

APPROPRIATE ASSESSMENT

ISLE OF WIGHT COUNCIL

Proposal: Wind turbine generating station 4 turbines 100m overall height and 2 turbines 109.5m overall height with associated infrastructure on land south of Wellow, Isle of Wight

European site name: Solent & Southampton Water SPA/Ramsar site

October 2006

This is a record of the appropriate assessment, required by Regulation 48 of the Habitats Regulations 1994, undertaken by the Isle of Wight Council in respect of the above plan, in accordance with the Habitats Directive (Council Directive 92/43/EEC). Having considered that the plan would be likely to have a significant effect on the interest features of the Solent & Southampton Water SPA/Ramsar and that the plan was not directly connected with or necessary to the management of the site, an Appropriate Assessment has been undertaken of the implications of the proposal in view of the site's conservation objectives.

English Nature was consulted under Regulation 48(3) and their representations, to which this authority has had regard, are attached at Annex 1. The Environmental Statement and the conclusions of this appropriate assessment are in accordance with the advice and recommendations of English Nature.

The information to carry out this assessment has been provided by the following documents:

- 1) West Wight Project, Isle of Wight. Technical Appendix E: Habitat, Wildlife and Birds. May 2006. Your Energy.*
- 2) West Wight Project, Isle of Wight. Technical Addendum: Birds August 2006. Your Energy.*
- 3) West Wight Project, Isle of Wight. Technical Addendum: Bats August 2006. Your Energy.*
- 4) S. Gillings, R. Fuller & W. Sutherland (2005) Diurnal studies do not predict nocturnal habitat choice and site selection of European Golden Plover (*Pluvialis apricaria*) and Northern Lapwings (*Vanellus vanellus*). *The Auk* 122 (4): 1-12.*
- 5) Hampshire Bird Reports 2001 - 2004*

The information contained within these documents has been heavily relied upon in drawing together this Appropriate Assessment.

The site's conservation objectives have been taken into account, including consideration of the citation for the site and information supplied by English Nature.

1/ Introduction and Description of Proposal

This Appropriate Assessment will evaluate the overall impact of the proposal on the European features of nature conservation interest and make a judgment as to whether the proposal would result in an adverse effect on the integrity of the Solent & Southampton Water SPA/Ramsar site.

The Appropriate Assessment is based upon information contained within the documents listed above.

The plan or project is for a wind turbine generating station comprising 4 turbines of 100m overall height and 2 turbines of 109.5m overall height together with associated infrastructure to include 59m high meteorological mast, crane pads, switching station, underground cables, temporary construction compounds, parking bay and new access. The site, on farmland to the south of Wellow in the West Wight, is within 2.5km of the Newtown estuary, a component estuary of the Solent & Southampton Water SPA/Ramsar site.

English Nature has advised that the plan or project would have a likely significant effect upon Eurasian Golden Plover which roost and feed offsite from the Solent & Southampton Water SPA/Ramsar site. Golden Plover form a part of the regular wintering assemblage of the European site.

2/ International Site Conservation Objectives and attributes of favourable condition

2.1 The SPA Conservation Objective which could be affected by the plan or project is:

Subject to natural change, to maintain, in favourable condition, the habitats of the populations of waterfowl that contribute to the internationally important assemblage of waterfowl of the Solent and Southampton Water SPA, in particular: saltmarsh; intertidal mudflats and sandflats; boulder and cobble shores; mixed sediment shores

Some of the species contributing to the nationally important assemblage also use areas of land and coastal waters outside the boundaries of SPA and might be affected by activities taking place adjacent to the European site.

The attribute which could be affected as a result of the plan or project is a reduction or displacement of birds as a result of disturbance or collision. The target for this attribute is no significant reduction in numbers or displacement of birds from an established baseline, subject to natural change. The factors which require consideration are:

- i) Impacts upon population dynamics. This relates specifically to direct effects on populations, which would include disturbance or death of the species concerned.
- ii) Impacts upon range. The range of a species within a site is as important as its range within Europe. Effects that reduce or limit a species range but do not detract from its population size represent a loss of site integrity.

2.2 Ramsar Conservation Objectives

The conservation objectives for the Ramsar interest on the SSSI are:

Subject to natural change, maintain the wetland regularly supporting 20,000 waterfowl species in favourable condition, in particular: saltmarshes; intertidal mudflats and sandflats; boulder and cobble shores; mixed sediment shores

Subject to natural change, maintain the wetland regularly supporting 1% or more of the individuals in a population of waterfowl species in favourable condition, in particular: saltmarshes; sand and shingle; shallow coastal waters; intertidal mudflats and sandflats; boulder and cobble shores; mixed sediment shores

3/ Evaluation of the importance of the proposed development area in terms of SPA bird populations.

Golden Plover were recorded from the proposed wind farm site in variable numbers during the winter period (winter bird surveys 2003/4 and 2005/6). The fields within the application site are occasionally used for roosting and feeding, and birds fly within and across the site below 100m. The numbers recorded fluctuated widely. Highest numbers were recorded in November and December, with a peak flock of 350 birds recorded in late December. The numbers recorded in the late winter period were much smaller with no birds recorded during January, February or late March. No birds were detected on three random evening/early night time surveys in February and March, although no structured night-time survey was carried out to explore this aspect of bird use.

The Newtown Estuary holds the bulk of wintering Golden Plover using the Isle of Wight harbours and estuaries, with flocks typically numbering 500-700 birds. Passage birds begin to arrive during August and numbers continue to build until November. Peak numbers occur between November to March and fall away rapidly during April (1). At high tide, most of the birds roost in the fields and upper saltmarsh around the estuary (pers. comm. Newtown WeBS counter). However, flocks are occasionally reported away from Newtown, in fields scattered across the West Wight (1). The pattern of records shows that Golden Plover range widely over the Island during the winter months with no particularly favoured areas and no regularly recorded large concentrations. Both arable and pasture fields may be used.

Within the Solent as a whole, the greatest winter concentrations are in Chichester & Langstone Harbours SPA (maximum counts of 3344 [February 2001]; 5397 [January 2002]; and 2981 [January 2003]) (ref. 5). Within the Solent & Southampton Water SPA, wintering Golden Plover are recorded at a number of sites along the Hampshire coastline. The nearest significant mainland site is the Lymington/Hurst stretch. Maximum counts here were 430 in January 2001; 500 in March 2002; 732 in February 2003; 800 in January 2004 and 1200 in December 2004 (ref. 5). Four regularly counted sites elsewhere along the Solent Hampshire coast each hold numbers which are comparable with numbers in the Newtown estuary. In a good winter, the SPA can hold around 2400 Golden Plover. As a very approximate

estimate, the Newtown estuary holds around 28% of the wintering Golden Plover in the Solent & Southampton Water SPA and around 12% of the wintering population in the Solent area. The maximum number of birds recorded as using the field within the application site is around 15% of the wintering Golden Plover in the Solent & Southampton Water SPA.

4/ Description of Impacts

This is an off-site impact on a population of Golden Plover believed to be using the Newtown Estuary, comprising around 28% of the wintering Golden Plover population in the Solent & Southampton Water SPA. Golden Plover are a component of the wintering waterfowl assemblage which is an interest feature of the SPA. There are three potential impacts from the plan, namely the loss of habitat due to the construction of turbine bases and tracks; the displacement of birds as a result of disturbance; and potential mortality through collisions.

4.1 Loss of habitat due to the construction of turbine bases and tracks

The locations of the proposed turbine bases and ancillary infrastructure are in areas where no flocks of Golden Plover have been observed. The area occupied by these structures is minimal in comparison with the extent of open fields in the area and this Appropriate Assessment considers that this loss is unlikely to reduce the extent of available habitat by any significant degree.

4.2 Displacement of birds as a result of disturbance

The Golden Plover flock in general demonstrates high site fidelity to the Newtown harbour area (pers. comm. Newtown WeBS counter). The wide scatter of records away from Newtown would indicate that the birds are not favouring particular feeding and roosting sites during the winter season, away from their core area. Local bird watchers have always assumed that the large numbers of Golden Plover (100+) which are occasionally recorded away from Newtown are part of the Newtown flock. No clear preference is shown for either arable or pasture fields by these birds.

Studies in Norfolk (Ref. 4) have shown that Golden Plovers and Lapwings on arable farmland were more widely dispersed at night; nocturnal flocks were smaller, typically monospecific, and occurred in many more fields than diurnal mixed-species flocks. Diurnal numbers of Golden Plovers could not be used to predict nocturnal numbers, indicating differing ranging behaviour between day and night. For both species, nocturnal feeding was recorded on almost all nights, irrespective of moon phase. They concluded that diurnal studies of habitat choice and site selection may misrepresent the full requirements of such species. These observations are considered to be relevant to the location of wind turbines. The very fact that plovers (and other wader species) are active after dark and potentially moving between feeding and roosting areas at night means that they, more than many species, could be susceptible to collision with wind turbines.

The U.K. wintering Eurasian Golden plover population has shown changes in distribution patterns over the past 15 years with marked increases in Eastern England, especially in coastal locations. It is suggested that a redistribution of the wintering population has occurred, probably driven mainly by climate change. (BTO website

<http://www.bto.org/survey/special/w-ploverinfo.htm>). The studies referred to above (Ref. 4) were in Norfolk and looked at 213 fields known to be regularly used by large flocks of Golden Plover (in total several thousand birds). In contrast, the Wellow situation relates to a wide scatter of fields across the West Wight being used occasionally by small numbers of birds, probably linked to a local wintering population of up to a maximum of 350 birds but generally far fewer.

It may be that some of these fields are used more frequently at night but the numbers of individuals is likely to be small. Three evening/early night time visits to the fields at Wellow revealed no Golden Plover. This by no means equates with a nocturnal survey but does provide some helpful, if anecdotal, information. This Appropriate Assessment makes the assumption that the fields identified as being used occasionally by Golden Plover are important as a suite of fields which are used occasionally by the local population of wintering Golden Plover. Usage of this suite of fields may be more frequently than the available information suggests.

The fields identified as being used by Golden Plover within the application site would still be available for use, under current land management. It is possible that the presence of turbines in the near vicinity may act as a deterrent, leading to the displacement of birds. However, there is no evidence to indicate that Golden Plover are faithful to these fields. Moreover, a very large number of fields in the West Wight would continue to be available for use by Golden Plover, including those already identified as being used occasionally.

4.3 Potential mortality through collision

The feeding ecology of Golden Plover, foraging on farmland, forming cohesive flocks and with a tendency to undertake long circuits around feeding areas prior to landing (or if flushed) potentially puts this species at high risk from collision with turbines.

The collision risk model presents a standard method of providing comparable results across different wind farms, allowing the evaluation of risk to avian populations assuming no avoidance action is taken by the birds. The Environmental Statement (Ref. 1) contains a Collision Risk Assessment for Golden Plover using the standard SNH model developed by Band *et al.* The calculations predicted a mortality of 368-450 birds over 25 years, or recalculated to omit the possibly anomalous behaviour of a single bird, to 150-184 birds over 25 years. Following questions regarding the validity of these calculations, the data was re-analysed (Ref. 2) to take into account the behaviour of Golden Plover flocks rather than the random flights of individual birds through the wind farm area. This has given an assessment of 14-17 birds over 25 years. This re-assessment of the original data has been accepted by experts from English Nature.

The calculation is based on many assumptions – no avoidance action, and that the bird's flight will be unaffected by a near miss, despite the slipstream around a turbine blade.

Hence, the prediction is that there is a small risk of Golden Plover collisions with wind turbines. The calculation of 14 to 17 birds compares with a local wintering population in the Newtown Estuary of around 500 – 700 birds, and a wintering population of around 2,400 birds within the Solent & Southampton Water SPA. The

risk is considered to be greatest for birds commuting between occasionally used inland sites in the West Wight and the estuaries within the SPA boundaries.

The revised Collision Risk Assessment calculates that around 0.1% of the wintering Golden Plover population at Newtown and around 0.03% of the wintering Golden Plover within the SPA, are at risk of collision in each of the twenty-five years that the wind turbines would be operational. Golden Plover are a species which are not faithful to estuaries and many inland sites are unrecorded, so the actual predicted impact upon the Golden Plover population wintering within the Solent area would be considerably less than this.

5/ Description of Impacts 'In Combination'

The Newtown Estuary is one of the most natural and undisturbed estuaries of the Solent estuarine cluster. There are no identified plans or projects within or surrounding the Newtown Estuary which have been considered to have a likely significant effect upon the SPA.

Consequently, it is considered that there are no other disturbance factors which should be considered 'in combination' which could affect the local wintering population of Golden Plover within the SPA.

6/ Overall Assessment of Impacts

The collision risk model has highlighted the vulnerability of Golden Plover to collisions with turbines. However, the losses predicted represent a very small (0.1) percentage of the local Golden Plover wintering population. This constitutes something of the order of 0.03% of the wintering SPA Golden Plover population and 0.00002% of the regular wintering waterfowl assemblage of the European site.

7/ Effects on the Integrity of the SPA/ Ramsar sites 'Alone'

Site integrity is defined in the Government Circular: Biodiversity and Geological Conservation – statutory obligations and their impact within the planning system as: *The coherence of its ecological structure and function, across the whole area, that enables it to sustain the habitat, complex of habitats and/or levels of populations of the species for which it was classified.*

An adverse effect on integrity is defined as: *likely to be one that prevents the site from maintaining at least the same contribution to favourable conservation status (FCS) as it did at the time of designation.*

The predicted off-site impact of the windfarm on the wintering SPA Golden Plover population is very small (0.03%) and is not considered to be adverse. The predicted impact on the regular wintering waterfowl assemblage is vanishingly small (calculated at 0.00002%). Therefore, these impacts are not predicted to significantly affect the integrity of the SPA/ Ramsar site alone.

8/ **Effects on the Integrity of the SPA and Ramsar site 'In Combination' with other plans and projects.**

The Newtown Estuary is a quiet, undeveloped estuary. There are no other plans or projects in and around the estuary which are likely to impact upon Golden Plover or known roost sites.

Natural England has advised that it is not aware of any plans or projects within the wider Solent & Southampton Water SPA which could have the potential to act in combination with this proposal to adversely affect the Golden Plover. The ABP dredge has already been completed and so should not be taken into account.

Consequently, there are no identified 'in combination' impacts on the Golden Plover population within the Solent & Southampton Water SPA.

9/ **Final conclusion in relation to effects on site integrity**

The implications of the plan 'alone' and 'in-combination' with other plans and projects has been assessed in view of the conservation objectives of the Solent and Southampton Water Special Protection Area (SPA) and Ramsar sites. It is concluded that, on current precautionary predictions, the windfarm is unlikely to significantly affect the population dynamics or the range of the wintering Golden Plover population within the Solent & Southampton Water SPA/Ramsar site, birds which are themselves a component of the overwintering waterfowl assemblage.

Therefore, it is concluded that the project will not adversely affect the integrity of the Solent and Southampton Water SPA/Ramsar, either alone, or in combination with other plans and projects.

Signed. .....

Date.....30/10/2006.....

Dr C.R.Pope, Ecology Officer, Isle of Wight Council
