

**LAOIS – KILKENNY REINFORCEMENT PROJECT: 400/110KV
SUBSTATION INCLUDING ASSOCIATED LINE AND STATION
WORKS**

WINTER BIRD SURVEYS

**INTERIM REPORT FEBRUARY 2011
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Figure 1: Map showing the location of known water bird sites in relation to the study area.

1 INTRODUCTION AND BACKGROUND

Dr Patrick Crushell was commissioned by AOS Planning to assess the abundance and distribution of wintering wader and wildfowl birds in the study area of two proposed substations (at Ballyragget Co Kilkenny and South East of Portlaoise, Co Laois) and an interconnecting 110 kV powerline.

An ecological constraints study has previously been undertaken for the project by Dr Mark McCorry on behalf of AOS Planning. As part of the constraints study the National Parks and Wildlife Service (NPWS) were consulted. NPWS highlighted the potential for adverse impacts on water birds (waders and wildfowl) that are known to use and move around the various wetland sites in Co. Laois during winter.

Each winter large numbers of waders and wildfowl arrive in Ireland from their northern breeding grounds. There are four species of wader and wildfowl associated (or have been) with inland areas in Ireland that are listed on Annex 1 of the EU Birds Directive (EU 79/409/EEC) (see Table 1). There are a further two species that are listed on the red list of Birds of Conservation Concern in Ireland (BoCCI) (see Table 1). All of these species are regarded as being of high conservation importance and require protection across their range.

Table 1: Water bird species associated with inland areas in Ireland that are listed on Annex 1 of the EU Habitats Directive and or on the BoCCI Red List. The threshold for nationally importance numbers is also presented (1% of national population).

| | EU Birds Directive | BoCCI (Lynas et al. 2007) | 1% Population (Boland and Crowe 2007) |
|---|--------------------|---------------------------|---------------------------------------|
| Bewick's Swan (<i>Cygnus bewickii</i>) | Annex 1 | Red List | 20 |
| Whooper Swan (<i>Cygnus cygnus</i>) | Annex 1 | Amber List | 130 |
| Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) | Annex 1 | Amber List | 110 |
| Golden Plover (<i>Pluvialis apricaria</i>) | Annex 1 | Red List | 1,700 |
| Curlew (<i>Numenius arquata</i>) | | Red List | 550 |
| Lapwing (<i>Vanellus vanellus</i>) | | Red List | 2,100 |

Collision with powerlines is known to contribute significantly to bird mortality amongst a number of susceptible species especially the larger birds that lack agile flight. Species most at risk include those species that fly at night, birds flying in flocks, large and heavy birds with high wing loading and poor maneuverability, and birds that fly low and fast. (APLIC 1994). Collision with powerlines is a well known cause of mortality among swans, and in the UK has been the highest reported cause of swan mortality (Birkhead and Perrins 1986; Brazil 2003). Collision risk is highest in those areas where powerlines occur nearby areas used by high numbers of these birds and across regularly used flight paths.

This study aims to determine those areas within the study area where collision risk would be greatest and to inform appropriate mitigation measures to reduce any risk of collision.

A report was issued in October 2010 which presented the results of a desktop study and field surveys undertaken during the period March – April 2010. It was recommended that surveying continue through an entire winter season (October 2010 to April 2011) to establish the baseline situation with regards the importance of the study area to wintering waders and wildfowl. This interim report presents a summary of field data recorded during the period December 2010 to January 2011.

1.1 STUDY AREA

The proposed 110 kV power line will potentially originate South East of Portlaoise and potentially terminate approximately 23 km to the South West, near Ballyragget, Co Kilkenny (see Figure 1). The entire area is dominated by a sparsely populated rural landscape.

The Northern part of the study area lies within the catchment of the River Barrow. This area is characterised by a low-lying intensively farmed agricultural landscape. Further South the study area lies within the River Nore catchment. Part of the Castlecomer Plateau occurs in the eastern portion of the study area. This area has an undulating hilly landscape with some low peaks and intervening valleys, drained in a South-westerly direction by tributaries of the Nore. This geology and environment means that soils are less fertile with impeded drainage and wet pasture is a prominent habitat of these hillsides. Conifer plantations are a feature of this area while heath and bog habitats occur on the higher ground to the east of the study area. The River Nore flows southwards through the western part of the study area and passes close by the proposed substation site at Ballyragget. The western part of the study area is dominated by a low-lying intensively farmed agricultural landscape.

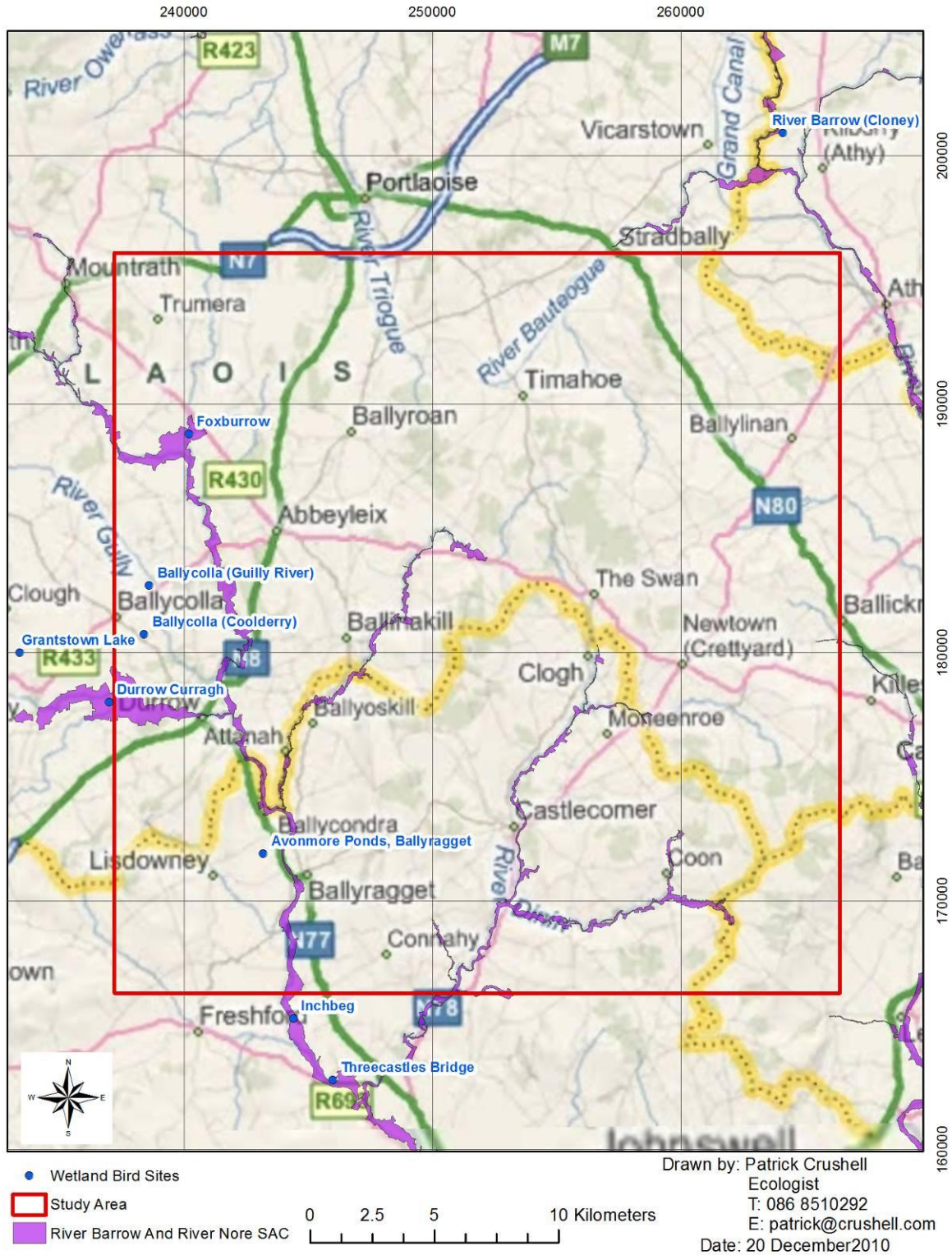


Figure 1: Map showing the location of study area of the proposed 110kV powerline and the proposed substations in relation to identified wetland bird sites.

2 METHODOLOGY

2.1 FIELD SURVEYS

There are three distinct elements to the field surveying:

- Surveys were undertaken of the wider countryside in an attempt to identify sites regularly used by water birds which may not have been identified during the literature review.
- Monthly counts were undertaken on those sites identified during the literature review as being of importance to water birds (see Table 2). The extent of the study area and the location of these known water bird sites are illustrated in Figure 1.
- Dawn and dusk watches of sites where significant numbers of Whooper Swans were recorded in order to establish flight lines (and flight behavior) of birds flying between feeding and roost sites.

2.1.1 Surveys of wider study area

Surveys of the wider study area were undertaken during the period December 2010 to January 2011. Initially habitats encountered throughout this area were assessed with regards their suitability as potential feeding or roost sites. Following this, efforts were concentrated on those parts that were deemed potentially suitable. Those areas considered unsuitable included conifer plantations, woodlands, and farmland comprising small fields enclosed by tall hedgerows.

Survey methodology included counts of any wader and wildfowl species encountered. During daylight hours potentially suitable habitat was scanned using binoculars (or telescope) from vantage points at various locations throughout the study area.

Records were made of numbers of wildfowl or wader species, presence of marked birds (leg-ringed or neck-collared), weather conditions and habitat types. During the course of the study no marked birds were recorded. Survey dates and prevailing weather conditions on each date are presented in Table 3.

2.1.2 Counts at known water bird sites

Table 2 is a list of all water bird sites identified during a desktop review and field surveys undertaken during early 2010 (Crushell 2010). Counts were undertaken at each of these sites during both December 2010 and January 2011.

Counts were conducted during daylight hours from suitable vantage points using binoculars and / or telescope as required. Records were made of numbers of wildfowl or wader species, presence of marked birds (leg-ringed or neck-collared), weather conditions and habitat types. During the course of the study no marked birds were recorded.

Table 2: Known water bird sites that occur within and close-by the study area (see Figure 1 for site locations in relation to study area).

| Site Name (Main Site) | Sub-sites | Conservation Status | National Reference | Grid |
|---------------------------|----------------------------|---------------------|--------------------|------|
| Within study area | | | | |
| Avonmore | Ponds, N/A | N/A | S 432 719 | |
| Ballyragget | | | | |
| Durrow Curragh | | pNHA / SAC | S 370 780 | |
| Ballycolla (Coolderry) | | N/A | S 387 810 | |
| Ballycolla (Guilly River) | | N/A | S 390 825 | |
| River Nore | Foxburrow (Shanahoe Marsh) | pNHA / SAC | S 402 888 | |
| River Nore | Inchbeg | pNHA / SAC | S 440 658 | |
| Surrounding study area | | | | |
| River Nore | Threecastles Bridge | pNHA / SAC | S 460 626 | |
| Grantstown Lake | N/A | pNHA / NNR | S 335 801 | |
| River Barrow (Cloney) | Lowtown | SAC | N 641 009 | |
| River Barrow (Cloney) | Coolagh | SAC | N 664 034 | |
| River Barrow (Cloney) | Vicarstown | SAC | N 623006 | |

Table 3: Survey dates, sites visited and weather conditions.

| Date | Sites visited | Weather Conditions |
|-------------------------|--|---|
| 30 – 31st December 2011 | Avonmore Ponds Durrow Curragh Ballycolla (Coolderry) River Nore (Foxburrow) Threecastles Bridge) Wider countryside in study area | Dry; Calm; Good visibility |
| 27 – 18th Jan 2011 | Avonmore Ponds Durrow Curragh Ballycolla (Coolderry) River Nore (Foxburrow; Inchbeg; Threecastles Bridge) River Barrow - Cloney (Vicarstown, Dunrally Bridge; Lotown) Grantstown Lough Wider countryside in study area | Sunny intervals; Dry; Calm; Good visibility |

2.1.3 Dawn and dusk flights

Dawn and dusk watches were conducted at sites where significant numbers of water birds were recorded in order to establish flight lines (and flight behavior) of birds flying between feeding and roost sites.

The location of dusk watches was determined by the presence of feeding wildfowl prior to dusk. Generally, watches were carried out at those sites where the largest flocks were present as dusk approached.

Similarly, the locations of dawn watches were determined by the presence of roosting birds on the previous evening. Dawn watches commenced approximately one hour before sun-rise and dusk watches continued from an hour before until an hour following sunset. See Table 4 for details on dawn and dusk watches carried out during the study period.

Table 4: Dawn and dusk watches conducted during the survey period.

| Date | Dawn / Dusk | Site |
|-------------|-------------|--|
| 30 Dec 2010 | Dawn | River Nore (Foxborrow) |
| 30 Dec 2010 | Dusk | Durrow Curragh Feeding Site and Roost Site |
| 31 Dec 2010 | Dawn | Avonmore Ponds Feeding Site |
| 31 Dec 2010 | Dusk | Ballycolla (Coolderry) |
| 27 Jan 2011 | Dusk | Durrow Curragh Feeding Site and Roost Site |
| 28 Jan 2011 | Dawn | River Nore (Foxborrow) |
| 28 Jan 2011 | Dusk | River Barrow (Lotown) |

3 RESULTS

3.1 FIELD STUDY

3.1.1 Surveys of wider study area

During each month, the wider study area was surveyed for the presence of waders and wildfowl from suitable vantage points. Particular attention was paid to those areas that were deemed to be of highest potential value to waders and wildfowl based on habitat and topography. Due to a revision in the study area since April 2010, a number of previously un-surveyed sites were visited. Records from the wider study area are presented in Table 5 below. In summary, there are very few records of water birds throughout the study area with only small numbers of Mute Swan, Mallard, Little Egret and Lapwing observed at scattered locations.

Table 5: Results of counts at potential waterbird sites within study area during the period December 2010 to January 2011.

| Site | Grid Reference | Date | Observation |
|----------------|----------------|------------|----------------------------|
| Rathbeagh | S 442 675 | 30/12/2011 | Little Egret (1) |
| | | 31/12/2010 | Little Egret (1) |
| Clintstown | S 445 646 | 30/12/2010 | Lapwing (40) |
| Mass Lough | S 472 806 | 28/01/2011 | Mallard (6), Mute Swan (2) |
| Lisbigney Pond | S 446 798 | 28/01/2011 | Mallard (10) |

3.1.2 Counts at known water bird sites

3.1.2.1 Avonmore Ponds, Ballyragget

This site was visited on two occasions during the study period. Whooper Swans and Curlews were observed utilising this site for feeding (31st December 2010 and 28th January 2011), with a peak count of 18 birds recorded on January 28th. Counts conducted during the March / April survey period in 2010 recorded the

presence of Whooper Swans utilising this site for foraging, with a peak count of 13 birds recorded on March 8th (Crushell 2010).

Table 6: Summary of count data recorded at Avonmore Ponds, Ballyragget, Co Kilkenny during the periods March – April 2010, October 2010 - January 2011.

| | 8/3/10 | 19/3/10 | 25/3/10 | 2/4/10 | 19/10/10 | 18/11/1 | 31/12/10 | 28/1/11 |
|--------------|--------|---------|---------|--------|----------|---------|----------|---------|
| Curlew | | 9 | | | | | | 4 |
| Whooper Swan | 13 | 2 | 2 | 3 | | | 2 | 18 |

3.1.2.2 Durrow Curragh

Counts were conducted at Durrow Curragh wetland on two occasions during the study period. Whooper Swans were recorded feeding at the site, with peak counts of 68 individuals recorded on 31st December 2011 (see Table 7). The Erkina River and adjacent grasslands at this site were utilised by Whooper Swans for foraging. In addition, the site is most likely used as a roost site for many birds as indicated by the presence of 64 Whooper Swans remaining on grasslands after dark within proximity of the Erkina River on 27th January. Other waterbirds recorded included low numbers of Black-headed Gull, Little Egret and Cormorant.

Table 7: Summary of count data recorded at Durrow Curragh, Co Laois during the periods March – April 2010, October 2010 - January 2011.

| | 9/3/10 | 19/3/10 | 25/3/10 | 2/4/10 | 12/4/10 | 19/10/10 | 19/11/10 | 31/12/10 | 28/01/11 |
|--------------------------|--------|---------|---------|--------|---------|----------|----------|----------|----------|
| Curlew | | | | | | | | 81 | |
| Golden Plover | | | 50 | | | | | 700 | |
| Whooper Swan | 120 | 20 | | | | | | 81+ | 68 |
| Lapwing | | | | | | | | 220 | |
| Mallard | 3 | | | 2 | | | | | |
| Teal | | | | | | | | | |
| Wigeon | | | | | | | | | |
| Black-headed Gull | | | | 2 | | | | | 1 |
| Curlew | | | | | | | | | |
| Cormorant | | | | | | | 2 | 2 | |
| Grey Heron | | | 1 | | | | | | |
| Kingfisher | 1 | | | 1 | | | | | |
| Lesser Black-backed Gull | | | | 58 | | | | | |
| Little Egret | | | | 1 | | | 1 | 1 | 3 |
| Mute Swan | 2 | 5 | 2 | 5 | 1 | | 3 | | |
| Snipe | 1 | | | | | | | | |

3.1.2.3 Ballycolla (Coolderry)

Counts were conducted at Ballycolla on two occasions during the survey period. Twenty five Whooper Swans were recorded feeding at Coolderry during January (see Table 8). Similar observations were made during November when 34 Whooper Swans were recorded. The site is likely to be used primarily as a feeding and roost site as indicated by the presence of Whooper Swans remaining within proximity of the pond during a dusk watch on 31st December 2010.

Table 8: Summary of count data recorded at Ballycolla (Coolderry), Co Laois during the periods March – April 2010, October 2010 - January 2011.

| | 9/3/10 | 18/3/10 | 25/3/10 | 2/4/10 | 13/4/10 | 19/10/10 | 18/11/10 | 31/12/10 | 28/01/11 |
|---------------|--------|---------|---------|--------|---------|----------|----------|----------|----------|
| Curlew | | 8 | | | | | | | 6 |
| Golden Plover | | | 250 | | 17 | | | c. 50 | |
| Whooper Swan | 72 | 126 | 75 | | | | 34 | | 25 |
| Lapwing | | 1 | 5 | | | | | | |
| Mallard | | 6 | | | | | | | |
| Teal | | 32 | 5 | | | | | | |
| Wigeon | | 28 | 25 | | | | | | |

3.1.2.4 River Nore – Foxburrow (Shanahoe Marsh)

Counts were conducted on two occasions at Foxburrow during the study period. Whooper Swans were recorded during both site visits with a peak count of 11 birds recorded on December 30th (see Table 9). Other birds of conservation interest included Peregrine Falcon, Curlew, Lapwing and Cormorant.

Table 9: Summary of count data recorded at Foxburrow (Shanahoe Marsh), Co Laois during the periods March – April 2010, October 2010 - January 2011.

| | 9/3/10 | 18/3/10 | 13/4/10 | 19/10/10 | 19/11/10 | 30/12/10 | 28/01/11 |
|--------------|--------|---------|---------|----------|----------|----------|----------|
| Whooper Swan | | 20 | 11 | | | 16 | 4 |
| Lapwing | | | 1 | 100 | | 25 | 152 |
| Curlew | | | | | | | 16 |
| Peregrine | | | | | | 1 | |
| Cormorant | | | | | | 1 | |
| Grey Heron | | | | | | | 2 |
| Mallard | | | 2 | | | | 4 |
| Dipper | | | | | | 1 | |
| Moorhen | | | | | | | 1 |
| Jack Snipe | | | | 1 | | | |
| Snipe | | | | 1 | | | |

3.1.2.5 River Nore – Inchbeg

Two visits were made to Inchbeg during the survey period. Waterbirds of conservation interest recorded at this site included Lapwing and Cormorant. No wildfowl were recorded at this site during the site visits (see Table 10).

Table 10: Summary of count data recorded at Inchbeg, Co Kilkenny during the periods March – April 2010, October 2010 - January 2011.

| | 9/3/10 | 18/3/10 | 25/3/10 | 2/4/10 | 13/4/10 | 19/10/10 | 17/11/10 | 31/12/10 | 28/1/11 |
|--------------|--------|---------|---------|--------|---------|----------|----------|----------|---------|
| Coot | | | | | 1 | | | | |
| Cormorant | | | | | | 3 | | 1 | |
| Grey Heron | 1 | | | | | | | | |
| Lapwing | | | | | | | | 53 | |
| Little Egret | | 2 | | | 1 | | | 1 | |
| Mallard | | 2 | | | | | | | |

3.1.2.6 Grantstown Lough

A single visit was made to Grantstown Lough during January. Mallard, Wigeon, Cormorant, Mute Swan and Gadwall were recorded at the site (see Table 11).

Table 11: Summary of count data recorded at Grantstown Lough, Co Laois during the periods March – April 2010, October 2010 - January 2011.

| | 4/3/10 | 19/11/10 | 28/01/11 |
|-----------|--------|----------|----------|
| Wigeon | c.40 | 34 | 5 |
| Mallard | c.16 | 14 | 7 |
| Mute Swan | c.20 | | 4 |
| Gadwall | >1 | | 5 |
| Cormorant | >1 | | 17 |

3.1.2.7 River Barrow (Cloney)

All three sub-sites (Lotown; Dunrally Bridge and Vicarstown) of this main site were visited during January 2011. Whooper Swans were recorded near Dunrally Bridge and Lotown (see Table 12). No Whooper Swans were recorded during the October – November survey period.

Table 12: Summary of count data recorded at Dunrally Bridge and Lotown, Co Kildare during the period October 2010 to January 2011.

| | 18/11/10 | 28/01/11 |
|--------------|----------|----------|
| Whooper Swan | | 15 |
| Snipe | | 8 |

3.1.3 Dawn and dusk flights

A number of dawn and dusk watches were undertaken at various sites during the study period as summarised in Table 4 above.

3.1.3.3 Avonmore Ponds

Dawn watch (31st December): Two Whooper Swans recorded at the site. No other water birds were present. No flights were observed.

3.1.3.1 Durrow Curragh

Dusk watch (30th December): Sixty five Whooper Swans were observed roosting on the North side of the road. No flights were observed.

Dusk watch (27th January): Sixty four Whooper Swans were present at the site. Whooper Swans were recorded feeding on grasslands at Ballygauge Beg. Birds remained on grasslands after dusk, within close proximity to the Erkina River. No flights were observed.

3.1.3.4 Ballycolla (Coolderry)

Dusk Watch (31st December): Nine Whooper Swans were observed feeding on grasslands at Ballycolla (Coolderry). Whooper Swans appeared to roost at the site.

3.1.3.2 River Nore (Foxborrow)

Dawn Watch (30th December): Eleven Whooper Swans were recorded at the site. No flights were observed.

Dawn Watch (28th January): Four Whooper Swans were observed flying over the site in a West-southwest direction soon after dawn.

3.1.3.5 River Barrow (Lotown)

Dusk Watch (28th January): Prior to dusk ten Whooper Swans were observed feeding on grasslands at Lotown. These swans departed the site at dusk and flew northwards towards the River Barrow.

4 DISCUSSION

Records from surveys carried out during December 2010 to January 2011 support the findings of earlier surveys. Results to date indicate that the hilly topography and enclosed grassland landscape that dominates the central and eastern part of the study area does not support significant numbers of wintering water birds.

However, there are a number of important sites in the western part of the study area in the vicinity of the River Nore, namely the Durrow Curragh, Ballycolla (Coolderry) and the River Nore at Foxborrow (Shanahoe Marsh), which support high numbers of water birds, including Whooper Swans. Recorded movements of Whooper Swans within the study area are restricted to the areas immediately surrounding these sites.

5 REFERENCES

- Avian Power Line Interaction Committee (APLIC) (1994). Mitigating Bird Collisions With Power Lines: The State of the Art in 1994.
- BirdLife International (2001). Important Bird Areas and potential Ramsar Sites in Europe. BirdLife International, Wageningen, The Netherlands.
- Birkhead, M. and C. Perrins (1986). The Mute Swan. Croom Helm, London.
- Boland, H. and O. Crowe (2007). Irish Wetland Bird Survey: Results of waterbird monitoring in Ireland in 2005/06. Irish Birds 8: 167-178.
- Brazil, M. (2003) The whooper swan. Poyser, London
- Crowe, O. (2005). Ireland's Wetlands and their Waterbirds: Status and Distribution. BirdWatch Ireland.
- Crushell, P. (2010). Laois – Kilkenny reinforcement project: 400/110KV Substation including associated line and station works. Results of winter bird surveys 2010 (Mar – Apr 2010). Draft Report.
- Goodwillie, R. (1992). A Catalogue of Areas of Scientific Interest in Ireland. Dublin, An Foras Forbartha.
- Lynas, P., Newton, S.F. and J.A. Robinson (2007). The status of birds in Ireland an analysis of conservation concern 2008-2013. Irish Birds 8: 149-166.
- Newton, S., Donaghy, A., Allen, D. and D. Gibbons (1999). Birds of Conservation Concern in Ireland. Irish Birds; Vol. 6, Number 3. BirdWatch Ireland, Dublin.
- Robinson, J.A., Colhoun, K., McElwaine. J.G. and EC Rees. (2004). Whooper Swan *Cygnus Cygnus* (Iceland population) in Britain and Ireland 1960/61 – 1999/2000. Waterbird Review Series, The Wildfowl & Wetlands Trust / Joint Nature Conservation Committee, Slimbridge.
- Sheppard, R. (1993). Ireland's Wetland Wealth. Irish Wildbird Conservancy, Dublin.