Breeding gulls of Poole Harbour

Summer 2023

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This survey was commissioned by Birds of Poole Harbour

Contents

Introduction

This is a repeat survey of Breeding gulls of Poole Harbour 2016.

Poole Harbour has always attracted breeding gulls. The first documented breeding Black-headed Gulls on the south coast were at Littlesea, Studland back in 1877. More recently Poole Harbour hosted the first UK breeding pair of Yellow-legged Gulls. Sadly, these are no longer here but the Black-headed Gull breeding population along with Mediterranean Gull are of national importance.

Herring, Lesser Black-backed and Great Black-backed Gulls also breed within the recording area. Traditionally restricted to cliffs or a few suitable coastal habitats, they are now thriving in urban areas. The extent of the successful move to urban areas was documented in the 2016 survey when over 800 pairs of Herring Gull, 76 pairs of Lesser Black-backed Gull and 28 pairs of Great Black-backed Gull were found to be breeding within the Poole Harbour recording area.

Black-headed Gull

Introduction

The first confirmed breeding Black-headed Gulls in Poole Harbour were at Littlesea, Studland in 1877. Around 1884 another colony formed in the *Sphagnum*-filled bog at Rempstone Heath, which soon become the most important site with around 1000 nesting pairs. The Littlesea colony was deserted in 1888. It briefly reformed in 1913, with numbers rising to around 60 pairs in 1919 but by 1938 had disappeared once more. Mansel-Pleydell (1888) also mentions 'a colony for some years on a pond belonging to Mr Calcraft, at Grove near Poole. The birds here have increased to such an extent that a great many commenced nesting on some small rushy islands at the head of South Bay, an out of the way part of the harbour'.

A major heath fire at Rempstone in 1916 disbanded that colony, with most birds moving to Arne Heath. Arne was also eventually abandoned for the perceived sanctuary of the newly formed vigorous hybrid *Spartina x townsendii* areas in the western parts of the harbour. By 1938 there were 1320 pairs here, rising to some 2000 pairs during the early 1940's. Although the newly formed saltings were ideal nesting habitat and high enough to remain above high water, they were still susceptible to egg-collecting.

Throughout the 1940's this colony formed the bulk of the entire south coast Black-headed Gull breeding population, but the relentless harvesting of eggs took its toll, eventually forcing the birds to relocate. Many moved to Brownsea Island. The 1949 Report on Dorset Birds mentions that pairs were also now using the 'extensive *Spartina* areas of the southern shores from immediately S.E. of Middlebere Lake to Newton Bay'. It goes on to say that 'The gullery in *Spartina* off Middlebere Point, over which at least 200 adults counted in April but were badly robbed'. Also 'nesting fairly freely off N. Fitzworth. No reliable estimate of the numbers nesting in the considerable area between Middlebere and Newton Bay is possible'. The Brownsea colony meanwhile was estimated at c1000 pairs in 1948 but breeding success and population varied considerably. With the gathering of eggs for human consumption continuing unchecked, the population here also went into decline.

For reasons not entirely clear, by 1955 all breeding colonies in the Poole Harbour area had disappeared. Although egg-collecting was obviously a significant factor, the decline was thought 'probably not wholly down to human interference'. For the next five years Black-headed Gull was extinct as a breeding bird in Poole Harbour.

In 1961 some 100-150 pairs attempted to breed in the '*Spartina* marsh' on Brownsea Island, but deserted due to egg taking. They were back again the following year and by 1964 the population had risen to 250 pairs. Unfortunately these were flooded out and in 1965 'very few' bred. That year a recolonisation at Fitzworth was noted, with 43 nests counted. Only 40 nests at Brownsea in 1966 but no eggs were hatched due to predation. Just a single pair attempted to breed in 1967. Nine pairs in 1968 recovered to 'low 20's' in the early 1970's. It was thought that during this time many birds were lost to the Solent area where numbers were 'exploding'. The population remained stable at the Fitzworth *Spartina* colony with c144 pairs counted there in 1971.

The early 1970's did however see the eventual discovery of the relative safety of the Holton Heath *Spartina* islands, although why the birds did not move to the these islands beforehand is a bit of a mystery. Despite the obvious advantages of being an island, there was still no protection from determined boat owning egg thieves. Despite having their eggs regularly taken and nests being occasionally washed out by very high spring tides the colony did manage to steadily grow.

During this time breeding continued in the *Spartina* areas of the southern shores . The western shorelines were also recolonised with Wood Bar Looe at Holton Shore holding c68 pairs in 1971. Rather predictably however both sites were relentlessly and systematically robbed of their eggs year after year. Remarkably, the Wood Bar Looe colony was still 500 strong in 1975 but continued to be 'heavily pillaged' and regularly flooded out. Still 400 pairs in 1976 but thereafter the colony disappears from the records. The Fitzworth colony is also no longer mentioned after 1971.

In 1977 breeding was recorded at Holes Bay with 20 pairs, rising to 40 pairs in 1978 but was then abandoned.

Black-headed Gull breeding colony disturbance

The Holton Bay *Spartina* islands colony meanwhile continued to grow, assisted in 1981 by the introduction of licenses to collect Black-headed Gull eggs. Licenses were issued for limited collecting of eggs, but in reality it was not possible to regulate the activity. Probably due to some continued unlicensed egg collecting, part of the colony moved in 1984 to the private and undisturbed *Spartina* saltmarsh areas of Round and Long Island. (The two islands are conjoined by an area of *Spartina*).

The small colony at Brownsea continued but fluctuated in numbers. Still up to 200 pairs in 1980, but only 19 pairs in 1984, the same year the Round/ Long Island *Spartina* colony formed to which some presumably went.

The 1985-87 Seabird Colony Register recorded a rather imprecise 2000-4000 pairs for Poole Harbour with an estimated 1000-2000 pairs each at the Holton Bay islands and Long/Round Islands, 'which made up the bulk of the harbour's total breeding population'.

In 1990 Mediterranean Gulls were discovered breeding at both colonies and egg collecting licenses were withdrawn. At the same time a surveillance operation was mounted annually over the Holton Bay colony, organised by the RSPB. The total population that year was estimated at 4000 pairs rising to 5000+ in 1991 and once more becoming a nationally important colony. From 1991-2004 estimates from the surveillance team and later other volunteers were stable at around 4000-6000 pairs.

Up to 1500 pairs continued to nest at Round/Long Island until 1991, after which rather oddly there are no further records. During this time the population on Brownsea Island had risen back up to 100-200 pairs. In 1994 the Fitzworth *Spartina* Islands reappeared in the Dorset Bird report where an estimated 650 pairs were reported, but for whatever reason were not reported in subsequent years. Brownsea Lagoon held 209 pairs in 1996, but following poor success in 1999 and 2000, the results of deer trampling and predation, numbers fell to 30 pairs in 2001. Numbers were back up again in 2002 with 128 pairs recorded, but this time rats, crows and gulls were thought to be the cause of the poor success. Since then 100-200 pairs have continued to breed on the lagoon with varying degrees of predation and success.

A single pair attempted to breed at Hamworthy Lake in 2001 and 2002.

In 2007 during a wader survey, the author recorded 141 pairs at Fitzworth *Spartina* islands. This area is private and only visited by WeBS counters in the non-breeding months, so despite the lack of records since the last in 1994 it is entirely possible that this colony has infact remained in existence throughout these intervening years.

In 2008 the first quality survey was conducted on the Holton Bay *Spartina* islands. A total of 8951 nests were counted. This was significantly higher than the estimate of 4-6000 pairs prior to the survey. The increase may have been in part genuine, however previous estimates were very likely underestimates, being based on halved counts of birds during major flushes from remote locations; a method likely to under-estimate the population as some birds will be absent from the colony at any given time (Chown 2008). Regardless, it was certainly an encouraging number.

The islands were revisited in 2015, however first clutches were found to have been largely destroyed by tidal flooding, with a subsequent visit to count the replacement clutches probably providing an under-estimation of the true numbers that initially attempted to breed. 6400 Black-headed Gulls nests were counted, down 29% on the 2008 count. An underestimate it may have been, but the following years' counts were significantly lower. In 2016 a disturbingly low count of 2589 nests were recorded, down 60% on 2015 and down over 70% on the 2008 survey. This was discussed fully in the Breeding gulls of Poole Harbour (2016), but during the visit that year it became clear that many of the nests had been robbed out. Many nests were empty and bootprints were found. Vestiges of bootprints that had since been washed away by the tide were also found during the 2015 survey, which raised suspicions at the time but could not be definitely attributed to egg thieves. Now it was clear, the crime was reported to Dorset Police and as a consequence the Met Police visited thirteen London restaurants with Black-headed Gull eggs on their menus to warn them of the legal implications and indeed health dangers of serving eggs with unknown origins.

In 2017 breeding numbers were again disappointing with 2,505 pairs counted, however breeding was disrupted that year due to unusual weather conditions with nesting delayed or not even attempted by some pairs. It was thought the spring drought had affected the availability of terrestrial invertebrate prey.

In 2018 the weather was good, the tides were not excessive and with egg-collectors seemingly dissuaded, an encouraging 4,415 nests were counted. That year also saw c175 pairs nesting on Brownsea Lagoon and the formation of a brand new colony in the reedbed area of the DWT reserve, with around 100 pairs estimated. Since then, the Lagoon colony has remained between 150 and 200 pairs whilst the reedbed colony has steadily grown, with an estimated 200 pairs in 2021.

The most recent Holton Bay *Spartina* islands count prior to this survey was in 2021, when 3706 nests were counted. Although lower than 2018, this figure was considered an underestimate of the true number of pairs that had attempted to breed as some nests had clearly been flooded during spring tides prior to the survey.

Methods

The method employed to count nests on the Holton Bay *Spartina* islands in the Wareham Channel was identical to that of 2016 and all previous island surveys (Chown 2015), using a team of counters to walk transects to cover the whole area. Starting at the shore, the team of counters lined up approximately four metres apart and walked in parallel, each counting to their side the number of apparently occupied nests using tally counters for Black-headed Gull, whilst memorising the number of Mediterranean gull nests. Flimsy or untidy nests were not counted. The observer furthest from the shore marked the boundary with bamboo canes, which would then form the boundary for the next transect. Totals were recorded at the end of each transect. This process continued until the whole island had been covered.
This survey was also led by Dave Chown and undertaken on 7th May to coincide with peak incubation period.

For all other known colonies, vantage point counts adjacent to the colonies were considered to be a sufficiently accurate method of assessing numbers of pairs. Multiple visits at differing times of the day were undertaken to record the number of sitting birds.

In addition, further colonies were searched for using a series of high vantage points positioned to cover all areas of the harbour. Any colonies detected were subsequently surveyed from a nearer vantage point.

An attempt was made to count by transect the Brownsea Island reedbed colony, but the habitat proved untraversable. An alternative method was thus employed that involved waiting at a vantage point with a camera until a disturbance of the colony occurred. Birds were counted from the photographs and then halved to provide a minimum number of nesting pairs.

Results

Six breeding colonies were identified: Holton Bay *Spartina* islands, Brownsea Lagoon, Brownsea reedbed, Furzey Island, Long Island and Green Island.
Total pairs counted were 4313.

Still the most important colony by far was the Holton Bay *Spartina* islands, where 3568 nests were counted.

The recently formed colony at Brownsea reedbed held a minimum of 470 pairs with Brownsea Lagoon holding 234 pairs.

There were 28 pairs at Long Island, eight pairs on Furzey Island and five pairs on Green Island.

The total population was up 1419 pairs on the 2016 survey, representing a 49% increase on that year. The table below compares this survey's site counts with those of 2016.

Site	2023	2016	Difference	% Difference
Holton Bay *Spartina* islands	3568	2589	979	+38%
Brownsea reedbed	470	0	470	-
Brownsea Lagoon	234	260	-26	-10%
Furzey Island	8	26	-18	-69%
Fitzworth *Spartina* islands	0	19	-19	-
Green Island	5	0	5	-
Long Island	28	0 / (190)	28	-
Totals	4313	2894	1419	+49%

Table 1. Black-headed Gull breeding pairs for 2023 and 2016

**The 190 pairs counted at Long Island in 2016 were later in the season and involved previously counted displaced birds*

Discussion

The three most recent Black-headed Gull breeding total estimates suggest a stabilising population, for the time being at least. Since the reporting of egg thieving in 2016 no further evidence of this activity has been observed and the population is now nearly 50% larger than that year.

The population at Holton Bay *Spartina* islands was 38% higher than 2016. There has also since been the formation of a new colony in the reedbed area of Brownsea DWT, which has now grown to a notable 470 pairs, the increase not impacting numbers nesting on the Lagoon which has maintained its population size. The Fitzworth islands colony is now no more.

The graph below shows the current breeding population in a historical perspective.

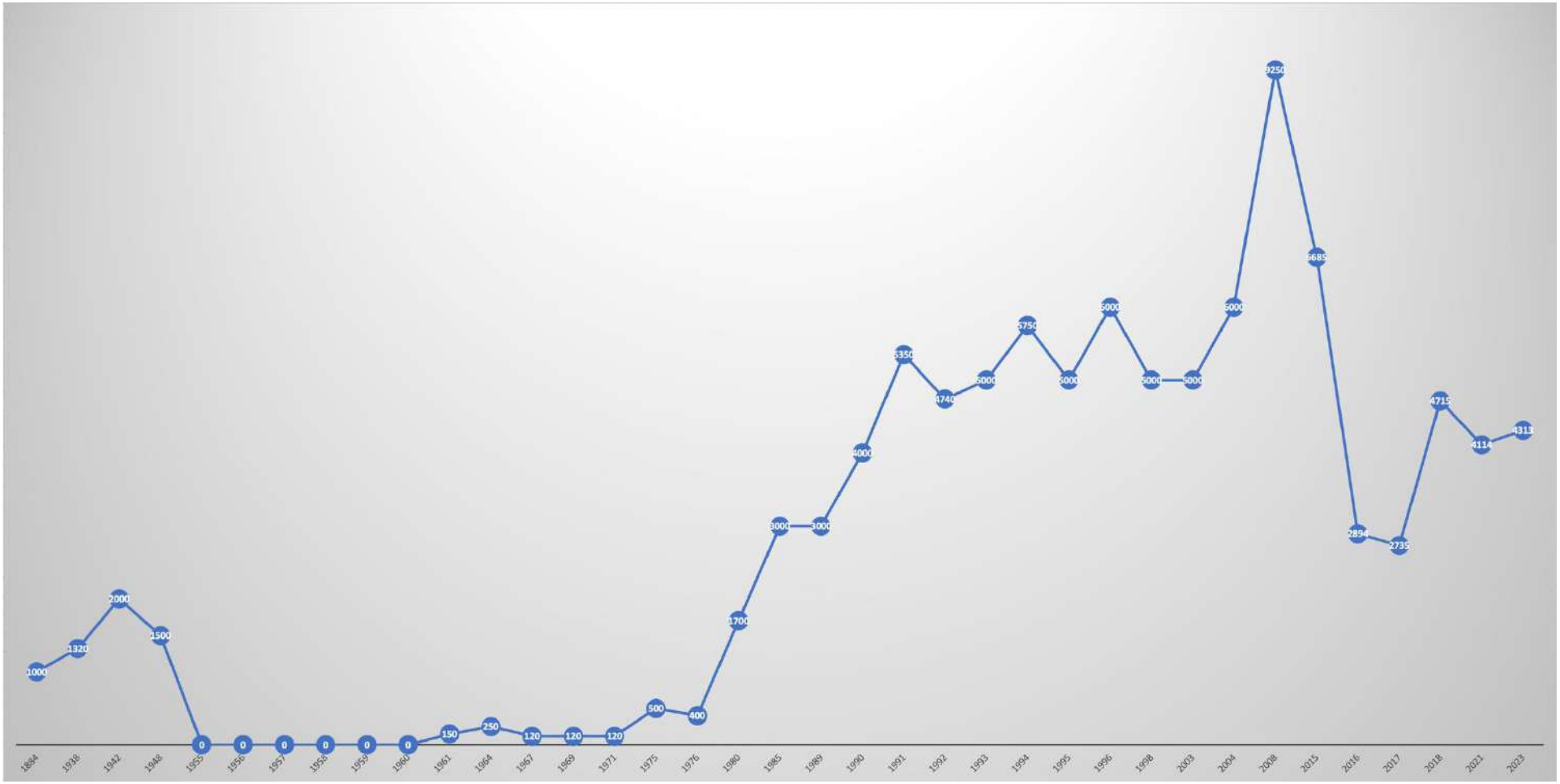

Fig 1. Historical populations of breeding Black-headed Gull pairs (intervals on lower axis are not of equal time periods)

It must be acknowledged that all breeding population estimates prior to 2008 were just that, particularly the very rounded numbers of the late 1990's which were also likely influenced by the previous year's estimates. At some point, either in the late 1990's or early 2000's the population most likely increased without being properly recorded, with the first accurate count in 2008 being significantly higher than the estimates of the previous few years. What is certain however was the dramatic fall in breeding numbers to 2016. After reaching bottom in 2017 with 2735 pairs, there does now appear to be relative population stability around the mid 4000's.

Mediterranean Gull

Introduction

Poole Harbour is one of the UK's key breeding sites for Mediterranean Gull.

Dorset's first and the UK's third only attempt at breeding by Mediterranean Gull occurred on Brownsea Lagoon in 1977. Unfortunately, the pair were unsuccessful. Further attempts in 1978, 1980 and 1981 were also unsuccessful. In 1985 a pair were seen hanging around the Holton Bay Black-headed Gull colony and may have attempted nesting.

In 1990 four pairs of Mediterranean Gulls were discovered nesting in the Holton Bay colony and a further two pairs in the Round/Long Island colony.
Following the discovery, a surveillance operation was mounted by the RSPB. Minimum pair counts were also made but proved to be 'exceedingly difficult to locate amongst the many Black-headed Gull nests and it is possible that not all pairs were located in some years'.

Between 1991 and 2005 counts, or estimated pairs, based on numbers of birds present ranged from two to eight pairs. A count of 77 birds frequenting the islands in late April 2007 was certainly a dramatic increase and this count was considered an underestimate. It may well have been, as the 2008 survey visit to the island counted no fewer than 87 nests.

The intervening years until the next dedicated nest counting survey in 2015 saw the numbers of Mediterranean Gulls using the harbour continue to increase quite dramatically, raising hopes of a significant increase in breeding numbers. Unfortunately the survey in 2015 had to be abandoned when it became clear that many of the first clutches had been swept away by flooding. A subsequent visit a couple of weeks later recorded 64 pairs of Mediterranean Gulls, down 26% on 2008. These were considered underestimates of the true numbers that initially attempted to breed, as Mediterranean Gull tend not to re-lay after losing a first clutch (Chown 2015).

Although that year was regarded as an undercount it looked positively rosy compared to the 2016 survey count which found only 38 nests, followed by 33 nests in 2017. However, in a rather dramatic turnaround the 2018 survey visit recorded 155 nests, a huge increase on previous years and a 78% increase on the previous record count of 87 nests in 2008. In 2021 there were 109 nests counted.

During these years there was also some activity at Brownsea Lagoon. In 2010 a Mediterranean Gull was seen carrying nest material but there were no attempts to breed. Similar activity was noted in the following years until breeding eventually occurred in 2015 when three pairs nested, quite possibly birds from Holton Bay that had been flooded out by the high spring tide of that year. In 2016 no fewer than 10 pairs attempted to breed but no pairs returned the following year. In 2019 a single pair attempted breeding and again in 2020.

Methods

As Black-headed Gull

Results

An historic 278 nests were counted on the Holton Bay *Spartina* islands
One pair at Brownsea Lagoon

Discussion

The number of breeding pairs counted this year on the Holton Bay islands was 79% higher than the previous highest count of 155 pairs in 2018 and 631% higher than the count achieved in the 2016 breeding gull survey.

The apparent absence of egg harvesting must be factor but unlikely to be the only one. The chart below shows the dramatic rise in breeding numbers.

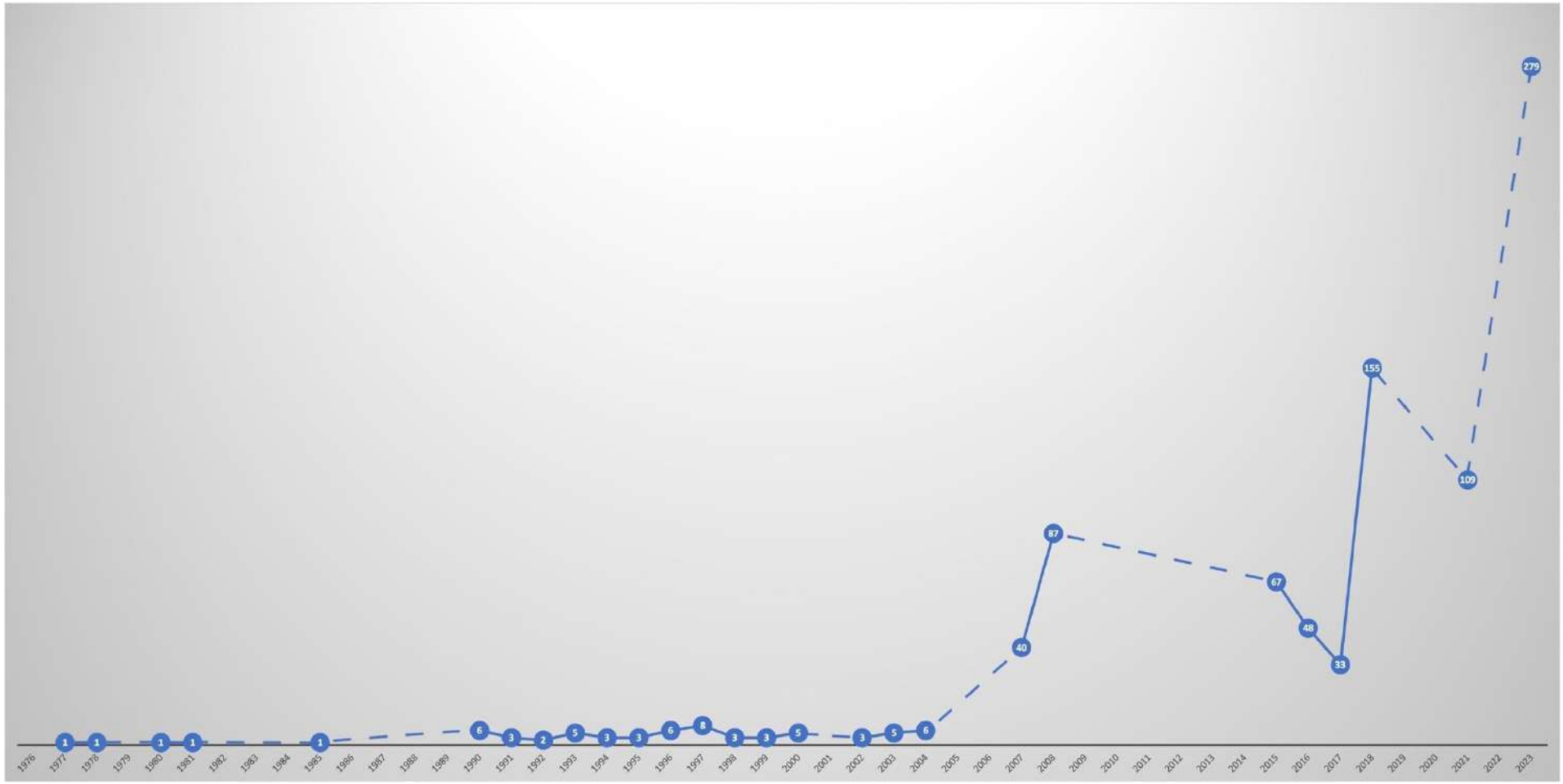

Fig 2. Historical populations of breeding Mediterranean Gull pairs

Spartina islands

One potential longer term issue for both Black-headed and Mediterranean Gulls is the ongoing denudation of *Spartina,* more precisely the Holton Bay *Spartina* islands. As can be seen from the bar chart below, since 2008 the smallest of the islands (S.E) has seen a drop in the numbers of breeding pairs of Black-headed Gulls year on year from nearly 1400 in 2008 down to eventually zero. A similar pattern appears to be developing at the North West island where numbers of Black-headed Gull pairs have gradually been falling since 2018 despite the overall population during that time staying fairly stable. Only the largest island is maintaining its population size.

The loss of the small colony at the Fitzworth *Spartina* islands also appears to be as a consequence of denudation, reducing the islands in size to the point where inundation has now become far too frequent.

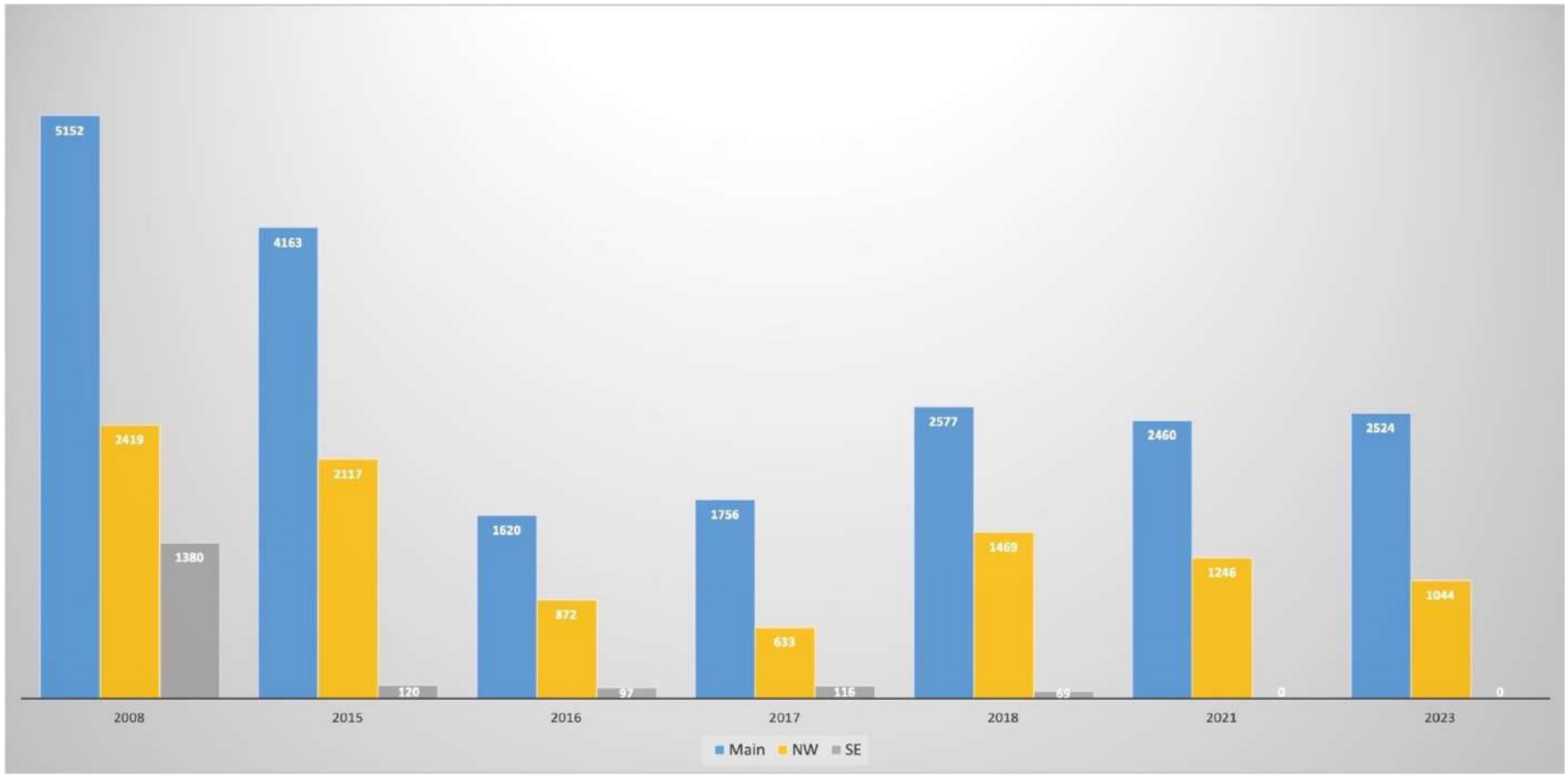

Fig 3. Holton Bay breeding pairs of Black-headed Gulls by island

Herring Gull

Introduction

No breeding bird should be taken for granted, no matter how common. In 1971, 930 pairs of Herring Gull bred on Brownsea Island. They were considered a pest and were reduced to fewer than 100 pairs by 1978. In 1981 there were only 12 pairs left and by 1986 there were none. In the space of 15 years the Harbour's breeding population had gone from over 900 pairs to the point of extinction.

A familiar bird of the coast since records began. 'The Herring Gull is the most abundant and generally distributed of the genus. It breeds in every available locality on the coast'. Mansel-Pleydell (1888). The sea cliff colony at Ballard, which is included within the Poole Harbour recording area, has always had a small colony of Herring Gulls. Boys (1945) mentions 22 nests in 1945. Prior to 2000 site numbers were not published separately, but since 2000 the colony has numbered around 30 pairs.

First mention of breeding birds away from the coast was in 1951 when 'at least five pairs bred on marshy ground in Poole Harbour'. In 1962 Brownsea had 'some nesting pairs'. By 1964 at least 500 nests were counted on 'Brownsea Lagoon and the southern cliffs' and by 1971 the colony at Brownsea was 930 pairs strong. First attempts at keeping the numbers down at Brownsea started in the mid 1960's with eggs being destroyed. Later the technique of egg-pricking was employed.

In 1977 at least 20 pairs attempted to nest on *Spartina* at Holes Bay but without success. In 2000 three pairs of Herring Gull attempted nesting on Brownsea but failed.

In 2002 Day and Pickess noted that 'in the current period there has been very little improvement in the Herring Gull's status as a Poole Harbour breeding species' But help was at hand. In 1991 a few pairs of Herring Gulls were discovered nesting on rooftops in Poole Town. 'The numbers of birds that were attempting to nest was uncertain, they were not viewed with any great pleasure and could be dissuaded from nesting'. In 1997 five pairs were reported, all from Sandbanks. In 1999 the Seabird 2000 Survey counted 29 pairs nesting in Poole Town, with the last published records of breeding birds referring to 12 pairs around Holes Bay in 2003.

That was until 2016 when Birds of Poole Harbour decided to find out whether the dramatic increases in urban nesting birds witnessed in other areas was occurring within the Poole Harbour recording area. The results showed that it most certainly was, recording a population of 811 pairs!

Methods

The survey methods employed for all three 'large gull' species were as for the 2016 survey. Herring and Great Black-backed Gulls at Ballard cliffs were surveyed both by boat and from the cliff top, with all observations marked on enlarged photographs of the cliffs. For this survey the boat observations were kindly supplied by Footprint Ecology who surveyed this area as part of their wider Purbeck Seabird Survey.

A series of vantage point watches and 'look-see' surveys (Bibby *et al* 2000) were used for the rest of the non urban areas of the Harbour recording area to locate further gulls, in particular Great Black-backed Gulls.

The methods used for surveying urban nesting gulls as for the 2016 survey followed those recommended by Walsh *et al* (1995) and the BTO Research Report; Urban Breeding Gull surveys: a Review of Methods and Options for Survey Design (2016).

All built up and suburban areas were divided into areas of high and lower survey effort areas, following those established during the 2016 survey.
For High Effort Areas, a combination of multiple vantage points and street walking was employed, making use of multistorey car parks, office roofs, high rise buildings, bridges and other high vantage points. For many areas, binoculars were adequate but a telescope was required on a number of occasions.

The Census units used and recommended by Walsh *et al* (1995) and Gilbert *et al* (1998) were Apparently Occupied Nests (AON's): which not only include obvious sitting birds but also 'a well built nest capable of containing eggs, with at least one adult present, or a sitting bird with an obscured nest. Also, birds showing clear signs

of breeding on roof areas that were not viewable.' Apparently Occupied Territories (AOT's) were also recorded based on attendant birds or pairs viewed from a vantage point where nests could not be discerned but breeding was suspected.

A series of aerial photographs clearly detailing all buildings were collated, allowing the accurate mapping of all AON's and AOT's and eliminating the possibility of double counting where multiple vantage points were used for the same area.

Not all roof areas as one might expect could be observed. For these, prolonged observations were sometimes able to determine presence or absence of otherwise obscured birds, particularly during times of a perceived threat, for example when birds would take to the air and give away their presence.
Any roof area not considered to be adequately surveyed was hatch-marked on a map. The percentage of roof space not covered was calculated and the density of birds for that area then determined an estimated number, in accordance with (Sellers and Shackleton 2011).
For many industrial areas however, this type of extrapolation was used with extreme caution as colonies were often clustered. For example, in Poole Port there was a clear preference for the leeward side of a shallow pitched roof, with often no pairs nesting on the other side.

The Lower Effort Areas were covered by transects that involved marking pairs on maps along with routes taken. Transect routes were designed to reach all parts of the transect area and to cover at least 50% of all roads within the recording areas. Areas containing small clusters of birds were covered to a higher degree, with all roads being surveyed in some areas. Pairs again were marked on pre-prepared maps with densities calculated and extrapolated for the areas not surveyed.
There was one departure from the method used in the 2016 survey, the transects this time were undertaken by bicycle.

Coulson and Coulson (2015) tested the accuracy of Vantage Point watches and street walking, comparing estimates made to actual nests counted later with a cherry picker. They found on average that a combination of Vantage Point watches and street walking had a detection rate of 88% for commercial town sites and 84% for industrial areas. With this in mind the BTO, in their report Urban Breeding Gull Surveys: A Review of Methods and Options for Survey Design (2016) suggested that the most robust census unit for estimating numbers of breeding pairs in an urban setting might therefore be the sum of AON's and AOT's to account for the likelihood of nests or pairs being missed.

The survey continued well into fledging period. This was to allow a number of the more important sites to be revisited where under-recording was suspected and take advantage of the increased detectability of calling and roaming young.

There was one more small departure from the 2016 survey which was inevitable. Based on experience gained during the 2016 survey and subsequent visits during the intervening years, improved coverage and efficiency was possible for this survey, such as modified viewing points etc that allowed increased coverage. The resulting increased accuracy of the survey method was taken into consideration during extrapolation of the uncounted areas, ensuring the legitimacy of direct comparison to the 2016 survey was maintained.

Fig 4. High Effort (Red) and Lower Effort Transect Areas (blue) for north of Harbour recording area

High Effort Areas

1. Poole Town
2. Poole Port
3. Longfleet
4. Sterte
5. Fleetsbridge and Stanley Green Industrial Estates
6. Dawkins Industrial Estate
7. Allen's Lane and Stepnell Reach, Blandford Road
8. Upton Industrial Estate
9. Cabot Lane area
10. Nuffield Industrial Estate
11. Industrial estates north of Mannings Heath Road
12. Tower Park / Mannings Heath
13. Newtown Business Park and Chalwyn Industrial Estate
14. Commercial Road area
15. Lilliput
16. Sandbanks Peninsula
17. Holton Heath Trading Park
18. Sandford Lane Industrial Estate
19. Westminster Road industrial units, Northmoor

Lower Effort Transect Areas

A. Hamworthy
B. Upton
C. Creekmoor
D. Broadstone
E. Canford Heath
F. Oakdale
G. Longfleet
H. Parkstone
I. Lower Parkstone
J. Canford Cliffs
K. Branksome Park
L. Sandford
M. Northmoor
N. Wareham

Fig 5. High Effort (Red) and Lower Effort Transect Areas (blue) south west Harbour

Results

The survey established the population of breeding Herring Gull pairs at 872.
Of these, 708 pairs (615 nests/AON's and 93 AOT's) were observed.

32 nests were counted at Ballard cliffs (Handfast Point to Ballard Point) and a pair nested at Brownsea Castle. All other pairs were in built up areas.

As with the previous survey of 2016, the highest concentration of birds was in Poole Town with 283 pairs. Fleetsbridge & Stanley Green was the next most important area holding 86 pairs with Poole Port and the Sandbanks Peninsula also holding a significant population.

Most industrial estates held at least some pairs.

High Effort Area	AON's counted	AOT's counted	Total counted	Extrapolated AON's	Extrapolated AOT's	Derived Total
Poole Town	210	26	236	42	5	283
Fleetsbridge & Stanley Green Ind Est's	59	13	72	12	2	86
Poole Port	50	4	54	7	1	62
Sandbanks Peninsula	39	7	46	10	1	57
Newtown & Chalwyn Ind Ests	28	8	36	7	2	45
Sterte	25	5	30	6	1	37
Tower Park / Mannings Heath	23	3	26	8	1	35
Nuffield Industrial Estate	19	1	20	9	1	30
Longfleet	19	3	22	5	1	28
Lilliput	12	3	15	3	1	19
Upton Industrial Estate	8	3	11	3	1	15
Cabot Lane area	7	2	9	3	1	13
Commercial Road area	6	1	7	4	1	12
Dawkins Industrial Estate	8	1	9	2	0	11
Allen's Lane & Stepnell Reach	5	2	7	2	1	10
Mannings Heath Road (north of)	3	3	6	1	1	8
Westminster Road industrial units	4	0	4	1	0	5
Sandford Lane Industrial Estate	1	0	1	0	0	1
Totals	526	85	611	125	21	757

Table 2. High Effort Area counts of Herring Gull Nests / Apparently Occupied Nests and Apparently Occupied Territories

Lower Effort Transect Area	AON's counted	AOT's counted	Total counted	Extrapolated AON's	Extrapolated AOT's	Total derived
Canford Cliffs	17	4	21	4	1	26
Parkstone	4	1	5	2	1	8
Branksome Park	7	1	8	2	0	10
Lower Parkstone	5	1	6	2	0	8
Oakdale	8	0	8	2	0	10
Hamworthy	2	0	2	1	0	3
Longfleet	10	1	11	3	0	14
Totals	53	8	61	16	2	79

Table 3. Lower Effort Transect Area counts of Herring Gull Nests / Apparently Occupied Nests and Apparently Occupied Territories (areas with nil counts are not included here)

Area	AON's counted	AOT's counted	Total counted	Extrapolated AON's	Extrapolated AOT's	Total derived
Ballard cliffs	32	0	32	0	0	32
Studland village	3	0	3	0	0	3
Brownsea Castle	1	0	1	0	0	1
Totals	36	0	36	0	0	36

Table 4. Other specific area counts of Herring Gull Nests / Apparently Occupied Nests and Apparently Occupied Territories

The pie chart below shows how important the Poole Town area still is, with nearly a third of the entire Poole Harbour breeding population located here.

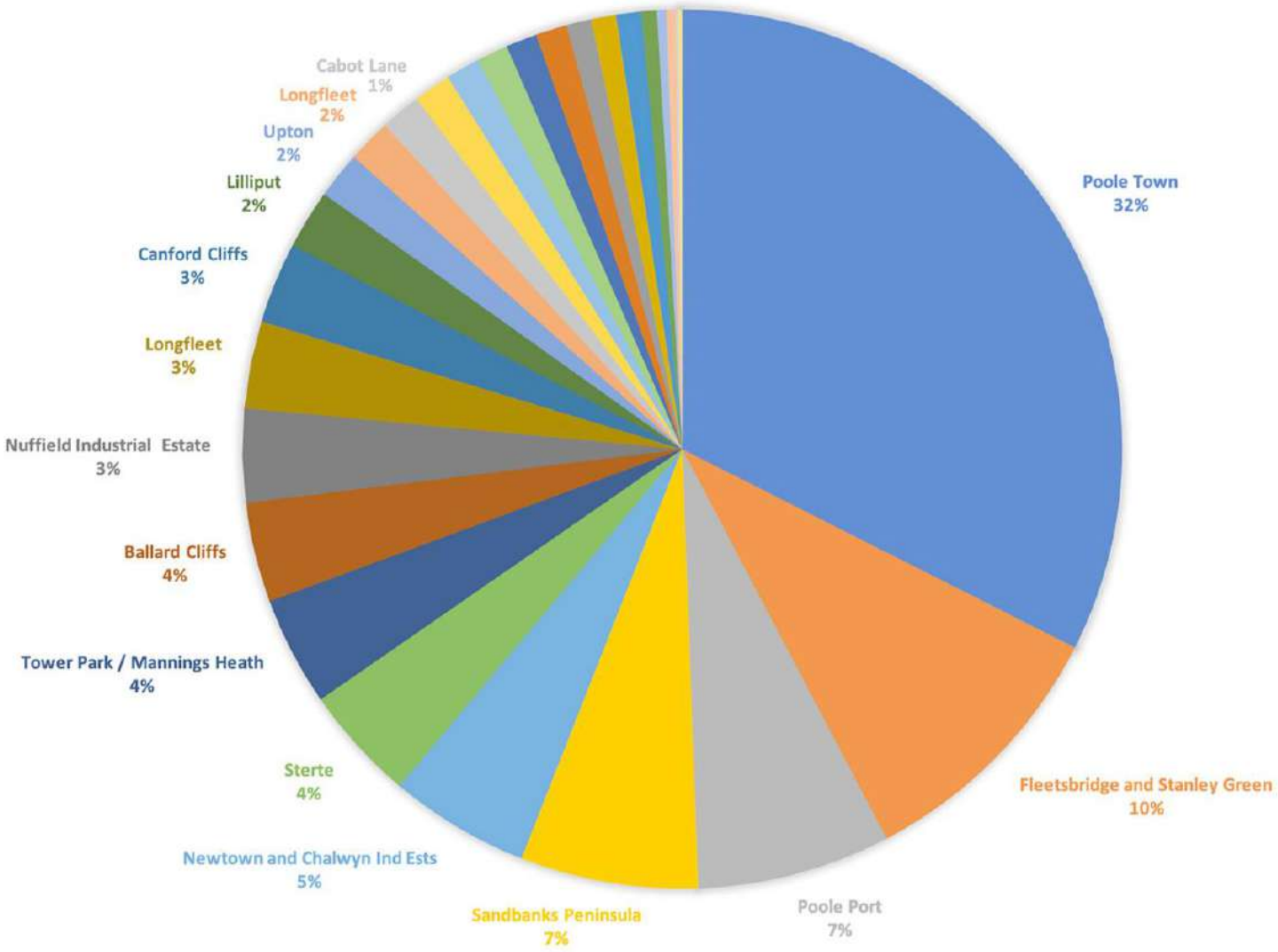

Fig 6. Breeding distribution of Herring Gulls

Discussion

The population recorded was 7.5% higher than 2016.

The story however is not one of a small uniform increase across the recording area. Drilling down into the numbers reveals some turmoil, the results of which roughly balance out overall. The most notable change was the loss of 64 pairs from the Poole Town area. Sandbanks Peninsula also lost 10 pairs. The balance was made up in the areas dominated by commercial trading estates, with all of these areas bar one gaining pairs, (two recorded the same number of pairs). The table below shows the changes with green numbers indicating gains and red numbers losses.

High Effort Area	**AON 2023**	AON 2016	**AOT 2023**	AOT 2016	**Total 2023**	Total 2016	Change (Green up Red down)	% Change (Green up Red down)
Poole Town	**252**	288	**31**	59	**283**	347	64	18.5
Fleetsbridge & Stanley Green	**71**	66	**15**	19	**86**	85	1	1
Poole Port	**57**	41	**5**	5	**62**	46	16	34.8
Sandbanks Peninsula	**49**	54	**8**	13	**57**	67	10	15
Newtown & Chalwyn Ind Ests	**35**	25	**10**	5	**45**	30	15	50
Sterte	**31**	15	**6**	0	**37**	15	22	147
Tower Park / Mannings Heath	**31**	14	**4**	3	**35**	17	18	106
Nuffield Industrial Estate	**28**	15	**2**	3	**30**	18	12	66.7
Longfleet	**24**	20	**4**	8	**28**	28	0	0
Lilliput	**15**	15	**4**	4	**19**	19	0	0
Upton Industrial Estate	**11**	4	**4**	4	**15**	8	7	87.5
Cabot Lane area	**10**	2	**3**	3	**13**	5	8	160
Commercial Road area	**10**	9	**2**	3	**12**	12	0	0
Dawkins Industrial Estate	**10**	3	**1**	1	**11**	4	7	175
Allen's Lane & Stepnell Reach	**7**	7	**3**	1	**10**	8	2	25
Mannings Heath Road (north of)	**4**	5	**4**	5	**8**	10	2	20
Westminster Road ind units	**5**	0	**0**	0	**5**	0	5	-
Sandford Lane Industrial Estate	**1**	0	**0**	0	**1**	0	1	-
Totals	**651**	583	**106**	136	**757**	719	**38**	**5.3**

Table 5. High Effort Area breeding Herring Gull pairs 2016 and 2023

It can be no coincidence that Poole Town and Sandbanks which recorded the bulk of the losses are the only two largely residential High Effort Areas apart from Lilliput (which recorded the same number of pairs). As John Day alluded to in 2002 'The numbers of birds .... were not viewed with any great pleasure and could be dissuaded from nesting'.

During this survey a few more netted roof areas were observed but nowhere near enough to account for the reduction in breeding numbers. Other potential causes could be nest removal /destruction, or a decrease in food availability perhaps as a consequence of the area being more refuse and litter conscious.

Given the increase in numbers of breeding pairs at other sites, in particular adjacent areas such as Poole Port which saw a 35% increase in their population, it seems reasonable to assume that some of the displaced birds have successfully found alternative arrangements.

The Lower Effort Transect and additional recording areas combined showed a 25% increase in breeding pairs, although the Ballard cliffs population was down 16%. The pairs lost at Upton were all from one particular building.

Lower Effort Transect Area	AON 2023	AON 2016	AOT 2023	AOT 2016	Total 2023	Total 2016	Change (Green up Red down)	% Change (Green up Red down)
Canford Cliffs	21	20	5	2	26	22	4	18.2
Parkstone	6	6	2	2	8	8	0	0
Branksome Park	10	4	0	4	10	8	2	25
Lower Parkstone	7	7	1	0	8	7	1	14.3
Upton	0	4	0	0	0	4	4	100
Oakdale	10	0	0	4	10	4	6	150
Creekmoor	0	0	0	1	0	1	1	100
Hamworthy	3	0	0	0	3	0	3	-
Longfleet	13	0	1	0	14	0	14	-
Other areas								
Ballard cliffs	32	38	0	0	32	38	6	15.8
Studland village	3	0	0	0	3	0	3	-
Brownsea Castle	1	0	0	0	1	0	1	-
Totals	106	79	9	13	115	92	23	25

Table 6. Lower Effort Transect Area breeding Herring Gull pairs 2016 and 2023

Lesser Black-backed Gull

Introduction

Lesser Black-backed Gull has traditionally been a rare breeder in the Poole Harbour recording area, with preferred breeding habitat not sufficiently occurring here. Historically pairs were occasionally seen hanging around the cliffs at Ballard but to date there has never been evidence of breeding.

The first breeding pair recorded in the Harbour were on Brownsea Island in 1971 when two pairs nested (along with a bird paired with a Herring Gull). No young were reared. Three pairs nested from 1972-74 increasing to four pairs in 1981, but subsequently only single pairs bred with the last recorded pair in 1991.

Urban nesting Lesser Black-backed Gulls were first observed breeding on factory roofs at Fleets Industrial Estate, opposite Holes Bay in 1996 and 1997. In 1999 a pair was recorded in Poole Town centre, after which intermittent reports appeared in various Dorset Bird Reports of one or two rooftop nesting pairs with a maximum of four pairs in 2008. The extent of the presumed underestimation of breeding numbers was revealed during the 2016 breeding gull survey which determined 76 urban nesting Lesser Black-backed Gull pairs.

The 2016 survey also noted two adult birds together on Ballard cliffs but there was no sign of attempted breeding.

Results

The survey established the population of breeding Lesser Black-backed Gull pairs at 79.
Of these, 64 pairs (56 nests/AON's and 8 AOT's) were observed.

High Effort Area	AON's counted	AOT's counted	Total counted	Extrapolated AON's	Extrapolated AOT's	Derived Total
Fleetsbridge & Stanley Green Ind Est's	17	3	20	3	1	24
Newtown & Chalwyn Ind Ests	8	2	10	2	1	13
Upton Industrial Estate	8	1	9	2	1	12
Sterte	8	1	9	2	0	11
Poole Port	6	0	6	1	0	7
Poole Town	4	1	5	1	0	6
Dawkins Industrial Estate	2	0	2	1	0	3
Allen's Lane & Stepnell Reach	1	0	1	0	0	1
Tower Park / Mannings Heath	1	0	1	0	0	1
Longfleet	1	0	1	0	0	1
Totals	56	8	64	12	3	79

Table 7. High Effort Area counts of Lesser Black-backed Gull Nests / Apparently Occupied Nests and Apparently Occupied Territories

Fleetsbridge & Stanley Green bordering Holes Bay, is the most important breeding area for Lesser Black-backed Gulls with just under a third of the entire Poole Harbour population here. Poole Town which hosts just under a third of the Herring Gull population is far less fancied by the Lesser Black-backs with just 8% of pairs here. It is not entirely clear why the Newtown & Chalwyn Industrial Estates, lying somewhat inland to the north east is the second most popular area, but presumably food availability is a factor, with alternative nesting sites readily available. Sterte is also an important area, bordering Holes Bay and has a nearby pie factory.

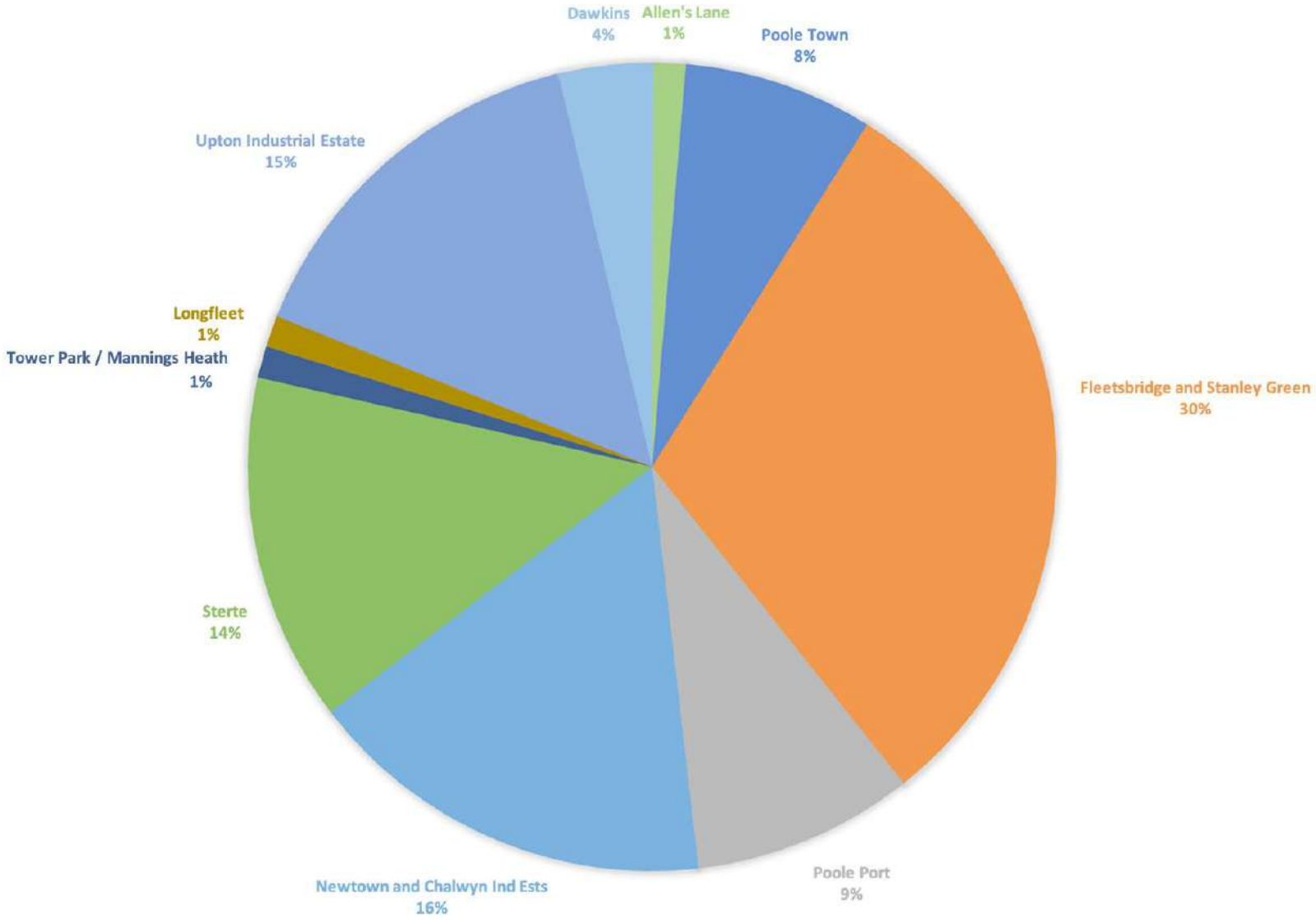

Fig 7. Breeding distribution of Lesser Black-backed Gulls

Discussion

A similar but more exaggerated pattern of winners and losers which again result in a very similar overall breeding population size to 2016, with just 3 more pairs found during this survey. There are in fact some quite dramatic differences to the survey in 2016 with the Nuffield Industrial Estate losing all 10 of its Lesser Black-backed Gull pairs, Poole Town losing more than half of its pairs and Upton Industrial Estate increasing from one to 12 pairs. The table below shows the changes with green numbers indicating gains and red numbers losses.

High Effort Area	**AON 2023**	AON 2016	**AOT 2023**	AOT 2016	**Total 2023**	Total 2016	Change (Green up Red down)	% Change (Green up Red down)
Fleetsbridge & Stanley Green	**20**	27	**4**	1	**24**	28	4	14.3
Newtown & Chalwyn Ind Ests	**10**	6	**3**	1	**13**	7	6	85.7
Upton Industrial Estate	**10**	1	**2**	0	**12**	1	11	1100
Sterte	**10**	5	**1**	1	**11**	6	5	83.3
Poole Port	**7**	6	**0**	0	**7**	6	1	16.7
Poole Town	**5**	9	**1**	5	**6**	14	8	57
Dawkins Industrial Estate	**3**	0	**0**	0	**3**	0	3	-
Allen's Lane & Stepnell Reach	**1**	0	**0**	0	**1**	0	1	-
Tower Park / Mannings Heath	**1**	1	**0**	1	**1**	2	1	50
Longfleet	**1**	0	**0**	0	**1**	0	1	-
Nuffield Industrial Estate	**0**	5	**0**	5	**0**	10	10	100
Sandbanks Peninsula	**0**	0	**0**	1	**0**	1	1	100
(Parkstone Yacht Club)	**0**	1	**0**	0	**0**	1	1	100
Totals	**68**	61	**11**	15	**79**	76	**3**	**3.9**

Table 8. High Effort Area breeding Lesser Black-backed Gull pairs 2016 and 2023

The reasons for the loss of pairs in Poole Town may well be related to the decline seen in the breeding Herring Gull population. For Nuffield, the landscape here most relevant to the breeding pairs has changed significantly since the previous survey. In particular the building that held most of the Herring and Lesser Black-backed gulls has since been demolished. The new building in its place has for whatever reason not been resettled, but whereas the Herring Gulls have just moved to adjacent buildings the Lesser Black-backs have abandoned the area altogether. This would suggest that they are rather more sensitive to disturbance than Herring Gulls whose numbers of breeding pairs actually increased in this area. Upton Industrial Estate meanwhile has rather dramatically seen it's breeding population increase from one to 12 pairs. Being fairly close by it is more than tempting to conclude that many of the Nuffield pairs have relocated here. Other significant changes since 2016 has been the near doubling of breeding populations at both Newton & Chalwyn Industrial Estates and Sterte.

Great Black-backed Gull

Introduction

Known to Pulteney (1799) and Mansel-Pleydell (1888) as a coastal cliff nesting bird, much scarcer than the Herring Gull. The first record specific to Ballard cliffs was a pair there in 1948. Since then 'a favourite location has been atop the stacks at Old Harry.' During the 1980's up to two pairs were recorded at Ballard with four pairs there in 1996 rising to seven pairs in 1998. The Dorset Bird Report refers to nine pairs apparently counted there in 2004. There were still at least seven pairs up until 2014, with the 2016 survey locating six pairs, but since then there have been no further site specific records submitted.

The first record within the Poole Harbour recording area away from Ballard cliffs involved a pair that nested 'in Poole Harbour' in 1957. It is very likely that this record refers to Brownsea Lagoon. Two pairs were recorded there in 1962 rising to four pairs in 1963 with five pairs present in 1971. Nesting has seemingly been annual ever since although not always recorded. In 2004, nine pairs were counted on Brownsea Lagoon. During the 2016 breeding gull survey 13 pairs were found on Brownsea with 12 pairs on the Lagoon and one pair at Seymers Marsh. Since then the population has remained stable at around 11-12 pairs.

The first urban nesting birds were recorded on the Merck building in Poole in 1994, staying until 1997 at least. Then no more specific breeding records until the 2016 survey found 11 urban nesting pairs.

The first record of 'shoreline' nesting birds was a pair found on the shingle beach during the first Black-headed Gull survey of the Holton Bay *Spartina* islands in 2008. Since then, all five subsequent visits to the islands to 2021 have recorded a breeding pair there. In 2016 a pair nested in the *Spartina* on Green Island.

Results

A total of 39 confirmed breeding pairs were found, with a further 3 pairs suspected.
Being rather conspicuous birds, in line with the 2016 survey it was decided not to speculate on the potential of overlooked pairs and so this figure can be regarded as a minimum. Distribution of breeding pairs was as follows

12 pairs Brownsea Lagoon (a pair were present at Seymers Marsh but did not breed)

4 pairs Ballard cliffs

4 pairs Fitzworth *Spartina* islands

2 pairs Holton Bay *Spartina* islands

1 pair Green Island

1 pair Furzey Island

3 pairs Poole Town, at Pitwines, Quay car park and RNLI building

2 pairs and a further probable pair Sandbanks Peninsula

2 pairs Fleets Industrial Estate

Single pairs at Banks Road, Canford Cliffs, Chalwyn Industrial Estate, Commercial Road Civic Centre, Florence Road area (Parkstone), Hamworthy Park School, Longfleet Police Station and Westminster Road industrial units at Northmoor Wareham. Probable single pairs at Tower Park and Upton Industrial Estate.

Fig 8. Breeding distribution of Great Black-backed Gull in the Poole Harbour recording area

Discussion

The most cosmopolitan of the gull species nesting in the harbour, utilising cliff tops, buildings, short vegetation and shingle beach.

A total of 42 pairs (39 confirmed and 3 suspected) represents a 27% increase on the 33 pairs (28 confirmed and 5 suspected) in 2016.

Six additional breeding sites were found during this survey and four previous sites were found vacated.

Site	2023	2016	Change
Brownsea Lagoon	12	12	0
Seymers Marsh, Brownsea	0	1	1
Ballard cliffs	4	6	2
Holton Bay *Spartina* islands	2	1	1
Green Island	1	1	0
Furzey Island	1	0	1
Fitzworth *Spartina* islands	4	0	4
Poole Town	3	1	2
Poole Port	0	1	1
Longfleet	1	1	0
Fleets Industrial Estate	2	0	2
Upton Industrial Estate	1	2	1

Site	2023	2016	Change
Sandbanks Peninsula	3	3	0
Civic Centre, Commercial Rd	1	1	0
Nuffield Industrial Estate	0	1	1
Allen's Lane & Stepnell Reach	0	1	1
Lilliput	0	1	1
Upper Parkstone	1	0	1
Tower Park	1	0	1
Chalwyn Industrial Estate	1	0	1
Hamworthy School	1	0	1
Canford Cliffs	1	0	1
Banks Road, Sandbanks	1	0	1
Northmoor Ind Est, Wareham	1	0	1

Table 9. Great Black-backed Gull breeding pairs by site for 2016 and 2023

The most significant change since 2016 is the appearance of four breeding pairs on the small *Spartina* islands off of Fitzworth. A new pair was also found on the shore at Furzey Island. These have not been at the cost of pairs from other similar sites with Holton Bay islands also gaining a pair and the pair at Green Island still on site.

Twenty four of the pairs were found to be occupying the same site (or within metres) as 2016, with only nine sites occupied in 2016 no longer being used. Great Black-backed Gulls are known to be long lived, monogamous and site faithful so it is not inconceivable that many of the birds recorded involved the same individuals as 2016.

Great Black-backed Gull bucked the trend in Poole Town increasing from one pair in 2016 to three pairs. Also three pairs still at Sandbanks Peninsula although interestingly all on different buildings. Given their known site fidelity it is not inconceivable that they could have been encouraged to move on, perhaps multiple times since the 2016 survey, but we do know that they seem determined to stay on the Sandbanks Peninsula! There were two pairs less than 2016 at Ballard cliffs, although there were still three pairs present at their favourite spot atop the Old Harry stack.

'Large' gull results maps by area

A series of maps are presented below indicating locations of all 'large' gull AON's and AOT's found within each High Effort Area.

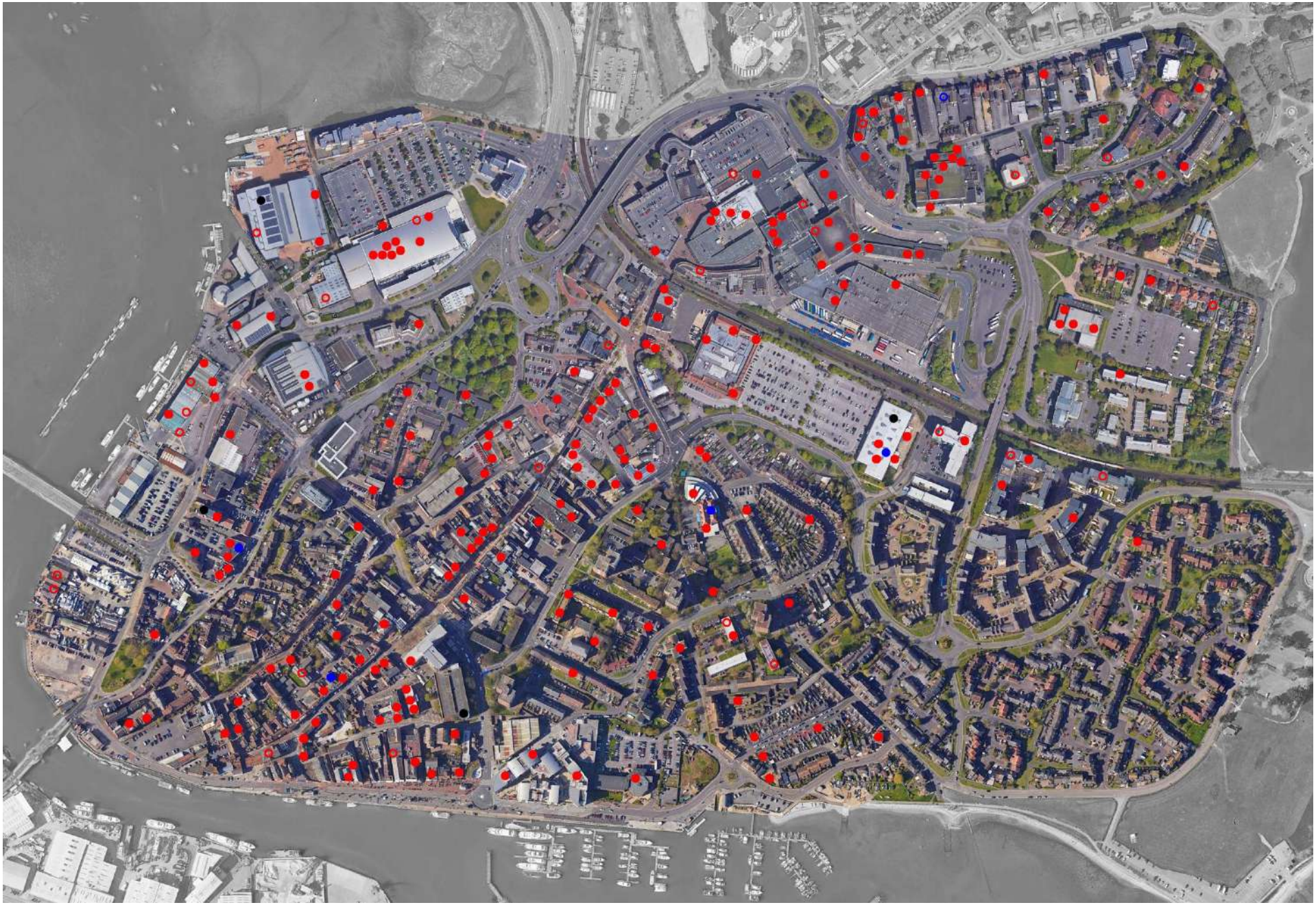

Fig 9. Poole Town. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 10. Fleetsbridge. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 11. Stanley Green. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 12. Poole Port. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 13. Sandbanks Peninsula. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

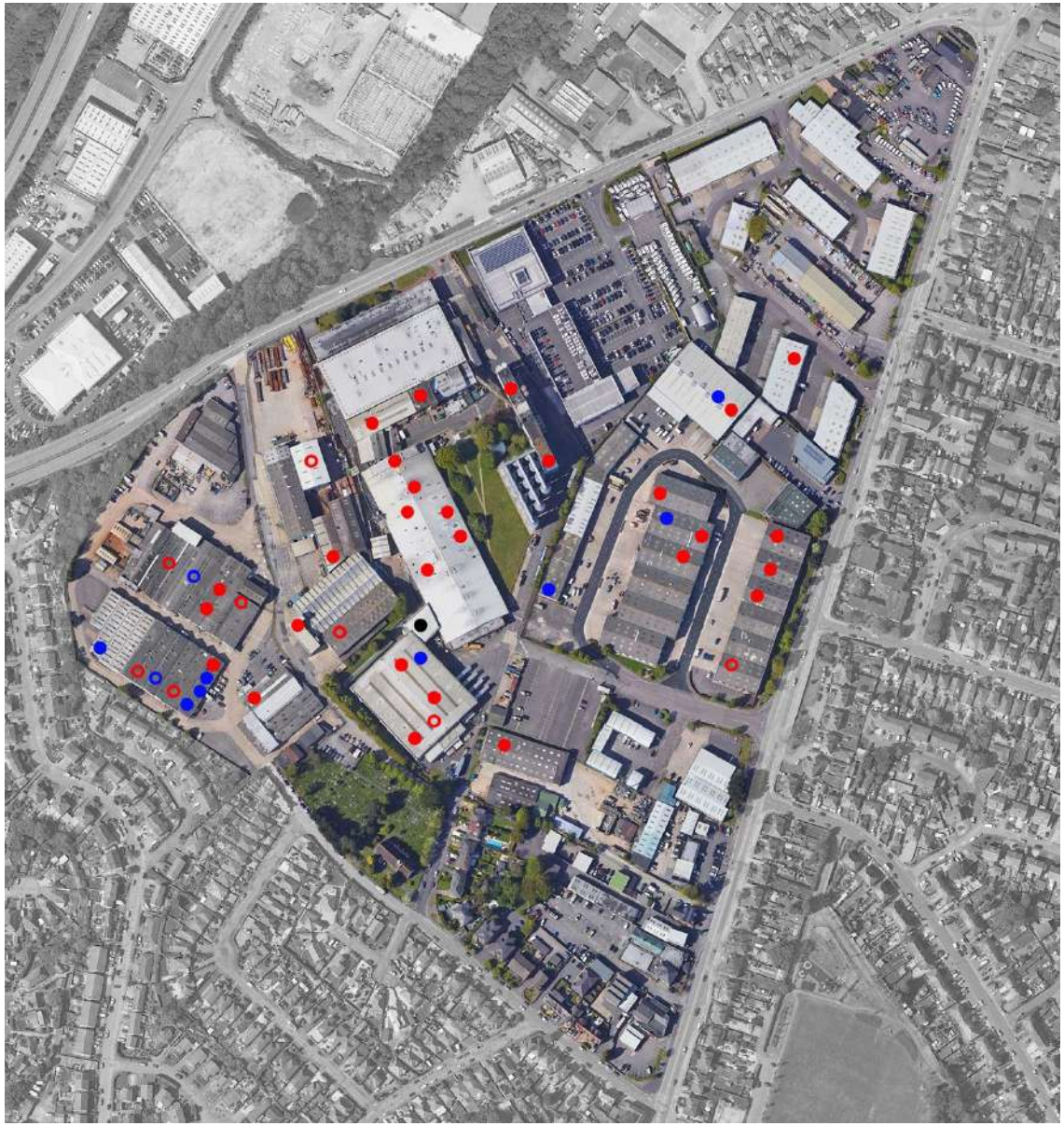

Fig 14. Newtown Business Park and Chalwyn Ind Estate. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 15. Sterte. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 16. Tower Park / Mannings Heath (north). Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 17. Tower Park / Mannings Heath (south). Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 18. Nuffield Industrial Estate. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 19. Longfleet. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 20. Upton Industrial Estate. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 21. Lilliput. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 22. Dawkins Industrial Estate. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 23. Cabot Lane area. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 24. Commerial Road area. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 25. Allen's Lane and Stepnell Reach. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Fig 26. Industrial estates north of Mannings Heath Road. Distribution of breeding pairs of HG (Red), LB (Blue) and GB (Black). Dots: AON's Circles: AOT's

Site	HG	LB	GB	Total
Poole Town	283	6	3	292
Fleetsbridge & Stanley Green Ind Est's	86	24	2	112
Poole Port	62	7	0	69
Sandbanks Peninsula	57	0	3	60
Newtown & Chalwyn Ind Ests	45	13	1	59
Sterte	37	11	0	48
Tower Park / Mannings Heath	35	1	1	37
Nuffield Industrial Estate	30	0	0	30
Longfleet	28	1	1	30
Upton Industrial Estate	15	12	1	28
Lilliput	19	0	0	19
Dawkins Industrial Estate	11	3	0	14
Cabot Lane area	13	0	0	13
Commercial Road area	12	0	1	13
Allen's Lane & Stepnell Reach	10	1	0	11
Mannings Heath Road (north of)	8	0	0	8
Westminster Road industrial units	5	0	1	6
Sandford Lane Industrial Estate	1	0	0	1
Totals	757	79	14	850

Table 10. Urban areas in order of importance for breeding 'large' gulls

Conclusions

The breeding populations of all species surveyed have increased since 2016.

Numbers of coastal nesting Herring and Great Black-backed Gulls at Ballard cliffs however continue to decline with Herring Gull down by six pairs and Great Black-backed Gull down by two pairs since 2016.

Part of the motivation for conducting a repeat survey was the concern about bird flu. It had been noticed that there were not as many Herring gulls frequenting the Poole Town pensinsula and anecdotally there seemed to be fewer Black-headed Gulls around the Harbour.

During the survey no evidence of bird flu was found amongst the 'large' gull population, however as it turned out the concern over disappearing Herring gulls in Poole Town were justified with the breeding population here found to have decreased by just under 20%. No dead or dying birds were observed. The possible reasons for the decline in numbers were discussed earlier.

Both Black-headed and Mediterranean Gull breeding numbers were significantly higher than 2016. However towards the end of the survey an outbreak of bird flu was detected on Brownsea Lagoon. Sadly around 650 dead gulls and terns were collected, the vast majority being chicks with a few adults also succumbing. Not all of the Black-headed chicks died with about 100 making it from the c700 pairs that nested.

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