



# **Policy FB12 Feasibility Study Ecology Appraisal Addendum - Birds**

Produced for Hastings Borough Council

By Applied Ecology Ltd

July 2014



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# 1 Introduction

- 1.1 Applied Ecology Ltd (AEL) was commissioned by Hastings Borough Council to review available ecological information relating to a site allocated for wind energy development in the Hastings Development Management Plan (Revised Proposed Submission Version 2014). The site is 5.4 ha in area and has reference Policy FB12 – Land south of Upper Wilting Farm. It is shown in **Figure 1.1**.
- 1.2 A feasibility study relating to the potential for wind energy development at this site was produced in July 2013<sup>1</sup>, and covered a range of relevant topic areas, including an ecological appraisal.
- 1.3 Subsequent consultation responses provided by Natural England (NE) indicated that NE had concerns that the feasibility study had not considered in full the potential effects of a wind turbine development at Upper Wilting Farm in the context of a neighbouring Site of Special Scientific Interest (SSSI), at Combe Haven.
- 1.4 NE's concern arise from the fact that bird species can be affected by wind turbine developments in a number of ways. These include:
  - direct bird habitat loss during construction of infrastructure;
  - displacement of birds through indirect loss of habitat due to birds avoiding the wind turbine(s) and its surrounding area due to construction, turbine operation and maintenance. Displacement can also include barrier effects in which birds are deterred from using normal routes to feeding or roosting grounds;
  - habitat change (e.g. felling or effects on hydrology), and consequent effects on bird populations;
  - death or injury of birds through collision with turbine blades, anemometer masts, or fences (if any) associated with the turbine(s).
- 1.5 This report is therefore an Addendum to the July 2013 feasibility study, aiming to provide a more in depth analysis of the pre-existing data relating to the Combe Haven SSSI and its designated bird interests, and the implications of a wind turbine development in its near vicinity.
- 1.6 Given the small size of the site covered by Policy FB12, any potential effects of displacement and habitat loss on birds are judged to be small-scale. The risk of bird collisions with turbine blades is therefore considered to be the only potential threat to the bird interest of the SSSI and its environs, and it is solely collision risk which is covered by this Addendum.

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<sup>1</sup> **Chris Blandford Associates (2013)**. *Upper Wilting Farm Wind Turbine Feasibility Assessment*. Contract report produced for Hastings Borough Council.





## 2 Methods

- 2.1 Information relating to the Combe Haven SSSI was obtained from the Natural England website<sup>2</sup> and the Sussex Biodiversity Records Centre (SxBRC).
- 2.2 The 2013 feasibility report included a desk study using records supplied by SxBRC from a 2 km search radius around the Policy FB12 site. As this data search had “timed out”, an identical data record request was made by AEL in June 2014. This included species of bird on the Sussex Notable Bird List (SNBL).
- 2.3 Appendix 12-E of the Bexhill to Hastings Link Road Environmental Statement<sup>3</sup> was also consulted for relevant information therein concerning birds in the area.
- 2.4 Natural England’s TIN069<sup>4</sup> advice note regarding the assessment of the effects of onshore wind farms on birds was consulted in order to identify species within the local area at potential risk from collision with turbines.
- 2.5 The collated data records were then interrogated to derive a list of species occurring in the environs of the FB12 site which are also listed on Appendix 1 of TN069, or otherwise considered to be at risk from turbine collision.
- 2.6 Of these species, an assessment was then made of the likelihood that they could come into contact with a wind turbine development at Upper Wilting Farm, based on an understanding of their behaviour and habitat usage.
- 2.7 Records provided in relation to the occurrence of Sussex Notable Birds was in more detail (spatially and temporally) than the other datasets, allowing a more detailed assessment to be made of the importance of Combe Haven SSSI to these species, at least with regard to the criteria under which they have been selected as Notable species in Sussex (usually as breeding species).

### Limitations

- 2.8 Although the data search results provided by SxBRC were more comprehensive than those provided by many other record centres, a degree of caution is required in their interpretation. Biological records are only as good as the data supplied to the record centre and reflect surveyor effort; often spatial references are only provided to a 1 x 1 km level, or even 10 x 10 km resolution, and record dates might be given in bands of a number of years. The absence of a recorded species does not necessarily mean absence of the species on the ground. These factors need to be taken in consideration when evaluating the data.

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<sup>2</sup> [http://www.sssi.naturalengland.org.uk/special/ssi/ssi\\_details.cfm?ssi\\_id=1001853](http://www.sssi.naturalengland.org.uk/special/ssi/ssi_details.cfm?ssi_id=1001853)

<sup>3</sup> Bexhill to Hastings Link Road ES – Chapter 12: Nature Conservation and Biodiversity: Appendix 12-E: Birds

<sup>4</sup> Natural England (2010) Assessing the Effects of Onshore Wind Farms on Birds. Technical Advice Note 069. Natural England.



## 3 Results

- 3.1 All bird species potentially affected by a wind turbine proposal at Upper Wilting Farm are summarised in **Table 3.1**. This is a large table covering a range of species, groups of which are considered in more detail below.

### Combe Haven SSSI citation

- 3.2 The Policy FB12 site lies on the northern boundary of Combe Haven SSSI (**Figure 3.1**), which includes within its boundary Filsham Reedbed, a Local Nature Reserve and Site of Nature Conservation Importance. Avian reasons given in the citation for notification of the site as a SSSI are as follows:

*“Breeding birds associated with the reed and fens include reed warbler, moorhen, coot, sedge warbler and water rail. Other breeding birds from the whole site include grasshopper warbler, yellow wagtail and cuckoo. Wintering birds such as lapwing, teal and snipe are found on the alluvial meadows and the site is important for passage birds including large flocks of thrushes, finches, warblers and buntings.”*

- 3.3 The species listed in the above citation extract are therefore included in **Table 3.1**.

### Pre-existing data records

- 3.4 The 2014 data record request did not return any records relevant to this addendum which were not included in the mapping information provided in the original feasibility study. The map from the feasibility study which shows the data records is reproduced here as **Figure 3.2**, using the same colour coding for consistency between the two reports.
- 3.5 Collating all pre-existing data records, a total of 106 key species were recorded within the 2 km search area that appear on at least one of the following lists:
- Schedule 1 (Wildlife and Countryside Act 1981, as amended);
  - Annex 1 (EU Birds Directive);
  - Sussex Notable Birds;
  - Citation for Combe Haven SSSI (see above).
- 3.6 These species are all listed and categorised in **Table 3.1**.
- 3.7 Seventy species were either Schedule 1 or Annex 1 (EU Birds Directive). Twenty-three of the 31 species considered to be vulnerable to wind farm development and turbine collision, as listed in Appendix 1 of TIN069, were recorded.
- 3.8 Fifty-five of the 56 species on the Sussex Notable Bird List were recorded. (Avocet was the only species on the SNBL which had not been previously recorded in the study area. It is not included in **Table 3.1**.)



**Table 3.1: Summary of data records.**

Species	SSSI citation	SNBL species	Schedule 1 /Annex 1 species	NE TIN069 Appendix 1	Data search records of species' occurrence		
					Date of records	Occurrence	Number of records
Arctic tern			no/yes	yes	1992 - 1995	No details in data search results	8 records within search area.
Barn owl		yes	yes/no		1984 – 2008	Most data search records are of winter birds at both Combe Haven and Marline Valley and no statement of confirmed breeding. Breeding season records in 2005 and 2006 immediately west of the 2 km radius search area.	25 records in search area; 14 Combe Haven.
Barn swallow		yes	no/no		1984 – 2012	Many records but not recorded breeding within the SSSI.	Many records in search area.
Bearded tit		yes	yes/no		1970 – 2013	Breeding recorded at Glyne Gap Marsh, Bexhill in the south-west of the search area and at Filsham reedbed until 2001	206 records in search area; 78 breeding season records Combe Haven.
Black redstart		yes	yes/no		1992 – 2012	One summer record from the SSSI and positive breeding on the coast.	38 records in search area.
Black tern			yes/yes		1992 - 1995	Passage migrant. No details in data search results	3 records in search area.
Black-legged kittiwake		yes	no/no		1992 - 2009	No details in data search results	7 records in search area.
Black-necked grebe			yes/no		1989 - 2002	No details in data search results	2 records in search area.
Black-tailed godwit		yes	yes/no		1992 - 2001	No details in data search results	9 records in search area.
Black-winged stilt			yes/yes		1984	No details in data search results	2 records in search area.
Bluethroat			yes/yes		1912 - 2002	No details in data search results	8 records in search area.
Brambling			yes/no		1992 - 2006	No details in data search results	46 records in search area.



Species	SSSI citation	SNBL species	Schedule 1 /Annex 1 species	NE TIN069 Appendix 1	Data search records of species' occurrence		
					Date of records	Occurrence	Number of records
Cetti's warbler		yes	yes/no		1981 – 2012	Breeds in Filsham reedbed.	123 records in search area. Over 50 records in Combe Haven, where max 9 territories in 2010.
Cirl bunting			yes/no		1977	No details in data search results	1 record in search area.
Common crossbill		yes	yes/no		1985 – 2011.	Present Combe Haven during the breeding season in some years but no evidence of breeding.	36 records of which 6 were at Combe Haven. Max 17 birds but usually fewer than 10.
Common greenshank			yes/no		1992 - 2002	No details in data search results	43 records in search area.
Common kingfisher		yes	yes/yes		1993 – 2012	Mainly breeding season records	88 records in search area; 13 from Combe Haven.
Common pochard		yes	no/no		1993 - 2006	No details in data search results	10 records within search area.
Common quail		yes	yes/no		1921 – 2002	Records from the SSSI in 1995, 1998 and 2002	15 records in search area; 4 breeding season records from Combe Haven.
Common raven		yes	no/no		1987 – 2002	Breeding season records from SSSI in 2004 and 2006. Breeding not confirmed.	Single birds on most occasions.
Common redshank		yes	no/no		1984 – 2002	Bred, Combe Haven 1984	11 search area records; 3 records Combe Haven.
Common scoter			yes/no		1989 - 2011	No details in data search results	14 records in search area.



Species	SSSI citation	SNBL species	Schedule 1 /Annex 1 species	NE TIN069 Appendix 1	Data search records of species' occurrence		
					Date of records	Occurrence	Number of records
Common snipe	yes	yes	no/no		1977 – 2013	Mainly passage migrant and winter visitor. Up to 3 pairs, Combe Haven.	143 records from search area and max count of 150. 24 records from Combe Haven and positive breeding there.
Common swift		yes	no/no		1992 - 2013	Regular summer visitor not breeding within SSSI	78 records from Search area, 2 breeding records.
Common tern		yes	no/yes	yes	1992 - 2011	No details in data search results	19 records from search area.
Coot	yes		no/no		1983 - 2012	No details in data search results	41 records from search area.
Corn bunting		yes	no/no		1985 – 2000	Mainly a wintering species.	6 records, all from Combe Haven; max count 30 in 1986.
Cuckoo	yes		no/no		1990 - 2013	No details in data search results	59 records from search area.
Dark-bellied brent goose			no/no	yes	1992 - 2007	No details in data search results	14 records from search area.
Dartford warbler		yes	yes/yes		1993 – 2006	Breeding season records from Marline Valley in 1998 and 2000.	54 records from search area, 1 winter record from near Combe Haven.
Eurasian curlew		yes	no/no		1985 – 2000	Passage migrant	15 records from search area; Max count 100 April 1996, Combe Haven.
Eurasian golden oriole			yes/no		1984 - 2003	No details in data search results	11 records from the search area.
Eurasian hobby		yes	yes/no		1980 -2006	At least one pair present within the SSSI most summers	31 records within the search area.



Species	SSSI citation	SNBL species	Schedule 1 /Annex 1 species	NE TIN069 Appendix 1	Data search records of species' occurrence		
					Date of records	Occurrence	Number of records
Eurasian marsh harrier		yes	yes/yes	yes	1984 – 2011	Recorded most months in the breeding season. Breeds Combe Haven (max 1 pair) and single birds may roost at other times.	89 records from search area.
Eurasian Reed warbler	yes		no/no		1986 - 2013	No details in data search results	157 records from data search area.
Eurasian spoonbill			yes/yes		2002	No details in data search results	2 records in search area.
Eurasian Teal	yes		no/no		1983 - 2012	No details in data search results	70 records from data search area.
Eurasian wigeon		yes	no/no		1992 - 2012	No details in data search results.	26 records from data search area.
Eurasian wryneck			yes/no		1991 - 2000	No details in data search results	7 records from data search area.
European golden plover			no/yes	Yes	1995 - 2004	No details in data search results	16 records from data search area. Max count 120.
European honey buzzard		yes	yes/yes	yes	1984 – 2002	Passage migrant - breeding record is not within or close to Combe Haven.	41 records from data search area.
European serin			yes/no		1983 - 2006	No details in data search results	8 records from data search area.
European turtle dove		yes	no/no		1985 - 2007	1 – 2 pairs to 2002 at Combe Haven	82 records from data search area; 7 during breeding season from Combe Haven.
Fieldfare			yes/no		1992 - 2012	No details in data search results. Winter visitor	56 records from data search area.
Firecrest		yes	yes/no		1992 – 2011	Recorded mainly as a passage migrant, mainly in Marline Valley but some at Combe Haven	67 records from data search area. 7 early spring records from Combe Haven.
Gadwall		yes	no/no		1990 – 2012.	Bred, Combe Haven, in 1994 (five birds present). Records 1990 – 2012 are mainly as a winter visitor	38 records from data search area.



Species	SSSI citation	SNBL species	Schedule 1 /Annex 1 species	NE TIN069 Appendix 1	Data search records of species' occurrence		
					Date of records	Occurrence	Number of records
Garganey		yes	yes/no		1987 – 2006	1 pair bred occasionally at Combe Haven	7 records from data search area.
Grasshopper warbler	yes		no/no		1979 - 2012	No details in data search results	71 records from data search area.
Great bittern		yes	yes/yes	yes	1976 – 2012	Mainly single birds. A winter visitor.	26 records, almost all from Combe Haven.
Greater scaup			yes/no		1992 - 2009	No details in data search results	6 records from data search area.
Greater white-fronted goose			no/no	yes	1979 - 2006	No details in data search results. Winter visitor	10 records from data search area.
Green sandpiper			yes/no		1976 - 2007	No details in data search results	79 records from data search area.
Grey heron		yes	no/no	yes	1991 – 2012	Breeds in Filsham Pebsham Wood south-west of the SSSI	68 records from data search area. 9 records of single birds, Combe Haven.
Grey partridge		yes	no/no		1994 – 2001	Recorded in 1994 and '95 breeding seasons, Combe Haven	10 records from data search area.
Hawfinch		yes	no/no		1985 – 2006.	All records from Marline Valley area to the north of the site, plus two from Combe Haven SSSI in mid 1980s	43 records from data search area.
Hen harrier		yes	yes/yes	yes	1979 - 2001	No details in data search results	24 records from data search area.
Hoopoe			yes/no		1932 - 2009	No details in data search results	8 records from data search area
House martin		yes	no/no		1938 – 2013	Many records but not recorded breeding within the SSSI	102 records from data search area.
Kentish plover			yes/no		1984	No details in data search results	1 records from data search area.
Lapland longspur			yes/no		1984 - 2000	No details in data search results	8 records from data search area.



Species	SSSI citation	SNBL species	Schedule 1 /Annex 1 species	NE TIN069 Appendix 1	Data search records of species' occurrence		
					Date of records	Occurrence	Number of records
Lesser spotted woodpecker		yes	no/no		1980 – 2007	Widely recorded and breeding in Marline Valley. Records from Combe Haven likely to be of post breeding movements.	62 records from data search area. 18 records from Combe Haven.
Little bittern			yes/yes		1968 - 2000	No details in data search results	5 records from data search area.
Little egret		yes	no/yes	yes	1985 – 2012	Bred in Filsham Plebsham Wood 2008	30 records from data search area. 6 records, max 12 birds from Combe Haven.
Little gull			yes/yes		1990 - 2003	No details in data search results	20 records from data search area.
Little plover		yes	yes/no		1984 – 2003	Breeding season records from Combe Haven	22 records from data search area; 12 from Combe Haven.
Little tern		yes	yes/yes	yes	1969 - 1995	No details in data search results	6 records from data search area.
Long-eared Owl		yes	no/no		1984 – 2003	Breeding confirmed within Combe Haven	19 records from data search area; 11 records from Combe Haven.
Long-tailed duck			yes/no		1992 - 2009	No details in data search results	6 records from data search area.
Marsh warbler		yes	yes/no		1980 – 2008	Records from the SSSI where breeding confirmed in 2002	6 records from Combe Haven.
Mediterranean gull		yes	yes/yes		1989 – 2012	Two summer records Combe Haven in 2001. Unlikely to breed	55 records from data search area.
Merlin			yes/yes	Yes	1992 - 2003	No details in data search results	35 records from data search area.
Montagu's harrier		yes	yes/yes	Yes	1985 – 2000	Bred Combe Haven 1985 and 2000.	No other records from data search area.
Moorhen	yes		no/no		1983 - 2013	No details in data search results	144 records from data search area.



Species	SSSI citation	SNBL species	Schedule 1 /Annex 1 species	NE TIN069 Appendix 1	Data search records of species' occurrence		
					Date of records	Occurrence	Number of records
Northern goshawk		yes	yes/no		1985	Single winter record, Combe Haven	2 records from data search area.
Northern lapwing	yes	yes	no/no	yes	1984 – 2013	17 probable or definite breeding records (approx. 3 pairs) and single post-breeding flock of up to 114 (June 1999) Combe Haven	92 records from data search area; maximum flock size of 1500 within search area.
Northern pintail		yes	yes/no		1991 – 2012	Single possible breeding record (2002), Combe Haven, otherwise a winter visitor.	7 records from data search area.
Osprey		yes	yes/yes	yes	1979 – 2012	One during the breeding season in Combe Haven. Passage migrant.	21 records from data search area.
Peregrine falcon		yes	yes/yes	yes	1980 – 2002	Birds within Combe Haven during the breeding season in 1997, 2000, 2001 and 2004. Breeds nearby and birds likely to wander over the site.	31 records from data search area.
Pink-footed goose			no/no	yes	1993 - 2001	No details in data search results	2 records from data search area.
Purple heron			yes/yes		1977 - 2003	No details in data search results	15 records from data search area.
Red kite		yes	yes/yes	yes	1987 – 2004	Passage species	3 March and May records, Combe Haven.
Red-backed shrike			yes/yes		1968 - 2005	No details in data search results	8 records from data search area.
Red-necked phalarope			yes/yes		1906	No details in data search results	1 records from data search area.
Redwing			yes/no		1990 - 2012	No details in data search results	88 records from data search area; large numbers.
Ruff			yes/yes		1980 - 2003	No details in data search results	15 records from data search area.
Sandwich tern			no/yes	yes	1992 - 2010	No details in data search results	12 records from data search area.



Species	SSSI citation	SNBL species	Schedule 1 /Annex 1 species	NE TIN069 Appendix 1	Data search records of species' occurrence		
					Date of records	Occurrence	Number of records
Savi's warbler		yes	yes/no		1987 and 1988	Probably bred at Filsham reedbed.	1 pair recorded from data search area.
Sedge warbler	yes		no/no		1977 - 2013	No details in data search results	137 records from data search area.
Slavonian grebe			yes/yes		1992 - 2009	No details in data search results	10 records from data search area.
Snow bunting			yes/no		1950 - 2000	No details in data search results	16 records from data search area.
Spotted crane		yes	yes/yes		1981 – 2000	Present during the breeding season over 7 year period. Up to 4 birds calling.	15 records, all from Combe Haven.
Stone curlew		yes	yes/yes	Yes	1988 – 2000	One bird present, May 1985.	3 records from data search area.
Temminck's stint			yes/no		2001	No details in data search results	1 records from data search area
Tree sparrow		yes	no/no		1976 – 2007	No records from the SSSI	60 records records from data search area.
Tundra swan			yes/yes	yes	1999 - 2002	No details in data search results	8 records from data search area.
Velvet scoter			yes/no		1989 - 1995	No details in data search results	11 records from data search area.
Water rail	yes		no/no		1980 - 2012	No details in data search results	261 records from data search area.
Whimbrel			yes/no		1984 - 2010	No details in data search results	43 records from data search area.
Whooper swan			no/yes	yes	1985	No details in data search results	1 records from data search area.
Willow tit		yes	no/no		1976 – 2007	All records from Marline Valley except one, from Combe Haven.	50 records from data search area.
Wood lark		yes	yes/yes		1989 – 2012	Not recorded at Combe Haven.	22 records from data search area.



Species	SSSI citation	SNBL species	Schedule 1 /Annex 1 species	NE TIN069 Appendix 1	Data search records of species' occurrence		
					Date of records	Occurrence	Number of records
Wood sandpiper			yes/yes		1969 - 2002	No details in data search results.	14 records from data search area
Wood warbler		yes	no/no		1978 – 1999	Breeding season records only from Marline Valley except in 1986 and 1987 when present in Combe Haven.	23 records from data search area .
Yellow wagtail	yes	yes	no/no		1981 – 2013	Roosts in large numbers and a small number breeding, Combe Haven	98 records; maximum of 1000 roosting recorded from Combe Haven.



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## 4 Assessment and Discussion

4.1 Based on the information collated in the previous section, the majority of bird species known to occur in the near vicinity of Upper Wilting Farm can be discounted in terms of their potential collision risk. These are summarised in **Table 4.1** below.

**Table 4.1: Bird species not of potential collision risk concern at Upper Wilting Farm.**

Species	Collision risk rating	Reasoning (* denotes species listed in Appendix 1 of NE TIN069)
Arctic tern	Negligible	*Summering species confined to coast and marine habitats.
Barn swallow	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Bearded tit	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Black redstart	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Black tern	Negligible	Rare wetland passage migrant.
Black-legged kittiwake	Negligible	Confined to coastal areas.
Black-necked grebe	Negligible	Rare passage migrant, likely to be confined to the coast.
Black-tailed godwit	Negligible	A wader potentially present in small numbers but confined to wetland areas.
Black-winged stilt	Negligible	Rare vagrant wetland species.
Bluethroat	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Brambling	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Cetti's warbler	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Chil bunting	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Common crossbill	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Common greenshank	Negligible	A wader potentially present in small numbers but confined to wetland areas.
Common kingfisher	Negligible	Rapid flier, mainly confined to wetland areas.
Common pochard	Negligible	Ducks are not generally considered to be at risk from turbine collision. Usually confined to open water areas.
Common quail	Negligible	A rare night migrant.
Common raven	Negligible	Passerines are generally not considered to be at risk from turbine collision and this species is rare within the data search area.
Common redshank	Low	A wader potentially present in small numbers but confined to wetland areas.
Common scoter	Negligible	A species confined to coastal areas



Species	Collision risk rating	Reasoning (* denotes species listed in Appendix 1 of NE TIN069)
Common snipe	Low	Common snipe breeds in small numbers within the SSSI and counts of up to 150 have been recorded within the search area, probably during migration periods or winter. The species is discussed here because it is listed in the SSSI Citation. It remains faithful to wetland habitats, not undertaking regular flights to foraging areas and is highly unlikely to collide with turbine blades.
Common swift	Negligible	An agile species, unlikely to be at risk from turbine collision.
Common tern	Low	* Summering species confined to coast and marine habitats.
Coot	Negligible	Confined to wetland areas.
Corn bunting	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Cuckoo	Negligible	Not considered to be at risk from turbine collision.
Dark-bellied brent goose	Negligible	* Wintering coastal species that may feed a short way inland onto grazing marshes such as those found within the Combe Haven SSSI but unlikely to venture as far as Upper Wilting Farm.
Dartford warbler	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Eurasian curlew	Low	A wader potentially present in high numbers, usually confined to wetland areas.
Eurasian golden oriole	Negligible	A rare vagrant.
Eurasian hobby	Low	A fast and manoeuvrable falcon, not listed in Appendix 1 of TIN069 .
Eurasian Reed warbler	Low	Small passerines are generally not considered to be at risk from turbine collision.
Eurasian spoonbill	Negligible	A rare vagrant.
Eurasian Teal	Low	This species is not listed in the data search results as Notable in Sussex and therefore its records within the search area are not given in detail. It is a common duck species, especially in winter, with a maximum count of 143 within the search area. Teal may undertake commuting flights to suitable feeding locations, often at night, but those present within the wetlands of the SSSI are likely to remain within these habitat areas and are therefore unlikely to fly over the proposed turbine location at Upper Wilting Farm.
Eurasian wigeon	Negligible	A duck confined to wetland areas.
Eurasian wryneck	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
European golden plover	Low	*It is not clear whether this species' records within the search area refer to Combe Haven SSSI but given the habitats present there they are likely to be. It appears to be a wintering species with a peak count recorded of 120 birds. Golden plover forms loose flocks which may perform prolonged aerial evolutions over their wintering grounds and therefore they may risk collision with wind turbines. However, they are highly manoeuvrable birds, and given the relatively small number of records for the search area (21), it is considered that the threat of collision to this species is low.



Species	Collision risk rating	Reasoning (* denotes species listed in Appendix 1 of NE TIN069)
European honey buzzard	Low	This is a rare passage migrant, unlikely to breed within the search area as a whole and the SSSI in particular. A single breeding season record, dated 1992, was located approximately 6 km west of Upper Wilting Farm.
European serin	Negligible	Rare vagrant. Small passerines are generally not considered to be at risk from turbine collision.
European turtle dove	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Fieldfare	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Firecrest	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Gadwall	Negligible	Present in small numbers confined to wetland areas.
Garganey	Negligible	A rare duck confined to wetland areas.
Grasshopper warbler	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Great bittern	Low	A winter visitor apparently not breeding within the SSSI, likely to be annual but in very small numbers. This is a wetland bird which does not undertake commuting or other regular flights away from its reedbed and wet ditch habitat and is therefore highly unlikely to fly over the wind turbine location.
Greater scaup	Negligible	A rare duck confined to coastal areas.
Greater white-fronted goose	Low	*An uncommon winter passage migrant.
Green sandpiper	Negligible	A wader potentially present in small numbers but confined to wetland areas.
Grey heron	Low	Few records are listed within the SSSI but given the habitat, grey heron is likely to be resident there at all times of year. A breeding colony is present to the south-west of the SSSI but birds from there are considered likely to fly only between there and wetlands within the SSSI on a regular basis and therefore are not likely frequently to overfly the wind turbine location.
Grey partridge	Negligible	Uncommon species unlikely to be at risk from turbine collision
Hawfinch	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Hen harrier	Low	*A rare winter visitor and passage migrant.
Hoopoe	Negligible	Rare vagrant.
House martin	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Kentish plover	Negligible	Rare vagrant wader.
Lapland longspur	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Lesser spotted woodpecker	Negligible	Confined to areas of cover and unlikely to be at risk from turbine collision.
Little bittern	Negligible	Rare vagrant, confined to wetland areas.



Species	Collision risk rating	Reasoning (* denotes species listed in Appendix 1 of NE TIN069)
Little egret	Low	This species is recorded infrequently but is likely to be present at all times of year in small numbers. It is a wetland species unlikely to wander far from this habitat and does not form commuting flocks and is therefore unlikely to constitute a significant collision risk at Upper Wilting Farm.
Little gull	Negligible	Rare wetland passage migrant.
Little plover	Negligible	Confined to wetland habitats.
Little tern	Negligible	*Summering species confined to coast and marine habitats.
Long-tailed duck	Negligible	Rare duck confined to coastal areas.
Marsh warbler	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Mediterranean gull	Negligible	A rare coastal species.
Merlin	Low	*This is a wintering species with 35 records listed within the search area between 1992 and 2003. These are mainly solitary birds, fast, highly manoeuvrable and covering very large areas of varied habitats while hunting in winter.
Moorhen	Negligible	Confined to wetland areas.
Northern goshawk	Negligible	Rare vagrant within the data search area.
Northern pintail	Negligible	Rare within the search area and confined to wetland habitats
Osprey	Low	*Osprey is a regular but rare passage migrant within the search area but does not breed there. It is highly unlikely to present a collision risk.
Pink-footed goose	Low	*Wintering species/irregular passage migrants in small numbers and unlikely to overfly Upper Wilting Farm.
Purple heron	Negligible	Rare vagrant.
Red kite	Low	*This appears to be a rare passage, non-breeding species within the search area, though most records have come from the SSSI. Given its rarity, it presents a low risk of collision with turbines located at Upper Wilting Farm.
Red-backed shrike	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Red-necked phalarope	Negligible	Vagrant wader.
Redwing	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Ruff	Negligible	A wader potentially present in small numbers but confined to wetland areas.
Sandwich tern	Negligible	*Summering species confined to coast and marine habitats.
Savi's warbler	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Sedge warbler	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Slavonian grebe	Negligible	Confined to coastal areas.
Snow bunting	Negligible	Small passerines are generally not considered to be at risk from turbine collision.



Species	Collision risk rating	Reasoning (* denotes species listed in Appendix 1 of NE TIN069)
Spotted crane	Negligible	Rare and confined to wetland areas.
Stone curlew	Negligible	*Very rare non-breeding passage migrant within search area. Unlikely to present a collision risk.
Temminck's stint	Negligible	A rare wader confined to wetland areas.
Tree sparrow	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Tundra swan	Low	*Wintering species/irregular passage migrant in small numbers and unlikely to overfly Upper Wilting Farm.
Velvet scoter	Negligible	Confined to the coast.
Water rail	Negligible	Confined to wetland areas.
Whimbrel	Low	A wader potentially present in small numbers but confined to wetland areas except when migrating.
Whooper swan	Low	*Wintering species/irregular passage migrants in small numbers and unlikely to overfly Upper Wilting Farm.
Willow tit	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Wood lark	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Wood sandpiper	Negligible	A rare wader confined to wetland areas.
Wood warbler	Negligible	Small passerines are generally not considered to be at risk from turbine collision.
Yellow wagtail	Negligible	Small passerines are generally not considered to be at risk from turbine collision.



4.2 Having discounted the species listed in **Table 4.1** from the assessment, species which may occur at Upper Wilting Farm within the FB12 policy area, and which are considered to be of concern in terms of their collision risk, are limited to those summarised in **Table 4.2** below.

**Table 4.2: Bird species of potential collision risk concern at Upper Wilting Farm.**

Species	Collision risk rating	Reasoning (* denotes species listed in Appendix 1 of NE TIN069)
Barn owl	High	The habitats within the SSSI appear to be suitable for barn owl but results of the data search show the species to be rare within the search area during the breeding season. It appears to be a winter visitor to the SSSI area. Appendix 12-E of the Bexhill to Hastings Link Road Environmental Statement indicates that barn owl, though not recorded nesting, was present over farmland contiguous with the SSSI immediately to the west of the search area in 2005 and 2006. Therefore barn owl may be present close to or within the SSSI at all times of year. Owing to its hunting method, typically quartering close to the ground, in farmland and wetland areas, and often within the lower part of a typical rotor sweep, barn owl may be at risk of collision with turbine blades, even though it is not listed in Appendix 1.
Eurasian marsh harrier	High	*This species may be both resident and a passage migrant at the SSSI, and at least one pair is likely to breed within the SSSI in most years. Foraging flights over the surrounding countryside are likely to be frequent and within the typical sweep height band of wind turbine blades. Although only present in small numbers, it is considered to be of high collision risk due to its conservation status.
Long-eared owl	Low/moderate	Data search records show that this species was last noted breeding within the SSSI in 2000. If breeding still takes place, birds may forage low to the ground and thus may be at risk of collision with turbine blades between dusk and dawn.
Montagu's harrier	High (when present)	*This is a very rare summer visitor, which has bred twice within the SSSI in recent times. When breeding it is likely to forage widely within the surrounding landscape, often within the typical sweep band of wind turbine blades, and it may make regular commuting journeys between attractive farmland hunting areas and a nest site. When present, therefore, the species may be at risk of collision with turbine blades.
Northern lapwing	Moderate	*Small numbers breed within the SSSI but post-breeding flocks are likely there and a maximum flock size of 1500 has been recorded within the search area. Lapwings are not typical of most species at risk from turbine collision but large numbers may undertake flights between feeding grounds and roost areas in winter, including at night, and may at these times be at risk of collision with turbines.
Peregrine falcon	High	*Peregrine is rare but a single pair breeds on the coast within the search area. It is likely to hunt widely over the area and may frequently be attracted to the wetlands of the SSSI where waterfowl prey is present. Recently fledged birds may also be present. Consequently, the species may be at risk of collision with wind turbines at Upper Wilting Farm.



- 4.3 Of the species that may be negatively impacted by development of a wind turbine at Upper Wilting Farm, listed in **Table 4.2**, only northern lapwing is covered by the citation for the Combe Haven SSSI; other bird species for which the SSSI has been notified do not present a collision risk in relation to a wind turbine development there. Lapwings are most at risk from collision when flocking in large numbers and commuting between feeding ground and roost sites during the winter months, particularly at night. It is not known at this feasibility stage as to if, or how frequently, these circumstances occur at Combe Haven, and whether such flocking flight paths cross the FB12 site.
- 4.4 All of the other non-SSSI cited species listed in **Table 4.2** are of conservation importance in the UK, including, arguably, long-eared owl which is Notable in Sussex. Local populations of these species could be directly affected by a wind turbine proposal at Upper Wilting Farm if their regular flight paths are found to cross the FB12 site.

## Implications for development

- 4.5 The level of uncertainty regarding the true bird species suite at Upper Wilting Farm with potential turbine collision risk is typical of any proposed wind turbine development site at the site feasibility stage. This level of uncertainty is independent of the presence of the SSSI, and does not at this time present sufficient evidence to conclude either way regarding whether there would, or would not, be effects on either the SSSI or locally occurring species of conservation importance at a level of significance warranting removal of this policy allocation from the Development Management Plan.
- 4.6 A planning application for a small wind farm at Upper Wilting Farm would necessitate further assessment of target species considered to be at highest potential collision risk. Vantage point surveys will need to be undertaken during all months of the year, and their results will be used to calculate formal collision rates. This would include, if relevant, any other potentially vulnerable species using the airspace within the turbine envelope, even if judged here to constitute a low collision risk. Formal collision rates can then be evaluated to determine whether they represent significant impacts on the species at a population level and adjustments made to the scheme design and/or operation, as relevant. Other bird studies may be necessary, in accordance with current best practice guidance<sup>567</sup>.

## Policy FB12 amendments

- 4.7 In order to ensure that these recommendations are incorporated in any proposals put forward for the FB12 site, it is recommended that the current wording of Policy FB12 is amended. The amendments would solely apply to the (ii) section of the policy and should read as:

*[The Council expects development proposals for this site to:]*

<sup>5</sup> **Natural England (2010)** *Assessing the Effects of Onshore Wind Farms on Birds*. Technical Advice Note 069. Natural England.

<sup>6</sup> **SNH (2013)** *Recommended bird survey methods to inform impact assessment of onshore wind farms*. SNH guidance note, August 2013.

<sup>7</sup> **SNH (2012)** *Assessing the impact of small-scale wind energy proposals on the natural heritage*. SNH guidance note, March 2012.



*(ii) Include an Ecological and Ornithological Impact Assessment of the proposals, including specific reference to the presence of:*

- a. The Combe Haven Valley Site of Special Scientific Interest (SSSI)*
- b. Combe Valley Countryside Park*
- c. Ancient Woodlands*
- d. Local Wildlife Sites*

*All as shown on the policies map, and:*

- e. Protected species*
- f. Ornithological interests.*

*And, incorporate an Ecological Constraints and Opportunities Plan, if appropriate.*



## 5 Conclusions

- 5.1 Available data records confirm that species potentially vulnerable to wind turbine collision are regularly or occasionally present in the near vicinity of Upper Wilting Farm and Combe Valley SSSI. The majority are so infrequent, or their habits and behaviour such, that they are highly unlikely to fly through the proposed turbine envelope and/or their risk of collision is likely to be negligible or low and therefore not significant with regard to potential negative effects on their populations or welfare. At this feasibility stage, residual uncertainty remains with regards to the potential collision risk associated with six species, namely barn owl, marsh harrier, long-eared owl, Montagu's harrier, northern lapwing and peregrine falcon.
- 5.2 Of these bird species, only northern lapwing is listed in the Combe Haven SSSI citation. However, based on the data evaluation presented here, there is not sufficient evidence to conclude that there would be effects on either the SSSI or locally occurring species of conservation importance at a potential level of significance warranting removal of the FB12 policy allocation from the Development Management Plan.
- 5.3 The level and significance of collision risk for northern lapwing, in addition to other species of conservation concern, and potential effects on the integrity of the Combe Haven SSSI, will be assessed empirically if/when planning permission is sought for a wind turbine at Upper Wilting Farm. These data will be used to inform an Ornithological Impact Assessment of the proposals which will determine how these potential constraints could be managed. To this end, recommendations have also been made regarding the rewording of Policy FB12 to provide reassurance that these potential constraints will be dealt with in full if the allocation at Upper Wilting Farm is taken forward for development.



