

THE ORNITHOLOGICAL STATUS OF THE BREDE VALLEY, EAST SUSSEX - 1994

by MJ Donny

INTRODUCTION

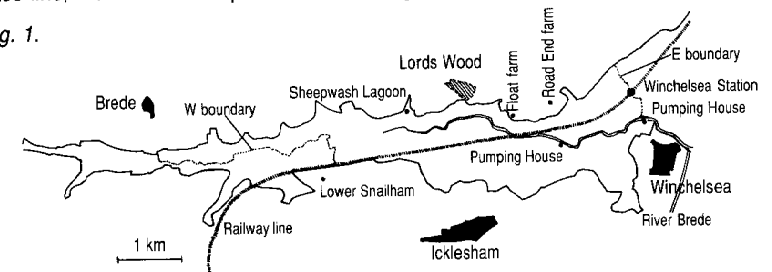
The Brede Valley is situated approximately six miles to the north-east of Hastings in the east of the county. The River Brede begins its main flow just above Sedlescombe and runs more or less through the centre of the valley until it joins the Rother at Rye. The area which was surveyed in 1994 is shown in Fig 1. The Brede Valley and the survey area cover approximately 2,690 and 1,530 acres respectively.

Most of the area is low lying grazing marsh dissected by many ditches and dykes, scattered with trees, bushes and hedgerows. Nationally this type of habitat is uncommon and rapidly being degraded, as is its associated fauna and flora. The Brede Valley comprises a significant portion (c.5%) of one of the largest areas of what was traditionally lowland grazing marsh in Britain - Romney Marsh.

This paper summarises the results of the 1994 breeding bird census of the Brede Levels carried out on behalf of the Sussex Wildlife Trust as part of their campaign to protect Sites of Nature Conservation Importance (SNCI) within the county. This census followed a botanical survey in 1993 which showed that 'the floodplain of the River Brede is the most significant wildlife site surveyed by the SNCI team to date' (Anon, 1994). There is also a brief assessment of wintering and migrating birds in the Valley, using information drawn from personal observations over the past ten years.

The only previous ornithological survey of the Brede Valley was produced in 1979 (Pankhurst & Erends), and covered the period 1976-79. Since then the valley has been modified through drainage, hedge removal and other such agricultural 'improvements', destroying much of the habitat required for breeding and wintering birds. Therefore, the 1979 survey is probably not representative of the present breeding bird status. Also the 1979 report concentrated on the western end of the valley, although the total area covered was similar to that of this survey. The present survey therefore constitutes an updated base-line, with a more comprehensive coverage of the eastern portion of the valley.

Fig. 1.



LAND USE AND HABITAT TYPES

Historical Background

The valley was an estuary until it began silting-up 400 years ago. It is thus rich in archaeological and historical features and folklore. Float Farmhouse, for example, was built around 1460 AD on a quayside, and the medieval meaning of 'float' is estuary. The valley floor has been used for agriculture since the first attempts to reclaim the saltmarsh in Roman times. Areas of saltmarsh were walled-in, desalinated and dried out forming small areas of grazing marsh known as 'innings'. This form of reclamation continued until Tudor times when a change in coastal geomorphology precipitated the silting-up of the estuary. The valley floor then became the River Brede floodplain with

fresh/brackish water marshes. Reclamation of the whole valley floor then became possible through digging a network of drainage ditches, creating a habitat of seasonally flooded grazing marshes. Gradually more ditches were dug to dry out areas further, but water levels remained high and the agricultural regime continued to be dictated by winter flooding. Not until the inter- and post-war periods of this century did things change drastically. During this last period waterways have been canalized, ditches filled-in, water levels lowered through pump-drainage and some grazing land converted into arable crops. Despite all this, the area remains important for wildlife.

Present Situation

There are general trends in the habitats of the valley. The area adjacent to Brede Waterworks contains the largest reed-bed in the valley. However, it appears to have been neglected over the last fifteen years and with willow and bramble encroachment, seems to be drying out and rapidly deteriorating. This means that the interest and value it had in 1979 as a wetland nesting habitat has been lost.

From the Waterworks to Langford's Bridge, grazing marsh dominates. Generally, sheep graze north of the main river, while cattle graze to the south of it. There is a small amount of arable farming and, in the south-east corner, market gardening. This area has suffered less from drainage and other modifications than the eastern section of the valley; thus the water table is higher, pastures are rougher and hedges more common. Overall this section of the valley is the most aesthetically attractive and undisturbed. However, bird populations have probably recently declined primarily through the increasing control and lowering of the water levels.

The eastern end of the valley, from Langford's Bridge to Winchelsea Station, is predominantly sheep pasture, with the exception of the area north of the main river and east of Road End Farm, which is arable. This area has been intensively drained and 'improved', but where sheep have been prevented from grazing the dykes, there is good cover for breeding passerines.

The railway bisects the valley. Along its margins are thick stands of bushes, trees and common reed (*Phragmites australis*). This linear area holds a high density and diversity of passerines.

There is a large area even further east, towards Rye. About two thirds of this area is sheep grazed, the other third being arable. The density of dykes is lower in this section than in others, but thick stands of common reed dominate many of these dykes. The land is 'improved' and well drained. Overall it is similar to the eastern section surveyed.

METHODS

Time restrictions prevented the whole valley from being surveyed during the breeding season (April-July). However, most of the levels between Brede Bridge and Winchelsea Station, which form the core of the area, were covered. Also several of the smaller and one of the larger woods - Lord's Wood (covering 18 acres), that adjoin the valley floor were included. Some of the birds which rely on the levels as feeding sites nest in these woodlands.

Surveys were conducted during June and July 1994. They involved walking along all field boundaries, as marked on 1:10,000 O.S. maps and recording the birds seen and heard. Proof of breeding was taken to be when; birds were seen with nest material or carrying food, nests were seen with eggs/young, or males were heard singing. Status as 'possible breeding' was given for a bird found in suitable breeding habitat but which was not proved to breed. All fieldwork took place between 04:00 and 10:30 hours, or 16:30 and 21:30 hours on relatively calm days when birds are most active. Only one visit could be made to most field boundaries due to lack of time. This means that some populations will be underestimated.

The sections on wintering and migrant birds are based on past records relating to the last 10 years. These records show great bias to particular time periods and areas watched and as a result cannot possibly be considered a comprehensive record for the past 10 years.

RESULTS

Breeding bird survey - general summary.

The following tabulated records refer specifically to the survey area as shown in Fig 1, excluding Lord's Wood, so as to give more accurate comparisons with the 1979 survey. Fifty-nine species were confirmed as breeding within the the total survey area and several more possibly bred.

Table 1. Bird population sizes in 1994 within the survey area excluding Lord's Wood and population changes since 1979.

Species	No of breeding pairs	Change since 1979	Species	No of breeding pairs	Change since 1979
Mute Swan	5	=	Robin	26	+21!
Canada Goose	1	=	Nightingale	5	=
Shelduck	0-2	=	Blackbird	38-42	+37!
Mallard	3	-4	Song Thrush	15-16	+8!
Tufted Duck	0	-2	Mistle Thrush	5-6	+4
Kestrel	1-3	+2	Sedge Warbler	44	+24!
Hobby	0-2	+2	Reed Warbler	314	+255!
Grey Partridge	3	+2	Lesser Whitethroat	1	+1
Quail	01-	+1	Whitethroat	35	+28!
Moorhen	26	-40!	Blackcap	4	+2
Coot	1	+1	Chiffchaff	1	-2
Oystercatcher	0-1	+1	Willow Warbler	14	+6
Lapwing	4-5	-40	Spotted Flycatcher	2	=
Snipe	0	-5	Long-tailed Tit	0	-4
Redshank	0	-3	Marsh Tit	0-1	=
Stock Dove	1	+1	Coal Tit	2	*
Wood Pigeon	14	*	Blue Tit	21-28	*
Collared Dove	8	+8	Great Tit	8-9	*
Turtle Dove	4	+3!	Maggpie	3	=
Cuckoo	5	+3	Jackdaw	3	+3
Barn Owl	0-1	=	Carrion Crow	7	=
Little Owl	4	+3!	House Sparrow	*	-
Tawny Owl	1	-2	Tree Sparrow	9-12	*
Kingfisher	1	+1	Chaffinch	61-67	*
Green Woodpecker	3-5	+3	Greenfinch	21-22	*
Swallow	3	-9	Goldfinch	10-11	*
Meadow Pipit	1	-9	Linnet	46-53	+38
Yellow Wagtail	18-23	-4	Bullfinch	2	=
Pied Wagtail	6	*	Yellowhammer	27-31	+21!
Wren	58	*	Reed Bunting	68-82	+55!
Duncock	23	+8!			

Key: * no information, + increase, = no change, - decrease, with figures referring to actual numbers of pairs.

NB. It is important to bear in mind that it is difficult to make comparisons between the two surveys, as coverage differs between them. An ! denotes where the population change figures are known, or are suspected to have been significantly affected by this factor.

In addition the following species and numbers of pairs were found breeding in Lord's Wood (18 acres): Woodpigeon 3, Cuckoo 1, Turtle Dove 1, Tawny Owl 1, Green

Woodpecker 1, Great Spotted Woodpecker 1, Wren 6, Dunnock 2, Robin 2, Blackbird 4, Song Thrush 2, Mistle Thrush 1, Blackcap 5, Chiffchaff 3, Willow Warbler 4, Goldcrest 1, Spotted Flycatcher 3, Blue Tit 4, Great Tit 4, Nuthatch 1, Treecreeper 2, Jay 1, Carrion Crow 2, Chaffinch 4.

For the wetland passerine species, population estimates were made for the whole 2,690 acres of the valley. These species are Yellow Wagtail, Sedge Warbler, Reed Warbler and Reed Bunting. Their total populations were calculated by extrapolation of the figures from the survey area, assuming mean densities for these species are the same in both the survey and non-survey area. This assumption was made as the habitat in both areas is very similar and casual observation confirmed that the densities appeared qualitatively similar. Table II summarizes the findings.

Table II. Breeding Populations of Wetland Passerines on Brede Levels

Species	Mean density in survey area	Min. no. pairs in survey area	Min. no. pairs in total area	% of Sussex population
Yellow Wagtail	1/85 acres	24	37	8.6% (20%)
Sedge Warbler	1/35 acres	44	77	9% (15%)
Reed Warbler	1/4.9 acres	314	550	17% (15%)
Reed Bunting	1/22 acres	68	120	?

NB. Percentages in brackets relate these species' populations on Pevensy Levels.

Wintering Birds: 1979-1994

Many of the birds which winter in terrain such as that found on the Brede Levels depend on periodically flooded pastures. Earlier this century when there was little control over the water levels, large areas of the valley must have been flooded during the winter. However, now with more efficient drainage only small areas are flooded occasionally. Thus the wintering populations of birds, particularly wildfowl, must have decreased dramatically. Now wildfowl are surprisingly uncommon on the levels.

The last major flood occurred in the western section of the valley in the winter of 1978/79 (cf. Pankhurst & Erends, 1979 for counts). Only with a return to winter flooding will the wintering bird populations reflect the valley's true potential.

The following records relate to personal observations or those of Pankhurst and Erends (1979).

Migrating Birds

Being close to the south coast (one mile at its closest point) the Brede Valley is strategically positioned as a migratory 'stop-off' point both in spring and autumn. The scrub, woodland and arable crops hold migrating passerines, while areas of open water and the pastures attract waders, wildfowl and a few passerines such as Wheatear, Whinchat and *Hirundines*. Whilst it is difficult to monitor the numbers passing through such a large and underwatched area, the following records may indicate the relative frequency of occurrence and the importance of the site for that species. Many of the more common migrants have not been mentioned.

Duck

Teal are common and Pintail occasional during the autumn passage.

Raptors

Hobbies regularly use the valley on passage to feed on the abundant dragonflies and *Hirundines*. Hen Harriers are regular, particularly during the spring passage and Buzzard, Black Kite, Red Kite and Marsh Harrier have all passed through during migration time.

Table III. Summary of the Status of Wintering Birds in the Brede Valley

Species	Status	Peak count	Date	Location
Little Grebe	R	1	12/93-1/94	R Brede near FF
Cormorant	R	3	Every year	R Brede
Grey Heron	C	-	-	All watercourses
Mute Swan	C	119**	12/92	Rye Marsh Farm
Bewick's Swan	U	7	2/79	Snailham
Wigeon	U	288	2/79	Snailham
Gadwall	U	4	1/93	Winchelsea Station
Teal	C	110	2/79	Snailham
Mallard	C	56	10/78	Snailham
Pintail	U	2	3/95	SWL
Red Kite	U	1	2/95	FF to Snailham
Hen Harrier	R	3	1984/85	Throughout
Moorhen	A	26	14/1/94	FF
Golden Plover	C	229	12/92	Rye Marsh Farm
Lapwing	A	2517*	10/92	Throughout
Ruff	U	2	25/1/86	Roadend Farm
Snipe	C	c150	11-12/94	SWL
Woodcock	R	3	1-3/86	FF
Black-tailed Godwit	U	3	2/95	SWL
Curlew	C	40+	1992/93	FF
Redshank	R	55	12/92	Rye Marsh Farm
Green Sandpiper	R	5*	1/95	SWL
Common Gull	A	1000+	Every year	Throughout
Collared Dove	A	53	6/1/94	FF
Barn Owl	R	-	-	Throughout
Little Owl	R	-	-	Throughout
Short-eared Owl	U	6	2-3/79	Snailham
Meadow Pipit	C	-	-	Throughout
Fieldfare & Redwing	A	Hundreds	Every year	Throughout
Chiffchaff	R	2	12/93-1/94	FF
Linnet	C	80+	3/86	FF
Reed Bunting	R	41	3/86	FF

Key: FF - Float Farm, SWL - Sheep Wash Lagoon, ** - nationally important numbers, * - regionally important numbers.

Waders

Every autumn Whimbrel pass through in July and August. They tend to frequent the pasture on the north banks of the valley, particularly near Float Farm, where a peak count of 23 was recorded on 31 July 1994. Smaller concentrations are scattered across the levels.

It is very difficult to estimate the total valley population, but with such an observational bias towards the Float Farm area, it seems reasonable to assume individuals are scattered throughout, on similar pastures. Therefore it seems quite probable that at least 50 individuals use the valley during peak migration, making it one of the most important regular autumn migration sites for this species in Sussex.

Spotted Redshanks. Common and Green Sandpipers are also regular autumn migrants.

Passerines

Hirundines form huge feeding flocks over the valley in the autumn. Peak counts for Swallows, House Martins and Sand Martins have reached 500, 3200 and 250 respectively. A local increase in numbers of Yellow Wagtails during early spring and autumn suggests it is a common migrant. Wheatears and Whinchats are common autumn migrants, the

former often congregating into flocks of 5-10 individuals. Both species favour short, sheep-grazed turf.

Winter thrushes and the more common warblers are all regular and common migrants.

DISCUSSION

It is interesting to compare this survey's results with those of a breeding wetland birds survey on Pevensey Levels, which is an area of lowland grazing marsh similar to, and c.15 miles to the south-west of, the Brede Valley. This site is ornithologically well documented and is 10,000 acres in extent. It is designated as a Site of Special Scientific Interest (SSSI), is listed as an internationally important wetland following the 'Ramsar' convention and is a candidate 'Special Protection Area' according to European Community Legislation. Where comparisons have been made, population figures have been taken from Hitchings (1987).

Passerines and Near-passerines

The Brede Valley holds particularly large breeding populations of wetland passerines, as demonstrated in Table II. While the breeding density of Yellow Wagtails is the same in the Brede Valley as it is on Pevensey Levels, it is almost 4 times greater for the Reed Warbler, two times greater for the Reed Bunting and nearly twice as great for the Sedge Warbler (*cf.* Table II).

The reasons for this difference can only be explained by looking at the area of suitable breeding habitat available. The general state of the wetland habitat is, if anything, better on Pevensey Levels than in the Brede Valley, where water levels tend to be lower and pastures more improved. However, the density of dykes is perhaps greater in the Brede Valley and the growth of aquatic vegetation, such as common reed and great reedmace, is probably much more prolific due to less rigorous clearance, more protection from grazing animals and very few cattle being grazed which have a more detrimental effect on dyke vegetation than sheep (Prater, 1987). So, while the Yellow Wagtail which relies more on the state of the pasture, has a similar density at both sites, the other three wetland passerines are more common in the Brede Valley as they rely on dyke nesting cover and, in the case of the Reed Warbler, particularly on the amount of common reed.

Yellow Wagtails in the valley seem to have suffered a slight decline since 1979 - following a national trend - but the decline is minor, particularly when compared to other areas of Britain. It seems probable that the species is holding its own in its traditional stronghold of South-east England. The populations of the other three wetland passerines seem to have increased recently, particularly in the case of the Reed Warbler. This is most likely due to an increase in dyke vegetation, encouraged by a lack of sheep grazing, either through a shift to arable land or through electric fencing preventing the sheep from grazing the ditches.

These important populations could be encouraged by future sympathetic management. The dykes should have a reasonable water flow to prevent them from silting up and drying out. Ironically, clearance is vital for the maintenance of the plant and animal communities. However, dykes could be cleared of excess marginal emergent vegetation on a 7-10 year rotation (which would benefit all wildlife) rather than the present annual one and any healthy reed-bed with good water flow should be left until work on it is really needed. Lower stocking rates would limit the grazing of the dyke vegetation.

Amongst other passerines, the Brede Valley holds particularly healthy populations of Linnet, Yellowhammer, Tree Sparrow, Nightingale, Robin, Blackbird, and Song Thrush. Of the near-passerines, the Turtle Dove population and nesting Kingfishers are of particular note. These birds could be encouraged by shifting back from autumn-sown to spring-sown cereal crops, as well as by the installation of nest-boxes or creation of nest sites for birds such as Kingfishers, owls and raptors.

Duck

The breeding duck population in the Brede Valley is very impoverished compared to Pevensey Levels and could be due to the lower water levels and the smaller size of the area. The same can be said for wintering wildfowl, where over 15 years ago the valley would flood more regularly in the winter and correspondingly the wildfowl were much more numerous with a greater diversity of species.

Waders

The breeding waders are a particular cause for concern. The Lapwing has declined to under 20% of its 1979 levels and the Snipe and Redshank have disappeared as breeding birds. The two major reasons for this are the lower and increasingly controlled water levels - conditions created particularly by pump drainage schemes - and the higher stocking rates. Also these species rely on pasture or newly ploughed fields to breed, so any land which changes to arable becomes redundant for breeding waders. Lapwings suffer more from higher livestock densities (Prater, 1987), which is perhaps why the few breeding pairs that were found were on newly ploughed fields or small areas of non-stocked pasture. Similar declines have been noted on Pevensey Levels. Although Lapwings are still relatively common breeders (57 pairs in 1987), Snipe had declined by 83% from 1937 to 3 pairs in 1987 and Redshank had declined by 88% from 1937 to 12 pairs in 1987. However, it is likely that breeding waders were never as common in the Brede Valley as on the Pevensey Levels as 'sheep are less good (than cows) in producing a sward suitable for breeding waders' (Prater, 1987).

Wintering waders fair a little better with densities probably being comparable to those on Pevensey Levels and Green Sandpipers reaching particularly significant numbers. Lapwing numbers are regionally important and seem to occur at a similar density to those on Pevensey Levels, which is notable as the latter site regularly supports nationally important numbers (11,000+) in the winter. Undoubtedly the wintering wader population could be increased greatly if the water levels were raised.

SUMMARY

In summary, appropriate habitat management to encourage bird and other wildlife populations could be implemented and should involve having a good flow of clean fresh water along the dykes and a long cycle of dyke clearance, using a 7-10 year rotation. Ideally the area should be farmed on a traditional, low intensity system: this could involve a mixture of hay meadows with low stock density and low input grazing on other fields. The major key however, is the water levels and if levels could be raised this would greatly benefit wildlife. Perhaps summer pastures could be flooded on a rotation through the winter and early spring. However, to encourage breeding waders it is imperative that some areas are kept wet through to at least the end of May.

Grant-aid for such management are available for landowners/occupiers from several different schemes. For the Brede Valley at present the most relevant scheme seems to be the Countryside Stewardship, operated by the Countryside Commission. This makes provision for:

- the creation of scrapes, ponds, reed-beds, etc;
- less intensive farming methods;
- a return to traditional land-use;
- the management of dykes, water-levels and other conservation features.

(Countryside Commission, 1993).

MAFF's (Ministry of Agriculture, Fisheries and Food) new initiative - the Water Level Management Plan (WLMP), could provide the framework on which a more environmentally sensitive water level regime for the Brede Valley could be implemented. The main aim of

the plan is to improve the wildlife interest as well as taking into account the needs and requirements of other interested parties.

The WLMP aims to:

- identify all those with an interest in the area;
- consult the interested parties for their views on the plan;
- determine the required water level management regime and compare with current practice;
- set the overall objectives for the area.

Sites with identified water level management needs have been given to the relevant operating authorities. However, as the Brede Valley presently has no statutory protection and is little known, it has been omitted from this list of sites.

The procedural guide for the WLMP clearly states that 'priority will be given to' ...proposed schemes... 'in nationally and internationally important sites' and that environmental enhancement should be considered particularly 'in those sites where there is known to have been a decline in interest' (MAFF, 1994). The Brede Valley clearly qualifies as such a site and a WLMP should be produced for the area.

CONCLUSION

In conclusion it is important that the area is given national statutory protection as soon as possible, particularly in the light of future road construction plans, and continuing general environmental degradation (e.g. dyke in-fill). It would also be desirable for landowners/occupiers and interested parties to plan and implement an integrated land management scheme with the main aim of environmental enhancement.

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