# ROOF-NESTING GULLS IN WORCESTER

SURVEY CONDUCTED 2nd – 8th MAY 2024
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FOR WORCESTER CITY COUNCIL

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## EXECUTIVE SUMMARY


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| 2. | The increase since the survey in 2022 is 58 pairs (5.1%), or at 2.55% per year. The Worcester population has increased at a mean rate of 29 pairs per year. | Page 4 |
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## INTRODUCTION

Wind and rain, plus a little bit of sunshine characterised the 2024 survey! The major advantage for the 2024 survey, however, was using a 33m platform and with judicious positioning, exceptional views of breeding areas were possible. The two platform operators (Smart Platform Rental Ltd) were very helpful and rather interested in what was going on. One said that this was the best day he'd had for ages!

Many thanks to Mark Cox for commissioning the survey and particular thanks to Gordon Dugan for organising many of the things vital to successful surveys.

The survey, as in 2022, encompassed the whole of Worcester which was split into six sectors defined by main roads and obvious landmarks (see table 1 and map submitted in 2020) and named (albeit somewhat arbitrarily). These do not correspond to wards because ward boundaries often do not fit the areas where gulls breed. Estimates for wards are included in this report.

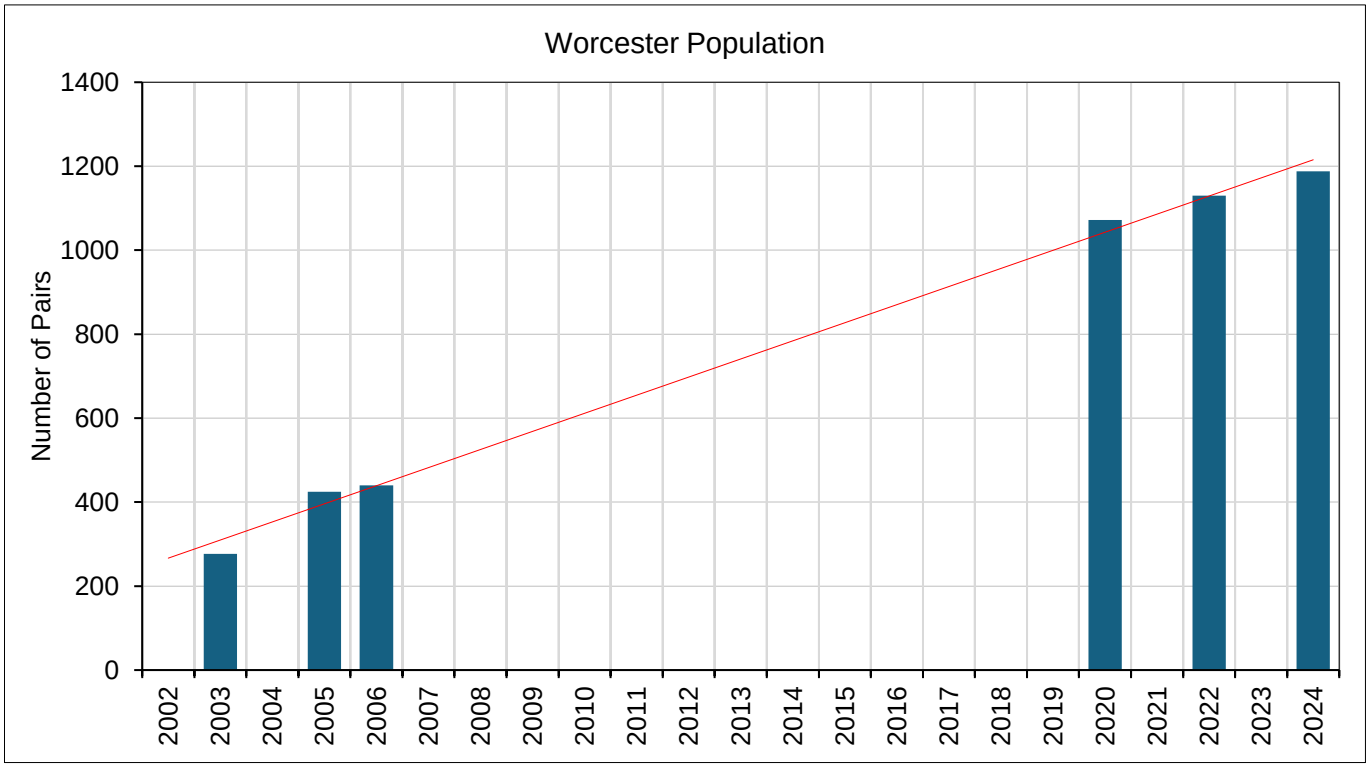
# SURVEY RESULTS

## From observations of occupied nests and other procedures, it is estimated that the urban gull population of Worcester is between 1,129 and 1,247 pairs with a presumed figure of 1,188 pairs.

### COMMENT ON THE 2024 SURVEY FIGURES

Coincidentally, the Worcester population rose by 58 pairs between 2022 and 2024 – exactly the same increase noted between 2020 and 2022. The increase percentage, because of the larger total, drops from 5.4% to 5.1%.

**Figure 1.** The development of the Worcester colony 2002 to 2024.



## The population total is broken down as follows:

**Table 1.** The urban gull population of Worcester by sector (shown as breeding pairs).
**Legend: HG**=Herring Gull counts, **LB**=Lesser Black-backed Gull counts, **Nom**=nominal total
**HGN**=Herring Gull Nest counts, etc.

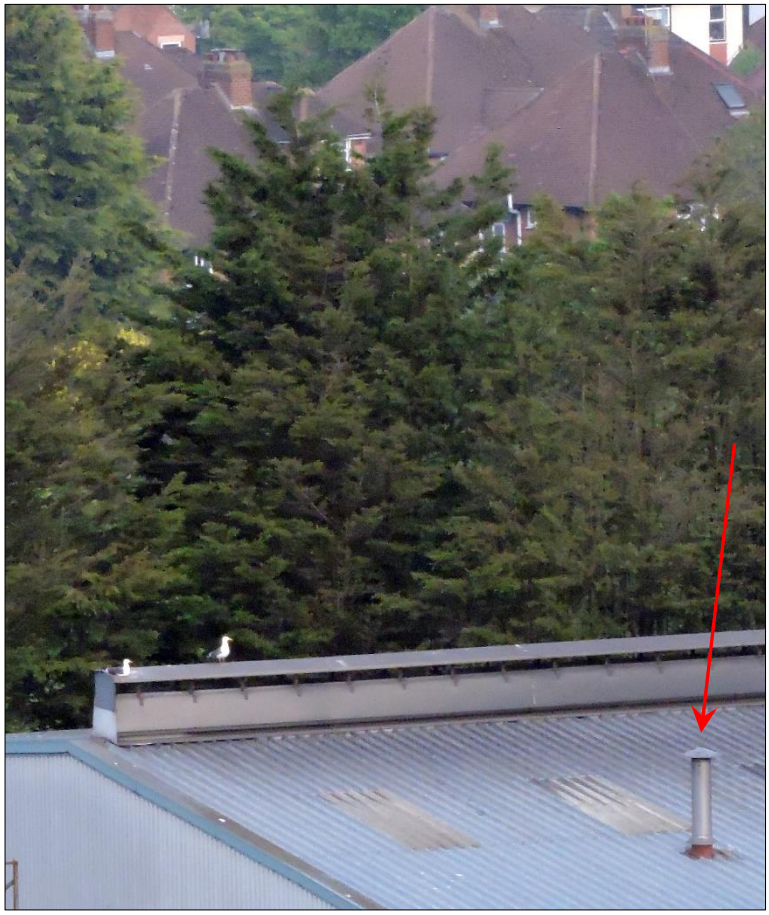
| 2024 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **SITE** | **Sector** | **HG** | **HGN** | **LBB** | **LBN** | **HG Pairs** | **LB Pairs** | **Nom** |
| 1 | Blackpole 1 | 139 | 47 | 505 | 144 | 69 | 307 | **376** |
| 2 | Blackpole 2 | 81 | 25 | 245 | 59 | 48 | 167 | **215** |
| 3 | Barbourne | 6 | 2 | 52 | 11 | 3 | 25 | **28** |
| 4 | Shrub Hill | 87 | 38 | 168 | 48 | 42 | 78 | **120** |
| 5 | Centre | 160 | 58 | 335 | 91 | 61 | 220 | **281** |
| 6 | West Side | 66 | 16 | 318 | 48 | 35 | 133 | **168** |
| | | | | | | | | |
| | | **539** | **186** | **1623** | **401** | **258** | **930** | **1188** |

As ever, the Blackpole Trading Estates, West and East (1&2) support almost half (49.7%) of Worcester's breeding gulls followed by the Centre (5) at 23.6%.

Large roofs, particularly those with gentle slopes, usually provide ample opportunities to position nests securely. Asbestos, as here, is especially favoured. Not only does it have skylights and other structures, it also has (possibly) hundreds of projecting bolts used to connect the asbestos sheets. This is a roof which has certainly been colonised for some years – the green tinge results from gull faeces and wind-blown dust in the first instance which then becomes an excellent growing medium for mosses and successionary growth of other plant species. Old nests become very fertile and can become covered by lush vegetation. Several such nests can be seen in this photograph.

In 2024 some small increases and decreases were noted, but there have been no large variations in breeding numbers anywhere in Worcester. A steady, but small increase is how the development of the colony can be characterised after two years. It remains to be seen whether or not this pattern persists.

This photograph shows part of a small trading estate on the Droitwich Road. There was no evidence of breeding on this occasion, but when gull pairs spend time together, as here and left, below, it suggests that the site is being given consideration.



Having adapted to living in town both species have reasons to be cautious. In contrast to undisturbed, rural locations, whilst this behaviour can be observed, it is far more common in urban colonies. This is because of the proximity of human activity and, essentially, the gulls are simply waiting to see what happens. If the roof remains undisturbed, they may attempt to breed.

In these cases, the Lesser Black-backed Gull pair, left, may be viewing the space behind the flue, arrowed, but this is not at all clear even though this kind of nest location is quite common in trading estates in many urban colonies.

The Herring Gull pair, above, sitting on the extractor, on the other hand, appear to be eyeing the space directly below the extractor which would seem to present a perfect nesting opportunity.

Herring Gulls will often situate nests below roof plant or other structures.

When a nest box is available (and uncontested), Herring Gulls, in particular, will take it over.

This nest box (with its nestcam) can only have been designed for Peregrine Falcons.

And here, under a vent, the nest is well-hidden.

A Herring Gull nest on an exposed Chimney stack and another between flues.


In the wild, Herring Gulls tend to be cliff-nesters whereas Lesser Black-backed Gulls are dune-nesters. These tendencies are often reflected in the choice of nest sites in town.

It should be said that Herring Gulls will also place nests on roofs where there is no possibility of hiding nests. Perhaps, the behavioural tendency to hide nests is beginning to fade in town.

## SPECIES SPLIT

The Worcester colony, as in 2022, is dominated by Lesser Black-backed Gulls.

**Table 2.** The urban gull population of Worcester by sector (shown as breeding pairs).
**Legend: HG**=Herring Gull, **LB**=Lesser Black-backed Gull, **Nom**=nominal total
**Split**= ratio by which Lesser Black-backed Gulls outnumber Herring Gulls
**HG% and LB%**=Percentage of each species within the population of each site and subsite

| SITE | Sector | HG Pairs | LB Pairs | Nom | Split | HG% | LB% | 2022 % Diff |
|---|---|---|---|---|---|---|---|---|
| **1** | Blackpole 1 | 69 | 307 | 376 | **4.4** | 18.4% | 81.6% | 3.0% |
| **2** | Blackpole 2 | 48 | 167 | 215 | **3.5** | 22.3% | 77.7% | -5.7% |
| **3** | Barbourne | 3 | 25 | 28 | **8.3** | 10.7% | 89.3% | 12.0% |
| **4** | Shrub Hill | 42 | 78 | 120 | **1.9** | 35.0% | 65.0% | 37.9% |
| **5** | Centre | 61 | 220 | 281 | **3.6** | 21.7% | 78.3% | -3.4% |
| **6** | West Side | 35 | 133 | 168 | **3.8** | 20.8% | 79.2% | 25.4% |
| | | | | | | | | |
| | **Totals** | **258** | **930** | 1188 | **3.6** | **21.7%** | **78.3%** | 5.1% |
| | | | | | | | | |
| **SUBSITE** | **Sector** | **HG Pairs** | **LB Pairs** | **Nom** | **Split** | **HG%** | **LB%** | **2022 % Diff** |
| **6a** | Wick | **5** | **8** | 13 | **1.6** | 38.5% | 61.5% | 160.0% |
| **6b** | Bromyard | **14** | **53** | 67 | **3.8** | 20.9% | 79.1% | 26.4% |
| **6c** | BBC | **7** | **29** | 36 | **4.1** | 19.4% | 80.6% | -35.7% |
| **6d** | University | **9** | **43** | 52 | **4.8** | 17.3% | 82.7% | 160.0% |
| | | | | | | | | |
| | **Totals** | **35** | **133** | **168** | **3.8** | 20.8% | 79.2% | 25.4% |

## NOTES ON TABLES 2 & 3

**Table 3.** The differences in breeding numbers between 2022 and 2024 in each sector.
**Legend: Diffs 22-24**=Increases and decreases in breeding numbers

| | Sector | Diffs 22-24 |
|---|---|---|
| **1** | Blackpole 1 | **11** |
| **2** | Blackpole 2 | **-13** |
| **3** | Barbourne | **3** |
| **4** | Shrub Hill | **33** |
| **5** | Centre | **-10** |
| **6** | West Side | **34** |
| | | |
| | **Total** | **58** |

There are some marked, though not large, differences between 2022 and 2024

- A slight increase in Blackpole1 and a slight decrease in Blackpole2 could be as a result of the huge net on the Eastbrook distribution centre. It is very possible that there has been a small movement of breeding activity from Blackpole2 to Blackpole1.
- Increases of 33 and 34 pairs in the Shrub Hill and West Side sectors are the largest noted in 2024. Both sectors had been growing in numbers in 2022 and have continued to grow.

Breeding numbers in Colony A (i.e. Worcester) and in all urban colonies fluctuate as a consequence of a range of factors. These will include:

- Redevelopment (i.e. the demolition of 'gull roofs'); new builds usually take time before they are colonised.
- Installation of large roof nets in Colony A (as above). Other deterrence systems have little effect at the population level.
- Displacement of birds in surrounding colonies by redevelopment or netting and relocation to other urban colonies.
- Breeding success in Colony A three or four years prior to assessments (i.e. when first time breeders recruit back into Colony A). Three year old birds breed commonly in urban colonies.
- Breeding success in surrounding colonies and even in colonies at considerable distances with first time breeders recruiting into Colony A (particularly females).
- Breeding failure in Colony A and elsewhere resulting in divorce between pairs; one or both partners will relocate either within Colony A or to another urban colony.
- The death of one partner may also result in relocation.

N.B. Herring and Lesser Black-backed Gulls are long-lived (longevity records of almost 35 years for each) and if problems occur, they will not give up on breeding. Displacement always results in relocation. In short, the development of all urban colonies is dynamic; it is to be expected that fluctuations will be seen. To put this another way, displacement simply moves the problems around…

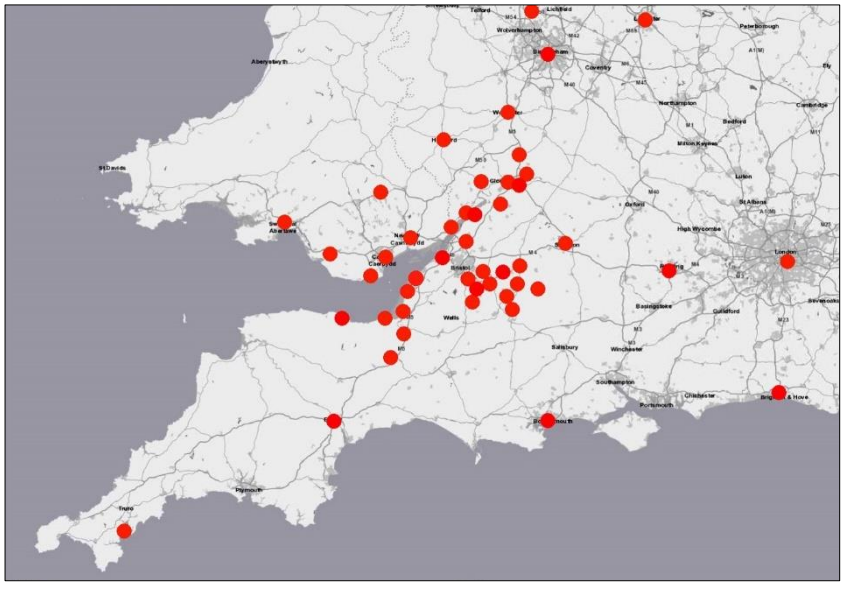
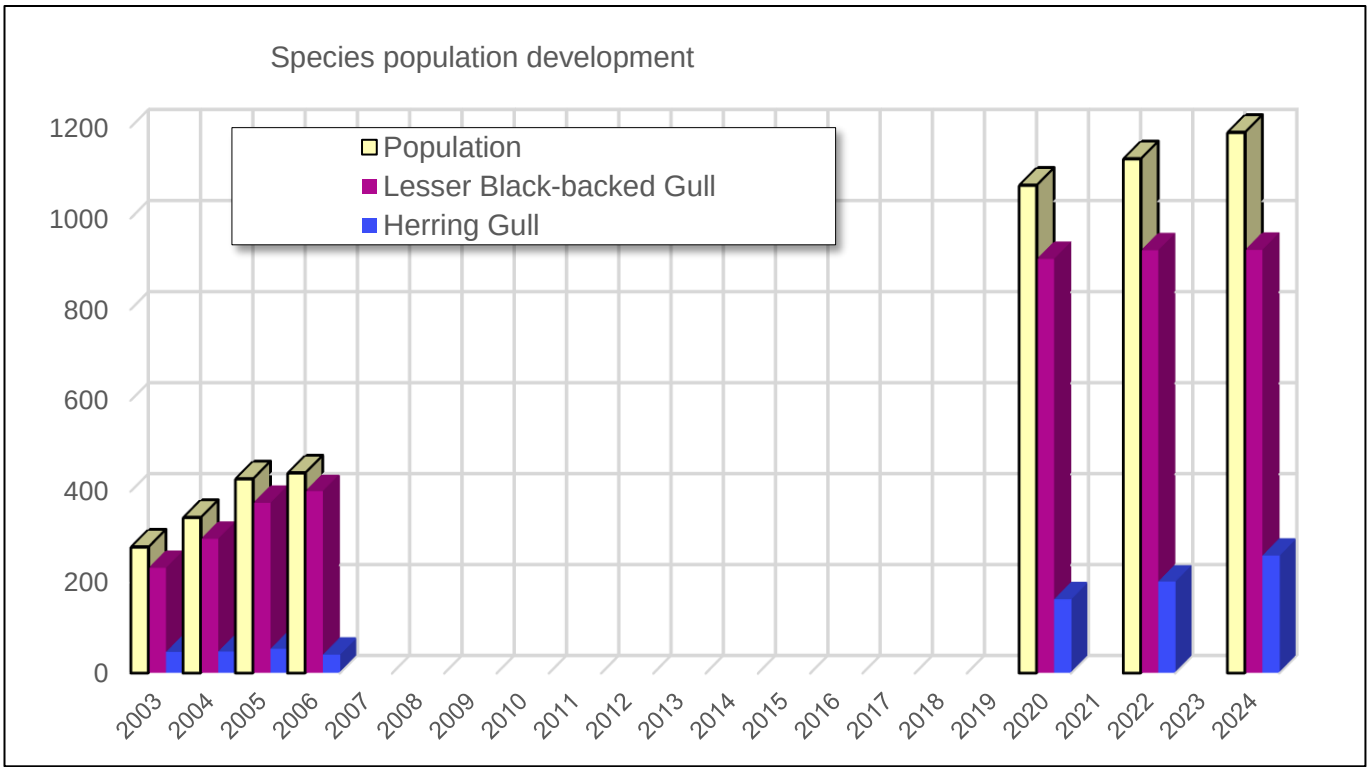


**Figure 2.** Urban colonies where Bristol Scheme birds are known to breed or have bred.

Several birds have recruited into colonies more than 100km from their natal colonies with the furthest being Bristol to Falmouth at 241km. These distances are the outliers.

The modal distance is between 50-60km. Worcester, therefore, is being supplied with recruits by 25 colonies within the same distance and Worcester may be supplying all of these to a greater or lesser extent.

**Figure 3.** The population development of Worcester's Herring and Lesser Black-backed Gulls

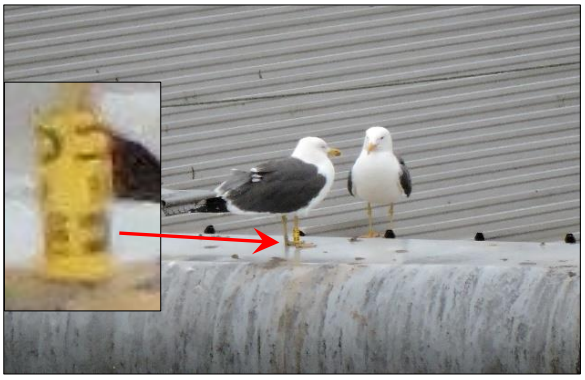



It is immediately apparent that Herring Gulls in Worcester have been increasing. The same is true for several other urban colonies I have assessed. In many rural (wild) colonies declines have been noted and, in some colonies, severe declines… It has been suggested that urban colonies are refugia for the species

The latest survey of urban gulls, within the fourth breeding seabirds census of Britain & Ireland known as **Seabirds Count** (Burnell et al 2023) took place between 2015-2021. The estimate for the **urban** gull population is **between 419,249 and 497,959 pairs with a presumed figure of 457,095 pairs** breeding on roofs and other structures in all of Britain and Ireland, the Channel Islands and Isle of Man. By sharp contrast, the total proposed by Seabirds Count for those gulls breeding in **rural** locations is just **139,193 pairs**.

**2024 COLOUR-RINGS IN WORCESTER**

Ringing took place in Worcester in 2003 to 2005 and resumed from 2020 onwards. Twelve individuals were observed during the 2024 survey. Details of these birds are in Appendix 1 & 2.



Two 2020 males ringed on Reindeer Court. M=U, above, breeding on the University. A first record. and M=T, right, breeding next door to Reindeer Court. A very nice set of records.

G=H, a 2021 male ringed on the BT telephone exchange and breeding very close by. As explained above Three year-olds breed commonly in town. Superficially, this bird has the appearance of an adult. However, he still has some brown feathering in his wing coverts. A month after visiting Northern Spain, he showed up in Bristol; an unexpected event!

Since 2003, 264 nestlings have been ringed over seven seasons in Worcester (46 Herring Gulls and 218 Lesser Black-backed Gulls). Since 2020, 103 orphans have been ringed over four seasons at the Vale Wildlife Rehabilitation Centre (16 Herring Gulls and 87 Lesser Black-backed Gulls).

**Table 4.** Annual ringing totals, Worcester, since 2003
**Legend: Ring**=numbers ringed, **Recov**=number of individuals seen after fledging. **RR**=recovery rate (i.e. number recovered divided by the number ringed), **Recs**=number of records, **RpI**= mean number of records per individual

| | Herring Gulls | | | | | Lesser Black-backed Gulls | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Year** | **Ring** | **Recov** | **RR** | **Recs** | **RpI** | **Ring** | **Recov** | **RR** | **Recs** | **RpI** |
| 2003 | 3 | 3 | 100% | 45 | 15 | 21 | 14 | 67% | 367 | 26 |
| 2004 | 1 | 1 | 100% | 1 | 1 | 15 | 10 | 67% | 227 | 23 |
| 2005 | 8 | 7 | 88% | 117 | 17 | 23 | 19 | 83% | 174 | 9 |
| 2020 | 4 | 2 | 50% | 13 | 7 | 44 | 18 | 41% | 78 | 4 |
| 2021 | 14 | 5 | 36% | 11 | 2 | 40 | 20 | 50% | 42 | 2 |
| 2022 | 8 | 4 | 50% | 9 | 2 | 40 | 6 | 15% | 18 | 3 |
| 2023 | 8 | 5 | 63% | 11 | 2 | 35 | 9 | 26% | 18 | 2 |
| | | | | | | | | | | |
| **Totals** | **46** | **27** | **59%** | **207** | | **218** | **96** | **44%** | **924** | |

Recovery rates mature after approximately 8 years (i.e. few first records occur after that). The caveat is that some birds manage to stay under the radar for rather longer. My dataset absolute record is 21 years after fledging!

It is of considerable interest that 4 of the 11 individuals (36%) seen in Worcester during the 2024 survey were first records.

**Table 5.** Annual ringing totals, Vale Wildlife Rehabilitation Centre, since 2020

| | Herring Gulls | | | | | Lesser Black-backed Gulls | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Year** | **Ring** | **Recov** | **RR** | **Recs** | **RpI** | **Ring** | **Recov** | **RR** | **Recs** | **RpI** |
| 2020 | 1 | 0 | 0% | | | 8 | 2 | 25% | 18 | 9 |
| 2021 | 3 | 1 | 33% | 4 | 4 | 27 | 13 | 48% | 70 | 5 |
| 2022 | 6 | 1 | 17% | 2 | 2 | 25 | 9 | 36% | 26 | 3 |
| 2023 | 6 | 1 | 17% | 1 | 1 | 27 | 7 | 26% | 27 | 4 |
| | | | | | | | | | | |
| | **16** | **3** | **19%** | **7** | | **87** | **31** | **36%** | **141** | |

The Vale birds have performed quite well but, as ever, ringing is a numbers game. We will, I hope, learn more about both Worcester and Vale birds as time goes on.

64 Worcester Lesser Black-backed Gulls have been recorded abroad, of which 28 (43.8%) have been seen back in UK. Prior to 2020, observations of colour-rings in Worcester have been scant. Since then, the surveys have been critical and a couple of observers have also been helpful. Excluding the 2023 cohort (returning Lesser Black-backed Gulls are rarely seen in UK in their first year of life), the 2020-2022 cohorts have produced 10 returnees from abroad in Worcester and elsewhere. The 5 returnees returning to Worcester (so far) are males. This fits precisely into the typical model (Rock 2005) where males tend to return to their natal colonies once they are old enough to breed and females emigrate.

**Figure 4.** Recovery locations of Worcester-ringed Lesser Black backed Gulls 2003-2024

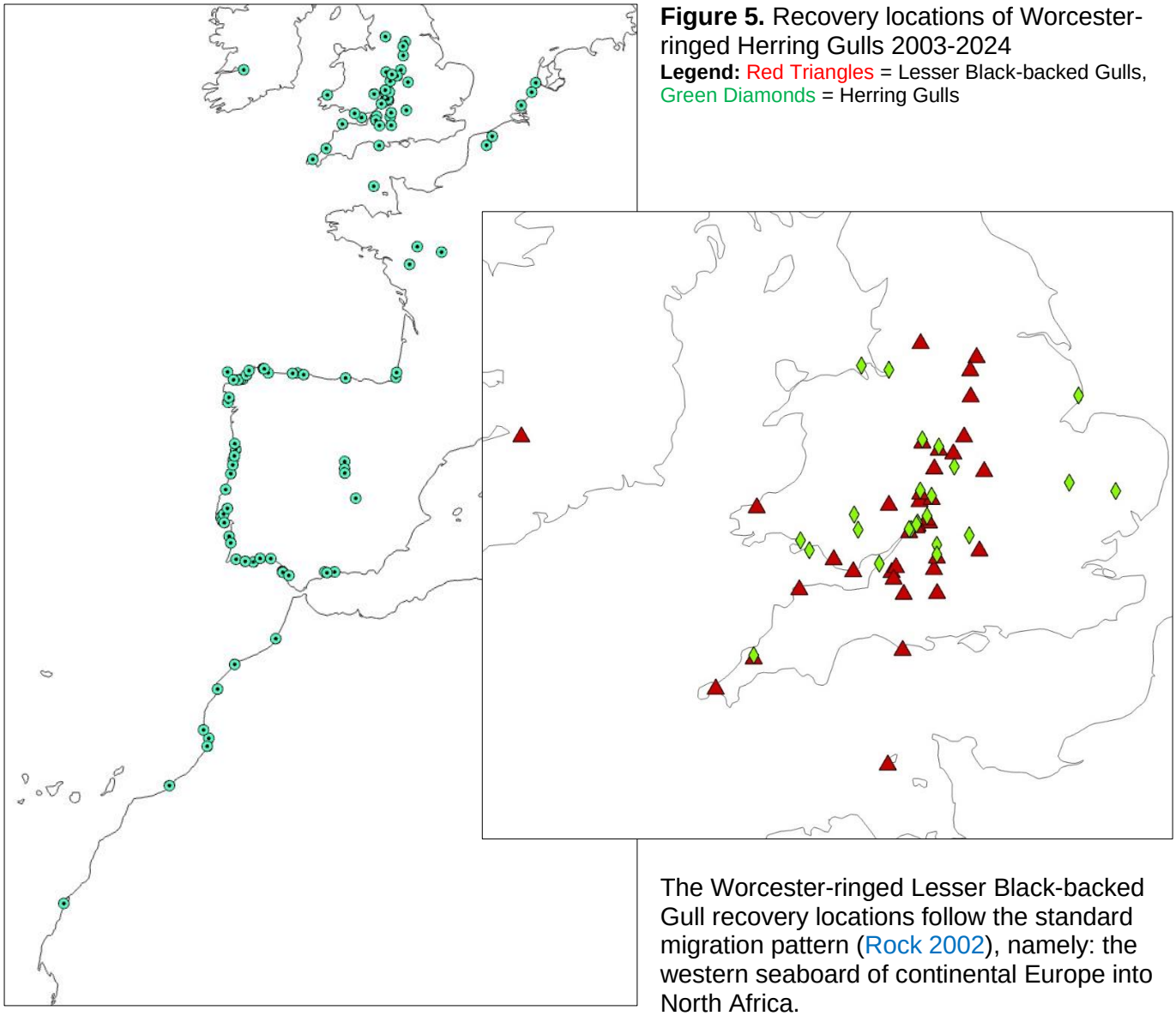
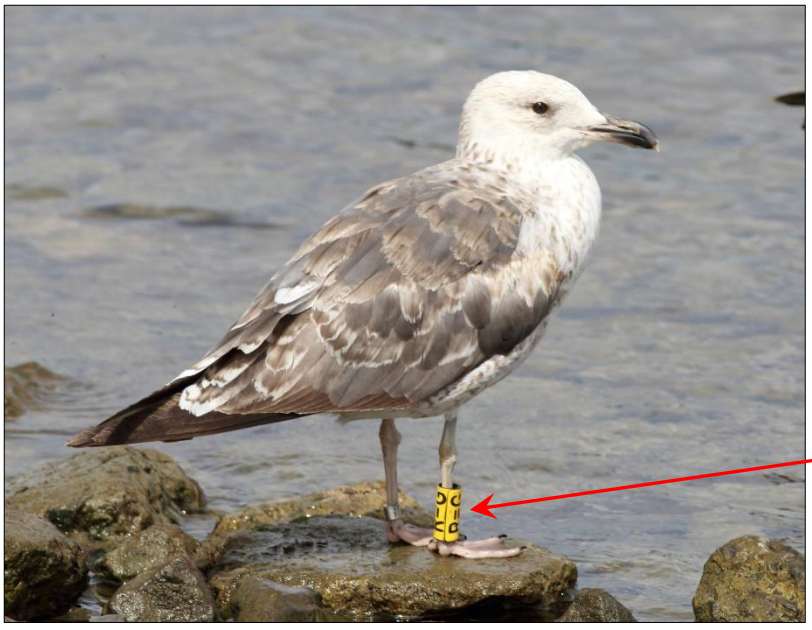
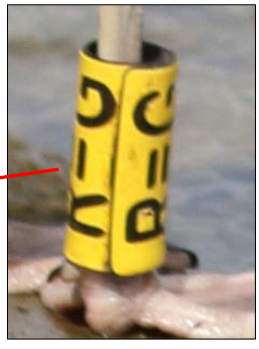


**Figure 5.** Recovery locations of Worcester-ringed Herring Gulls 2003-2024
**Legend:** Red Triangles = Lesser Black-backed Gulls, Green Diamonds = Herring Gulls

The Worcester-ringed Lesser Black-backed Gull recovery locations follow the standard migration pattern (Rock 2002), namely: the western seaboard of continental Europe into North Africa.

One curiosity is the recovery from Ireland (Limerick). At present, there are 913 Bristol scheme recovery locations, only 5 of which are in Ireland and only 3 were visited by Lesser Black-backed Gulls. A rare location for any Bristol Scheme Lesser Black-backed Gull or Herring Gull. The Limerick record (18/6/21) was of Yellow5 RG (ringed 7/7/20 on the Carpet Warehouse) in his first summer.





His latest record was from Madrid in January 2024. He has yet to reappear in Worcester.

Thanks to Tom Tarpey for this image.

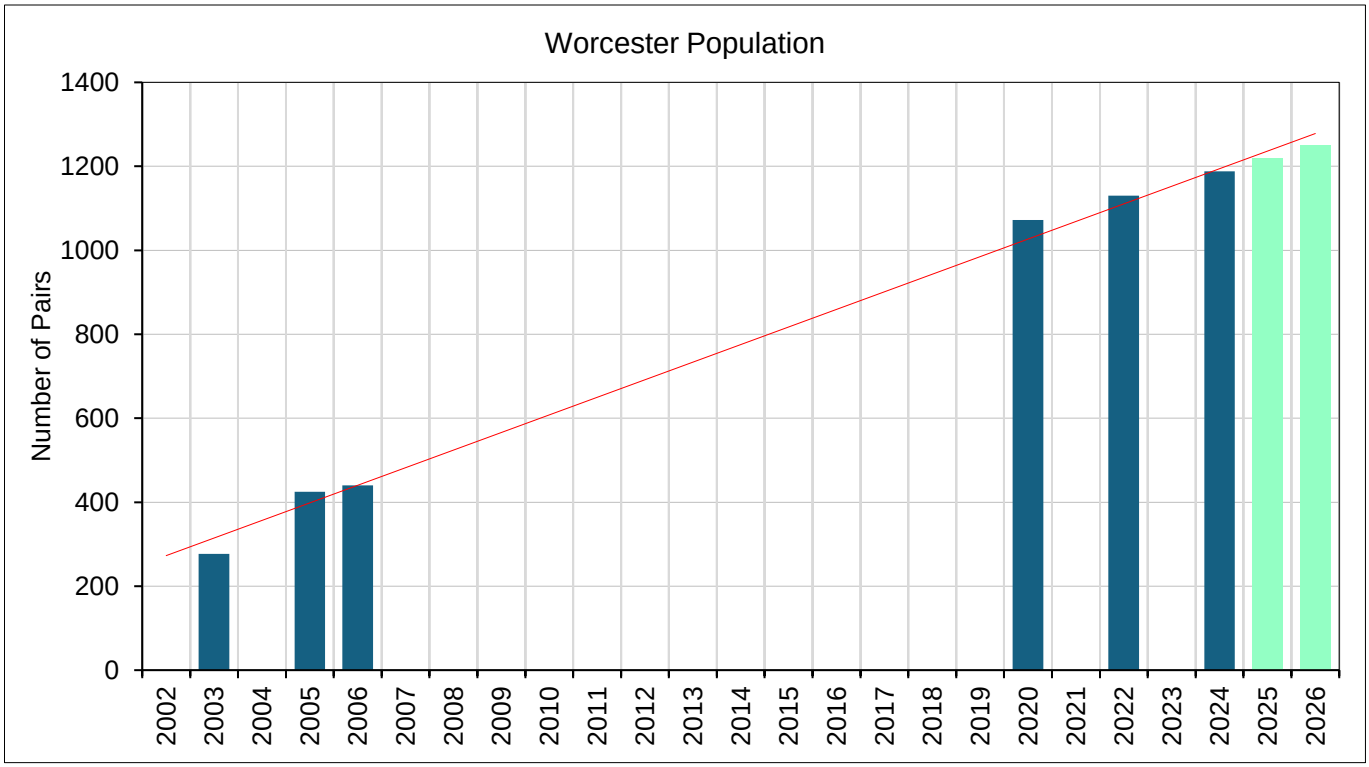
## HYBRIDS

Again, hybrids were in evidence. Six were noted during the 2024 survey. I do not actively look for hybrids whilst surveying, I simply come across them. It is entirely possible, therefore, that more are breeding in Worcester. Seven were noted in 2022. The photo, below, conveniently shows three adults all in a row with the hybrid between the Herring and Lesser Black-backed Gull. Note that the hybrid's mantle (back) colour is intermediate between the other two species. Yellow legs are common with hybrids (i.e. genetically similar to Lesser Black-backed Gull), but some have pink legs (i.e. genetically similar to Herring Gull – Herring Gull, with pink legs, top right.

## CONCLUSION

This, the third survey of the 2020's has revealed that the colony's growth rate has experienced a slowing down from the estimated growth rate of 7.1% between 2006 to 2020 to the 5.1% growth between 2022 to 2024. In the early years of the colonisation of urban environments growth rates, **annually**, were sometimes well over 10% (Rock 2005). Evidence from other colonies in the intervening years has shown that colonial growth has slowed. Bath's growth rate, for instance, was already slowing from 2012 (Rock 2015). But the colony saw a dramatic drop in numbers between 2015-2018 (1,141 pairs to 835 pairs) as a result of urban redevelopment and long-term maintenance (Rock 2018). In 2022 the population had risen to 972 pairs with assumed growth rates of about 4% (Rock 2022). Using Worcester's present growth rate a projection to 2026 is presented.

**Figure 6.** Projection of the Worcester population to 2026 (pale green estimates).




The projection assumes a 5.1% biennial growth rate (i.e. 2.55% annual growth rate) which results in populations of 1,218 pairs in 2025 and 1,249 pairs in 2026. The probability, based on the slight decrease in the growth rate between 2020 and 2022 (5.4% to 5.1%) due to the 58 pair increase in numbers in 2024, is that the population in 2026 will be very slightly lower than 1,249 pairs.

However, the two-way caveat is that we don't know about any redevelopment of well-populated 'gull roofs' and nor do we know about possible colonisation of new areas. The Droitwich Road trading estate is new, but small. The Diglis Park and trading estate appear to be ripe for colonisation.

The photograph above shows many flat roofs. During the 2024 survey I found no evidence of breeding in Diglis but, as with Droitwich Road, gulls were present in small numbers…

It is recommended that a further survey be carried out in 2026, not only to determine whether or not the projection estimates are correct or nearly so, but also to discover whether of not new areas are colonised.

Returning to the Bath example, the 2022 population of 972 pairs fell 169 pairs short of the 1,141 recorded in 2015 despite various new buildings being colonised and other established gull roofs increasing slightly in numbers. However, numbers breeding in the outlying towns in BaNES (Keynsham and Midsomer Norton/Radstock) increased by 125 pairs over the same period. It is tempting, of course, to assume that those displaced breeding pairs relocated to the outliers (or elsewhere). But, without confirmatory evidence in the shape of colour-ringed adult breeders observed as breeding in the outliers having previously been confirmed as breeding in Bath (and not one was seen), this would be an assumption too far.

Colour-ringing, as well as describing the lives of urban gulls also has other potentialities…



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**Rock, P.** 2022. Roof-Nesting Gulls in Bath. Follow-up Survey summarising surveys from 1995. Report to Bath & North-East Somerset Council.

## APPENDIX 1.

**Table 6.** Life-histories of Worcester colour-ringed birds observed during the 2024 survey
**Legend: Recs**=Records, **RingNo**=Metal Ring Number, **ArrDate**=Arrival Date, **DB**=Days between observations, **DiffKM**= Distance between observations

| Recs | Species | RingYear | Cohort | Code | RingNo | Site | ArrDate | Age | Sex | DB | Observer | DiffKM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HG | 2020 | YELLOW5 | GA | GV60910 | House of Fraser | 29/06/2020 | P | M | | | |
| 1 | HG | 2020 | YELLOW5 | GA | GV60910 | The Mumbles | 13/08/2020 | JU | M | 45 | Alannah Ruthen | 139 |
| 1 | HG | 2020 | YELLOW5 | GA | GV60910 | Llanelli | 10/02/2022 | 02W | M | 546 | Edward O'Connor | 15 |
| 1 | HG | 2020 | YELLOW5 | GA | GV60910 | Shawell A5 Lagoons | 29/04/2022 | 02S | M | 78 | Ian Bartlett & Steven Nichols | 216 |
| 1 | HG | 2020 | YELLOW5 | GA | GV60910 | Worcester | 23/03/2023 | 03S | M | 328 | Craig Reed | 74 |
| 1 | HG | 2020 | YELLOW5 | GA | GV60910 | Worcester | 13/04/2023 | 03S | M | 21 | Craig Reed | 0 |
| 1 | HG | 2020 | YELLOW5 | GA | GV60910 | Worcester | 20/02/2024 | 04S | M | 313 | Craig Reed | 0 |
| 1 | HG | 2020 | YELLOW5 | GA | GV60910 | Worcester | 08/05/2024 | 04S | M | 78 | Peter Rock | 0 |
| | HG | 2020 | YELLOW5 | GD | GV60912 | House of Fraser | 29/06/2020 | P | M | | | |
| 1 | HG | 2020 | YELLOW5 | GD | GV60912 | Worcester | 13/04/2023 | 03S | M | 1,018 | Craig Reed | 0 |
| 1 | HG | 2020 | YELLOW5 | GD | GV60912 | Worcester | 14/04/2023 | 03S | M | 1 | Craig Reed | 0 |
| 1 | HG | 2020 | YELLOW5 | GD | GV60912 | Worcester | 29/06/2023 | 03S | M | 76 | Craig Reed | 0 |
| 1 | HG | 2020 | YELLOW5 | GD | GV60912 | Worcester | 30/08/2023 | 04W | M | 62 | Craig Reed | 0 |
| 1 | HG | 2020 | YELLOW5 | GD | GV60912 | Worcester | 20/02/2024 | 04S | M | 174 | Craig Reed | 0 |
| 1 | HG | 2020 | YELLOW5 | GD | GV60912 | Worcester | 07/05/2024 | 04S | M | 77 | Peter Rock | 0 |
| | LBB | 2020 | YELLOW5 | MT | GY31956 | Reindeer Court | 07/07/2020 | P | | | | |
| 1 | LBB | 2020 | YELLOW5 | MT | GY31956 | Quarteira | 03/11/2020 | 01W | | 119 | Georg Schreier | 1,742 |
| 1 | LBB | 2020 | YELLOW5 | MT | GY31956 | Punta Umbria | 11/11/2020 | 01W | | 8 | José Manuel Fernández Alfaro | 103 |
| 1 | LBB | 2020 | YELLOW5 | MT | GY31956 | Praia de Mira | 07/11/2021 | 02W | | 361 | Peter Rock | 395 |
| 1 | LBB | 2020 | YELLOW5 | MT | GY31956 | Worcester | 29/06/2023 | 03S | | 599 | Craig Reed | 1,396 |
| 1 | LBB | 2020 | YELLOW5 | MT | GY31956 | Worcester | 15/07/2023 | 03S | | 16 | Craig Reed | 0 |
| 1 | LBB | 2020 | YELLOW5 | MT | GY31956 | Caleta de Vélez | 07/01/2024 | 04W | | 176 | Rafael Palomo | 1,721 |
| 1 | LBB | 2020 | YELLOW5 | MT | GY31956 | Worcester | 08/05/2024 | 04S | | 122 | Peter Rock | 1,721 |
| | LBB | 2020 | YELLOW5 | MU | GY31957 | Reindeer Court | 07/07/2020 | P | M | | | |
| 1 | LBB | 2020 | YELLOW5 | MU | GY31957 | Worcester | 03/05/2024 | 04S | M | 1,396 | Peter Rock | 0 |
| | LBB | 2021 | ORANGE6 | FT | GY47068 | BT Worcester | 30/06/2021 | P | F | | | |
| 1 | LBB | 2021 | ORANGE6 | FT | GY47068 | Worcester | 21/07/2022 | 01S | F | 386 | Craig Reed | 0 |
| 1 | LBB | 2021 | ORANGE6 | FT | GY47068 | Worcester | 03/05/2024 | 03S | F | 652 | Peter Rock | 0 |
| | HG | 2021 | ORANGE6 | GD | GY47078 | BT Worcester | 30/06/2021 | P | F | | | |
| 1 | HG | 2021 | ORANGE6 | GD | GY47078 | Worcester | 03/05/2024 | 03S | F | 1,038 | Peter Rock | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LBB | 2021 | ORANGE6 | GH | GY47081 | BT Worcester | 30/06/2021 | P | M | | | |
| **1** | LBB | 2021 | ORANGE6 | GH | GY47081 | A Coruña | 13/05/2022 | 01S | M | 317 | Antonio López Porto | 1,083 |
| **1** | LBB | 2021 | ORANGE6 | GH | GY47081 | Bristol | 23/06/2022 | 01S | M | 41 | Peter Rock | 999 |
| **1** | LBB | 2021 | ORANGE6 | GH | GY47081 | Worcester | 03/05/2024 | 03S | M | 680 | Peter Rock | 85 |
| **1** | LBB | 2021 | ORANGE6 | GH | GY47081 | Worcester | 07/05/2024 | 03S | M | 4 | Peter Rock | 0 |
| **1** | LBB | 2021 | ORANGE6 | GH | GY47081 | Worcester | 08/05/2024 | 03S | M | 1 | Peter Rock | 0 |
| | LBB | 2021 | ORANGE6 | GK | GY47083 | BT Worcester | 30/06/2021 | P | M | | | |
| **1** | LBB | 2021 | ORANGE6 | GK | GY47083 | Worcester | 03/05/2024 | 03S | M | 1,038 | Peter Rock | 0 |
| | LBB | 2021 | ORANGE6 | GM | GY47085 | BT Worcester | 30/06/2021 | P | M | | | |
| **1** | LBB | 2021 | ORANGE6 | GM | GY47085 | Worcester | 08/05/2024 | 03S | M | 1,043 | Peter Rock | 0 |
| | HG | 2023 | RED5 | DD | GY61783 | BT Worcester | 29/06/2023 | P | M | | | |
| **1** | HG | 2023 | RED5 | DD | GY61783 | Worcester | 07/05/2024 | 01S | M | 313 | Peter Rock | 0 |
| | HG | 2023 | RED5 | DX | GY61798 | Reindeer Court | 29/06/2023 | P | M | | | |
| **1** | HG | 2023 | RED5 | DX | GY61798 | Lower Compton Landfill | 15/09/2023 | 01W | M | 78 | Peter Rock & Nick Adams | 84 |
| **1** | HG | 2023 | RED5 | DX | GY61798 | Worcester | 01/04/2024 | 01S | M | 199 | Rob Prudden | 84 |
| **1** | HG | 2023 | RED5 | DX | GY61798 | Worcester | 03/05/2024 | 01S | M | 32 | Peter Rock | 0 |
| | | | | | | | | | | | | |
| **35** | | | | | | | | | | | | **9,857** |

## APPENDIX 2.

**Table 7.** Life-history of Severn Estuary Gull Group colour-ringed bird observed during the 2024 survey
**Legend: Recs**=Records, **RingNo**=Metal Ring Number, **ArrDate**=Arrival Date, **DB**=Days between observations, **DiffKM**= Distance between observations

| Recs | Species | RingYear | Cohort | Code | RingNo | Site | ArrDate | Age | Sex | DiffKM |
|---|---|---|---|---|---|---|---|---|---|---|
| | LBB | 2011 | Blue | HYY | FH33088 | Gloucester Landfill | 24/04/2011 | Ad | ? | |
| 1 | LBB | 2011 | Blue | HYY | FH33088 | Upton-Warren, Worcestershire | 04/10/2011 | Ad | ? | 52 |
| 1 | LBB | 2011 | Blue | HYY | FH33088 | Upton-Warren, Worcestershire | 03/07/2013 | Ad | ? | 0 |
| 1 | LBB | 2011 | Blue | HYY | FH33088 | Worcester | 02/05/2024 | Ad | ? | 11 |
| | | | | | | | | | | |
| **3** | | | | | | Not seen for almost 11 years! | | | | **63** |