland or European priority habitats and species which may be present on the site or surrounding area. This may include the argent and sable moth *Rheumaptera hastata,* whose food plant is bog myrtle *Myrica gale* and is therefore a species associated with peatland habitats.

- Baseline surveys conducted over a short period may not identify long term trends and reference should be made to previous records.

- Protected species surveys should be carried out to NIEA, Natural Environment Division specifications. Note that these maybe updated in the light of new knowledge at any time. Therefore it is advised to check the DAERA website for the most up to date specifications immediately prior to commencement of surveys.

- Full survey reports should be included in the appendix of the ES. All maps and diagrams should be of an appropriate scale for interpretation.

- **NIEA reserve the right to determine whether the survey information submitted is adequate or when additional information is required.**

- **Survey information regarding species vulnerable to persecution should be included as a confidential annex to the ES, which should not be made publically available. The species of concern are badgers *(Meles meles),* freshwater pearl mussels *(Margaritifera margaritifera),* goshawks *(Accipiter gentilis),* hen harriers *(Circus cyaneus),* and peregrines *(Falco peregrinus).***

Bird Survey Requirements

It is appreciated that clear guidance is needed for developers at an early stage in the site planning and survey process so that there is an understanding of survey requirements. We encourage all wind farm developers to consult us at an early stage to ensure a clear understanding of the survey work likely to be needed.

NIEA, Natural Environment Division recommend the use of guidelines developed by Scottish Natural Heritage (SNH) to determine the impact of wind farm developments on important bird populations. These bird survey guidelines are available from the SNH web site at: http://www.snh.gov.uk/docs/C278917.pdf

The guidelines have been principally developed by SNH on the basis of raptor ecology and behaviour but also advise on other species, such as waterfowl. Given the considerable similarities between key, at-risk species, in Northern Ireland and Scotland, we believe that the guidance is broadly applicable in its present form, while any future amendments will also be considered for use here. To date, most wind farm developers have recognised the validity of the guidance and, where appropriate, have used it to plan and execute their survey programme.

A distinction is made between those sites where existing data shows the presence of priority bird species (for example Hen Harrier, Merlin, Peregrine, breeding waders, especially Curlew, and wintering Whooper Swan) and sites where such species are believed to be absent. Where the evidence suggests that the site may be of significance for priority species, NIEA will advise that a comprehensive survey programme is undertaken. This will include surveys of breeding and wintering birds and vantage point observations of flight activity by raptors and other large species using the methodology derived from the SNH guidelines. This will generally entail two years pre-construction survey followed, should the development proceed, by a one year construction period survey and repeat surveys in years 1, 2, 3, 5, 10 and 15 post-construction.

Where existing data shows an absence of usage by priority species, or where data is lacking, NIEA will generally advise that a two year survey of bird populations of the area of the proposed site should be undertaken. This should include a more general breeding raptor survey of the surrounding area, to a distance of at least 2.5km, and standardised breeding and wintering bird surveys extending to 500m beyond the outermost turbines. Depending on the findings of year one, the requirement for a further year's survey may be dispensed with.

Recent research has suggested that breeding Curlew may be particularly susceptible to disturbance from wind turbines at distances of up to 800m. At sites where Curlew is known or suspected to be present the breeding bird survey zone should be extended to 800m beyond the turbines. There is, however, no requirement to record species other than Curlew at distances between 500m and 800m.

Guidance on the estimation of collision risk from vantage point data is available at http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/assessing-bird-collision-risks/

NIEA, Natural Environment Division also recommends that the developer liaises with the Northern Ireland Raptor Study Group - http://www.niraptorstudygroup.co.uk/. They can provide relevant advice and hold the most comprehensive dataset on birds of prey in Northern Ireland.

Bat Survey Requirements

Bats are a European Protected Species under the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended). Due to recent research highlighting the potential impacts to bats from wind turbines and the high legal protection afforded to bats, NIEA require bat surveys to be carried out on all proposed wind farm sites with the potential to host bats, which includes upland sites. Bat surveys should be conducted to NIEA, Natural Environment Division bat survey specifications for wind farms (http://www.doeni.gov.uk/niea/land-home/plan/surveys.htm). Where caves are present in the nearby area, a detailed assessment of swarming will also be required.

Landscape

NIEA (NED) Protected Landscapes Team may need to comment on proposals with the potential to significantly affect an Area of Outstanding Natural Beauty (AONB). The landscape chapter of the ES should:

- Establish the current landscape designation and policies covering the site and its surroundings.
- Assess the direct effects on landscape and public perception of change.
- Describe the landscape character of the site and its surroundings.
- Describe where the potential zone of theoretical visibility for the development and its associated infrastructure will extend to, including combination effect with established development.
- Establish the potential key landscape issues and the areas requiring further investigation during the baseline studies (See '*Guidelines for Landscape and Visual*

Impact Assessment', The Landscape Institute and the Institute of Environmental Management and Assessment. Spon Press, London 2002).

Water and Hydrology

- A description of the water environment of the area - running and static surface waters, groundwaters, estuaries, coastal waters and the sea, including run-off and drainage.
- A description of the hydrology, water quality and use of any water resources that may be affected by the development (e.g. water supply, fisheries, angling, bathing, amenity, navigation, effluent disposal).
- The consequences of changes to the hydro-geological system of the area on peatland, rivers, streams, flushes and wetland habitats should be described.

Geology

- A description of the geological resource of the site and surrounding area – this will be the hard rock geology for hard rock sites and the geomorphology in relation to landforms.
- An assessment of the significance of the geological features in a local and regional context.
- An assessment of how the development will impact on these features and on the wider geological feature if the development site forms part of a larger definable feature (especially relevant to landform complexes).
- A description of mitigation measures that may be relevant in retaining or redeveloping these geological features.
- Any opportunities to enhance the geodiversity of the area through creation / retention of rock outcrop or improve accessibility of geological features.

Mitigation Measures

A description of the measures proposed to prevent, reduce or offset any significant adverse effects on the environment caused by the development must be included in the ES. These measures can be summarised as:

- **Avoidance:** Priority should be given to avoiding negative impacts, especially those that could be significant. Consideration should be given to alternative strategies or locations, changes to the project design and layout, changes to methods and processes, changes to implementation plans and management practices including regulating the timing of activities.

- **Mitigation:** Opportunities should be sought, wherever possible, to reduce negative impacts on the environment, ideally to the point where they are no longer significant.

- **Compensation:** Where avoidance or mitigation of negative impacts is not practicable measures to compensate for impacts should be proposed.

- **Enhancement:** Opportunities should be sought in every new development to deliver net ecological gain rather than just limiting environmental damage. Enhancement measures may lead to an increase in the biodiversity of a site.

Mitigation measures should be incorporated into the design of a project from the outset and included on plans and drawings where appropriate. **Mitigation which simply comprises a list of recommendations will generally not be acceptable.**

Other recommendations include:

- A description of the criteria used to establish the magnitude and significance of environmental impacts. A tabular presentation should be used to summarise key direct and indirect impacts.

- The mitigation proposed should be clearly described and its effect on the magnitude and significance of these impacts should be assessed and clearly explained.

- Any uncertainty in the effectiveness of proposed mitigation measures should be explained and, where appropriate, evidence should be provided of successes from other similar projects.

- The implementation of proposed mitigation should be clearly described and, if necessary, arrangements for monitoring the implementation and success of mitigation measures should be stated.

Environmental Management Plan

An Environmental Management Plan (EMP) should be produced to detail the construction phase of the project and the implementation of the mitigation measures described in the ES. It will provide the management framework for the planning and implementation of construction activities and describe how working practices will avoid or minimise impacts to the environment at all stages of the development. It should provide details of procedures for monitoring and reporting the environmental effects of the development during construction. It should include the following information:

- Pre construction site conditions should be described to establish a baseline against which construction effects can be assessed.

- A site plan to show the location of construction activities, access routes, the storage of materials, the position of plant and the location of any sensitive receptors (e.g. trees, peat, watercourses).
- A detailed programme of the work to be carried out including timing and sequencing of works.
- Methods of construction and working practices should be specified, including equipment and materials to be used.
- Details of how mitigation measures will be implemented should be clearly stated.
- Details of procedures for monitoring and reporting the environmental effects of the development during construction and in the operation phase.

A **Habitat Management Plan** should form part of the EMP. This should show how the habitats, flora and fauna of the site will be protected during and after construction. It should include a long term plan for the management of the site for nature conservation and, if appropriate, show details of compensation measures such as habitat creation. It should also include details of how the ecology of the site will be monitored to show the success of mitigation measures and may include species specific monitoring requirements.

Restoration Proposals

Proposals illustrating the restoration of the site on decommissioning after the lifetime of the wind farm should also be detailed.