

ROOF-NESTING GULLS IN WORCESTER

SURVEY CONDUCTED 28th APRIL – 1st MAY 2020
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FOR WORCESTER CITY COUNCIL



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EXECUTIVE SUMMARY

1. **The Worcester gull population in 2020 stands at 1,072 pairs** (910 Lesser Black-backed Gull pairs and 162 Herring Gull pairs). Page 4
2. Worcester was last assessed in 2006 at 440 pairs. In the intervening 14 years the population has increased at an average rate of 45 pairs per year. Page 4
3. Worcester, as of 2020, is **a large colony in national terms** (i.e. greater than 1,000 pairs). Page 4
4. The methodology used in assessing urban gull populations. Page 6
5. Worcester is divided into six sectors. The population of each is detailed. Page 10
6. Two species breed in Worcester: these are Lesser Black-backed Gull (*Larus fuscus graellsii*) and Herring Gull (*Larus argentatus argenteus*). Four hybrids (LBB x HG) were also noted during the survey. Page 10
7. In Worcester, Lesser Black-backed Gulls (84.9%) outnumber Herring Gulls (15.1%) by **a factor of 5.6:1** Page 13
8. There are 30 known urban gull colonies within 100km of Worcester Page 15
9. One of the colour-ringed birds observed during the survey originated in Gloucester. All urban colonies import and export gulls. Page 16
10. Several deterrence methods noted in Worcester. Page 17
11. Licensing is discussed. Nuisance is not a justification for action. Complaints are mostly about noise, mess and aggression in that order. Page 20
12. There is no evidence that the large gulls have been vectors of disease in humans. Page 21
13. There is ample room for expansion in Worcester, particularly in Blackpole. Page 23
14. It is recommended that a follow-up survey is conducted in 2022. Page 23
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INTRODUCTION

The weather for the 2020 survey, bearing in mind the wonderful, spring weather of the previous fortnight, was somewhat unkind. The first three days were characterised by rain or the threat of rain, but on the last morning the sun, finally, showed up. Thanks to the cherry picker operator, Simon Yarrington, the survey was completed satisfactorily. 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; these included the cherry picker, various stopping points, access to buildings and even PPE.

The survey encompassed the whole of Worcester which was split into six sectors defined by main roads and obvious landmarks (see attached map) and named, albeit somewhat arbitrarily!

SURVEY RESULTS

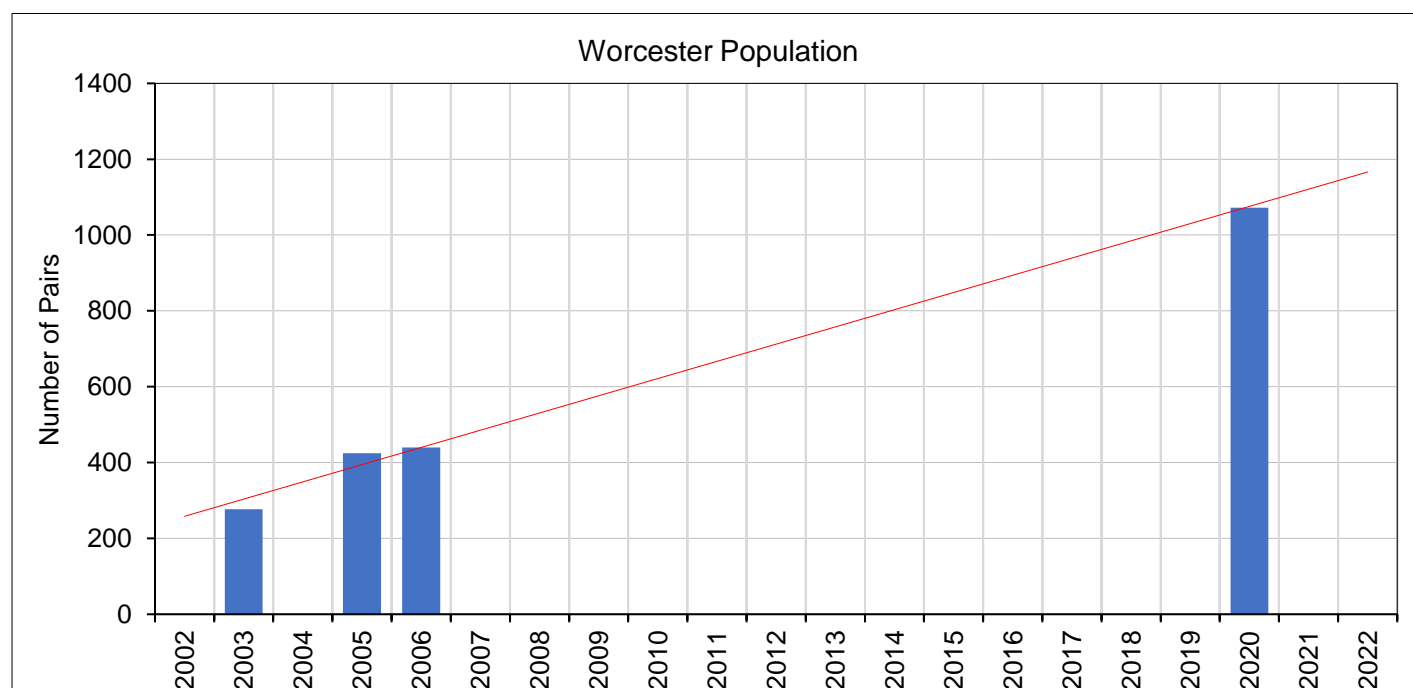
From observations of occupied nests and other procedures, it is estimated that the urban gull population of Worcester is between 1,018 and 1,126 pairs with a presumed figure of 1,072 pairs.

COMMENT ON THE SURVEY FIGURES

The present survey reveals that the Worcester colony is now in the category Large Colony (i.e. over 1,000 pairs) in national terms (where Bristol ([Rock 2010](#)), Gloucester ([Rock 2009](#)) and Cardiff ([Rock 2017](#)) with 2,495 pairs, 2,890 pairs and 3,147 pairs respectively are Very Large colonies.

The Worcester colony has been assessed three times before the present survey ([Rock 2003, 2005a and 2006](#)) rising from 277 pairs in 2003 to 440 pairs in 2006.

Figure 1. Development of the Worcester population 2003-2020.

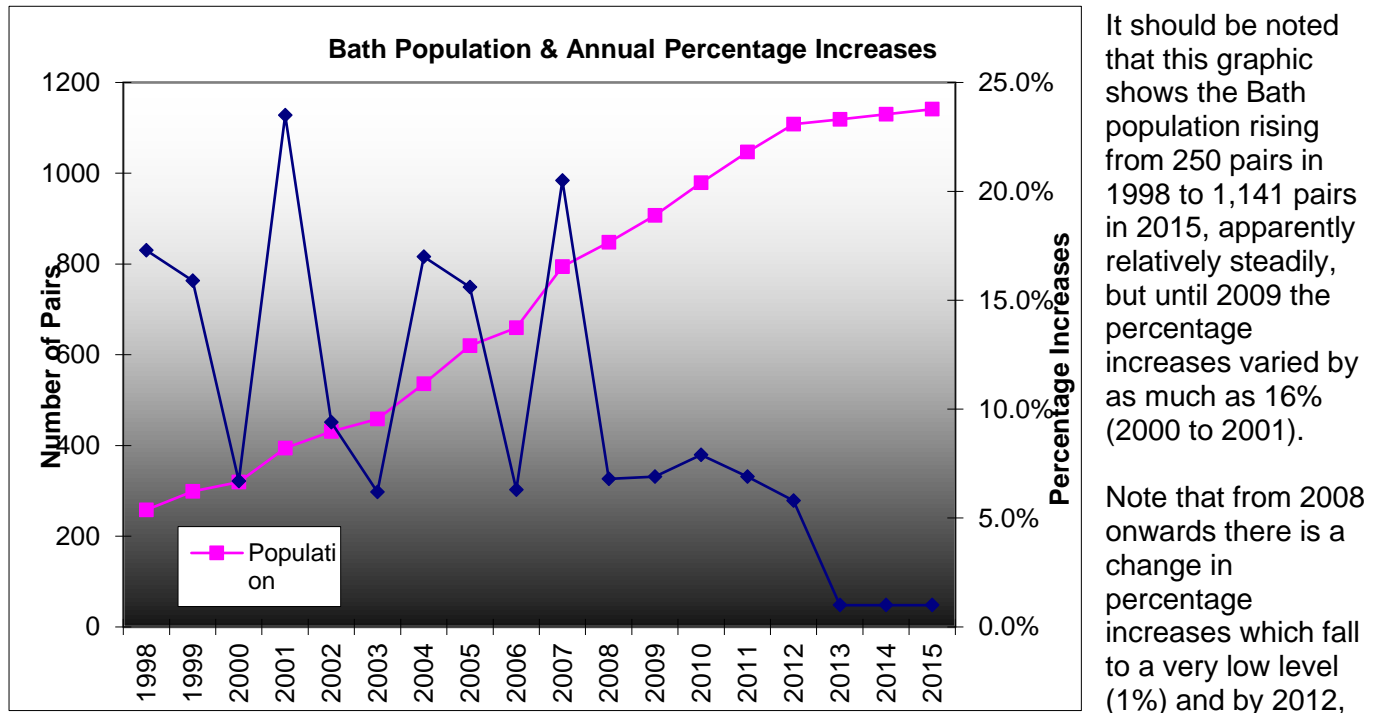


In the intervening 14 years since 2006 the Worcester population has risen by 632 pairs. With no knowledge of the population's annual progress, it is assumed that the mean, simple rate of increase was 7.1% per year or, to put it another way, the population increased at an average of 45 pairs per year.

The red trendline is projected beyond 2020 and suggests (based on similar numerical and percentage increases) that the Worcester population will reach circa 1,170 pairs in 2022. However, percentage and

numerical population increases are rarely homogeneous and, in some instances, can vary dramatically (e.g. Bath ([Rock 2015](#))).

Figure 2. Development of the Bath population 1998-2015.



of course, the increase in the number of pairs slows down, too. This slowing down is typical of developing colonies where, at the start, growth rates are high and, then, as the colony matures and suitable buildings have been colonised, it becomes more difficult for first time breeders to establish a foothold in the colony ([pers obs](#)). I assessed Bath again in 2018 ([Rock 2018a](#)) and the population had dropped to 835 pairs due, almost exclusively, to major redevelopments and ongoing roof maintenance. It is likely, at some point in the future, that the rate of increase in Worcester's gull population will slow down but, presently, there appears to be considerable room for expansion – especially in Blackpole.



Breeding density on this building in Blackpole, despite appearances, is rather low so it could be expected that numbers here could increase. Typically, roofs with two or more apexes are colonised, preferentially, on the inner valleys, but when numbers do increase, the outer slopes are also colonised.

ASSESSING URBAN GULL POPULATIONS

In order to assess Worcester's population the city was divided into six sectors (which were drawn using major roads or obvious landmarks) and named somewhat arbitrarily (with apologies) so that they are easier to remember. See attached map.

Within these sectors several points were selected, either by prearrangement or ad hoc, as required. The cherry picker (with a top working height of 25 metres) enabled views over the vast majority of buildings in the city and, of particular importance, to view the roofs of many buildings in its vicinity.



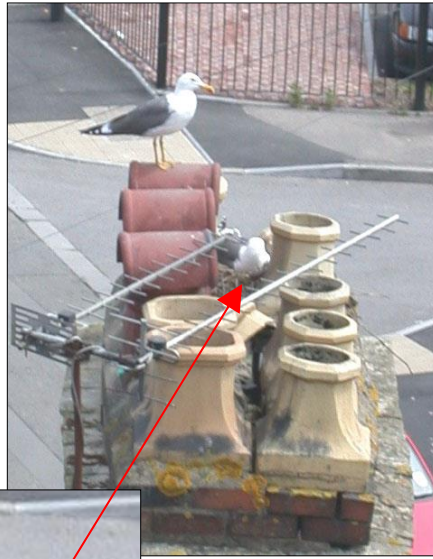
Blackpole industrial estate showing many roofs, but obstructions such as trees and other buildings as well as distance and angle require different vantage points, where possible, in order to be able to see beyond obstructions and view those roof slopes which, as here, are not observable. Note that the roof in the foreground is under maintenance and that the greater part is covered by a green net, possibly roof netting under construction.

All surveys involve detailed counts of nests. However, the number of nests recorded can only represent the bare minimum population. Therefore, in order to correct for under-recording and enable an estimate with a high degree of confidence, counts of breeding age birds (i.e. excluding 1st and 2nd summer individuals) are vital.

Some nests are very easy to see especially when they are in such a prominent (some would say dopey) position, left. Typically, gulls nesting on flat roofs will go for corners sheltered by parapets on two sides. The vegetation growth, right, denotes an old nest, probably used by the same pair annually.



Most towns and cities, though, have complex roofscapes where structures of different heights and shapes offer opportunities for gulls to conceal their nests making discovery difficult or impossible without visiting every roof.



Static vantage points (e.g. tall buildings) whilst offering commanding views of the colony, usually do not allow the observer much or any lateral movement.

These pictures were taken in Cardiff where Lloyd's Bank did offer considerable lateral movement. The adult Lesser Black-backed Gull perched in attendance on the chimney pot is the mate of the incubating bird which cannot be seen. However, by moving some 10 metres, the nest is revealed.

More difficult, still, are those nests which are extremely well hidden and are usually only found by pure luck. This Bristol nest (right) was just such a piece of luck



This nest in Worcester (left) is equally well disguised. So well, in fact that both the male and female are almost invisible. Both birds are showing their right wings (image enhanced)

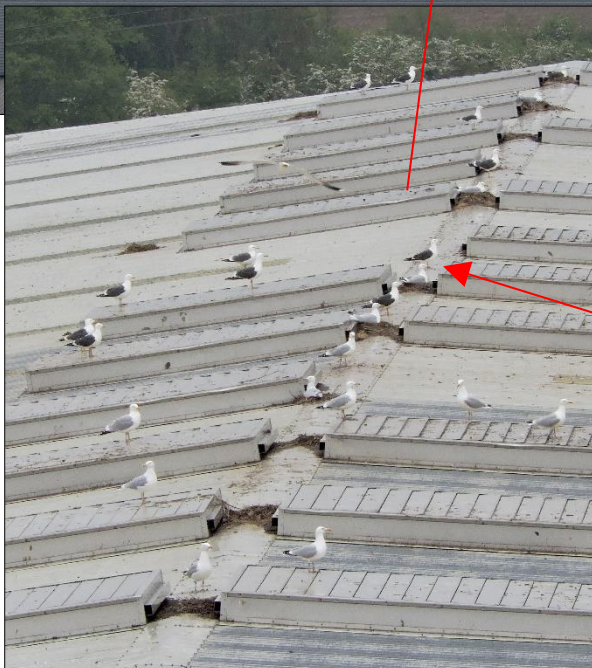
It is well known that gulls nest between chimney pots, but to do so, stacks need to have double

rows of pots with sufficient room for a nest and an incubating adult. It is very rare for gulls to nest on stacks with a single row of pots.

An added conundrum is to differentiate sleeping birds from those which are incubating. Of course, on flat roofs this is straightforward and, generally-speaking, using a telescope will reveal nest material, but corrugated asbestos, a preferred nesting surface ([Rock 2005b](#)), can easily defy the identification of nests. The difficulty arises when nests are constructed with minimal material. The nest, below, in the Port of Felixstowe, shows just such a nest.



Two nests: one Herring Gull nest which is quite obvious and one Lesser Black-backed Gull nest which is constructed with next to no nest material and would be very easy to overlook. The detail shows the nest material.



This roof in Blackpole is constructed using pressed steel which, over recent years, has been replacing asbestos and whilst, for the gulls, it is less favoured, it does offer ample opportunity for nesting between roof vents. In this case, almost every available space has been utilised.



Nests are built simply to hold eggs in position so that they can be incubated. Should eggs be spilled from nests they will be ignored. Gulls' beaks are the wrong shape to retrieve eggs (Tinbergen 1953).



Occasionally, some eggs are simply laid on a surface where they cannot move, perhaps with some nest material, as left.

When assessing populations the nest count will, inevitably, be short of the true total of breeding pairs in the colony and, sometimes a long way short of the true total.

The most basic formula for calculating population size from counts is to subtract the number of observed nests from the total count of breeding age birds.

However, this crude formula makes no allowance for all of the above and nor for a range of other significant elements pertaining to colonial assessments (e.g. the presence or absence of attendant adults, the weather (which, in this survey, was mostly dismal) and, most of all, of the complexity of the roofscape. It is, therefore, necessary to apply scaling factors appropriate to each situation.



This roof (near the BBC studios) has gently sloping roofs and required minimal scaling with many nests visible but, nevertheless, some nests remain difficult to detect. Vents offer shelter and all on this roof are utilised (one is arrowed). Two things to note here: firstly, that the vents

are covered with deterrence spikes and, secondly, that this is an asbestos roof. Note the green tinge over much of this roof. Asbestos attracts lichen growth, followed by moss and then by secondary vegetation growth, commonly various Sedum species followed by grasses (i.e. nest material in situ...).

The city centre, by contrast, required higher scaling due to roofscape complexity even though the viewing height (in this case from the tower of St Martin in the Cornmarket) is rather more elevated than the top height of the cherry picker. In this picture, two Herring Gull nests and one Lesser Black-backed Gull nest can be seen in the foreground and no others...



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.

SITE	Sector	HG	HGN	LBB	LBN	HG Pairs	LB Pairs	Nom
1	Blackpole 1	97	27	554	117	56	328	384
2	Blackpole 2	66	25	331	88	35	194	229
3	Barbourne	6	2	62	2	5	30	35
4	Shrub	18	7	69	8	10	40	50
5	Centre	71	17	306	40	38	226	264
6	West Side	35	13	182	49	18	92	110
	Totals	293	91	1504	304	162	910	1072

The present survey noted a total of 1,797 gulls of breeding age and a total of 395 nests. The crude formula would suggest (1,797-395) a population of 1,402 pairs in Worcester in 2020. The actual total of 1,072 is 330 pairs (24%) short of the crude total. Lesser Black-backed Gulls (84.9%) outnumber Herring Gulls (15.1%) in Worcester by a factor of 5.6:1. More will be said about this below.

THE GULL SPECIES INVOLVED IN URBAN BREEDING

The two principal large white-headed gull species breeding on rooftops in UK & Ireland are Herring Gull (*Larus argentatus argenteus*) and Lesser Black-backed Gull (*Larus fuscus graellsii*). Some urban gull colonies also support small numbers of Great Black-backed Gull (*Larus marinus*).

Identifying adult Herring and Lesser Black-backed Gulls is straightforward ([e.g. Olsen & Larsson 2003](#)). Both are large with white bodies, yellow bills and black, primary flight feathers. Herring Gulls show a silvery mantle (back) and have pink legs whereas Lesser Black-backed Gulls have variably dark, slate-grey mantles and yellow legs.



Herring Gull

Breeding adult above and below in flight

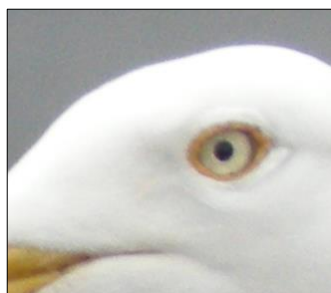


Lesser Black-backed Gull

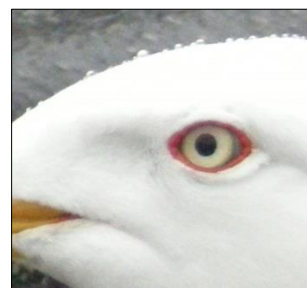
Breeding adult above and below in flight



The two species are equally easy to separate in flight from below. Herring Gull wings show a white trailing edge and the inner primaries are pale whereas Lesser Black-backed Gull wings show a dark, sub-terminal bar at the trailing edge and the inner primaries are dark.



Additionally, if close views are obtained, the colour of the orbital (eye) ring is diagnostic. Herring Gulls have YELLOW orbital rings (left) whereas those of Lesser Black-backed Gulls are ORANGE (right).



Though, on average, Herring Gulls are slightly larger than Lesser Black-backed Gulls, the mean weights of the two are around 1 kilo and they have a wingspan of circa 4½ feet (Cramp & Simmons

1983). Longevity records for the two species are **34 years 9 months for Herring Gulls** and **34 years 10 months for Lesser Black-backed Gulls** as defined by ringing (Euring 2014).

Several colonies in UK support **Great Black-backed Gulls**. The picture, below, shows a pair in Highbridge. Note the very dark mantle which is almost as black as the primary flight feathers. These are very big birds (Lesser Black-backed Gull behind) with very heavy bills and greyish-pink legs. They are the top predators in gull colonies and they eat the eggs and chicks of the other species.



And then there are birds looking like this



Note that the bird on the left (from Bath) is darker-mantled than the Herring Gull on the right. Note, too, that it has yellow legs where the Herring Gull has pink legs. This is a **Hybrid**. Hybridisation between Herring and Lesser Black-backed Gulls is not uncommon in town. Typically, the mantle colour of hybrids is intermediate between Herring and Lesser Black-backed Gulls, but leg colour can be variable.

Four hybrids were noted in Worcester in 2020. I recorded 7 hybrids in Bath in 2015 in a population of 1,141 pairs (Rock 2015) and 10 hybrids in Wiltshire towns in 2018 (Rock 2018b).



One of the four hybrids recorded in Worcester in 2020: note how much paler the mantle colour is than the incubating Lesser Black-backed Gull.

The young of all of these species are brown and speckled, but as they age, they progressively lose their brown feathering until they reach full adulthood in their 4th winter ([Olsen & Larsson 2003](#)). Differentiating between the species can be difficult in their first two years but becomes increasingly easier from their 2nd winter onwards (as seen below).



Lesser Black-back 1st Winter (Portugal)



Lesser Black-back 2nd Winter (Spain)

The 2nd winter bird is already showing some of the dark mantle feathers diagnostic of Lesser Black-back. The longevity records of almost 35 years for both species, as could be expected, are the exceptions (my oldest bird was 28 years old in 2017). The most dangerous time for the large gulls (as for all bird species) is their first winter and many perish during this time. Survival from then on improves gradually, but once they reach adulthood, annual survival rates of above 90% can be expected ([e.g. Rock & Vaughan 2013](#)). And once they do reach adulthood, the majority will breed for at least 5 years, a good number will breed for 10 years, some will breed for 15 years and a few will breed for 20 years or more ([unpubl. data](#)).

SPECIES SPLIT

The Worcester colony is dominated by Lesser Black-backed Gulls to a large degree (5.6:1), but as can be seen in Table 2 there is a certain amount of variation in the species make up for each sector.

Also included in Table 2 is the breakdown of Sector 6 (West Side) into the three discrete subsectors.

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%
1	Blackpole 1	56	328	384	5.9	14.6%	85.4%
2	Blackpole 2	35	194	229	5.5	15.3%	84.7%
3	Barbourne	5	30	35	6.0	14.3%	85.7%
4	Shrub	10	40	50	4.0	20.0%	80.0%
5	Centre	38	226	264	5.9	14.4%	85.6%
6	West Side	18	92	110	5.1	16.4%	83.6%
	Totals	162	910	1072	5.6	15.1%	84.9%
SUBSITE	Sector	HG Pairs	LB Pairs	Nom	Split	HG%	LB%
6a	Swim	9	12	21	1.3	42.9%	57.1%
6b	Bromyard	5	34	39	6.8	12.8%	87.2%
6c	BBC	3	41	44	13.7	6.8%	93.2%
6d	University	1	5	6	5.0	16.7%	83.3%
	Totals	18	92	110	5.1	16.4%	83.6%

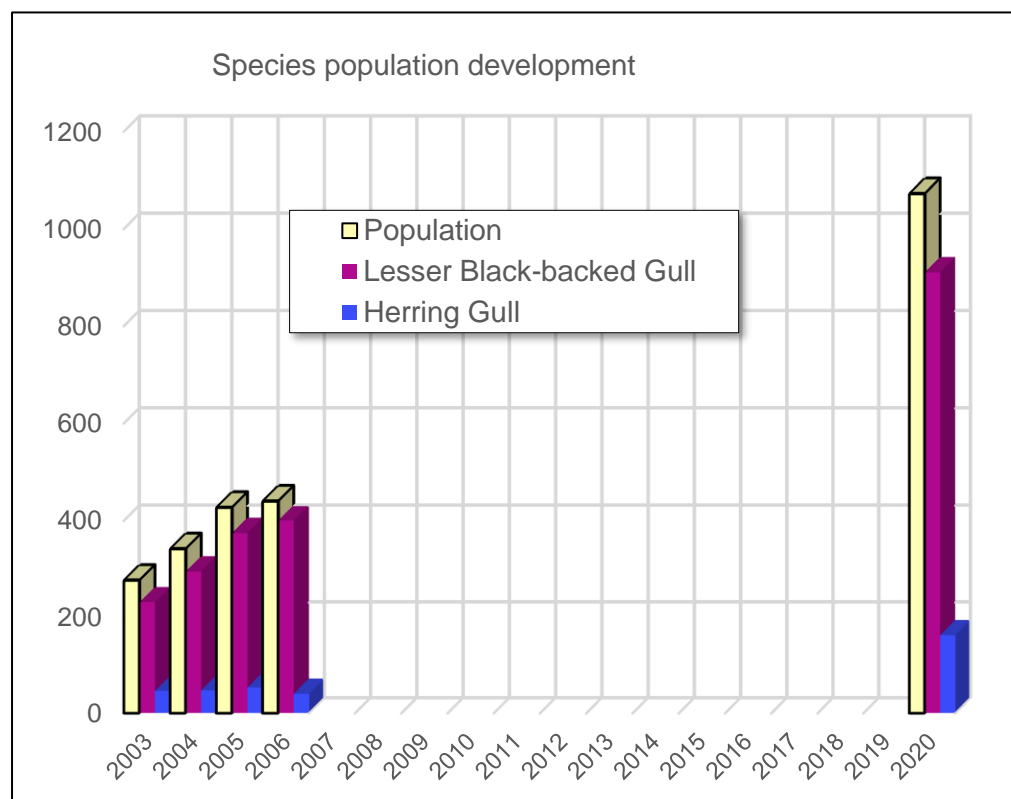


Figure 2. Species development in the Worcester population 2003-2020.

Worcester (since the first survey in 2003) has been dominated by Lesser Black-backed Gulls (by 5:1 in 2003, by 6.3:1 in 2004 and by 7:1 in 2005). In 2006 the species split widened further to 10:1 in favour of Lesser Black-backed Gulls, but in the last 14 years, the split returns to the 2003/4 level. The mean increase for Lesser Black-backed Gulls was 36 pairs annually and for Herring Gulls 9 pairs.

THE WORCESTER COLONY IN PERSPECTIVE

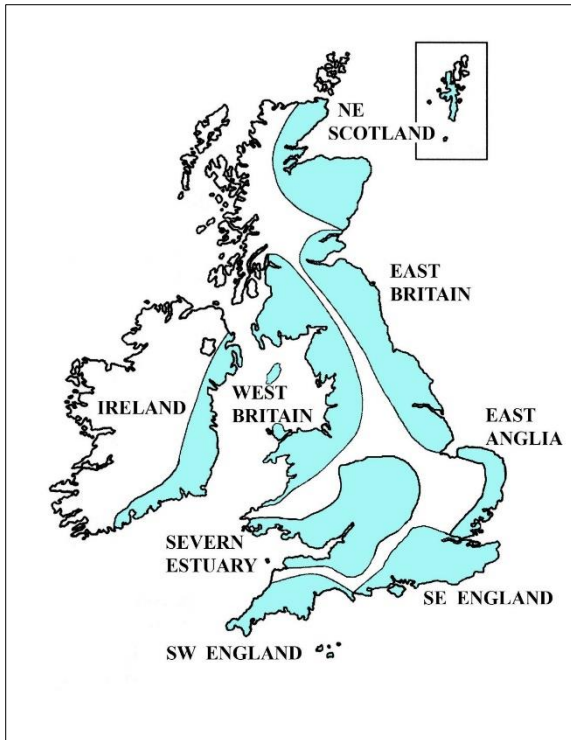
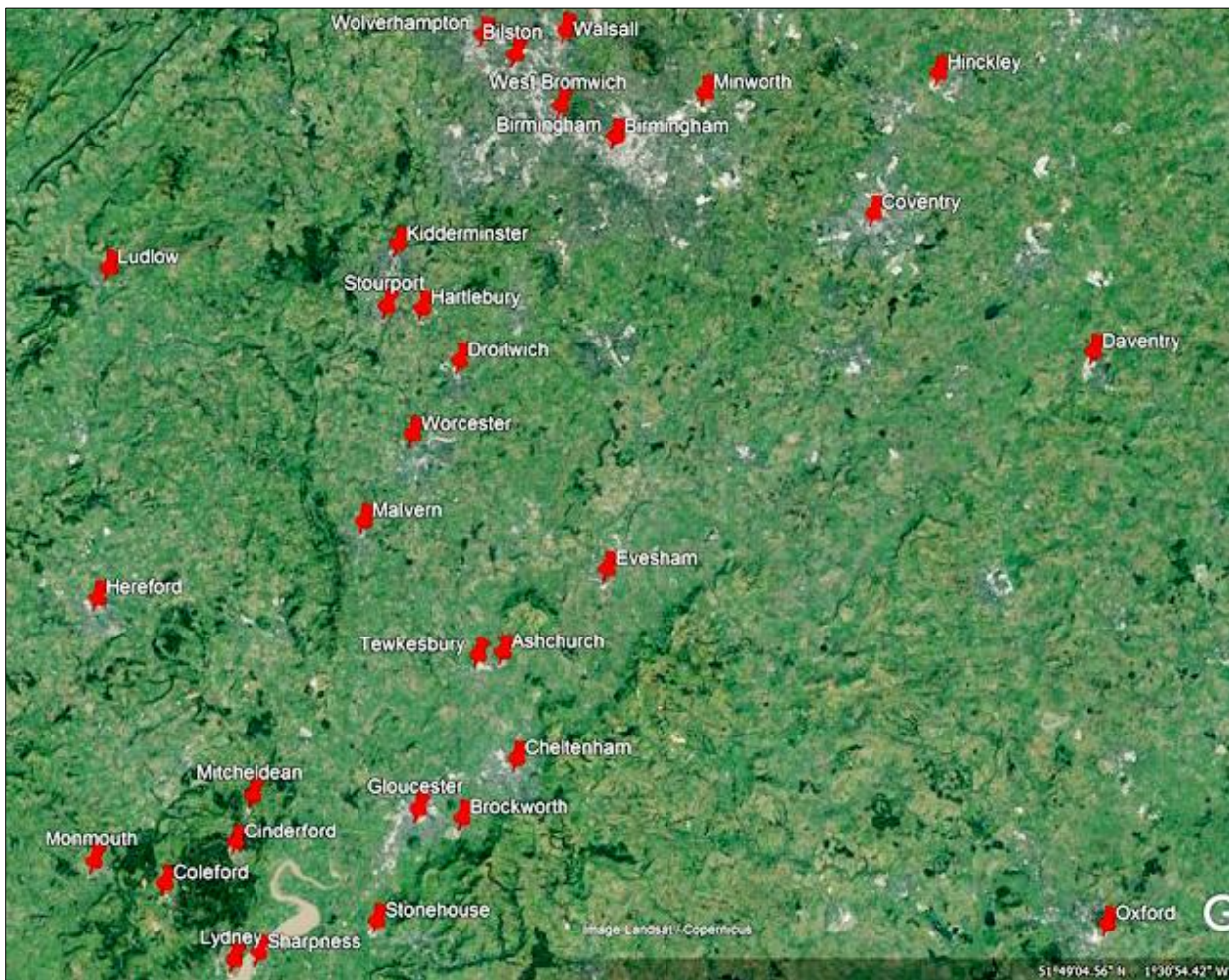


Figure3. Urban gull regions in UK & Ireland (adapted from [Raven & Coulson 1997](#)).

Seabird 2000 ([Mitchell et al 2004](#)) listed 239 urban gull colonies in UK & Ireland. My own register, which is a work in progress (i.e. by no means complete) stands at 543 colonies so far: an increase of 304 colonies (127%) in the 18 years since the completion of the S2000 project (1998-2002). For simplicity, the register is based on 8 regions, the borders of which are redrawn as new information is gathered.

Worcester falls within the Severn Estuary Region in which there is a minimum of 114 colonies. This year's increase in Worcester's gull population brings the total of my own assessments to 22,000 pairs at 47 colonies. This leaves at least 67 colonies in need of assessment, some of which are known to be very large (e.g. Birmingham and the Port Talbot/Swansea/Waunarlwydd complex).

Figure3. Known urban gull colonies surrounding Worcester within 100km of Worcester.



30 colonies surrounding Worcester. This has important ramifications for Worcester (see below).

OBSERVATIONS OF COLOUR-RINGED BIRDS IN WORCESTER IN 2020

Between 2003-5, 71 nestlings were ringed in Worcester (59 Lesser Black-backed Gulls and 12 Herring Gulls). The recovery rate (i.e. the number of birds resighted after fledging divided by the number ringed) for these birds is 76% (i.e. I have post-fledging information on 54 of them) which is very high. Using metal rings alone results in a recovery rate of 3-4%, thus proving the value of colour-ringing.

Several of these birds are still being seen in various places, including by me! I found this one (Blue3 RM) in Figueira da Foz on 10/10/2019 where I often find him spending his winters. He was ringed as a nestling on Crowngate on 08/07/2004.

An important part of every survey is to identify colour-ringed birds in the population because they can shed some light on the origins of the colony's breeders.

Between 2003 and 2006, 21 colour-ringed birds observed were observed in Worcester.

The origins of these birds are:

Urban-ringed: Worcester (2) Bristol (9), Gloucester (6), Hereford (1)

Wild-ringed: Flat Holm (1), Llyn Trawsfynydd (1), Orford Ness (1)

In 2020 only three colour-ringed birds were observed but, frustratingly, only two were identified.



This Lesser Black-backed Gull (Green3 RH) was ringed on 01/07/2005 on Reindeer Court (details below). Breeding in the city centre. Apologies for lack of focus: poor light and long distance...

The Herring Gull below (White6 JG), breeding in Blackpole, was ringed as a nestling in Gloucester, bringing the total originating from Gloucester (35km from Worcester) to 7. She is now approaching nine years old



The two Herring Gulls are a pair. The male, on the right, is bigger and bulkier than the colour-ringed female. He has a markedly larger head and heavier bill.

Table 3. Details of the two gulls observed in Worcester during the 2020 survey.

Legend: **Sp**=Species, **HG**=Herring Gull, **LB**=Lesser Black-backed Gull,

ArrDate=Arrival (observation) Date, **RingDate**=Date of colour-ringing.

Sp	Cohort	Code	ArrDate	Age	Sex	RingDate	RingPlace	Notes
LBB	Green3	RH	28/5/20	15S	M	1/7/05	Worcester	Several Gloucester Landfill Aug05-Jul11. Agadir Nov05, Valdoviño Oct07, Guernsey Sept10, Arteixo Aug13
HG	White6	JG	29/5/20	09S	F	3/7/11	Gloucester	Hayle Estuary Dec14

COLONIAL RECRUITMENT

In addition to and incorporating the foregoing colonial recruitment should be discussed in order to set the Worcester colony into context.

Most species which breed colonially tend to be subject to a system which actively restricts in-breeding. Effectively, this maintains the strength of the gene pool.

Typically, amongst the large gulls, males tend to recruit into their natal colonies to breed for the first time whereas females disperse. Further, amongst urban gulls, first-time breeders will seek to breed in the same (males) or other urban colonies (females) and do not (<1%) recruit into rural colonies ([Rock 2005b](#)).

The two observations made during the 2020 survey **appear** to demonstrate this strategy neatly. However, this is biology and there are no hard and fast rules. Though it is uncommon, some females do recruit into their natal colonies and some males do disperse AND, very rarely, some urban-hatched birds do recruit into rural colonies



This photograph (from Bath) shows only the second ever pairing of my birds hatched in the same colony in 40 years of study. The male, left (larger size, heavy bill, etc.), was ringed in 2013 and had returned to his natal roof (a common occurrence) where this photograph was taken. The female was hatched in 2010 just 300 metres from this roof.

My colour-ringing research (The Bristol Scheme, where I started) shows that Bristol Scheme birds are breeding or have bred in urban colonies in many places in the Severn Estuary Region and beyond ([unpubl. data](#)). The outliers are Birmingham and Leicester in the north, London and Brighton in the east, Falmouth in the south-west and Swansea in the west (i.e. recruitment distances are anything up to 230km from ringing locations). Figure 3 shows colonies within approximately 100km, but it is entirely possible that recruits into the Worcester population could have originated from much farther afield.

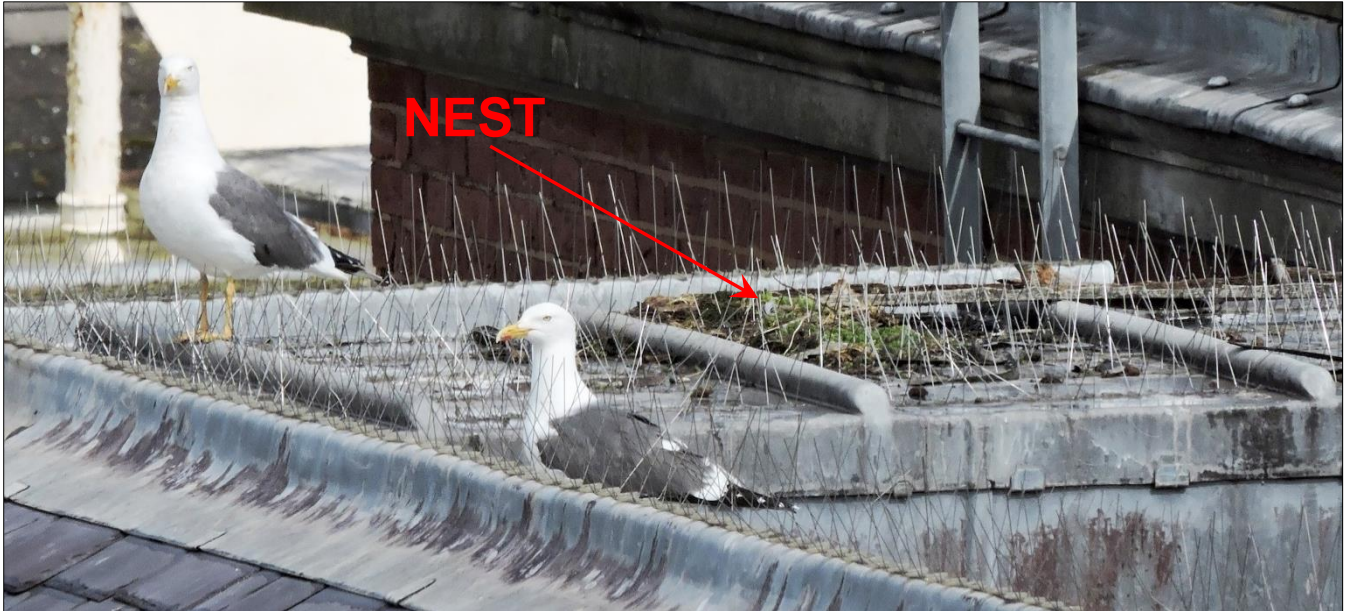
The Bristol Scheme began in 1980, but since 2001 has also incorporated the Bath, Gloucester and Cardiff colonies and others whenever opportunities have presented themselves. One of the major objectives of multi-centre operation is to understand recruitment patterns within the region.

It is now clear that each of the four major research colonies has attracted significant recruits from the others and, by extrapolation, therefore, all urban colonies are importing and exporting recruits. Worcester, then, is not alone.

DETERRENCE IN WORCESTER

A selection of the deterrence methods noted during the 2020 survey in Worcester

Spikes are common throughout the city (page 9 shows poorly sited spikes), but the photograph below shows just how ineffectual these thin spikes can be: this roof has spikes on every surface (a small percentage is shown here) and must have been an expensive commission...



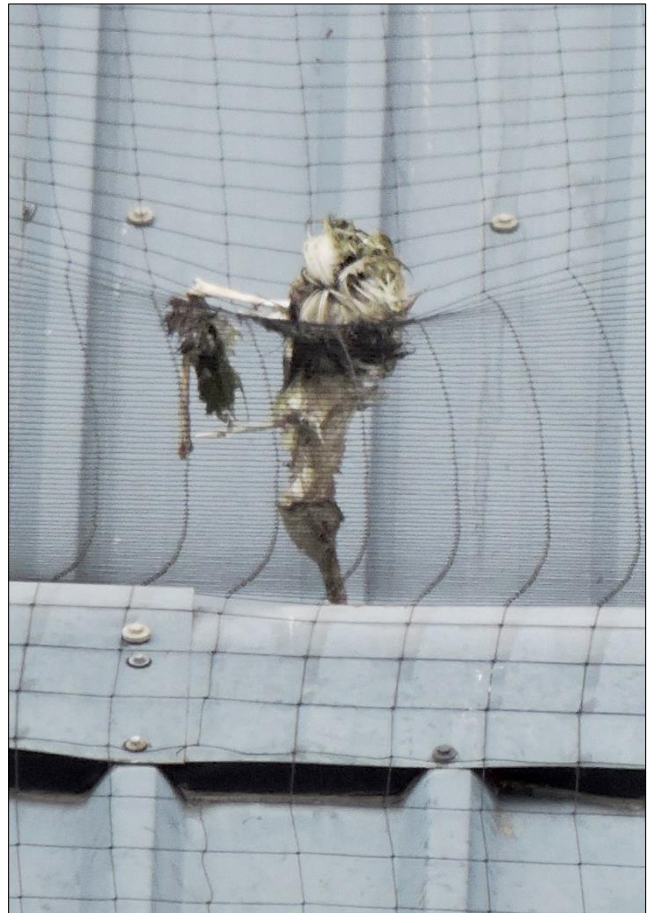
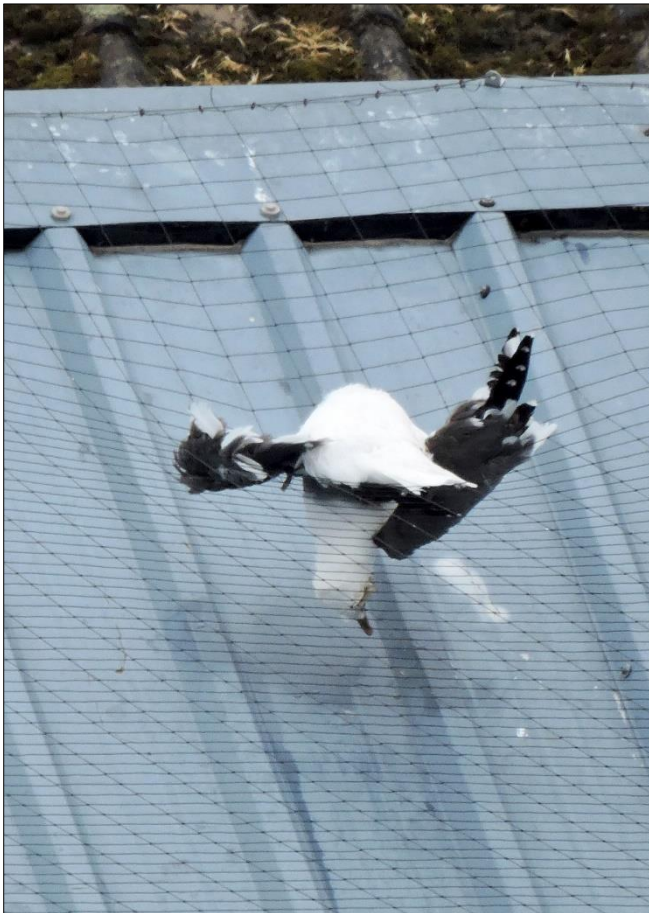
Plastic Eagle Owls can be seen in almost every urban gull colony. Note this report's cover to gauge their efficacy! Another plastic Eagle Owl and a plastic Peregrine (?) near the Cathedral



The large gulls are at the higher end of avian intelligence. The fact is that plastic Eagle Owls are pieces of plastic. Why would any gull be afraid? Note the faeces at the bases of each...



The building in the foreground has been netted. Netting, if correctly installed can prevent gulls from nesting on a particular roof, but that does not prevent them from nesting on the roof next door, particularly if the roof next door is asbestos, as in this photograph. And, if the mesh size of the netting is wrong, gulls will be trapped and die a lingering death over several days.



The photograph on the left (arrowed in green, above) shows a Lesser Black-backed Gull which has died recently. The photograph on the right (arrowed in red, above) shows a gull of indeterminate species which died some considerable time ago, judging by exposed bones.

Interestingly, this same roof also has its own plastic Eagle Owl...

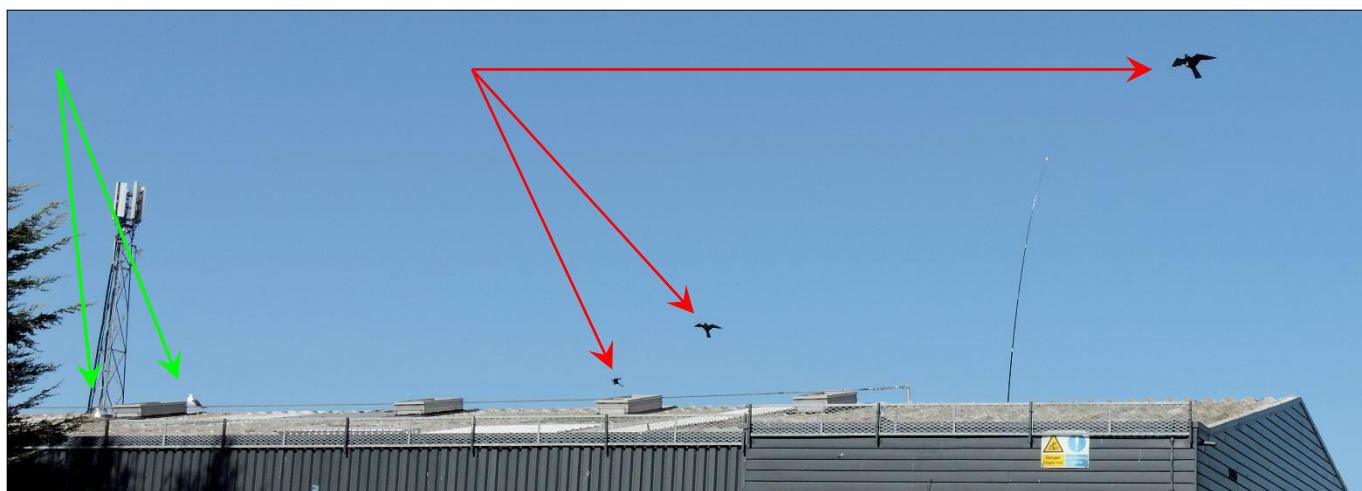


And here's another plastic Eagle Owl... The question is: why?



The usual mantra promulgated by the pest control industry when challenged about plastic Eagle Owls is “they can be effective in conjunction with other methods”... No, they can't...

The same applies to plastic kites. No, they can't... This picture is from Gloucester. It shows three plastic kites (arrowed in red) and a nest with an incubating bird and attendant partner (arrowed in green).



This 'deterrence' system, photographed in Worcester, is known as “the spider”. It is series of light wire arms weighted at the ends. The arms are driven to move by the wind. The Lesser Black-backed Gull is, in essence, a dune nester which often builds its nest under plants that move in the wind. Hmmm...

LICENSING AND HEALTH ISSUES

The much-vaunted notion that urban gulls spread disease has been repeated so often that it now seems to be a part of the culture. The epithet 'disease-ridden' is frequently applied to urban gulls (and is usually followed by 'vermin').

Prior to the withdrawal of the General Licence by Natural England in 2019, following the threat by Wild Justice of legal action, it was possible for anybody to remove the nests and eggs of both Herring and Lesser Black-backed Gulls and to kill the chicks of Lesser Black-backed Gulls (but not Herring Gull). There was no requirement to justify actions and it was not necessary to report on actions taken. Needless to say, this, in the minds of many, was an unsatisfactory situation in need of revision. Lesser Black-backed Gull is AMBER-Listed due to moderate population declines, but Herring Gull is RED-Listed due to serious population declines nationally (e.g. Eaton et al 2009). Further, Herring Gull was Removed from the pest species list of the Wildlife & Countryside Act as of January 2010 (but with the derogation of removal of nests and eggs in urban areas under the then General Licence) and, at the same time Herring Gull was listed as a BAP (Biodiversity Action Plan) species (JNCC 2010).

Licensing is, at present, under review, but Natural England now requires justification for any planned action and demands an Integrated Management Plan before issuing the A08 licence. There is now also a requirement for a report. All of these procedures can be found here:

<https://www.gov.uk/government/publications/wild-birds-licence-to-disturb-kill-or-take-for-health-or-safety>

It should be pointed out that some of the advice currently being offered by Natural England (within the Integrated Management Plan Template from the link above) is patently absurd (highlighted in blue).

Static/automated scaring devices	There are a wide range of commercially available 'scaring' devices to help discourage birds from using or nesting at a site. These can range from static audio devices emitting noises from sirens or distress calls of the same species of bird to visual deterrents to the use of pyrotechnics, <u>lasers, starter-pistols of firing blank cartridges</u> . These can be effective but as with many measures they need to be part of a more integrated effort involving multiple approaches and should be varied regularly for maximum effect.
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Consider what may happen if lasers were seen waving skywards at night, or sounds of shooting heard. In the present climate, it is highly likely that police will attend the incident and, perhaps, armed police...

The qualifying stipulations for obtaining a licence to take action against 'pest' species is if these species are risks to air and human safety and human health. Action is not justifiable for nuisance, alone.

Realistically, nuisance (i.e. noise) is far and away the main reason for complaints to local authorities. During the day gull noise is often lost in the normal cacophony of town, but at night, when town is relatively quiet, gulls are not. Street lighting enables them to forage at night. Indeed, whereas urban gulls spend approximately 50% of their time flying during the day, they spend 35% of their time flying at night (Spelt et al 2019). And at dawn, just like all birds during the dawn chorus, they, too, greet the day, but at the height of summer dawn is at around 04:00...

Aggression by gulls is frequently reported by the media. There are four stages to aggressive, territorial behaviour (Rock 2005b) with their characterisation in pink:

1. The 'gag' call is given by the gulls to warn you that your intrusion is not welcome. **VERY COMMON**
2. A low pass where gulls swoop, seemingly aggressively, towards you, but pull up at least 2m from you. This is a threat without real aggression. **COMMON**
3. Defecation/Regurgitation on intruders is carried out with surprising accuracy. It is designed to discourage you from staying within the territory. **UNCOMMON**
4. A full-on attack always come from behind striking the head. The strike is with the feet (too dangerous to use the beak at 30-40mph) and often results in blood. **RARE**

Aggression is most often seen during the chick-rearing phase, but is infrequently complained about.

Far more complained about is mess.

Gulls, as stated, being at the higher end of avian intelligence, quickly figured out that black plastic refuse bags contain food and easily break them open. Litter bins, too, are raided with whatever has been thrown in is thrown out. And, of course, the gulls keep a close eye of those people who might throw unwanted food onto the ground. Is this a gull problem, or is it a litter problem?

It has long been proposed that gull droppings affect water supplies (e.g. Jones et al 1977, Gould & Fletcher 1978, etc.) and that gulls may be transmitting agents of Salmonella to livestock (e.g. Coulson et al 1983). It is possible that these findings have encouraged some of the pest control agencies to state, categorically, in their promotional literature that urban gulls are carriers of disease. However, the facts are less clear.

Monaghan et al (1985) showed that Salmonella carriage rates amongst Herring Gulls in the Clyde area of Scotland were less than 10% (and rather higher than those observed in other parts of Scotland) and, critically, the highest rates were found in birds specialising in feeding at sewage outfalls. It was concluded that a positive correlation existed between gulls carrying Salmonellae and the incidence of Salmonellosis in the human population at the same time and that carriage rates in gulls “reflected the level of contamination in the environment”. However, a more recent study in Sweden (Palmgren 2002) showed that Salmonella carriage rates amongst Black-headed Gulls were only 2.7% and, again, that carriage reflected environmental contamination. In other words, it is more likely that humans are infecting gulls, rather than the other way around.

In both studies, gulls appeared not to be affected by carrying Salmonellae and the Swedish study supported the findings of Girdwood et al (1985) that carriage lasted between two and four days. In other words, in order to contract Salmonellosis, or other diseases, one would have to be unlucky in the extreme.

Further, Antimicrobial Resistance (AMR) among pathogens has increased over recent decades and has, for some, become a matter of concern. There are several papers describing positive findings from gull faeces, concluding that such pathogens, may/might/could/could conceivably affect humans (e.g. Zendri et al 2019). Yet, there has never been a case where gulls have been proven to be vectors of disease in humans...

The World Health Organisation (WHO) defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (1946). With this in mind, it could be argued that gulls pose a threat to health, not simply by the debatable spread of disease, but by creating circumstances where physical, mental and social well-being are affected...

SOME ITEMS OF INTEREST



Hybrids in urban colonies are certainly viable. I have been colour-ringing the offspring of a hybrid (paired with a Lesser Black-backed Gull) in Gloucester since 2008. Interestingly, the offspring tend to migrate less far than young Lesser Black-backed Gulls – to northern Spain, rather than farther south. This male Lesser Black-backed Gull is paired with a darker female. The male is slightly darker than hybrids and is believed to be a back-cross of some sort.



At least two Lesser Black-backed Gull pairs nest on the Cathedral. Here, the attendant adult stands on the flying buttress, keeping an eye on things, but the nest is completely hidden (arrowed). Of particular interest is that Peregrines (*Falco peregrinus*) also breed on the Cathedral...

Some nests are in unexpected places! The incubating adult looks very comfortable, but the large amount of nest material surrounding the chimney pots instead of inside the pot will have been far more work than was really necessary.





Pigeons are viewed as problematic in many towns and cities, but Worcester appears to be relatively pigeon-free. The norm is for pigeons to congregate close to a food source. Meanwhile, the Lesser Black-backed Gull is nesting behind the vent (arrowed).

CONCLUSION

So, Worcester is now a colony of more than 1,000 pairs and, if the trend continues at the same rate, should reach a total of more than 1,100 pairs by 2022. However, the trend is deduced from surveys which took place 14 years or more ago. With no secure information from the intervening period it is difficult to make a reliable projection.

It is possible, as has been demonstrated in Bath (and estimated in others), that as colonies mature, growth rates slow down due, for the most part, to redevelopment. The grey, pressed steel roof above (popular, at present, with pigeons) is new, but already has one Lesser Black-backed Gull nest. Others will follow.



Pressed steel is not the preferred surface for nesting and it is certainly true to say that colonisation of such roofs is slow to begin with, but over time, the gulls become accustomed and will adapt to the exigencies. Gentle slopes are easy to adapt to, but steep (and slippery) slopes require something to help to fasten the nest, or persistence with mud and soft vegetation which will adhere to the steel, as here, left.

As time goes on, successful pairs will continue to use the same nest, adding to it every year and with faeces and rotting food which will provide the ideal growing medium.

More pertinently, over and above pressed steel roofing, there are ample opportunities on more traditional roof types in Worcester providing considerable room for colonial expansion, particularly in Blackpole.



It is recommended that a follow-up survey is conducted in 2022 in order to observe, precisely, how the Worcester colony is developing, to test the current projection and to note demographic changes

Pest Control

There are several points to consider:

Expense – pest control is not cheap and whilst there is no requirement for local authorities to undertake such measures, residents often feel that local authorities should. Some local authorities have done so and do provide free or chargeable services.



Misinformation – the ‘seagull’ issue is a contentious one and it is, therefore, to be expected that mis- and disinformation will abound. With regard to pest control, this is a sensitive area because it concerns employment. Some practitioners know something about the large gulls, but many know very little. Additionally, there are those with strong opinions about what should be done, regardless of the facts...

And then, as if offering justification for pest control, some newspapers

produce this kind of Front Page. Bovver Birds? And in the small print it describes gulls as ‘feathered fiends’! Fact checking (as journalists are strongly encouraged to undertake) would have revealed that gulls are aggressive towards humans for only one reason – **to protect their investment in breeding**. They are not the slightest bit interested in seeking a fight, even with other gulls. Why? Because if a gull is injured, the injury could spell the end of that breeding season and, perhaps, the end of its life. So, on the contrary, gulls actively avoid aggression...

Biodiversity Action Plan – Herring Gull, since its removal from the WCA pest species list was placed on the BAP list in 2010 as a consequence of declines cited above (greater than 60% in 25 years). These declines, however, relate to rural populations. In urban colonies, there is very little information (apart from my work) on the status of Herring Gull. What is clear ([unpubl. Data](#)), is that in several studied colonies, including Worcester, Herring Gulls are, in fact, increasing in numbers (though not as significantly as Lesser Black-backed Gulls) as observed in Worcester. It appears that RSPB regards towns as refugia for Herring Gulls.

Public Perception – as one council environmental officer stated, “we can’t just do nothing, we have to do something”. Assuaging public perception by ‘doing something’ has been a driver in several local authorities. However, if what is done proves ineffective, questions may well be asked.

Alternatively, the residents of Worcester could be informed and, perhaps, encouraged to learn to live with their gulls. Several local authority officers and councillors have made it clear over the years that education is key. Creating a good education programme for residents and local schools to improve the understanding of local wildlife issues has been suggested by several.

More radical is this mural from South Bristol celebrating the area’s rooftop neighbours!





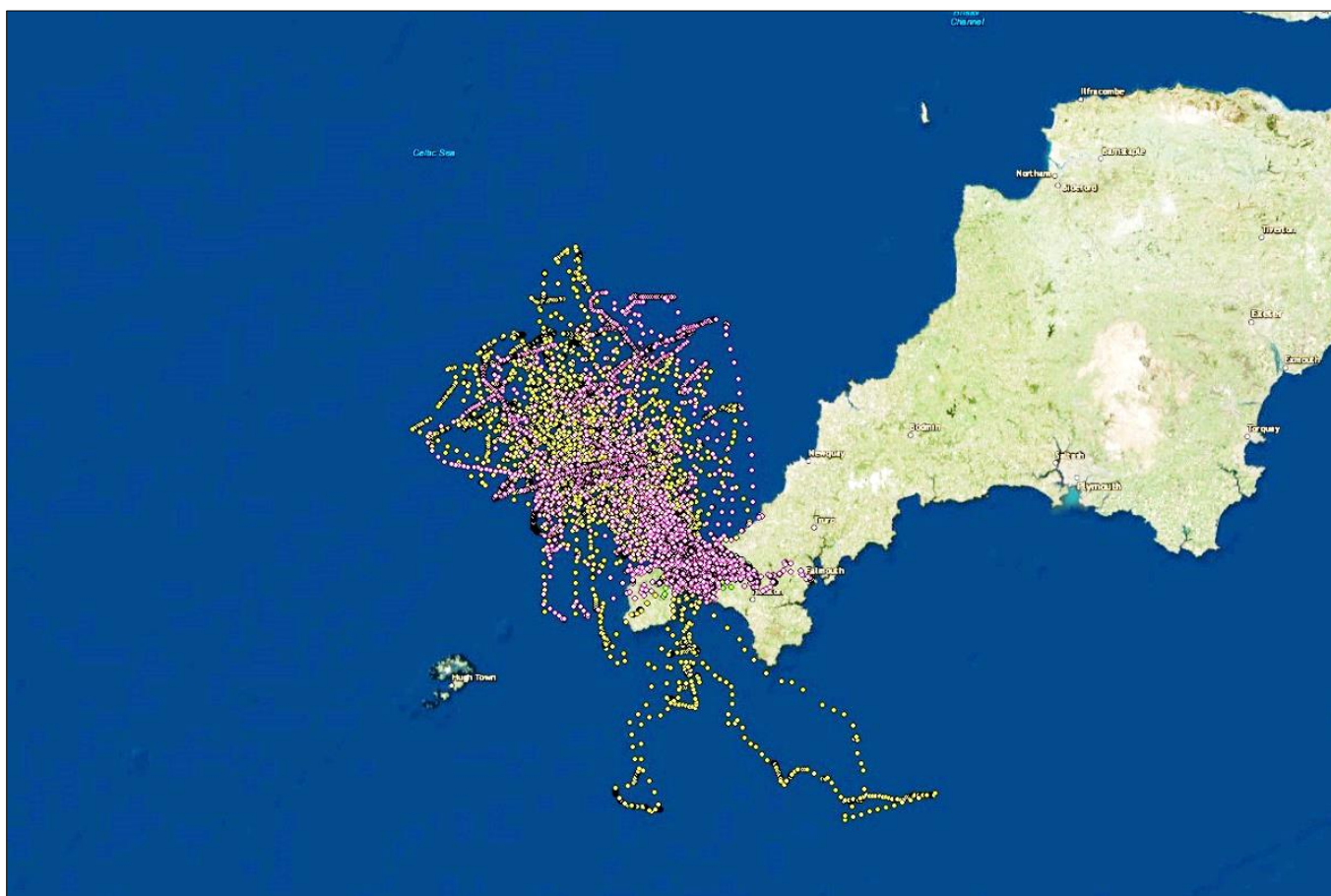
Feeding the gulls? It happens everywhere and not just in UK. This picture is from Trieste and these are Yellow-legged Gulls which breed on rooftops in the city. One thing remains constant, though, and it is that this is someone's granny... Prosecute? It might induce repercussions...

The fact is that this kind of feeding cannot make any difference to the population, but is often denounced by others, including neighbours (see Appendix 2)

APPENDIX 1.

St Ives Herring Gulls. In 2014 four Herring Gulls were tracked for the whole breeding season using GPS units supplied by the University of Amsterdam ([Rock et al 2016](#)).

The tracks of all four (these are GPS fixes at 5-minute intervals) revealed that two of the birds regularly went to sea, but that the other two never went to sea.





Closing in, it is clear that all of the birds were taking advantage of agricultural practices in the hinterland (5-minute fixes)

And, below, 5-second fixes show three of the Herring Gulls following ploughed furrows, an expected destination. Other agricultural activities were concentrated on as feeding opportunities presented themselves.



Interestingly, whilst each of the birds spent considerable time at their nests, they spent very little time at street level, suggesting that the streets of St Ives were relatively food-free. It is likely that the streets of Worcester might be similarly food-free...

APPENDIX 2.

In Bristol in 2016 and 2017 a total of 11 Lesser Black-backed Gulls were fitted with the same type of GPS tags. They are accurate to less than 1 metre. The GPS tag can be easily seen between the wings of the bird on the right.

A part of suburban Bristol is shown below. There are several green spaces, but the majority of the area is made up of housing with back gardens. The exact same picture is repeated below overlain with the GPS fixes of two birds.





By zooming in further, clusters of GPS fixes can be seen on particular houses and gardens where gulls are finding food. This does not, necessarily, mean that occupants are deliberately feeding the gulls, but for the sake of propriety these clusters are not shown. **It must be assumed, therefore, that wherever urban gulls breed, suburban gardens will be investigated by both species.**



In Bristol, the Bristol University Lesser Black-backed Gulls have very frequently been tracked foraging over suburbia ([Spelt et al 2019](#)) in many parts of the city to a point where discussion has arisen about whether or not these birds are suburban gulls rather than urban gulls!

With the appearance of Covid-19 it has been noted that fewer gulls are seen at ground level in town because people have stayed at home. The suggestion has been that, without discarded food, gulls will be in trouble. The 2020 Worcester survey shows that they are not. Of course, it remains to be seen if the incidence of Covid-19 will have any effect upon the 2020 breeding season, but one thing is true: urban gulls know everything about everything within their home ranges. If one food source dries up, the gulls simply switch to others. Suburban foraging is just one strategy.

APPENDIX 3.

Wards where gulls breed

The sectors chosen for the survey (i.e. where gulls breed) do not correspond with Worcester's ward boundaries, but it was considered helpful to provide estimates of breeding gull numbers in each ward. However, these estimates are, of necessity, rough, having been rounded up or down as appropriate to provide a ball-park figure for each. Note that, in doing so, the ward total is two pairs short of the nominal total of 1,072 pairs calculated for the city. Estimating the numbers of breeding pairs of each species in each ward has not been possible.

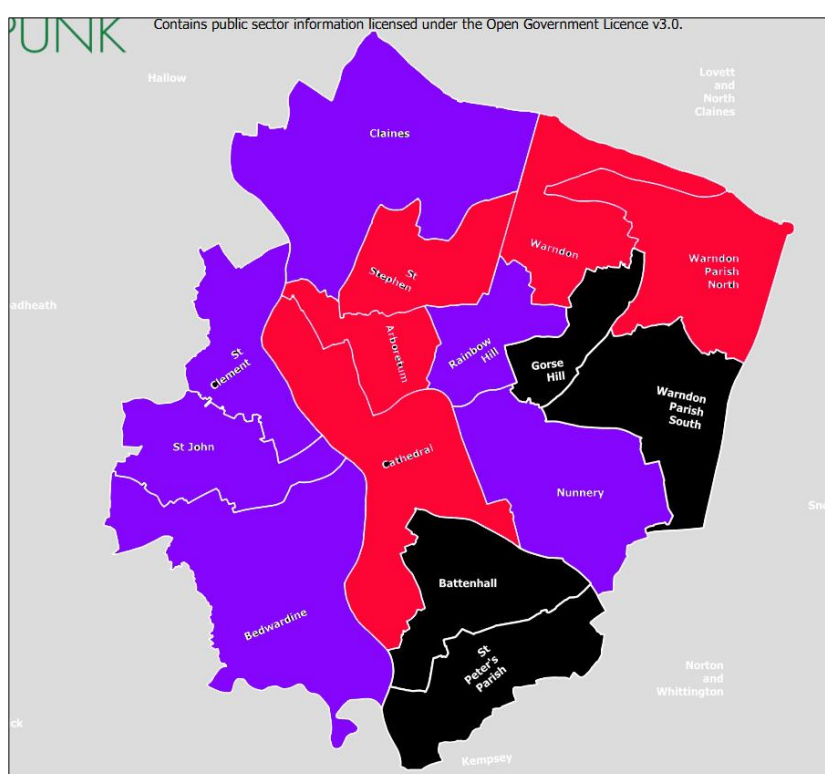
Table 4. Estimated numbers of gull pairs breeding in 12 wards in Worcester in 2020.

Legend: Pairs=Number of breeding pairs.

N.B. If these figures are quoted, they should be prefaced with the caveat circa

Ward	Pairs
Arboretum	140
Bedwardine	20
Cathedral	220
Claines	50
Northwick	50
Nunnery	10
Rainbow Hill	40
St Clement	50
St John	40
St Stephen	100
Warndon	120
Warndon Parish North	230
Total	1,070

Figure 4. A ward map of Worcester showing wards with more than 100 pairs in **RED**, fewer than 100 pairs in **PURPLE** and no evidence of breeding in **BLACK**.



Worcester has 15 wards, 11 of which have been colonised, but breeding density is at its highest in the 5 wards (in **RED**) which run through the centre and Blackpole where the most suitable roofs and other structures are to be found. Just 4 wards appeared not to have been colonised even though suitable buildings were identified and checked.

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