



Breeding waders on cutaway peatlands in County Offaly

Alex S. Copland, Jan Bayliss, Eileen Power and Kathryn Finney

BirdWatch Ireland, Crank House, Banagher, Co. Offaly Ireland

Phone: +353 57 9151676, Fax: +353 57 9151951, e-mail: acopland@birdwatchireland.ie

Summary

A survey of six wader species (Lapwing *Vanellus vanellus*, Curlew *Numenius arquata*, Redshank *Tringa totanus*, Snipe *Gallinago gallinago*, Ringed Plover *Charadrius hiaticula* and Common Sandpiper *Actitis hypoleucos*) breeding on 12 cutaway bog sites was undertaken in 2006. A comparison with two previous surveys of these areas in 1998 and 2002 was made. A total of 138 breeding wader pairs were recorded in 2006: an increase since 2002 (115 pairs), but a decrease since 1998 (155 pairs). Lapwing and Ringed Plover have increased since 2002, but decreased since 1998; Redshank have decreased overall since 1998; Snipe have increased overall since 1998; Common Sandpiper have increased since 2002, and are at the same number as in 1998. No Curlew were recorded in any of the surveys. These naturally regenerating cutaway bog areas are a valuable conservation resource for breeding waders, and future management of these areas should take this into consideration.

Key index words: breeding waders; cutaway peatlands; biodiversity; management

Introduction

In Britain and mainland Europe, a general trend of decline has been reported for many wader species (Devos *et al.*, 1991; Klinner, 1991; Gibbons *et al.*, 1993; Gregory *et al.*, 2001). Lapwing (*Vanellus vanellus*), Curlew (*Numenius arquata*), Redshank (*Tringa totanus*), Snipe (*Gallinago gallinago*) and Common Sandpiper (*Actitis hypoleucos*) are all species of European Conservation Concern (BirdLife International, 2004). Lapwing, Curlew and Redshank are on the Birds of Conservation Concern in Ireland (BoCCI) Red List, being of high conservation concern (Lynas *et al.*, 2008), with the breeding population having declined by more than 50% in the past 25 years. Snipe, Ringed Plover and Common Sandpiper are on the BoCCI Amber List (species of medium conservation concern).

The last estimate of the Irish breeding wader populations relates to a national breeding bird survey from 1988 to 1991 (Gibbons *et al.*, 1993). It was estimated that there were 21,500 pairs of Lapwing, 4,400-5,000 pairs of Redshank, 10,000 pairs of Snipe, 12,000 pairs of Curlew, 1,250 pairs of Ringed Plover and 2,500 pairs of Common Sandpiper.

The discovery of a previously unknown population of breeding waders on cutaway peat at Blackwater bog in County Offaly (Cooney, 1997) has highlighted the importance of newly created wetlands as nesting and feeding sites for breeding waders. Formerly, the usage of a bare peat substrate for nesting by Ringed Plovers (Cooney, 1998b) was also unrecorded. In the Irish Midlands there are extensive areas of cutaway bog which are left behind after large scale industrial peat extraction by Bord na Móna has ceased. As a result of the discovery in 1997, a systematic survey of a selection of those cutaway bogs owned by Bord na Móna, was undertaken in 1998 to quantify the breeding wader population (Cooney, 1998a,

1998b). This survey was repeated in 2002 and a comparison was made to the 1998 survey (Hudson and Tierney, 2002; Hudson *et al.*, 2002). It was found that the total numbers of wader pairs either increased or remained stable for half the sites surveyed while there were overall decreases for the remainder of the sites.

This paper presents data from a repeat survey undertaken on these cutaway peatland sites in 2006 utilising, where possible, the methodology of the previous two surveys in order to ascertain changes in breeding wader populations on cutaway bogs in Offaly.

Materials and methods

All eleven sites visited during the 2002 survey (Hudson and Tierney, 2002), along with one additional site surveyed in 1998 (Cooney, 1998) were surveyed in 2006.

Standardised survey methods for breeding waders was followed, after O'Brien and Smith (1992) and as summarised by Gilbert *et al.* (1998). Aspects of Bibby *et al.* (1992) for the description of timing, species and behaviour codes was also used. In brief, all survey areas were walked to within 100m, unless access was impossible (due to deep water or impenetrable scrub), or where habitat was not suitable for breeding waders (such as dense scrub or woodland). Wader occurrences were made in notebooks, along with other significant observations (such as the location of nests or chicks or high numbers of particular species). Other birds and mammals (particularly predatory species) were also noted. One visit was made to each site, between 0600hrs and 1100hrs, from 31 May to 15 June 2006. Habitat was assessed by studying aerial photographs and from notes made in the field during survey work. Twelve habitat categories were identified, and the percentage cover for each of these habitats was recorded for each site (see Table 1).

Table 1. Percentages of habitat types per site.

Site	Wetland	Lakes	Improved grassland	Grassland	Heath	Scrub	Tillage	Broadleaved woodland	Conifer woodland	Bare peat	Peat production	Other
Blackwater	17	8	0	5	0	3	0	4	12	10	32	9 ^a
Boora Lakes	20	15	25	15	0	10	2	0	0	8	0	5 ^b
Tumduff	10	15	12	10	0	10	15	0	20	8	0	0
Finnamore's	25	25	30	10	0	10	0	0	0	0	0	0
Cloghan Lake	25	50	0	8	0	5	0	7	0	5	0	0
Turraun	15	40	0	12	0	10	0	15	0	8	0	0
Boora West	10	0	0	50	0	20	0	0	0	20	0	0
Boora East	30	0	0	10	0	30	0	0	20	10	0	0
Drinagh	15	30	0	15	0	15	0	5	0	20	0	0
Clongawny More	0	60	0	7	5	10	0	0	3	15	0	0
North Derries	10	0	0	20	0	40	0	0	0	30	0	0
South Derries	20	3	0	20	5	30	0	5	0	17	0	0
TOTAL	16	21	6	15	1	16	1	3	5	12	3	1

NOTES: ^a = ash repository; ^b = conifer forest felled summer 2006

Results

A total of 138 breeding wader pairs ('pairs' refer to Lapwing, Redshank, Ringed Plover and Common Sandpiper pairs as well as audible Snipe individuals) were recorded in 2006, at 12 different sites (see Table 2). This figure shows an increase of 23 pairs since 2002 but is still lower than the 1998 total of 155 pairs. A total density of 5.48 wader pairs/km² was found during the present study. This figure is higher than that of the previous study at 4.57 pairs/km² when area (and hence densities) are adjusted for comparability of studies. However, both the 2006 and 2002 studies found lower total wader pair densities than in 1998. It should be noted that numbers of waders may have been underestimated as sites were only visited once (owing to time constraints), thus a full breeding survey was not undertaken during the present study.

In the present study, the most number of pairs (23) were counted at Drinagh, followed by Tumduff and Blackwater with 17 pairs each. The least number of pairs were counted at Clongawny More, the smallest site. This is similar to the findings of the 2002 survey with the 3 most pairs found at Drinagh, Tumduff and Blackwater and very few pairs found at Clongawny More. Boora West was the least favoured site by waders in 2002. Conversely, in 1998 Drinagh was the least favoured site by breeding waders along with Boora West. Blackwater and Tumduff were most populated along with Boora Lakes.

An overall trend became evident regarding total wader densities over the three study periods. An increase in wader density from 1998 to 2002 and again from 2002 to 2006 was evident at six out of the twelve sites: Turraun, Boora West, Drinagh, Clongawny More, North Derries and South

Table 2. Total numbers of breeding waders per site and per year. Numbers in parentheses refer to density in pairs/km².

Site/Year	Area (ha)	1998		2002		2006	
Blackwater	487.71	55	(11.28)	16	(3.28)	17	(3.49)
Boora Lakes	135.0	25	(18.52)	15	(11.11)	9	(6.67)
Tumduff	338.15	31	(9.17)	16	(4.73)	17	(5.03)
Finnamore's	60.82	12	(19.73)	7	(11.51)	4	(6.58)
Cloghan Lake	111.81	4	(3.58)	13	(11.63)	7	(6.26)
Turraun	211.62	9	(4.25)	9	(4.25)	15	(7.09)
Boora West	142.0	3	(2.11)	1	(0.70)	9	(6.34)
Boora East	72.0	14	(19.44)	10	(13.89)	10	(13.89)
Drinagh	620	2	(0.32)	21	(3.39)	23	(3.71)
Clongawny More	12.29	0	---	2	(16.27)	2	(16.27)
North Derries	152.21	0	---	5	(3.28)	13	(8.54)
South Derries	174.79	0	---	N/S		12	(6.87)
Total	2518.4	155	(6.15)	115	(4.57)	138	(5.48)

NOTES: 'total numbers' refer to Lapwing, Redshank, Curlew, Ringed Plover and Common Sandpiper pairs as well as audible Snipe individuals.

N/S; Not Surveyed



Derries. Two more sites, Blackwater and Tumduff, had wader densities in 2006 above those of 2002 though figures were still lower than in 1998. Though Boora East figures were considerably lower in 2002 than in 1998, the 2002 figures remained level with those found in the 2006 study. Cloghan Lake had figures in 2002 above those of 1998; though wader density decreased slightly in 2006 compared to 1998, it has decreased noticeably since 2002. Only two sites, Boora Lakes and Finnamoses, had wader densities which were found to be consistently decreasing in every study period.

Discussion and conclusion

Numbers of Lapwing pairs fluctuated widely between sites in the survey years and no overall trend could be identified over the twelve sites. Numerous birds present on most of the sites were not counted as part of the present survey because they were failed or post breeders, either alone or in flocks. This could suggest that the cutaway bogs may be an important area for Lapwing in terms of staging as well as breeding (Hudson and Tierney, 2002).

The overall trend for Redshank is that of decrease for most sites since the 2002 and 1998 surveys. The reasons for these declines are unclear. Most of the sites seem to be suitable with adequate amounts of wetlands but sites cannot be compared to previous studies for habitat change or degradation. Nonetheless it is possible that the scrub encroachment has had a negative impact on Redshank breeding success.

There has been a large increase of Snipe over the three study periods i.e. 27 audible Snipe in 1998; 37 in 2002 and 61 in 2006. Before the survey took place in 2006 a record amount of rainfall was recorded in the midlands with 123.6mm falling in May as opposed to the average of 61.2mm for the last ten years (Met Éireann data for Birr from www.meteireann.ie). Hudson and Tierney (2002) note that the increase in Snipe is not necessarily considered an increase in total population as Snipe distributions fluctuate by the degrees of wetness of an area from year to year. This may be the case for the present study.

Six Curlew were recorded during the present study, and were also recorded during the previous studies. However, none were suspected of breeding as they were not exhibiting any territorial behaviour. Hudson and Tierney (2002) note Curlew at Drinagh and Turraun and suspected these birds to be breeding in the adjacent intact bogs and using the cutaways for feeding and chick rearing. The cutaways may therefore be important in the future for providing habitats to Curlew for different stages of the breeding cycle. Some sites have been found to be good for staging Curlew (Heery, 2005). Hudson and Tierney (2002) state that, with an increase in wet grassland, Curlew could breed in these areas in the future. This would require proactive work to re-wet areas and block drains at some sites close to intact bogs. Numbers of Ringed Plover increased by one pair (to twelve pairs) since the 2002 survey but are lower than 1998. The changes in the distribution of Ringed Plover cannot easily be explained though it is obvious that they are a very adaptable species and may have moved between sites

according to changes in habitat suitability. Ringed Plover also use cutaway sites as staging areas (Heery, 2005).

The number of Common Sandpiper observed in the present study has returned to the level seen in 1998 (10 pairs), following the decrease to four pairs in 2002. There was no obvious trends for species densities and sites in the 2006 study. The presence of large areas of unsuitable habitat such as open water, scrub, conifer and broadleaved woodland at most sites means density comparisons between sites are difficult to make without detailed habitat maps. A total of 61 birds species, including the wader species recorded for this study, were observed over the study period. The cutaway areas created by Bord na Móna and the Lough Boora Parklands Group provide valuable habitat for a range of birds and other wildlife. Breeding waders, which are experiencing a drastic population decline on the nearby Shannon Callows and elsewhere in Ireland, benefit greatly from this habitat.

Acknowledgements

Thanks to Tom Egan, Gerry McNally and Gerry Sammon (all Bord na Móna); Kieran Buckley (NPWS), David Tierney and Stephen Heery.

References

- BirdLife International (2004). *Birds in Europe: Population estimates, trends and conservation status*. BirdLife International, Cambridge.
- Cooney, T. (1997). *Notes on the breeding waders at Blackwater works, Co. Offaly*. Unpublished report, Trinity College Dublin.
- Cooney, T. (1998a). *Survey of Lapwings and other waders on cutaway bogs and wetlands at Blackwater bog and Lough Boora Parklands, Co. Offaly*. Unpublished report, Trinity College, Dublin.
- Cooney, T. (1998b). Ringed Plovers *Charadrius hiaticula* nesting on cutaway peat in County Offaly. *Irish Birds* **6**, 283-284.
- Devos K., Meire, P. and Kuijken, E. (1991). Recent population estimates of meadow breeding waders in Belgium. *Wader Study Group Bulletin* **61**, supplement, 14-22.
- Gibbons, D.W., Reid, J.B. and Chapman, R.A. (1993). *The Atlas of Breeding Birds in Britain and Ireland 1988-1991*. T. and A.D. Poyser, London.
- Gilbert, G., Gibbons, D.W. and Evans, J. (1998) *Bird Monitoring Methods*. RSPB, Sandy, UK.
- Gregory, R.D., Noble, D.G., Cranswick, P.A., Campbell, L.H., Rehfish, M.M. and Baille, S.R. (2001). *The State of the UK's Birds 2000*. RSPB, BTO WWT, Sandy, UK
- Heery, S. (2005). *Birds in Central Ireland: Third Mid-Shannon Bird Report 2000 – 2003*. BirdWatch Ireland, Co. Wicklow.
- Hudson, J. and Tierney, T.D. (2002). *Breeding waders on selected cutaway bog and wetland areas, Co. Offaly*. Unpublished report.
- Hudson, J., Tierney, T.D. and Casey, C. (2002). Breeding waders on cutaway bog in County Offaly, 2002. *Irish Birds* **7**, 61-64
- Klinner, B. (1991). Breeding waders in wet grasslands (inland sites) in West Germany: Recent data. *Wader Study Group Bulletin* **61**, supplement, 14-22.
- Lynas, P., Newton, S.F. and Robinson, J.A. (2008). The status of birds in Ireland: an analysis of conservation concern 2008 – 2013. *Irish Birds* **8**, 149-166.
- O'Brien, M. and Smith, K.W. (1992). Changes in the status of waders breeding on wet lowland grassland in England and Wales between 1982 and 1989. *Bird Study* **39**, 165-176.