

VIEW POINT | REVISED SNH FOR BIRD SURVEY AT ONSHORE WIND FARMS: WHAT ARE THE IMPLICATIONS?



Photo by: Steve Foot, Oxford

Background

In August 2013, Scottish Natural Heritage (SNH) released revised bird survey guidance for onshore wind farms. This represents the first substantial revision of guidance that was first formally issued in late 2005¹ (minor revisions / amendments were made in 2010).

SNH has led the way on this topic in UK terms, and other industry guidance such as documents issued by Natural England ((NE) 2010² and 2007³) have clearly been based on SNH's 2005 guidance. Despite these more recent guidance documents, the SNH 2005 guidance remained the most detailed document, and the guidance typically cited by statutory nature conservation consultees in Wales, Northern Ireland and Eire (as well as Scotland). Our view is that it also provides a clearer justification of the need for survey work than the equivalent Natural England guidance. The SNH guidance also influences the approach to work in England despite the existence of English guidance, and the revision to the guidance will only reinforce this.

Understanding changes in the SNH guidance is therefore very important, as they will be reflected in consultee expectations with regard to survey work throughout the UK. A failure to get to grips with key changes could result in delays in the planning process (while previously unplanned further work is completed), and is likely to result in increased expenditure at the individual project level.

This short document sets out to identify what the implications are of the main changes between the 2005 and 2013 SNH guidance documents. To identify all the

changes, a more detailed review of the respective documents would be needed, and they should be referred to directly.

Key Changes

The key changes from the 2005 guidance are identified by SNH on Page 3 of the 2013 document. In summary:

- There is a greater emphasis on informal consultation (with SNH) prior to survey work commencing. The stated aim of this is to ensure that the scope of survey is properly assessed, and to minimise the risk of further survey being required.
- A greater emphasis on the likely requirement for up to two years of survey, especially for *'larger or more sensitive developments.'* Developers and their consultants will need to make a case for why a survey of less than two years duration is a robust and appropriate basis for a planning application.
- An update of suggested (targeted) survey protocols for some species and species groups, a reduction in proposed surveys for passerines, revised guidance on the approach to survey of coastal and intertidal bird communities.
- An update to vantage-point (VP) survey protocols, and of the list of species for which VP survey can be used in order to collect appropriate data for collision risk analysis.

Our analysis of what has led to these changes, and what the implications of them are at the project level, is set out below.

Informal Consultation

It is interesting to note that in the 2005 guidance there was only one mention of 'consultation' – a reference in the acknowledgements to the process that had led to the production of the guidance.

Given the emphasis on informal consultation in the 'key changes' section of the 2013 SNH guidance, it would be expected that the role of consultation would be further amplified in the text. It is not, or at least not directly. So why is consultation important and what is the background?

- Bird survey to inform wind farm applications typically takes at least a year to complete (and the 2013 guidance suggests that a minimum of two years of work will need to be undertaken for many schemes).
- Wind farm developers are often of the opinion that where there are a number of schemes within an administrative boundary, the first applicant to submit a well-supported planning application is the most likely to achieve planning consent.
- During the early stages of wind farm feasibility work, site boundaries are often not fixed; the number of turbines is subject to change; access routes, grid connection options and constraints to development are being explored; and legal agreements with landowners and their agents negotiated. There is therefore considerable potential for the scheme to fall through or to change considerably, and many do.

The result of this combination of factors is often that developers want to start bird

survey work as early as possible (in order to foreshorten the time until a planning application can be submitted), while still exploring the feasibility of the scheme. As community engagement has not typically begun, keeping the proposal confidential is often a high priority at this stage. When they consult, developers want to do so based on a scheme that is realistic: consulting on a proposal that is not taken forward is a waste of time and resources for all concerned, and a feeling of suspicion or distrust can result if a proposal that is consulted upon is subsequently subject to considerable change.

As noted by SNH (2013) in their key changes section, there can be clear advantages to early consultation. Ideally, the scope of works (including the site-specific rationale for the definition of target and secondary species) will be discussed and agreed, and this will inspire confidence and can reduce unnecessary expenditure for the developer. Experience does not suggest that this is always the case in practice however.

Notwithstanding the list of reasons why developers may be reticent to consult, many developers do seek to engage with statutory nature conservation bodies (in Great Britain and Ireland) prior to scoping. The pre-scoping level of engagement, as well as its outcomes, are variable, and depend on the resources and expertise of the organisation and individual concerned. Frequently, consultees are significantly under resourced or have too broad a remit to be able to submit a technical response. In many cases responses therefore take some time to be received (indeed some are not received or are particularly unhelpful⁴), and the most common response is a statement that SNH guidance must be followed, often formulaically. Site-specific statements are relatively infrequent, as staff often do not have the expertise / experience or the time to consider individual developments in detail. It follows that the new guidance will require both SNH and other conservation stakeholders (who adopt it) to make efforts to engage more consistently and usefully if the situation is to change. A change in approach from some developers will also be required.

In practice it is likely that many schemes will continue to commission bird survey work prior to consultation (for the reasons previously outlined). So how can developers protect themselves if they don't want to enter pre-scoping discussions; or if they do and these prove to be of limited value?

One way of dealing with this is by engaging ecological advisors with significant experience of wind farm survey work. Consultants who understand bird

distribution, likely consultee concerns, the Habitats Regulations Assessment process and other relevant technical areas are more likely to be able to provide good advice whatever the level of engagement that stakeholders are able to commit to a particular scheme. They may also be in a better position to scope the survey work than SNH (or equivalent bodies elsewhere in the UK), as they will have knowledge of the locality, should have undertaken a basic desk study, identified the locations of designated sites in relation to the proposed development, and considered the context of the site in the local landscape (using resources including aerial photographs, maps and using terrain modelling). Information on nearby wind farm applications, if relevant, is also often available from the local planning portal. As noted in the guidance, the ability to step away from generic survey methods, and design bespoke protocols to answer the questions relevant to EIA (or where relevant HRA) is important. The ability to make this sort of decision comes with experience and is a far cry from the stock response of "follow the SNH guidance".

Two Years of Survey?

The 2005 guidance stated that two years of data collection should be undertaken in circumstances such as: where ground-nesting moorland raptors or divers breed on or close to a site, as these birds may change nest site between years; where the distribution of a species may change due to crop rotation (an example might be wintering pink-footed geese); or where a pair of birds (such as a golden eagle or peregrine) is known to regularly move between traditional nest sites. In all these examples, the implication is that ranging behaviour (use of their territory) between years could change substantially, and the baseline collected over a single year would not be representative.

Section 3.5 of the 2013 guidance initially states, *"We recommend survey for a minimum of two years to allow for variation in bird use between years."* *"In recognition of the wind farm industry moving into more sensitive bird areas, including locations potentially impacting on the qualifying interests of designated sites, two years survey will be required unless it can be demonstrated by the developer that a shorter period of survey is sufficient. An example of this may be where a lowland farmland site with lower bird interest or bird activity levels in potentially sensitive locations away from designated sites are much less than anticipated after one year or 18 months of survey."*

It is noted that where directly relevant data are already available (such as for lekking black grouse), this can be used to inform the baseline, with the implication that a

second year of work may not then be needed with regard to that species. Data that is up to five years old is considered potentially relevant in this regard by SNH.

In Annex 1 of the 2013 guidance specific examples of scenarios where two years of data collection is required are detailed. These include wind farm proposals in areas that support breeding divers; or in areas that are used seasonally or year-round by (unspecified) raptors, breeding, wintering or passage waders, owls, lekking black grouse or non-breeding wildfowl. The guidance indicates that a range of data collection should be undertaken for these species in both survey years. For a resident raptor species for which local data on territory locations is not held, for example, the implication is that two years of VP survey work plus surveys for territories (to between 1km and 6km from turbine locations depending on species) are carried out.

So how much flexibility is there in this, and how many sites will it apply to? Essentially the wording of Section 3.5 provides the basis for SNH (and other consultees) to request or even insist upon two years of baseline survey for any site. This is because any site is likely to return seasonal flight records of one or more protected birds of prey, irrespective of habitat quality. Examples of 'lower bird interest' are not provided, and it is therefore likely that two years of work will become the expected norm unless developers want to test consultee resolve at public inquiry.

Our conclusion is, therefore, that two years of baseline survey will rapidly become the default requirement for all but the most benign sites in Scotland. It is likely that this will also gradually become the expectation throughout the rest of the British Isles. For developers, this may sound like a negative assessment of the likely situation, but unfortunately, guidance has a tendency to be interpreted as a rule book and two years will soon undoubtedly be quoted as 'the minimum requirement'. The risk averse perspective is that, for all but the smallest schemes, it will be difficult to gain agreement with consultees that a year of survey is sufficient, and two years of work should therefore be planned for.

Changes in Survey Specification

There is a considerable change in terms of passerine survey recommendations in the 2013 guidance. Essentially, unless there are specific concerns about passerines that are rare or have very restricted ranges within Scotland, survey is not required to focus on them. Passerine information will continue to be collected as part of other work, but will mainly be of contextual interest. SNH's 2005 guidance

recommended detailed survey of woodland (breeding and wintering point counts) and farmland passerines but put less emphasis on upland passerine communities. This change in guidance reflects the fact that there is very little, if any, persuasive evidence that passerine species are significantly affected by wind farm developments. The change will be welcomed by field surveyors, particularly those who now have considerable experience of 'coal tit and goldcrest surveys' in extensive areas of thicket-stage plantation in the uplands! Of greater interest, however, is the very clear difference between NE (2010) and SNH (2013) guidance with regard to passerine survey. The reason why NE (2010) recommended 10 surveys for lowland passerine-dominated breeding bird communities is not commented upon in their guidance, and has always seemed disproportionate in terms of likely effects and EIA priorities (indeed it is very rare that ten surveys are actually undertaken or requested). This difference is given renewed emphasis by this change in SNH guidance.

There are also changes in moorland wader survey that are recommended by the 2013 guidance, in particular an increase to four (as opposed to three) visits to be undertaken between mid-April and early-July. This change is based on British Trust for Ornithology (BTO) research that suggested a fourth visit would considerably improve the data set returned for some species. This change in guidance is accompanied by a statement noting that mistimed visits will result in inadmissible data, and that geographical variation in the timing of breeding will need to be considered when planning work.

Black grouse survey recommendations remain consistent with 2005, and there is useful information included with regard to scoping the requirement for winter waterfowl survey. In many cases, the level of data collected for wintering waterfowl will be reduced as a result of this.

The changes in guidance with regard to coastal and intertidal birds are a little less clear. The main emphasis appears to remain on VP survey, which is consistent with the 2005 guidance. However there is an implication that complementary surveys should be undertaken (for example the guidance states that the importance of areas within 2km of a site for waterfowl should be understood), probably through mapping of bird activity across the tidal cycle. Ecologists with experience of working on coastal sites will have developed protocols for this type of survey (and will be applying them already to limit risk to their clients).

These changes are not all necessarily negative for developers: if many developers reviewed their projects they would probably

find that they have completed two years of ornithological data collection for many sites. This could therefore be seen as a step towards levelling the playing field.

From an assessment perspective, the changes will potentially allow better characterisation of bird communities (a more detailed baseline), a more structured approach to survey work (with generic work completed in year one and more focussed work (as necessary) in year two) and more opportunity to develop mitigation and monitoring strategies where required.

VP Survey

There is considerable detail in both the 2005 and the 2013 SNH guidance about VP survey work, and the appendices to the 2013 document provide some useful notes on scoping and also potentially for defending the approach taken for some species / species groups⁵. It follows that anyone involved in planning VP survey should read the 2013 guidance in detail. The bullet-pointed list below extracts some elements of the detail of the guidance that are of particular interest from our perspective:

- It is noted that the main purpose of VP survey is to provide data for the Collision Risk Model, and the secondary purpose is to understand bird use of a site.
- VPs should be selected that are appropriate to the species that are being surveyed / targeted and correction factors (could) be applied for some species likely to be under recorded by VP work.
- Visibility of the rotor swept area is critical, but visibility at ground level across a site not so.
- The survey area should include the potential wind farm and a perimeter area of 500m.
- It is possible to effectively survey a distance of up to 2km from a VP.
- VPs should be as close to a survey area as possible, but outside it wherever possible.
- Migratory survey should be timed to coincide with the peak in occurrence of the species it is intended to sample.
- Data should be presented in the ES that allows Collision Risk to be independently calculated.

Every reader with long-term experience of wind farm survey is likely to identify points within the 2013 guidance that are pertinent to their experience, and there is no substitute for reading and absorbing it.

From our perspective, understanding (or confirming) how birds use the local

landscape should always be the driver for VP survey. An initial assessment of local landscape (topography and broad habitat type), site appraisal and knowledge of bird distribution and habitat requirements should allow an informed indication of how birds are likely to use the local area that can be confirmed (or rejected as the case may be) through flight line mapping. Collision risk analysis is a mechanical process, and while the model is mathematically robust, the avoidance rates applied to the results remain relatively arbitrary. It is clearly desirable to be able to compare sites in a standardised way, but assessments cannot be overly reliant on numbers, as all surveys are snapshots and avoidance rates for many species are not supported to date by empirical data. Our view is therefore that understanding and interpreting bird flight lines is at least as important a driver for VP work as providing data to assessing theoretical collision risk.

Application of correction factors for some species is an interesting idea. However, if species of particular conservation interest use a site, other sections of the guidance indicate that a bespoke approach is required. If, for example, dunlin was a species of particular concern, it follows that the way to understand how birds move around their territories, and the heights they fly at, would be to undertake some additional, species-specific work. This might be a more robust (and sensible) way to approach collecting the baseline data for assessment than applying correction factors.

Several of the other points above concern VP coverage. The confirmation that SNH continues to consider it is possible to survey up to 2km from a VP location is useful (NE guidance is 1km). The idea that VPs should cover a 500m perimeter around the survey area is more reasonable in the context of a large wind farm than a small one, where the additional work involved may be disproportionate to the nature conservation sensitivity of it.

Accuracy of mapping is undoubtedly improved where sites have a range of features (hills / escarpments / valleys, large water-bodies, fence lines, buildings etc), and this recommendation should presumably be reviewed on a site-by-site basis. In lowland landscapes broken up into compartments by fields, a high degree of accuracy in flight line mapping is generally possible.

The 2005 guidance stated "..... VPs are best located outside the survey area where possible. As acuity of observations will decrease with distance, VPs should be located as close to the survey boundary as possible." This is similar to what is said in 2013 guidance. However the 2005 guidance went on to state "Obviously, VPs should never be located within the

proposed wind farm site, but if there is no alternative but to locate VPs within the wind farm site, then this should only be undertaken when the proposed site is sufficiently large that a part of the wind farm site at least 500m from the VP can be watched (observations at closer distances are potentially biased)." The 2013 guidance has a different tone: *"Where VPs are located within the survey area, they should not be used simultaneously with other VP locations which overlook them as the presence of an observer either sitting at or moving to/from the VP will probably affect bird behaviour."* This implies that VPs within a survey area are potentially acceptable if planned and executed appropriately.

This is welcome, as we are aware that there have been numerous debates with consultees on VP site selection, and in some instances VPs within a survey area have been regarded as inappropriate, and data inadmissible or held to be of questionable value despite the fact that the VP concerned offers the best practical solution. What needs to be clear is that the best available VPs should be chosen for survey work. These may be within or outside a survey area, with the latter being preferable if two potential locations offer similar coverage and concealment.

A further key consideration is whether the bird community is likely to be affected by your VP locations – in most cases you should understand your likely bird community before you start. Although it is stating the obvious, a 'red line boundary' is only of relevance on a map, not to birds. If a VP within a proposed wind farm can be accessed appropriately (i.e. without walking right through the site) and is in a better location (being screened / less obtrusive) than other options outside the survey area, these are both compelling reasons for selection. It is therefore hoped that the more pragmatic language in the 2013 guidance will lead to more reasoned debate on this topic from all concerned. It may also be that SNH will be willing to comment on VP locations prior to survey commencing on a more regular basis (with reference to the greater emphasis on consultation).

The point with regard to migratory species is entirely reasonable. Migratory surveys should only need to be completed where there is a potential migratory bird issue. It is usually relatively straightforward to obtain information on times when influxes of species tend to occur at the regional level, and the period for migratory work should be defined based on this.

Finally, data should be presented in the ES in a way that allows Collision Risk Analysis to be undertaken independently. For many developers and their consultants this will

result in no change in their approach. However, for those who do present data in appropriate detail, and understand how time consuming it is to do so, this 'levelling of the playing field' is welcome.

Viewpoint

It reflects well on SNH that they have issued revised ornithological guidance based on experience gained since 2005. There will always be differences of opinion with regard to the detail of any guidance document, but some sensible changes have been made, and there seems to be an emphasis on ensuring that the quality of baseline data collection and of ornithological assessment continues to improve.

One apparent dichotomy is that in the same year as the issue of guidance that recommended a 99.8% avoidance rate for geese be adopted for the purpose of analysing collision risk, increased VP survey for geese is likely to be required as a result of the guidance. Analysis of theoretical collision risk is cited as the main reason for the collection of additional flight line data. If it is accepted that collision risk is very low in geese, why is it likely that VP survey effort will need to increase? If there is still a lack of faith in empirical data, maybe post-construction work would provide a more useful focus? There has always been more emphasis on pre- as opposed to post-construction survey for wind farms in the UK, with the inevitable result that there remain relatively few high-quality studies that can be used to inform assessment work. Perhaps post construction survey also needs further consideration?

Another interesting aspect is the continued divergence from NE guidance in terms of length of VP watches, the distance a VP can be used to effectively survey and the requirement for passerine survey. It may be time for a partial revision of the equivalent NE guidance, at least to address / justify departures from the SNH approach (this was not done in NE's 2010 guidance).

Perhaps the main take home message from the guidance, however, is that as developers are now looking at more marginal sites, many of which will have ornithological issues (particularly from a cumulative impact perspective), a good ornithological rationale for each site considered is needed. This requires experienced, technically competent ecologists who are able to make reasoned decisions and undertake early engagement with SNH (and other stakeholders) wherever possible. It also needs a good degree of understanding of the inherent difficulties and limitations of survey by all concerned.

¹Prior to 2005 there were several drafts of the guidance issued by SNH. Nature conservation and renewable energy stakeholders provided comments on these documents.

²Natural England. (2010). Assessing the effects of onshore wind farms on birds. Technical Information Note 069. Natural England, Peterborough.

³Natural England. (2007). Assessing ornithological impacts associated with wind farm developments: surveying recommendations. Technical Information Note 008. Natural England, Peterborough.

⁴Our experience is that SNH do not generally fail to respond. However other nature conservation stakeholders likely to adopt this guidance fail to respond on a more regular basis (or do so so slowly that the response is received too late to be useful in informing the scope of works). This appears to be largely related to under resourcing.

⁵For snipe and dunlin, for example, there is a statement to the effect that VP survey is not likely to be particularly useful (without adaptation) for recording flight activity.

⁶Wood, D., Douse, A & Cole, M. (2013). Geese and wind farms in Scotland: new information. SNH, Inverness.