
Corvids of Poole Harbour
2024 / 25

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Rook (*Corvus frugilegus)*

Jackdaw (*Coloeus monedula)*

Carrion Crow (*Corvus corone)*

Magpie (*Pica pica)*

Raven (*Corvus corax)*

Jay *(Garrulus glandarius)*

Nick Hopper

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Introduction

Corvids are an intelligent, highly social and adaptable family of birds. Often the subject of folklore, they have long held a fascination for man, being viewed as mystical and mysterious, or of a sinister nature and even the forbearers of doom.

They are one of the few families of birds that benefited from man's early reshaping of the landscape, in particular the Rooks and Jackdaws. Although their past is chequered, with some of our earliest sowers from thousands of years ago no doubt troubled by flocks of Rooks, being both prolific crop and seed eaters and carnivores, they are still deterred by farmers today.

Although itself initially a benefactor of human development, the Chough was ultimately a loser. Once a common sight around the Studland area until the early 1800s, benefiting from the abundance of horse manure, a supply that quite literally dried up with the advent of the horseless carriage.

Most recently it is the Magpie that has come under the most scrutiny, with its burgeoning urban and suburban population considered to have an adverse effect on songbird populations.

Some members of the family, such as Rooks and Jackdaws are completely social, spending their entire lives within earshot of their conspecifics. Others such as Carrion Crow, Raven and Magpie, are paradoxically both solitary and social, with pair birds living exclusively and solitarily within their territories and non-breeders forming flocks and roosting communally.

The Poole Harbour area has always been attractive to corvids, with Rooks and Jackdaws in particular benefiting from the large areas of pasture, interspersed with arable.

Objectives

This survey repeats the 2007/08 study of Corvids in Poole Harbour. Its objectives to assess the distribution, feeding areas and roost sites of Rook, Jackdaw, Carrion Crow, Magpie and Raven within the Poole Harbour recording area and to determine the breeding population of Rook. The findings to be compared with those of the first survey.

Methods

A combination of vantage point watches and 'look-see' walking, cycling and driving was used to locate foraging and gathering birds. Afternoon observations were made to record commuting flightlines to help identify roosting sites. Follow-up observations were undertaken where necessary.

Roost numbers were determined by recording birds entering or leaving roosts, supplemented where necessary by video.

The survey was conducted between late September 2024 and mid-April 2025.

Fig 1. Survey recording area

Rook and Jackdaw

Introduction

Hardly ever out of each other's company, Rook and Jackdaw are here treated together.

The distribution, feeding and roosting habits of Rook and Jackdaw are inextricably linked. Whatever the time of year, Rooks are unfailingly accompanied by Jackdaws, a partnership amounting almost to mutualism and something that exceeds any other two species of bird in Europe. Their conspicuous, noisy and gregarious activities making them familiar rural birds throughout the year.

Both species depend upon a combination of collective behaviour and monogamous pairing, with Rooks having an intense sociability: living, feeding, sleeping, flying, displaying, roosting, falling sick and dying in the presence of their own kind. As soon as they hatch as chicks, the bird's life is one continuous shared experience. Both species pair up for life and remain together through the winter, even when communally roosting.

The partnership between the two species works well as they, by and large, do not compete for the same food items. Rooks like to probe deep for earthworms and leatherjackets while the Jackdaws flick over the surface, taking small insects and other invertebrates. Large quantities of grain are taken by both species if available, whether from winter stubble, spring sown grain or winter animal feed. Root crops are also an important source of food. Both species roost together, most notably during winter when large communal roosts can be formed.

Considered archetypal birds of the open countryside, the Rook probably originated somewhere on the open plains of Eurasia. Their westward spread facilitated by the agricultural revolution, reaching Britain around 4100 BC and initiating their long association with man. Their feeding habits are still closely linked with agricultural practice and although much of their time is spent on grazed pasture searching for animal food which causes no problems to the farmer, it is their vegetable requirements that are the source of concern, with spring sown grain, lodged autumn grain or stored winter grain all being taken.

Although gregarious and non-territorial, Rooks tend to exist in distinct local populations within specific flocks, using specific feeding areas centred around or at least including within it, the Rookery and a post-breeding roost site. As winter beckons, the birds will abandon the local roost in favour of a larger winter communal roost, often quite some distance away, where they join birds from neighbouring rookeries doing likewise.

Winter communal roosts

The roost site will be ideally situated within the middle of a large, sheltered wood containing a mix of trees, including conifers for extra protection from the weather. For a persistent roost, the key requirement is a lack of disturbance; if left unmolested, a communal winter roost may remain in use for decades or even centuries. Although termed winter communal roosts, the sites in Poole Harbour were largely occupied in all months outside of the breeding season.

Winter communal roosts produced the highest Rook and Jackdaw counts of the survey. The highest of these was at Pergins Island, Holes Bay, with 2250 Jackdaws. The highest count of Rook was 340 at the Square Plantation roost near Norden.

Six communal roosts were identified, all shared by both Rook and Jackdaw except for Sleepy Hollow Plantation, Carey, which was occupied only by Rook.

Pergins Island, Holes Bay
Manor Farm Wood, Studland
Square Plantation, Norden
Sleepy Hollow Plantation, Carey
Big Wood, Arne
Newton Heath

Pergins Island was by far the largest corvid roost in the Harbour, supporting nearly 2800 birds in midwinter. The majority were Jackdaw, numbering up to 2250 birds, with the highest number of Rook reaching 290. The remainder made up by Carrion Crows.

Manor Farm Wood, Studland was the next largest roost with up to 710 birds. Here Jackdaws accounted for around 70% of the total, peaking at 490 birds, alongside up to 220 Rook.

Norden Plantation supported up to 690 birds in midwinter, numbers split roughly evenly between the two species. A temporary influx of transient migrant Jackdaws in late October briefly increased the roost total to 990 birds, before numbers settled back to around 650.

Sleepy Hollow Plantation, Carey held up to 270 Rook, occasionally being joined by a handful, or less of Jackdaw. Arne roost held 110 Rook and 285 Jackdaw with the Newton Heath roost a very small and brief affair attracting just 52 Jackdaw and 5 Rook in October and early November, before it was abandoned.

Only Pergins Island, Manor Farm Wood and Sleepy Hollow survived as permanent winter roosts. Of the others, Norden roost was probably the least expected abandonment with a strong and stable population from the beginning of the survey through until late November, before it inexplicably began haemorrhaging birds. By mid-December, the roost was completely empty.

Arne roost, the only surviving roost from the first survey, was also apparently set fair for the winter before that too was abandoned, with all birds from here relocating to Pergins Island roost.

Fig 2. Distribution of communal winter corvid roosts

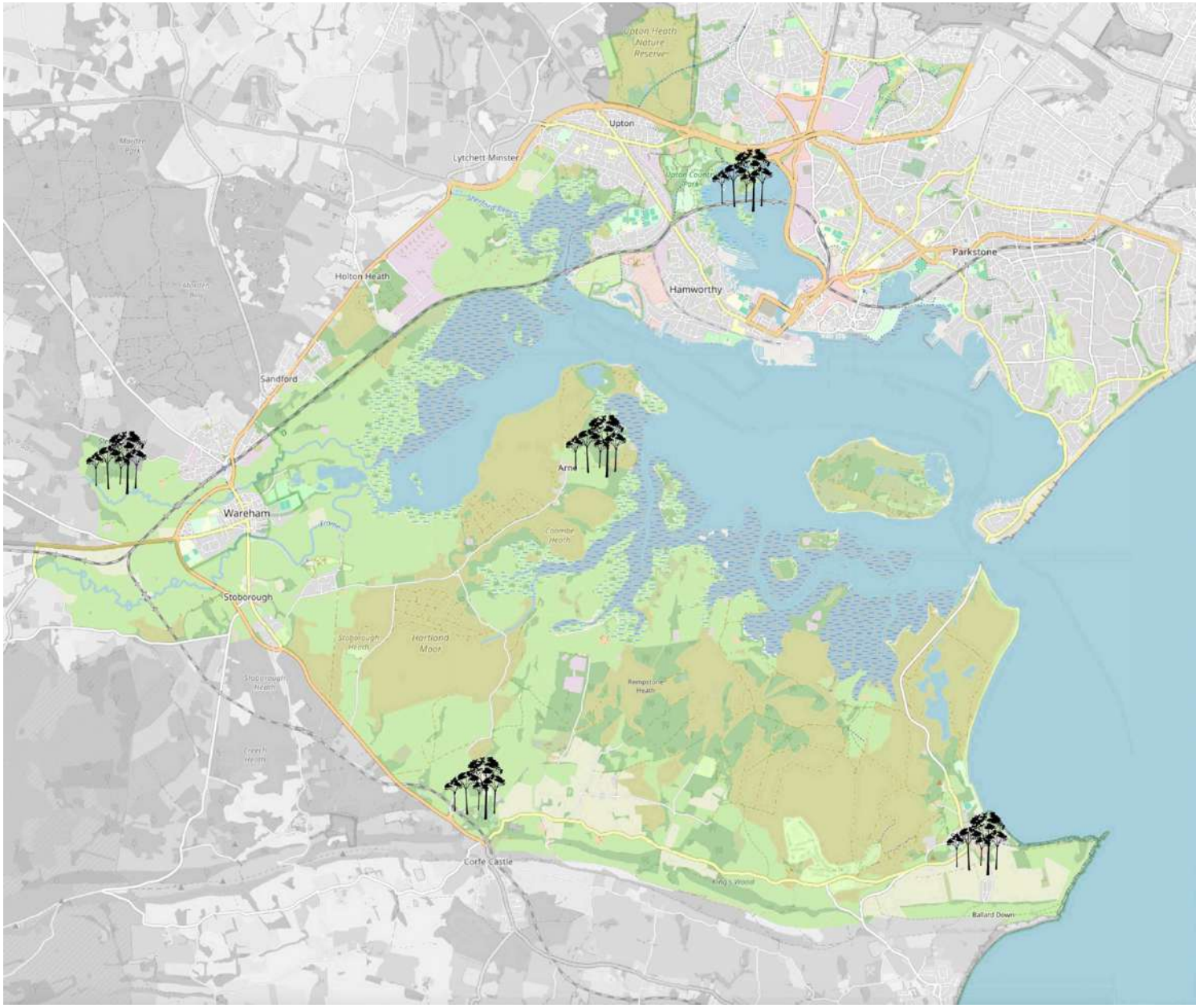


Table 1. Peak winter roost site counts of Jackdaw and Rook with combined total

Roost site	Jackdaw	Rook	Total roost numbers
Pergins Island	2250	275	2525
Manor Farm Wood, Studland	490	220	710
Square Plantation, Norden	350	340	690
Sleepy Hollow Plantation, Carey	2	270	272
Big Wood, Arne	285	115	400*
Newton Heath	52	5	57
Total	**3144**	**1110**	**4254**

*The Arne count is excluded from the overall total as these birds subsequently moved to Pergins Island and are included within that site's count.

Pergins Island, Holes Bay

A densely wooded and presumably largely undisturbed island at the north end of Holes Bay, Pergins Island has become a very important communal roost site for many of the local and not so local corvids.

Populations

Jackdaw

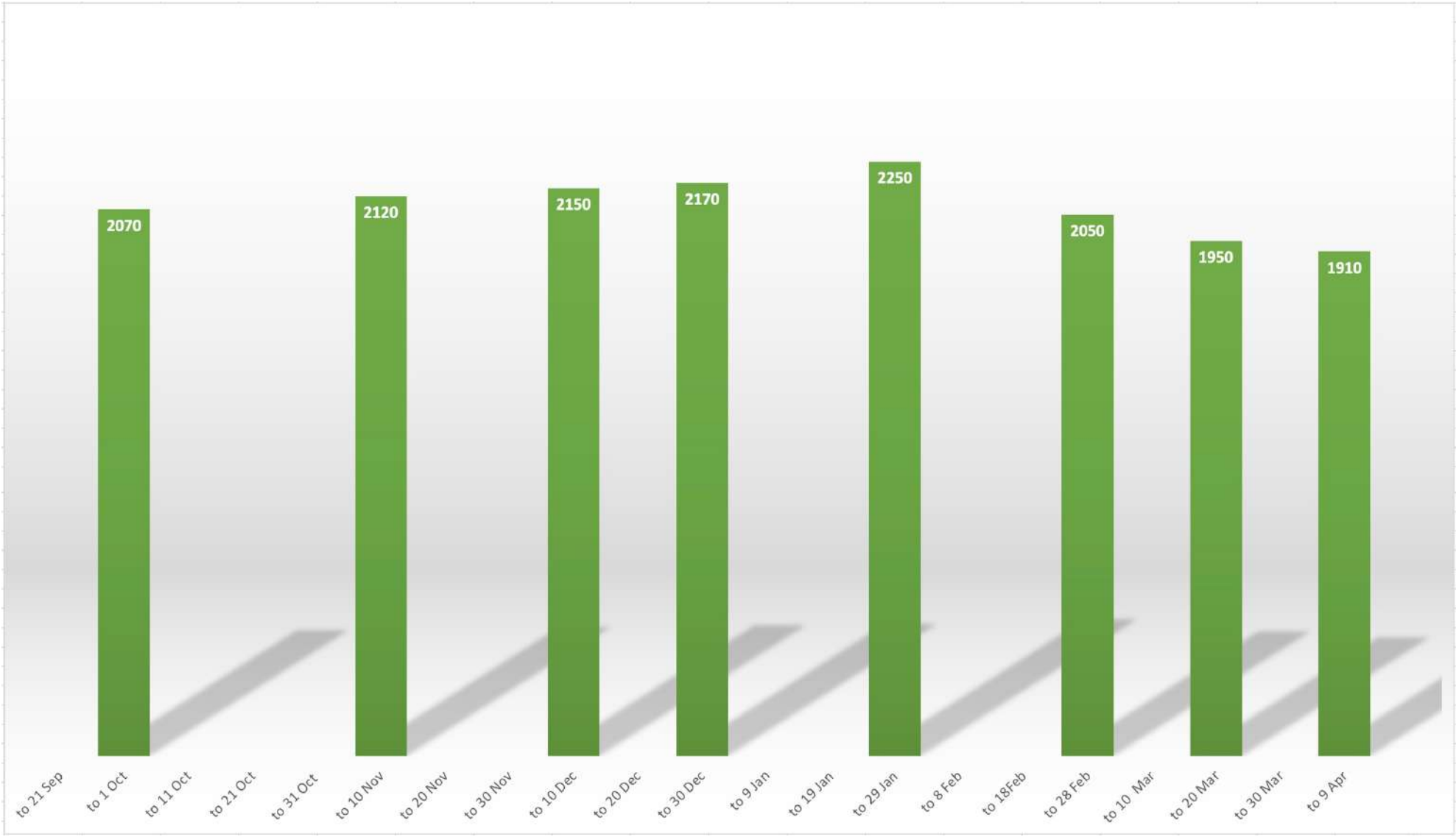
At the start of the survey in early October, the roost already held 2070 birds. From here one might have reasonably expected numbers to appreciably increase toward midwinter, but this was not the case. Numbers did increase but only modestly, with the peak winter count adding just 180 more birds.

The largely consistent numbers can be seen in the table and chart below, with only a slight uptick in numbers as the winter progressed. From their peak in late winter, roosting Jackdaw numbers continued to remain stubbornly high into the early spring with counts into the second week of April still over 1900 birds.

Table 2. Pergins Island peak monthly Jackdaw roost counts

1st Oct	8th Nov	6th Dec	29th Dec	23rd Jan	28th Feb	20th Mar	8th Apr
2070	2120	2150	2170	2250	2050	1950	1910

Fig 3. Pergins Island peak monthly Jackdaw roost counts



Rook

The peak winter population of 275 Rook was achieved much more gradually, the first count in October returning 125 birds. A slight uptick in numbers to 142 by mid-November was followed by further modest gains into early December, taking the population to 185. Sometime in mid-December an influx of some 90+ birds took the total to its peak of 275. For the next 6 weeks at least, there was a period of stability with 275 birds still using the roost on 11th February.

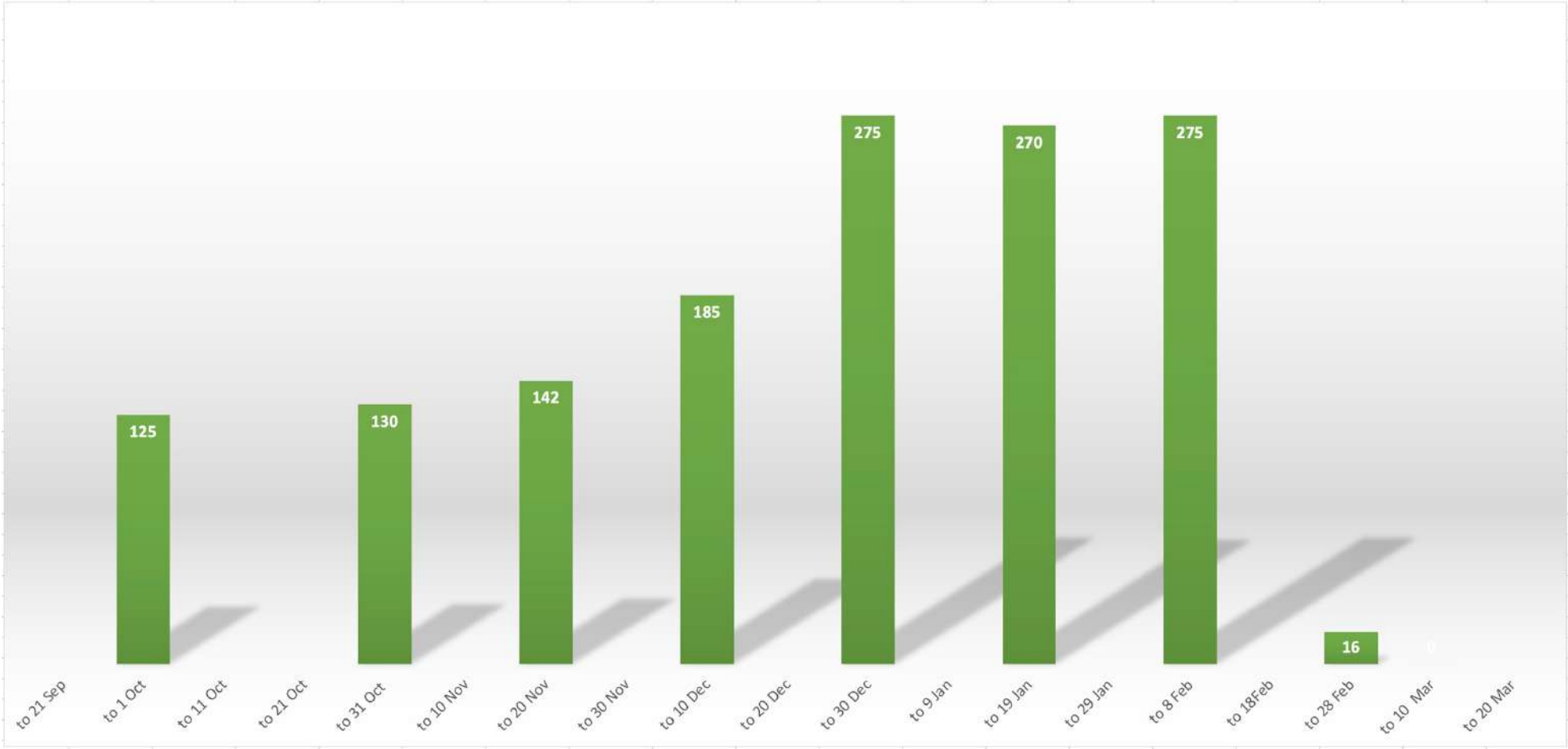
The next count on 28th February however, revealed that most of the Rooks were now roosting at their rookeries, with only 16 birds coming in. By the middle of March these birds had also moved on.

Table 3. Pergins Island peak monthly Rook roost counts

1st Oct	31st Oct	12th Nov	6th Dec	29th Dec	23rd Jan	11th Feb	28th Feb	8th Mar
125	130	142	185	275	270	275	16	0

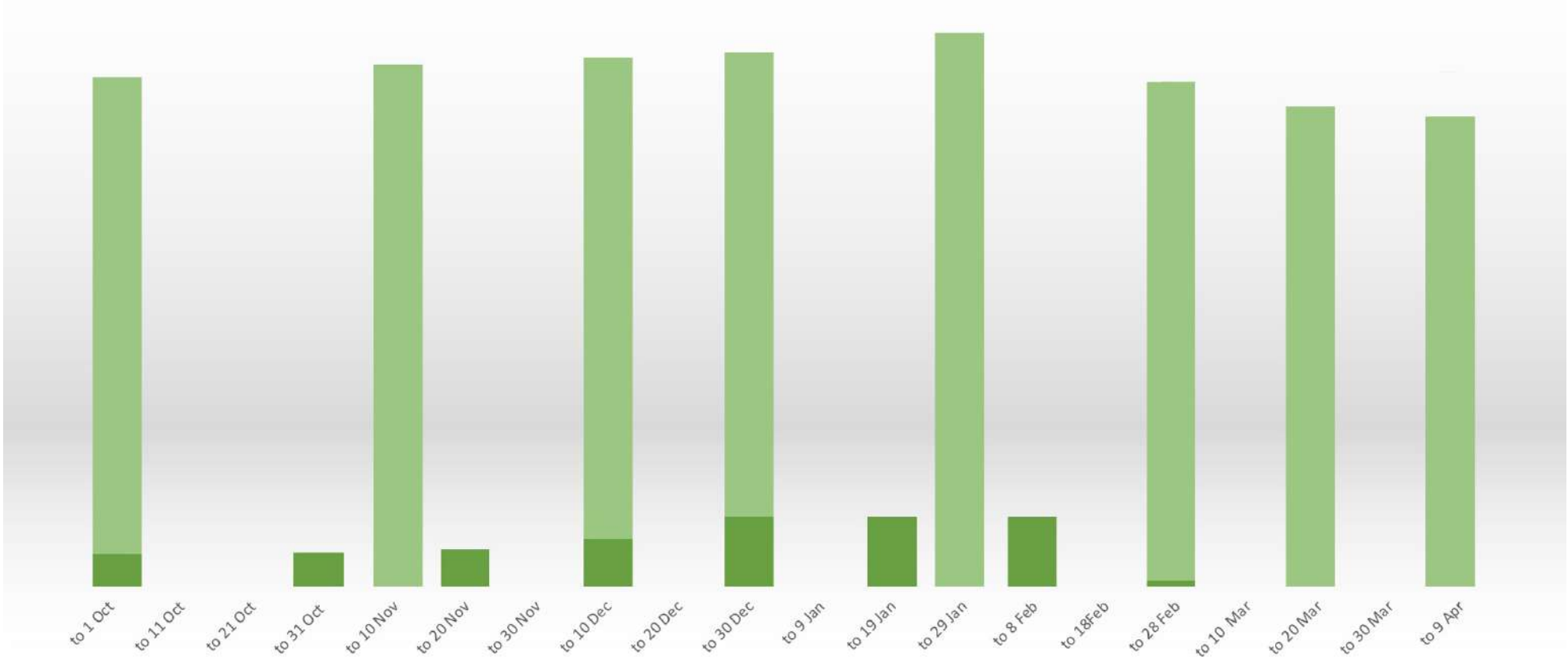
Of the 125 birds roosting in October, flightline observations suggested that around 100 originated from fields west of Lytchett, beyond the recording area. The remaining 25 or so from Keysworth and Holton Lee. The subsequent incremental increases involved further arrivals from the west, but as we shall see later, the December influx of around 90-100 birds was identified as those from the abandoned Arne roost.

Fig 4. Pergins Island peak monthly Rook roost counts



The two bar charts above do not convey the scale of the differences in roosting numbers between the two species, so an additional chart is provided below for visual comparison.

Fig 5. Pergins Island peak monthly Jackdaw and Rook roost counts to scale



Rook parishes and Jackdaw catchment areas

Rook winter roosts are made up of birds from a number of rookeries who are grouped together by reason of the shared roost. The region this area encompasses is quaintly known as a parish, the term being first coined by W.B. Alexander in 1933 following his studies on Rooks.

The arrangement is less rigid among Jackdaws. Not being strictly communal nesters, their catchment areas are not quite so neatly defined, with not all birds foraging together necessarily travelling to the same roost site. They can have loose nesting communities, but many pairs are randomly spread throughout an area. Their catchment areas are also typically larger than their associated Rooks. Being faster and more efficient fliers, Jackdaws are willing to travel much further to a winter roost, often resulting in their sharing a roost with a different population of Rooks to those they spent the day feeding with.

The largest Jackdaw catchment area and Rook parish were those of the Pergins Island roost.

Pergins Island Rook parish and Jackdaw catchment areas

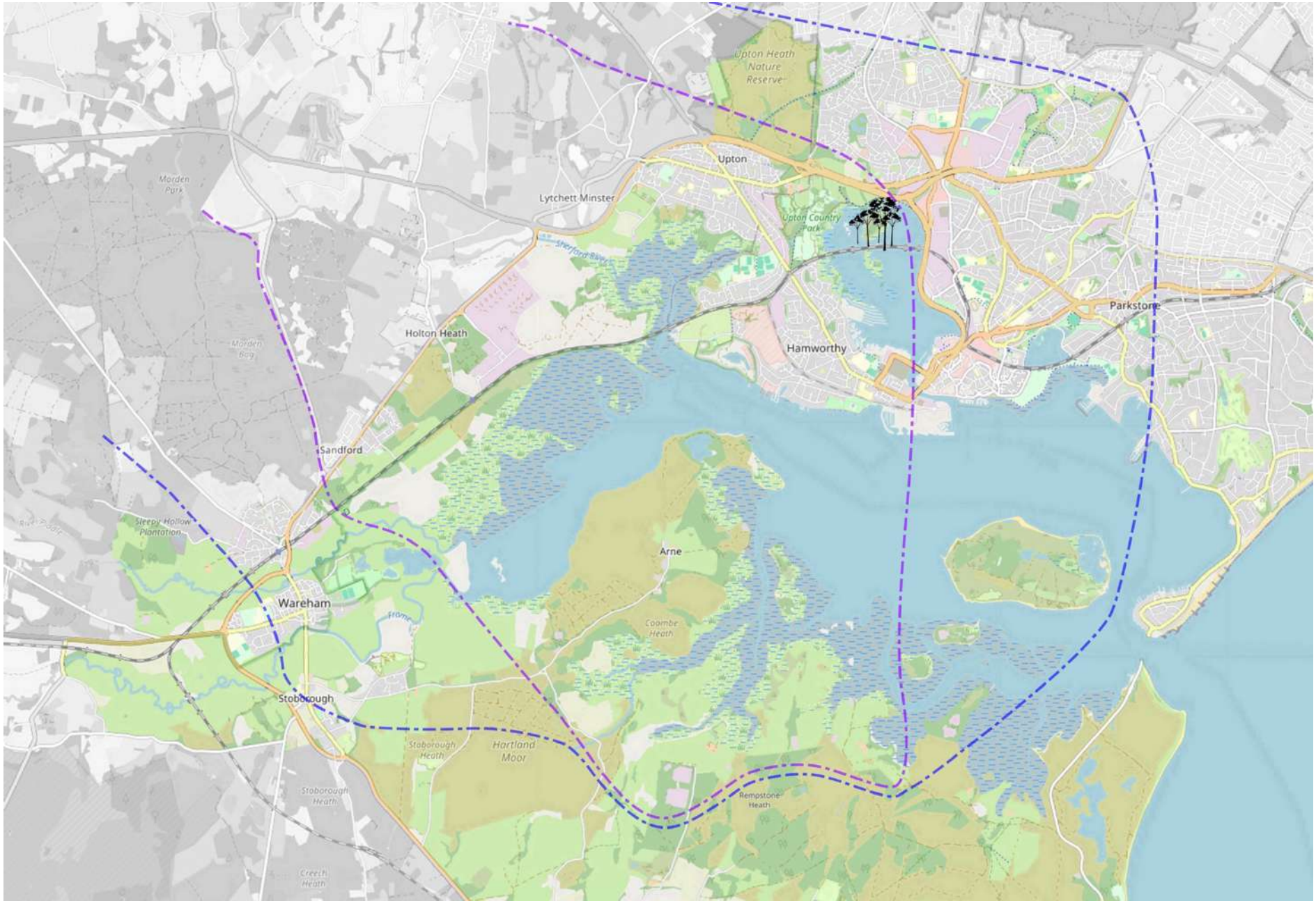
With a large proportion of both Rook and Jackdaw spending the day outside of the recording area, principally the extensive pasture to the west, it was not possible to determine the full extent of catchment areas in this direction. However, for Jackdaw at least, judging by the numbers of birds involved it would not be unreasonable to suggest that distances of double-digit kilometres were probably involved.

Within the recording area, the furthest Rooks were observed foraging at Keysworth fields to the south-west and at Wytch fields to the south, both areas 7.8 kilometres away, which may or may not be statistically significant! Arbitrarily extending this distance westward from Pergins roost would take in fields just east of Morden Park.

For Jackdaw within the recording area, the furthest birds came from as far south as Wareham South Bridge poplars and the Ridge rookery, and from as far south-east as Wytch Farm livestock fields, Fitzworth, Ower and Green Island. A small number of birds also arrived from the urban areas to the east, from at least as far as the Nuffield Industrial Estate. A few birds that left the roost to the south-east were tracked as far as Brownsea Island, almost completing a full circle with those reaching nearby Green Island from the opposite direction.

No birds of either species came into the roost from the north.

Fig 6. Pergins Island Rook parish and Jackdaw catchment areas (Purple Rook; Blue Jackdaw)



In terms of arrival direction numbers, of the 2200 or so Jackdaw, up to 1200 approached from the west-north-west quadrant, around 300 from the west-south-west, about 500 from the south-west and some 200 from the south, with only tens of birds arriving from the east and south-east.

Pre-roost routines

Both species have specific pre-roost routines that involve gatherings, particular routes and specific stop-off sites. An often-protracted routine that can begin long before their final flight to the roost. Rooks generally have the simpler routine of the two. For most birds, their first assembly point is the rookery, from which the entire flock then leave together for the final pre-roost gathering area, usually located close to the roost itself. As winter advances and foraging times reduce, arrival at the rookery becomes progressively later until it is eventually missed out altogether. The flight to the pre-roost gathering area is then made directly from the foraging areas, with arrival there also becoming progressively later into the winter.

Jackdaw routines are rather more protracted, typically involving multiple stop-off sites. This is not only a consequence of their often longer commutes, but also their strong inclination to fly down and join any conspecific gatherings they encounter enroute.

All gatherings are in trees, usually in some way singularly conspicuous, typically bare or dead looking. The first gatherings often taking some birds initially out of their way, although distances are generally small. These local groups then gravitate to a larger gathering site, quite often a rookery where they join the gathered Rooks. From here, depending on the distance to the roost, the Jackdaws will either leave with the Rooks or move on independently, in either case, always maintaining their cohesiveness as a group. This transit flight, as it is sometimes referred to, is a purposeful but not necessarily direct flight, typically incorporating a number of stop-off sites designed to rendezvous with other gathered Jackdaws. Eventually the general vicinity of the roost site is reached, but even here there will be a number of different preferred trees where birds will meet up with others that have arrived from other foraging areas. Excitement levels are often quite high, with restless birds commuting to and from the various selected trees. As the time to roost nears, all birds will then descend on a single final pre-roost assembly area, jointly chosen with the Rooks and this time on the ground.

Specific routes and stop-off points are used each day, resulting in well-defined and consistently repeated flightlines.

Final pre-roost gathering

With most of the Rooks and Jackdaws now assembled at the final pre-roost site, a period of social interaction, vocalisation and activity then ensues, to initially also include foraging. As the last birds arrive, the gathering begins to coalesce into an increasingly compact group and eventually they all fall silent. The birds can stand in these tight groups in complete silence for some time, before the chattering eventually resumes, gets more intense and then suddenly the entire flock take off together and head for the roost site.

One might reasonably ask how they all agree on the time to leave. One could propose that it is no more than a simple flush event, with all birds taking flight in response to the first bird leaving, but this is not the case. The first birds to leave do not always trigger the leaving event.

The answer, which has only recently been discovered, is democratically.

A recent study, specifically on Jackdaws, (Dibnah 2021) determined that mass departure is initiated through a vocally mediated quorum decision. In other words, the chattering calls are individual members indicating by vocalisation their readiness to leave. As more and more birds express their preference, a threshold of calling intensity is eventually reached and they are go.

On the question of what determines their readiness to leave at an individual level, studies have shown this to be light intensity. When a threshold light level is reached there is an innate trigger. Light levels explain why birds leave for the roost site earlier on overcast evenings and later on clear ones, when light levels are reached later.

On arrival at the roost trees, there typically follows a period of synchronised wheeling and swirling above the trees, sometimes as a mixed species flock but more often within conspecific groups. The activity can continue for some time, with flocks often splitting into smaller groups before later reforming. Once the decision has been made, entry into the wood is swift, with all birds together plunging headlong into the trees.

Pergins Island final pre-roost gathering

Jackdaw

There were two final pre-roost gathering areas here. The first is a long-established site for the local birds, in use long before the Pergins Island roost was formed, located in the trees at the north end of Grove Wood and adjoining Upton Park Farm livestock field. Here, birds both gathered in the treetops and foraged in the adjoining field. A small group of trees across the road was also used. Typically, up to 300, predominantly local birds gathered here until it was time to leave for the roost.

For these birds, the communal roost was a negligible distance away, obviating the need for a protracted pre-roosting routine. Nevertheless, they still exhibited the urge to perform pre-roost activities at the same time as birds travelling longer distances, gathering early and commuting back and forth between the local trees.

The other final pre-roost site that attracted the majority of the birds was centred on the southern part of Grove Wood and the trees bordering the disused Upton Trailway.

For the most part, these two assemblages were completely independent of each other. However, during times of heightened excitement or local disturbance some interchange of birds could occur, with more often than not, once things had calmed down, most birds returning to their preferred pre-roost site.

Although not a final pre-roost site in the strictest sense, there was a third location, in a group of trees on the northern shore of the Country Park, close to Pergins Island. Used mostly by birds from the Upton Farm pre-roost, frustrated by their lack of an elaborate pre-roost commute, who would fly to these trees, perch for a while, and then fly back again. A few could remain until it was time to leave for the roost, their presence often drawing down birds arriving in from the east, who seemed almost compelled to join them, before continuing to their intended destination at the Upton Farm pre-roost. Some did resist landing but still circled the wood before eventually tearing themselves away.

The two final pre-roost groups departed for the roost independently. The Upton Farm group invariably seemed to leave first, followed shortly afterwards by the main event, when the sometimes 1800 strong gathering around the Upton Trailway site departed en masse, or at least in one long continuous flock.

On reaching the roost trees, events are by no means over. Both flocks on arrival immediately begin to wheel and circle above the wood, often merging into a single shifting mass before breaking apart again. This commotion can continue for many minutes. Depending on conditions and excitement levels, it is not uncommon to see small parties peel off and head back in the direction of the pre-roost, often followed by more birds until over half of them are making their way back. These birds often crossing paths with later in-coming arrivals. On other evenings, the initial flight to the roost may not even get to the trees with groups splitting off and heading back from halfway across, before returning a few minutes later. When all birds are eventually back on site, they invariably reform into one cohesive flock before descending into the wood together.

Rook

Just the one final pre-roost gathering site for the Rooks, when they used it. Not on the ground, as is preferred, but centred on the pylon and power lines above Grove Pond, conveniently positioned for birds arriving in from the west on a direct path to the roost site. There are plenty of nearby open areas, but none are undisturbed.

Presumably, partly as a consequence of its elevated position, the usual leaving protocols were not followed. Most birds did gather here but large groups departed for the roost before all birds had arrived, leaving the later birds to form another group before these then left together. The last arriving birds, often finding no birds gathered, typically flew straight on to the roost.

This scenario was also only specific to the midwinter period. Either side of it, there were often no gatherings at all, with all arrivals flying straight over the pre-roost site and going directly to the roost wood. The birds could also now arrive in multiple small parties and over a considerably more protracted period.

Example from October: The first arrivals were two birds that flew straight to Pergins Island a full 35 minutes before sunset, ie an hour earlier than their usual time. Over the following 20 minutes, several various sized flocks came in, totalling 50 birds. Four more birds in at 10 minutes before sunset, 30 more at 7 minutes after sunset, 6 at 15 minutes after, 12 at 18 minutes after and a group of 21 birds in 25 minutes after sunset, the typical roost arrival time. Finally, at 19:20, some 35 minutes after sunset with owls hooting and bats busying, the last two Rooks came in.

At the other end of the midwinter period, there were two different routines in play, with large flocks arriving together from the west and a series of smaller flocks, over a much longer period, arriving from the south. *Example from early February*: 108 Rook in from the south in no less than 24 parties over a 65-minute period up until sunset. Later a single flock of 132 birds arriving together from the west 10 minutes after sunset.

Pergins Island pre-roost routines

Although many of the Rook and Jackdaw typically foraged and roosted together, they behaved entirely independently in all aspects of pre-roosting, roost entry and often roost departure.

Jackdaw

For the furthest travelling birds, multiple stops had already been made before their arrival at the final pre-roost sites at Upton Country Park, particularly birds arriving from the south-west. For birds travelling in from the south, over heathland, open water and a built-up area there were no stops on the way.

Keysworth Sewage Works

One of the largest early gathering sites was located in the trees and adjoining field beside Keysworth Sewage Works. This site holds particular significance, having once supported both a communal winter roost and a rookery.

Up to 490 Jackdaw could pass through here on their way to the Pergins roost. Most paused at the site, though not always all at the same time, with often considerable overlap between the first departing birds and the later arrivals. Many arrived in significantly sized flocks indicating earlier gathering, the earliest appearing up to 90 minutes before sunset, around two hours before they would eventually go to roost.

The early groups were often the most active, commuting frequently between the trees and field or just circling around the area. The circuits often expanding into ever-widening loops before they eventually moved off. Indeed, the first to leave did so in a very leisurely fashion, their flight so meandering and circuitous it wasn't clear whether they were actually leaving or not until they were eventually lost from view. All birds left to the north-east, with most passing through over a 30-40 minute period.

No Rooks were ever encountered here.

Sandford

A number of singularly significant trees within Sandford, used by 100 or so local birds. A few birds also ventured to a stand of conifers next to the railway line, with commuting between these sites also observed. As at other pre-roost locations, gathering typically began around 90 minutes before sunset, with birds leaving between 40 and 10 minutes before sunset. All birds went north-east.

For most birds, the next stop-off site was Holton Lee, where they gathered in a large dead looking tree near to the main house. This has long been a traditional gathering site, both for local Jackdaw and birds making their way north-east from the south. Some of the Sandford birds did head on a slightly more northerly trajectory, taking them straight across Holton Heath to another stop-off site just beyond the recording area near Lytchett Minster. From here the flight was straight east. A few other Jackdaw also stopped off at the new Slough Lane rookery at Lytchett Bay.

Mount Pleasant

The furthest point south that Jackdaw roosting at Pergins Island were found. A group of trees perched on the top of the hill at Mount Pleasant on the northern edge of Wareham, it has been a regular gathering place for Jackdaw for years. It was shared with other Jackdaws who would be leaving in the opposite direction, south to Norden Plantation roost, marking it out as a catchment boundary.

A Jackdaw's predisposition to join a flock can sometimes result in confusion and indecision. This was most visible here, where birds intending to fly south toward Norden, on seeing a party of birds take off to the north-east towards Keysworth, immediately joined them, only to then realise they were going the wrong way and turn around and come back.

A few parties arrived here from Northport. Most of these birds intended to carry on south, however some were later seen departing north-east towards Keysworth. With most birds from Northport intending to go north-east, flying directly from there to Keysworth, had these individuals followed the wrong flock here? Not necessarily, it may actually have been a considered decision to come here first, for whatever reason, perhaps an attachment to this particular site. It is not unusual for Jackdaws to use early pre-roost sites that intially take them further from their chosen roost site.

Up to 150 birds could gather here.

Arne / Wytch birds

A couple of months into the survey, all Jackdaw and Rook roosting at Arne deserted and relocated to the Pergins Island roost. These birds frequented Wytch Farm, Fitzworth and Ower. After the desertion, their established pre-roost routines were completely disrupted, particularly the Jackdaws.

Before the desertion, birds typically moved from their foraging areas to pre-roost sites, before later departing for the roost in a single cohesive flock. After the switch to Pergins roost, all Jackdaw left their foraging areas directly northward, flying straight to the pre-roost area at Upton Country Park. *An example from late January at Hamworthy:* A total 201 Jackdaw were observed heading north in 27 parties over a period of about an hour, to just after sunset. The largest group comprised only 23 birds. All movements originated from the direction of Arne, following a flightline toward Pergins Island. The total birds recorded corresponding closely with the numbers of Jackdaw roosting at Arne before its abandonment.

Rook

Many of the Rooks roosting at Pergins Island spent their entire day, including pre-roost gathering, beyond the recording area to the west, before later crossing Lytchett Bay on their way to their final pre-roost site at the Upton Grove pylons.

For the handful of birds that made their way from the Keysworth area, their initial gathering area was on and around the power lines in the middle of the Keysworth Estate. A maximum of 19 birds were recorded. From here, it was a non-stop flight north-east to join the birds at Upton Grove pylons.

For the newly recruited Rooks from the deserted Arne roost, their pre-roost routine, like that of the Jackdaws, was also disrupted. While at Arne most Rook pre-roost gathered at Fitzworth, before later leaving together for the roost, after the switch, their behaviour was a lot less cohesive. Many birds did continue to arrive here and some did assemble, reflecting their strong instinct to do so, but departures were unstructured and protracted, with birds

often staying only briefly, resulting in early arrivals already having departed before others had arrived. Departure times were also highly irregular, with some of the first birds heading north over 70 minutes before sunset, around 90 minutes earlier than usual.

A smaller number of Rook, as with the Jackdaws, left directly from the foraging area at Wytch Farm livestock field, again earlier than would normally have been expected. A few continued to gather as usual at the Wytch Farm trees pre-roost site. These trees still retain an attraction, being the site of a previously active rookery. Birds from all sites headed off northward across the water. An example of the protracted departure process was recorded from the Hamworthy shoreline, where a total of 108 Rook passed over in 24 parties during a 65-minute period up to sunset, with flightlines indicating two or three departure points.

Follow-up observations from Rigler Road, Hamworthy, revealed the unhurried nature of some of these flights, particularly among the earlier moving birds whose flights were leisurely enough for them to engage in slow wing-clap courtship displays! The flightlines observed from here suggested that some were heading toward the pre-roost gathering site at Upton Grove pylons, while others were flying directly to the roost trees.

Plotting the Rooks known departure points, their flightlines over Rigler Road and their ultimate destination, revealed an interesting route. Given the heights at which these birds were flying, one might have expected a direct 'as the crow flies' course. Instead, there was quite a pronounced dog leg, the deviation appearing to deliberately avoid the densely built-up areas of Lower Hamworthy. This was in sharp contrast to the Jackdaws who, being far more accustomed to urban environments, were happy to take the most direct route straight across Lower Hamworthy.

Leaving the roost

At a typical corvid roost, all birds erupt from the trees simultaneously in a cacophony of noise. The processes that determine the timing of departure are the same as those discussed earlier, with a certain light level needed before they then vocally agree the precise moment to leave. Although this process has been demonstrated in Jackdaws, monospecific roosts of Rook behave in the same way, suggesting the mechanisms to be very similar, if not identical. As the birds awaken, general chatter will begin. The vocalising continues at low intensity for some time before it begins to rise. These calls are now birds expressing their readiness to leave and when they reach a particular threshold of intensity the entire roost departs en masse.

Exactly how departure decisions are reached at mixed roosts of Rook and Jackdaw, who all typically appear from the roost together, is for another study! Is one species dominant over the other, or have they co-evolved a combined vocalisation intensity threshold?

Rook

That said, at the Pergins roost, the departure of Rook and Jackdaw were quite often independent of one another, although the differences in leaving times were usually minimal and sometimes imperceptible, the largest differences little more than a minute. The majority of the Rook departed directly west. There were also one or two small parties that left independently of the main departure event, usually only by a minute or two, with these birds leaving the roost to the south-west. Later in the survey they were joined by the newly recruited Arne birds, who after initially leaving with them, subsequently adopted a more southerly course. A number of Rook also departed up to 5 minutes later, in small parties, all heading west. This sequence of events effectively resulting in the first leaving and last leaving Rooks book-ending the entire Jackdaw flock.

Jackdaw

All Jackdaw emerged from the roost together, before quickly breaking into several flocks. The majority of these headed west with a smaller number of birds going north-west.

On occasion, for reasons unknown, the main flock could initially all head out south-west and over the railway line, before returning to depart westward as usual. However they did not all return together, with some reappearing almost immediately and others taking considerably longer. Unfortunately, whenever the observer was positioned on the other side of the railway to see what these birds were doing during the interim period, they all invariably departed directly west as usual. This behaviour did appear to coincide with low tides, although throughout the entire survey, no Jackdaw were ever observed on the saltmarshes or mudflats.

Post-roost gathering

Soon after leaving the roost, some birds reassemble at a post-roost site, typically a short distance from the roost. Several explanations have been proposed for this behaviour. At very large roosts, where many thousands of birds from multiple rookeries may be present, post-roost gatherings can help individuals that have become separated during the often-chaotic roosting process, reunite with members of their own group. This is not such an issue at the 'smaller' roosts such as those within the Harbour, but post-roost gatherings still occur. The suggestion here is that these gatherings also facilitate information exchange concerning productive foraging areas. This is explored further later.

From the Pergins Island roost, no Rooks post-roost gathered near to the roost site but some of the Jackdaws had only managed to travel a few hundred metres before they were stopping off to meet up again, often at their pre-roosting site. Although numbers were generally very small.

Manor Farm Wood, Studland

Located within the wood at the southern end of the village, east of the lane to Glebelands, the Rooks and Jackdaws here were also joined by Carrion Crows. There were two roosting areas, the overwhelming majority of birds used the main wood, with a much smaller number of Jackdaw opting to use the copse trees on the opposite side of the lane. Each morning in the near darkness, these birds would fly across to join their fellow congeners in the main roost as they awoke.

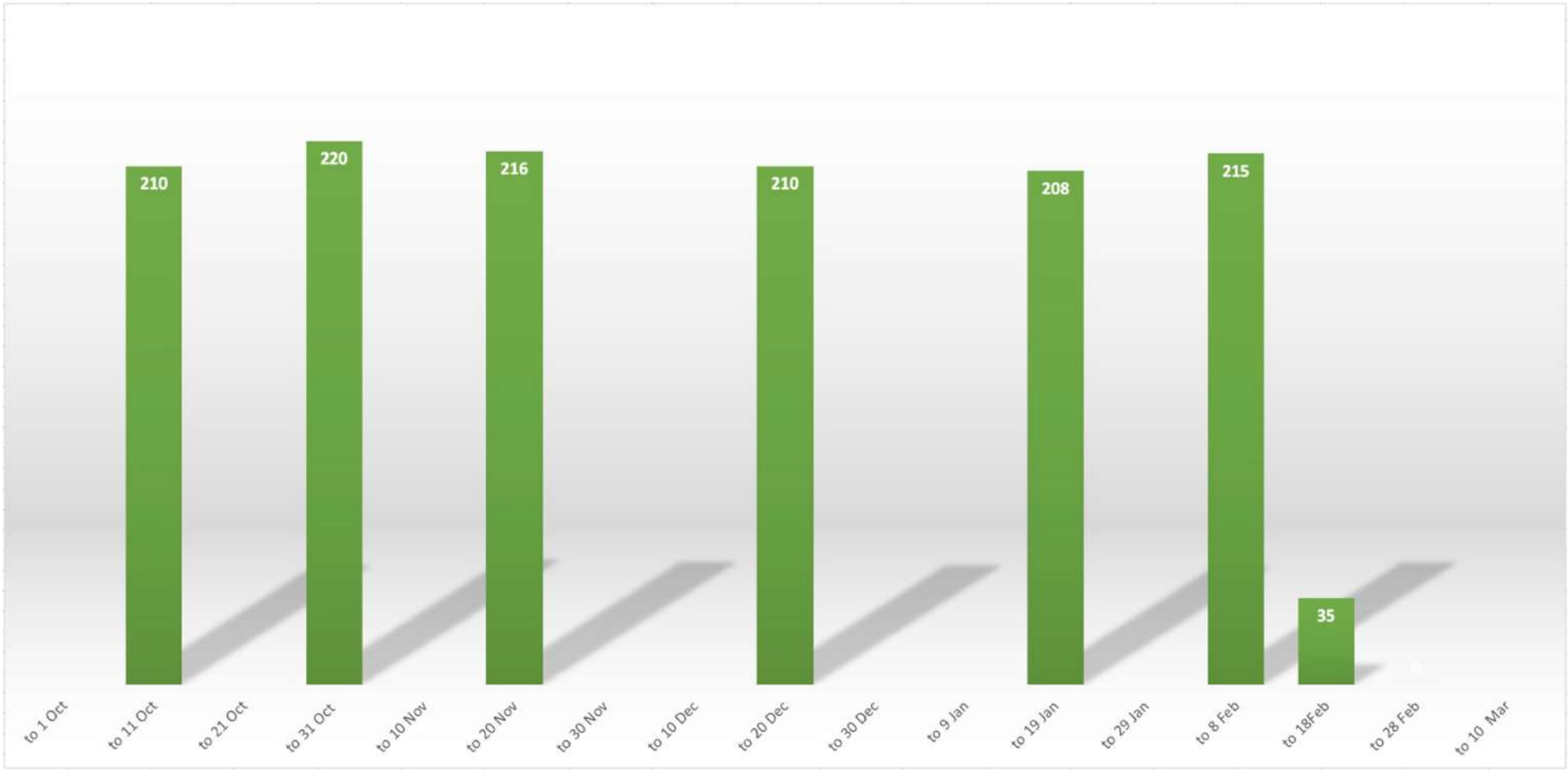
Rook

Rook numbers were consistent throughout the survey with 208-220 birds recorded. The anticipated drop-off in numbers during February was slightly earlier than expected, with birds here keen to get on with nesting.

Table 4. Manor Farm Wood peak monthly Rook counts

8th Oct	1st Nov	13th Nov	19th Dec	15th Jan	5th Feb	15th Feb	27th Feb	4th Mar
210	220	216	210	208	215	35	0	0

Fig 7. Manor Farm Wood peak monthly Rook counts



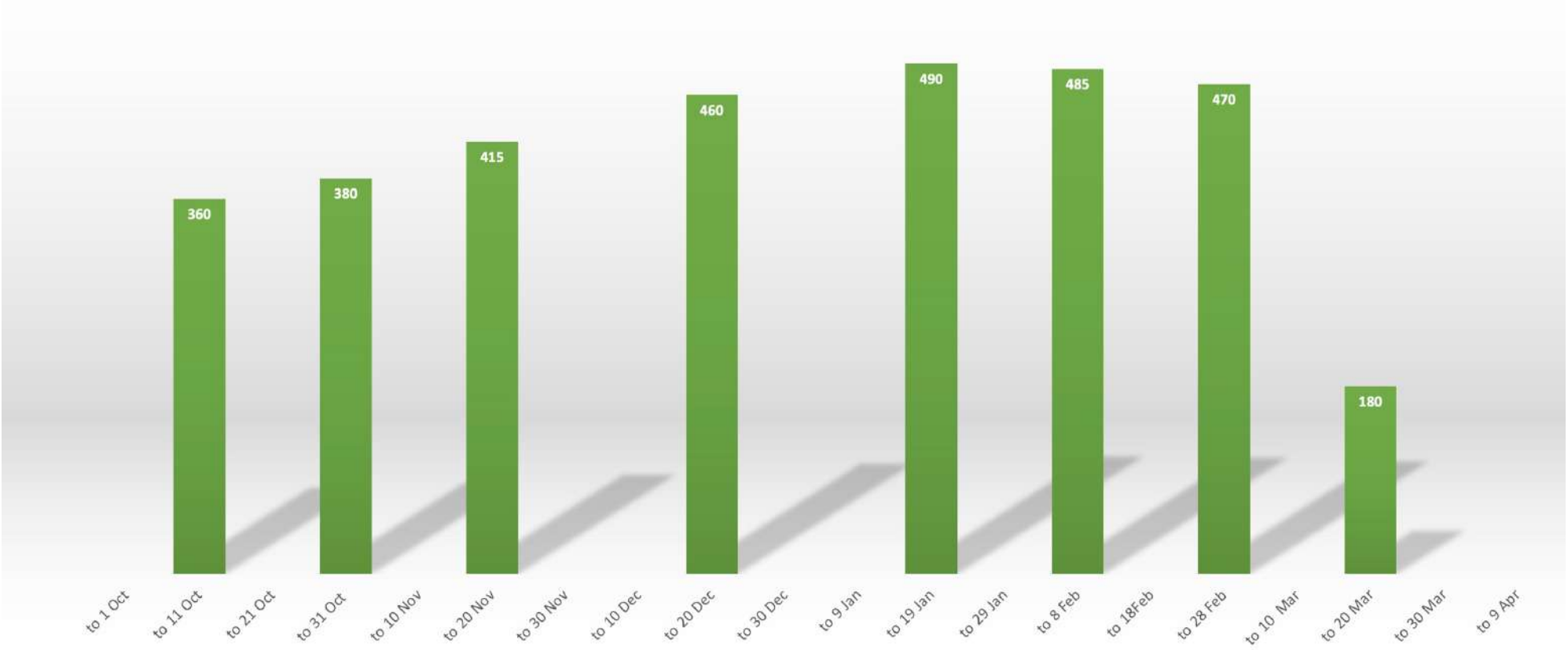
Jackdaw

The 360 or so birds present in October were joined by additional birds through until January, with numbers increasing to a midwinter peak count of 490.

Table 5. Manor Farm Wood peak monthly Jackdaw counts

8th Oct	1st Nov	13th Nov	19th Dec	15th Jan	5th Feb	27th Feb	19th Mar
360	380	415	460	490	485	470	180

Fig 8. Manor Farm Wood peak monthly Jackdaw counts



Although there was a noticeable reduction in the number of roosting Jackdaw by mid-March, daytime foraging counts indicated that at least 340 birds were still in the area, the numbers comparable to those recorded roosting in October and November, suggesting these individuals represented the core resident population. It turned out that some of them were now roosting with the Rooks. During the early stages of the Rook's breeding season, when they abandon the winter roost to return to their rookeries, it is not unusual for Jackdaws to join them roosting there, until they begin their own breeding season some three or four weeks later. Observations here confirmed this to be the case, with late evening visits to several rookeries confirming the presence of roosting Jackdaws, giving themselves away by their constant chatter.

Rook parish and Jackdaw catchment areas

For the Rooks in particular the parish here is a very parochial affair, with the entire population living, eating, sleeping and breeding within a relatively small area centred on the Studland roost and its associated rookeries. Bounded to the east by the sea, to the north-west by heathland and to the south by the Purbeck Ridge, although not a particularly physically challenging barrier to overcome, no Rook were ever seen, nor to the author's knowledge, have ever been seen, venturing south beyond here. Some birds occasionally ventured westward, particularly in late January and early February, to visit the large winter livestock feeding field at Kingswood Farm. Fields in and around Studland village were also frequented by a number of birds.

Fig 9. Manor Farm Wood Rook parish

It was a similar story for the Jackdaw, although they showed a little more inclination to wander further afield, particularly westward with also occasional sorties south of the Purbeck Ridge.

Pre-roost and final pre-roost gathering

All four rookeries were used as pre-roost gathering sites, most were also attended by Jackdaws. In general, however, the Jackdaws preferred their own favourite trees. During this period, there was much activity, with many of the Jackdaws appearing to delight in just flying between the various sites, with their constant calling and movements in all directions creating a quite chaotic scene.

Certain fields were also used for pre-roost gathering, particularly during the main winter period when foraging time was more of an issue. Initial gatherings could be in a number of fields but there was always a single agreed final pre-roost gathering area, typically the pasture field immediately south of the roost wood.

As early evening advanced, the first gathered birds were joined by a steady procession of variously sized parties of Rook and Jackdaw. The Jackdaw from their favoured roost trees and the Rooks either from their rookeries or the surrounding fields, depending on the time of year. Once settled, the flock became quite calm, something previously thought impossible for these birds! It created a rather strange atmosphere as the birds became an ever more tightly packed flock, all standing completely still and silent.

Eventually a resumption of vocalisations inevitably followed, signalling the time to leave was near. The calling intensified until the decision was made and the entire flock took to the air and headed for the wood. A short period of wheeling and swirling above the wood before they all dropped swiftly into the trees.

Leaving the roost

Up to an hour before sunrise in near darkness, the Jackdaw roosting in the western side of the lane flew across to join the main roost. Following the customary vocalisations, all roosting Rooks and Jackdaws then left the wood together in one large single group. As soon as they were airborne, however, there were splits, with Jackdaws typically forming two or three large flocks, each wheeling above the wood independently until a direction was chosen. By then, some of these flocks had already split again, to head off in different directions toward their preferred post roost trees or their preferred foraging areas. On some mornings, the Jackdaws were just happy to spend some time circling above the roost woods before making any decisions on where to go.

Rook departures were a lot less involved, with all birds progressing in a calm and stately manner, either toward their particular rookery, or their field of choice, whilst the Jackdaw chaos unfolded overhead. A number of Rooks also headed out southward, to post-roost gather in the wooded copse for a short time before later either moving off east, or west along the northern side of the ridge.

A regular flightline out of the roost used by all birds including the Carrion Crows was south-east, a direction taking them to a number of arable and pasture fields. In November, the large field directly south of the roost was ploughed, exposing lots of new prey items and making this field for all birds their first port of call.

Square Plantation, Norden

This roost was located in an isolated plantation of mixed deciduous and coniferous trees, surrounded on all sides by pasture, immediately north of Norden. A mixed species roost with the Rook population drawn from the nearby rookeries at Norden Farm and Corfe Castle.

Populations

From the start of the survey until late December, the roost supported a relatively stable population of 645-670 birds, comprising approximately 52% Jackdaw and 48% Rook. In early November there was a temporary spike in Jackdaw numbers during a period of intense migration, briefly doubling the Jackdaw count to 655 and raising the total roosting population to just under 1000. The following survey visit, a few weeks later, saw the numbers returned to normal. Rook numbers were consistently around 320-340 birds.

At some point between late December and mid-January, a large proportion of birds had disappeared, with the mid-January count recording just 48 Rook and 180 Jackdaw. The following visit in early February confirmed these had also deserted the site.

The timing of the desertion in the middle of winter does suggest a disturbance event.

Table 6. Square Plantation peak monthly Rook roost counts

26th Sep	10th Oct	6th Nov	20th Nov	20th Dec	13th Jan	1st Feb
320	325	340	335	320	48	0

Fig 10. Square Plantation peak monthly Rook roost counts

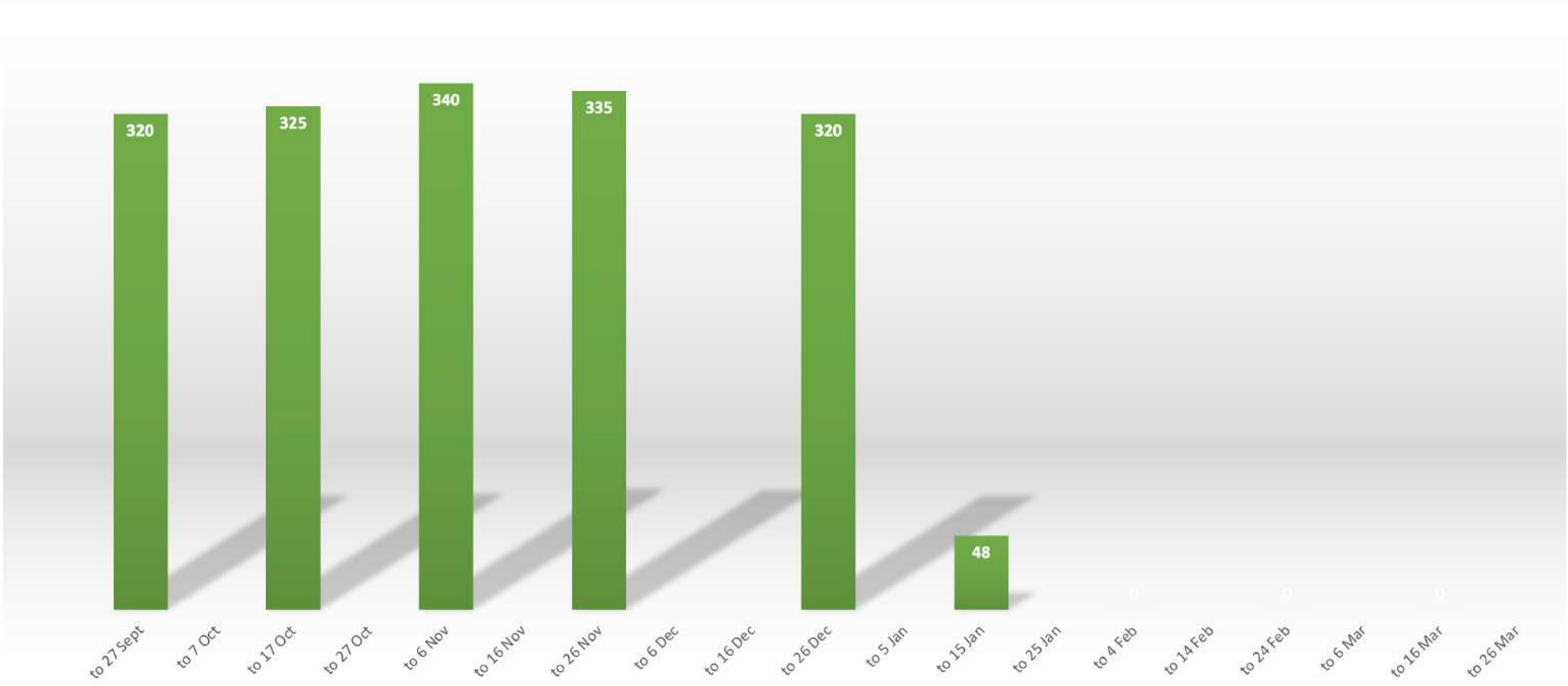
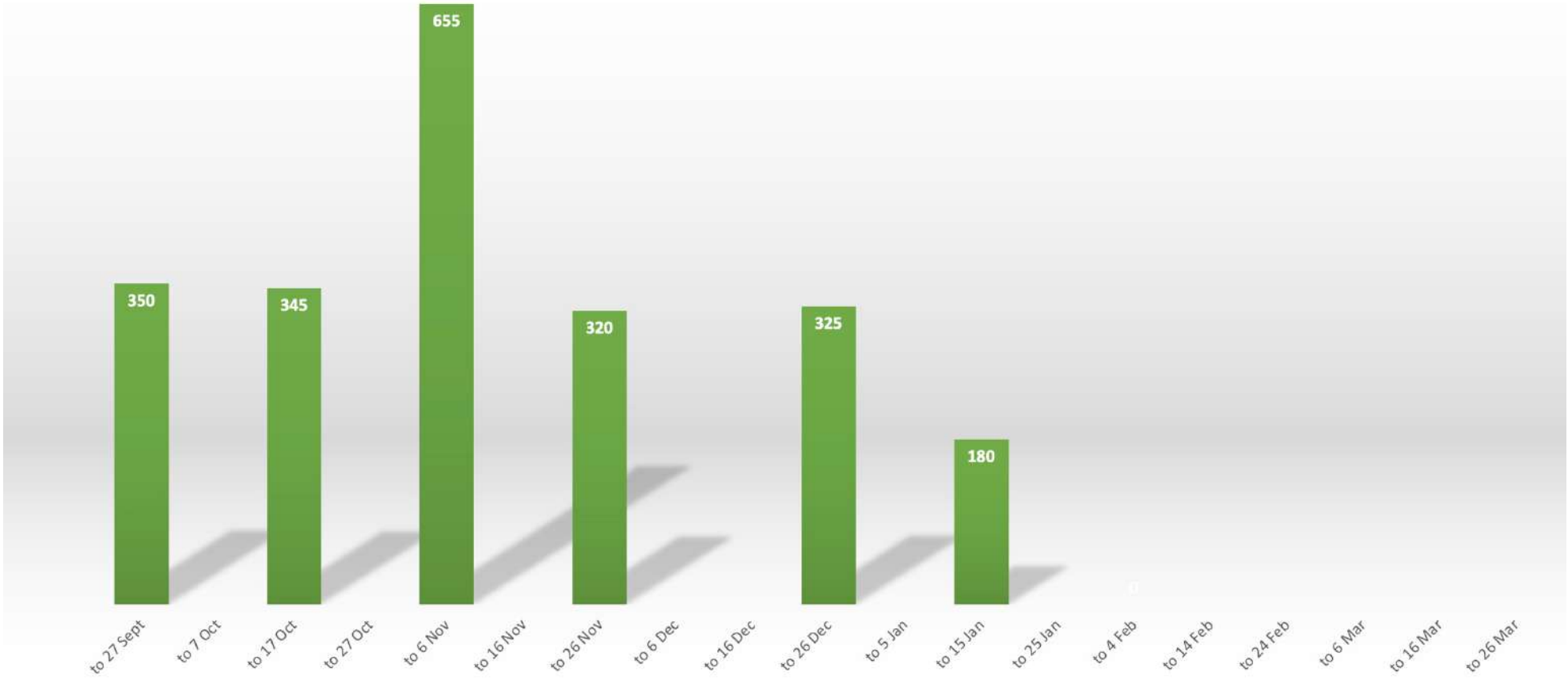


Table 7. Square Plantation peak monthly Jackdaw roost counts

26th Sep	10th Oct	6th Nov	20th Nov	20th Dec	13th Jan	1st Feb
350	345	655	320	325	180	0

Fig 11. Square Plantation peak monthly Jackdaw roost counts



Rook parish and Jackdaw catchment areas

The Rook and Jackdaw catchment areas differed quite markedly between the species, with most Rook using areas to the south, and many of the Jackdaws using areas to the north-east.

With the roost located toward the southern boundary of the recording area and both rookeries lying beyond it, the southern extent of the catchment area was not able to be determined. For Rook, in particular, this area was of greater importance, with most birds spending their day here. One site within the recording area did however attract a small number of Rook from here in midwinter, a large livestock field near Wytch Farm, where they were also joined by a few Jackdaw. Other than that, the rest of the surrounding area during the day was pretty much ignored by both Rook and Jackdaw.

A significant proportion of the Jackdaw roosting here did not stay with the Rooks they had spent the night with, leading a double life spending their day with the Rooks from the Ridge rookery to forage in and around the Stoborough, Ridge and Wareham area. Some of these birds travelled as far as Northport, around 6.5km from the roost site.

Apart from a few individuals, the majority of the rest of Jackdaws accompanied the Rooks southwards. The exceptions were a group of 10-12 birds that headed out eastward to the area around Ashley Copse and the neighbouring sheep fields at Lower Bushey. Ashley Copse is another ex-rookery site, now being used by these Jackdaws for nesting.

During the late afternoon, a few Jackdaw were observed travelling in from some distance to the west. On one occasion a flock of 7 birds were watched for at least 4 minutes before they reached their pre-roost destination at Norden farm. Studies suggest that a determined pre-roost flight by Jackdaw can reach 60kmh. Some say lower, so applying a conservative figure of 50kmh suggests our birds had travelled at least 3.5km, pushing the catchment area westward to at least the fields west of Creech Heath.

Flocks of both Rook and Jackdaw were also observed approaching from the south-east, from well beyond the recording area, making their way west along the southern edge of Challow Hill toward Corfe village, to gather at their various pre-roost sites. As with other parts of this survey, it would have been nice to try and determine the various catchment boundaries that lay beyond the recording area, but with only a finite amount of time and resources available, one must draw the line somewhere!

Fig 12. Square Plantation Rook parish and Jackdaw catchment areas (Purple Rook; Blue Jackdaw)

Pre-roost and final pre-roost gathering

The two rookery populations of Rook and their associated Jackdaw each had their own particular pre-roost routines centred on their respective rookeries. The Jackdaws that spent the day in the Ridge, Stoborough and Wareham area also had their own specific routine, but all birds ultimately converged at the end of the day at one single agreed final pre-roost gathering site, close to the roost.

For the Rooks, as is generally the case, the rookery was their first gathering point. The Jackdaws also used the rookeries as a gathering point, but it was not their first, having begun gathering some time beforehand at other sites.

The 'Corfe Castle rookery' Jackdaw initially gathered around the church, adjacent roof tops and a few favourite large trees, up to two hours before they would go to roost. They all then typically move to one large tree and from here move off to the rookery to join the Rooks. When the time comes, both Rook and Jackdaw leave together, heading off northward toward the final pre-roost gathering site near to the roost. However, the Jackdaws haven't quite finished yet and on approach to the area, many of the birds will split off to gather once more, this time in a group of dead trees just to the north-east of the roost site, while the Rooks continue to the final pre-roost area. Much nearer to roosting time, the Jackdaws join them here.

Meanwhile the 'Norden Farm rookery' birds, along with their small band of loyal Jackdaw, have been effecting their own routines, centred around the rookery trees. The Jackdaws having also gathered earlier at sites around Corfe Castle village.

As noted earlier, this roost site was unusual in that around 70% of the roosting Jackdaw headed out of the roost in the opposite direction to the Rooks, flying north-east to the Ridge, Stoborough and Wareham area. Despite the presence of a nearer roost at Carey, they consistently returned to Norden Plantation each night. What was particularly curious was that many of these Jackdaws also pre-roost gathered with the Rooks at the Ridge rookery and even regularly accompanied them to their pre-roost trees at Wareham South Bridge poplars, a flight taking them further away from the Norden roost. On leaving here they retraced their steps back toward the rookery, before continuing past it and onward south-eastward toward Norden.

Some Jackdaws ranged as far as Northport to forage, consequently starting their pre-roost routine more than 2.5 hours before roost time. Their initial gathering sites were favoured trees at Northport, from which they flew to Mount Pleasant, joining up with some of the birds that would be heading for Pergins roost as mentioned earlier. From here, they travelled south to meet up with Ridge and Stoborough birds at Wareham South Bridge poplars. Then, when the time was right the whole group headed out south-eastwards together towards Norden roost. En route, they often paused at the horse and livestock fields at Hartland Stud, to spend a short time foraging. From there it was a non-stop flight for the two kilometres to New Mills Heath. They did not yet join the final pre-roost gathering, but either stopped at a stand of trees on the north-west edge of New Mills Heath or continued further to the dead trees north-east of the roost site, where they met up with the Jackdaws from Corfe Castle. From both of these sites, it was then only a short flight to the final pre-roost assembly, before they all flew to the roost together. Is this not one of the most protracted roosting routines of any bird!?

At the start of the survey, the final pre-roost gathering site was the large lush cattle field bordering the north side of the roost wood. The entire roost population of some 700 birds gathered here. For the earlier arriving birds, the opportunity was also taken to forage. Rook tended to arrive first, being later joined at intervals by various sized flocks of Jackdaw, arriving from their pre-roost trees.

As detailed earlier, most Rook arrived in one of two large groups directly from their associated rookeries, with another 20 or so other birds doing their own thing, usually arriving earlier than the main flocks.

In early November, the final pre-roost gathering site moved to the long-established site at the southern end of New Mills Heath, around 700m north of the roost wood. Again, up to 700 birds assembled here. During this period, the Rooks start to arrive later in the day, and by early December the two main populations were arriving as much as 25 minutes after sunset. Consequently, by the time they had finished their pre-roost rituals, they were leaving for the roost in near darkness.

Despite abandoning the Norden roost in early January, and the new roost site some distance away, many of the Rook and Jackdaw continued to pre-roost gather here. The flight to their new roost site took them past the Norden site and as they flew by, many of the birds appeared still drawn to it, actually flying toward the roost wood, before veering away at the last moment to continue south. Some even circled the wood a few times before eventually tearing themselves away. Rooks and Jackdaws are intelligent, faithful and perhaps even sentient birds, with strong site fidelity. Were these birds still in some way attached to their former roost site, or were they just confused!

Leaving the roost and post-roost gathering

The classic textbook departure here, with the entire roost erupting from the trees together.

At the beginning of the survey, all Rook, with around 100+ Jackdaw, departed southward before eventually being lost from view heading in the direction of Corfe Castle. The other 200+ Jackdaw headed north-west. On the following visit, two distinct southerly flightlines were apparent, and clearly associated with each rookery, a direct southerly route for the Corfe Castle birds and a more south-westerly route toward Norden Farm.

By late November, the pattern had changed again with the Rooks no longer making their first stops at the rookeries. All birds now headed out north north-west to post-roost gather at their pre-roost site at New Mills Heath. Some of the Jackdaw also post-roosted in their pre-roost trees. Of the Jackdaw heading for Ridge and Wareham, a few also stopped for a short time but most soon continued north-west.

Toward the end of their stay, their departure directions were yet again modified, with most birds now heading out straight west before splitting; the Ridge Jackdaw veering to the north-west and the others veering south towards their daytime foraging areas.

Sleepy Hollow Plantation, Carey

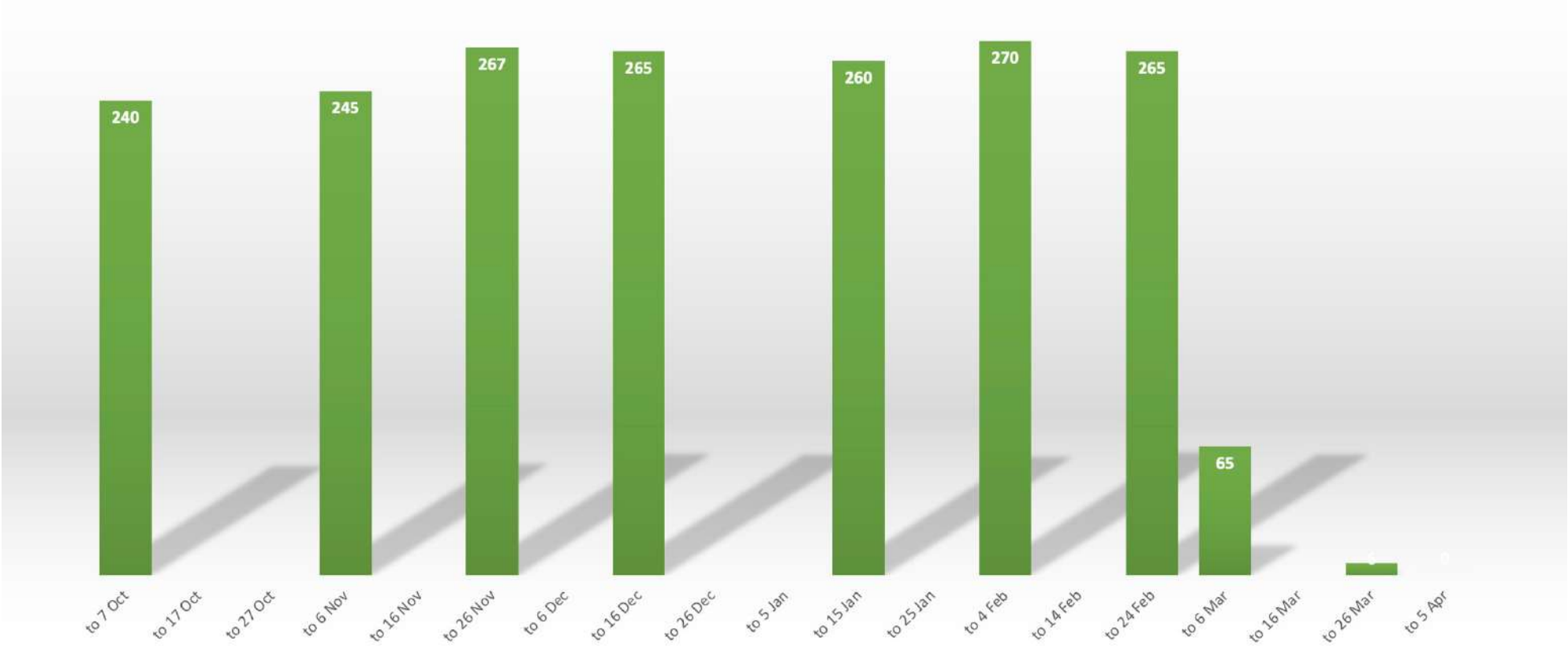
A sizeable mixed deciduous and coniferous wood on the Carey Estate, west of Northport. This site replaced the communal winter roost at the Keysworth Estate following its abandonment. Guaranteed peace and quiet here. The roost was distinctive in being exclusively occupied by Rooks. Occasionally the odd one or two Jackdaw would turn up, but for the most part it was Jackdaw free.

Only supporting one rookery population, the numbers were pretty stable. The only variation was the arrival of around 25 additional birds in November who then stayed the winter. Towards the end of February, around 200 birds left to roost at their rookery, leaving 65 birds still coming in. Quite unusually, there were still a handful of birds continuing to use this roost right up until late March.

Table 8. Sleepy Hollow Plantation peak monthly Rook counts

7th Oct	30th Oct	17th Nov	13th Dec	10th Jan	2nd Feb	23rd Feb	5th Mar	18th Mar	4th Apr
240	245	267	265	260	270	265	65	6	0

Fig 13. Sleepy Hollow Plantation peak monthly Rook counts



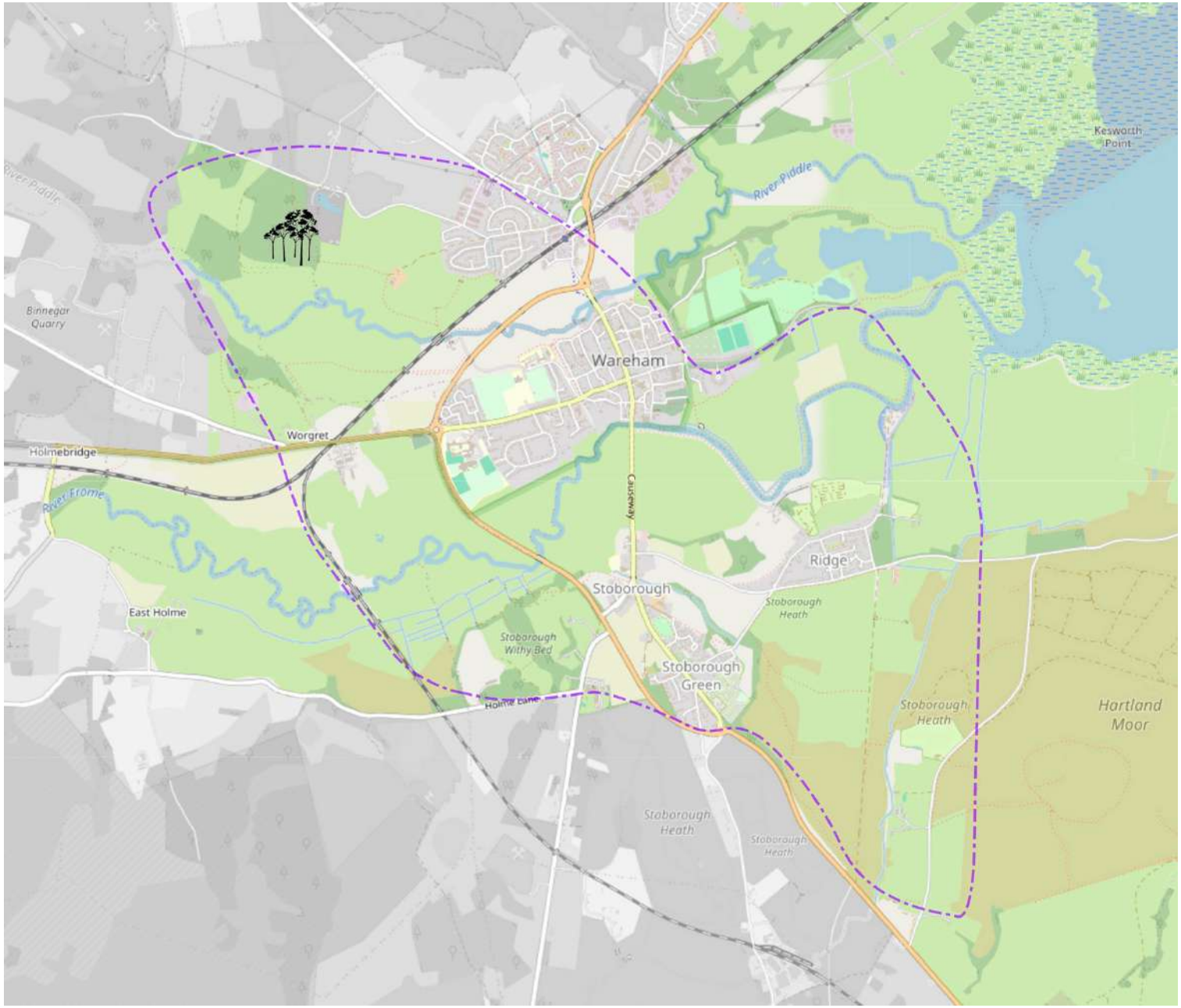
Parish

An unusual catchment area, largely a consequence of it being used by a single rookery associated population, whose main foraging areas were almost entirely to the south-east of the roost. One might have expected the roost to attract Rooks from other areas, but apart from the occasional arrival of a handful of birds from the north-east, there were none. There is an explanation for this; to the north is Morden Heath, to the east is Keysworth, where the pitiful numbers of Rook here fly north-east to roost at Pergins Island, and to the west lies the well-established roost at Binnegar.

A few Rook occasionally foraged in the Frome Valley, particularly an area just south of Worgret Manor Farm, with any birds still here in the afternoon heading back to the Ridge rookery to pre-roost gather. Curiously, none of these birds were ever seen venturing further west than the railway line that bisected the valley. Any Rook that were feeding on that side of the valley all departed westward in the late afternoon, to join pre-roosting birds at Holme Bridge before moving on to roost at Binnegar.

In terms of parish limits to the south-east, the furthest any Rook was observed to venture was the southern end of Soldiers Road.

Fig 14. Sleepy Hollow Plantation Rook parish



Pre-roost and final pre-roost gathering

Initial gatherings typically formed in the fields south of the Ridge rookery before the birds gravitated to one of two fields nearest the rookery, or to the rookery itself, with regular commuting between the two. The rookery however, was always the final gathering site before all birds left together for their next pre-roost site. As winter progressed, less attention was paid to the rookery and, for a while, it was completely ignored with the gathered flocks leaving directly from the fields. The destination was a stand of poplars next to Wareham South Bridge. Depending on the stage of the season, birds either arrived here in a single large flock, or in two or three separate flocks. Occasionally, they were less cohesive, but one thing that was consistent, none left this pre-roost site before all birds had arrived and, when the time came, all birds left for the roost site together.

When one considers that Rooks, given a choice, will always choose a final pre-roost gathering site very near to the roost site and on the ground, the selection of Wareham South Bridge poplars, which is neither, is rather perplexing. Perplexing when one considers the availability of a seemingly perfectly reasonable undisturbed open area of pasture next to the roost wood. Even stranger when one also considers that during the early part of the winter, albeit inconsistently, many birds did use a ground based final pre-roost site closer to the roost. From October to early November, instead of all flying to the Wareham South Bridge poplars from the Ridge rookery, some flew instead directly to a seemingly unremarkable area of grass on the southern side of Wareham Common. When they were disturbed, which was fairly regularly, they flew to the overhead pylon wires, which they were quite happy to do, even preferring them sometimes. From here, it was a short flight across the valley floor to the roost wood.

From the second week of November, routines were back to normal again, with all Rooks arriving as one at the South Bridge poplars. For example, counts of 220 birds here on 7th, 240 together on 13th and 220 on 15th, representing the greater part of the roosting population.

From December until the third week of January, there were two distinct groups, one of around 180 birds that continued to visit the rookery during the early evenings and the other group of around 85 or so birds deciding to continue feeding right up until it was time to move to the pre-roost. During this time, neither group would wait for the other to arrive at the poplars before moving to the roost wood. However, on arrival at the roost wood, the first group would always circle the wood until the other group had arrived, before merging as one flock to enter the wood together.

From early February, all birds were once again united and assuming the same routine, gathering at the rookery before flying together to the poplars and onward to the roost. This period however was short, the approaching breeding season marking the onset of the roost breakup. With more pair birds staying later at the rookery, the departures became progressively less coordinated, with less and less birds leaving for the roost. In early March, just 65 birds were pre-roost gathering at the poplars and flying on to the communal roost.

To roost

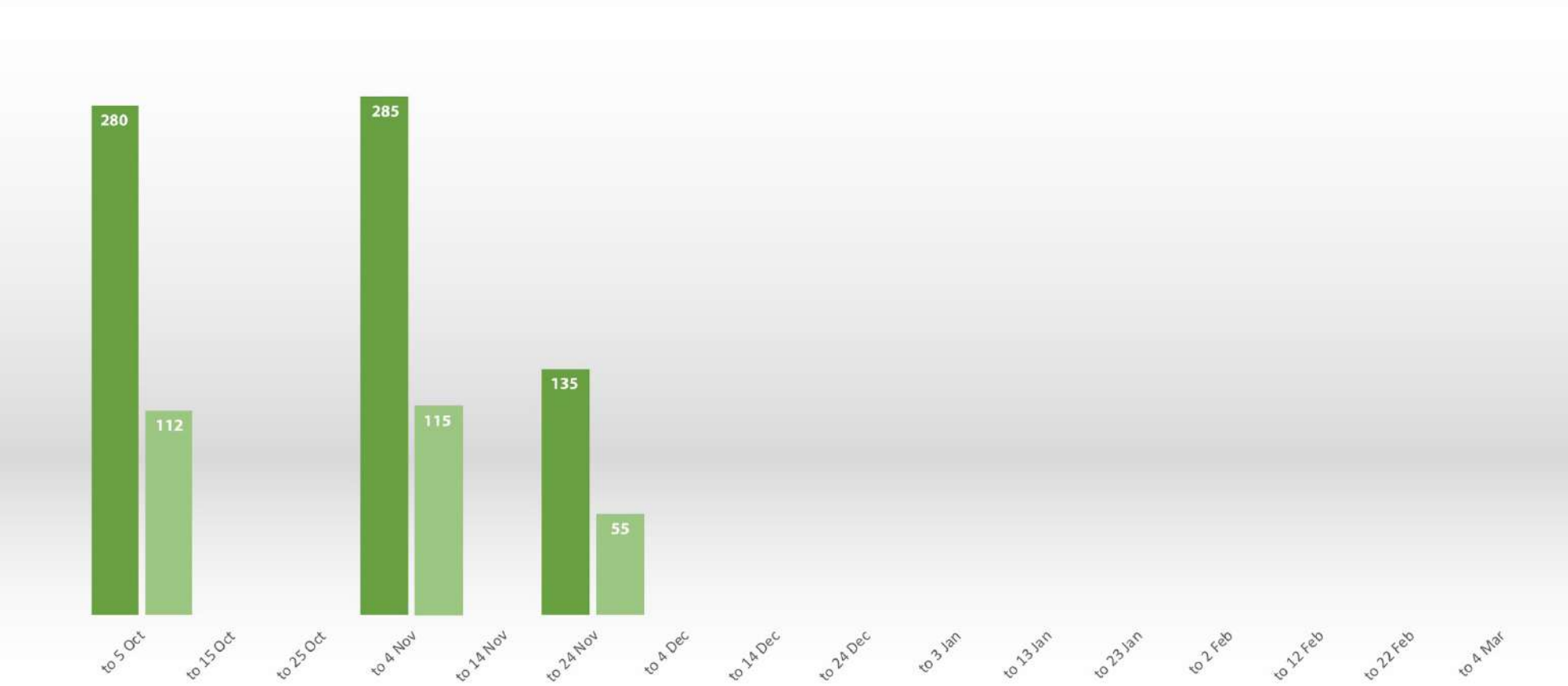
On arrival at the wood, once formed, the whole flock would proceed to perform quite a dynamic and vigorous synchronised flying routine. Initial circuits often taking them some way from the roost as they swirled and circled about the area. Circuits then gradually reduced in reach, becoming more concentrated over the middle of the wood. The performance lasted on average about 7 minutes. Once the decision was made, however, entry was very swift, bordering on impressive for a species not particularly well known for its agility. Picture a group of fishing Gannets plunging into the water.

Big Wood, Arne

The profoundly named Big Wood was the only surviving roost site from the first survey in 2007/08, although it didn't survive the whole winter. While active, Rook numbers were a consistent 112-115 birds, with Jackdaw numbers similarly consistent at 280-285 birds.

As winter approached, everything seemed set fair, so it was quite a surprise when the visit in mid-November revealed a significant drop in roosting numbers, with Just 55 Rook and 135 Jackdaw recorded. The next visit in early December revealing these birds had also moved on.

Fig 15. Big Wood peak monthly Jackdaw and Rook counts



Rook parish and Jackdaw catchment areas

To the north, a number of Rook regularly commuted across the Harbour to livestock fields at Holton Lee. To the east, some Rooks ventured as far as Cleavel fields, with a few Jackdaw carrying on to Green Island. To the south, the main feeding area for both Rook and Jackdaw were the Wytch Farm livestock fields, with no birds feeling the need to travel any further south. To the west, Arne Heath and Hartland Moor proved a boundary with just a few Jackdaw visiting the intervening fields around Slepe Farm.

Final pre-roosting

The Arne population was unusual in having no initial pre-roosting sites and three independent final pre-roosting sites.

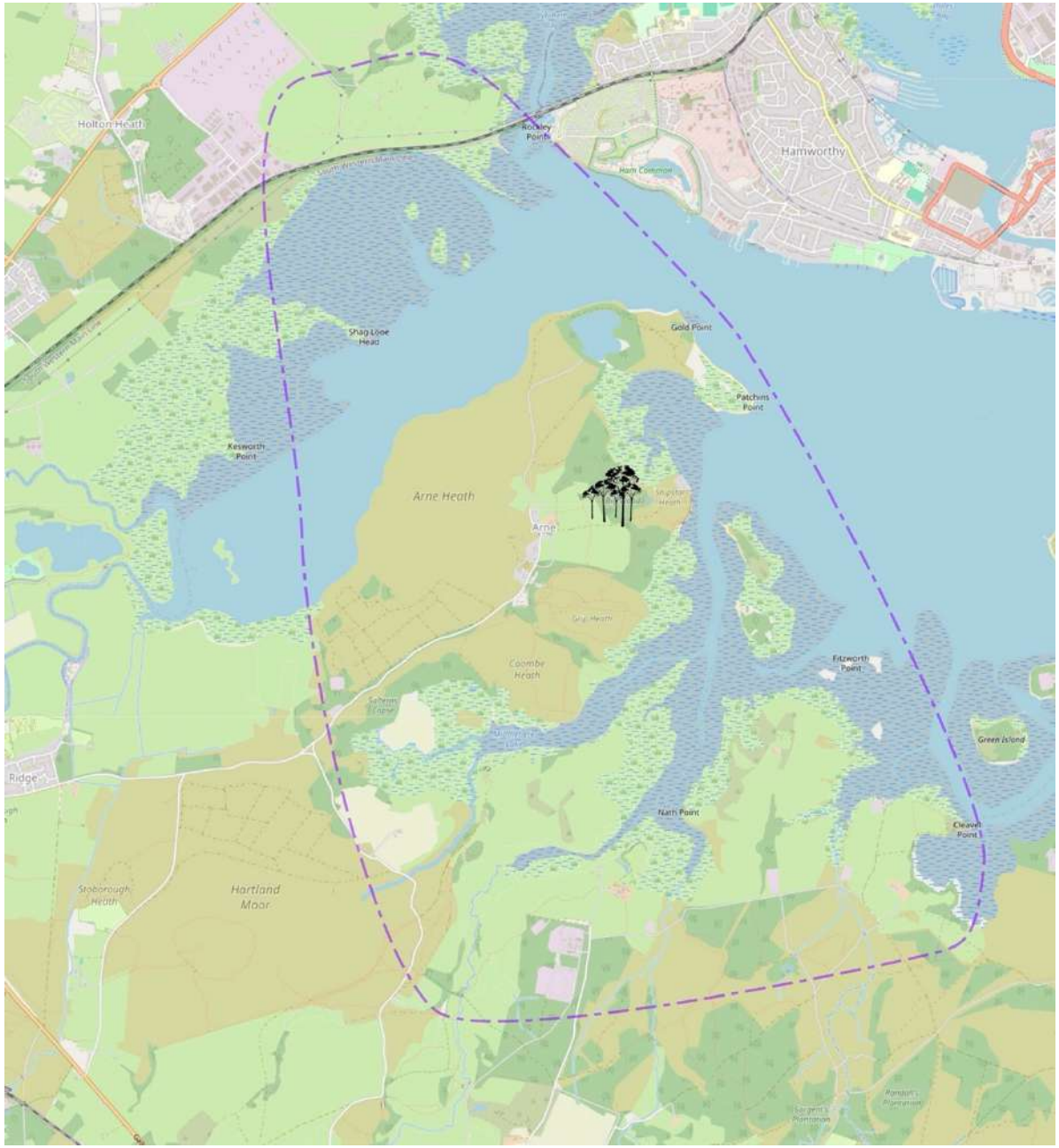
The principal final pre-roost site was an area of pasture on the north-east part of the Fitzworth peninsula, attracting up to 90 Rook, around 80% of the roosting population and 160 Jackdaw, around 55% of their population. The significance of this area lies in its proximity to what were three quite significant rookeries, sadly now reduced to two quite insignificant ones, but the connection here appears still strong. Perhaps not by coincidence, the area is also crossed by telegraph wires, a favourite choice of perch and a handy place to go in the event of a disturbance.

The second final pre-roost site was the only one near to the roost site, a stand of singularly distinctive dead looking trees, in the middle of the two south eastern fields at Arne. This was the primary final pre-roost site for Jackdaw during the first survey but now only used by 40 or so birds.

The third was a stand of trees and adjacent field near Wytch Farm, itself another former rookery site, which could see up to 130 Jackdaw and 20 Rook gather. The flight to the roost from here, around 2.8km, could be straight to the roost wood, but often involved a flying visit to the assembled Jackdaws in the trees at Arne. Here they might land, or just circle the trees a while, tempting the other birds to join them before the final leg to the roost wood.

The birds arriving from Fitzworth flew straight to the roost wood, circling around on arrival to either wait for, or join the others if already circling. Once all the birds were in a single flock they could descend together into the wood.

Fig 16. Big Wood Rook parish



Leaving the roost and post-roost gathering

Another textbook leaving event with all birds erupting from the trees as one. From here, two directions were taken, one south-east towards Fitzworth, the other southward, the southbound birds further dividing into two directions with most heading towards the Wytch Farm area, the rest on a more south-westerly heading, possibly Middlebere.

Around 240-250 Rook and Jackdaw left to the south-east to gather at the Fitzworth pasture pre-roost site. Length of stay varied with a few Jackdaw quickly moving on, but most birds stayed for at least 10-15 minutes before any decisions were taken as to where to go next. The Rooks' destinations depended on the stage of the season, but generally birds associated with the nearby small rookeries visited those first, while others headed out mostly south-westwards, towards Wytch fields. Rather unexpectedly, a number of Rook also headed out north-west. These birds were followed until virtually out of sight, the destination proving to be Holton Lee livestock fields, with up to 48 birds making this trip.
This was particularly interesting, as these birds had therefore initially flown out of their way to join the post-roost gathering, with the subsequent flight from there to Holton Lee taking them back over the roost site! Post-roost gatherings are thought to function as information exchange centres, a role proposed for corvids as well as several other bird species. However, studies also suggest that one of the purposes of communal roosting is to facilitate information exchange. It would seem that both are valid, but it is unclear why birds would need to reconvene immediately after leaving the roost, having presumably already exchanged such information there, or indeed, being local birds already knowing the good foraging areas.

Being such intelligent and social birds, could it not be that post-roost gatherings for Rooks also serve a social function, that these birds already knew their destination before leaving the roost but chose to join the post-roost gathering, to perhaps strengthen bonds within the group or between individual members for example.

A further interesting observation was the sometimes protracted nature of departure from this site. Particularly the Rooks, who could still be present up to 45 minutes after arriving, showing little interest in feeding and more in dallying and cavorting. Even individuals that had left the area could often later be encountered idling on other overhead wires. On one occasion, the first actively foraging Rooks were not encountered until more than two hours after they had left the roost, suggesting a more than adequate supply of food within the local area.

Newton Heath

During October and early November, a very small roost was active near the site of the former Goathorn roost, in the far north-east corner of Newton Heath. The first count in early October recorded 52 Jackdaw and 5 Rook. In early November, there were still 50 Jackdaw and 4 Rook present, but in early December the roost was no longer in use.

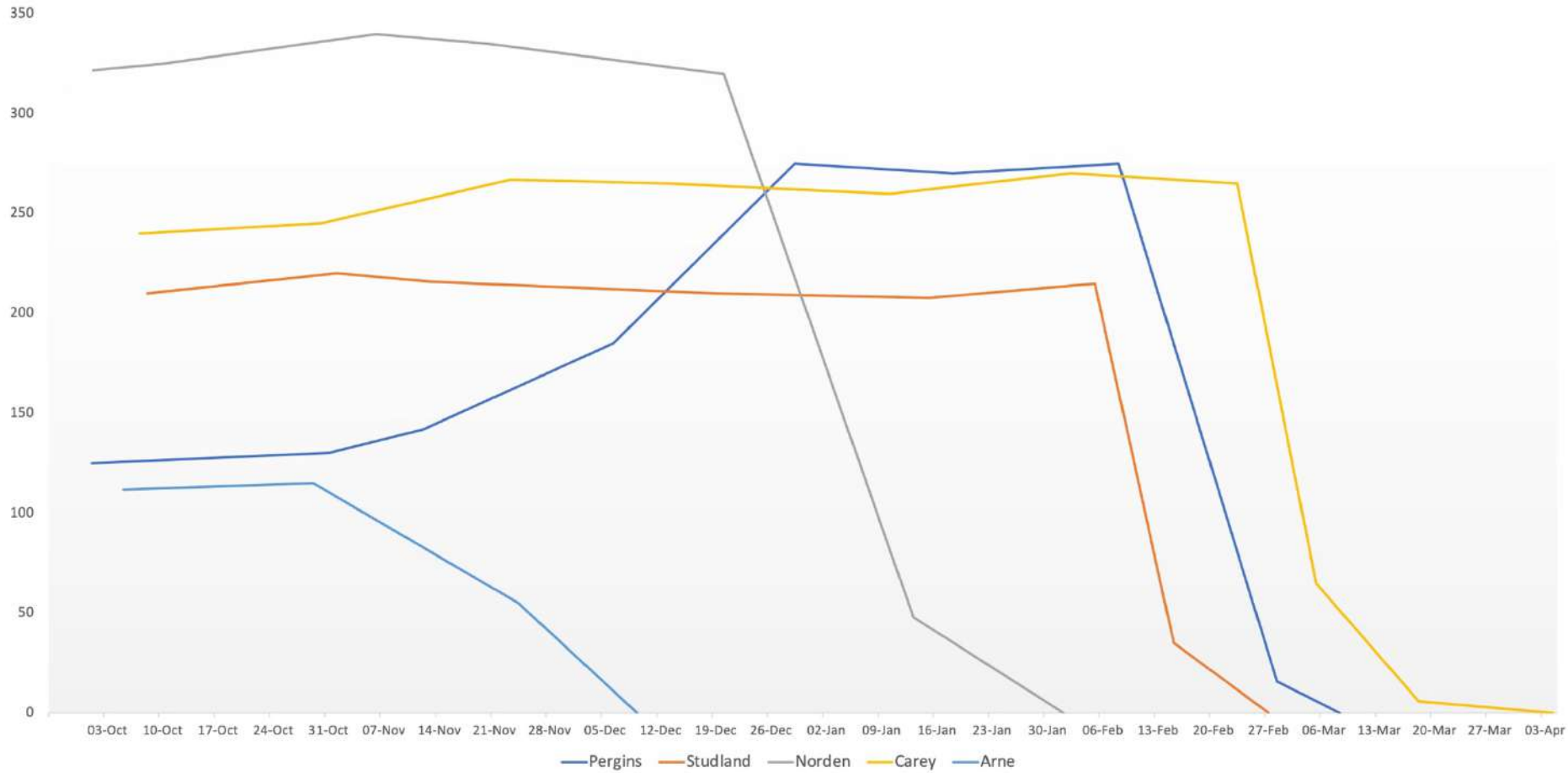
All roosting birds approached from the direction of Studland, crossing the heath before assembling in the same pre-roost area established for the Goathorn roost, at the northern end of Godlingston Heath where it adjoins Greenlands. From here, all birds departed together for the roost.

After leaving the roost in the morning, the Jackdaw tended to remain as a cohesive flock, at least for the duration of the survey visits.

Roost comparisons

The graph below shows the Rook populations at the five main communal roosts. With two roosts abandoned partway through the survey and another roost benefiting from this, the graph does appear somewhat incoherent. However, there are patterns that can be discerned. The Studland and Norden roosts unaffected by unforeseen events do follow a similar pattern with a stable population through the winter, followed by a sharp decline as birds returned to their rookeries. The pattern is also evident at the Pergins roost from the new year onwards.

Fig 17. Rook populations at the five communal winter corvid roosts



Extralimital roosts

Three communal roosts outside of the recording area were used by birds frequenting the Harbour by day.

Furzebrook

A number of Jackdaw using the Ridge and Wareham area and pre-roost gathering at Wareham South Bridge poplars departed directly south. From here they moved southward through Stoborough and onward in the direction of Furzebrook. An attempt was made to approximate the site but with the limited time available it was deemed reasonable to settle for an approximation of 'somewhere south of Furzebrook', most likely in the surrounding woodland. Also associated with this roost was a regular pre-roost gathering at the southern end of Stoborough in trees at The Lookout caravan site.

Binnegar

Rooks frequenting the Frome Valley west of the railway line all flew west in the late afternoon to eventually roost here. A favoured pre-roost was a stand of tall poplars at Holme Bridge. Jackdaw arrived from further east, most of them having first gathered in trees near Worgret Manor Farm. From here they flew directly west, bypassing the Rooks at Holme Bridge to continue beyond the recording area to gather, before moving on to the roost.

South of Norden

The third site, discussed earlier that replaced the Norden Square Plantation, was located somewhere south of the recording area.

Roost entry and departure times

Key events such as commuting, pre-roost and roost entry times were routinely recorded to aid interpretation of observations. Although such data are already well documented and no novel findings were expected, some clear trends were identified. One was a progressive delay in roost arrival times as the winter advanced; the other was a progressively earlier roost departure as the winter advanced. The table and graph below illustrate the latter.

Table 9. Rook roost departure times on mornings with low cloud cover

Date	Roost	Minutes before sunrise
1 Oct	Pergins	28
17 Oct	Studland	31
18 Oct	Arne	31
29 Oct	Arne	33
12 Nov	Pergins	39
28 Nov	Studland	40
6 Dec	Pergins	40

Fig 18. Rook roost departure times on mornings with low cloud cover

Pergins Island roost: Post survey observations

Although the roost count on 9th April was the last official Pergins roost count of the survey, with numbers of roosting Jackdaw still only 16% down on midwinter, the decision was taken to further extend the counting period here. The next visit on 27th April found 1360 birds still using the roost, some 60% of the midwinter population and, even more remarkably, over 1100 birds still here in the middle of May, just under half of the midwinter roosting numbers. This count proved to be the low point, with one more visit on 9th June revealing roosting numbers already back on the rise, with first returning post breeding birds increasing the roosting population to 1420 birds.

The first thing to note here is that most published literature indicate that communal roosts are vacated by April, or at best 'used irregularly' thereafter. (Coombs 1961). Only one study found documents continued use into spring: Burns (1957) reported that around 30% of the winter population in Sweden were still present in early May, interpreted as first-summer or other non-breeding birds.

So, are we to assume that the Pergins Island winter Jackdaw roost is made up of 50% first winter and non-breeding birds? With young and non-breeding Rooks, for example, shown to represent only 15-20% of the total population, this does seem to be impossibly high.

There may be another explanation. It is also true that all published literature specifically relating to corvid winter roosting population studies were either conducted in the 1950s-1980s, when winters were harsher, or at higher latitudes such as Sweden and Finland. Both circumstances compelling birds to make use of the increased warmth and shelter provided by a winter communal roost.
There have been very few, if any, winter roosting studies since that have included population counts, with the focus of research naturally shifting toward behavioural, cognitive and anthropogenic themes.

Since these first groundbreaking surveys were conducted however, winters have become markedly milder, lessening the benefits conferred by communal roosts such as increased warmth and protection from severe weather. This is particularly relevant to established adult pairs that occupy favourable territories that may now provide sufficient warmth and shelter to roost. With other known advantages such as 'information exchange' regarding important food sources also less relevant to territory holding adults, the necessity to roost communally is further reduced.

Could it be, then, that not all eligible adult Jackdaws are using the communal roost, resulting in the winter population being already disproportionately represented by younger and non-territory holding birds that still benefit from communal roosting, with the subsequent departure of the adult birds therefore having a reduced effect on the overall numbers?

During the additional Jackdaw observations undertaken through the spring and early summer, another surprise emerged. All previously published studies that could be found consistently showed that post-breeding Rooks relocate to a local summer/autumn roost. This is typically occupied until late September or early October when the birds then transfer to the main communal winter roost.

Guess what? This is not what happened at Pergins Island communal roost. All Rooks were back roosting here by early June, having relocated directly from their rookeries. For this I have no theory, other than our birds are just different. It was also noteworthy that the total number of birds recorded in early June was 313, higher than the peak midwinter count. There is a likely explanation for this. Sadly, juvenile mortality in Rooks is high during their first six months, with many perishing in the autumn, so it wouldn’t be a surprise if by the next midwinter count the numbers were back where they were.

Foraging areas

Introduction

Being traditional grassland birds, Rooks and Jackdaws are at home on agricultural pasture, where they spend much of their time searching for leatherjackets, earthworms and various other arthropods. They also like arable fields, particularly after ploughing or sowing, and later in the year will take advantage of ripening crops and fruits, with maize a particular favourite. In winter they are very much attracted to cattle fields, particularly where supplementary winter feed is provided. Not only will they eat the grain but can also pick invertebrates out of the churned ground or pick through the manure for smaller worms and undigested grain. In between times, they also love to raid grain stores.

Jackdaws also regularly visit gardens, far more readily than Rooks, taking advantage of bird tables and other handouts, as well as natural foods available in the larger gardens. Increasingly however, particularly in the more rural areas, Rooks, perhaps emboldened by their Jackdaw companions, are now doing likewise. Rooks on nut feeders are now a reality!

In Stoborough, for example, the local Rooks and Jackdaws can often be found during the winter spending much of the day around the gardens, poking about in various places, retreating to nearby trees to digest their food and preen, before then repeating the process.

Results

All the important foraging areas were in the southern half of the recording area, with any sort of feeding area a premium in the northern half.
Rooks were slightly more restricted in terms of habitat selection, being largely absent from the more built-up areas, whereas the bolder Jackdaws could turn up almost anywhere.

Ballard mixed farmland fields and downs recorded the highest number of Rook and Jackdaw with up to 220 Rook and 385 Jackdaw using this area.
Wytch livestock fields recorded the next highest counts, with 95 Rook and 285 Jackdaw.

Fig 19. Important Rook and Jackdaw foraging areas

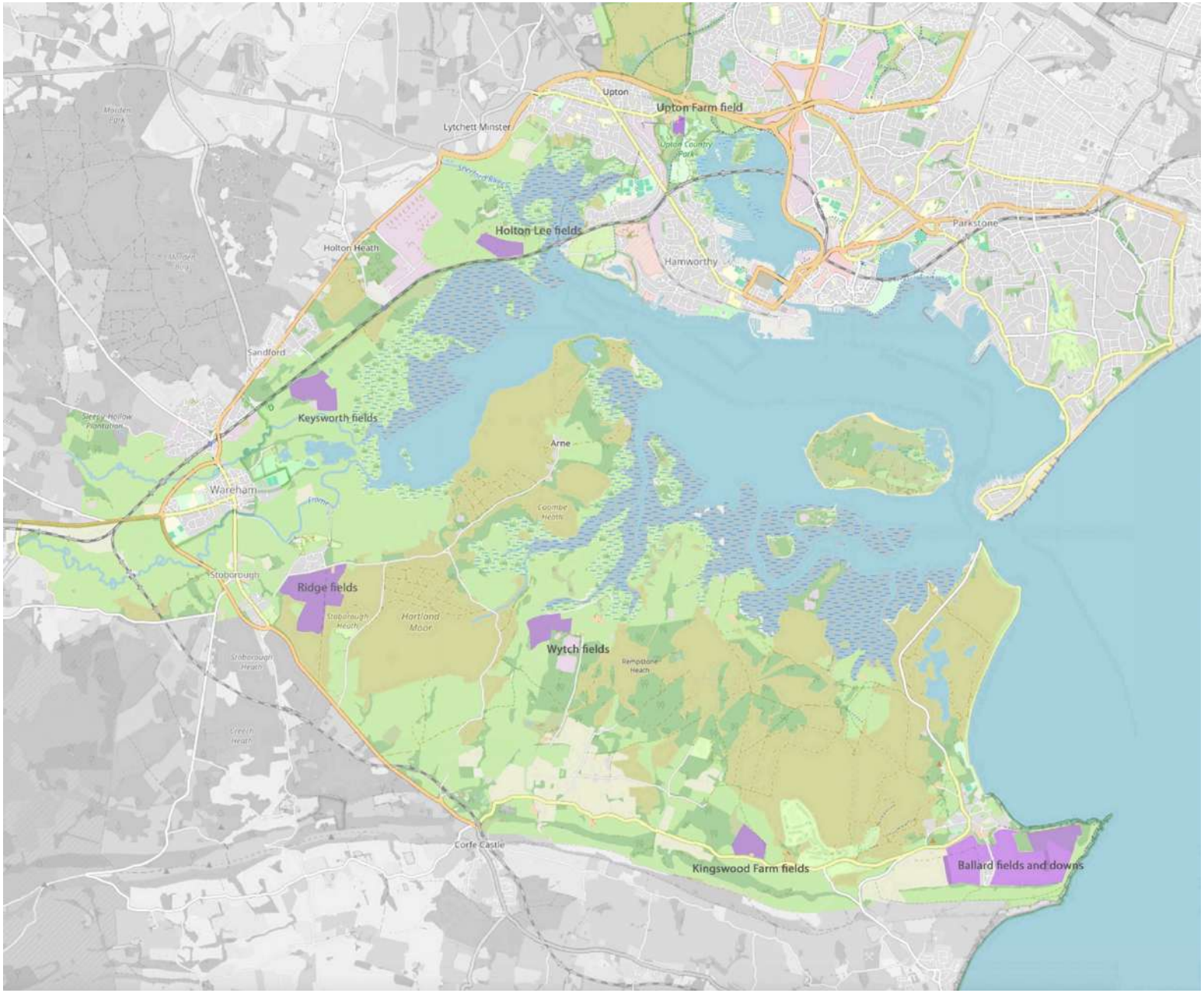


Table 10. Maximum counts of Rook and Jackdaw at the main foraging areas

Site	Rook	Jackdaw	Total birds
Ballard fields and downs	220	385	605
Wytch fields	95	285	380
Keysworth fields	20	275	295
Ridge fields	102	78	185
Holton Lee fields	48	125	173
Kingswood Farm fields	36	76	112
Upton Farm field	95	12	107

Ballard fields and downs

An area of mixed farmland with pasture, arable and sheep grazing, supporting a resident population of Rook and Jackdaw throughout the whole year. Studies have shown that pasture is by far the most important habitat for Rooks. More recent studies have refined their optimum habitat to include an area of arable (Brenchley 1984). No equivalent studies exist for Jackdaws, although a similar association seems likely. Studies have also shown Rook density to be positively correlated with sheep density, due in part to the shorter grass. Ballard and the surrounding fields provide all three of these habitats, which is why it attracts so many birds.

At the beginning of the survey in early October, a specific area of the downs, about a mile west of Glebelands, became a feeding focal point following the arrival of new autumn lambs. Not necessarily for the chance of carrion, although this was not presumably turned down, but for the feed that was provided for the sheep. The area regularly attracted over 100 mixed Jackdaw and Rook.

During this time and throughout the rest of the survey, another key area was centred around a set-aside field at the north-east corner of the peninsula, attracting up to 160 Jackdaw and 70 Rook. The dense vegetation, particularly in the adjacent field to the south, obscured most birds but counts could be made when the birds were disturbed into the air.

The arable field between there and Warren Wood was also a regular foraging area at this time, attracting around 70 Jackdaw and 40 Rook. It was also visited, typically briefly, in the early mornings by birds heading out to the set-aside field, along with it also being a favoured site for late afternoon pre-roost gatherings, where birds could combine feeding and socialising.

In early November, the large field directly east of the Glebelands estate was ploughed, with birds literally flocking there. At times, particularly immediately post-roost, almost the entire Rook and Jackdaw population could be found here. The same occurred at another field when that was ploughed in mid-November, this one conveniently just south of the main rookery, attracting up 165 Rook and 310 Jackdaw.
All of these areas continued to be used by varying numbers of birds, in addition to a couple more fields that were later ploughed attracting more interest.

From mid to late winter, however, numbers at these sites were much reduced, with many birds now exploiting a range of other alternatives. A number of birds travelled west to the cattle fields at Kingswood Farm, with others spreading out northwards around Studland village and its neighbouring fields. From February into March, some large mixed feeding flocks were again encountered, particularly in the more recently ploughed arable fields.

For most of the survey, there were always a few Rook and Jackdaw foraging in the permanent pasture livestock fields just south of the village but never large numbers. The significance of these areas however, became much more apparent during early spring when the young Rooks were just hatching, with lots of adults now probing around trying to find bite size morsels in the now quite lush grass. They were not the only fields used, with all areas of permanent pasture in the vicinity of the four rookeries now important. Their value continued after fledging, with young birds able to make the necessarily short journey from their rookeries to feed.

Wytch fields

In reality, just the one field. One very large, very muddy livestock field stacked with winter feed. Neighbouring fields were also visited but not nearly to the same extent. During the main winter period, this field attracted all the local corvids and more, particularly after the introduction of winter feed and the increasingly churned up ground exposing additional worms and grubs. The cattle manure also containing undigested seeds for them to search through. At its muddiest, the field attracted up to 285 Jackdaw and 95 Rook. Later in the day, these birds could be joined by additional Jackdaws stopping off on their way to roost, which could take the numbers up to 360 birds.

Most of the Rook were those associated with the Arne roost, who could also frequent Fitzworth, Ower and Middlebere. However, the attraction of this field was such that these other areas recorded far fewer foraging birds than would have otherwise been expected. In fact, even before the winter feed made this field particularly attractive, numbers at the alternative sites were low. This was later explained during a conversation with the local farmer who mentioned that before the winter feed went out, many 'hundreds of birds', ie Rook and Jackdaw, were spending their time hanging around his grain barns.

Keysworth fields

An area of permanent pasture and livestock fields on the private Keysworth Estate.

Up to 340 Jackdaw were associated with this area, using it to varying degrees, the highest single count being 275 birds. Any of the cattle fields south of the railway line could be used, the most popular were those to the north-west of the sewage works. This area also served as a regular pre-roost gathering area toward the end of the day. No fields north of the railway line were visited.

Many of the birds divided their time between Keysworth and the Sandford area, with numerous commuting flights of various sized flocks observed between the two. However, it was quite curious how frequent these flights were. The reason appeared to be that many were aborted attempts, with birds on reaching their chosen area, invariably ending up just circling the area without going down, before eventually heading back. Clearly, there was an intention to land but, for some reason, they were being deterred from doing so.

Sadly, the highest Rook count achieved here was just 19.

The sewage works at the far south of Keysworth were visited during the day by up to 35 Jackdaw, seemingly interested in the contents of the raised circular beds, although they were often observed perched on the sprinkling arms going around in circles. Given their nature, this may well have been just for the fun of it.

Ridge fields

A series of permanent livestock fields with some rough grazing, lying just south of Ridge village. Bounded to the east and south by heathland and to the west by Stoborough, it is an important local feeding area, particularly for the Rooks. Although used throughout the winter, activity increased markedly during the spring, from the hatching period through to post-fledging.

Up to around 240 Rook and 100 Jackdaw utilised these fields, the highest daytime count being 102 Rook and 78 Jackdaw.

Most foraging occurred within the four permanent pasture livestock fields directly south of Ridge village, with the rough grazing further south also regularly attracting smaller numbers. The livestock field east of Melancholy Farm was especially favoured by Jackdaws. The two livestock fields east of the Tramway were only occasionally visited during the winter, but from early March they became a very important source of food for Rook, particularly post fledging, when they were in almost constant use.

Just beyond the westernmost field, a garden in Nutcrack Lane that was Rook free for the majority of the year was, for a short period, regularly visited by adult Rooks desperate for any sort of viable food to feed their young or indeed themselves. Buggy nibbles were a favourite here.
This necessary increase in boldness was most manifest in Wareham town, where one bird had resorted to foraging on the exposed intertidal mud at Wareham South Bridge, surrounded by ducks and day-trippers.

Holton Lee fields

Centred on a large livestock field within the grounds of Holton Lee, this site attracted the highest numbers of birds during midwinter when the fields were heavily churned up and cattle feed was available. Up to 125 Jackdaw and 55 Rook could visit here. Most of the Rooks were not local, with up to 48 birds considering the flight from Fitzworth worth the effort.

When the fields dried up, the only naturally boggy area, at the far end of the eastern field attracted up to 25 Jackdaw and 5 Rook. A few of the bolder and more dietarily flexible Jackdaws could also be found hanging around the hobby farm, with all sorts of supplementary food stuffs on offer. They also seemed to like a particular area at the western end of the large permanent pasture field in front of the main house.

Upton Farm field

A large livestock field and cow barn at Upton farm, very popular with the local Jackdaws, with up to 125 birds present here during the day. The area becoming increasingly busy towards the end of the day as other Jackdaws arrived to pre-roost gather, many taking the opportunity for some last-minute foraging before departing for the roost.

Rooks were only occasional visitors, typically in single figures, although 21 birds were recorded feeding here in mid-February.

Kingswood Farm fields

Another large permanent pasture livestock field. One might have expected more birds here, but for much of the survey very few were recorded. Late January however, did see an influx of birds, with numbers peaking in early February. The highest counts were 82 Rook and 57 Jackdaw.

Frome Valley

An area of floodplain meadow and permanent pasture with livestock, but surprisingly little used during this survey. The only part that did attract birds was a waterlogged area immediately east of the railway line, on the southern side, where the highest counts were 32 Rook and 15 Jackdaw. A large livestock field, immediately south of Worgret Manor Farm, also attracted a few birds with up to 25 Rook and 45 Jackdaw here.

Fitzworth and Ower fields

An area of permanent pasture with livestock grazing. As noted earlier, largely underused during this survey, the average daytime foraging numbers of Rook just 28-32 birds, with often no birds at all. A few small rookeries remain in the area, containing a much-reduced number of nests, whose associated Rooks were often the only birds present. It was a similar story for Jackdaw with only 40-45 birds typically present but often only a handful encountered. A small group of around 10 Jackdaw regularly frequented Ower Farm.

Oddly, no Rook or Jackdaw were ever encountered in any of the permanent pasture livestock fields in the western half of the Fitzworth peninsula.

Hartland Stud fields

A small number of local Jackdaw regularly foraged here, but the fields were also used as a routine stop-off by birds commuting between the Ridge area and the Norden Plantation roost. On some evenings, the entire flock of around 230 birds could be encountered.

The fields were also visited intermittently by a number of Rooks, all associated with the Ridge rookery. Usually up to 20 birds, but during the post fledging period up to 60 adults and juveniles could be found.

Rempstone and Bushey

A once popular area, the Rempstone and Bushey area is now largely devoid of corvids. Presumably linked at least in part to the disappearance of three local rookeries. In mid-November, there was some short-lived interest in the field opposite Rempstone Farm, following the appearance of calves and some feed. The birds, up to 55 Rook and 35 Jackdaw, were however extremely skittish, never once looking comfortable and never straying too far from the safety of the bordering trees, to which they repeatedly retreated at the slightest trigger, often seemingly spooking themselves. Presumably not particularly liked around here.

Norden fields

Popular for a brief period early in the survey, with one large lush permanent pasture cattle field attracting most of the birds. Most notably toward the end of the day where large numbers of Rook and Jackdaw would pre-roost gather, with many taking the opportunity to forage. However, when the pre-roost site moved to New Mills Heath the use of this field declined significantly.

Middlebere area

Although there were perfectly suitable fields for foraging here, they were just not able to compete with those at neighbouring Wytch Farm. Up to 30 Rook and Jackdaw used the cattle field at the western end of the peninsula, with similar numbers occasionally seen in the north-eastern fields. The far south-east field was also visited, mostly by birds commuting back and forth from trees at Wytch Farm.

Wareham Common (east of railway line)

Small numbers of Jackdaw regularly foraged here, mainly on the much less disturbed northern side of the river, with occasionally up to 40 birds. Sometimes they were joined by few Rook with the highest count 15 birds.

Kerry Foods

Up to 10 Jackdaw could be found hanging around here waiting for their opportunity.

Rookeries

Beyond the need for a sheltered undisturbed wood, the main consideration in the siting of a rookery is its proximity to high quality foraging areas during the spring. Such locations allow adults to make frequent, short foraging trips to and from the nest and later provide recently fledged birds with limited powers of flight access to feeding. Proximity to productive feeding areas throughout the year is advantageous, but birds are willing to travel further to feed in winter if necessary.

Methodology

All previously known rookery sites were revisited, and all other potential areas were searched during the winter when the trees were bare. Nests counts were conducted early in the breeding season, with a second count carried out in early April when additional nests can appear.

Results

A total of 201 nests were recorded.
Nine rookeries were found, of which only five contained 10 or more nests. Four were located in Studland village, although three of these could perhaps be regarded as parts of one loose colony. The largest rookery was Ridge Plantation with 76 nests, followed by Heath Green Road, Studland with 46 nests.

Table 11. Rook nests recorded by site

Site	Count
Ridge Plantation	76
Heath Green Road, Studland	46
South Beach, Studland	30
Manor Road, Studland	13
Ower Wood	10
Wooded track to South Beach	9
Slough Lane, Lytchett	6
Trailway Wood, Upton Country Park	6
Vitower Lane, Fitzworth	5
Total	**201**

One thing that is immediately apparent is the number of breeding pairs fall way short of what might have been expected from the populations recorded. Comparing overall totals can be a bit of a blunt instrument, but a broadly representative roosting number of around 800 Rook is roughly twice the number of breeding birds, suggesting that only half of the population bred.

Taking each parish in turn provides a more accurate picture, although it does make the situation more curious still. The Studland parish showed entirely expected figures, with 98 nests located among a population of about 220 birds, consistent with around 10% of the population being immature non-breeding birds. However, the Ridge/Carey population produced only 76 nests from a population of 270 birds, representing just 56% of the population. The Arne numbers were even more troubling, with a meagre 15 nests found among a population of about 115 birds, representing just 26% of the population. The remaining parishes all straddled the recording area boundary, precluding breeding numbers from being interpreted.

A reasonable conclusion to draw would be that it was simply not a good year, with conditions perhaps deemed unfavourable by some of the birds. That may well have been the case, but there was a complete absence of any unused or abandoned nests in any of the areas. If it were just a one-off poor year, then the sites should have been littered with unused nests from the previous season. Clearly not all nests survive the winter intact and some are dismantled by neighbouring pairs, but not all traces would have been removed. Moreover, all sites previously known to hold rookeries showed no evidence whatsoever of there ever having been a rookery there at all.

One thing is for sure, if this situation continues then the population will not be remaining at these levels for much longer.

Comparisons with the 2007/08 survey

Rooks and Jackdaws are well known for their strong site fidelity, with successive generations often using the same roosts or rookeries year after year. It was therefore something of a surprise to find that, since the first survey, the landscape had changed quite significantly. Of the main communal winter roosts identified in 2007, only one was still active and just 5 of the 13 rookeries were still occupied. Foraging numbers of Rook were also lower with several formerly important feeding areas no longer in use. Such site fidelity can only persist where sites remain suitable and undisturbed, perhaps it was optimistic to expect conditions to have stayed largely unchanged.

Rookeries

The total of 201 nests represents a 58% decline from the 474 nests recorded in 2008, with 8 of the original 13 rookeries having disappeared entirely. The only positive was the Studland breeding population, which showed a slight increase.

Table 12. Rook nest numbers compared to 2008

Site	2008	2025	% diff
Studland area	86	98	+7
Ridge Plantation	142	76	-46
Lower Bushey south	43	0	-100
Keysworth	e35	0	-100
Lower Bushey west	31	0	-100
East Holme Priory	c30	0	-100
Policemans Lane, Lytchett	29	0	-100
Ower Wood	23	10	-56
Wytch Farm	22	0	-100
Gallows Hill	15	0	-100
Slough Lane, Lytchett	0	6	-
Trailway Wood, Upton Country Park	0	6	-
Vitower Lane north	6	5	-17
Vitower Lane south	12	0	-100
Total nests	474	201	- 58

The situation in the Poole Harbour area is sadly reflective of the wider national decline in breeding Rook numbers. The principal causes cited for the decline include the intensification of agricultural practices, loss of permanent pasture, pesticide use, seed dressing (the coating of seeds with a mixture of compounds such as fungicides and insecticides) and persecution. Within the Harbour, farming practices and extent of pasture appears little changed and all trees are still in place. This seems to effectively leave pesticides or persecution.

Foraging areas

Foraging Rook numbers were 50% lower than the first survey, with every area recording a reduction in numbers.

Foraging Jackdaw numbers were 20% higher, with five areas recording a decrease and five areas showing quite a marked increase in foraging numbers.

Several key foraging areas remained in use, but three important sites that had been regularly exploited during the first survey no longer attracted any birds, most notably the Bushey area, Lytchett fields and the Frome Valley. The most concerning loss was the farmland around Bushey, from Threshers Lane to Rempstone Farm. This area of sheep and livestock pasture previously supported up to 120 Rook and 70 Jackdaw, but is now virtually devoid of corvids. It has ceased to function not only as a feeding area but also as a breeding location, with all rookeries also gone. Although some fields have since changed use and several were fallow, the overall scale of the decline suggests something more fundamental.

Another significant loss was the Lytchett Bay area. During the first survey, this site recorded the second highest corvid count, but now attracts only a handful of birds. However, much has changed since then; the large livestock field that attracted many of the birds is now set-aside, an extensive area is now under flood following the breach of the seawall, and part of what was permanent pasture is now a housing estate.

The Frome Valley also showed a marked reduction in use. During the first survey, this area regularly attracted up to 165 Rook and more than 100 Jackdaw, but in stark contrast, visits during this survey were lucky to encounter any birds at all. Only two visits produced double figure counts, the highest being 32 Rook and 45 Jackdaw. A number of stubble fields that were very popular during the first survey have since changed use, but otherwise the area appeared outwardly unchanged.

Ballard fields and downs remain the most important feeding area, although Rook counts were a little lower than in 2007/08. The largest discrepancy was in the October counts, when up to 205 birds were recorded, around 100 fewer than in October 2007. However, from late November onwards and for the remainder of the survey, numbers became more progressively more comparable, with up to 165 birds in December compared to 200 in 2007, and up to 165 birds in February compared with 187 in 2008.

In contrast, Jackdaw foraging numbers were significantly higher than the first survey, with counts between 190 and 310 birds from October to December compared to 73-125 previously. The typical seasonal decline in January and February reduced numbers to 80-100 birds, compared with just 20-40 recorded during the same period during the first survey.

The fields at Ridge remain largely unchanged, continuing to support a mix of cattle, horses and sheep to provide a reliable feeding resource for both Rook and Jackdaw. Foraging Rook numbers showed a slight decline, perhaps reflecting the decrease in breeding pairs at the rookery, whereas Jackdaw numbers showed a marked increase, with up to 80 birds recorded compared with a maximum of 30 during the first survey.

Roosts

The average roosting populations of both Rook and Jackdaw were significantly higher than those recorded in 2007/08, with Rook numbers increasing by 50% and Jackdaws by 121%.

For Rooks in particular however, these numbers are somewhat misleading, being largely an artefact of the recording boundary position. In essence, a substantial population that previously used a communal roost just outside the recording area, now use a roost a short distance within it. Namely the Norden Square Plantation, which supports a population of Rook that primarily spend their day south of Corfe Castle. That said, the Norden Square Plantation roost was abandoned in late December, but as we can see from the table below, the overall Harbour roost totals for January were still 35% higher than those recorded in 2007/08.

Table 13. Monthly average Rook roosting totals compared to 2007/08

Month	2007/08	2024/25	% increase
Oct	c780	1005	29
Nov	560	1040	86
Dec	670	1058	58
Jan	584	790	35
Average	**650**	**975**	**50**

Table 14. Monthly average Jackdaw roosting totals compared to 2007/08

Month	2007/08	2024/25	% increase
Oct	c1325	3055	131
Nov	1260	3030	140
Dec	1415	2875	103
Jan	1201	2900	141
Feb	1375	2685	95
Average	**1315**	**2909**	**121**

The increase in Jackdaw numbers is more genuinely reflective of underlying change, with a large proportion of the birds now roosting at Norden being principally Ridge and Wareham birds. These birds having originated from those that formerly used the Keysworth roost but now commute each day to and from the Ridge and Wareham area. A larger contributor to the overall increase was the significant rise in the number of Jackdaw now roosting at Pergins Island compared with the numbers previously using the original roost site at Upton Heath.

The table below compares the maximum counts recorded at each site during this survey with those from the first survey. Although, in practice only one direct comparison can be made; from the Arne roost, the table does provide a useful visual overview, allowing numbers to be compared across sites.

Table 15. Maximum roost counts for Rook and Jackdaw by site compared to 2007/08

Site	Rook		Jackdaw		Combined total	
	2007/08	2024/25	2007/08	2024/25	2007/08	2024/25
Pergins Island	0	275	0	2250	0	2525
Studland	0	220	0	490	0	710
Norden	0	320	0	350	0	670
Carey	0	270	0	2	0	272
Arne	95	115	209	285	304	400
Newton Heath	0	5	0	52	0	57
Goathorn	360	0	840	0	1200	0
Upton Heath	145	0	900	0	1045	0
Keysworth	265	0	435	0	700	0

* A singular high count of Jackdaw recorded at Norden Square Plantation during a short period of intense migration has been excluded from the table to avoid distorting the comparative analysis

During the survey, it became apparent that the same core populations of birds were still present but were now occupying different roost sites. For example, the Rooks that formerly roosted at Keysworth were those associated with the Ridge rookery, foraging in the fields at Ridge and pre-roosting at the poplars at Wareham South Bridge. However, instead of flying from there to Keysworth, they now fly to Sleepy Hollow Plantation at Carey, allowing the two sites to be regarded as representing the same population.

A similar situation occurred at Pergins Island, which effectively replaced the abandoned Upton Heath roost. The case of Goathorn was more complex, as that site had previously supported two distinct populations; one from the Studland and Ballard area and the other from the Bushey and Norden area. When Goathorn was abandoned these two populations went their separate ways, with the Studland and Ballard birds relocating to a roost closer to their breeding and foraging areas, while the Bushey and Norden birds, or what remained of them, relocated to the Norden Square Plantation.

The table below summarises these comparisons. The Arne roost is directly comparable, showing a 21% increase. The Ridge rookery population, which relocated from Keysworth to Carey, shows a slight decline in numbers, while the Studland population has increased by around 10% since the first survey, broadly in line with the increase in breeding pairs recorded there.

Table 16. Maximum roosting Rook counts compared at related sites

2007/08		2024/25		% change
Arne	95	Arne	115	+21
Keysworth	300	Carey	270	-10
Goathorn	200	Studland	220	+10
Upton Heath	145	Pergins	160	+10

**Goathorn numbers represented by Studland and Ballard birds*

Comparisons between the Upton Heath and Pergins Island roosts are perhaps a little less robust. The Rooks now foraging west of the recording area originate from the same population that formerly spent their time feeding in the Lytchett Bay and Lytchett Minster area and roosted at Upton Heath. However, it cannot be ruled out that some additional birds may have since been recruited from populations further west.

Certain comparisons can also be made for roosting Jackdaw, based on similar principles, although as we have seen, Jackdaws do not conform to such clearly defined population groups as Rooks. Again, we do have one direct comparison that can be made at Arne, where roosting numbers here increased by 36%. The number of Jackdaws using the Studland roost during this survey was also 32% higher than number from the Studland and Ballard area that roosted at Goathorn during the original survey.

Table 17. Maximum roosting Jackdaw counts compared at related sites

2007/08		2024/25		% change
Arne	209	Arne	285	+36
Goathorn	370	Studland	490	+32
Upton Heath Other areas	900 ??	Pergins	2250	a lot

The Goathorn numbers shown represent just the Studland and Ballard birds

The Jackdaw numbers at the Pergins Island roost do not lend themselves to direct comparison with those at the original Upton Heath roost, as the catchment area is now thought to be considerably larger. Notwithstanding this, a total of 2250 birds must surely include a genuine increase within the local population associated with the former roost.

The increases at Arne and the increase at Studland are broadly consistent with the 20% increase seen in overall foraging numbers. Although breeding numbers could not be determined, it seems reasonable to assume that these will have also increased.

Carrion Crow

Introduction

There is an old saying: *When tha's a rook, tha's a crow; and when tha's crows thas rooks!*

This East Anglian adage may have served well as a rustic rule of thumb for distinguishing the two species, but it doesn't always hold true in Poole Harbour. Particularly in winter, when large flocks of immature and non-breeding Carrion Crows can form. The rest of the Carrion Crow population consists of territory holding pair birds that remain within their territory throughout the year.

Mansel-Pleydell (1888) described the Carrion Crow as "abundant in the Poole estuary, where many may be seen together at low tide, feeding along its margin". Today, they can be found throughout the Poole Harbour area, occupying every habitat type from rural farmland to town centres, their omnivorous diet and flexible feeding strategies allowing them to thrive everywhere.

Carrion Crows are highly intelligent and adaptable birds, ubiquitous not only throughout Poole Harbour but across much of the northern hemisphere (where they are represented by closely related *corone* species). Their widespread distribution reflecting a long history of successful exploitation of man, often expanding their range in lockstep with the expansion of human settlement. Today, their most successful habitat by far is urban, where along with Magpies they now reach their highest population densities, supported by abundant food supplies and freedom from persecution.

Foraging areas

Carrion Crows remain one of the most successful and widely distributed bird species in the Harbour, comprising numerous territorial pairs and significant numbers of immature and non-breeding birds.

Five cohesive aggregations of over 100 birds were identified, together with two groups of over 50 and several other smaller groups.

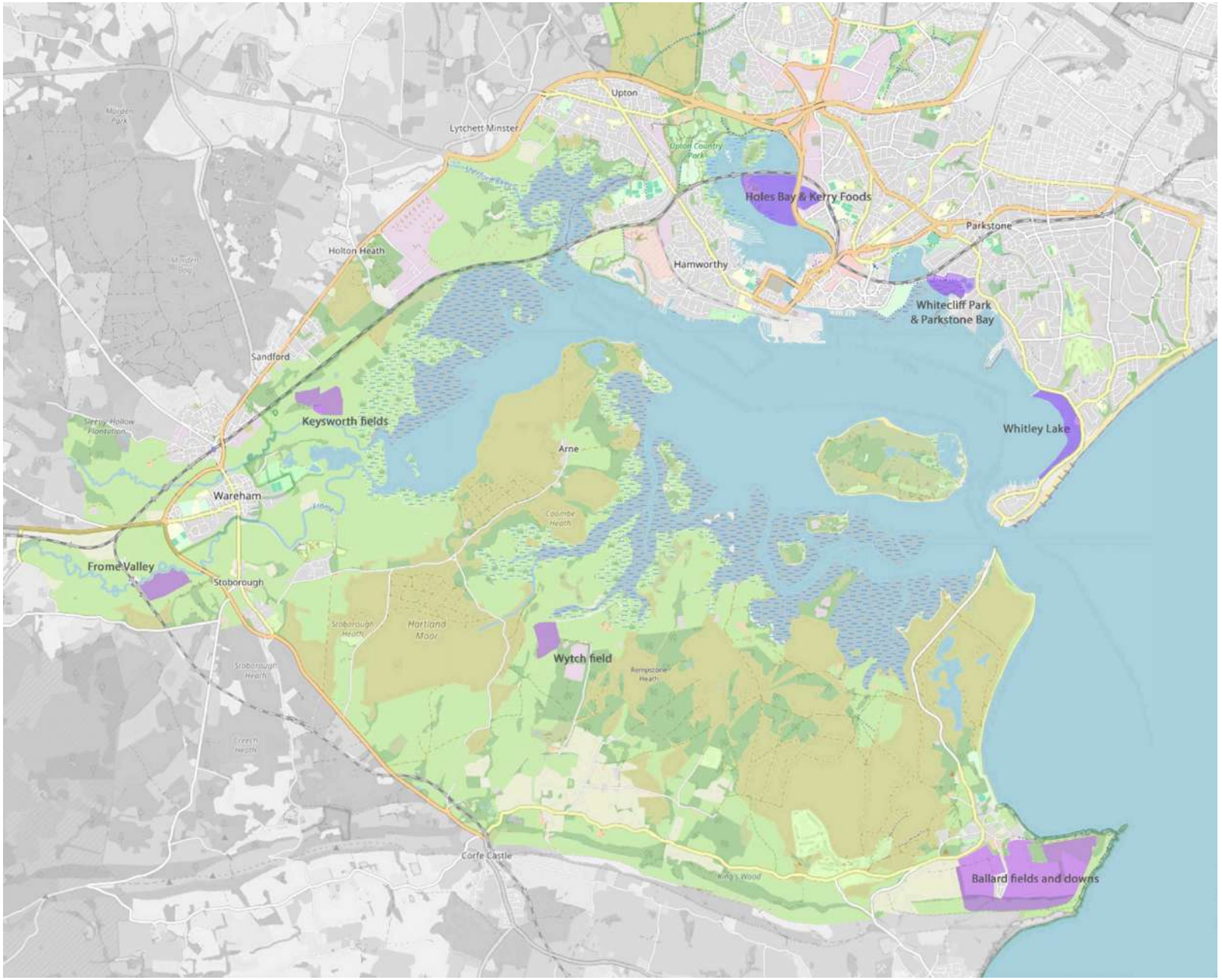
The largest of these occurred in the south-eastern Holes Bay and Kerry Foods area, where up to 130 birds were recorded.

Whitecliff Park and Parkstone Bay, another area offering both intertidal and human related food sources, attracted up to 115 birds. Numbers were highest in the early evening, when individuals from surrounding areas arrived to pre-roost gather, with daytime numbers generally around 75-85 birds.

Ballard fields and downs formed another important area, though more a series of areas, with birds here often associating more loosely, although regular aggregations of over 100 birds could form at 'hotspots' when they arose. The highest total count of foraging birds in the area was 133.

Up to 102 birds were recorded in a part of the Frome valley, centred on a couple of flooded fields, with 100+ Carrion Crows also recorded around Keysworth Sewage Works and adjacent field.

Fig 1. Important Carrion Crow foraging areas



Holes Bay south and Kerry Foods (now Pork Farms Group)

A reliable supply of discarded food near to an area of regularly exposed intertidal saltmarsh made this area particularly attractive to Carrion Crows. Up to 130 birds were recorded across the two sites, with frequent movements of birds between them.

Extensive areas of uniform mudflat are not especially attractive to Carrion Crows but the transitional zones, particularly those around the *Spartina* areas offer a lot more opportunity. The central *Spartina* here, just south of the railway line was the main focus of activity.

The jewel in the crown however was the pie factory, formerly known as Kerry Foods, where among the numerous large gulls one can find the gathered Crows, eagerly awaiting the next consignment of discarded pies. Unable to compete directly with the ravenous gulls at the bins, they patiently wait their turn, quickly moving in on anything dropped by the squabbling gulls.

If one considers the whole of the Holes Bay and Upton Country Park as an area on the basis of occasional interchange of individuals between the various sites, the highest count was 172 birds. Most of the additional birds being found around the fields and buildings of Upton Farm, occasionally visiting Upton House grounds. As a discrete area it supported up to 40 Carrion Crow.

Given the popularity of the central *Spartina* in the south of Holes Bay with up to 94 birds recorded here, it was curious that much of the rest of the *Spartina* areas in the north of Holes Bay were largely ignored, with at best only single figure counts achieved here. Some of the areas are close to the cycle path that follows the shoreline, but many are not. In addition, the fairly extensive areas of *Spartina* in the south-western sector was equally devoid of Carrion Crows although these areas are more affected by human disturbance.

Whitecliff Park and Parkstone Bay

Another area combining a regularly exposed intertidal area with a reliable anthropogenic food supply, although here not all food is discarded.

The largest and most impressive single flock gathering of Carrion Crows within the Harbour can be seen here, especially if ones coincides their visit with a particular individual who seemingly appears most afternoons with a substantial supply of food. There can be a genuine feeding frenzy here involving sometimes over 100 birds. Although the highest numbers were always achieved in the late afternoon as a consequence of the area also being a pre-roost gathering site, it was also a genuinely important daytime feeding site, with the regularly exposed transitional intertidal area in the bay alone often attracting up to 85 birds.

Even at high tide up to 20 birds could still be found on the seaward side of the seawall, picking at whatever might be lurking among the patches of moss and decaying seaweed. The grass lawn was also an important source of natural food, with up to 74 birds recorded. The highest count for the whole area was 115, on a late November afternoon.

The birds here were by no means always actively foraging, with much time also being spent loafing around the bordering trees, particularly those beside the car park. Although seemingly inattentive, the birds were always alert to the chance appearance of some discarded food.

A strip of grass with scattered shrubs between the car park and the main road appeared to hold a particular attraction. Groups of birds were often present here, never feeding and frequently just stood about, often unusually close together. No idea why.

Keysworth Sewage Works and adjacent field

Another area supporting over 100 birds. Here time was divided between hanging around the sewage works, the surrounding trees and foraging in the field behind. Total numbers were only discernible during a flush event, but at times up to 80 birds could be visible in the trees.

Ballard fields and downs

As noted earlier, more an conglomeration of sites, with the whole area supporting a population of around 170 birds that distributed themselves amongst the various favoured areas. The areas themselves subject to change.

The highest daytime day count achieved for the area was 133 birds.

Areas of concentration varied throughout the survey period, but one permanent pasture livestock field immediately south of the roost wood was always occupied by at least some birds, if not more. Typically, around 20-30.

One of the main attractions was the large set-aside field at the eastern end of the peninsula, which regularly held up to 45 Carrion Crows. As with the Rooks and Jackdaws, the birds here were difficult to see within the extensive cover, only becoming fully visible when flushed, although there were always birds visible on the boundary fence posts, with often every one taken.

The downs directly south of Glebelands regularly attracted 20-30 birds, sometimes within very small specific areas of interest, the nature of which was not always apparent. During the lambing season, which began here in early October, interest was high, particularly around a feeding area some 500 metres west of Glebelands where most of the sheep and lambs were concentrated. Up to 60 Carrion Crow could gather here.

Carrion Crows also love freshly ploughed fields. During the course of the survey, several fields were ploughed. The first, the large field immediately east of the Glebelands lane, attracted the highest numbers of birds, with up to 92 present here. Later, another field to the west of the lane was ploughed attracting up to 60 birds, while a further field immediately east of Warren Wood attracted up to 56 birds.

Towards the end of the day, two or three pre-roost gatherings would typically occur, the locations of which dependent on which fields were popular for foraging at the time. The largest single gathering was 152 birds.

Frome Valley

Most of the Frome Valley was occupied only by territory holding pairs, but there was one site where the local immature birds were able to gather. A rather specific area, lying on the southern side of the valley immediately east of the railway line, comprising a single field and an adjoining area of floodplain, where up to 102 birds could be found. The floodplain area was the main focus of activity, although being surrounded by much of the same

habitat, the specific attraction of this particular part was not entirely clear, although it was particularly waterlogged. There was also a conveniently placed stand of tall poplars that offered a safe loafing area and quick retreat in the event of disturbance.

In addition, at the time of the highest count, a further 20 birds were recorded north of the river, mainly around Worgret Manor Farm. The trees here also served as the principal pre-roost gathering point for all these local birds.

Curiously, very few birds other than the territory holding pairs were encountered west of the railway line. An arable field just north of the floodplain attracted up to 18 birds.

Wytch field

This large winter livestock field, as we have seen, was very popular with the Rooks and Jackdaws, it was also popular with Carrion Crows with up to 60 birds present here during midwinter.

Whitley Lake

An extensive area of largely homogeneous mudflat, typically attracting 20-25 birds, usually thinly scattered across the area. A high count of 51 here was particularly noteworthy.

Fitzworth intertidal area

A few scattered *Spartina* islands amongst the intertidal areas provided a little bit more habitat variety here, with a high count of 28 birds in January.

Holton Lee livestock field

Another muddy livestock field popular with the Rooks and Jackdaws, also attracted up to 20 Carrion Crows.

Arable field west of Threshers Lane

Up to 16 Carrion Crows here just after it was ploughed.

Kingswood Farm livestock field

Until late January, strangely devoid of Carrion Crows at this formerly popular site. Midwinter saw the arrival of a few birds with a maximum count of 12

New Mills Heath

Up to 12 birds foraged here, all concentrated around the winter cattle feeding area at the far western end.

Corfe Valley livestock field

Up to 10 birds frequented this small muddy cattle field in midwinter.

Shell Bay

Up to 9 birds present.

Other intertidal areas

With the kind help of WeBS count volunteers, several additional midwinter intertidal counts of Carrion Crows were obtained.

The highest counts from the most popular sites were as follows:

Ham Beach, Rockley up to 11 birds

Arne Bay up to 10 birds

Wytch Channel up to 9 birds

Hamworthy shore up to 9 birds

Brands Bay up to 8 birds

Newton Bay up to 7 birds

Holton Bay north up to 7 birds

Roosts

Unlike Rook and Jackdaw, communal Carrion Crow roosts consist largely of immature and non-territory holding birds. Many are shared with other corvids, though some can be entirely Carrion Crow.

Determining roost numbers is also problematic. Carrion Crows are the last birds to go to roost and the first birds to leave in the morning, resulting in most of their flights taking place in near darkness. They also do not depart as a single coordinated group but tend to slip out singly or in pairs. Or as the mellifluent Mark Cocker puts it, 'The manner of their exit is also much more sombre...[compared to] ...the joyous throng of the gathered Rooks and Jackdaw...A few gruff notes are all that gives their departure away, while the birds themselves appear as little more than silent shapes hugging the edge of darkness. They have about them an indefinable aura of guilt, like convicts stealing silently away under the cover of night'.

Thermal imagers can be of help at exclusively Carrion Crow roosts but not at mixed species roosts where separation from Rook is not possible.

Roosting numbers can sometimes be approximated from nearby late afternoon pre-roost gatherings. However, attempts to assess a roost population based on the number of birds known to be feeding locally are unreliable, as recent studies have shown that some immature and non-breeding birds do not use their local communal roost, choosing instead to roost in small exclusive groups.

Results

Three large communal roosts were identified. At Pergins Island, Manor Farm Wood, Studland and a site north of Luscombe Valley.

None of the large communal roosts identified during the first survey in 2007/08 were still active.

Pergins Island

Used by the local Holes Bay birds. During the first survey, birds that foraged in Holes Bay travelled to a communal roost on Upton Heath, where they joined some of the Carrion Crows that had spent their day feeding at the now closed Beacon Hill Landfill. Following the closure of that site, many of these birds dispersed from the area. At some later point, the Holes Bay birds abandoned Upton Heath and established a new roost on Pergins Island, together with the Rooks and Jackdaws who did likewise. Being a shared roost, for the reasons outlined in the introduction, it was not possible to determine the number of Carrion Crows roosting here. However, there were pre-roost gatherings, the largest of which was 150 birds, in the northeast sector of Holes Bay.

Manor Farm Wood, Studland

This roost was formed by birds that abandoned the communal roost at Goathorn. The reason for the desertion of Goathorn was not apparent, but as at Pergins Island, all three corvid species that had shared it, relocated together to the same replacement site, this one at Studland. Numbers of Carrion Crows using the roost could not be reliably determined, although several pre-roost gathering counts were made, the largest comprising 152 birds.

Parkstone Golf Club grounds

This roost was established following the desertion of the Luscombe Valley site, following some significant clearance work there. A Magpie roost was also deserted. During the first survey, a large proportion of the 130 or so Carrion Crow from the Baiter area roosted at Luscombe Valley. These birds now use the neighbouring Whitecliff Park area, as mentioned previously, but near nightfall many still headed out eastward, although now on a slightly more direct easterly bearing, to a large stand of conifers within the private grounds of Parkstone Golf Club.

Newton Heath

Located within the conifer plantation in the north-eastern part of Newton Heath. Numbers could not be accurately determined but the roost was very modest in size. Up to 20 birds pre-roost gathered nearby, at the far south-eastern corner of Greenlands, where it adjoins Godlingston Heath, before departing north-west across the heath toward the conifers.

Fig 2. Distribution of communal winter Carrion Crow roosts

Smaller communal roosts

In addition to forming large communal roosts, a recent study (Jiguet & Gantien 2025) found that immature urban Carrion Crows may also roost in small groups, sometimes as few as two birds. Despite their immaturity, these can involve paired individuals, with Carrion Crows capable of forming pair bonds at an early age, often feeding and roosting together.

Many such roosts no doubt exist within the urban areas here, but probably impossible to detect, except by chance. For example, following a Magpie roost count in February, on the walk back in the near darkness a group of 12 Carrion Crow were sighted in a tree directly above the pavement, anywhere else and they would have gone undetected. This may well have been their actual roost tree, though more likely they were roosting a little further into the wood where it backed onto a much quieter area.

Roosts beyond the recording area used by Carrion Crows frequenting the Harbour by day

Northport Heath

The roost site here was estimated from triangulated commuting flightlines to lie within a block of conifers near the centre of the heath. Most birds approached either directly from the south or on a broader front from the south-east.

The main source of birds arriving from the south was the Frome Valley population discussed earlier. Toward the end of the day these birds gravitated north toward Worgret Manor Farm to gather in the bordering trees. Up to 95 birds could gather here before making their way north again to the roost. It could not be confirmed whether all birds went this way, with birds still there after it was too dark to see, but they probably did.

Comparisons with the 2007/08 survey

Population numbers and foraging areas

Foraging Carrion Crow numbers were 23% higher than the first survey in 2007/08.

Two of the three principal feeding areas identified during the first survey no longer attracted any birds. The most important of these, Beacon Hill Landfill is now closed, but the abandonment of the Baiter Park area that attracted up to 115 birds is more difficult to explain. The remaining key site of Holes Bay is as popular as ever.

As with Rook, Jackdaw and Magpie, use of winter livestock fields showed a decline, although there remains plenty of interest in the intertidal and saltmarsh areas, where foraging numbers were slightly higher than the first survey.

With regard to Baiter Park, the most curious aspect is that all birds have relocated to an identical habitat just around the corner at Whitecliff Park, itself almost devoid of birds during the first survey. And it gets curiouser, with the maximum count at Whitecliff Park of 115 and just 6 birds at Baiter Park exactly mirroring the 115 birds at Baiter Park and 6 birds at Whitecliff Park recorded during the first survey.

During that first survey it was unclear as to what particular advantage Baiter Park offered over neighbouring Whitecliff Park, with both areas providing an area of open grass, exposed intertidal and a car park full of people discarding food. Today it is equally unclear as to why the situation has now reversed. The only change evident since the first survey has been a significant increase in the number of people and dogs, but this has occurred at both sites.

Foraging numbers at Holes Bay were also remarkably similar to those recorded during first survey, with a coordinated high count of 167 birds during this survey compared with 172 previously. There were however some distributional changes. Gone were the significant counts of Carrion Crows in the north-east sector, with only single figure counts both there and in the north-west sector. The south-east sector now accounts for a substantial proportion of the population.

One area showing a clear increase in numbers was Ballard fields and downs, where foraging numbers have increased quite markedly since the first survey, with larger gatherings also evident. The big loser was Lytchett Bay and fields, an area that has seen significant changes since the first survey, with large areas now under flood, a new housing estate and a change of use at a formerly favoured livestock field.

Differences in foraging numbers at these and other sites are shown in the table below. Twelve areas recorded an increase in Carrion Crow foraging numbers, two showed no change and 6 areas recording a decrease in numbers.

Table 1. Maximum counts of Carrion Crow at foraging areas compared (Green indicates an increase; Red indicates a decrease)

Site	2007/08	2024/25	+ /-	+ /- %
Holes Bay	167	172	5	3
Ballard fields and downs	70	133	63	90
Baiter / Whitecliff	115	115	0	0
Whitley Lake	39	51	12	31
Kingswood Farm fields	37	12	25	68
Frome Valley	67	100	33	49
Knoll Farm, Soldiers Road	38	0	38	100
Lytchett Bay and fields	31	4	27	87
Fitzworth intertidal area	18	30	12	67
Keysworth fields	40	100	60	150
Wytch field	20	60	40	200
Holton Lee field	12	20	8	67
Threshers Lane arable field	0	16	16	100
New Mills Heath	9	12	3	33
Shell Bay	9	9	0	0
Greenlands	10	8	2	20
Threshers Lane livestock field	0	10	10	100
All other intertidal areas	70	95	25	36
Bestwall Meadows	12	4	8	67
Norden farm fields	10	0	10	100
Total	**774**	**951**	177	23

The former landfill at Beacon Hill is not included in this table. The site no longer forms part of the Poole Harbour recording area, but this is not the reason for its omission. For strict comparability, logic would suggest that it should be included. If it were, the comparable population total for this survey would in fact be 11.5% lower than the original survey rather than 23% higher, with the increases in foraging Carrion Crows seen at the 12 sites assumed to be simply the result of extra birds displaced from the now closed site.

However, observations and supporting studies strongly suggest that this is not the case. Birds that foraged at Beacon Hill showed strong site fidelity to areas north of the Harbour recording area, seldom venturing south, with many departing northwards at the end of the day to roost at Stony Down Plantation. Most of these birds would have been immature or juvenile birds, known to disperse only short distances from their natal areas. Any birds that may have dispersed southward would probably have been limited to the nearest sites, yet Holes Bay the most obvious recipient shows no discernible increase in Carrion Crow numbers, with highest count during this survey very close to 2007/08. Another possible recipient, Lytchett Bay, which may have at the time received a few Carrion Crow, has since shown a marked decline in foraging numbers.

The sites that have shown increases in foraging numbers, such as Ballard fields and downs, Wytch and Keysworth are distant unrelated sites, strongly supporting the conclusion that these numbers represent a genuine population increase.

Magpie

Introduction

With its distinctive plumage and conspicuous behaviour, the Magpie is one of most recognisable and familiar British birds. Naturally associated with farmland and woodland habitats, with its generalist diet, opportunistic feeding and tolerance of human presence, it is now just as at home in urban and suburban habitats. Magpies are exclusively sedentary and show high site fidelity, with young birds dispersing only short distances from their natal areas.

Although not a naturally flocking species like the Rook or Jackdaw, loose associations of local non-breeding birds can form where they share a home range. These associations can be advantageous at concentrated food sources, where collective defence helps against larger corvids, in particular Carrion Crows who can be particularly aggressive towards Magpies.

Pulteney in his *Catalogues of the Birds...of Dorsetshire* (1799) described the Magpie as "This omnivorous and mischievous bird is but too common". In 1888 Mansel-Pleydell described them as "Much persecuted by gamekeepers on account of its asserted partiality for young game and eggs". Persecution was indeed intense and by 1933 Blathwayt, in his *Revised list of the Birds of Dorset,* described the situation somewhat differently: "Persecution has made it scarce in some districts". By this time, the Magpie population had already reached its lowest point and had begun to recover, helped by the reduction in gamekeeping pressure during the First World War when many gamekeepers were conscripted. A similar situation occurred during the Second World War, after which prevailing attitudes shifted toward greater tolerance.

During the 1960s, the ever-expanding population of inquisitive and opportunistic birds began venturing into the edges of towns, finding parks and discarded food items to their liking, before inevitably moving into our towns and other densely populated urban areas.

With a reliable supply of discarded food, a steady supply of natural food and little persecution, the population increased dramatically between the mid-1960s and the mid-1980s, rising by around 140%. The growth was driven largely by urban and suburban populations, though population increases were recorded across all habitats. By the 1990s, the population stabilised, presumably reaching some sort of carrying capacity within the urban areas . Meanwhile, rural populations were now being constrained by the widespread adoption of the Larsen trap for predator control, which greatly increased mortality. From 1995 to 2023, BTO data indicated a 1% rise in the UK Magpie population.

Magpie breeding densities are now higher in urban areas than in their traditional woodland and farmland habitats. In 2000, Green noted that the limited available information suggested the Dorset population had remained largely stable since the 1980s. Since then, a little more insight has been gained, thanks largely to the efforts of Ewan Brodie, who from 1995 began regularly monitoring the communal winter roost at Hatch Pond, counts that are still maintained by others today. The numbers show the roosting population to have markedly increased, rising by 150% to 2023.

Since the first count here of 74 birds, which established a new Dorset record, Hatch Pond has remained the most important winter roost site for Magpies in Dorset, and possibly southern England.

Foraging areas

Introduction

The Magpie's traditional habitat is open countryside and farmland, particularly livestock pasture, where its preferred food of insects and other arthropods is most abundant. Depending on the season, various grains, fruits and carrion can also form an important part of their diet. For urban and suburban populations, as long as there is at least some grass to provide insects and arthropods, the rest of their diet can be readily obtained from other sources.

Unlike Rooks, Jackdaws and non-breeding Carrion Crows, Magpies do not habitually flock to feed. Territory holding pairs typically forage within their own territories. Immature birds, although not holding territories themselves, do have a defined home range, typically about three times larger than a territory, which will contain a number of birds. In the absence of concentrated food sources, Magpies are happy to feed alone but more localised resources can attract loose aggregations. When a particularly rich food source becomes available, others will arrive and birds may gather, but there is little cohesion. However, enter a Carrion Crow and their demeanour will change, when they will join forces to overwhelm the Crow.

Another feeding scenario involves a territorial pair that allows a single immature bird, typically one of their own young, to remain within the territory to feed. Knowing how vigorously a pair of Magpies can defend their territory, encountering three Magpies feeding together can often prompt the question, if there is only one pair of birds per territory, what are three Magpies doing together? Well, now you know.

Results

Territory holding Magpies were still found to be widespread throughout the Harbour, but foraging flocks were rarely encountered. Even in favourable habitats, such as muddy livestock fields rich in prey items, only one or two birds were seen. Their scarcity was not due to the lack of suitable habitat, with many such fields available throughout the Harbour.

The largest feeding aggregation recorded was actually in a rather unremarkable looking sheep field at Hartland Stud, regularly attended by about five birds, with a peak count of 8 in midwinter.

The highest count from a winter livestock field was 6 birds, in the cattle field next to Bog Lane, just west of Stoborough. The only other instances involving more than three birds were of four birds, recorded at two different grain storage barns.

Perhaps the most interesting encounter involved two birds foraging on the rocky intertidal area at Bramble Bush Bay.

No foraging aggregations of Magpies were observed in any of the urban green spaces, with all encounters involving just single or pair birds.

Roosts

Introduction

Magpies can form large winter communal roosts. As with all roosts, safety and shelter are the principal requirements. A typical roost site is located within dense bushes or small trees overhanging water, with birds using the bushes closest to the water's edge or, better still, any standing in the water. The site should be sheltered on at least one side from the prevailing winds, perhaps by a thick belt of conifers or dense woodland, and ideally within some sort of natural hollow or depression.

The roost is largely made up of young and non-territory holding birds, although territory holding pairs can also be present. Whether such pairs join the roost depends on the availability of a suitable roosting site within their own territory. In urban areas where territories are smaller, such sites can be scarce. In addition, on mild, calm nights, a local roosting site may suffice, but during colder or windier conditions birds will more likely be obliged to use the communal roost. As a result, numbers at winter roosts can often fluctuate from night to night.

Magpies also form pre-roost gatherings, typically at sites very close to the roost. The process begins well before dusk, with some birds leaving their foraging areas two or more hours beforehand. This is not due to particularly long distances being involved, but rather the protracted nature of their journey. Magpies seldom make long, direct flights, preferring instead to travel in a series of short flights, with journeys to the roost often involving a pause to forage at each stop.

The pre-roost site is typically a small open area with at least one stand of prominent bushes, where gathering birds can alternate between perching in the upper branches and foraging on the ground below. The scene is invariably lively, with constant vocalisation and restless movement among the branches, their high spirits often erupting into brief chases. As dusk approaches, the activity subsides with all birds then settling together in the bush tops before later making the typically short flight to the roost site.

Unlike other corvids however, this final flight is not always a structured event, with birds typically leaving randomly. At smaller gatherings, most birds will tend to leave together, although it is more a follow-my-leader, rather than a cohesive flock. Even here, there are always one or two birds that don't leave, making their way in their own good time. As with other corvids, arrival at pre-roost sites occurs later during the shorter winter days, with birds also spending less time engaging in social interaction before heading to the roost.

Also, unlike Rooks and Jackdaws, the arrival of Magpies at the roost site does not mark the end of socialising, with birds here often picking up where they left off at the pre-roost site. In fact, at some sites, the immediate area of the roost bushes is the pre-roost gathering area. In either case, there is much activity, vocalisation and general restlessness before the birds eventually settle down once more. Once the decision to roost is made, however, the move down into the denser lower bushes is decisive.

Rural territory holding pairs, without access to bodies of water, typically select dense and ideally thorny bushes for roosting.

Results

Nine communal roosts containing 10 or more birds were identified, along with several other smaller sites. All roosts were monospecific.

The four largest roosts were located in urban settings, the largest of these at Hatch Pond. Three were situated within dense vegetation associated with a body of water.

A count of 232 birds at Hatch Pond on 30th January 2025 represents the highest documented Magpie roost count at time of writing, not just in Dorset but also in southern England.

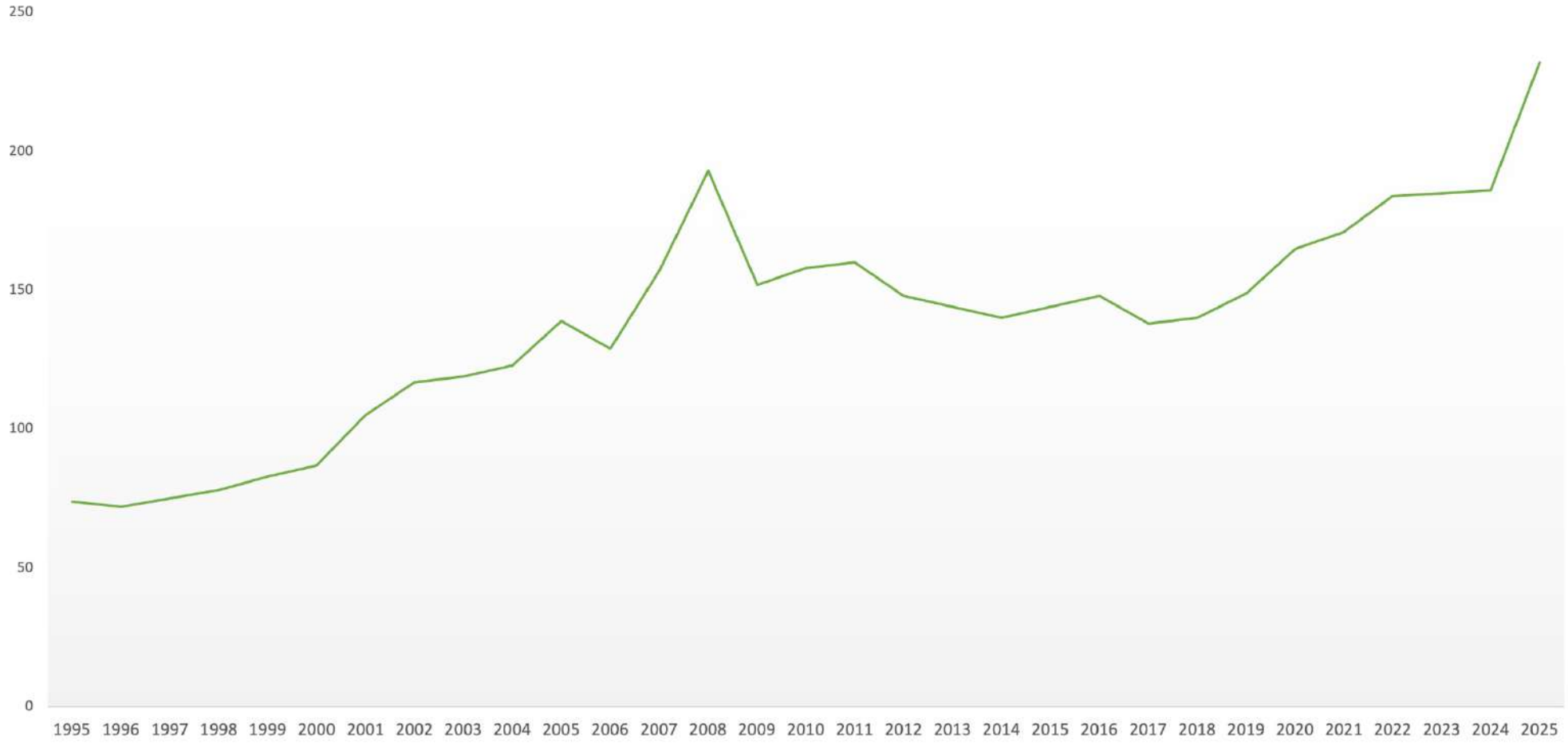
Hatch Pond

A natural body of water fringed by dense vegetation and bordered on its western side by a belt of pines, provides an important roosting area within an otherwise entirely urban landscape. The roost was first documented in 1995, although it had almost certainly been in use earlier. The count that year was 74 birds, a new county record, with regular counts from 2000 onwards continuing to increase the record. The count that year was 87 birds, followed by 105 birds in 2001, 139 in 2005 and 157 in 2007. In 2008, the first corvid survey took the record count to 193 birds.

That figure proved exceptional, perhaps reflecting a particularly good year, as subsequent counts between 2009 and 2017 did not exceed 160. More recently however the upward trend has resumed with 165 birds coming into roost in 2020, 171 in 2021 and 184 birds in 2022.

The chart below shows the roost's progress since 1995. Despite a dip in numbers during the 2010s, possibly reflecting reduced observer effort, the overall trajectory since 1995 is clear.

Fig 1. Annual maximum counts of roosting Magpies at Hatch Pond (1995-2025)



During this survey, roosting numbers increased steadily from October through to late January. The first count in mid-October recorded 89 birds, but by mid-November this number had leapt to 186. A modest increase to 198 during the midwinter period raised concerns that the landmark total of 200 might not be achieved. However, these doubts were soon dispelled when on 31st January no fewer than 232 birds were counted in. A visit on 11th March recorded 214 birds still present.

Given the largely uniform urban surroundings, one might have expected arrivals from all directions, however, this was found not to be the case. The overwhelming majority of the birds approached along flightlines with a westerly component, a small number came in from the south and only a handful of birds arrived from the east.

Birds approaching from the south, could often be watched bush and tree hopping their way from the industrial estate, crossing the road at the western end to reach nearby bushes, before completing the final leg to the roost trees. The latest arrivals however did tend to take the more direct route, diagonally across the pond. Birds approaching from the west could not be observed at all until they appeared at the back of the bordering trees.

Pre-roosting

No pre-roost gathering site was evident for this roost, with birds instead arriving independently to gather in and around the wooded area bordering the western side of the pond. Anywhere up to 100m either side of the roost bushes could be initially settled, although settled is not really the correct term. As observed at other sites, the birds here were constantly restless, with frequent vocalisation and movement between trees, often escalating into brief chases. Regular flights away from the area were also observed, typically by single birds, most heading eastward across the lake. The destination of these flights could not be determined, but birds later heading in from that direction most likely involved these individuals.

The first arrivals could appear up to 80 minutes before dusk, allowing plenty of time for pre-roost activity. For the next 20-30 minutes still only a trickle of birds, before the rate begins to quicken. From here, there was either a steady stream of birds until most had arrived, or a slower rate of arrival followed by a pronounced surge around 10 minutes before sunset. In both cases, most birds had arrived by 5-10 minutes after sunset.

Only then did the birds begin to form a more cohesive group, gradually concentrating in a few particular trees near the back of the pond. A few tardy individuals continued to arrive for up to a further 15 minutes. Around 10-20 mins after sunset, the assembled birds drop down into the denser bushes that extend to the water's edge. Once initiated, the process of entering the roost is relatively swift.

Ham Lake, Hamworthy

Ham lake recorded the second highest number of roosting Magpies, reaching 43 towards the end of January.

A sheltered pond within a semi-urban area, lying in a natural hollow surrounded by mixed heathland and bordered by an army camp on one side and a holiday camp on the other. The immediate habitat surrounding the lake provided a variety of trees and bushes suitable for pre-roost activities. The main pre-roost site was rather ideal, a stand of tall bushes on a small tumulus, enclosed within a fenced perimeter. All of the first arrivals initially gathered here.

Were this a Rook pre-roost gathering, one could have sat comfortably and counted them all arriving, before they all departed together in one group, in an orderly fashion to the roost trees. Not so the independent minded Magpies, these birds are far from disciplined and not at all regimented in their routine, with all sorts of unruly troops among their ranks, creating what can only be described as organised chaos.

As numbers steadily build up, some birds are quite still, others are busying. A couple then fly down and settle in the gorse below, a few more arrive in, while a few more go to the gorse. Then some birds from the perimetered area fly across to bushes near the edge of the lake, a few join them from the gorse area, whilst still more birds continue to arrive in. More birds fly to the edge of the lake, until some of these then decide to fly back to the perimetered area where they started from etc... The temporary gathering sites, however, were not random, with the same locations being consistently

used. Meanwhile, later arrivals are now gathering in tall trees a couple of hundred metres to the northwest. They later make their way to the perimetered fence area before catching up with the others who have finally managed to form a single cohesive flock. This was usually within the wooded area a couple of hundred metres west of the pond.

Here the lively, almost holiday atmosphere continued, with much vocalisation and high spirits as the birds charged about the wood. Eventually, however, the evening catches up with them and they begin to settle in a large tree at the lake's north-western edge. All is now quiet and, as darkness falls, the birds quietly move into the dense bushes overhanging the pond.

Sterte railway cutting

Up to 42 birds recorded here.

Not a pond roost this time but situated within a sheltered area of trees on the side of a railway cutting, itself bordered by a thick belt of trees. The discovery of this site was somewhat unexpected, given its fairly close proximity to Hatch Pond and the number of birds that place pulls in. Its existence was first suspected when some of the birds at Fleets Lane were observed flying south toward the end of the day rather than north towards Hatch Pond, only 1300m from here.

Flights were followed to a noisy pre-roost gathering in roadside trees at the southern end of Stanley Green Road near the railway bridge. Another variation here on the pre-roost routine, with some of the earliest arrivals already moving to the vicinity of the roost trees well before many of the other birds had arrived at the pre-roost site. Consequently, half the birds would be assembled at the pre-roost site and the other half around the roost trees. Gradually the balance shifted as more birds made their way to the roost trees.

Curiously, during the later stages of the routine, a few birds would fly out from the roost trees, as seen at Hatch Pond. Most did turn around and come back but a few carried on and did not return, an odd time to decide to roost elsewhere.

Swineham gravel pits

Up to 41 birds roosted here.

The roost was located in a dense stand of carr vegetation at the water's edge in the north-west corner of the main gravel pit, sheltered on one side by woodland. Observation here was difficult, with the recently planted perimeter trees intended to restrict viewing, doing their job.

There were, however, occasional windows of opportunity when the wind direction and conditions were favourable, allowing birds to gather high up in the trees just above the roost, where they could be readily counted. Most other conditions rendered them obscured, but several counts were obtained.

The pre-roost gathering area lay to the north, on the opposite side of the Piddle Valley, centred on an isolated bush at the edge of the floodplain just southeast of Keysworth Sewage Works. The first birds appeared here a little over an hour before sunset, after which, as at all other pre-roosts, a combination of perching, foraging and chasing about ensued. Up to 22 birds gathered here. Most arrived from a westerly direction, with a few also from the north at Keysworth.

Birds arriving from the west could be followed as they progressed down the valley, typically moving from bush to bush before eventually converging on the pre-roost site. Interestingly, for those travelling from the southern side of the valley, the flight to the pre-roost site took them further way from their ultimate destination. Some birds even flew past the roost area before turning northward across the valley to join the pre-roost gathering. As we have seen with other corvid gatherings, the willingness of Magpies to fly out of their way in this manner, strongly suggests that these assemblies do confer some form of social benefit that is not outwardly apparent.

Departure from this site was reasonably synchronised. Birds did not leave simultaneously, more of a chain reaction with one bird leaving immediately triggering another and then another in rapid succession, to such a degree that they almost formed a group, but not quite. The bird that prompted the departure, however, was not necessarily the first bird to leave, with quite often the first one or two birds leaving not being followed. How the particular individual that was followed was determined is something perhaps for a future doctoral thesis to discover! As always, Magpies being Magpies, there were always one or two birds that didn't follow, choosing to leave in their own good time.

It was also interesting to watch how, as the birds made their way across the floodplain toward the roost site, any later arriving birds that were heading for the pre-roost site, on seeing that they had already left, quickly adjusted their course to intercept them and join the procession.

Not all birds using this roost gathered at the pre-roost site. Several flew directly to the roost area, mostly those arriving from the west but south of the Piddle Valley, with two or three birds also arriving directly from the south-east, crossing over the main gravel pit.

Hamworthy Substation, Holes Bay

Up to 34 birds roosted here

An area of dense trees and bushes bordered by shoreline on one side and a substation on the other, in the far south-west corner of Holes Bay.

The pre-roost gathering site lay just across the road, centred on a large stand of bushes, within the fenced waste ground of the former power station. With the area completely undisturbed, birds could arrive here at their leisure and spend some time foraging. Over time, individuals gradually gravitated toward an area of bushes in the middle of the site. Numbers soon build up, until around 15 to 18 birds are restlessly moving about the tops of the bushes. The first birds leave here as early as 45 minutes before sunset and head across to the substation area to continue their socialising closer to the roost. Unlike at the Piddle Valley site, departures here were random, with birds typically leaving singly. Most gathered in the trees bordering the substation or along the fence line, while on particularly calm evenings a few settled high up on the pylons. Lower down, there were the usual pre-roost activities until all birds were concentrated in the taller trees at north-eastern corner of the substation. From here it was a brief descent into the dense bushes directly below.

Upton Country Park

Up to 28 birds here

During the first survey, the roost site was located in bushes overhanging the main pond, sheltered from the prevailing winds by an embankment and a thick belt of trees. Pretty ideal, but for some reason the birds have relocated. There are no obvious signs of disturbance or habitat change at the original

site, suggesting the new location may just be even more ideal! And it could well be, being situated within an impenetrable area of flooded woodland carr. From memory, this area may not have been flooded during the first survey which may explain the pond location being favoured at the time.

From around 80 minutes before sunset, the first arrivals could be seen approaching in their characteristic manner, with short flights punctuated by foraging stops. Interestingly, one or two birds came in across Holes Bay, or at least across half of it, presumably from Pergins Island rather than having flown over from further east.

There was no specific pre-roost gathering area for this site. Instead, birds just gravitated to the general area, before meeting up with others to form small parties that charged about the area picking up other birds or flocks as they went. Eventually one noisy flock forms and as dusk approaches they eventually settle in the tops of a couple of trees. From here it was just a short flight and descent into the dense bushes in the middle of the flooded carr.

Wareham Common

Up to 12 birds roosted here

Located in dense bushes beside the railway embankment, where the line crosses the River Piddle near Baggs Mill.

One of a number of smaller rural roosts found. Although the highest count was 12, it typically attracted 8-10 birds. A small pre-roost gathering site was also identified, a clump of isolated bushes at the far north-east corner of the floodplain, around 250m from the roost. Up to 6 or 7 birds assembled here before later making their way toward the roost area.

Roost entry here was particularly difficult to follow. The process being not at all cohesive, with birds entering the roost, then some coming back out, followed by more birds in and less back out, until no more came out.

Upton Heath

6-10 birds.

An unusual location with no water or railway lines involved.

Situated on the southern boundary of the now retired Beacon Hill Landfill, a very sheltered and densely vegetated hollow, protected on one side by a large raised bank. Perhaps there was some water lurking within the impenetrable depths of the hollow, but it was something not considered sufficiently worthwhile knowing to risk finding out!
The site was very conveniently placed for Magpies that foraged at the tip when it was active, but it was a surprise to find some birds still roosting here during this survey, long after the site had been covered over. Particularly, considering the lack of any other suitable local foraging areas, with heathland lying immediately to the south. Nevertheless, a few birds continued to make the journey to roost here, with one or two undertaking quite lengthy flights across the heath before reverting to hedge-hopping for the final approach. A very small gathering could occur in the grassy area at the edge of the roost copse, involving mostly foraging, before the birds made their way deep into the undergrowth.

Piddle Valley

8- 10 birds

An area of dense bushes overhanging the river. A seemingly unremarkable stretch of riverside vegetation along a river bordered most of its length by bushes. However, the key was its position at the head of a meander loop, effectively creating an island like promontory enclosed on three sides by water. This site has been in use since the first survey. Most birds came in from the south or south-west, disappearing into the adjacent wood before reappearing at the roost site. Occasionally, one or two birds could be seen making their way along the bush line from the west, with one or two more making the trip from the Sandford Lane Industrial Estate on the other side of the valley.

Melancholy Lane, Stoborough

Up to 9 birds

An area of dense bushes beside a brook running between two livestock pasture fields near Melancholy Farm. Birds here typically gathered along the top of a dividing hedge near to the wooded brook. Interactions and gatherings were often brief and quite loose, but there was certainly a sense of gathering, albeit without any strong cohesive behaviour, typical of many of these smaller roosts. Individuals here decided independently when to enter the roost.

Ridge Wharf

Up to 7 birds

An area of dense riverside vegetation within a small wood beside the River Frome. Four or five birds regularly appeared toward the end of the day in the field bordering the roost wood, before later moving into the wood itself. Most birds approached from the south, from the direction of Ridge. This site was also active during the first survey, then attracting up to 14 birds.

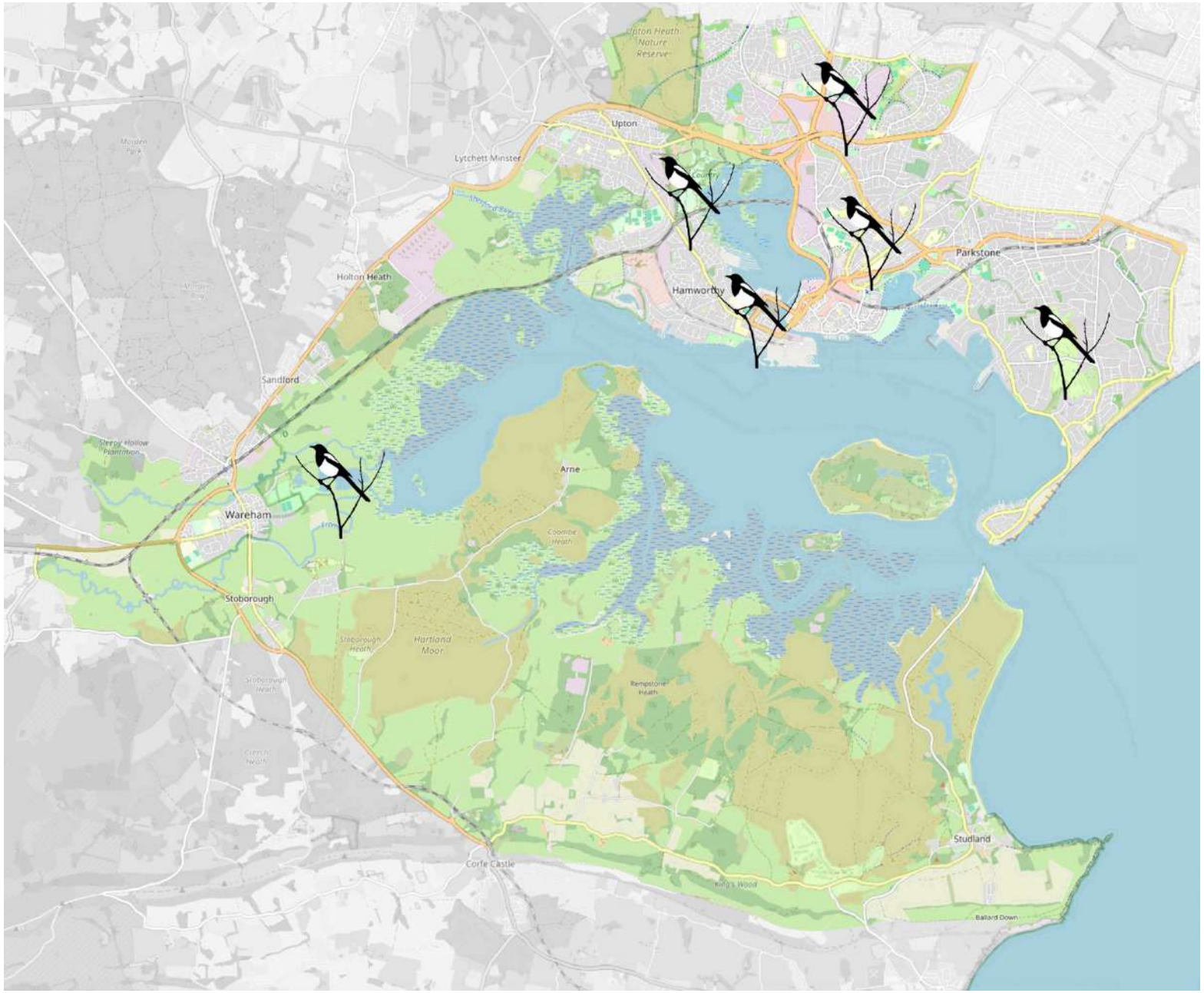
Middlebere area

6 birds

Situated at the southern end of Middlebere immediately west of the track. The exact position of the roost could not be determined, the whole area comprising a patchwork of wet heath, *Juncus* and scattered bushes on largely waterlogged ground. A few birds gathered on the tops of a nearby hedgerow, with some interaction amongst the birds before they disappeared further into the area in the failing light.

The distribution map below shows the biased distribution of the larger Magpie roosts toward areas of human habitation.

Fig 12. Distribution of communal winter Magpie roosts containing over 25 birds



Comparisons with the 2014/15 survey

The population of urban roosting Magpies at directly comparable sites was 51% higher than in the 2014/15 survey, whereas the population of directly comparable rural roosts was 86% down. Quite remarkably, these two opposing trends completely cancelled out each other, resulting in both surveys ending up with the same total number of roosting birds. Every urban roost that was still active increased in size, while every rural roost had lost birds.

Two additional roosts were identified during this survey. With these included, the overall total of roosting birds recorded was 22% higher than in 2014/15. However, the extent to which these represent a genuine population increase is uncertain as it cannot be completely ruled out that these sites existed during the first survey but went undetected.

Several roosts active in 2014/15 were no longer in use. The largest of these was at Luscombe Valley, an area that has since undergone clearance work. An alternative roost was located somewhere within the private grounds of Parkstone Golf Club but could not be surveyed. Another significant roost just beyond the recording area, south of Norden Farm, which previously held up to 42 birds, was also gone. Despite extensive searches, no replacement site could be found.

The table below compares the maximum roost counts recorded during this survey with the maximum counts from the first survey.

Table 1. Maximum roost counts for Magpie by site compared to 2014/15 (Green indicates an increase; Red indicates a decrease)

Roost site	2014/15	2024/25	% change
Exclusively urban			
Hatch Pond	144	232	61
Hamworthy Substation, Holes Bay	25	34	36
Upton Country Park	26	28	8
Ham Lake, Hamworthy	12	43	258
Poole Park	16	0	-
Total	**223**	**337**	51
Exclusively rural			
Middlebere	15	6	60
Ridge Wharf	14	7	50
Norden Farm	42	0	100
Newton Heath	20	0	100
Total	**91**	**13**	86
Other roosts			
Upton Heath	48	10	79
Piddle Valley	8	10	25
Total	**56**	**20**	64
Totals combined	**370**	**370**	**0**

Newly identified roosts			
Sterte railway cutting	-	42	
Swineham gravel pits	-	41	
Wareham Common*	-	(12)	
Total roosts	**370**	**453**	22

** The Wareham Common roost is included within the table for completeness, but is not included within the totals for comparison as it was not in the recording area during the first survey.*

Roosts containing fewer than 10 birds are excluded from this analysis, their small size making their detection unreliable, leaving it impossible to know whether any were overlooked during either survey.

The former roost at Luscombe Valley is not included in the figures, the replacement site being located within private grounds and not able to be surveyed.

None of the five sites that attracted the largest foraging gatherings during the first survey held any aggregations of birds this time. Two can be readily explained: Beacon Hill Landfill is now closed, while the livestock field near Hartland Stud that previously attracted up to 15 birds is now a campsite, although alternative livestock fields nearby failed to attract any birds.

The livestock field at Upton Country Park, which formerly supported up to 10 Magpies, recorded only the resident pair during this survey. Similarly, the Arne cattle fields, with no more than two birds here also.

There were other livestock fields around the Harbour, but apart from 6 birds in the cattle field on the north side of Holme Lane, only territory holding pairs were encountered.

It should be noted, however, that encounters with territory holding birds seemed, if anything more frequent than during the first survey, although it was obviously not possible to gather quantitative data on this.

From these results, it would be easy to assume that the rural birds have simply relocated to the urban areas. However, the processes involved for each population are independent. Numerous studies have shown Magpies to be highly sedentary, with juveniles dispersing only short distances from their natal areas. While a few birds in the more intermediate zones may have gravitated toward the edge of towns, for example, it would be wrong to infer that all the rural Magpies have simply upped sticks and moved to the urban areas for a better life. Although studies have shown that they do have a better life. The advantages of urban living, abundant food sources, milder microclimates and freedom from persecution, as touched upon earlier, are helping the urban Magpie population to flourish.

The declines recorded in both rural roosting and feeding encounters cannot be so easily explained. It is true that persecution still occurs, but is it any higher than in 2014? That is impossible to say. It may be that the situation is not actually as bad as it appears. Communal roosts and feeding aggregations are dominated by immature and non-territory holding birds but the overall population is far from dominated by such birds. Most are adults and encounters with territory holding pairs were considered more frequent than during the first survey.

Could it be that food is so abundant that immature birds no longer have to gather at one particular site? Could it be that more otherwise non-territory holding birds are able to find a viable territory? Or are there genuinely fewer birds within the traditional mixed farming areas, with the lack of aggregations down to discouragement. The crash in rural roosting numbers also needs explaining. Perhaps the rural population of Magpies is declining.

Raven

Introduction

Poole Harbour's breeding Raven have been covered in a previous survey. For full details of their ecology and history in the Harbour see *Breeding Raptors and Raven of Poole Harbour* (2022). Eleven territorial pairs were identified.

The Raven population comprises breeding pairs that occupy year-round territories and immature and non-breeding birds that roam more widely, often forming loose flocks and making use of communal roosts. Ravens can be encountered anywhere within the Harbour but are most likely to be seen flying somewhere.

In winter, Ravens rely more heavily on carrion than other corvids, but like other corvids they will also take grain and other vegetable matter. Coastal birds can also make use of additional shoreline food sources.

Outside the breeding season, pairs can range well beyond their territories in search of food, relying on vision rather than smell to locate carrion.

Results

In light of the increase in the breeding Raven population seen since the first survey in 2007/08, hopes were high of finding a roving group of immature birds or perhaps a winter communal roost. Sadly, neither were forthcoming.

Encounters were however far more frequent than during the first survey, with regular sightings of territorial pairs patrolling their areas or single birds, usually in flight, though occasionally found feeding.

All assemblages encountered were aerial. The largest involving 10 birds that briefly gathered over Nutcrack Lane, Stoborough on 14th October. The event began with what was presumably, a territorial dispute between two pairs, the intensity of which, over the next few minutes managed to attract the attention of a further six birds. Four of these arrived as pairs, the other two were singles, all coming from different directions. Given how quickly they all appeared on the scene and the extent of a Raven's territory, it would seem unlikely that all these pairs held territories. Immature birds are known to form pairs early in life and roam around together and not all paired adults will necessarily have a territory. Unless of course Nutcrack Lane by chance happens to be at the junction of four neighbouring territories.

Such encounters are typically short-lived and only for a brief moment were all 10 birds together in the air, the last two to arrive leaving soon after. The remaining eight birds continued to circle for a few more minutes before they all gradually lost interest.

The second highest count of the survey also came from Nutcrack Lane, on 3rd March, with an aerial gathering this time of six birds, perhaps having another boundary meeting. The event beginning with two pairs circling and calling, attracting in turn another two birds, each from a different direction.

With the survey period overlapping the Raven's breeding season, attention was also given to recording all observed pair activities. Some of this behaviour was noted early as October, including males taking food offerings to their partners. All areas that held breeding pairs in 2022 were confirmed to still contain a pair of birds. In addition, apparently paired territory holding birds were also observed several times in a number of areas where they had not been observed during the previous survey, at least with any regularity.

Most noteworthy was the welcome return of a pair of Raven at Ballard Down. It was also interesting to note that on more than one occasion during the autumn, three or four birds were seen heading away from the cliffs at first light, strongly suggesting that they had roosted there.

In February, two Raven were observed on several occasions, interacting within the belt of conifers near the end of the lane to Swineham Farm. What was presumed to be the same pair were also seen performing a *pas de deux* over Bestwall Marshes just to the south, but unfortunately were not seen again.

Along with other independent observers, a pair was regularly encountered around the Hamworthy Substation and Rigler Road area, with two birds also seen going to roost in nearby trees in January. Although they could not be monitored further, the pair is believed to have bred here in the summer (*Holes Bay Nature Park Birds & Wildlife Report,* 2024)

Two other birds were observed showing an interest in a stand of conifers near the Lake Pier car park at Ham Common, on at least one night, both roosted here. Another pair was regularly encountered in the Longfleet and Sterte area, often settling on stanchions around Poole Stadium.

Several roost related flights were also observed, all presumed to relate to the same roost site, thought to lie somewhere to the west-north-west of the recording area, possibly within the Great Plantation. Evening flights recorded during the 2007/08 survey also indicated a roost here. Observations during this survey involved birds travelling west or west-north-west along the Frome Valley beyond Holme Bridge, or west along the Piddle Valley.

Conclusions and discussion

Macgillvray (1837) observed that 'the Ravens...breed in the same spot year after year; but it seems strange that although they have a numerous brood, their numbers in any particular district does not appear to increase'. It is now understood that the young of the year are eventually driven off by the territory holding adults (along with any other birds), who then join up with other ejected birds, in areas largely free of established territories.

Given the healthy population of territory holding pairs in the south of the Harbour, it was perhaps unsurprising that no roving flocks of immature birds, nor indeed any communal roosts were encountered during this survey. Especially considering the presence of an established winter communal roost just beyond the recording area with Ravens happy to travel considerable distances to roost. The northern half of the Harbour supports only a small Raven population, insufficient for an additional communal roost.

Postscript

In July, independent observers reported flocks of 20+ Raven roaming the area around Carey, in the north-west corner of the recording area, including one loosely associating flock numbering at least 50 birds. It seems very likely that this is where most of Poole Harbour’s immature birds are ending up. It may also help to explain the western bias in the aerial gatherings recorded during the survey.

Jay

Introduction

Being a notoriously shy and elusive species, solitary by nature and not given to communal roosting, the Jay could not practicably form part of this survey. Nevertheless, several interesting observations were made incidentally while surveying the other corvids.

Jays are a common, if thinly distributed resident within the Poole Harbour area. Historically they have been regarded as 'a constant resident' since the earliest accounts, although they have suffered from some persecution, largely due to their reputation for damaging fruit crops.

Continental populations are prone to autumn eruptions when acorn crops fail. During such events, significant numbers of birds can enter the country, where they can quite often be encountered in open areas rather than within the usual cover of woodland.

The highest Poole Harbour count was 55 birds north at Studland on 25th October 1983, more recently 48 passed through South Haven on 16th October 2005.

Results

There was evidence of a small influx of birds just before the start of the survey with 8+ birds observed around the Bushey area on 2nd October, four of them feeding together in a maize field. On the same day, two birds were seen flying north over Ballard Down. Just prior to this, four birds also flew north over Ballard Down on 28th September.

Perhaps of greater significance, however, were observations made at several Magpie roosts. There are no published references to Jays associating with Magpies at pre-roost gatherings or using their roost sites, but this was observed during this survey.

The phenomenon was first noticed at the Hamworthy Substation Magpie roost on Rigler Road, where at least two Jays were seen entering the roost bushes on more than one occasion, while the Magpies were preparing to drop down into the same bushes.
Further observations on 27th November recorded three different individuals calling from the vicinity of the roost trees around 10 minutes before roosting time. Although they were not observed entering the roost on that occasion owing to Magpie watching commitments, they were assumed to have roosted here.

At least one Jay was also seen associating with the Magpies at the pre-roost gathering site on the former power station wasteground. It was first observed crossing the open area to join the assembled birds at the clump of bushes in the middle of the site. While the Magpies perched conspicuously on the tops, the Jay preferred to stay much lower down. It was later seen making its way toward the substation roost area.

At the Sterte railway cutting roost, a Jay was seen joining the Magpie gathering in the pre-roost bushes near the railway bridge, around 25 minutes before sunset. As at the substation site, it much preferred the lower parts of the bushes below the Magpies. The bird was later lost from view but may well have also joined these birds at their roost.

Although not a communal roost, a pair of territory holding Magpies that used a dense area of bushes beside the Corfe Valley Fishing Lake were, on at least one occasion joined by a Jay. It approached independently from the other side of the lake, making its way through the bushes until entering the densest vegetation closest to the water. Not exactly in the same place as the Magpies but close by.

At the southern end of Middlebere, where five Magpies had pre-roost gathered in and around a patch of isolated bushes within the waterlogged area, a Jay flew in, clearly targeting this particular bush. It remained in the lower parts for a while before being lost to view, it's ultimate destination quite possibly the same as the Magpies.

At Ham Lake, at least three Jays were noted interacting with the roving pre-roosting Magpies within the wooded area, although it could have been the other way around, with the Magpies just generally annoying the Jays. This was very close to the roost site, but there was no evidence that the Jays were roosting at the Magpie roost, with none later seen there. However, given the density of the vegetation and the Jays' more inconspicuous manner, it could not be ruled out.

Despite an extensive search of UK and European sources, no published accounts were found of Eurasian Jays roosting within, or immediately adjacent to communal Magpie roosts. Our observations of Jays associating with pre-roosting and roosting Magpies may therefore represent previously overlooked behaviour.

Bibliography

Alexander, H.G. (1933) The Rook population of the Upper Thames region. Journal of Animal Ecology, 2.

Balmer, D.E. et al. (2013) *Bird Atlas 2007–11: The Breeding and Wintering Birds of Britain and Ireland.* BTO Books, Thetford.

Birkhead, T.R. (1991) *The Magpies: The Ecology and Behaviour of Black-billed and Yellow-billed Magpies.* Poyser, London.

Birding Southern Medway (n.d.) Magpie roosts.

Blathwayt, F.L. (1933) A revised list of the birds of Dorset. *Proceedings of the Dorset Natural History and Archaeological Society*.

Blathwayt, F.L. (1946) A revised list of the birds of Dorset. *Proceedings of the Dorset Natural History and Archaeological Society*.

Boys, J.V. (1973) Checklist of the birds of Dorset 1972. *Proceedings of the Dorset Natural History and Archaeological Society*.

Brenchley, A. (1984) *Regional variations in the breeding distribution of the Rook (Corvus f. frugilegus L.) in relation to differing agricultural regimes within Great Britain.* PhD thesis, University of Aberdeen.

Brenchley, A. (1986) The breeding distribution and abundance of the Rook (*Corvus frugilegus* L.) in Great Britain since the 1920s. *Journal of Zoology*, 210(2.

BTO (n.d.) *BirdFacts.* British Trust for Ornithology.

Burkitt, J.P. (1936) Young Rooks, their survival and habits. *British Birds*, 29, pp. 334–338.

Chiron, F. & Julliard, R. (2010) Responses of songbirds to Magpie reduction in an urban habitat. *Journal of Ornithology*, 151.

Clayton, N.S. & Emery, N.J. (2007) The social life of corvids. *Current Biology*, 17(16).

Cocker, M. (2007) *Crow Country.* Jonathan Cape, London.

Coombes, F. (1978) *The Crows.* Batsford, London.

Coombs, C.J.F. (1961) Rookeries and roosts of the Rook and Jackdaw in South-West Cornwall. Part I: Population, distribution and rookeries. *Bird Study*, 8(1).

Coombs, C.J.F. (1961) Rookeries and roosts of the Rook and Jackdaw in South-West Cornwall. Part II: Roosting. *Bird Study*, 8(2).

Dibnah, J.J. (2021) *Collective decision-making in Jackdaw winter roosts.* PhD thesis, University of Exeter.

Dorset Bird Club (1986 onwards) *Dorset Bird Report.* Dorset Bird Club.

Dorset Natural History and Archaeological Society (1949–1985) *Reports on birds / Bird Reports.* Dorset Natural History and Archaeological Society.

Dunnet, G.M., Fordham, R.A. & Patterson, I.J. (1963) Ecological studies of the Rook (*Corvus frugilegus*) in north-east Scotland. *Journal of Animal Ecology*, 32(3).

Green, G. (2004) *The Birds of Dorset.* Christopher Helm, London.

Green, P.T. (1982) *Coloniality in the Rook (Corvus frugilegus).* PhD thesis, University of Edinburgh.

Gregory, R.D. & Marchant, J.H. (1996) Population trends of Jays, Magpies, Jackdaws and Carrion Crows in the United Kingdom. *Bird Study*, 43(1).

Gyllin, R. & Källander, H. (1976) Roosting behaviour of the Jackdaw *Corvus monedula* at Örebro, Central Sweden. *Ornis Scandinavica*, 7(1).

Holes Bay Nature Park (2020-2024) *Birds & Wildlife Report.* Holes Bay Nature Park.

Holyoak, D. (1971) Movements and mortality of Corvidae. *Bird Study*, 18(2).

Ientile, R. (2014) Year-round use of large communal roosts by Black-billed Magpie *Pica pica* in an urban habitat. *Avocetta*.

Jadczyk, P. (1994) Winter roosting of Rooks *Corvus frugilegus* in Wroclaw. *Acta Ornithologica*, 29(1).

Jiguet, F. & Gantin, C. (2025) Fission–fusion dynamics and spring movements in first-year Carrion Crows (*Corvus corone*) challenge the efficiency of culling strategies. *Scientific Reports*, 15(1).

Jones, E.L. (1972) The bird pests of British agriculture in recent centuries. *Agricultural History Review*, 20(2).

Kamburova, N.T. (2004) Magpie (*Pica pica*) population density and habitat distribution in the city of Sofia. *Acta Ornithologica*, 39(1).

Khadraoui, M. & Toews, D.P.L. (2015) The influence of environmental cues and anthropogenic activity on roost departure times in the Northwestern Crow (*Corvus caurinus*). *The Wilson Journal of Ornithology*, 127(4).

Lack, P. (1993) *The Atlas of Wintering Birds in Britain and Ireland.* Poyser, London.

Ling, H. et al. (2019) Behavioural plasticity and the transition to order in jackdaw flocks. *Nature Communications*, 10.

MacGillivray, W. (1837) *A History of British Birds*, Volume I. London.

Mansel-Pleydell, J.C. (1888) *The Birds of Dorsetshire.* London.

Marzluff, J.M. & Angell, T. (2005) *In the Company of Crows and Ravens.* Yale University Press.

Møller, A.P. (1985) Communal roosting in the Magpie *Pica pica*. *Journal für Ornithologie*.

OpenStreetMap (n.d.) Data © OpenStreetMap contributors.

Orton, W.D. (1948) Studies of the Raven in Scotland. *Scottish Naturalist*, 60.

Prendergast, E.D.V. & Boys, J.V. (1983) *The Birds of Dorset.* Dorset Natural History and Archaeological Society.

Pulteney, R. (1799) *Catalogues of the Birds, Shells, and Some of the More Rare Plants of Dorsetshire.* London.

Ratcliffe, D. (1997) *The Raven.* Poyser, London.

Richner, H. & Heeb, P. (1996) Communal roosting in birds: the role of information. *Animal Behaviour*, 52(5).

Šálek, M., Grill, S. & Riegert, J. (2020) Nest-selection of an avian urban exploiter, the Eurasian Magpie (*Pica pica*) across the urban–rural gradient. *Journal of Vertebrate Biology*, 70(1).

Sonerud, G.A., Hansen, H. & Smedshaug, C.A. (2002) Individual roosting strategies in a flock-living bird: movement and social cohesion of Hooded Crows (*Corvus corone cornix*) from pre-roost gatherings to roost sites. *Behavioral Ecology and Sociobiology*, 51.

Swingland, I.R. (1976) The influence of light intensity on the roosting times of the Rook (*Corvus frugilegus*). *Animal Behaviour*, 24(1).

Tast, J. & Rassi, P. (1973) Roosts and roosting flights of wintering Jackdaws *Corvus monedula* at Tampere, Finland. *Ornis Fennica*, 50(1).

Vogrin, M. (1998) Density and flock size of the Magpie *Pica pica* on the agricultural landscape during winter period. *Ornis Svecica*, 8.

Wernham, C.V. et al. (2002) *The Migration Atlas: Movements of the Birds of Britain and Ireland.* Poyser, London.

Yapp, W.B. (1951) The population of Rooks (*Corvus frugilegus*) in West Gloucestershire. II. *Journal of Animal Ecology*, 20(2).