Appendix 3

CARDIFF COUNCIL
CYNGOR CAERDYDD

ENVIRONMENTAL SCRUTINY COMMITTEE: 7th MAY 2013

URBAN GULLS

Purpose of report

1. To brief Members on Cardiff's urban gull population and comment on what Cardiff Council can do to manage the gull population and the associated problems that they create.

Background

2. During 2011 Cardiff Council commissioned a survey titled 'Roof Nesting Gulls in Cardiff'; the report for this survey has been attached as **Appendix 1**. The Council was particularly interested in obtaining an accurate picture of Cardiff's urban gull population as it is perceived that they cause a number of problems including public safety and waste management issues.

3. The survey took six days and made a number of key findings including:

- The Cardiff gull population in 2011 stands at 3,339 pairs. This represents an increase of 15.2% since 2006 or an average, annual increase of just 3%.
- The gull species involved in roof-nesting in Cardiff are Herring Gulls (Larus argentatus), Lesser Black-backed Gull (Larus fuscus) and Great Black-backed Gull (Larus marinus).
- Cardiff's is the largest urban gull colony of 38 assessed in the Severn Estuary Region.
- It is suggested that the Cardiff population could reach 5,000 pairs by 2020.
- Lesser Black-backed Gulls outnumber Herring Gulls in Cardiff by a factor of 4.2:1.
- Great Black-backed Gulls were recorded breeding in 2011 (three pairs). They eat the eggs and offspring of the other gulls.
- Urban colonies are assessed using a combination of counts and scaling factors depending upon the complexity of the roofscape.

- Cardiff is receiving gull recruits from and supplying gull recruits to other urban colonies.

4. The data suggests that Cardiff's urban gull population is growing. The main contributing factors to this growth are a large availability of food and lack of predators; this means that they can raise two or three chicks per year in the city compared to one or two chicks every 10 years in their natural environment.

5. While the gulls are happy to scavenge in bins and on leftover waste which the city produces it is believed their principal food sources are green field sites outside the city and landfill; in fact it has been suggested that the growth of gull populations in urban areas can be linked to local authorities no longer burning refuse at landfill sites due to the Clean Air Act 1956.

6. Cardiff does try to prevent gulls from feeding at the Lamby Way landfill site by flying birds of prey around the site but ultimately this doesn't remove the problem. It is also known that gulls fly large distances on a daily basis to feed, for example, it is common for Cardiff based gulls to feed in Gloucester and vice versa.

7. Gulls are long lived with the highest recorded age being almost 35 years. Generally speaking, they breed for the first time at age four. However, in town, third year birds breed commonly; this is a sign that a colony is expanding. The breeding season runs from March to the end of July. One attempt is made per season and three eggs are laid. In urban situations, this usually means that pairs will bring up three young each year. Pairing for life adds stability to their breeding patterns and, even if this is only 10 years, a pair could raise 30 offspring.

8. The most prominent urban gull colonies in Britain (those with more than 1,000 pairs) started in the late 1960s and early 1970s. In Bristol, the situation developed in 1972 with one pair of Herring Gulls - there are now around 1,200 pairs. Gloucester, with 2,400 pairs had three pairs of Lesser Black-backs in 1968 which now dominate all colonies in the Severn Estuary area. Aberdeen, with 3,500 pairs, is the biggest colony in Britain, but colonies of around 500 pairs are to be found in many places. New colonies are quietly establishing themselves throughout the country, but it is not until these grow to about 50 pairs that they start to impinge on human activity.

9. There are two reasons why gulls are unlike all of the other "problem species". First, gulls are not confined to a single centre of activity. They move widely and are perfectly capable of making a round trip of 100km in search of food in only a few hours. Second, they are considerably more intelligent than most and despite the best efforts of pest control agencies to deter or remove them, colonies have continued to expand.

10. Perceived problems caused by urban gull populations include:

- Health & Safety – Gull droppings contain many micro organisms which can transmit a number of diseases.

- Public Safety – Gulls can become aggressive during the nesting season which potentially poses a risk to health.

- Urban Damage – Nesting gulls can cause damage to buildings when nesting, for example, they destroy roof materials when building nests.

- Littering & Waste Management Issues – Historically gulls have been blamed for increasing litter levels on residential streets because they raid bin bags on collection days. This problem has been significantly reduced in Cardiff following the introduction of several waste containerisation schemes.

Legal situation

11. In England, Scotland and Wales the legislation that protects wild birds is the Wildlife and Countryside Act 1981. This was amended by the Countryside and Rights of Way Act 2000; this protects all wild birds, their nests and eggs. There is also a list of protected birds to which the Herring Gull and Lesser Black Backed Gulls have been added to on an 'amber alert' status. This means that in order to control the local gull population a licence has to be provided by the Welsh Government. A general licence (which is easier to obtain) can be used to interfere with their nests or eggs, but not the birds themselves. Any action can only be taken on the grounds of public safety and nuisance; being woken up by their squawking or the mess that they create is not covered by this.

12. Herring and Lesser Black Backed Gulls are included on the protected birds list as an amber alert status because their populations are falling in the wild. The main reason

for this reduction is believed to be over fishing of the sea, which reduces their natural food source.

13. There have been calls for widespread culls of the urban gull population. From a legal perspective, however, it is doubtful that a widespread cull on the grounds of public safety would be allowed by the Welsh Government. In addition to this, as gulls move between cities any cull would have to be repeated on a regular basis.

14. Potential remedies for managing the gull population include:

- Minimisation of waste – in the long term the movement away from landfill and the restriction on availability of food waste through use of wheelie bins and kerbside caddies will hopefully reduce the viability of the current gull population in the city. Cardiff will, however, always have a residual urban gull population.

- Egg replacement - this involves the replacing of the gull's egg with a plastic imitation. This works by preventing adults from rearing chicks and reduces the aggressive behaviour they exhibit when protecting their young and scavenging for food to feed them. This work is undertaken by Cardiff Council's Pest Control division at a number of commercial sites within the city centre. These sites need to be easily accessible and the owner of the site will need to enter into a commercial contract with Cardiff Council. This work has been undertaken for a number of years; prior to this egg oiling was the preferred approach, however, this was labour intensive and not as effective. Approximately 150 to 200 eggs are replaced each year; this reduces the number of chicks and will ultimately in the long term reduce the adult population.

- Nest proof roofs - Where gulls are nesting between domestic chimney pots Cardiff Council recommends nest proofing outside of the breeding season. Cardiff Council does not deal with domestic properties for health and safety reasons. Legally the Council does not have a statutory duty or any powers to make someone nest proof their property against breeding gulls.

- Private Pest Control Companies -These companies can also obtain a licence to undertake bird control work and often act on behalf of domestic householders and commercial organisations.

15. **Table 1** summarises common methods of managing gulls and commenting on how effective they are:

Method	Description	Comment
Nest Raking	Smashing eggs and/or destroying nests.	Birds simply rebuild nests and re-lay eggs.
Bird Scarers	(a) Loud bangs, screaming noises, waving streamers. (b) Plastic eagle owls, balloons resembling threatening eyes. (c) Producing gull distress calls and broadcasting across urban areas. (d) Wind-driven, moving structures, for example, 'The Spider'.	Loud noises are quickly ignored in urban situations full of odd noises. Plastic objects of all types are ignored. Distress calls have a temporary effect, but are quickly recognised and then ignored. No effect.
Wires & Spikes	Tensioned wires/spikes are positioned on parapets and other structures to prevent perching.	This has a minimal effect in some situations, but not near nests.
Netting	Covering all, or part, of a roof so that birds cannot get to it.	This has some effect, provided netting is carefully maintained. If not, birds will nest on top of it. Well positioned and erected netting will prevent birds nesting on a particular roof, but will very likely cause birds to move to nearby roofs.

16. Deterrence methods employed in various urban areas in Britain and Europe have enjoyed varying degrees of success. These are summarised in **Table 2**:

Method	Description	Comment
Continual removal of nesting material / disturbance.	Requires someone to visit the roof frequently and remove nesting material as soon as it appears.	This method is completely effective, provided it is assiduously carried out and that all parts of the roof are accessible.
Poisoning/ narcotising	Requires poison bait to be left in or near the nest. This usually takes the form of bread spread with butter and the narcotic. The most used is Alpha-Chloralose.	Not permitted in UK.
Shooting	Objective would be to kill adult gulls at the nest, though if the timing is correct only one of the pair would need to be shot.	This method might be completely effective, but expert marksmen would be required to undertake such an exercise. It is believed that this method has never been approved for urban situations in Britain.
Trapping	Using walk-in traps to capture adult birds at the nest. The birds are transported away from the area or dispatched.	Traps are necessarily large and are often difficult to set in urban situations. Given a good situation successful trapping is possible. The killing of an adult bird would no longer be permitted by law so relocating would just cause problems elsewhere.

Way Forward

17. Members may wish to consider whether there are any issues or comments on this item which they would like to pass on to the Cabinet. Members may also wish to consider if there is any additional work that the Committee needs to undertake.

Legal Implications

18. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters there are no direct legal implications. However, legal implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any legal implications arising from those recommendations. All decisions taken by or on behalf the Council must (a) be within the legal powers of the Council; (b) comply with any procedural requirement imposed by law; (c) be within the powers of the body or person exercising powers of behalf of the Council; (d) be undertaken in accordance with the procedural requirements imposed by the Council e.g. Scrutiny Procedure Rules; (e) be fully and properly informed; (f) be properly motivated; (g) be taken having regard to the Council's fiduciary duty to its taxpayers; and (h) be reasonable and proper in all the circumstances.

Financial Implications

19. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters there are no direct financial implications at this stage in relation to any of the work programme. However, financial implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any financial implications arising from those recommendations.

RECOMMENDATIONS

The Committee is recommended to:

1. Take account of the information received at the meeting, and;

2. Report any comments to the Cabinet for their consideration.

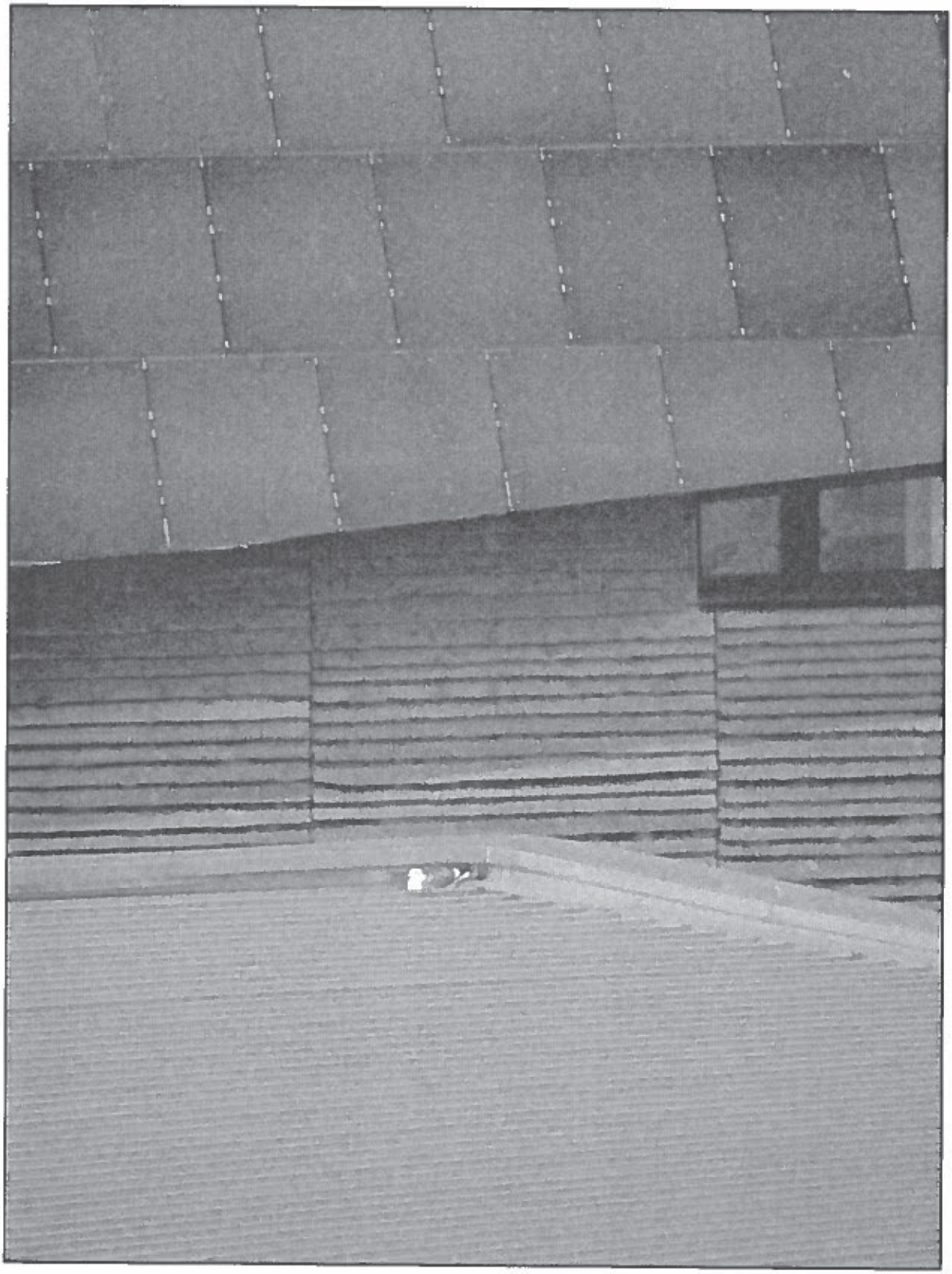
Mike Davies
Head of Scrutiny, Performance and Improvement
1st May 2013

ROOF-NESTING GULLS IN CARDIFF

Follow-up Survey conducted in May 2011

Peter Rock

For Cardiff County Council



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ASSESSMENT OF THE STATUS AND NUMBERS OF ROOF-NESTING GULLS IN CARDIFF
23rd May – 1st June 2011

INTRODUCTION

Weather was mostly fine for the six days of the survey, but wind was a constant companion making some observations slightly less than ideal on occasion.

Cardiff is a very large colony with, potentially, 30 sectors (i.e. areas where breeding is known or suspected). In 2011 all sectors were checked, but as suspected, five sectors, having never supported breeding gulls, were again devoid of activity apart from birds flying over. With the Cardiff city boundary falling just short of the A4232, the little trading estate on the other side of the road is, strictly speaking, Penarth. In the past this little trading estate has been included in the Cardiff population because it is only a few metres over the boundary. Additionally, one new breeding area was discovered at Treforest Trading Estate, less than 1.5km from the boundary. As far as the birds are concerned, of course, both are Cardiff. However, for the purposes of this report I will deal with them separately and together

The use of the 13m cherry picker on two of the days proved extremely helpful for those areas where buildings were not overly high, but for other areas a 26m cherry picker was required in order to complete the survey.

Grateful thanks go to Sarah Brown, Clive Bryant, Kevin Bown and Andrew Powell for much help during the survey. To cherry picker drivers and to various people at the tall buildings used as vantage points and to Jane Cherrington for commissioning the survey.

SURVEY RESULTS

From observations of occupied nests and other procedures, it is estimated that the 2011 Cardiff breeding population is between 3,172 and 3,506 pairs, with a presumed figure of 3,339 pairs.

Excluding Treforest and Penarth, the strict Cardiff population is 3,311 pairs.

COMMENT ON THE 2011 FIGURES

All survey work is a compromise between effort and accuracy (Peter Meininger). Thus, whilst the headline figure is 3,339 pairs, the confidence limits are estimated to be 5% plus or minus.

In 2006 the Cardiff population stood at 2,899 pairs. **The Cardiff population, therefore, has increased by 440 pairs or by 15.2% in the five years since the last survey**. This equates to an average, annual increase of just 3%. This is a very low rate of growth and will be examined below.

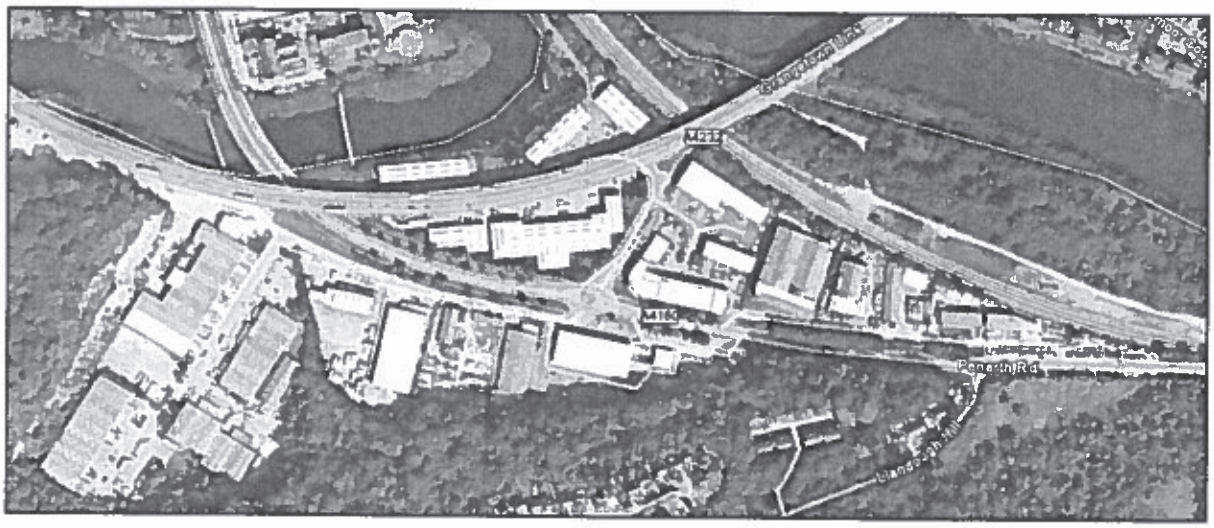
Cardiff, already a very large colony in national terms in 2006, may now be the largest colony in UK. Aberdeen was assessed at 3,504 pairs in 2001 (Seabird Monitoring Programme), but because of an indeterminate amount of natural decline, redevelopment and deterrence numbers are now believed to be lower, in the 10 years since that survey no precise figures have been available. Gulls are breeding on rooftops from the north of Norway to the south of Morocco, around the Mediterranean, around the Great Lakes of USA and Canada, along the coast of California and in Australia. Colonies in these countries are known or assumed to be considerably smaller than the large colonies in UK. In effect, if Cardiff is the largest colony in UK it would mean that it would be the largest colony in the World...

The Treforest Trading Estate has been suspected to be a breeding area for the last three years. Having driven through on a few occasions out of season it struck me that roofs appeared ideal. Others have reported gulls there during the breeding season, but without confirming breeding.

Breeding roofs in Treforest

Despite searching, breeding evidence was found on only two roofs (arrowed in turquoise). The estimate of 6 pairs is a low figure suggesting that colonisation is recent. This figure, without doubt, will grow. There is a Veolia transfer station close to the breeding roofs.

Penarth breeding roofs



Penarth was searched for breeding evidence without success. The green line in the picture above marks the Cardiff city limit; the small trading estate either side of the A4160, is therefore under the jurisdiction of Penarth.

Since 2006 there have been many changes in Cardiff which have altered the demography of the Cardiff colony. It is suggested that redevelopment, deterrence and disturbance are important elements in the shifting population.

Table 1. Showing nest counts and sector estimates for the years 2003-2011.
Legend: LB = Lesser Black-backed Gull, **HG** = Herring Gull, **GB** = Great Black-backed Gull, **EST** = sector estimate, N/A = not assessed in 2005.

				2003			2004				2005			2006				2011
Site Name	**Sector**	**LBN**	**HGN**	**EST**	**LBN**	**HGN**	**EST**	**LBN**	**HGN**	**GBN**	**EST**	**LBN**	**HGN**	**EST**	**LBN**	**HGN**	**GBN**	**EST**
Millennium	**1**	36	10	99	22	7	132	26	4		136	18	3	126	15	5		42
Butetown	**2**	153	36	482	164	32	384	206	38	1	535	223	37	576	227	41		490
St David's Centre	**3**	14	5	103	13	6	124	20	6		204	6	2	136	67	19		100
Lloyd George A	**4**	37	23	113	42	23	90	37	26		154	41	35	181	27	15		74
Lloyd George B	**5**	16	4	49	5	0	46	N/A	N/A			0	0	10	24	11		56
Mermaid Quay	**6**	13	2	35	11	1	67	2	2		39	6	3	23	9	10		29
Transit Sheds	**7**	41	21	85	40	17	180	37	29		208	42	39	121	200	63	1	312
Docks	**8**	16	8	150	58	5	123	N/A	N/A			33	6	69	138	26	1	211
Heliport	**9**	1	0	3	3	2	6	N/A	N/A			0	0	0	1	1		4
Ocean Way	**10**	21	10	38	33	6	34	N/A	N/A			12	3	31	85	17	1	131
East Moors	**11**	4	2	16	2	4	13	N/A	N/A			5	5	15	34	13		66
Sewage Works	**12**	0	0	0	0	0	0	N/A	N/A			0	0	0				0
Steelworks	**13**	9	4	187	41	18	191	N/A	N/A			55	24	128	122	63		214
Adamsdown	**14**	17	5	82	27	2	69	N/A	N/A			51	5	119	32	8		64
University	**15**	14	2	136	20	7	182	8	1		121	25	10	92	13	6		51
Newport Rd Est.	**16**	21	7	173	73	11	299	74	16		283	155	42	333	247	44		395
Rumney	**17**	0	0	0	0	0	0	N/A	N/A			0	0	0				0
Wentloog	**18**	0	0	0	0	0	0	N/A	N/A			0	0	0				0
Cardiff Gate	**19**	0	0	0	0	0	0	N/A	N/A			0	0	0	1	0		2
Pentwyn	**20**	20	4	94	4	0	65	15	3		64	3	2	37	36	15		74
Llanishen	**21**	96	18	494	118	16	547	176	29		432	64	15	207	84	20		141
Whitchurch	**22**	0	0	0	0	0	0	N/A	N/A			0	0	0				0
Gabalfa	**23**	11	1	33	25	1	79	N/A	N/A			25	3	52	70	18		113
Canton	**24**	7	2	63	11	2	73	2	3		35	6	4	22	16	2		31
Grangetown	**25**	1	0	9	1	0	9	0	0			3	0	7	4	1		8
Grangetown C	**26**	0	0	11	0	0	0	N/A	N/A			0	0	0	9	1		16
Leckwith	**27**	105	17	251	136	14	290	160	20		487	258	30	501	376	44		616
Paper Mill Rd	**28**	0	0	0	0	0	0	3	1		15	8	7	14	8	0		10
HTV Studios	**29**	0	0	6	0	0	0	N/A	N/A			0	0	0				0
Maindy	**30**	3	0	15	23	4	100	60	5		123	28	8	99	11	7		61
Penarth	**31**														11	1		22
Treforest	**32**														1	2		6
	TOTALS	**656**	**181**	2727	**872**	**178**	3103	**826**	**183**	**1**	2836	**1067**	**283**	2899	**1868**	**453**	**3**	3339
	Nest Counts		837			1050				1010			1350				2324	

COMMENT ON DETAILED FIGURES

During the 2011 survey 2,324 nests were identified. This figure represents the bare minimum number of pairs in Cardiff. For a colony as large as Cardiff (and even for small colonies) it is impossible to find all nests and inferences based on other counts must be made in order to establish the final total. The methodology used for the Cardiff survey will be described below.

Table 2. Changes in numbers of pairs in Cardiff sectors 2006-2011. Sectors in BLUE were assessed or partially assessed using a cherry picker.

Sector	Site Name	Change	Pairs
1	Millennium	Minus	-84
2	Butetown	Minus	-86
3	St David's Centre	Minus	-36
4	Lloyd George A	Minus	-107
5	Lloyd George B	Plus	46
6	Mermaid Quay	Plus	6
7	Transit Sheds	Plus	191
8	Docks	Plus	142
9	Heliport	Plus	4
10	Ocean Way	Plus	100
11	East Moors	Plus	51
12	Sewage Works		0
13	Steelworks	Plus	86
14	Adamsdown	Minus	-55
15	University	Minus	-41
16	Newport Rd Est.	Plus	62
17	Rumney		0
18	Wentloog		0
19	Cardiff Gate	Plus	2
20	Pentwyn	Plus	37
21	Llanishen	Minus	-66
22	Whitchurch		0
23	Gabalfa	Plus	61
24	Canton	Plus	9
25	Grangetown	Plus	1
26	Grangetown C	Plus	16
27	Leckwith	Plus	115
28	Paper Mill Rd	Minus	-4
29	HTV Studios		0
30	Maindy	Minus	-38
31	Penarth	New	22
32	Treforest	New	6
	TOTALS		**440**

Demographic changes in some sectors are dramatic in terms both of increases and decreases.

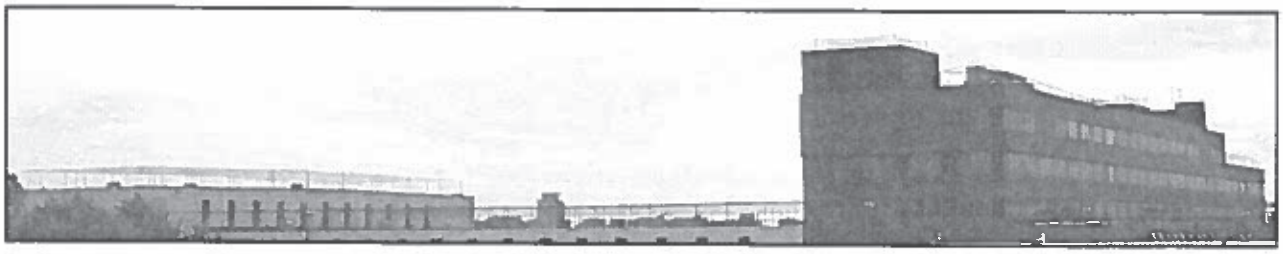
The Port of Cardiff (made up of sectors 7&8) has seen a very large increase (333 pairs). Leckwith (sector 27) again saw a large rise and with more than 600 pairs is now the most populous sector in the city having taken over from Butetown. In previous years the Docks (sector 8) were assessed from St David's Hotel. This was never completely satisfactory and may have resulted in some underestimation. In 2011 a cherry picker was used with increased confidence in accuracy

The steelworks (sector 13) also saw a significant increase, but this takes it back to the 2004 level (i.e. prior to the redevelopment of various structures on the site).

The Newport Road Estate (sector 16) increase was expected, but because several more of the large outlets had invested in roof-netting since 2006, numbers were short of expectation.

The Ocean Way (sector 10) increase, however, was unexpected as it previously appeared to hold relatively few pairs. Roofs are, on the whole, similar in height making them more difficult to observe without suitable vantage points. So, in contrast to other surveys, this sector was successfully assessed using a cherry picker in 2011. In the light of the 2011 figure it should be said that the sector may have been underestimated somewhat in the past, but it is doubtful that any underestimate was large. The East Moors sector was also assessed using the cherry picker

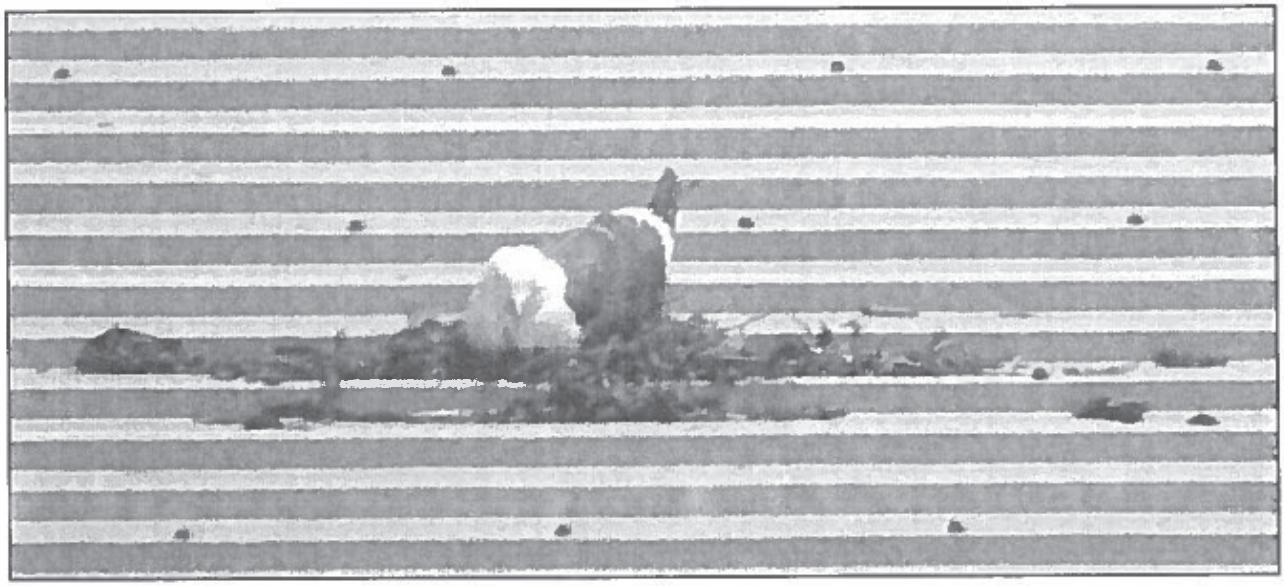
Leckwith now takes over from Butetown and becomes the most populous sector in Cardiff with just over 600 pairs. It is a very large sector with ample space for more breeding opportunity despite even more netting.

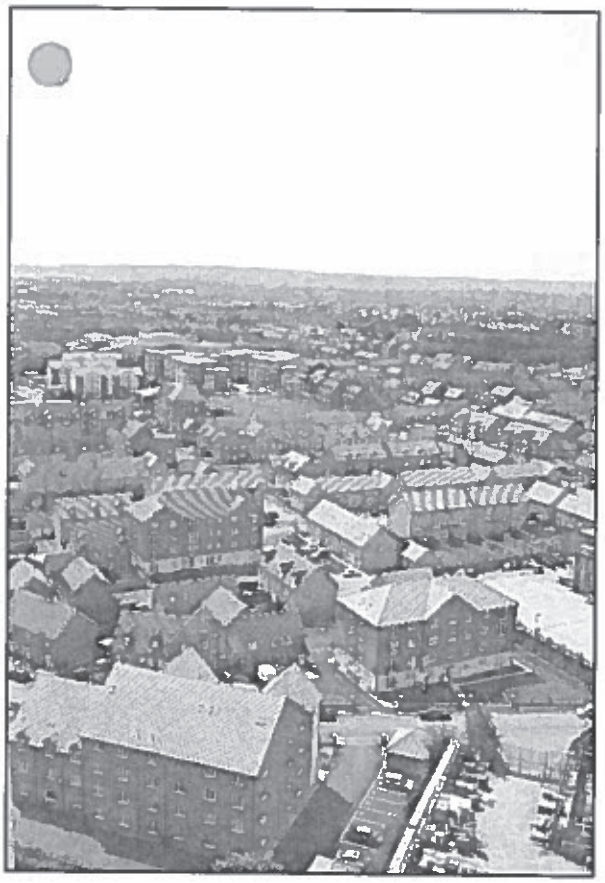


The very large area of netting at the Post Office on the Penarth Road. An eyesore?

Llanishen (sector 21) supported 547 pairs in 2004, but as key breeding roofs were demolished the population declined. Some replacements were erected, but were quickly netted (below, inset).

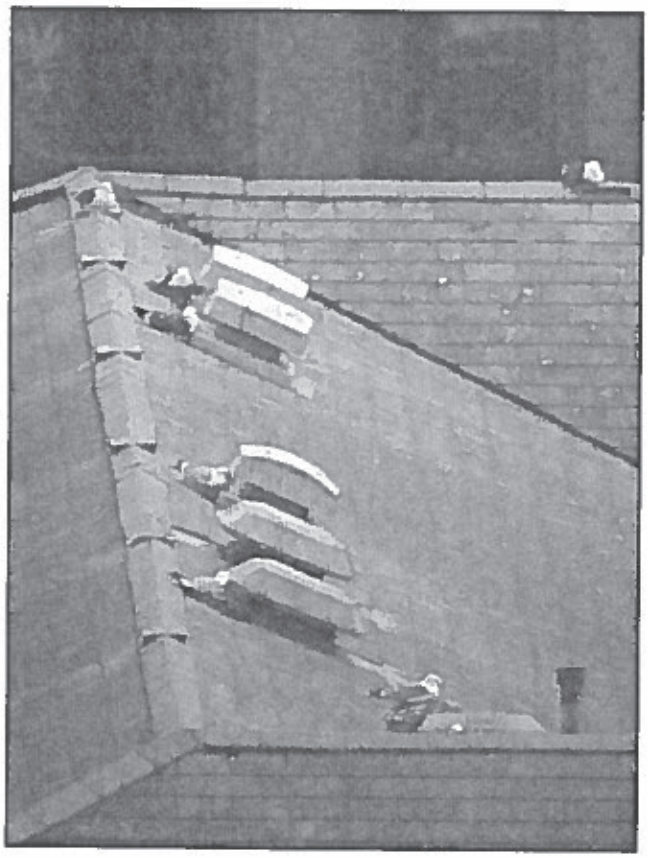
Pressed steel roofing was once believed to be unsuitable for gulls, but as with many other ideas, this one has proved to be just a vain hope. The green arrow points to the nest below. There were other nests on this roof (e.g. arrowed in pink)





But the reason for the decline in the Llanishen sector is the replacement of the large warehouses by a housing estate (left).

Interestingly, since 2006 there has been some colonisation of buildings away from what was the trading estate (below)



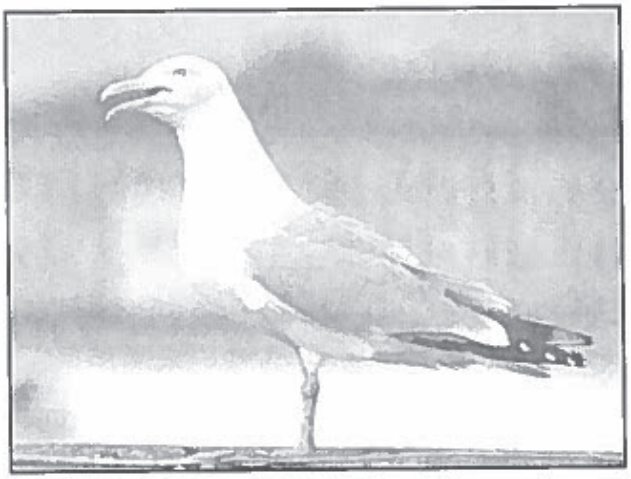
Where decreases have been observed the reasons are invariably the result of redevelopment or deterrence. The Lloyd George A sector (4) has been particularly affected by demolition. The same is true for Butetown, but in Butetown there are still several of the old roofs still standing (e.g. below).

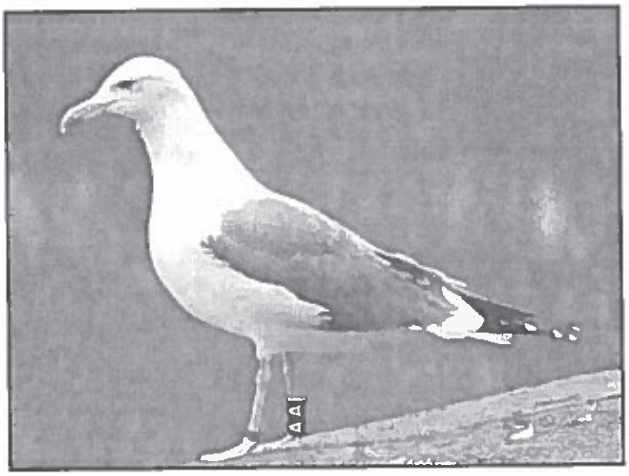
Note how much moss and other plants are on this roof - all of it excellent nesting material...

THE GULL SPECIES INVOLVED IN ROOF-NESTING

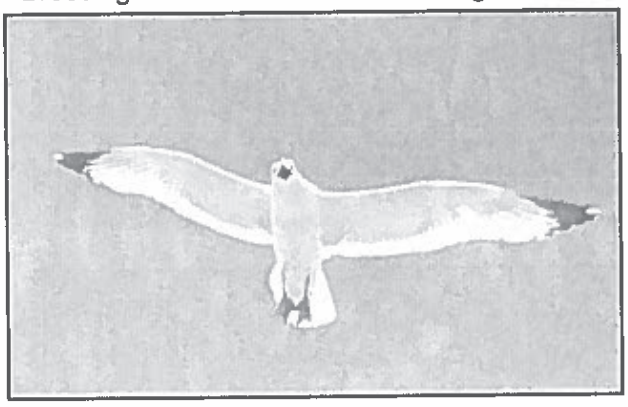
Several gull species have been recorded breeding on rooftops in Europe. However, in UK (and much continental Europe) the species primarily involved are **Herring Gulls** (*Larus argentatus*) and **Lesser Black-backed Gulls** (*L. fuscus*). Great Black-backed Gulls (*L. marinus*) also breed on rooftops, but numbers in comparison are insignificant. Cardiff has three pairs of Great Black-backed Gulls (2011).

Identifying adult Herring and Lesser Black-backed Gulls is straightforward. Both are large with white bodies, yellow bills and black, primary flight feathers. Herring Gulls show a silvery mantle and have pink legs whereas Lesser Black-backed Gulls have variably dark, slate-grey mantles and yellow legs.

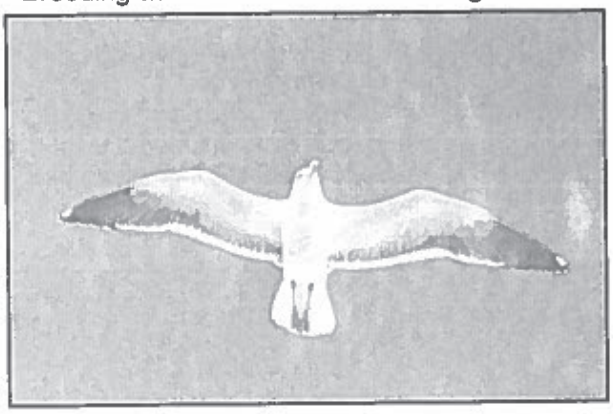




Herring Gull
Breeding Adult above and below in flight

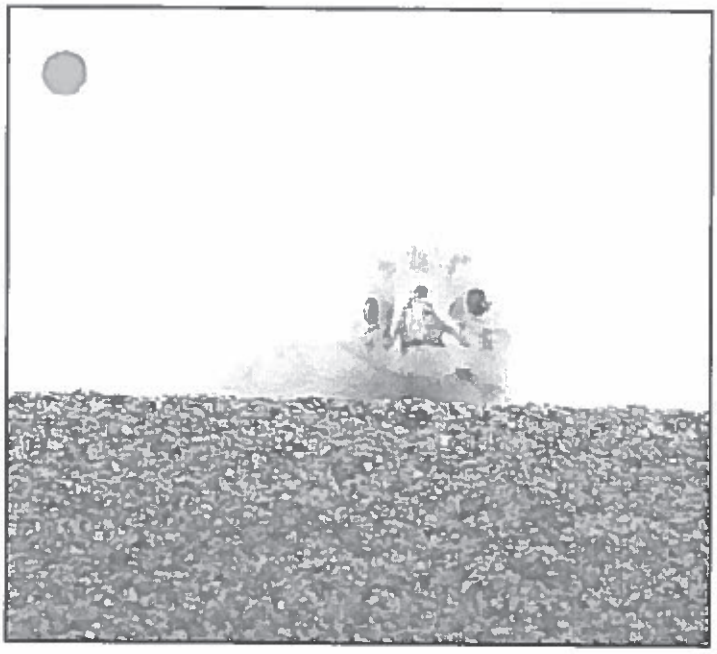


Lesser Black-backed Gull
Breeding adult above and below in flight



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.

Though, on average, Herring Gulls are slightly larger than Lesser Black-backed Gulls, the mean weights of the two are around 1 kilo. They have a wing span of circa 4½ feet. 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.



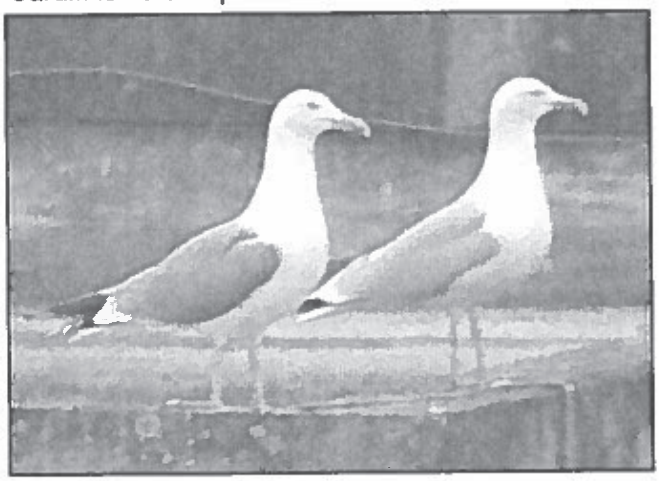
Tiny nestlings are (for the most part) inseparable, having speckled, cream-coloured down. Note the small, white egg tooth at the tip of the bill. This is used to chip out of the egg and is lost a few days after hatching.

Once the down is replaced by the brown, mottled, juvenile feathers and primaries emerge, the two species can be separated with experience. In short, Herring Gulls have pale inner primaries, but Lesser Black-backed Gulls have all-dark primaries.

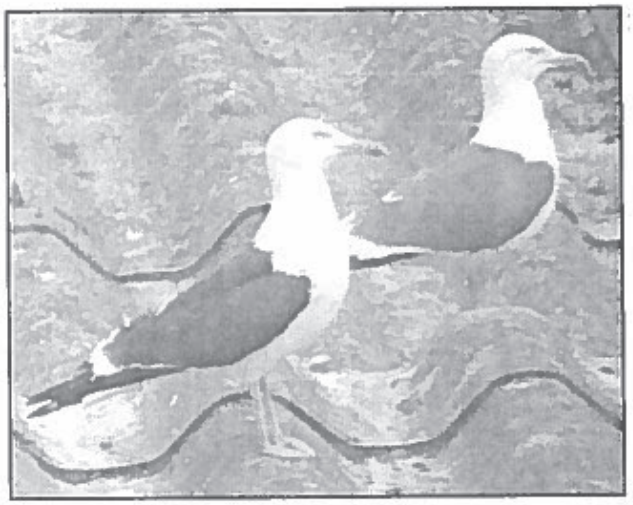
As both species get older the amount of brown in the plumage decreases progressively (but care is required to separate the two before their 2nd winter) until they acquire adult plumage in their 4th winter. From this point onwards it is impossible to age either species except by colour-rings. Second summer Lesser Black-backed Gull (ringed bird in foreground, below). Note extensive brown plumage in wings and dark tip to bill. Third summer Herring Gull (background). Note that only a few feathers show any brown. Adult Herring Gull (middle ground).

First winter Herring Gull. Note extensive brown plumage on body and wings and all dark bill, dark eyes and grey-pink legs.

There is a further identification dimension within urban gulls and this is hybridisation. Almost all colonies assessed in the Severn Estuary Region and beyond have, in their populations, a number of apparently viable, adult hybrids. Cardiff is no exception.



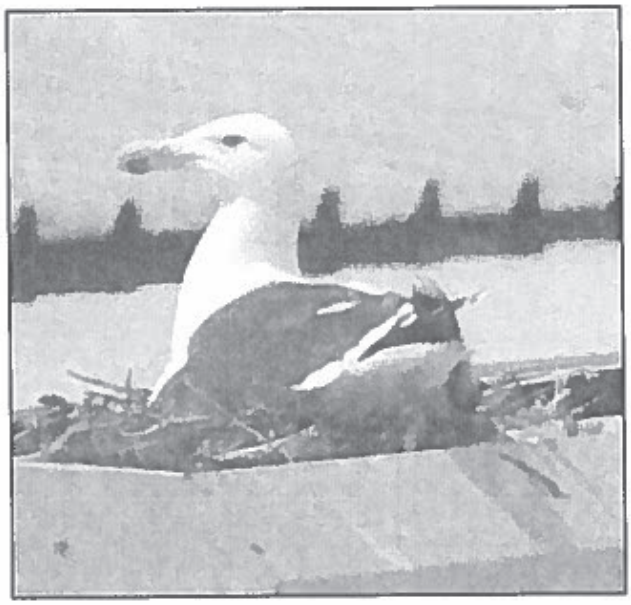
The photograph (above, right) shows a Herring Gull female paired with a hybrid male. Note that the mantle colour is intermediate between Herring and Lesser Black-backed Gull and that legs are yellowish.



One of the three Great Black-backed Gull nests observed during the 2011 survey (right). This is one of the two pairs in the Port of Cardiff.

Great Black-backed Gulls are much larger than Herring and Lesser Black-backed Gulls. They have very dark mantles, massive bills and greyish pink legs. One pair bred in Cardiff in 2005.

The mantle (back) colour of Lesser Black-backed Gulls in Britain and, particularly, urban Lesser Black-backed Gulls is variable and ranges from blackish to a grey approaching hybrids. It is thought that persistent interbreeding is the most likely reason for variation.



URBAN GULL POPULATIONS IN THE SEVERN ESTUARY REGION

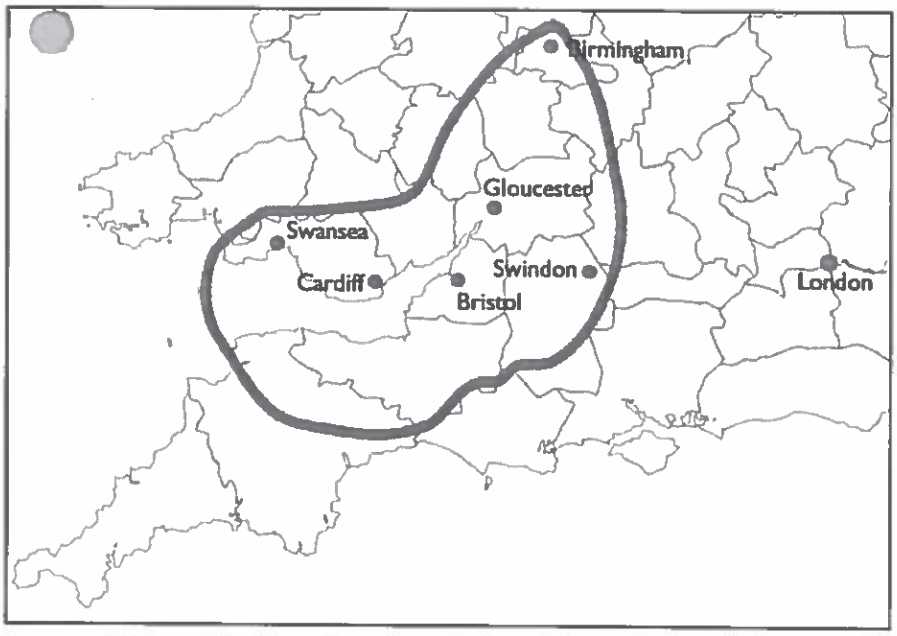


Figure 1. The Severn Estuary Region roughly outlined in red.

Cardiff ranks 1st among the 38 colonies I have assessed in the Severn Estuary Region

Table 3. Urban colonies assessed by PR in the Severn Estuary Region.
Legend: LB = Lesser Black-backed Gull, **HG** = Herring Gull, **GB** = Great Black-backed Gull.
Year = Year of assessment.

Colony	LB	HG	GB	Pairs	Year	Colony	LB	HG	GB	Pairs	Year
Bradford on Avon	1	0		1	2009	Westbury	192	49		241	2009
Calne	13	1		14	2009	Mitcheldean	232	17		249	2010
Midsomer Norton	14	2		16	2011	Trowbridge	223	57		280	2009
Keynsham	28	6		34	2011	Yate	213	72		285	2010
Chippenham	31	10		41	2009	Quedgeley East	194	114		308	2011
Maesteg	37	15		52	2004	Avonmouth	192	128		320	2004
Chepstow	11	49		60	2004	Worcester	372	53		425	2005
Wootton Bassett	81	12		93	2009	Swindon	301	142		443	2009
Sharpness	63	31		94	2009	Hinkley Point	46	439		485	2011
Thornbury	66	38		104	2011	Bridgwater	296	269		565	2005
Devizes	94	11		105	2009	Bridgend	244	342	1	587	2005
Cheltenham	86	20		106	2011	Barry	676	74		750	2005
Brockworth	56	56		112	2009	Newport	600	200		800	2004
Watchet	98	28		126	2005	Ashchurch	807	134		941	2011
Melksham	96	31		127	2009	Bath	746	301		1,047	2011
Yeovil	1	134		135	2009	Bristol	1,690	805		2,495	2010
Lydney	104	45		149	2011	Gloucester	2,384	601	4	2,989	2009
Taunton	76	106		182	2005	Cardiff	2,696	640	3	3,339	2011
Kingsditch	187	26		213	2011						
Stonehouse	179	45		224	2009	**Totals**	**13,426**	**5,103**	**8**	**18,537**	

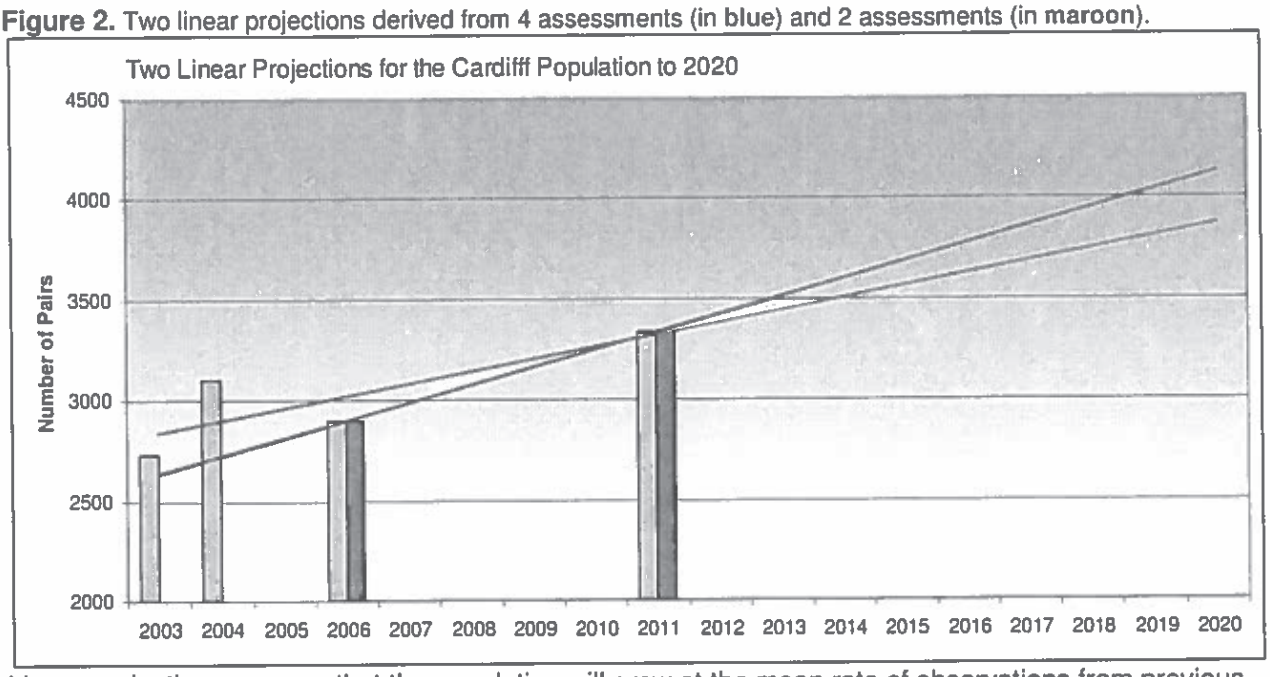
Apart from the 2011 assessments all others are, of course, out of date by varying degrees. However, there are probably another 30+ colonies in the region some of which (e.g. Port Talbot and Swansea) are known to be large. It is therefore confidently proposed that the Severn Estuary Region supports in excess of 25,000 pairs. It is further suggested that the other 7 regions would need to support only 11,000 pairs each for the UK & Ireland population to exceed 100,000 pairs. Bath's MP, Don Foster, is currently campaigning for a resolution to the urban gull issue which eliminates the guesswork that has, so far, characterised all attempts at control: research.

It is suggested that perhaps Cardiff MP's could be lobbied to support Don Foster's campaign.

CARDIFF PROJECTIONS

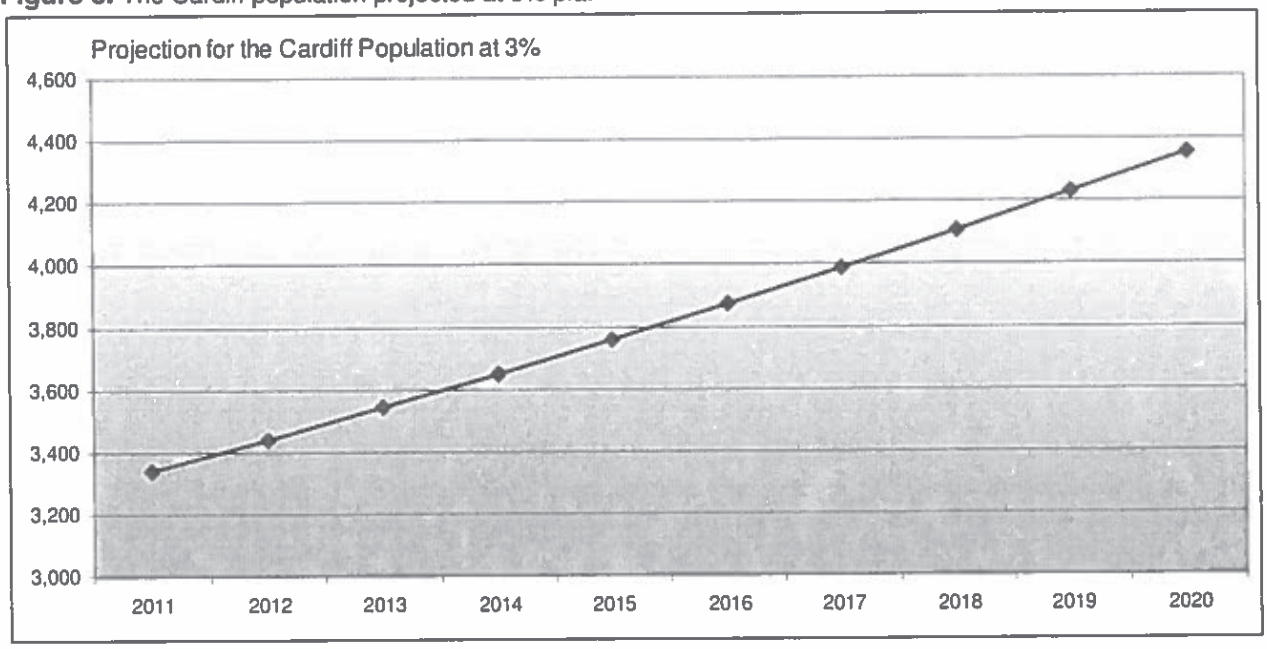
Though Cardiff has now been assessed four times (in 2005 a partial survey only was carried out) ove period of eight years. Projections for the future population are possible, but because there have been some significant changes in demography and in population levels as a consequence of redevelopment care should be exercised when interpreting.

Figure 2. Two linear projections derived from 4 assessments (in blue) and 2 assessments (in maroon).



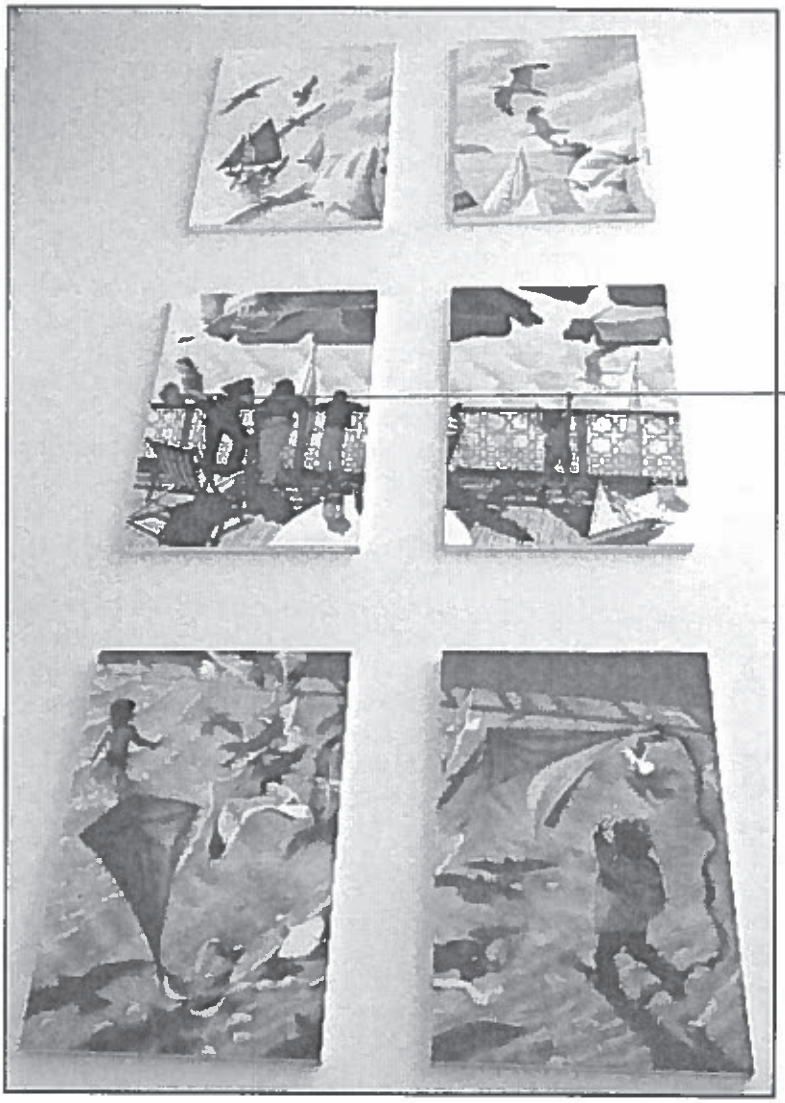
Linear projections assume that the population will grow at the mean rate of observations from previous years. Thus, for four (**blue**) assessments this kind of projection assumes an annual increase of 76 pairs whereas for the two (**maroon**) assessments an annual increase of 88 pairs. These projections equate to annual rates of increase of 1.6% and 2.3% respectively and result in populations in 2020 of 3.850 pairs and 4,100 pairs respectively. However, the average annual rate of increase since 2006 has been 3%.

Figure 3. The Cardiff population projected at 3% p.a.



The resultant population at 3% per annum would be 4,350 pairs. An annual growth rate of just 5% would see the Cardiff population surpassing 5,000 pairs in 2020.

Cardiff has already seen much redevelopment and, perhaps, is likely to see more. The redevelopment of the areas described above has resulted in significant demographic changes. (It is tempting to assume that displaced birds have simply moved from one area to another and whilst this may, in part, be true, without evidence (e.g. in the form of observations of colour-ringed birds) this idea must remain speculative). It should be said that areas that have seen large increases (Table 2, page 7) have considerably more room for expansion (i.e. suitable roofs) and growth rates in these areas may well continue to be high (e.g. The Port of Cardiff (sectors 7&8) has seen an increase of 175% (333 pairs) or an average, annual increase of 35%...



These paintings can be seen in The Port of Cardiff head office (Queen Alexandra House). They all depict gulls in various situations. The middle, left painting shows what looks very much like a food-snatching attempt...

With this in mind, it would be sensible to think about the Cardiff population in 2020 as being somewhere between the lowest projection (3,850 pairs) and something above the highest projection (4,350 pairs) depending upon the future level of redevelopment and/or on-going maintenance. If proposed redevelopment is below that already carried out, it can be expected that the existing new buildings will be colonised further and if those buildings planned for the future are 'seagull friendly' these, too, can be expected to be colonised.

Cardiff was first assessed in 2003 at 2,727 pairs. In 2002 Cardiff was assessed for Seabird 2000 (the national register of seabird colonies) at just 56 pairs (http://jncc.defra.gov.uk/smp/searchCounts.aspx see Lesser Black-backed Gull page 30).

Seabird 2000 used Apparently Occupied Nests (AON) as the primary count unit. For urban gull colonies this methodology in inappropriate (see Assessing Urban Colonies below) and calls into question the accuracy of Seabird 2000's assertion that there were 31,044 pairs of Herring and Lesser Black-backed Gulls breeding on rooftops in the whole of UK & Ireland at that time.

As a postscript to this section an increase from 56 pairs to 3,339 pairs would equate to almost 5,900% or, in the nine years since the Seabird 2000 assessment, an average increase of 651% per year!

SPECIES SPLIT

The Species Split is the ratio by which Lesser Black-backed Gulls outnumber Herring Gulls. In 2011 t **species split in Cardiff was 4.2:1** in favour of Lesser Black-backed Gulls

Table 4. Species estimates for 32 Cardiff sectors in 2011.
Legend: LBest = Lesser Black-backed Gull estimate, etc.

Sector	Site Name	LB est	HG est	GB est	Total	Split
1	Millennium	31	11		42	2.8
2	Butetown	420	70		490	6.0
3	St David's Centre	78	22		100	3.5
4	Lloyd George A	48	26		74	1.8
5	Lloyd George B	40	16		56	2.5
6	Mermaid Quay	19	10		29	1.9
7	Transit Sheds	237	74	1	312	3.2
8	Docks	177	33	1	211	5.4
9	Heliport	3	1		4	3.0
10	Ocean Way	108	22	1	131	4.9
11	East Moors	48	18		66	2.7
12	Sewage Works	0	0		0	N/A
13	Steelworks	140	74		214	1.9
14	Adamsdown	51	13		64	3.9
15	University	35	16		51	2.2
16	Newport Rd Est.	335	60		395	5.6
17	Rumney	0	0		0	N/A
18	Wentloog	0	0		0	N/A
19	Cardiff Gate	2	0		2	
20	Pentwyn	51	23		74	2.2
21	Llanishen	114	27		141	4.2
22	Whitchurch	0	0		0	N/A
23	Gabalfa	88	25		113	3.5
24	Canton	27	4		31	6.8
25	Grangetown	6	2		8	3.0
26	Grangetown C	14	2		16	7.0
27	Leckwith	554	62		616	8.9
28	Paper Mill Rd	10	0		10	
29	HTV Studios	0	0		0	N/A
30	Maindy	38	23		61	1.7
31	Penarth	20	2		22	10.0
32	Treforest	2	4		6	0.5
	Totals	**2696**	**640**	**3**	**3339**	**4.2**

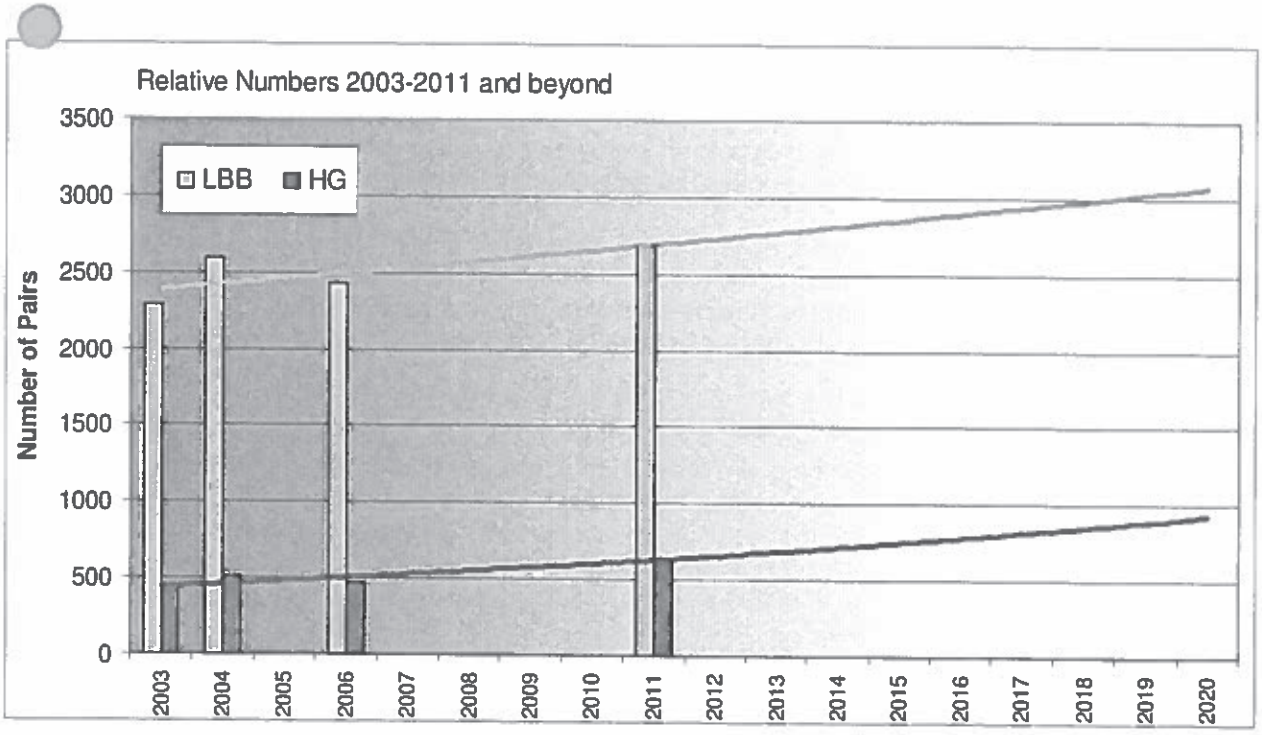
Cardiff has always been a stronghold for Lesser Black-backed Gulls, but Herring Gulls are faring well, too. With 640 pairs of Herring Gulls, Cardiff is second only to Bristol (805 pairs) of the 38 colonies I have assessed in the Severn Estuary Region.

As with all larger colonies, the two species are not evenly dispersed. As can be seen in Table 4 the variation in splits ranges from 2:1 in favour of Herring Gulls (in Treforest) 10:1 in favour of Lesser Black-backed Gulls (in Penarth).

In the wild Herring Gulls tend to prefer rocky cliffs for nesting whereas Lesser Black-backed Gulls tend to be dune nesters. It is often (but not always) the case that these preferences can be seen in town with Herring Gulls nesting between chimney pots (below) and Lesser Black-backed Gulls nesting in the open on gently sloping roofs.

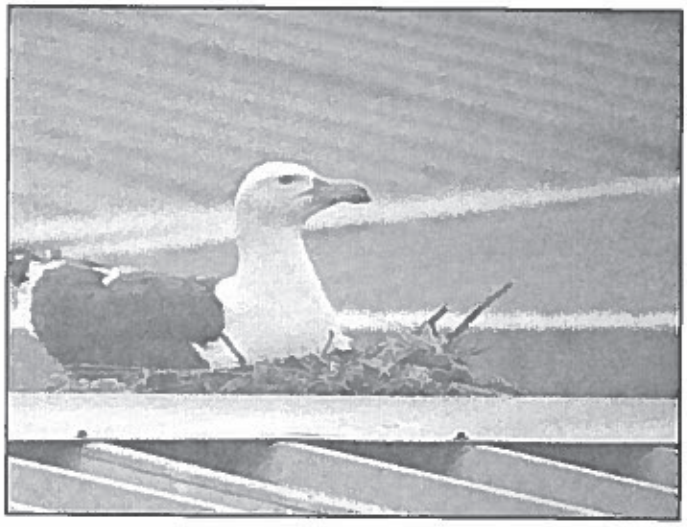
Lesser Black-backed Gull nest on one of the Cardiff Bus Station shelters.

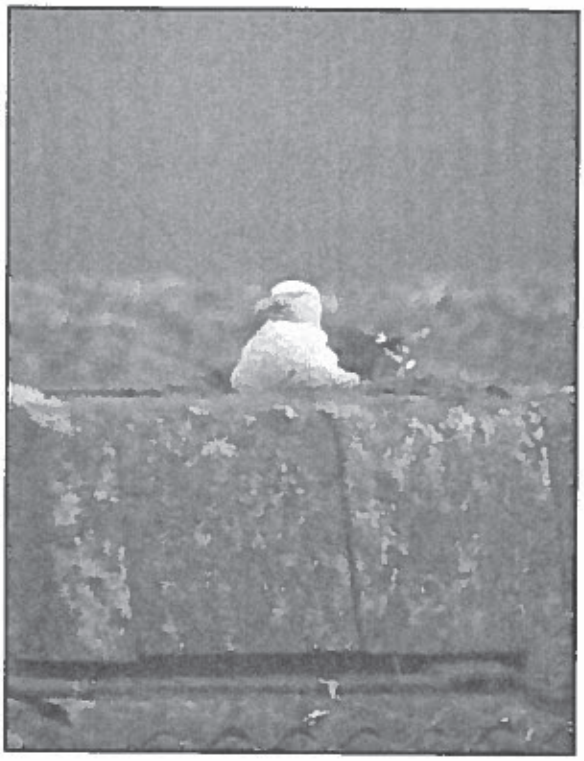
Figure 4. Relative numbers of Lesser Black-backed and Herring Gulls in Cardiff 2003-2011 with linear projections to 2020.



Lesser Black-backed and Herring Gull numbers have increased more or less proportionately since 2003. A simple linear projection visualises circa 3,100 pairs of Lesser Black-backed Gulls and circa 950 pairs of Herring Gulls in 2020. Though, again, these projections should be viewed with caution.

GREAT BLACK-BACKED GULLS





Great Black-backed Gulls (Tyndall St above and Port of Cardiff right). Great Black-backed Gulls are the top predators in seabird colonies. In an urban situation, it is strongly recommended that no action is taken against them. This is because they are very likely to eat the eggs and chicks of the other two species. Furthermore, they are not particularly aggressive towards humans even when nests and nestlings are approached (pers obs). Instead, they will fly around in the general melee and will usually be amongst the last to resume incubation or care for their offspring.

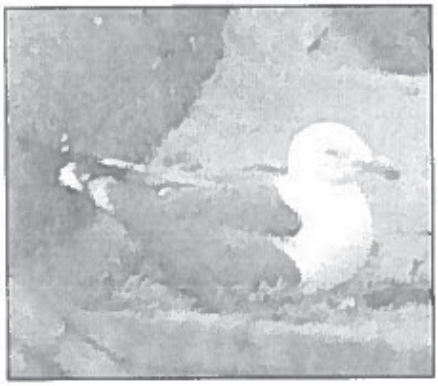
ASSESSING URBAN COLONIES

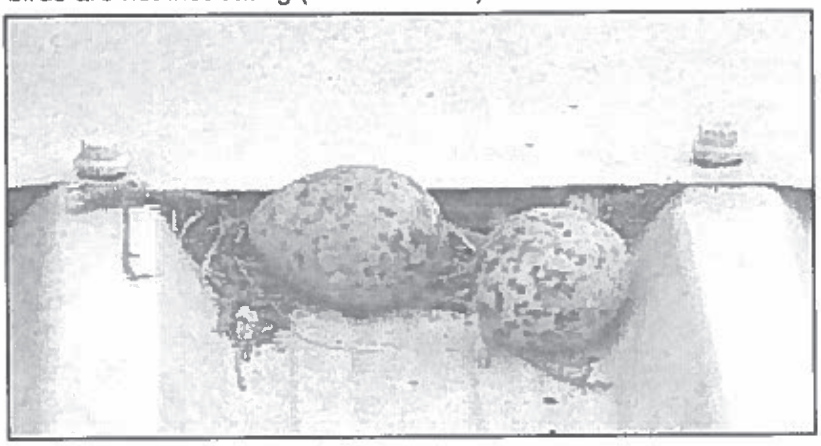
Unlike in traditional, wild colonies, in urban situations it has been necessary to adapt the generally accepted methods because of the complexity of the roofscapes and difficulties in accessing the many, separately owned roofs, some of which are in a very poor state. The assessment system devised for urban colonies in the Severn Estuary Region relies upon sufficient, superior vantage points (usually tall buildings) within the colony in order to be accurate. This has sometimes required the use of a cherry picker, or scissor lift where such vantage points are unavailable, or inaccessible.

The gulls' awareness of being observed, even at some distance, is acute. Therefore, especially when using a cherry picker, enough time must be allowed for incubating birds to assess risks and settle, which they usually do quite quickly. The urge to resume incubation is so strong that some birds will return to nests within 5m in less than five minutes (pers obs) though others will take longer. Keeping relatively still, of course, is important.

Colonies are divided into sectors with obvious boundaries (i.e. easily separable by recognisable landmarks from vantage points) and these are drawn out on prepared maps (usually 1:5000). Several counts (sweep counts) are made of all breeding-age birds of each species within each sector, excluding immatures (i.e. 1st and 2nd years) and the mean count taken as firm. At the same time, Apparently Occupied Nests (AON) of both species are also counted (the AON count, of course, represents the absolute minimum number of pairs). In essence, the population in each large sector is the product of the mean minus the AON (but see below).

Where rooftops within each small sector are clearly visible and are sufficiently close to be sure that nest counting is possible with a high degree of accuracy, nest counts are highly efficient in assessing the population of that sector. This, though, is a rare situation in an urban environment. However, even in these circumstances, some nests are constructed between corrugations with minimal material and sometimes with next to nothing and will defy positive identification, especially when parent birds are not incubating (left and below).





Urban breeding areas contain buildings of varying heights, sizes and shapes and dependent upon the complexity of the roofscape, scaling factors of between 5-25% must be applied. The most common situation observed in an urban environment is one where a certain percentage of nests is visible, but many are not. In these circumstances higher scaling factors are applied.

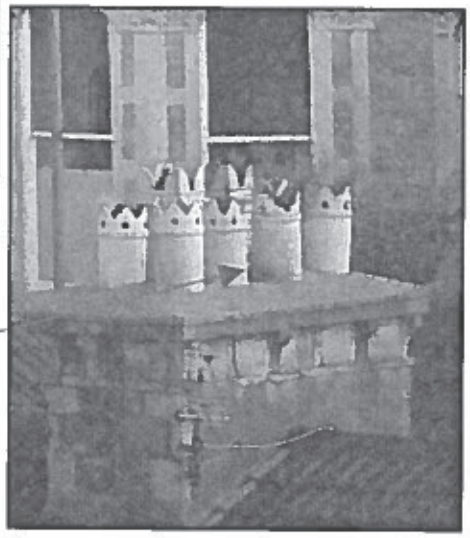
Adding to the difficulty is the fact that some pairs will construct more than one nest per season and abandon those regarded as less than suitable. Birds from other parts of the colony (and even other colonies) may visit to gauge territoriality or breeding success (and, perhaps, to seek out extra-pair copulations!). Further, when weather conditions are unpleasant (strong winds or driving rain) many non-incubating birds will find more conducive places to spend their time. Scaling factors (dependent upon the number of birds of breeding age present) must be applied here, too, in order to arrive at an accurate assessment.

The principle at work here (provided good vantage points are available) is that incubation is shared by both partners and though some non-incubating birds are likely to be away from the territory, most partners will be close by, especially at incubation changeover times, where territorial disputes are

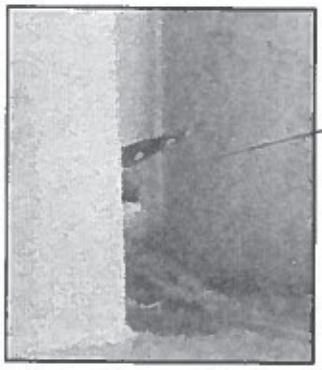
ongoing, or simply loafing. This is because feeding opportunities are plentiful and often close by (and urban gulls can feed efficiently) so the trade-off (in time) between incubating and feeding is weighted heavily in favour of the former and the tendency is to be in attendance at, or close to the territory.

Static vantage points (e.g. tall buildings) whilst offering commanding views of the colony, usually do not allow the observer much lateral movement. Therefore, because of complexity in the roofscape, a percentage of nests will be obscured.

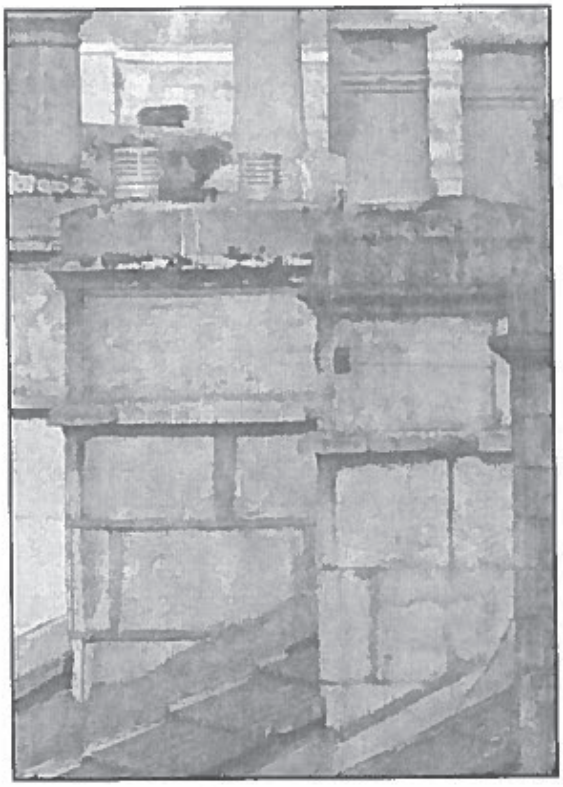
These pictures were taken in Cardiff where Lloyd's Bank did offer considerable lateral movement. The adult Lesser Black-backed Gull perched in attendance (as is the norm) on the chimney pot is the mate of the incubating bird which cannot be seen. However, by moving some 25 metres, the nest is revealed.

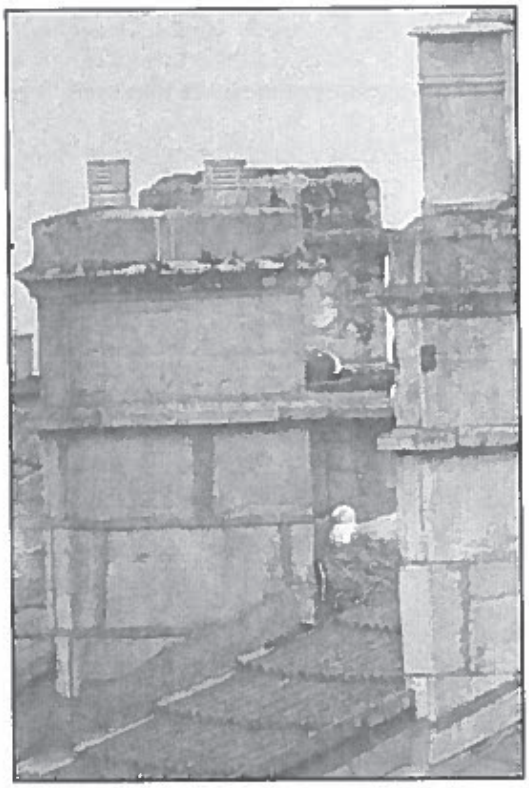


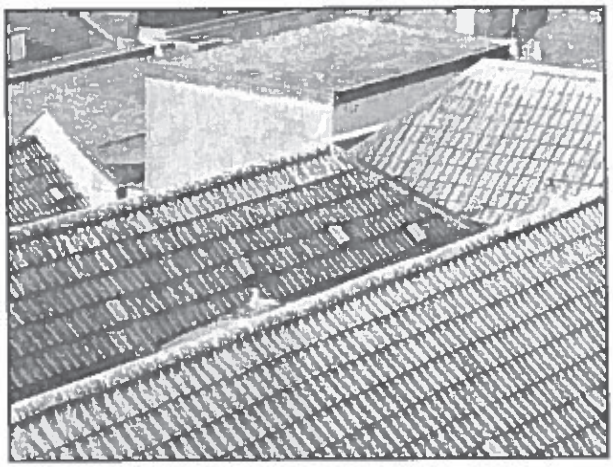
More difficult, still, are those nests which are extremely well hidden and are usually only found by pure luck. This nest (Bristol) was just such a piece of luck.



Below are some examples (from Bath in 2011) of how easily nests can be missed for the want of only a few metres. Pictures on the right show the nests revealed by moving those few metres.

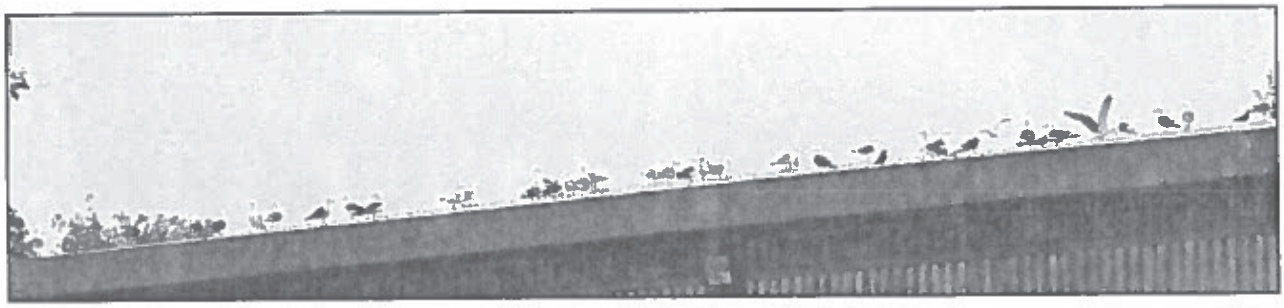






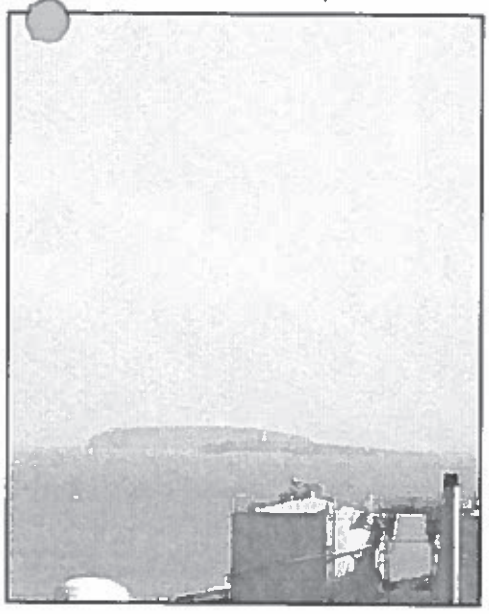
Cardiff, though presenting difficulties, has a number of excellent vantage points and, with the use of a cherry picker as well, high numbers of nests can be found. However, this is not to say that Cardiff is an easy colony to assess. It is very large and demands much time in each sector to be able to arrive at basic data before calculations are possible. It provides a most interesting challenge!

SOME ITEMS OF INTEREST

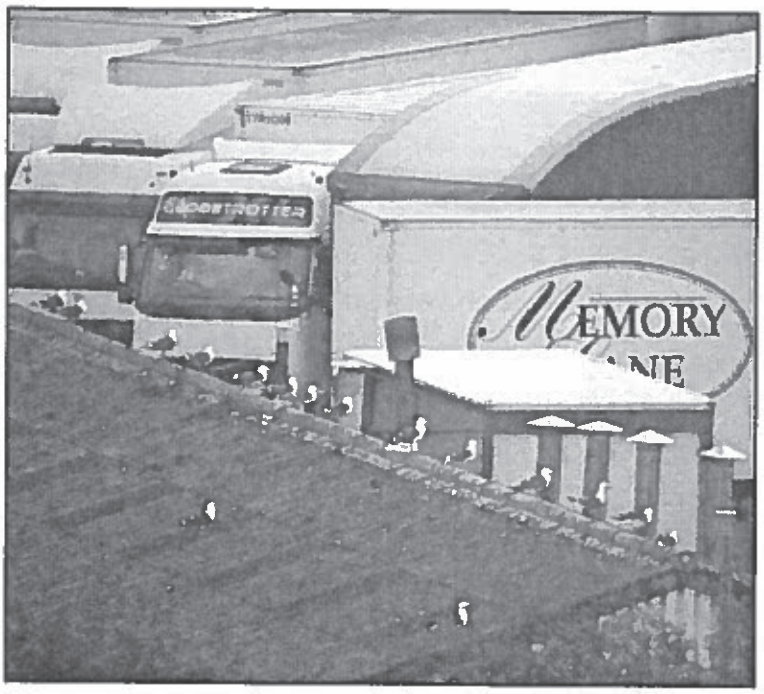


Part of the Biffa transfer station roof at the end of Bessemer Close.

The picture above shows 38 Herring and Lesser Black-backed gulls out of a total of 250. Clearly there is food available. Of interest, a Flat Holm-ringed bird (Yellow 6SF) was seen on this roof, but whilst it is possible that this bird is breeding on a Cardiff rooftop, it is equally possible that it is a Flat Holm breeder simply foraging in Cardiff. Flat Holm is only 11km (6 ½ miles) from the transfer station (see observations of ringed birds)



Flat Holm Island, left (with Steep Holm Island behind), from the Port of Cardiff. The large gulls could cover this distance in less than half an hour's flying time...



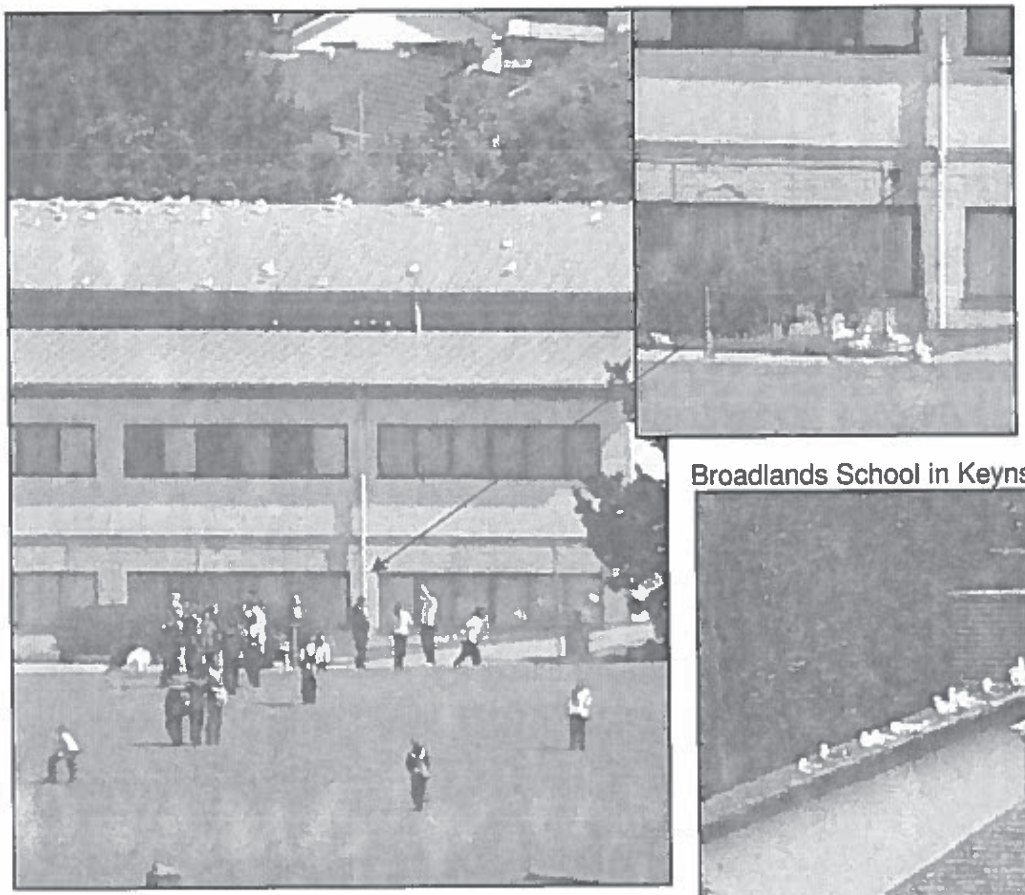
Another group of gulls in Llanishen waiting for a feeding opportunity, right.

And an enterprising Lesser Black-backed Gull unconcernedly dealing with plastic rubbish bags in Canton, above, right and below.

This bird did not take flight until the men to the right were two metres away.

Every conurbation supporting breeding gulls provides feeding opportunities and Cardiff is no exception. The introduction of Wheelie Bins should substantially remove the black plastic bag problem, but it is doubtful that this action, in itself, will affect the Cardiff gull population. The large gulls are intelligent and highly adaptable, capable of finding food wherever it may be available.

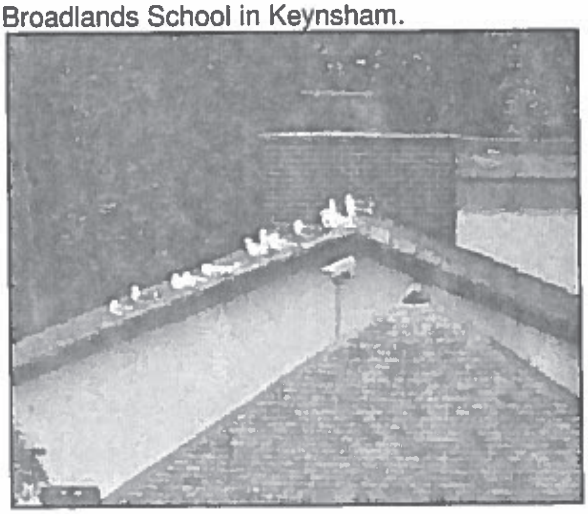
We all know that every conurbation also has at least one 'little old lady' feeding gulls and this is to be expected, but rather less expected is inadvertent gull-feeding at schools.

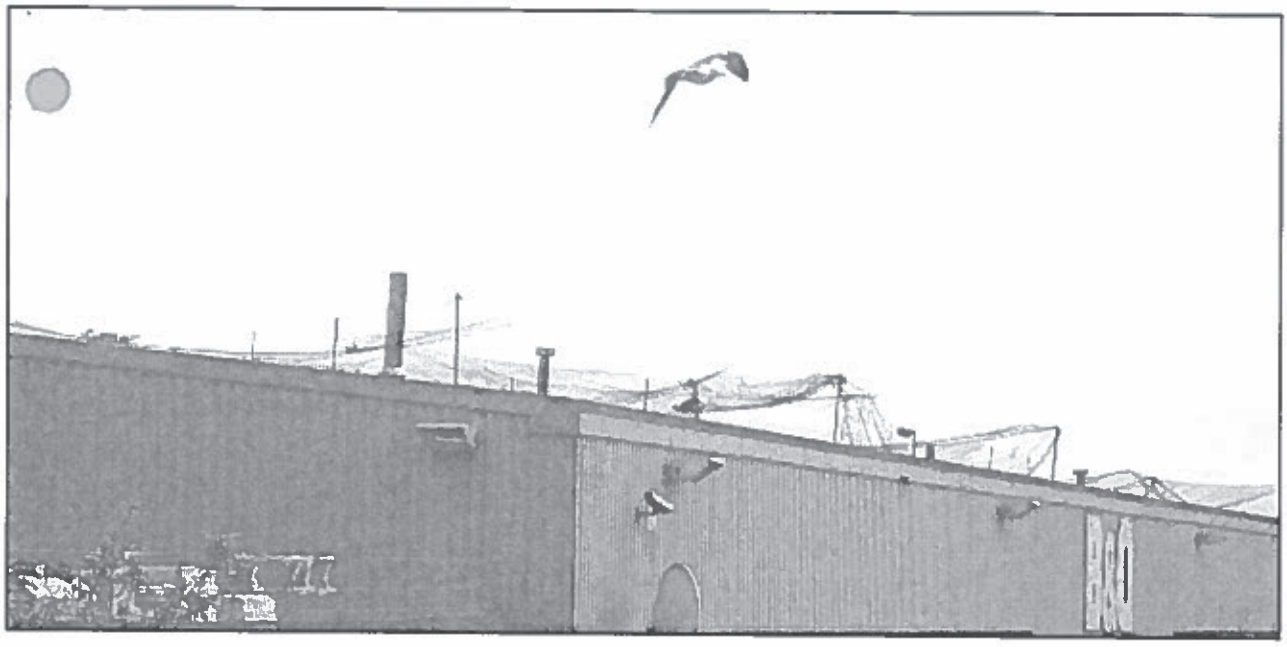


The gulls know the times of break and lunch exactly and will gather to wait until the children go back inside.

This is a school in Redruth, but this behaviour occurs wherever gulls are breeding close-by.

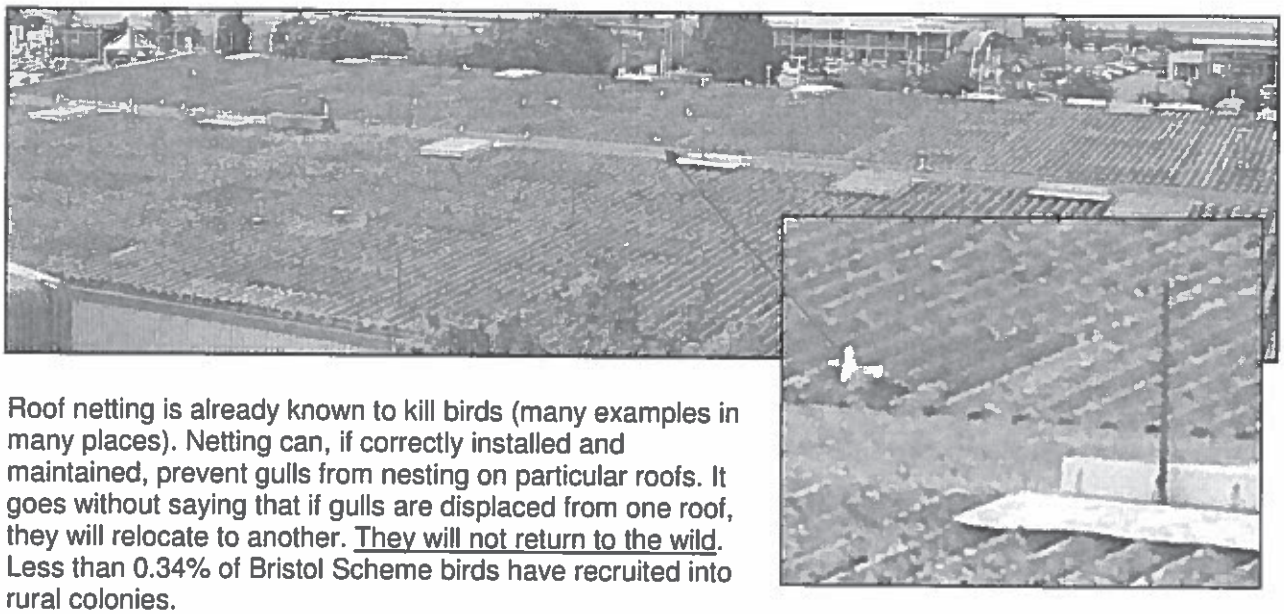
Broadlands School in Keynsham.





B&Q netting photographed during the 2006 survey and even showing on Google Earth (taken 9/8/06).

The netting has now completely fallen into disrepair and gulls are breeding on the roof again.



Roof netting is already known to kill birds (many examples in many places). Netting can, if correctly installed and maintained, prevent gulls from nesting on particular roofs. It goes without saying that if gulls are displaced from one roof, they will relocate to another. They will not return to the wild. Less than 0.34% of Bristol Scheme birds have recruited into rural colonies.

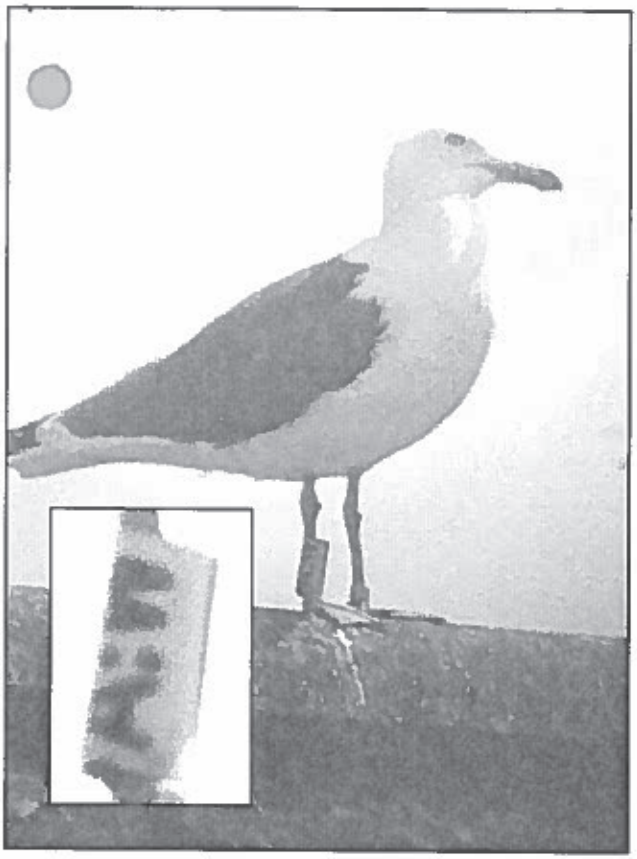
It can be clearly seen that this Lesser Black-backed Gull's carpal joint (the bend of the wing) had become caught in one of the meshes. Once this happens there is no escape because the feathers (pointing backwards) effectively trap the bird in this position and the more the bird struggles, the more firmly it is trapped. It takes several days before it dies.

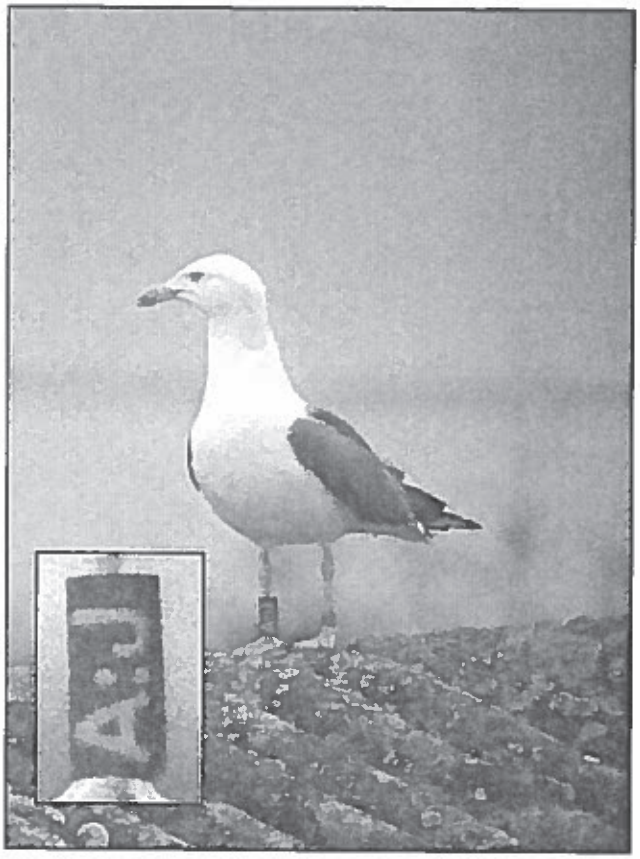
The Lesser Black-backed Gulls right and below were photographed during the 2011 survey.

The problem with roof-netting is that the mesh size (50mm) is wrong. It has not been tested. RSPCA is aware that such netting causes slow deaths.

OBSERVATIONS OF RINGED BIRDS

During every survey particular attention is given to finding colour-ringed birds breeding on roofs in any urban colony. This serves several objectives. Colour-rings provide evidence of origins, of places visited in terms of feeding locations as well as migration stopovers. They can also indicate the age of first breeding and Bristol Scheme colour-rings have already shown that the majority of males return to their natal colonies (philopatry) and that the majority of females emigrate to other urban colonies. This kind of strategy is common amongst colonial breeding birds of several species. It ensures that gene pool strength is maintained.





Pale Green A:W ringed Bristol 25/6/02
Agadir, Morocco almost annually since 2003.
Never seen anywhere else.

Blue A:J ringed Bristol 21/6/04
Lisbon September 2004. Not seen since.

These two birds are typical of colonists recruiting into populations which are not regularly monitored in that they may be seen on migration, but live their lives away from regularly watched sites. During the first survey of Cardiff in 2003, two birds were found which had never been seen in the 14 and 15 years after fledging! Details of colour-rings can be seen in **Appendix 1**.

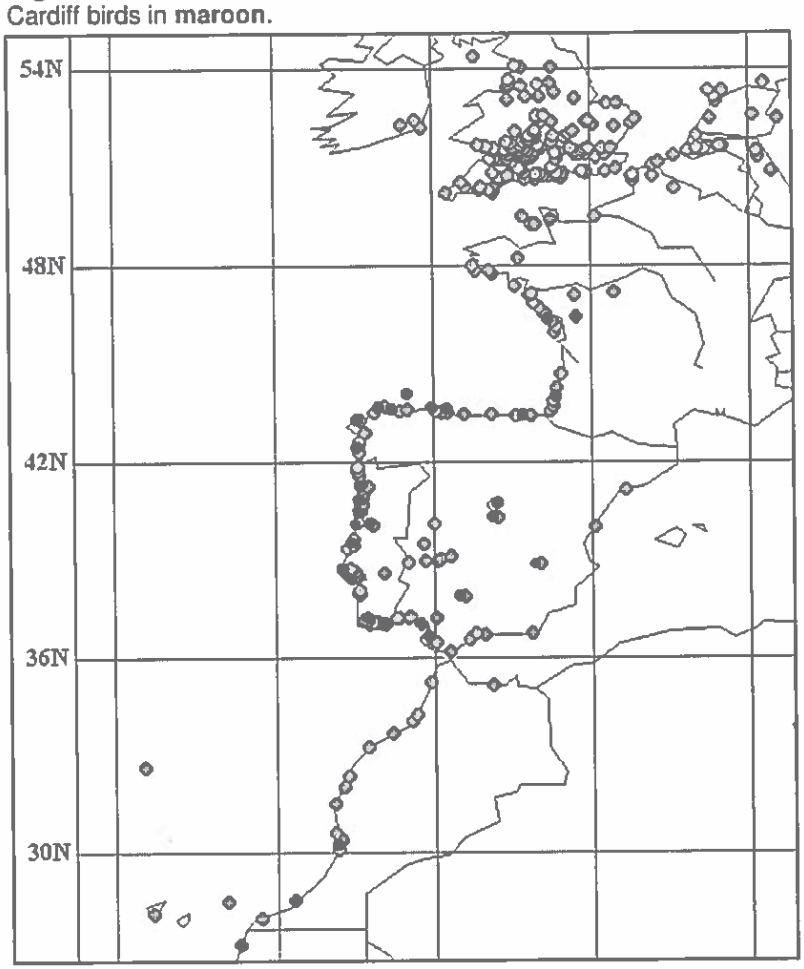
A Cardiff Lesser Black-backed Gull (ringed 3/7/03 on the old council offices). This is a male which now breeds at Brains Brewery. It was seen at Gloucester Landfill in August 2005 and at Marismas del Odiel (Doñana), Spain in January 2006 (by me!). Not seen since. This is the first breeding record of this bird.

Nestlings (i.e. birds of certain origin) have been colour-ringed in Cardiff in 2003, 2004 and 2006. Of 74 birds ringed 47 have been seen after fledging producing a recovery rate of 63.5%.

Five birds have been recorded breeding in Cardiff, two in Bristol and one each in Bath, Gloucester, Hereford, Paulton and Sharpness.

In effect, just as Bristol is supplying recruits into the Cardiff population, so Cardiff is supplying Bristol as well as other colonies. Cardiff and Bristol are 42km apart, but Hereford and Gloucester are 72 and 77km away respectively. It would be no surprise to find Cardiff birds further afield.

Figure 5. Recovery locations of Bristol Scheme Lesser Black-backed Gulls in green with recovery locations of Cardiff birds in **maroon**.

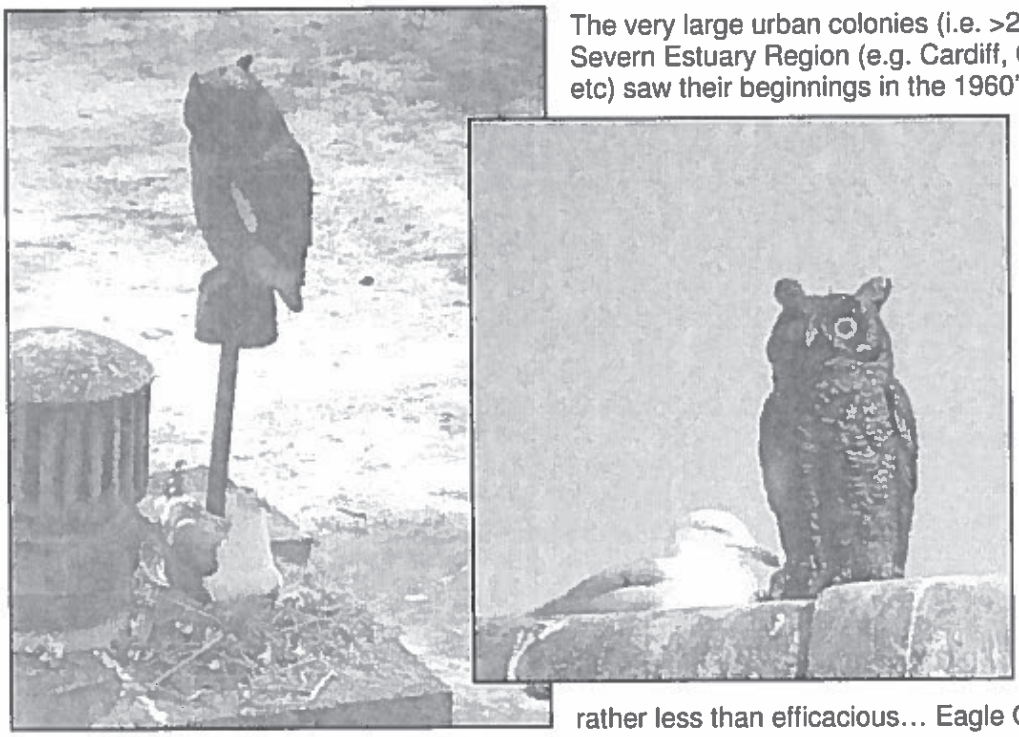


British recovery locations of Cardiff-ringed birds are omitted in order not to introduce unnecessary complexity.

In total 26 Cardiff Lesser Black-backed Gulls have been recorded abroad (35%).

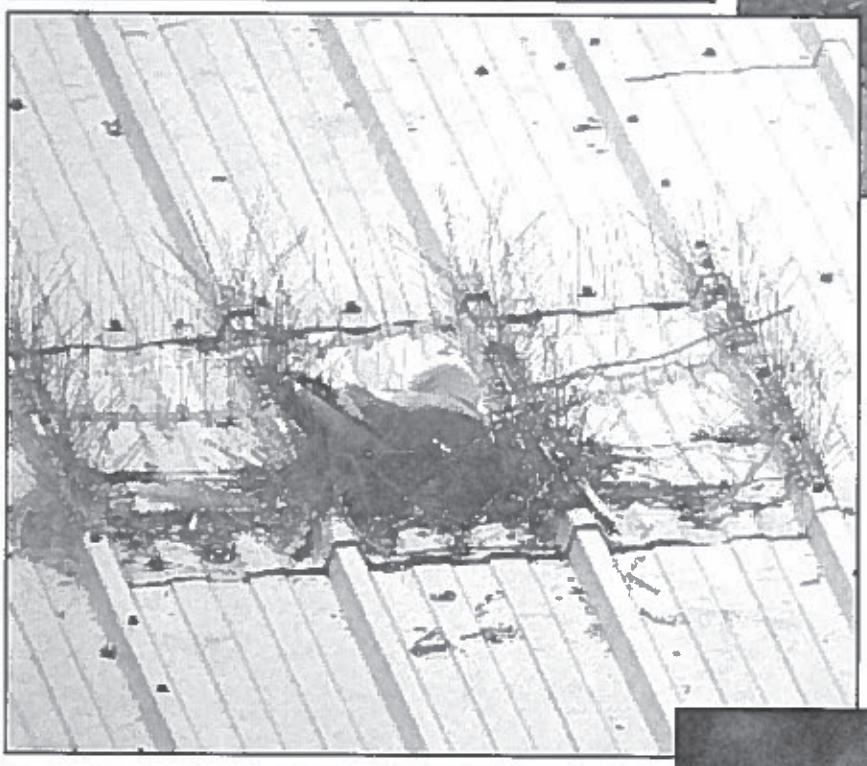
Colour-ringing in Cardiff will be resumed in 2011.

PEST CONTROL METHODS

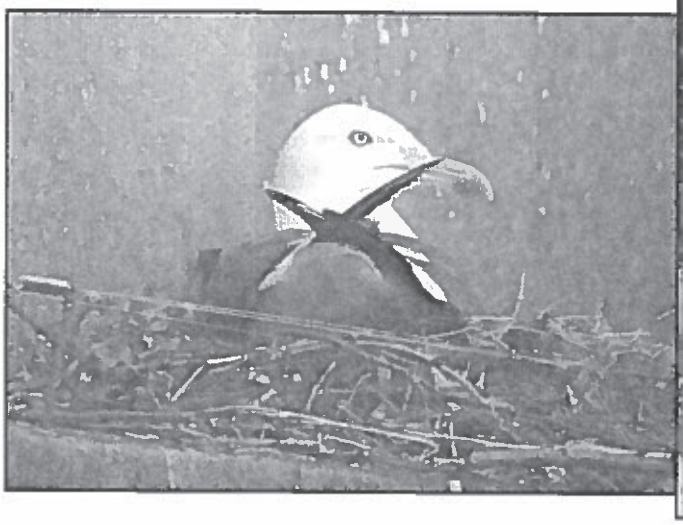


The very large urban colonies (i.e. >2,000 pairs) in the Severn Estuary Region (e.g. Cardiff, Gloucester, Bristol, etc) saw their beginnings in the 1960's and 70's. Growth, to begin with, was slow until the late 1980's and 1990's when numbers started to increase exponentially. This was when the urban gull issue began to hit the headlines. In effect, therefore, the issue is really only just over 20 years old. During that time the pest control industry has offered many forms of deterrence most of which have proved rather less than efficacious... Eagle Owls are feared predators, but plastic Eagle Owls are just pieces of plastic...

Tensioned wires and spikes



Spikes and tensioned wires are little more than a minor inconvenience and, in some cases provide anchor points for nests and protection for eggs and offspring in that they make it more difficult for predators. However, they can also make it more difficult for incubating birds to escape from predators...

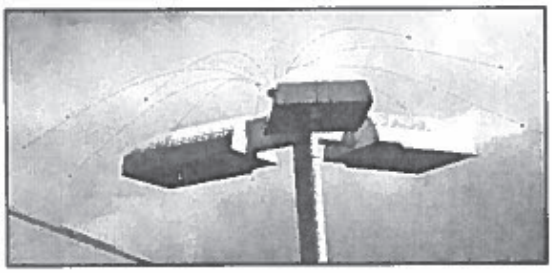


Acoustic deterrence involves playing distress calls and/or bird of prey calls. The first reaction is impressive and birds vacate the area. However, after only a few days, the reaction dissipates into little more than a turn of the head. Additionally, the calls being broadcast will sometimes serve to attract curious birds.

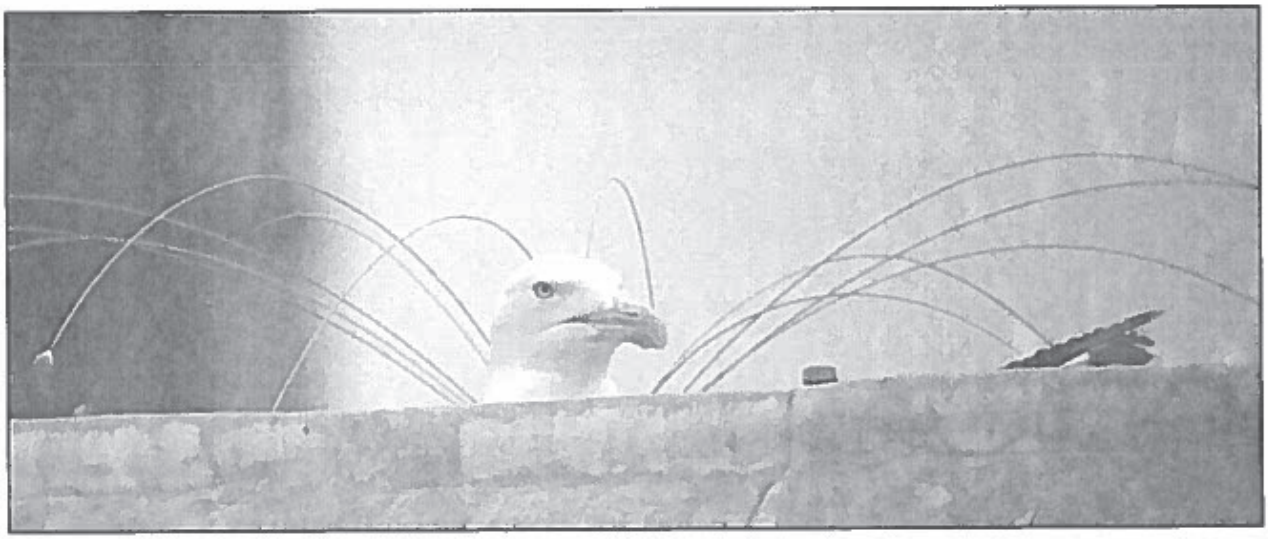
This picture was taken in Cardiff. There are several acoustic deterrence systems operating in the city.

Note the bird in the foreground. This is a Lesser Black-backed Gull colour-ringed in Bristol.

Urban gulls are NOT a local issue...



The contraption above, left, is known as 'the spider'. This one is in Gabalfa. Unfortunately, I was not fast enough in pointing my camera at the Herring Gull on the lamppost. Here, instead, is a nest in Bristol.

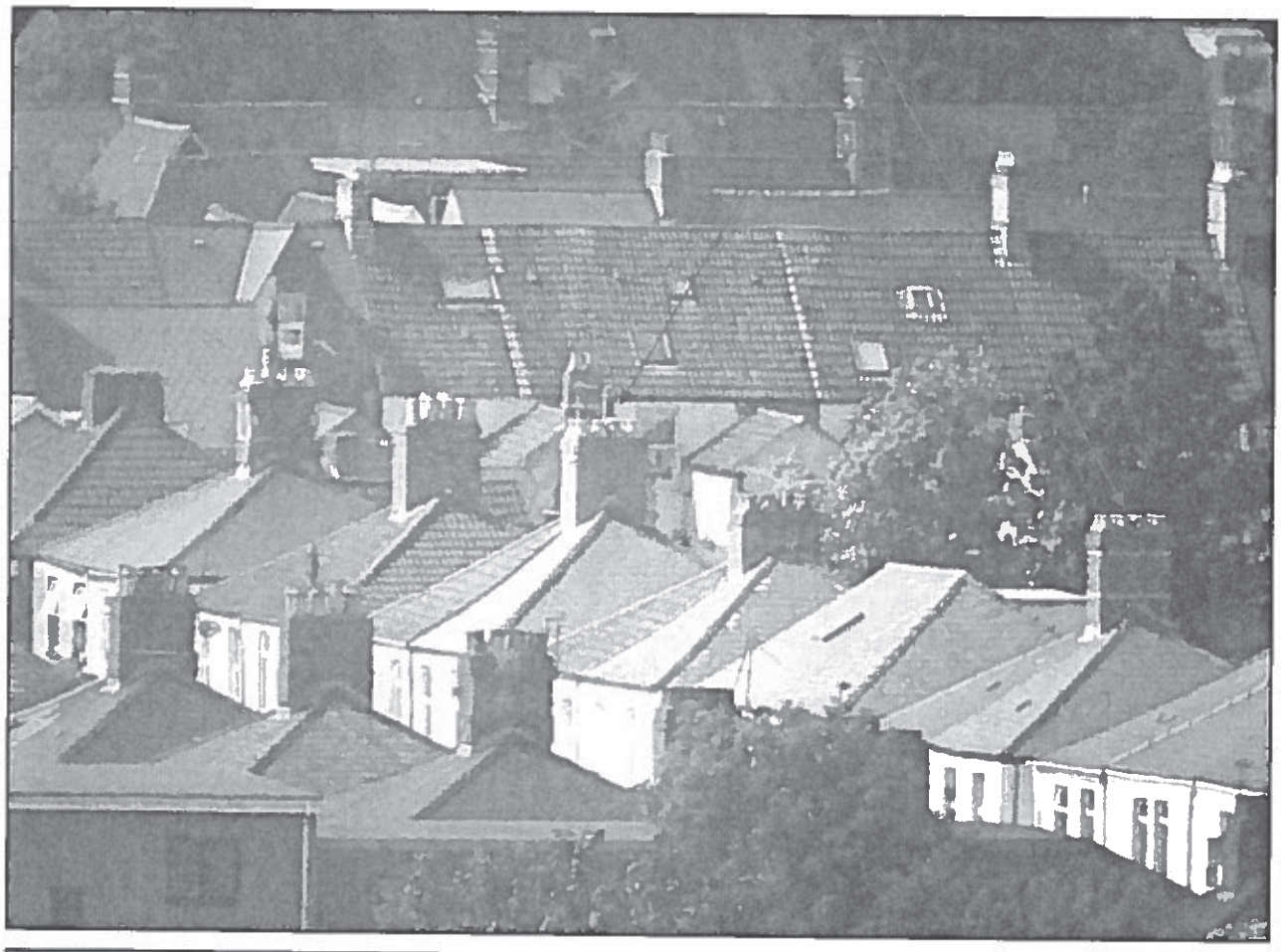


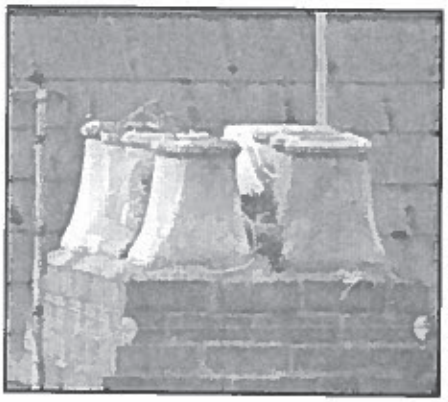
As with most deterrence equipment, the failure is precisely to do with the fact that little or nothing is known about gull behaviour. This notwithstanding, there appears to be an ever increasing range of equipment with each new idea seemingly costing more than the last...

And so on...

DISCUSSION

During the 2011 survey it was noted that there had been an increase in numbers of pairs nesting in residential areas of Cardiff. The picture below is of housing in the Victoria Park area (i.e. outside of the delineated sectors shown on the map). Nests are in each chimney stack





Typically, chimney nests are built between a double row of pots rarely between pots if there is only one row. Of course, there are many chimney stacks in Cardiff with double rows of pots.

Six chimney nests are shown in this report (four on this page and others on pages 16 and 19.

It is suggested that as time goes by the level of complaints from residents about this situation will increase, particularly if several pairs are nesting in close proximity.

There are four sectors which appear to present ideal habitat for nesting gulls (i.e. sufficient, suitable roofs), but in which no evidence has ever been found to confirm breeding. These are the Sewage Works (12), Rumney (17), Wentloog (18) and Whitchurch (22). One other, namely Cardiff Gate (19), which previously appeared not to support breeding gulls, now does.

Along with a rising population, there has been a range expansion: Cardiff Gate and Victoria Park within the Cardiff boundary and Treforest Trading Estate outside. It would be no surprise to find that gulls are now also breeding in trading estates in places such as Llantrisant and Caerphilly close to Cardiff. Further afield, we know about Barry, Bridgend and Newport, but what about Llantwit Major, Llandow, Cwmbran, etc?

We already know that urban colonies are supplying each other with recruits, but are not supplying rural (wild) colonies. Similarly, it appears that rural colonies are supplying only tiny numbers of recruits to urban colonies. Cardiff has only 4 confirmed rural-hatched birds in the breeding population. It can therefore be postulated that urban and rural populations are discrete (i.e. do not mix).

We also know that the large gulls are declining in UK & Ireland (Lesser Black-backed Gulls by >30% in the last 25 years and Herring Gulls by >60% in the last 30 years). Herring Gull has been RED listed by RSPB and has been withdrawn from the pest species list of the Wildlife & Countryside Act. This means that as of 1st January 2010 it is fully protected, save that in urban situations it is permissible to remove nests and eggs with the General Licence (it remains illegal, however, to kill adults and nestlings). The suggestion here is that these population levels have been drawn from assessments at rural colonies.

In sharp contrast to rural gulls, urban gull numbers (as well as colonies) are increasing apace, the corollary of which is that problems are increasing in direct proportion. It is estimated that £millions have already been spent on pest control in the last two decades. As an example, it was calculated in 2009 that in Bristol city centre more than £250,000 had been spent on roof-netting alone – never mind the other devices and systems. Of course, as populations continue to grow, so will the expense.

If we are to manage the urban gull issue, we first need to understand considerably more about urban gulls than we do already. Whilst it would be interesting to investigate why rural gulls are declining, this has little bearing upon the success story of urban gulls. How is it that urban gulls are so successful? How do they go about providing for their offspring and where do they get the high quality foods necessary to promote rapid chick growth? There are many questions urgently requiring answers.

It is proposed here that the pest control industry whilst earning a great deal of money has made no impact upon urban gull populations nor even upon rates of growth. In fact, we are no nearer a solution now than we were 20 years ago. Time now for research to gain the proper understanding. The basic question is this: when did we ever solve any problem in any field without first knowing exactly what we are dealing with?

The gulls themselves will show us how they need to be managed.

It has been five years since the last survey and during that time there have been many changes in the Cardiff cityscape. The urban gull population has risen by 15% in the same period at what is suggested to be a low annual rate of 3%. This may be an artefact rather than the true rate of growth. It is recommended that a survey is commissioned in 2012 to ascertain not only a more realistic appraisal of growth rate, but also to enable a more closely defined projection of gull numbers in the future.

APPENDIX 1. Colour rings observed during surveys of Cardiff 2003-2011.
Legend: SP = Species, **LB** = Lesser Black-backed Gull, **HG** = Herring Gull.
Status = Breeding Status, **B** = Breeding, **N** = Not breeding, **?** = Unknown.

Urban Gulls

Origin	Colour-Ring	Code	SP	RingYear	Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	Sex	Count
Bristol	PALE GREEN	AZ	LBB	1988	B	X									F	1
Bristol	BLUE	LC	LBB	1989	B	X									F	1
Bristol	WHITE	CF	LBB	1992	B	X	X	X	X						F	1
Bristol	WHITE	JP	LBB	1992	B	X	X	X							F	1
Bristol	YELLOW	LD	LBB	1993	B				X						F	1
Bristol	BLACK	RU	LBB	1994	B	X									F	1
Bristol	ORANGE	TB	LBB	1995	B		X	X							F	1
Bristol	GREEN	CT	LBB	1996	B				X						F	1
Bristol	ORANGE	MC	LBB	2000	B									X	F	1
Bristol	PALE GREEN	AW	LBB	2002	B									X	F	1
Bristol	PALE GREEN	RU	LBB	2002	B				X						F	1
Bristol	WHITE	BT	LBB	2003	B				X						M	1
Bristol	BLUE	AJ	LBB	2004	B									X	M	1
Totals						5	3	3	5					3		13

Origin	Colour-Ring	Code	SP	RingYear	Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	Sex	Count
Cardiff	WHITE	GT	HG	2003	B				X						M	1
Cardiff	WHITE	JB	LBB	2003	B									X	M	1
Cardiff	WHITE	TA	LBB	2003	B				X						M	1
Cardiff	BLUE	PG	LBB	2004	N				X						M	1
Cardiff	BLUE	PN	LBB	2004	B									X	M	1
Totals									3					2		5

Gulls of Unknown Origin (i.e. trapped and ringed at landfills)

Origin	Colour-Ring	Code	SP	RingYear	Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	Sex	Count
Stoke Orchard	BLUE	228	LBB	2004	B			X							?	1
Stoke Orchard	BLUE	228	LBB	2005	B				X						?	1
Stoke Orchard	BLUE	629	LBB	2005	B									X	?	1
Stoke Orchard	BLUE	860	LBB	2005	B									X	?	1
Gloucester Landfill	BLUE	CCL	LBB	2007	B									X	F	1
Stoke Orchard	BLUE	CXB	LBB	2008	B									X	?	1
Stoke Orchard	BLUE	ECH	HG	2008	B									X	F	1
Stoke Orchard	BLUE	ECL	HG	2008	B									X	F	1
Stoke Orchard	WHITE	5HH	LBB	2004	B		X								F	1
Stoke Orchard	WHITE	7VH	LBB	2004	B			X							?	1
Spain	YELLOW	M	LBB	?	B				X						M	1
Totals							1	2	2					6		11

Rural Gulls (i.e. Flat Holm and Tarnbrook Fell, Lancashire)

Origin	Colour-Ring	Code	SP	RingYear	Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	Sex	Count
Flat Holm	WHITE	F	LBB	1991	?	X			X						F	1
Flat Holm	YELLOW	F	LBB	1994	?		X	X							?	1
Flat Holm	BROWN	6AF	LBB	1997	B			X							F	1
Flat Holm	WHITE	4DF	LBB	1998	N	X									F	1
Flat Holm	BLACK	5DF	LBB	2003	B									X	F	1
Flat Holm	BLACK	7EF	LBB	2003	B									X	F	1
Flat Holm	YELLOW	6SF	LBB	2007	?									X	?	1
Tarnbrook Fell	BLACK	T9DT	LBB	1998	B		X								F	1
Totals						2	2	2	1					3		8

Grand Totals						7	6	7	11					14		63