

Forth Seabird Group

Forth Islands Bird Report 2014

Compiled by Bill Bruce

February 2015

SEABIRD SPECIES SUMMARIES

Notes:

- AOS / AOB / AON / AOT = *Apparently occupied sites / burrows / nests / territories.*

FULMAR

This species reached its peak in the mid-1990s and breeding numbers have been decreasing since then. However numbers this year are slightly up (+9%) on last year and are pretty much in line with the average for the previous five years.

CORMORANT

Cormorants are much more easily disturbed than other seabirds so must be counted from a distance, numbers are therefore always an estimate. Although this year's count is apparently up on the previous two years, it is only one AOB less than the average for the last five years.

SHAG

This is the second breeding season since large numbers of shag died in the winter 2012-13 and AON have increased (+6%) since last year with increases on all islands except May Isle (where there was no count) and Bass Rock.

GANNET

It is ten years since the last count and since then there has been a steady increase in AON. The Scottish Seabird Centre is reporting that Bass Rock is now the largest single island gannet colony in the world.

EIDER

Not counted on all islands

GREAT BLACK-BACKED GULL

This year has seen numbers almost double (+48%) since last year and the biggest increases were on Craigleith, Inchkeith and May Isle.

LESSER BLACK-BACKED GULL

On most of the islands where we count this species the numbers are down compared to the last few years. On Craigleith a count was done, the first since 2002 and over this period the number of breeding birds is down by approx. 70%.

HERRING GULL

Breeding numbers are down on Fidra and Inchmickery and up on the other islands. The last count on Craigleith was done in 2002 and since then numbers have increased by approx. 80%.

KITTIWAKE

Since the mid-1990s the general trend has been downwards however this year's number of AON is up on last year's and much of last year's decline has been recovered.

COMMON & ARCTIC TERN

Common tern numbers are well up on last year's count due to a big increase in AON on Long Craig. May Isle is the only island with breeding Arctic tern and the count there is one AON more than last year.

ROSEATE TERN

There are no reports of this tern breeding on the islands this year.

SANDWICH TERN

There are no reports of this tern breeding on the islands this year.

RAZORBILL

This is the fifth year in a row where there has been an increase in AOS with increases on all islands except Inchcolm. Also, compared to the average for the previous ten years numbers are up by 9%.

GUILLEMOT

Compared to last year, the number of birds seen on the breeding ledges is up on all islands and it also up 5% on the average for the previous ten years.

On Inchcolm 14 birds were seen on the cliffs at the north-west of the island where only odd birds have been seen in previous years. This will need to be monitored in future years to see if this is the start of a breeding colony.

PUFFIN

Craigleith and Fidra are the only islands where this species was counted this year and numbers of AOB have increased (+10% and +35% respectively) since last year.

Table 1: Summary of seabird counts for the Forth Islands, 2014

2014	Bass Rock	Craigleith	Lamb	Fidra	Eyebr-oughty	Inchkeith	Carr Craig	Inchcolm	Haystack	Inch-mickery + Cow & Calves	Inch Garvie / Forth Bridge	Long Craig	May Isle	Total
Fulmar (AOS)	c41	118	9	171		240	0	167	0	36	220		325	1,327
Cormorant (AON)	0	41	56+	0		83	c66	0	0	0	0	0	0	246
Shag (AON)	12(FSG) 16(SSC)	137	49	162		182	c21	18	0	65	0	0	x	650
Gannet (AON)	75,259	0	0	0		0	0	0	0	0		0	0	75,259
Eider (AON)	2+	63+	x	26+		x	0	0	0	26	37	3	975	1,132+
Great B-b Gull (AON)	0	31	1	3-4		c14	1	x	0	5	1	0	51	107
Lesser B-b Gull (AON)	2	c190	x	155		x	c35	x	c21	131	c35	0	2,047	2,616+
Herring Gull (AON)	c71+	c1500	x	743		x	c55	x	c15	218	c288	0	4,200	7,090+
Kittiwake (AON)	c324	300	84	167		273	0	65	0	0	0	0	2,464	3,677
Common Tern (AON)	0	0	0	0		0	0	0	0	0	0	131	10-15	141
Arctic Tern (AON)	0	0	0	0		0	0	0	0	0	0	0	400-405	400
Roseate Tern (AON)														0
Sandwich Tern (AON)	0	0	0	0		0	0	0	0	0	0	0	0	0
Razorbill (pairs/sites)	c124	211	65	170		118	0	12	0	0	0	0	2987 (3796 b)	3,563
Guillemot (birds on cliffs)	c2050	c2910	c2800	c640		322	0	14	0	0	0	0	16602 (14248pr)	16,938
Puffin (birds unless otherwise stated)	2+ b	5475 AOB	63 b	1026 AOB		740+ b	0	51 b	0	25 b	0	0	x	6,501+ AOB

AOB/AON/AOS/AOT=Apparently occupied burrows / nests / sites / territories; x=birds present but not counted; 0=none breeding; c=circa; b=birds; pr=pairs

CHRONOLOGICAL LIST OF VISITS AND SIGHTINGS

Fidra 29 April

Pied wagtail
 Dunnock 2, singing
 Rock pipit
 Oystercatcher
 Eider 4 sitting on nests
 Mallard 2
 Greylag goose & gosling

Bass Rock 24 May 2014

Peregrine 2 birds seen

Craigleith 24 May 2014

Grey Lag Goose 1 bird on island, 2 + 6 flying
 over
 Pied Wagtail 1 heard
 Rock Pipit 2 birds (1 territory) seen
 Wren 1 singing
 Grey Seal 5+
 Shelduck 1 flying over

Additional comments:

Tree mallow: The only plants to be seen are along the East Cliff and the slopes above it. Over the rest of the island there are only very small seedlings.

Inchkeith 25 May 2014

Mallard 1 female with nest of 8 eggs,
 another female, 2 males
 Shelduck 1 seen in harbour
 Oystercatcher - territories: 4 on E side, 4 S of
 harbour, 4 in NW bays and W
 cliffs, plus 2 territories on other
 parts of island
 Blackbird 1 female
 Pied wagtail 1
 Rock pipit 3 territories
 Peregrine 2 birds seen
 House mouse 1 seen

Butterflies:

Green-veined white 1 seen
 Small white several seen

Red admiral 1 seen

Additional comments:

A type of mustard, probably a form used as a game crop used on shooting estates, and oil seed rape both in full bloom over large areas of the island and is growing up to chest height in places. This must be affecting gull numbers in these areas.

INCHGARVIE 27 May 2014

Eider 37 nests – no signs of
 predation

GBB gull - 1 pair with nest and 3 eggs.

Possible second pair present ?

Herring gull/LBB gull – Approx 323 nests
 counted. 51 LBBG's (birds)
 counted, with an estimate of 35
 nests. Approx. 288 Herring
 Gull nests and 35 Lesser
 Black-backed Gull nests.

Feral Pigeon Breeding but not assessed.

Common Tern Several flying by.

Small White butterfly – several seen.

Garden Tiger Moth – Caterpillars seen.

Additional comments:

Several Kittiwakes over the island but no sign
 of roosting/breeding.

Oil-seed rape prevalent.

Common Mallow present in small amounts.

Hawthorn, Sycamore and Ash trees now
 semi-mature.

No signs of rats

HAYSTACK 27 May 2014

Cormorant 1 immature present

Crow 1 present

Eider c. 15-20 drakes and ducks on
 lower reaches or in sea close
 inshore

Feral pigeon several present

Grey seal 1 in water (Tide was fully in)

CARR CRAIG 27 May 2014

Greater black-backed gull – 1 nesting pair

Herring gull/LBB gull – Approx. 90 nesting
 pairs with C. 55 nesting pairs

of Herring gull AND 35 pairs
of Lesser black-backed gull.

Oystercatcher 1 in territory
Eider c. 30 on and offshore (west
side)

INCHMICKERY 27 May 2014

Eider 26 nests counted with 6
predated
Oystercatcher 7 birds
Shelduck 3 pairs

INCHCOLM 27 May 2014

Oystercatcher 7 territories. Two nests each
with 3 eggs found.
Puffin 51 birds on and offshore – four
at burrows
Guillemot 14 ashore on cliffs at north-
west. Previously only one or
two birds have been recorded
ashore at the island. This
development is worth noting.
Jackdaw 5+ nesting pairs
Wood pigeon 6 birds flushed from Elder
bushes
Mallard 1 duck flushed from nest with
c.10 eggs at West side. 1 pair
at East side.
Shelduck 2 individuals seen, one at West
side and one at East side.
Crow Empty 2014 nest seen in Elder
below S.W. cliffs.

Green-veined white butterfly. 1 seen plus
several other unidentified
“Whites.”

Additional comments:

Tree mallow – Spreading slightly from west
corner of South Bay. Some examples just
above strandline south of Custodian’s
bungalow.

Lamb 1 June 2014

Rock pipit

Additional comments:

Tree mallow: some areas with mature plants
though this doesn’t seem to be affecting
cormorant numbers. In fact the cormorants

are nesting in amongst the tree mallow,
having moved down from the top of the
island. The presence of scattered tree mallow
plants may be an advantage for nesting
Cormorants.

Fidra 1 June 2014

Rock pipit seen
Oystercatcher 1 bird seen
Shelduck 1 male seen

Colour-ringed shags seen:

East end of Castle Tarbet - white on blue IAI
Cliffs on north side of West Bay - white on
red ?UR, white on red TIB, white on blue ???

Additional comments:

Tree mallow – Unfavourable weather
prevented the SOS Puffin project volunteers
landing for as many trips as had been
planned. The result being that there are
several areas of mature tree mallow. These
are mainly near the harbour and around the
slopes in the West Bay.

Bass Rock 02 June 2014 - Additional notes from Maggie Sheddan

Shag 16 AON
Fulmar 3 AOS that cannot be seen
from a boat
Eider 2+ nests (probably more in the
dense tree mallow)
Rock pipit 1+ pairs breeding
Pied wagtail 1 pair

Inchcolm 10th June 2014

Great Black-backed Gull - 1 pair at the
eastern point. Presumed
nesting.

Puffin - 45+ some on, but most off the NW
cliffs. Several with fish.

Wood Pigeon - on nest near tourist centre.
Several other birds seen.

Razorbill - 15 AOS (eggs and chicks seen at
some), with 9 along NW cliffs
and 6 on south side of same
ridge. Estimate for
the season = 17-20 AOS.

Guillemots - none seen on cliffs this trip.

Shelduck - One offshore.
Mallard - 1 drake
Swallow - two - four
Wren - several seen
Chaffinch - at least one pair.
Goldfinch - One seen
Blackbird - One + seen
Starling - two + seen
Robin - Two

Grey Seal - Tide was in throughout visit.
Three on rocks in South Bay at the beginning,
but 7-8 seen on rocks off western end as tide
began to recede. Total seen - c.10. En-route
back to Granton c.20 at Oxcars Rocks.

Butterflies - Several Whites not identified to
species.

Bass Rock 13 June 2014 - Additional notes from Maggie Sheddan

Herring gull c71+nests on sites below
chapel . Probably none in the
garden area. The mallow is
thick in places and may be
hiding some .
Lesser black-backed gull - 2 pairs of LBG,
possibly 1 breeding, if so I
think they have hatched as not
sitting on a nest.
Greater black-backed gull - 1 'pair' ? - not
breeding
Eider - another nesting eider spotted and to
date 9 ducklings though
suspect not all survived

Inchkeith 1 November 2014

Blackbird
Robin
Wren
Heron 2
Oyster Catcher
Kestrel
Great Black-backed Gull
Linnet (flock)
Rock Pipit
Swallow (one flying south at south end of
island)
Skein of Pink-footed Geese

Inchmickery 1st November 2014

Heron 1
Linnet 9
Wren – several
Curlew 1
Rock Pipit 1+

Inchkeith 16th November 2014

Red-breasted Merganser (male) 1
Heron 3
Blackbird 6
Wren 8
Rock Pipit 5
Linnet 60
Goldfinch (not counted but flock seen)
Robin 1
Curlew 2
Redshank 1
Kestrel 1
Red-throated Diver - 1 close in to harbour
Razorbill 1 on sea
Herring Gull - not counted
Black-headed Gull - not counted
Great Black-backed Gull – not counted
Eider – not counted
Shag – not counted
Cormorant – not counted

Inchcolm 16th November 2014

Peregrine 1
Sparrowhawk (immature) 1
Heron 1

Oxcars Rocks 16th November 2014

Turnstone 4

Inchkeith 7 December 2014

Turnstone - 16
Purple Sandpiper - 1
Redshank - 2
Curlew - 1
Grey Heron - 1
Song Thrush - 2
Blackbird - 10
Robin - 10+
Wren - 10+
Linnet - c100
Goldfinch - c50

Peregrine - 1
Kestrel - 1
Sparrowhawk - 1
Red-throated Diver - 1
Eider - 30+

NOTES regarding Inchkeith and Inchcolm for consideration with regards to possible future gull counts. Inchkeith was visited on 25th May. It was seen that more than 60% of the island was covered with flowering mustard (species unknown) and oil-seed rape up to 6 feet high. This year this “crop” was significantly prevalent and would make any systematic ground count or aerial survey conducted at this time of the nesting season absolutely impossible. Mid May or even earlier would need to be the optimum time to conduct a survey based on 2014’s vegetation. Although not studied at the time, the spread of this close growing plant species may well have a limiting effect on the gull population or their breeding success? It may well prove to be Inchkeith’s “tree mallow!” However, it does not seem to be affecting the island’s puffin population which largely has its burrows along the cliff tops and rocky slopes where the plant has limited effect.

Inchcolm was visited on 27th May. The vegetation (predominantly grasses) was seen to be quite long and would also limit the ability for meaningful ground or aerial counts. Again based on these observations mid May should be the latest that gull counts are considered.

FSG FOOTNOTES

Reports and monitoring figures for previous years can be found on the group’s website:
www.forthseabirdgroup.org.uk

DATES FOR MAIN ISLAND COUNTS

Bass Rock	24 May 2014
Craigeith	28 April 2014 24 May 2014
The Lamb	1 June 2014
Fidra	29 April 2014 1 June 2014
Eyebroughty	no count
Inchkeith	25 May 2014
Carr Craig	27 May 2014
Haystack	27 May 2014
Inchcolm	27 May 2014
Inchmickery	27 May 2014
Inchgarvie	27 May 2014
Long Craig	through breeding season
Isle of May	through breeding season

Bass Rock and Lamb were counted from boat; Craigeith, Fidra and Inchgarvie were counted partly from boat and remainder after landing; all other islands were counted from ashore.

Tree Mallow Project – SOS Puffin

For further information about this project go to the Scottish Seabird Centre website at www.seabird.org or for information on tree mallow go to www.abdn.ac.uk/treemallow

COUNTERS & CONTRIBUTORS

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Data passed on to:
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Scottish Wildlife Trust Reserve Long Craig Island 2014 Annual Report

The island maintenance visit made on 16th May when the usual clean up however the significant movement of the scree areas made the re-marking of recording areas impracticable and was not undertaken. Mayweed continues to survive from year to year but at a significantly reduced level and as much as practicable of the emergent growth found was grubbed out during the visit. There was only a small amount of debris on the island which was collected and disposed of ashore. Rough grass is now becoming well established in the central area of the island.

Eider

Again only three nests found on the island this year. No outcomes for the nests were recorded however a crèche of three juveniles was noted on and around the island in July.

Long Craig Island	2009	2010	2011	2012	2013	2014
Eider Nests	9	5	4	3	3	3

Oystercatcher

Birds were noted present in the immediate vicinity feeding in the intertidal mud however no birds were observed nesting on the island this year.

Common Tern

This year birds were noted in the area from early Mid-May and were nesting by the end of May with 82 apparently occupied nests (AON) by 2nd June.

On the 20th June an unexpectedly high adult count of 312 individuals was obtained. This number of birds would give a calculated total of 208 pairs, however monitoring clearly produces a maximum breeding population in the order of 131 pairs.

Of note the nearby Common Tern colony of circa 94 pairs on Carlingnose Pier suffered a total failure during early mid-July.

A count of 96+ chicks was made on 13th July and by 25th July there were 42 fledged young and 78 chicks present.

This year saw a significant increase in breeding pair numbers up by 58 from 73 to 131 pairs from which over 130 young fledged.

Long Craig Island Common Tern Breeding					
	2010	2011	2012	2013	2014
Maximum adult count	163	170	5	109	312
Breeding pairs	109	105	0	73	131
Clutches	124	162	0	84	137
Eggs laid	163+	289+	0	151+	180+
Eggs Hatched	c120	134	0	96	140+
Eggs Un-hatched	38+	141	0	16	12
Eggs outcome unknown	38	14	0	39	10
Young Fledged	c100	122	0	c90	130+
Young Died	27	12	0	4	c10

Long Craig Island Common Tern Breeding 2014			
	13 th June	20 th June	13 th July
AON	121	106	25
<i>Unattended clutches/eggs</i>	6	6	1
Nest (1 egg)	2	-	4
Nest (2 eggs)	1	2	4
Nest (3 eggs)	5	22	-
Nest (4 eggs)	-	-	-
Nest (1 young)	-	1	7
Nest (2 young)	-	-	25
Nest (3 young)	-	-	25
Nest (4 young)	-	-	2
Nests flooded by rain	2	4	0
Nest flooded by high tides	0	0	34
Total active nests	129	131	92

Ringling

No ringling of tern chick was undertaken this year and no recoveries were received.

Development

It is planned to undertake work to stabilise the tidal scree areas of the island with welded mesh gabions filled with rocks during late October or mid-November.

Further work on bridge tower foundations and structure for the new Forth Crossing has continued.

Mark Oksien (Reserve Convenor)

Long Craig Island Scottish Wildlife Trust Reserve

Other Common Tern counts

Carlingnose Pier 2014 – Common Tern Breeding

This year the colony suffered a total failure during late June early July. At the time of a monitoring visit made on 13th July the pier gave a “washed clean” appearance rather than just having been abandon in the middle of active breeding. This presumably was the result of periods of heavy rainfall around this time.

Date	13-Jun	20-Jun	13-Jul
Nests (AON)	70	94	0
Calculated Pairs	95	107	0
Adults	143	160	5
Juveniles	0	0	0

Mark Oksien (Reserve Convenor)

Long Craig Island Scottish Wildlife Trust Reserve

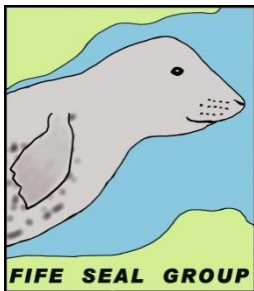
Notes from Isle of May NNR, 2014

2014 has been a welcomed year for all the seabirds on Isle of May, with all the species seeing an increase in population numbers. This follows a poor 2013, where the majority experience a drop in population. Our Fulmars, Kittiwakes and Great Black-backed Gulls have all had over 40% increase, the Eiders are back up with just under 1000 sitting females. The Auks have had a good year with numbers rising slightly and no storms affecting the lower cliff nesting birds.

However the real success story is the terns (Arctic and Common) and 2014 has been their most successful season in terms of number of fledglings compared to the number of nests. The peak number of fledglings has increased from 46 (2013) to 273 (2014), a staggering 493%. The terns on The May are unpredictable and in some years the whole colony have abandoned, but hopefully these success will continue and more birds will come back to breed creating a larger more established colony. Various factors including long vegetation providing cover, the new visitor centre area created perfect habitat drawing in birds to nest together along with good weather and management techniques all contributed to this success.

Bex Outram

Assistant Reserve Manager



Fife Seal Group Annual Report 2014

Compiled by Ron Morris

Harbour Seal Pup information – Inner Forth 2014

Each Autumn since 2001 members from Fife Seal Group have been involved in surveying numbers of grey seal pups born on the islands in the Forth estuary (with exception of May Island). It has always been desirable to conduct some kind of similar survey with regards to harbour seal pups born in the Forth Estuary, but due to the nature of the breeding biology of this species, such a project has been difficult to attempt.

Harbour seal numbers are mostly estimated from aerial photographs taken from above their main haul-out sites by SMRU staff, from which the number of animals present is calculated, rather than attempting to monitor the numbers of pups, which is an extremely difficult thing to try and assess on a national basis.

On Sunday 20th July 2014 Bill Bruce, Dave Nicol, Mike McFarlane and Ron Morris from Fife Seal Group accompanied a staff member from CEH, Penicuik, to the Inner Forth islands, Inchcolm, Carr Craig and Inchmickery to assist with a project connected with colour-ringed shags. During this exercise it was discovered that Carr Craig and Inchmickery appear to be favoured haul-out sites for harbour seals with their pups.

Seafield Rocks, lying between Kirkcaldy and Kinghorn, and rocks to the west of West Wemyss are also favoured by harbour seals for this purpose and although there other sites used in the estuary, it is believed these locations are the primary sites and could form the basis of some meaningful survey work in future years.

During the aforementioned visit twelve harbour seals including three cows with pups in attendance were recorded at Carr Craig. At Inchmickery at least thirty one harbour seals were counted, including up to fifteen pups, with ten or so still being attended by their mothers. It should be borne in mind that the primary purpose of the visit was to study shags which limited opportunities to study the seals. Nevertheless, the potential of a visit at this time of year to glean some pup data with regards to a declining species was quickly recognised.

One or two boat trips during the harbour seal pupping season, covering a triangular area from Inchmickery to Downing Point (Dalgety Bay) and Burntisland at a favourable state of the tide, would likely cover a reasonable proportion of the harbour seals in the Forth Estuary. If landward visits to Seafield and West Wemyss Rocks were made within several days of the island trips(s), then it is believed a substantial proportion of the estuary's harbour seal numbers may be covered? It is appreciated that cow and pup movement between locations takes place; therefore it would be desirable for the boat and landward surveys to be carried out as close as possible.

On Tuesday 22nd July a visit was made to Seafield Rocks, followed by a visit to West Wemyss rocks. The state of the tide meant that some of the seaward slopes at Seafield where harbour seals

were hauled out were obscured; therefore it is likely that some seals and possibly pups remained unobserved?

At Seafield a minimum of 30 adult harbour seals were counted and at least eight pups. At the West Vows rocks, which lie further offshore there were at least twenty-five grey seals. West Wemyss was then visited where there were five adult harbour seals, including at least one male. Three cows were each attending a young pup.

Harbour seal totals for the four haul-out sites are listed below. This could form the basis for future surveys?

	Adults	Pups
Carr Craig	9	3
Inchmickery	16+	c15 *
Seafield Rocks	30+	8+
West Wemyss Rocks	5	3
Totals	60+	29+

* NB "up to five of these pups may have been yearlings? "

Inchcolm and Cow and Calves Rocks were also visited during the trip on 20th July. No harbour seals were seen at either location although c.8 grey seals were noted at Inchcolm and two were seen at Cow and Calves.

On 28th July a further visit was made to Seafield Rocks and West Wemyss Rocks. At Seafield c.34 adult harbour seals were noted along with c.14 pups. On West Vows and other rocks in the vicinity at least 60 grey seals were present. At West Wemyss c.10 adult harbour seals were present and three pups. On the same date Maggie Sheddan was involved with a newly born harbour seal pup at the West Beach, North Berwick, which due to circumstances had to be taken to SSPCA Fishcross.

It is now felt that a trial of monitoring adult and pup harbour seal numbers during the breeding season at the aforementioned locations, may prove worthwhile and should be planned for the summer of 2015.

Seal Haul-out Sites – Marine (Scotland) Act 2010

Under Section 117 of the Marine (Scotland) Act 2010, Scottish Ministers, consulting with the [Natural Environment Research Council](#) (NERC), are permitted to designate specific seal haul-out sites to provide additional protection for seals from intentional or reckless harassment.

Seal haul-outs are locations on land where seals come ashore to rest, moult or breed and Marine Scotland has been working closely with the [Sea Mammal Research Unit](#) (SMRU) (on behalf of NERC) to identify suitable sites.

An initial list of 146 potential seal haul-out sites was the subject of [consultation in 2011](#). These sites were based on a scientific methodology developed by SMRU and approved by NERC.

The report on the [consultation](#) broadly supported the proposals but included requests for more sites, particularly breeding sites, to be included and for Marine Scotland to provide [guidance on harassment](#).

In response, Marine Scotland tasked SMRU to review the original list of sites to include key breeding sites and to consider specific sites proposed by respondents.

The result was a revised list of 194 seal haul-out sites which were designated through The Protection of Seals (Designation of Haul-Out Sites) (Scotland) Order 2014 laid in the Scottish Parliament on 26 June 2014.

There are maps showing the location of the sites across [Scotland](#) and in each of the seal management areas [around Scotland](#), and the individual site maps can be found in the [National Marine Plan Interactive \(NMPi\)](#). A [full list](#) is also available.

For more information, a series of frequently asked [questions and answers](#) on the seal haul-out sites has been produced.

A [topic sheet](#) providing information about designated seal haul-out sites has also been produced.

Designated Seal Haul-out Sites in the Firth of Forth - Effective from 30th September 2014.

Site EC-001 Kinghorn Rocks, Firth of Forth North. This site incorporates the intertidal mud banks and rocky coastline between Long Craig at Seafield and Linton Court, by Kinghorn. NB Both species of seal regularly haul-out in this area. However, Seafield Rocks at Seafield Tower, which lie within this site, are the primary location for harbour seals hauling out.

Site EC-002 Inchmickery and Cow and Calves. This site incorporates the rocky coastline around Inchmickery and the entire islands of Cow and Calves and Oxcars Rocks. NB Both species of seal haul-out at Inchmickery, though it is chiefly the grey seal which is found at Cow and Calves and Oxcars. However, Carr Craig Rocks which lie to the north of this designated area is a regular haul-out site for both species of seal.

Site BC-O44 Inchkeith (grey seal breeding colony). This site incorporates the entire coastline of the island.

Site BC-045 Craigleith (grey seal breeding colony). This site covers the southern half of the island.

Special Area of Conservation for Grey Seals

SAC - Isle of May (grey seal breeding colony). The entire island is a Special Area of Conservation for grey seals.

Grey Seal Pup Survey 2014

The first of this season's counts was planned for Sunday 26th October but had to be cancelled due to gale force winds. The trip was rearranged for Saturday 1st November, some six days later. This upset the normal three week interval plan between visits as it was decided to stick to the original dates for the future visits, rather than move them back a week.

On the corresponding trip on 27th October 2013, 81 pups were present, the great majority of which were less than one week old and mainly in the 1-3 days category. This year, on the rearranged date (5 days later than the 2013 date), 174 pups were counted. Two of these were moults and about six were a little over one week old. All of the remainder, including one dead pup, were estimated to be less than one week old and by and large in the 1-5 days category. Had the original trip gone ahead this year it is very likely there would only have been 7-10 pups present? This shows that, generally speaking, initial pupping has taken place about one week or so later this year than last.

As with last year, the second visit has revealed quite a few pups are born and fully moulted within a 21 day period which complicates the standard practice of using three week intervals to assess accumulating numbers. Out of the 174 pups counted on 1st November, of which eight or so were over one week old, as well as one dead pup, the 165 remaining pups would all have been 21 days old or less (majority less) by the second visit on 16th November. However, 54 complete moults were counted on the latter date and even allowing for all of the eight older pups from the earlier visit still being present, this indicates a minimum of 46 pups having been born and moulted within a 21 day period. 345 pups, including 11 dead were counted on the 16th November, giving a total of 399 whites and moults for that visit.

As with last year it was decided to disregard the initial count result and use the total number of pups from the second visit in assessing overall numbers for the season. However, the two moults from the initial visit, which would likely have left the island before the second visit and the dead pup, have been included in the assessment.

The third and final visit on 7th December returned 109 whites (including 22 dead) and 118 moults (including 3 dead). The estimated number of pups born at Inchkeith for the 2014 season is **511 (3 + 399 + 109)**. This is 51 more pups than recorded during the 2013 season (460), or a 9.98% increase. However, it is appreciated that as it has been shown both during the 2013 season and this season, a higher proportion of pups are fully moulted within a 21 day period than after this time period, therefore the number of new pups for the last visit may have been more. Also, it is expected a small number of pups are born after the final visit.

Visits 18-19 days apart may provide more accurate data, but as weekends must be utilised for the visits, this is not possible. Therefore all seasons' totals should be regarded as a minimum estimate.

Thirty seven dead pups were recorded over the season (34 whites and three moults), which gives a mortality rate of 7.24%. None of this season's dead pups appeared to have evidence of corkscrew injuries.

One interesting discovery occurred in Area 5 (South-east Bays) on 16th November. Two newly born pups lying beside each other were virtually dead, showing only faint signs of life, and given no hope of revival. Both of these pups were in an identical condition and appeared to be smaller than normal. There was no sign of an attending cow.

Because they were marginally still alive, these pups were recorded amongst the "live" whites, but in reality they were all but deceased. It was later considered they might be a rare example of "twins." There was no sign of an attending cow.

INCHKEITH 1st November

Grey Seal Pups	Whites	Moults
Area 1 (All west side of island)	1	
Area 2 (North Bays – Kinghorn Harbour)	26	
Area 3 (North-east Bay - Kirkcaldy Harbour)	42	1
Area 4 (East Bay/ Lighthouse Bay)	58 (incl. 1 dead)	1
Area 5 (South-east Bays)	42	
Area 6 (South Point and Long Craig)	3	
Total	172 (incl. 1 dead)	2

Overall total = 174 pups

Most of the pups were less than 7 days old and mainly in the 1-4 days old age bracket.

Adult Grey Seals	Bulls	Cows
Area 1 (All west side of island)	2	12
Area 2 (North Bays – Kinghorn harbour)	3	28
Area 3 (Kirkcaldy Harbour)	2	53
Area 4 (Lighthouse Bay)	4	58
Area 5 (South-east Bays)	5	41
Area 6 (South tip and Long Craig)	1	8
Total	17	200

For the first time in many years a harbour seal was recorded at the island, hauled out in the harbour area.

INCHKEITH 16th November

Grey Seal pups	Whites	Moults
Area 1 (All west side of island)	43 (incl. 1 dead)	
Area 2 (North Bays – Kinghorn harbour)	65 (incl. 4 dead)	4
Area 3 (Kirkcaldy Harbour)	45 (incl. 1 dead)	8
Area 4 (Lighthouse Bay)	68 (incl. 2 dead)	30
Area 5 (South-east Bays)	105 (incl. 3 dead)	11
Area 6 (South tip and Long Craig)	19	1
Total	345 (incl. 11 dead)	54

Overall total = 399 pups

Adult Grey Seals	Bulls	Cows
Area 1 (All west side of island)	4	54
Area 2 (North Bays)	3	50
Area 3 (Kirkcaldy harbour)	4	35
Area 4 (Lighthouse Bay)	7	58
Area 5 (South-east Bays)	8	67
Area 6 (South tip and Long Craig)	1	14
Total	27	278

INCHKEITH 7TH December 2014

Grey Seal Pups	Whites	Moult
Area 1 (All West side of island)	27 (incl. 1 dead)	16 (incl. 1 dead)
Area 2 (North Bays)	43 (incl. 11 dead)	19
Area 3 (Kirkcaldy Harbour)	7 (incl. 2 dead)	7
Area 4 (Lighthouse Bay)	12 (incl. 3 dead)	25
Area 5 (South-east Bays)	13 (incl. 5 dead)	48 (incl. 2 dead)
Area 6 (South Tip and Long Craig)	7	3
Total	109 (incl. 22 dead)	118 (incl. 3 dead)

Adult Grey Seals	Bulls	Cows
Area 1 (All west side of island)	9	23
Area 2 (North Bays)	3	16
Area 3 (Kirkcaldy Harbour)	2	7
Area 4 (Lighthouse Bay)	4	7
Area 5 (South-east Bays)	4	5
Area 6 (South Tip and Long Craig)	3	9
Total	25	67

INCHCOLM

On 23rd September 2014 Stuart Simpson (boatman) discovered a grey seal pup in the South Bay which was 1-2 days old. This was the first pup reported for the inner Forth islands this year.

On 16th November five pups (1 – 7 days old) were recorded amongst the rocks in South Bay. One bull and six cows were also present. Additionally, one bull and one cow were present on Swallowcraig rock at the harbour.

A visit on 7th December recorded three white pups at the usual location. One of these was only 2-3 days old whilst the other two were nearing the completion of their moult. It is possible the two near moults were included in the survey on 16th November, but as they fall within the category of “new pup” they have been added to this year’s total. Two cows were also present and one harbour seal was seen at Swallowcraig Rocks.

The foregoing gives a season’s total of **9 pups** born at Inchcolm for 2014.

INCHMICKERY

No grey seal pups recorded this year. On 1st November three bulls, one cow and one yearling were at the island. Also seen were two harbour seals. On 16th November one bull and one cow grey seal were recorded and on 7th December 7 cows and one bull grey seal and one harbour seal were present. One of the grey seal cows was a striking red “heifer” colour throughout its pelage. Unfortunately weather conditions and the onset of darkness made it impossible to get a photograph of it.

CARR CRAIG

On 16th November one grey seal was seen ashore on the rocky beach. Unfortunately it was not possible to establish the sex of this animal or if a pup was present also. One bull and one cow were in the water. A harbour seal was also ashore.

On 7th December two harbour seals were ashore at the south side of these rocks. No grey seals were present.

HAYSTACK

On 16th November a single “thin” cow was seen on the rocks, but no pups were present.

CRAIGLEITH Seal Pup Survey 2014 (Maggie Sheddan and James Leyden)

First pup observed 23rd October 2014 on Scottish Seabird Centre cameras. This year two ground counts were made at the seal breeding colony. A total of 44 grey seal pups were determined to have been born for the 2014 season.

Count No. 1

0945 hrs 04 November 2014

Conditions: cloudy, Force 4 WSW, sea slight

Total number of pups: 28

27 white, 1 dead white, 0 moult

37 cows & 2 bulls

Count No. 2

1215 hrs 24 November 2014

Conditions: sunny/cloudy, Force 4 SW, sea slight to moderate

Total number of pups: 35

13 white, 3 dead white, 17 moult, 2 dead moult

12 cows & 4 bulls

Total number of pups = 44 (28+16)

The 6 dead pups represents a 13.6% mortality rate.

Comments

- All seals observed and counted were grey seals (*Halichoerus grypus*).
- The usual pupping sites were involved; the central south facing "Glen" including up to the large elderberry tree, and the SW corner near the landing point (2 pups).
- The first Craigleith seal pup born for 2014 occurred on 23 October.
- The first count took place 12 days after the first pup was born.
- 21-28 days is the preferred gap between counts however the exact timing is dictated by conditions affording the opportunity of a landing. This year the second count took place 20 days after the first count.

Notes:

- Craigleith does not have an initially flat haul out area. The seals have fairly steep and slippery rocks on which to manoeuvre in order to reach the main area of safety - the central Glen. If there is a constant swell running along the south side of the island it makes haul out difficult. (*M. Sheddán: As witnessed on the Isle of May if a pup enters the water the cow will try to herd it back onto the shore. This is nearly impossible on Craigleith.*)
- Because of the preference in avoiding a "walk-through" (the overall haul out area is relatively confined) three or four observation sites need to be visited to cover blind spots and it is during the travelling between these sites when we lose sight of the colony that the more mobile pups, particularly moults, can sometimes make an exact count tricky.
- The island's invasive Tree Mallow plant (*Lavatera arborea*) had once again experienced resurgence by the time of the counts and it is worth noting that it had returned sufficiently to provide adequate hiding opportunity for some pups and it was only with great care that a number were spotted.
- From experience it is known that some newborn can be washed off the island without return. This should be kept in mind when considering the final total.
- Notwithstanding the above, over the observation period itself the observers are confident no newborn were missed.

Summary of Craigleith Island Grey Seal Counts

year	first count	pups			adults		no. of counts	
		first pup	Total	Total (minimum suggested)	cow	bull	Island visit (adults & pups)	SSC camera (pups only)
2014	04.11.14	23.10.14	44	44	37	4	2	0
2013	16.11.13	24.10.13	37	40	7	1	1	1
2012	08.11.12	22.10.12	36	40-45	39	1	0	2
2011	20.11.11	19.10.11	29	35	20	3	1	1
2010	16.11.10	20.10.10	51	51	32	2	2	1

INCHKEITH - Hibernating Butterfly and Moth Survey –1st November 2014

During a visit to the island on 13th October 2013 numerous pockets of 20-60 small tortoiseshell and peacock butterflies were found hibernating in the magazines and underground passages of the old military buildings. As a result a survey of the most promising locations was planned for the above trip, i.e. the underground passages of the North, South and West Forts (formerly 6 inch gun batteries) and the North, South, Mid and Fire Command 9.2 inch defences.

However, far fewer numbers of Lepidoptera were found than expected, but nevertheless the exercise was very worthwhile.

West Fort

Small Tortoiseshell (<i>Aglais urticae</i>)	7 (hibernating)
Peacock (<i>Aglais io</i>)	1 (hibernating)
The Herald (<i>Scoliopteryx libatrix</i>)	2 (hibernating)
micro moth (<i>Agnopteryx heracliiana</i>)	160+ (hibernating)

West Fort total 170+ moths and butterflies

The hibernating Lepidoptera were all found in a relatively small zone of the underground magazine of the structure that was free from draughts, quite dark but not devoid of light. Some passages and rooms that might have seemed appropriate had no insect life at all. These circumstances were typical of all sites visited. At this particular location the hibernation zone was shared with a few spiders, numerous wood lice and numerous snails (*hibernaculum*).

There was no other obvious sign of insect life throughout the rest of the structure except for 25 wings of Small Tortoiseshell found at surface level in the building.

North Fort

urticae	12 (hibernating)
io	2 (hibernating)
libatrix	7 (hibernating)
heracliiana	c20 (hibernating)

North Fort total c41 moths and butterflies

The conditions similar to above though less snails and lice.

North 9.2 Magazine

urticae	29 (hibernating)
libatrix	2 (hibernating)

North 9.2 total 31 moths and butterflies

South Fort

urticae	7 (hibernating)
io	2 (hibernating)
libatrix	5 (hibernating)
heracliana	3 (hibernating)

South Fort total 17 moths and butterflies

This location typical of previous locations except that it contained numerous spiders, all apparently either *Meta menardi* or *Meta bourneti*, two very closely related and very similar species. Both are commonly called "orb-weaving cave spiders". The species is widely spread including Europe. They are photophobic, preferring dark caves and tunnels but emerging at dusk to hunt. They hunt from a single line swinging down onto prey (small invertebrates, myriapods and slugs). They have venom and can bite but are not dangerous to humans. They are quite large (5cm) and build tear shaped egg sacs that hang from the roof on 2cm thread.

One of the several zones occupied by lepidoptra also contained numerous spider nests with attending adults. Such concentrations of these spiders and nests were only found at this location.

South 9.2 Magazine

urticae	19 (hibernating)
io	2 (hibernating)
libatrix	1 (hibernating)
heracliana	3 (hibernating)

South 9.2 total 25 moths and butterflies

9.2 Fire Command

urticae	2 (hibernating)
libatrix	6 (hibernating)

9.2 Fire Control total 8 moths and butterflies

Mid 9.2 Magazine

urticae	3 (1 hibernating within, 2 flying nearby)
libatrix	8 (hibernating)

Mid 9.2 Magazine total 11 moths and butterflies

OVERALL TOTAL 303+

Small Tortoiseshell (<i>Aglais urticae</i>)	79
Peacock (<i>Aglais io</i>)	7
The Herald (<i>Scoliopteryx libatrix</i>)	31
micro moth (<i>Agnopteryx heracliana</i>)	186+

LEPIDOPTRA IN AND AROUND MILITARY BUILDINGS ON INCHKEITH, 07/12/2014

(Second Survey)

West Fort

Small Tortoiseshell (<i>Aglais urticae</i>)	4 (3 less than previous visit)
micro moth (<i>Agnopteryx heracliiana</i>)	32 (more 120 less and moved location)

From the main stairway leading to the gun, two underground areas can be accessed: The first of these is on the right hand side where a ladder leads down to a narrow passage; the other is the magazine via a stairway on the left.

The narrow passage is short and runs adjacent to the magazine but affords no access elsewhere. It has a little light and ventilation from the ladder-well and was draught free and of mild temperature. It contained all micro moths described (2 photos) and several different species of insects including several specimens of 1 Banded House mosquito (*Culiseta annulata*), Woodlouse (*Oniscus asellus*) a fly similar in appearance to a Bluebottle and a black beetle similar to an earwig (photo). On the previous visit in November, there were much less micros in this area and lacked the various other insects.

The magazine stairwell offered similar light and ventilation and was also free from draughts and mild of temperature. This area contained all of the *urticae*. This being similar in number to November. The stairwell leads to a hallway and a small side chamber, both ventilated by chimneys in the ceiling through which daylight was visible though no draught was apparent. As previously, numerous snails were found, mostly congregating around these ventilator openings. Otherwise, nothing of significance was found here despite having *libatrix*, *urticae* and, in excess of 150 *heracliiana* present on the November visit. The magazine chambers lay beyond these areas. They contained ventilators but none afforded direct access to daylight and appeared to be devoid of insects as on the previous visit. The temperature and cleanliness here seemed very habitable.

West Fort total 36 moths and butterflies

North Fort

<i>urticae</i>	15 (increased by three)
Peacock (<i>Aglais io</i>)	2 (as previous visit)
Herald (<i>Scoliopteryx libatrix</i>)	7 (as previously)
<i>heracliiana</i>	20 (as previously)

The entrance leads down to a well lit and draughty passage. A stairwell to the magazine is at the right hand side and is less well lit and draught free. The temperature is mild and this stairwell contained 14 of the *urticae*, 4 of the *libatrix* and both *ios*. This is similar to the previous visit. This leads to a hall having ventilators open to daylight and contained the remaining *urticae*, the three remaining *libatrix* and 20 *heracliiana*. This is similar to the previous visit. The hall leads to the magazine chambers having ventilators but no daylight and no insects apparent. Again, similar to previously, a shell store, well ventilated and open to daylight contained numerous snails only.

North Fort total 44 moths and butterflies

North 9.2 Magazine

No moths or butterflies present where previously there had been 29 urticae and 2 libatrix. However an unidentified snail, thought to be a species of Banded snail was found, that has not been seen before on this nor the previous study.

North 9.2 total 0 moths and butterflies

South Fort

urticae	4 (3 less than November)
libatrix	5 (as previous)
heracliana	22 (19 more than previous)

The main entrance hall leading to the magazines is very draughty though a sheltered side passage at ground level contained 2 of the libatrix. A stairwell to the left leads to a chamber containing a further libatrix and 2 urticae. Returning to the upper hallway, a stairwell to the right and the chamber it leads to contained all the heracliana and remaining urticae and libatrix. Most of the South Fort is inhabited by 2 Orb-weaving Cave spiders and in some rooms and chambers, in large numbers. There were a lot of egg sacks hanging from the ceilings. No io found despite 2 last visit.

South Fort total 31 moths and butterflies

South 9.2 Magazine

urticae	16 (3 less than previous)
io	1 (1 less than previous)
libatrix	1 (as previous)
heracliana	1 (2 less than previous visit)

From the main stairwell the passage ahead is very draughty though one urticae found shelter in a ventilator. A passage left provided the remaining 18 Lepidoptera. This area was temperate and draught free and afforded some daylight. One Orb-weaving Cave spider present.

South 9.2 total 19 moths and butterflies

9.2 Fire Command

urticae	11 (9 more than previous)
3 Brown House-moth (<i>Hofmannophila pseudospretella</i>)	1 (first time seen)
libatrix	1 (5 less than previous)
io	1 (none previously)
heracliana	14 (none previously)

The first chamber is not fitted with ventilators but is open to the stairwell and is therefore afforded ventilation and some light. It was draught free and of mild temperature. It contained 10 of the heracliana, the pseudospretella, the io, 10 of the urticae and four Orb-weaving spiders.

An inner chamber was ventilated to daylight though mild and draught free. It contained the libatrix, remaining heracliana and urticae.

9.2 Fire Control total 28 moths and butterflies

Mid 9.2 Magazine

urticae	1 (same as previous visit)
libatrix	4 (4 less than previously)

The magazine was afforded some daylight but was draught free. An out building contained a large amount of snails.

Mid 9.2 Magazine total 5 moths and butterflies

OVERALL TOTAL 163 (140+ less than previous visit)

Small Tortoiseshell (<i>Aglais urticae</i>)	51 (28 less than previous)
Peacock (<i>Aglais io</i>)	4 (3 less)
The Herald (<i>Scoliopteryx libatrix</i>)	18 (13 less)
micro moth (<i>Agnopteryx heracliiana</i>)	89 (97+ less)
Brown House-moth (<i>Hofmannophila pseudospretella</i>)	1 (1 more than previous)

In the period between surveys the weather in the Kinghorn area has been unseasonably mild. The date of the most recent survey marked an end to this long mild spell with a short period of unseasonably low temperature with high wind and precipitation. Recent forecasts predict an imminent return to typical temperatures for the time of year.

Overall the deficit in Small Tortoiseshell numbers could be accounted for by the lack of activity in the North 9.2 magazine compared to the previous visit. This aside, there is no obvious explanation for the reduction in numbers of Herald and Micro moths. It is interesting to note that the occurrence of 'Orb-weaving' spiders seems exclusive to the habitats at the south side of the island and in particular, the South Fort.

1. Banded House mosquito (*Culiseta annulata*) is common in Western Europe hibernates and rests in caves, buildings and hollow trees. It is a cold-adapted species able to over-winter without need for diapause.
2. The spider appears to be either *Meta menardi* or *Meta bourneti* being very similar species. Both are commonly called "orb-weaving cave spiders". The species is widely spread including Europe. They are photophobic, preferring dark caves and tunnels but emerging at dusk to hunt. Prey includes small invertebrates, myriapods and slugs. They have venom and can bite but are not dangerous to humans. They are quite large (5cm) and build tear shaped egg sacs that hang from the roof on 2cm thread.
3. Brown House-moth (*Hofmannophila pseudospretella*) a common inhabitant within houses throughout UK, probably originates in Asia.

Danny Wallace