

THE STARLING ROOSTS IN THE EAST MIDLANDS.

BY

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THE massing of the flocks of Starlings (*Sturnus v. vulgaris*) just before dusk on an evening during winter is a truly impressive spectacle. Its grandeur is marred later by the almost unbearable stench from the ever-deepening layer of droppings under the bushes, and the general unsightliness of everything, especially evergreens.

In some of our Midland roosts flocks approach from all points of the compass, but others receive flocks from more limited distances and directions. Flocks using the roosts along the sea-coast approach only from the landward side, chiefly from the west and south.

Flocks which travel a long way to roost usually make the journey by a series of hops. Massed flocks resting near the roost, say a mile away, may, in the failing light, give a grass-field the semblance of newly-ploughed land, so densely massed on the ground are their dark bodies. When possible, the last stage of the approach is the alighting of the flock in nearby trees. So thick are the Starlings that the trees in the fading light appear to be in almost full leaf. From here, possibly after describing a circling flight, the flock dives into the low bushes. After a few moments all is quiet. The arrival of successive flocks may cause a host of birds to fly out and circle in the air, but they rapidly return to roost and quickly quieten down once in the bushes.

It is difficult to estimate the degree of attachment of an individual to a particular flock. It is also difficult to estimate the degree of attachment of one flock to other flocks which share the same roost.

The flock maintains considerable independence. In case of persecution in the roost some flocks are driven away sooner than others. One or two flocks often persistently return year after year, to try and occupy a site from which a large roost has been expelled, and from which they are eventually expelled. A new roost formed after the expulsion of the birds from a particular site is not necessarily composed of all the ejected flocks. It must be presumed, therefore, that some of the flocks have joined others at various roosts. In one case in Leicestershire two flocks were feeding side by side in adjacent fields. One of these joined others in a roost quite near

to the south, the other daily went sixteen miles north to roost with others from a wide area.

Through the kind co-operation of the Directors of Education for the seven administrative counties, and through them the village schoolmasters, a survey of the roosts in this area was made during the winter 1932-33. I wish to acknowledge

STARLING ROOSTS



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|--------------|---------------------|
| A. Lindsey. | E. Derbyshire. |
| B. Kesteven. | F. Nottinghamshire. |
| C. Holland. | G. Leicestershire. |
| | D. Rutland. |

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COMPARATIVE SIZES OF THE ROOSTS.

Some attempt has been made to classify the roosts according to their sizes. Apart from the great difficulty of estimating their sizes, the problem is rendered more difficult by the fact that any particular roost varies considerably in size throughout the winter, often from night to night. Of the very large roosts more or less equal in size, such as Maltby Wood, Kirmington, Thonock or Gorse Hill in Lincolnshire; Woodthorpe or Lockington in Leicestershire; Shipley Hall or Foremarke in Derbyshire, one was chosen for more detailed study. Lockington was chosen, and various attempts were made to count the birds and trace the whole feeding-area of the roost. Fortunately on several occasions the various flocks alighted together on one or two grass-fields, and the birds were tolerably uniformly distributed over the ground. From these observations it was estimated that at the utmost, the birds could spread over ten acres on the basis of one bird to each square foot. This gives a total of 435,600 birds. Next the roost itself was studied during the day and at night. There were about two acres of large laurel bushes in the covert, but not more than one acre was occupied and probably three-quarters of an acre would have been sufficient, if the birds had been evenly packed. Assuming an acre were occupied, that would necessitate there being on an average ten birds to each square foot super, a very large number. If three-quarters of an acre only were occupied, it would mean about thirteen to the square foot. By flashlight, after dark, it was possible to see as many as six side by side on a foot length of branch, yet I was never able to satisfy myself that others slept directly below them. I personally feel that when the birds are at a different level, they are not directly under one another, so that somewhere about twelve to fifteen to the square foot would be the absolute maximum.

Wynne Edwards (*antea*, Vol. XXIII.), in Devonshire, estimated that on the feeding-area of a roost there would be two to three birds per acre, but Cramp (*North Western Naturalist*, Vol. VIII., No. 2) considered one bird per acre more nearly correct in Cheshire.

The feeding-area of this roost occupies roughly a rectangle 20 miles north to south and 10 miles east to west, an area of

about 200 square miles. If the roost were of 400,000 birds this would mean about three birds per acre. Although my figures showed the roost to have over 400,000 birds, I feel that it is an over-estimate and that so far as the whole area surveyed is concerned, the total will tend to approximate more nearly to one bird per acre.

In the following lists I have very loosely classified the roosts into small (*S*), medium (*M*) and large (*L*) roosts. Taking all the small roosts together the average size I have estimated at 5,000 birds, though these may be from 1,000 to about 9,000. The medium roosts on an average I have assumed to be about 25,000 birds, though there may be from 10,000 to 40,000 birds actually. The average for the large roosts I have assumed to be about 75,000. On this arbitrary classification, a small roost consists of many separate flocks and a medium roost may be a formidable gathering.

NOTTINGHAMSHIRE ROOSTS.

1. Stokes Gorse, near Wyverton, in the Vale of Belvoir. *L*.
2. In low bushes round a flooded quarry, south of Balderton, near Newark. *L*.
3. Blackthorn scrub on Gotham Hills, from February onwards. *L*.
4. At Kelham Hill, north-west of Newark. *M*.
5. On southern edge of Sherwood, eight miles north-east of Nottingham. *M*.
6. Plantation on Ladywood Farm, Weston. *L*.
7. Rampton Gorse, Rampton. *M*.
8. Eller's Gorse, near Willoughby-on-the-Wolds, on the Leicestershire border. *M*.
9. Near Thorney. *M*.
10. Near Ranby, exact site not located. *M*.

LEICESTERSHIRE ROOSTS.

1. Lockington, in a covert of laurels. *L*.
2. Broom Leys, near Coalville, rhododendrons, laurels, oaks and ivy. *S*.
3. Cowper Spinney, near Ratby. *S*.
4. Bunny's Wood, near Ratby. *M*.
5. The Burroughs, west of Ratby. *M*.
6. Bonnet's Wood, west of Ratby. *M*.
7. Choyce's Rough, north-west of Ratby. *S*.
8. Kilworth Sticks, about five miles east of Lutterworth. *L*.
9. Great Glen Gorse, about six miles south-east of Leicester. *M*.
10. Abbey Park, Leicester. *S*.
11. Spinney near Thurmaston Sewage Farm, four miles north of Leicester. *S*.
12. Scruptoft Wood, four miles east of Leicester. *L*.
13. Barkby Holt, four miles north-east of Leicester. *M*.
14. John O'Gaunt's Wood, ten miles north-east of Leicester. *M*.

15. Woodthorpe, in Beaumanor Park, about two miles south of Loughborough, in a young larch plantation. *L.*
The flocks make efforts to settle here each autumn and are driven off to Lockington.
16. Newman's Gorse, Waltham-on-the-Wolds. *M.*
17. Swallow Hole, Croxton Kerrial, seven miles south-west of Grant-ham. *M.*
Eller's Gorse on the Nottinghamshire border has been already cited above.

RUTLAND ROOSTS.

1. On reeds and low bushes at Burley Fish Ponds, near Oakham. *S.*
2. Larch plantation in Burley Wood. *S.*
3. Blackthorn covert between Cottesmore and Barrow. *M.*
4. Greetham Wood, near the Great North Road. *M.*
5. Mow Mires Spinney, in Normanton Park. *S.*
6. Pilton Fox Covert, near Wing. *S.*
7. The Old Wood, Empingham. *M.*
8. A covert of blackthorns on Cottesmore Lodge Farm, north of Exton Park. *M.*
Many flocks feeding in the Welland valley appear to roost in Northamptonshire.

DERBYSHIRE ROOSTS.

1. Abbey Grange Copse, near the Derwent Valley Reservoir. *M.*
2. In spruce trees in Deadman's Clough, adjoining Bradwell Reservoir. *L.*
3. Four small colonies around Flag, seven miles south-east of Buxton, at an altitude of about 1,000 feet. Ivy House Farm, Hobson Farm, Highfield Farm and Nether Wheel Farm. *S.*
4. Uppertown, near Ashover. *S.*
5. Sydnope, Flash Dam, near Darley Dale. *M.*
6. Farley, near Darley Dale. *S.*
7. Hollies Farm, Wyaston, four miles south of Ashbourne. *S.*
8. Askew Hill, near Repton. *M.*
9. In a larch wood at Foremarke Hall, near Repton. *L.*
10. Needham's Quarry, north-west of Morley, near Derby. *S.*
11. A "bushed" hollow south of Morley. *S.*
12. Scouts Wood, a quarry at Milford. *S.*
13. Shipley Hall, north of Ilkeston. *L.*
14. North Wingfield. *M.*
15. Springwood, Temple Normanton. *S.*
16. Four miles north of Bolsover. *M.*
17. Markland Farm, Elmtou. *S.*
18. Bullivant's Wood, Cresswell. *M.*
19. Elms Farm, Palterton, two miles south of Bolsover. *S.*
20. Wood of hawthorns along Shire Brook, Hackenthorpe, near Sheffield. *M.*

LINDSEY ROOSTS.

1. Ross Farm, between Amcotts and Keadby. *S.*
2. Along the Trent side at Burton-upon-Stather. *M.*
3. Reeds and hawthorns on Humber side, opposite Reads Is. *S.*
4. Fox covert, South Ferriby. *S.*

- 5 & 6. Several colonies in the low trees and bushes along the Humber bank, between Ferriby Cliff and Barrow Haven, three miles further east. *M.M.*
7. A disused chalk pit near Barrow-on-Humber. *S.*
8. Camp covert, near Kirmington. *L.*
9. Brumpton Dale, near Grasby. *M.*
10. Mare Hill, Brocklesby Park. *M.*
11. Thrunscoc, in the bushes around the sewage plant along the seashore. *S.*
12. Fox covert, Wyham, near Ludborough. *S.*
13. Bushes at Wyham End Pit. *S.*
14. Lowfields, North Ormsby. *S.*
15. North Ormsby Wood. *S.*
16. In the low bushes on the banks of the Louth Navigation Canal, near Keddington. *L.*
17. America Farm, Legbourne. *S.*
18. Maltby Wood, south of Louth. *L.*
19. Mother Wood, Woodthorpe. *M.*
20. The brick pits at Farlesthorne, near Alford. *S.*
21. The brick pits at Sutton-on-Sea. *S.*
22. In the elders and sea buckthorn between Huttoft and Anderby. *M.*
23. Along the dunes near Ingoldmells. *M.*
Also there are summer flocks along these dunes, non-breeding birds gradually increased by young ones.
24. The brick pits at Stickney. *S.*
25. The brick pits at Hagnaby. *S.*
26. Welton Wood, Welton-le-Marsh. *L.*
27. Tree belt above Home Farm, Revesby. Two years ago the undergrowth was spoilt by the birds and was cut out. *L.*
28. Patchett Holes, near Miningsby. *M.*
29. West of Middlethorpe, near West Ashby. *M.*
30. Mareham-le-Fen. *S.*
31. Panton, near Wragby. *S.*
32. In the gorse between East Barkwith and East Torrington. *L.*
33. Dunholme Holt, a plantation about four miles north of Lincoln. *L.*
34. Spridlington Thorns, near Cold Hanworth. *M.*
35. Norton Place, Spital-in-the-Street. *M.*
36. In wild roses at the Rosary, Thonock Park, near Gainsborough. *L.*
37. Somerby Hall, near Gainsborough. *M.*
38. Parish Farm, Kexby. *S.*
39. A plantation of young ash trees, Ash Holt, Brampton, near Torksey. *M.*

KESTEVEN ROOSTS.

1. Potterhanworth Woods. *L.*
2. Norton Wood. *S.*
3. Blankney Barff. *S.*
4. Blankney Wood. *S.*
5. Martin Road, Blankney. *S.*
Nos. 2-5 were new roosts, more or less experimental.
6. King's Cover, Timberland. *L.*
7. Plantation at Thorpe Tilney, near Walcot. *M.*
8. Green Man Wood, Blankney Heath. *S.*
9. Gorse Hill fox covert, one and a half miles south-east of Navenby.
A very large roost in privets and small trees. *L.*

10. Near Leadenham. *M.*
11. Mount Pleasant Farm, Claypole. *S.*
12. Martin's Plantation, Dry Doddington. *L.*
13. Hough-on-the-Hill. A summer flock of non-breeding birds. *S.*
14. Northern Plantation, Swarby. *M.*
15. The Gorse, Swarby. *M.*
16. Heydour Thorns, between Oasby and Heydour. *L.*
17. A wood near Burton Coggles. *M.* They left before Christmas.
18. Witham Wood or Twyford Forest, between North Witham and Corby. *M.*

In addition they attempt to roost near Denton Manor each year but are driven off. Well-known roosts such as Giles Gorse, Harmston Heath and others are not now occupied.

HOLLAND ROOSTS.

1. On Gold Fen Dyke Bank, in old brick pits surrounded by low bushes, chiefly willows at Wrangle. *M.*
2. On Wyberton Fen, near Boston. *M.*
3. St. Lambert's Hall, Weston, near Spalding. *M.*
4. A plantation of one and a half acres of bushes of elder, ash, thorn and willow close to the sea bank, Leadenhall Farm, Holbeach St. Mark's. *L.*
5. Onslow House Farm, Gedney Drove End. *L.*
6. In bushes and trees at Foul Anchor on the River Nene, near Tydd St. Mary. *M.*

There are comparatively few suitable sites in this county.

FEEDING AREAS AND POSSIBLE POPULATION.

Of the 118 roosts named above, 115 are occupied at any one time. The areas of the counties, in square miles, are Nottinghamshire 843, Leicestershire 800, Rutland 152, Derbyshire 1,009, Lindsey 1,357, Kesteven 726, Holland 418, making a total area of 5,305 square miles. The average feeding-area per roost, excluding overlapping, is about 46 square miles.

The total acreage of the area is 3,511,119 acres. If the average figures given for small, medium and large roosts are used, the total population on the wide classification is 3,405,000 birds, or about one bird per acre. It is felt that this is decidedly an under-estimate, more in the nature of a minimum, with three birds per acre as an absolute maximum. There are fewer birds in Derbyshire and Nottinghamshire than there are in Leicestershire, Rutland and parts of Kesteven and Lindsey.

In the roosts low bushes are much preferred, but many are in woods of high trees, such as larches. In this case only the lower branches are occupied, say below ten feet high. It does not appear to be difficult to get rid of a roost. Disturbance of the birds, in such a way that they have to take to

flight for half an hour after dark for a few days, will make them desert the roost. Fires and smoke do not seem to be of any use, only some sudden noise causes them to take wing. Gamekeepers and others despise anything but a gun and for this black powder cartridges are the best, but by far the best method is the production of a more sustained noise. The writer has found most satisfactory a good-sized tin containing a few stones which can produce more of a rattle. One can walk with this straight through a roost, when all are compelled to rise. A shot into a dense flock may bring down even up to 60 birds, but it is a hopeless task to try and destroy the birds. At the best one can drive the birds to some other roost ; sheer weight of numbers prevents anything else.

There are many instances in this area of coverts being ruined by the birds, after which they appear to have voluntarily left them. In some cases the bushes are destroyed and a new and different vegetation appears. An instance of a change of this kind in progress is seen at Foremarke, near Repton. The roost is a larch wood, the trees being about twenty feet high. The lower branches are thickly caked with guano. Under the trees and along the paths immense numbers of seedling elders have appeared from seeds in the droppings.

It is interesting to see Thrushes, Blackbirds and smaller species mingling with Starlings in the roost. Whether these feel at all disturbed by the invading hosts is difficult to say, but, if so, they appear determined to uphold their own rights of occupation and persist in sharing the same bushes.