

YELLOW RIVER WIND FARM
WHOOPE SWAN SURVEY, WINTER 2013-2014

Report prepared for Greenwind Energy Ltd

by

BioSphere Environmental Services

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1.0 Introduction

Bird surveys during winter 2012-2013 indicated that a population of Whooper Swans (*Cygnus cygnus*) winters in the Derryarkin sector of the development site. (It is noted that this is the only sector of the development site where swans were recorded.)

The swans were recorded in improved grassland fields at Derryarkin in 10 of 15 winter visits between November 2012 and April 2013 (though frequent observations only commenced in January 2014 when it became obvious that significant numbers of swans were using the area). Numbers ranged from 3 to 82 individuals, though it is known that over 100 swans were present on at least one date during December 2012. The surveys identified the fields most often used by feeding swans and also local night roost sites. Flight lines to and from the complex of fields were recorded. A total of 28 hrs and 40 minutes of systematic vantage point observations over the Derryarkin site was achieved during the winter. In addition, alternative feeding sites in the wider area were also monitored.

As the 2012-13 survey was concentrated in the mid to late winter period (January-April), a full winter survey (October to April) was carried out in winter 2013-2014 (final surveys in April to be completed). The purpose of this second survey was to collate more detailed baseline data, especially in regard to the numbers of swans involved and their movements in the Derryarkin area.

2.0 Methods

Surveys commenced on 15th October 2013 (the earliest that wintering swans could be expected in the midlands) and will continue to mid April 2014 (when wintering swans will have departed). Frequency of survey was weekly to fortnightly, with a total of 18 site visits (see Appendix 1 for details).

The methodology used for these surveys followed the Scottish Natural Heritage Guidance document (revised document August 2013). Survey was carried out by a combination of vantage point watches (see below) over the Derryarkin sector of the development site and by distribution surveys for feeding sites in the hinterland of the development. In addition, site walks were carried out within fields at Derryarkin where birds were not observed feeding during the watches to search for droppings which would indicate presence at other times (including during darkness). Emphasis was placed on early morning and late evening sessions so as to monitor the movements of the swans between feeding and roost sites. The objective of the survey was to determine the locations of feeding and roost sites and the numbers of swans present.

Vantage Point Surveys

Two Vantage Points were used in the winter 2013-14 surveys, as follows:

VP1: (grid ref. N482 366) located on clay bank (c.5 m high) alongside Kilmurray quarry pond and giving a panoramic view over all the fields used by the swans as well as adjoining cutover bog areas (also used in 2012-13 survey).

VP2: (grid ref. N499 364) located along access road to Kilmurray quarry works and giving views (southwards) over the Derryiron/Ballybeg area and westwards towards Derryarkin, including fields in vicinity of turbine 7.

From these vantage points, all potential feeding fields were covered, as well as adjoining cutover bogs.

A total of 44 hours of systematic observations were carried out from vantage point 1 and a total of 38 hours from vantage point 2 (i.e. combined total of 82 hours).

Distribution Surveys

Search within at least 1 km of the Derryarkin area was carried out for further feeding and/or night roost sites. This component was based on the findings of the 2012-13 survey which had identified a number of feeding and roost sites (see Figure 5.4 in EIS).

All survey work was carried out by Brian Madden and John Lovatt, both experienced field ornithologists.

3.0 Results

Details of the vantage point surveys for 2013-14 are given in Appendix 1, with flight lines (1-19) shown in Figure 1. A summary of swan numbers for each survey date is given in Table 1.

Numbers and Distribution

Whoopers Swans were first recorded (no. 3) on 17th November, with a larger number (37) on 24th November. Thereafter, swans were recorded on all site visits to the end of March. Numbers remained between 50 and 60 birds throughout December, with an increase to 78 on 9th January 2014. Somewhat lower numbers (30-40) were present during the remainder of January but numbers increased in February (79 on 27th February) and a peak of 108 was reached on 5th March. High numbers remained through much of March, with 54 still present on 25th March. In winter 2012-13, 13 swans were still present on 2nd April.

The distribution of birds was mainly in Fields 1 and 5, with some usage of Fields 2, 4 and 6.

The numbers and distribution is similar to that recorded in winter 2012-13, when a peak of 82 was recorded on 21st January 2013 (though c.100 swans had reportedly been present during December)

Roost sites

The Roadstone quarry pond to the north of the fields was a regular night roost site. The flooded cutover bog to the north of the access road to the Kilmurray quarry works was also used as a night roost or as a temporary refuge.

There were no observations of usage of the Kilmurray quarry ponds, where roosting swans were recorded occasionally in winter 2012-13.

Movements

Regular movements of swans were recorded between the two clusters of fields (i.e. nos.1-4 & nos. 5-7) and between the fields and the adjoining cutover bogs. These local movements were often in response to disturbance (mostly from farm activities) and were invariably at a low height (< 20 m).

The movements from the feeding fields to the roost sites were also at low heights, with birds often seen just clearing the hedgerows.

A movement of swans along a NE-SW axis was also recorded on some occasions. These birds passed over Ballybeg cutover bog, at heights of c.20 m. It is likely that these were commuting to and from a cutover bog to the west of Rhode village (known as Cavemount), which is a known wintering site for swans.

Table 1. Numbers of Whooper Swans using grassland feeding fields at Derryarkin, winter 2013/14.

Date	Whooper Swans
15/10	0
29/10	0
08/11	0
17/11	3
24/11	37
04/12	59
16/12	56
29/12	53
09/01	78
18/01	30
29/01	40
07/02	65
19/02	64
27/02	79
05/03	108
13/03	98
19/03	95
25/03	54

4.0 Discussion

The data collated from the 2013-14 winter surveys at Derryarkin confirm the findings of the work carried out in the previous winter (as discussed in the EIS) in respect of the size and distribution of the Whooper Swan population, as well as the extent of movements by the birds.

As described in the EIS report, the swans which frequent Derryarkin are part of a population that moves between a cluster of feeding and roost sites in the immediate area of Derryarkin and Rhode. These comprise a suite of grassland and cutover bog feeding sites, along with flooded quarry and bog roost sites. From the surveys over the two winters, the Derryarkin fields appear to be a primary feeding site.

Of particular interest is that the swans are using feeding and roost sites in close proximity, which enables the birds to maximise the amount of the time spent feeding in the mornings and evenings. Movements beyond the Derryarkin area appear to be principally to a flooded cutover bog (Cavemount) to the west of Rhode village.

While the numbers of swans at Derryarkin is substantial, the threshold for national importance (i.e. 130, Boland & Crowe 2012) was not exceeded in the two winters.

As there is no history of swan usage in this area of County Offaly (with detailed national swan surveys dating back to the 1970s – see Ruttledge 1974, Merne & Murphy 1986, Crowe *et al.* 2005, Boland *et al.* 2010), it has to be assumed that the population is of relatively recent origin and seems to be availing of suitable grassland feeding habitat in proximity to the recent development of cutaway bog and quarries which provide for roost sites.

It is noted that the evaluation of impacts on the Whooper Swan population by the development as presented in the EIS and the Appropriate Assessment Screening Report is not altered by the findings of the 2013-14 winter survey. Also, no additional mitigation measures are considered necessary as a result of the findings of the 2013-14 winter survey.

5.0 References

- Boland, H., McElwaine, J.G., Henderson, G., Hall, C., Walsh, A. & Crowe, O. (2010) Whooper and Bewick's Swans in Ireland: results of the International Swan Census, January 2010. *Irish Birds* 9: 1-10.
- Boland, H. & Crowe, O. (2012) *Irish Wetland Bird Survey: Waterbird Status and Distribution 2001/02 – 2008/09*. BirdWatch Ireland, Kilcoole, Co. Wicklow.
- Crowe, O. 2005. *Ireland's Wetlands and their Waterbirds: Status and Distribution*. Birdwatch Ireland, Wicklow.
- Crowe, O., McElwaine, J.G., Worden, J.G., Watson, G.A., Walsh, A. & Boland, H. (2010) Whooper and Bewick's Swans in Ireland: results of the International Swan Census, January 2005. *Irish Birds* 7: 483-488.
- Merne, O.J. & Murphy, C.W. (1986) Whooper Swans in Ireland, January 1986. *Irish Birds* 3: 199-206.
- Ruttledge, R.F. (1974) Winter distribution of Whooper and Bewick's Swans in Ireland. *Bird Study* 21: 141-145.
- Scottish Natural Heritage (August 2013) Guidance on Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Wind Farms.

APPENDIX 1.

DETAILS OF DERRYARKIN WHOOPER SWAN VANTAGE POINT SURVEY, WINTER 2013/14

(see Figures 5.3 & 5.4 of EIS for field numbers and general locations of feeding/roost sites in area;

‘FL 1-19’ refer to flight lines as shown in Figure 1 of this report)

VP ID	Date	Watch Period	Observation Details	Weather
	2013			
1	15 Oct	08.00-10.00	No swans present in fields 40 Lapwing & 20 Curlew at Kilmurray quarry pond area 20+ Golden Plover in field no. 2	Dry Wind: E-SE F2 Visibility: good
2	15 Oct	17.00-19.00	No swans observed	Dry Wind: E-SE F2-3 Visibility: good
1	29 Oct	07.00-09.00	No swans present in fields 60+ Lapwing & 32 Curlew at Kilmurray quarry pond area	Occ. Showers Wind: W-SW F3-4 Visibility: good
2	29 Oct	17.00-19.00	No swans observed	Dry Wind: W-SW F2-3 Visibility: good
1	8 Nov	16.30-18.30	No swans present in fields 36 Lapwing & 44 Curlew at Kilmurray quarry pond area 60+ Golden Plover in field no. 1	Dry Wind: SW F2 Visibility: good
2	8 Nov	10.00-12.00	No swans observed	Dry Wind: SW F3 Visibility: good
1	17 Nov	07.00-09.00	3 WS feeding in field no. 1 (first of winter) 70 Lapwing & 45 Curlew at Kilmurray quarry pond area, 40+ Golden Plover in field no. 3	Dry Wind: SW F2 Visibility: good
2	17 Nov	12.00-14.00	No swans observed	Dry Wind: SW F2 Visibility: good
1	24 Nov	10.00-12.00 15.30-17.30	37 WS (inc. 5 juvs) feeding in field no. 1 plus 2 Mute Swans 30 Lapwing & 15 Curlew at Kilmurray quarry pond area 37 WS still present (no MS) – at 16.35 hrs, 12 flew north to Roadstone quarry pond, followed by remainder over next 10 minutes (FL no. 1). Flight line at 10-15 m height. All roosting on pond at 17.30 hrs (in darkness)	Dry Wind: W F2 Visibility: good
2	24 Nov	13.00-15.00	No swans observed	Dry Wind: W F3 Visibility: good
1	4 Dec	07.30-10.30	59 WS (inc. 9 juvs) flew (at <20 m height) from Roadstone quarry pond to field no. 1 (FL no. 2) and commenced feeding at c.7.50 hrs.	Dry Wind: W F1-2

VP ID	Date	Watch Period	Observation Details	Weather
			60 Lapwing & 40 Curlew at Kilmurray quarry pond area	Visibility: good
2	4 Dec	11.30-14.30	No swans observed Hen Harrier male seen over cutover bog to north of VP location.	Dry Wind: W F1-2 Visibility: good
1	16 Dec	14.45-17.15	56 WS (inc. 10 juvs) feeding in field no 1 & 8 in field no. 4. The 56 flew in groups (at <15 m height) to the Roadstone quarry pond at 16.50 hrs (FL no. 3) while the 8 flew SE at < 20 m height (FL no. 4). 50 Lapwing, 30 Curlew & 25 Golden Plover at Kilmurray quarry pond area	Showers Wind: SE F4 Visibility: moderate
2	16 Dec	12.00-14.00	8 WS flew W-NW over Ballybeg bog towards Derryarkin at 12.25 hrs (FL no. 5). Flight height at c. 20 m. L	Dry Wind: SE F3 Visibility: good
1	29 Dec	07.45-09.45	No WS in fields 1-4 but swans heard further to east at c.8.00 hrs. Later, total of 53 observed feeding in field no. 5 to south of access road . c.400+ Golden Plover & c.100 Lapwing in field no. 4	Dry Wind: SW F2-3 Visibility: good
2	29 Dec	10.00-12.00	Flock of 53 WS observed feeding in field no. 5 until 11.40 hrs – disturbed by person in field and flew low (c.10 m) NE towards cutover bog where they roosted on water (FL no. 6).	Dry Wind: SW F3 Visibility: good
	2014			
1	9 Jan	14.00-17.00	No WS at first but flock of 78 flew in at 16.05 hrs from southeast (presumably from field nos. 5/6 where same number had been seen earlier) (FL no. 7). At 16.45 hrs, c.50 flew north towards Roadstone quarry pond (FL no. 8), while remainder (28) then flew east (FL no. 9) and seen (in outline) roosting on flooded cutover bog when leaving site after 17.00 hrs. 35 Lapwing & 40 Curlew at Kilmurray quarry pond area 40+ Golden Plover feeding in field no. 1	Dry Wind: S F2 Visibility: good
2	9 Jan	12.00-13.30	Flock of 78 WS feeding in field nos. 5/6.	Dry Wind: S F2 Visibility: good
1	18 Jan	15.30-17.30	30 WS feeding in field no. 4. 21 flew towards Roadstone quarry pond at 17.12 hrs (height of c.10 m) (FL no. 10), while 9 flew SE (FL no. 11)	Dry Wind: ESE F2-4 Visibility: good
2	18 Jan	12.30-14.30	6 WS flew north (at 13.05 hrs) over road and landed on flooded cutover bog (FL no. 12). Flight height c.15 m. Later flew towards Derryarkin fields.	Dry Wind: ESE F3 Visibility: good
1	29 Jan	07.30-09.30	No swans in fields but c.40 seen on flooded cutover bog when arriving for watch and still there afterwards 120 Lapwing & 65 Curlew at Kilmurray quarry pond area	Heavy showers Wind: W F3-4 Visibility: moderate
2	29 Jan	10.00-13.00	28 WS flew from flooded bog to field no. 6 at c.11.15 hrs (height c.10 m), joined by remainder soon after (FL no. 13).	Showers Wind: W F3 Visibility: moderate
1	7 Feb	13.30-15.30	No swans in fields 1-4 (lot of disturbance from farm activity) but 65 grazing in field no. 5. 5 Greylag Geese in fields no. 5/6	Dry Wind: W F2 Visibility: good
2	7 Feb	16.00-18.30	65 WS still in field no. 5 – between 17.55 and 18.15 hrs, all flew across road very low (<10 m height) to flooded cutover bog where they settled in near darkness (FL no. 14).	Dry Wind: W F3 Visibility: good
1	Feb 19	16.00-	10 WS in field no. 4, plus 54 grazing in fields no. 5/6. The 10 flew SE at 18.25 hrs	Dry

VP ID	Date	Watch Period	Observation Details	Weather
		18.45	(FL no. 15). The 54 flew north to the flooded cutover bog (FL no. 16) where they were seen in near darkness on the water 6 Greylag Geese in fields no. 5/6	Wind: SW F3-4 Visibility: good
2	Feb 19	12.00-15.00	No WS observed. Flock of c.300 Golden Plover high overhead (>200 m) - drifted north of site.	Dry Wind: SW F3-4 Visibility: good
1	Feb 27	14.00-15.00 17.00-18.45	64 WS grazing in field no. 1, plus 15 in field no. 4 (total of 79). 1 Greylag Goose with swans in field no. 1 Swans still present – at 18.30 hrs the 15 flew SE at height of <20 m (FL no. 17) Most of the main party of 64 then left in a north direction (towards Roadstone quarry pond) (FL no. 18), with c.10 leaving in an east direction (FL no. 19).	Dry Wind: SE F2 Visibility: good
2	Feb 27	15.00-16.30	No swans observed.	Dry Wind: SE F2 Visibility: good
1	5 March	10.00-11.30	108 WS grazing in field no. 1 – <u>peak for winter</u> .	Dry Wind: SW F2 Visibility: good
2	5 March	12.00-13.30	No swans observed.	Dry Wind: SW F3 Visibility: good
1	13 March	08.00-10.00	98 WS in field no. 1 plus 6 WS in field no. 4 (total of 104) Also 1 Greylag Goose in field no. 1 15 Lapwing, 30 Curlew & 35 Golden Plover at Kilmurray quarry pond area	Showers Wind: SW F3 Visibility: good
2	13 March	11.00-13.00	No swans observed	Dry Wind: SW F2-3 Visibility: good
1	19 March	09.00-11.00	84 WS in field no. 1 & 4 WS in field no. 4 plus 7 WS in field no. 5 (total of 95) 1 Greylag Goose in field no. 1	Dry Wind: SW F2-3 Visibility: good
2	19 March	11.00-13.00	No swans observed Flock of c.100 Golden Plover resting on cutover bog to north of VP	Dry Wind: SW F2-3 Visibility: good
1	25 March	08.00-10.00	45 WS grazing in field no. 1, 4 in field no. 2 & 5 in field no. 5	Dry Wind: SE F3 Visibility: good
2	25 March	10.30-12.30	No swans observed	Dry Wind: SE F3 Visibility: good