

PIED WAGTAILS AT TAPEE FEN

**A report on data collected by
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January 2009**

White and Pied Wagtails in Britain.

The White Wagtail, *Motacilla alba*, includes 8-11 subspecies, of which the Pied Wagtail, *Motacilla alba yarrellii* is one (Forrester, Andrews, *et al.*, 2007). Pied Wagtails breed almost entirely within the British Isles and on the adjacent coasts of northwest Europe. Only a very few White Wagtails breed in Britain. Many Pied Wagtails move to warmer parts of Britain in winter, while others migrate to southwest Europe. At the same time substantial numbers of White Wagtails (*Motacilla alba alba*) pass through Britain in spring and autumn. The number of Pied Wagtails estimated as breeding in the UK (in 2000) is between 272,000 and 352,000 pairs (BTO, 2007 a).

The two sub-species flock together, and do occasionally interbreed in northern Scotland. The White Wagtail has been recorded as a passage migrant in Britain since the 19th century. It is now recognised that this continental subspecies (White) can often outnumber the British subspecies (Pied) at autumn roosts (Forrester, Andrews, *et al.*, 2007). A detailed guide to help ringers separate the subspecies is available on the web (Livingstone, 2005), but it is still difficult to separate juveniles and some females in the hand, let alone in the field.

Tapee Fen.

Tapee Fen (NT 995 537) is a small (0.5ha) reed bed on the northern side of Berwick upon Tweed, a town on England's north-east coast but only 2 miles from the Scottish Border. Circumstantial evidence points to a body of water at the site in 1120AD and a pond appears on maps as early as 1561 at the period of construction of the Elizabethan ramparts. Through the centuries this water, augmented by two surface streams, has served as a mill pond, a water supply for steam locomotives and a curling pond. Construction of the railway, culverting of the streams and residential development nearby have slowly dried the pond which is supplied now only by local run-off, and contributed to the spread of reeds (*Phragmites australis*). Although there is standing water only during the wettest conditions, the site provides the mid-section of a green corridor for species passing between the shore to the north-east and the wide tidal reaches of the Tweed to south and west. Cormorants, swans, geese, mallard, herons and a variety of waders pass over regularly, while the fen together with surrounding scrub provides a good roosting place for small passerines. In November 2003 one of our members (Phil Johnston) who had just moved into a house overlooking the Fen, noticed a large number of wagtails descending into the reed bed at dusk. The following March when wagtails began to appear again regularly around sunset, she began a more systematic watch. Over time the observations have tended to focus on dawn as any birds rising from the fen can be assumed to have roosted there overnight.

Wagtail migration in Britain.

Pied Wagtails are partial migrants in Britain. Adult males are dominant and defend feeding territories in autumn and winter, tolerating the presence of females and immature males until food becomes scarce (Wernham, Toms *et al.*, 2002). The

expelled birds then join roosting and feeding flocks, sometimes of several hundred individuals. The equinox may be the trigger of southward movement, the pace accelerating until mid-October (Forrester, Andrews *et al.*, 2007), although there are reports (Dougall, 1996) of birds moving long distances southward in August. Most birds ringed in the north of Britain move south (Dougall, 1991), but many remain, particularly in sheltered and especially urban areas (Aberdeen, Perth and Dundee, the Central Lowlands of Scotland and the Tweed Valley). Recoveries of northern birds further south in Britain were concentrated in the Vale of York, Lancashire, the Midlands, the Thames valley, the Severn valley and the Dorset Lowlands. Recoveries of ringed birds were also reported from the Channel Islands, Brittany, western France, Spain and Portugal. Most birds from northern Britain tend to winter in southern England or western France and Spain, whereas those that migrate from southern Britain winter further south, particularly in Portugal or southern Spain (Wernham, Toms, *et al.*, 2002). Juvenile birds also apparently tend to migrate further than adults. However there does not appear to be any link between particularly harsh weather and greater southerly movement. Males are more likely to be sedentary, (perhaps giving them an advantage in establishing territories in spring).

Wagtail numbers in Britain.

Britain and Ireland together hold almost the entire population (between 272,000 and 352,000 breeding pairs in 2000 (BTO, 2007 a)) of the dark-backed race, the Pied Wagtail. This population showed a steady rise from the mid 1960s to the mid 1970s. There has also been colonisation northwards into the Hebrides, Orkney and Shetland between the Breeding Atlases of 1976 and 1993 (BTO, 2007 b). Since then there have been fluctuations in population but no major trend is evident. The BTO's Breeding Bird Survey results (BTO, 2008) suggest that, over the years Phil has been recording at Tapee (2004-2008), numbers of Wagtails breeding in NE England and Scotland fell between 2004 and 2006, with a slight rise in 2007.

Pied Wagtails were included in the BTO's survey of Winter Farmland Birds, 1999-2002 (BTO, 2003). They were reported throughout British lowland farmland, mostly in groups of less than 4 birds but with a maximum flock size of 500. During the three winter surveys, there was a significant reduction in reporting rate from the start of counts in November to the end of each survey in February. "Why this should be is not entirely clear. Is it due to mortality, difficulties of detection as crops grow or a shift to another habitat"? (BTO, 2003).

Mortality on migration and in winter is certainly considerable, particularly for young birds in autumn, while adults are more vulnerable in the breeding season (Dougall, 1991). Whether the birds migrate or not severe weather can kill, as can predators, disease, road or rail traffic, collision with wires and so on. It has been estimated that an average of four young Pied Wagtails are fledged per pair each year, and 25% of adults die during the breeding season (Forrester, Andrews *et al.*, 2007). Therefore for the population to remain roughly constant, winter mortality must be high. Total numbers migrating are therefore smaller in the spring.

Wagtails at Tapee.

Although Phil has spent many hours watching for and counting wagtails at dawn and dusk for 5 years, sometimes other commitments or bad weather (especially haar) have prevented counts; at other times wagtails have been scared off by predators (merlins and sparrowhawks are frequently seen). A nil return on the graphs (Appendix 1) therefore does not necessarily mean wagtails were not present in the area. (On the data sheets, a gap is no record, a 0 is a watch with no birds seen.) However the bar graphs give a good idea of the variation in the numbers of birds using the fen as a roost site through spring and autumn in each of the 5 years.

The most obvious feature is the difference in numbers between spring counts (max. 300, 18/03/2004) and autumn counts (max. 821, 03/10/04). However the birds appear to be using the fen in substantial numbers for a longer time during the spring migration period. It is of course impossible to distinguish between birds spending several days or weeks in the area and roosting in the fen each night (some of which may remain to breed), and those passing through the area quickly on migration.

The SOC (Forrester, Andrews *et al.* 2007) summarise the distribution of wagtails from the Scottish Bird Reports: "Winter roosts generally peak during mid- to late-March and occasionally April as immigrants pass through, with an undetermined percentage of Iceland-bound *alba* birds;" and "The equinox may trigger southwards movement of ... autumn flocks, with the pace of passage accelerating into mid-October. By mid-November the species is very thinly distributed across coastal and low-lying parts of Scotland." This mirrors the situation at Tapee. However the two graphs shown in the SOC book (for North Ronaldsay, Orkney 1985-2003 and Lothian 1991-2004) do not show marked differences in numbers of birds between autumn and spring, as occur at Tapee.

As to the relative importance of the Tapee site, Forrester, Andrews *et al.* (2007) give peak numbers in spring from several years' data in Scottish Bird Reports: 1,350 in Perth on 31st March 1977; 500 at Dyce Airport mid-March 1988; 349 at Cnockenzie Power Station (Lothian) on 17th March 1993 and 600 at Loch Spynie (Moray and Nairn) on 25th March 1993. Autumn/winter peaks were roughly similar: 600 at Cargenbridge in Dumfries and Galloway in 1974/75; 1,350 in Perth 1976/77; 500 in Prestwick in 1978/79; 500 at Dyce in 1985/86 and 350 at Melrose in 1977/78. The peak numbers at Tapee in spring (300 in 2004; 200 in 2005; 80 in 2006; 100 (twice) in 2007 and 216 in 2008) are not as big as at the largest Scottish roosts, but are still substantial. The autumn peak numbers at Tapee (821 in 2004; 700 in 2005; 268 in 2006; 718 in 2007 and 346 in 2008) are definitely in the same league as at the most important Scottish sites.

Whites or Pieds at Tapee?

Spring passage of White Wagtails to Iceland from Britain is estimated as between 100,000 to 200,000 birds, and the return journey in autumn may involve up to 600,000 birds (assuming 4 juveniles per breeding pair). It is not known whether many Finnish or Scandinavian birds pass through the UK; there is a single record of a bird ringed in Sweden and recaptured in Britain (Wernham, Toms *et al.*, 2002). Between

90,000 and 120,000 pairs of Pied Wagtails breed in Scotland, (35% of the UK breeding population) and of these only between 10,000 and 50,000 remain in Scotland throughout the year. (Forrester, Andrews *et al.*, 2007). There is therefore a strong possibility that the migratory birds roosting at Tapee Fen are a mixture of migratory Scottish Pied Wagtails and of White Wagtails breeding in Iceland or just possibly in Scandinavia

Further Questions.

This study has thrown up many more questions. For example:

- Why were numbers of birds comparatively low in the Autumns of 2006 and 2008?
- How will the numbers fluctuate in the next 5 years? Will birds remain loyal to the site if it remains quiet and the habitat continues suitable?
- Why do numbers fluctuate so much from day to day? (This is often linked to the appearance of predatory hawks or other disturbance).
- Where do the birds that spend days (or even one night) here feed? The Magdalene Fields Golf Course often holds large numbers of Pied Wagtails. Journeys between feeding areas and roosts can be several kilometres (Wernham, Toms, *et al.*, 2002).
- Why are spring peak numbers so much lower than autumn numbers here, but not at some other wagtail roosts?
- Are some of the Tapee birds White Wagtails?
- If so, are these all Icelandic birds or are some from Scandanavia? (This latter seems possible; wagtails can sometimes be seen in autumn flying into Berwick apparently having crossed the North Sea).

Management of Tapee Fen.

Management of the fen to prevent further drying out (as will occur through natural succession and human activities) is difficult. The water supply has been slowly choked off as more and more housing has been built locally and rainwater from roofs and drives enters storm drains rather than soaking into the ground. The recent craze for paving over large areas of garden compounds the problem. As a result of the falling water table, sycamores and various shrubs have begun to invade the fen and Willowherb is becoming dominant in the driest areas.

Digging out part of the fen has been suggested, but opening up the thick reed mat which currently stifles most invading plants is probably more damaging than the slow drying. Over most of the area, despite the drying conditions, the reeds are growing

robustly. Wagtails do not even need reeds to roost in – they are quite happy in scrub or even town trees. The main requirement is to keep this small area of ground safe from disturbance and depredation. The Castlegate Area Residents' Association has obtained funds from Northern Gas Networks, under their Green Networks Scheme. These will be used to kill the trees invading the fen. They will be poisoned and left in situ to avoid un-necessarily opening up the peaty ground.

Acknowledgements

Wagtails had been reported from Tapee for many years, but the huge numbers revealed by this study were a surprise to local birders. We are extremely grateful to Phil Johnston and her husband Dave for the many hours of observations that have produced this magnificent run of data. These sorts of results show how vital longterm observations are in interpreting the population and movements of birds, and in identifying the importance of a site for nature conservation.

Fiona Aungier has processed the data and helped to write this report.

Tapee Fen is a Site of Nature Conservation Importance identified by Northumberland Wildlife Trust. The wettest part where the wagtails roost belongs to Berwick Borough Council, but bounding areas have other owners, including Network Rail and Scottish Power. The Castlegate Area Residents' Association and the Tweed Forum have also been heavily involved with plans for management of the fen. We are most grateful that all these bodies have been sympathetic to the views of Berwick Wildlife Group about the importance of the area for nature conservation, and (with the help of Northern Gas Networks who have given funding under their Green Networks Scheme) are working together to protect the Tapee Fen.



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Appendix 1: Graphs showing numbers of Pied Wagtails seen at Tapee Fen

Days when no wagtail numbers are shown does not mean no wagtails were present, only that no observations were made on that day. Sunrise counts were made when the birds were leaving the roost at dawn, sunset counts when they were going down into the vegetation in the evening.









