

## FORTH ISLANDS AERIAL GULL COUNT

“That’s my day job,” said Andy Davis, our pilot, as we walked past the Lear executive jet parked on the apron of Edinburgh Airport. “Where do you fly to?” we asked. “All over Europe, South of France, Monaco, places like that,” he replied! We walked on down the line of parked aircraft, past the executive jets, the turbo props, and the twin engine light aircraft, the single engine, until we reached the last plane on the line, our Cessna 172. “The Ford Fiesta of the air,” said Andy. It looked a bit like a clapped out old model Fiesta to us! On a reasonable day weatherise in late May we, John Calladine, John Davies and Alan Leitch, were off to photograph three island gull colonies, Inchcolm, Inchkeith and Craigleith, in the Firth of Forth on the south-east coast of Scotland.

John Calladine had organised a land-based count of all the Forth islands in 1994, when he was warden on the Isle of May. Come Seabird 2000, none of the members of the Forth Seabird Group were very enthusiastic about repeating this time

consuming and labour intensive exercise. John Davies came up with the bright idea of doing it the easy way – Ha! Ha! – photographing them from the air and just counting the nesting birds from blow-ups of the slides. John Calladine introduced a more scientific approach to the exercise, pointing out the necessity of ground control counts to determine not only the proportion of Lesser Black-backed Gulls *Larus fucus* to Herring Gulls *Larus argentatus* in the colonies, but also the ratio of sitting birds on nests to ‘loafing’ birds. Timing was also critical – just about hatching, which is around the third week in May on the Forth islands. Ground control counts on the three islands were successfully completed last year, 2001, but unfortunately our pilot then couldn’t fly because of an inner ear infection – not a good idea to fly when you’ve lost your sense of balance!

This year we were on our way, waiting half way down the main runway at Edinburgh for a passenger jet to take off before us. After a very short take off compared to the jet, we wanted to turn right and north towards the Forth, but air traffic control (ATC) insisted we turn left.



**Inchcolm, in the Firth of Forth, from the air  
(photo John Davies)**

Two of our islands are within Edinburgh Airport's ATC, which means flying below 1,500 feet, maintaining radio contact and doing what they tell you. Pilots don't like flying single engine aircraft at 1,000 feet over the sea, which was why we were all wearing brand new lifejackets! When we did get permission to turn north towards the Forth and its rail and road bridges, we were told to look out for another light aircraft taking pictures. I spotted it dead ahead, flying right, before Andy saw it, but wasn't that ATC's job?

Then we were over our first island, Inchcolm off the Fife coast - window open, camera out, start taking photos, checking the overlaps, can see gulls in the viewfinder and also the old wartime remains and the ruined abbey. One and a half passes and on to the next island, Inchkeith in the middle of the Forth - change film, passing too close, try to photograph the Cormorant *Phalacrocorax aristolelis* colony as well. Edinburgh ATC tell us to clear out to the north - passenger jet on final approach - change film, another pass, better distance, can still see gulls in the view finder and more wartime ruins and the lighthouse.

Chance for a breather, change film and across to the Lothian coast. Before our third island, Craigleith, we pass over and take photos of Eyebroughy, Fidra and the Lamb (three RSPB seabird reserves). Then over Craigleith, where are the gulls, island looks very green - overgrown with Tree Mallow *Lavatera arborea*. Keep circling taking photos. Pilot Andy shows an incredible knack of putting the aircraft just where you want him to. (As a trainee pilot, I find this a very difficult thing to do, particularly when landing!) Gaining altitude, we do a fly by of the Bass, the home of the North Atlantic Gannet *Sula bassana*. The sun comes out and we have superb views looking down on clouds of Gannets streaming to and from the Rock.

We turn back to fly to seaward of Craigleith, the Lamb, Fidra and Eyebroughy and head back to Edinburgh. Alan Leitch has a particular interest in the expanding gull population of the city of Edinburgh. This is causing some concern, particularly in the suburbs of the 'chattering classes' like Morningside. Overflying the city at 1,000 feet, it is very difficult to see any gulls on the rooftops. We concentrate on the city bus depot on Annandale Street and Andy stands the Cessna on the port wingtip for a better view. I

nearly fall out the open window and John Calladine ends up with Alan sitting on top of him. My flying instructor says never, ever look down when doing tight turns - now I know why! Recovering my stomach and camera from out of the window we return to Edinburgh airport. The runway looks enormous. We land about a quarter of the way down and taxi off half way. Great flight, I wonder if the slides will come out all right. After the flight John Calladine and Chris Wernham go off for a trip to Inchcolm and later Inchkeith to do the ground control counts. Alan and I never make it to Craigleith before the end of May because the weather is too bad for landing. However, when we do get there to ring seabirds, we find the Tree Mallow, over 2 m high in places, has just about colonised the whole island this year, reducing the available area for gulls and Puffins *Fratercula artica*.



**Ground-truthing counts on Inchkeith  
(photo John Calladine)**

Well the slides did come out all right, and John Calladine scanned them and counted the white dots to give a bird count. These counts were then corrected for the proportions of birds present that were actually sitting on nests and also the proportions of each species present. Both these proportions were determined from counts of between three and seven subdivisions of each island on the ground. The subdivisions were identical to those used in earlier counts. Conveniently, the Forth islands have an abundance of buildings, tracks and other wartime debris and so identifying the sections, both from the ground and from the air, is easy.

Fortunately, there was no real difference between the proportions of species present or individuals incubating for Inchcolm and Inchkeith determined in the years 2001 and 2002, and so we were happy to use those for Craigleith from 2001. However we believe the Tree Mallows restricted visibility and so the count for Craigleith will probably be an underestimate.

Although there is always a risk involved in comparing counts derived from different methods, it does appear that Herring Gulls have declined on these islands in recent years while the fortunes of Lesser Black-backed Gulls have been mixed, with a fairly modest increase on Inchkeith and declines on the other two islands (see table below for a summary of counts since 1969).

**Technical stuff**

The Cessna 172 is the most suitable light aircraft for this type of survey for four main reasons: its high wing gives excellent visibility below; it has a large window, which opens fully, giving

unobstructed views for the camera; it has a comparatively low minimum cruising speed of 80 knots, giving plenty of time to take photographs; and, finally, it's (comparatively) cheap to hire.

The camera used was a Pentax Spotmatic single lens reflex with a 70 – 150 mm zoom lens. Film was Boots 200 ASA 35 mm slide film. The 30-year-old camera is simple, reliable and familiar to use. The film was cheap (3 for the price of 2 offer) own brand because we were planning to use lots and only count white dots or blobs.

**Acknowledgements**

Thanks to Andy Davis our excellent pilot; Tony Gorzkowski for letting us use his plane; Edinburgh ATC for allowing us to fly in controlled airspace; and the Seabird Group for paying for the flight.

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**Summary of counts of Herring Gulls and Lesser Black-backed Gulls on three islands in the Firth of Forth, 1969-2002.**

	<b>Herring Gull</b>				<b>Lesser Black-backed Gull</b>			
	1969	1987	1994	2002	1969	1987	1994	2002
<b>Craigleith</b>	5,500	2,281	2,385	823	275	933	934	647
<b>Inchkeith</b>	750	4,091	4,977	3,580	300	1,753	2,607	3,276
<b>Inchcolm</b>	5	1,040	1,615	621	0	730	1,669	1,221

