

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

WINTER BIRD SURVEYS

**INTERIM REPORT DECEMBER 2010
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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	National 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 October to December 2010.

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.

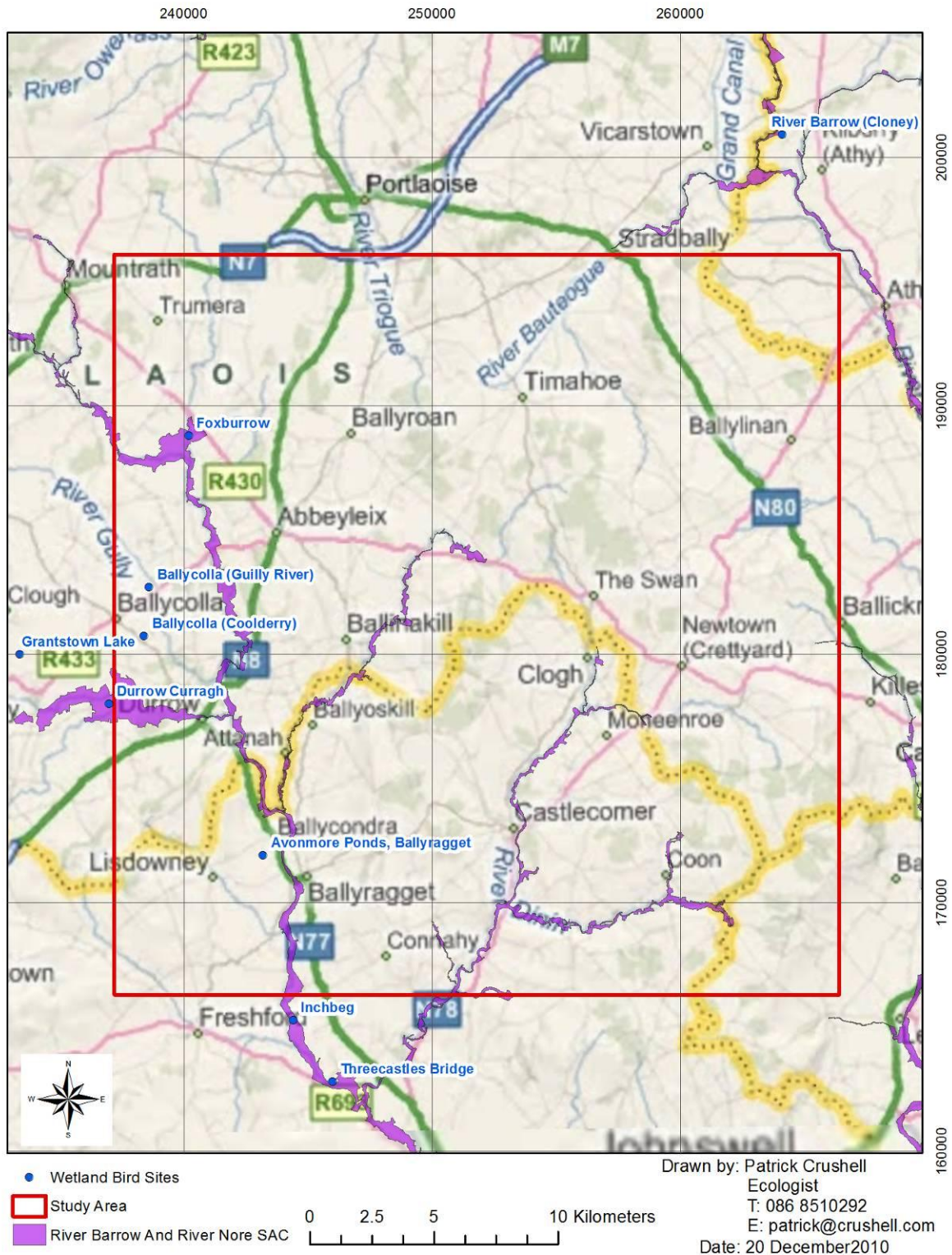


Figure 1: Map showing the location of study area of the proposed 110kV powerline and the proposed substations in relation to identified wetland bird sites.

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 October / November 2010. 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 October and November 2010.

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 Grid Reference
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	Foxborrow (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
19 & 20th Oct 2010	Avonmore Ponds Durrow Curragh Ballycolla (Coolderry) Ballycolla (Guilly River) River Nore (Foxborrow; Inchbeg; Threecastles Bridge) River Barrow (Cloney) Wider countryside in study area	Sunny intervals; Dry; Calm; Good visibility
17 – 19th Nov 2010	Avonmore Ponds Durrow Curragh Ballycolla (Coolderry) Ballycolla (Guilly River) River Nore (Foxborrow; Inchbeg; Threecastles Bridge) River Barrow (Cloney) Grantstown Lough Wider countryside in study area	Sunny intervals; Occasional showers; Moderate wind; 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 swans 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.

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 4 below. In summary, there are very few records of water birds throughout the study area with only small numbers of Mute Swan, Mallard and Moorhen observed at scattered locations.

Table 4: Results of counts at potential waterbird sites within study area during the period October to December 2010.

Site	Grid Reference	Date	Observation
Clogh pond	S 566 797	19/10/2010	Mallard (9)
		18/11/2010	No birds recorded
Ballinakill Lake	S 467 810	19/10/2010	Mute Swan (6)
Mass Lough	S 472 806	19/10/2010	Mallard (11), Moorhen (3), Mute Swan (4)
		17/11/2010	Moorhen (2), Mute Swan (2), Mallard (4)
Castlecomer lake	S 536 737	19/10/2010	Mallard (8)
River Nore (Ballyragget Bridge)	S 444 709	19/10/2010	No water birds recorded
River Nore (Tallyho Bridge)	S 423 762	19/10/2010	No water birds recorded
Lisbigney Pond	S 446 798	17/11/2010	No water birds recorded

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. There were no observations of water birds utilising the site during these visits. Counts conducted during the March / April survey period in early 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 5: Summary of count data recorded at Avonmore Ponds, Ballyragget, Co Kilkenny during the period March – April and October - November 2010.

	5/3/10	8/3/10	19/3/10	25/3/10	2/4/10	13/4/10	19/10/10	18/11/10
Curlew			9					
Whooper Swans					3			
Swan		13	2	2				

3.1.2.2 Durrow Curragh

Counts were conducted at Durrow Curragh wetland on two occasions during the study period. Whooper Swans were recorded at the site during November, with a peak count of 81 (possibly more) individuals recorded (see Table 5). The Erkina River and adjacent grasslands at this site were utilised by Whooper Swans for foraging. In addition, the site is likely to be used as a roost site for some birds as indicated by the presence of 7 Whooper swans moving from the grasslands to the flooded Erkina River during a dusk watch on 18th of November. Other water birds of conservation interest were also recorded in high numbers during November included Golden Plover, Curlew and Lapwing.

Table 6: Summary of count data recorded at Durrow Curragh, Co Laois during the periods March – April and Oct – Nov 2010.

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

3.1.2.3 Ballycolla

Counts were conducted at Ballycolla on two occasions. No birds were recorded along the floodplain of the River Guilly during either visit. However, during the November visit a flock of 34 Whooper Swans was encountered at Coolderry, approximately 2km to the South (see Table 7). The Coolderry site comprises a small pond surrounded by improved grassland. The site is likely to be used as both a feeding and roost site as suggested by the presence of 24 Whooper Swans during a dawn watch undertaken on November 19th. Similar observations were made during March when a peak count of 126 Whooper Swans was recorded at the site.

Table 7: Summary of count data recorded at Ballycolla (Coolderry), Co Laois during the periods March – April and Oct – Nov 2010.

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

3.1.2.4 River Nore – Foxburrow (Shanahoe Marsh)

Counts were conducted on two occasions at Foxburrow during the study period. No water birds were observed at this site, on both of these occasions. It was difficult to obtain a good vantage point at the site due to floods occurring on adjacent grasslands. Counts conducted during the March / April survey period in early 2010 record the presence of Whooper Swans utilising this site for feeding and roosting. Whooper Swans were recorded on two occasions at the site during the spring study period with a peak count of 20 birds recorded on April 4th (Crushell, 2010). Other birds recorded during the early spring survey period included low numbers of Lapwing and Mallard.

Table 8: Summary of count data recorded at Foxburrow (Shanahoe Marsh), Co Kilkenny during the periods March – April and Oct – Nov 2010.

	9/3/10	18/3/10	13/4/10	19/10/10	19/11/10
Whooper Swan		20	11		
Lapwing			1	100	
Mallard			2		
Jack Snipe				1	
Snipe				1	

3.1.2.5 River Nore – Inchbeg

Counts were conducted at Inchbeg on two occasions. Few water birds were recorded during the study period.

Table 9: Summary of count data recorded at Inchbeg, Co Kilkenny during the periods March – April and Oct – Nov 2010.

	9/3/10	18/3/10	25/3/10	2/4/10	13/4/10	19/10/10	17/11/10
Coot					1		
Cormorant						3	
Grey Heron	1						
Little Egret		2			1		
Mallard		2					

3.1.2.6 Grantstown Lough

A single visit was made to Grantstown Lough during November. Both Mallard and Wigeon were recorded at the site. Similar numbers were recorded during a single visit made to the site in March 2010.

Table 10: Summary of count data recorded at Grantstown Lough, Co Laois during the period October – November 2010.

	4/3/10*	19/11/10
Wigeon	c.40	34
Mallard	c.16	14
Teal	c.20	
Coot	>1	
Moorhen	>1	

*Poor visibility therefore count estimates were made by visual and call.

3.1.2.7 River Barrow (Cloney)

All three sub-sites (Lowtown; Coolagh and Vicarstown) of this main site were visited on two occasions over the study period (19th October 2010 and 18th November 2010). No water birds were recorded at this site during the study period. The site was not visited during the March to April period.

3.1.3 Dawn and dusk flights

No whooper swans were recorded during the October visit to the study area. A dusk watch undertaken at Foxburrow (Shanahoe Marsh) on October 19th recorded ca 100 Lapwing roosting at the site.

During the November visit a dusk watch (18th November 2010) was carried out at Durrow Curragh where ca 81 Whooper Swans were recorded feeding on grasslands at Ballygauge Beg. Movements of these birds were not recorded during the dusk watch. However, a small flock of 7 Whooper Swans was recorded flying from a feeding site (grassland) at Durrow Curragh to nearby flooded areas surrounding the Erkina River. No other swans were recorded flying into this roost site.

A dawn watch (19th November 2010) carried out at Ballycolla (Coolderry) recorded 24 Whooper Swans at the site. No birds were recorded flying to or from this site indicating

that those birds recorded feeding on grasslands in the area also roost at the site. This is in agreement with data recorded during March 2010.

4 DISCUSSION

Records from surveys carried out during October – November 2010 support the findings of earlier surveys carried out during March – April 2010. 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 Foxburrow (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.

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