

Final Report

Population Trends of Breeding Seabird Colonies in Scottish SPAs

Scottish Government (Marine Scotland)

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Population sizes of seabirds breeding in Scottish SPAs

Authors:	Fraser Malcolm, Gillian Lye and Mark Lewis	20/07/2012
Checked By:	Dr Chris Pendlebury	20/07/2012
Approved By:	Richard Walls	2007/2012

Distribution: Marine Scotland – Phil Alcock, Ian Davies & Phil Gilmour

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1 Introduction

In accordance with the Environmental Impact Assessment (EIA) and Habitats Regulation Appraisal (HRA) developers need to consider the impacts of a plan or project on Special Protection Areas (SPA) populations where there is the potential for an interaction to exist. At present there is no single source of information that identifies the best available population trends of SPA breeding populations to inform this process. As a result there is often inconsistent population estimates with high degrees of uncertainty used in impact assessments. The application of various approaches to EIA and HRA places additional resourcing requirements on Marine Scotland and their statutory nature conservation advisors who will review each approach adopted. To address this issue Marine Scotland commissioned Natural Power Consultants (NPC) to undertake a review of extant data on SPA breeding populations around the Scottish Coast to:

- Provide an overview of current data availability for key seabird species relevant to offshore renewable developments at SPA's for which they are designated.
- Demonstrate evidence for any population trends in species on an SPA basis with a view to estimating current population sizes if possible.
- Provide a resource detailing the allocation of data from colony counts from JNCC to specific SPA colonies.

This review builds upon the outputs of the NPC report “Populations sizes of breeding seabirds in Scottish SPAs” (NPC, 2012¹) which was delivered as part of Scottish Government work package E. This provided an investigation of the spatial and temporal coverage of colony count data collected at all SPAs. The outputs of the initial report included a 5 year mean using the most recent data, a mean using all data collected since the last national census and a presentation of trends within the data since the last national census. All raw data used are presented within the initial report and are not reproduced here.

The data acquisition and treatment methodologies applied to both work packages E and H share many commonalities. Therefore, the methodology presented below duplicates some of the methodology described in the work package E report (NPC, 2012).

The current report presents trends in the data using the most complete time series data available for each designated SPA species. The trend plots are presented below with associated standard errors, arranged by species, for each SPA where there is sufficient data coverage.

It is anticipated that the population trends will help inform the status of designated SPA populations to feed into impact assessments in the context of EIA and HRA during the consenting process for marine renewable projects. **It is of key importance to note that the purpose of this collation of data for Marine Scotland is to help inform renewable developers, rather than acting as a specific review of SPAs.**

The task was originally to include all features of 'SPAs with marine components'. However, a 'marine component' of an SPA refers to a species that is dependent on a marine habitat, such as a sea inlet, estuary, mud flats, or salt marsh. A total of 119 species of bird are listed by the Joint Nature Conservation Committee (JNCC) as being dependent on marine environments, including wildfowl, divers, grebes, waders, true seabirds, and certain species that can occupy littoral habitats such as short-eared owl, kingfisher, and twite. Therefore, Marine Scotland focused the

¹ Lewis, M., Lye, G., Pendlebury, C., Walls, R. (2012) Populations sizes of breeding seabirds in Scottish SPA's. Work Package E, Commissioned by Scottish Government (Marine Scotland).

work towards species which are more frequently recorded in locations proposed for offshore renewable developments (offshore wind, wave & tidal schemes). The list of species to be considered was restricted to SPA populations of true seabirds (petrels, shearwaters, northern gannet, great cormorants, skuas, gulls, terns, and auks) that rely on marine habitats during the breeding season. The final list of seabird included within the current review comprises of the following species:

Northern fulmar	Great black-backed gull
Northern gannet	Black-legged kittiwake
Leach's storm petrel	Little tern
European storm petrel	Common tern
Manx shearwater	Arctic tern
Great cormorant	Roseate tern
European shag	Sandwich tern
Great skua	Guillemot
Arctic skua	Razorbill
Lesser black-backed gull	Atlantic puffin
Herring gull	

2 Methods

Data were obtained from the JNCC's Seabird Monitoring Programme (SMP), SNH, bird observatories such as Fair Isle and Isle of May, and any other regularly manned and monitored reserves, such as Scottish Wildlife Trusts (SWT) Handa Island reserve, or the Royal Society for the Protection of Birds (RSPB) reserve at Marwick Head. These data were then collated together into a single Excel spreadsheet, where they could be arranged in order of SPA, species, and year. If there were multiple counts for the same count site in the same year, these were considered to be partial counts and were summed.

There were several issues identified with collating the data available. The SMP began before the Birds Directive and the need for SPA designation, and consequently the count areas and sites used are not necessarily compatible with the boundaries of relevant SPAs.

Therefore, the majority of count sites were selected manually, by eye, by the JNCC's SMP coordinator prior to the production of the Work Package E report. For a small number of SPAs this was deemed an unsuitable approach (Fetlar SPA, Hoy SPA, Papa Stour SPA, Papa Westray SPA, Rousay SPA, and South Uist Machair and Lochs SPA). It was therefore agreed with JNCC (Roddy Mavor) to apply a GIS-based approach to isolate count sites within these SPAs, using a spatial join tool. The spatial join tool overlays the count sites with the SPA shapefiles, thus isolating all positions that fall within the boundaries of an SPA. The count sites observed during data collection are presented in Table 3.1 alongside the Ordnance Survey grid references.

Where necessary some incompatible counts (due to count type) were eliminated. The data presented here represents the largest dataset of compatible counts for each species at each SPA. Most of the variation in count types pertains to different methods of counting or expressing breeding 'units'. Therefore, the following count types were regarded as breeding 'units' and were considered compatible for incorporation into the current review. They are presented in the following species accounts as 'pairs':

- Occupied nests;
- Occupied sites;
- Occupied burrows;
- Occupied territories.

Counts for auks were predominantly of individuals on land apart from Atlantic puffins, which were counted in occupied burrows (counts for individuals on land have been used as a proxy for occupied burrows in some inaccessible sites, meaning that Hermaness and Mingulay and Berneray include data of both types).

In this report, we provide an overview of data availability and population trends at individual SPAs on a species by species basis in the form of species accounts. An index of 'data availability' has been tabulated within each species account to assess the temporal and (for SPAs with multiple count sites) the geographical coverage at each SPA. The index in no way comments on the reliability of the data held for any SPA. The number of years since the first Seabird 2000 count for each species (2000 or the nearest year with a complete count between 1998 and 2002) where all count sites at an SPA were observed is presented. The first Seabird 2000 count is defined as the first year where all colony counts were observed between 1998 and 2002. A proportion indicating the number of years surveyed against the total number of possible survey years (up until 2011) since the first Seabird 2000 count is presented to provide an indication of the temporal coverage of full SPA colony counts. The number of years during which only part of an SPA was observed is also tabulated, and in this case the proportion represents the number of counts observed as a percentage of the total number of possible counts, i.e. every count site recorded every year within the SPA. This proportion provides an indication of the geographic coverage for each species at each SPA. Where values are low it is likely that application of the data within marine renewable EIAs and HRAs will be accompanied by increased uncertainty in the final risk determinations.

For species where there is at least five complete years of data (counted at every count site within an SPA) since the first Seabird 2000 count population trends for that colony have been produced. Where there is a variation from this rule it is detailed within each species account. The raw counts are presented graphically with a polynomial smooth trend line and associated standard errors around the fitted values produced using the statistics program R.

As might be expected, fluctuations in local population sizes over time suggest that a combination of different variables affects the abundance of birds counted at any given site each year. As a result, whilst in many cases it may be possible to detect general population trends, confidence will be low for a model with year as the sole explanatory variable. The graphs produced in this report show that confidence intervals around predictions into the future based on such a model are so great that these predictions will provide no more value and could prove less accurate for assessing the impacts of marine renewable in the context of EIA and HRA than simply using the latest available count. **We therefore recommend that consenting decisions should be based on field collected data rather than attempting to extrapolate from existing data.**

3 Count sites observed at each SPAs

Table 3.1. Count site positions observed within each Special Protection Area.

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
Ailsa Craig	Ailsa Craig	NX01529948	
Auskerry	Auskerry	HY675163	
Buchan Ness to Collieston Coast	Boddam to Collieston	NK086358	
Calf of Eday	Calf of Eday 1	HY581392	
	Calf of Eday coast	HY58044038	HY58044038
Canna & Sanday	Canna & Sanday	NG24770534	
Cape Wrath	An Garbh-Eilean	NC33197349	
	Cape Wrath 3	NC27107385	NC26147481
	Cape Wrath 4	NC26147481	NC25757488
	Clo Mor 1	NC35707095	NC34887167
	Clo Mor 10	NC30357345	NC29527358
	Clo Mor 11	NC29527358	NC29177299
	Clo Mor 2	NC34887167	NC34267188
	Clo Mor 4	NC34267188	NC33607251
	Clo Mor 5	NC33607251	NC33037325
	Clo Mor 7	NC33037325	NC32407295
	Clo Mor 8	NC32407295	NC31507315
	Clo Mor 9	NC31507315	NC30357345
	Geodha Ruadh na Fola	NC24617078	NC25117094
	Na Glas Leacan	NC34647200	
North of Geodha Ruadh na Fola	NC25117094	NC25127185	
Copinsay	Black Holm	HY59460204	
	Copinsay	HY61110135	
	Corn Holm	HY600018	
	Ward Holm	HY59580142	
Cromarty Firth	Alness Point	NH65216765	
	Ardullie	NH588621	
	Craigie Howe	NH68795184	NH68495218
	Dalmure Distillery	NH66526874	
	Deephaven Industrial Estate	NH622668	
	Foulis Tern Raft	NH601635	
	Invergordon Town and Docks	NH71006858	
	McDermott's	NH81725740	
Whiteness Head	NH805586		
East Caithness Cliffs	Badaidh na Gaoithe	ND14852678	ND14932678
	Badbea 1	ND08901985	ND09242000

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	Badbea 2	ND09242000	ND10182069
	Berriedale	ND12032248	ND12752351
	Burrigill	ND22063379	ND23043399
	Ceann Leathad nam Bo 1	ND13192385	ND13282392
	Ceann Leathad nam Bo 2	ND13282392	ND13292404
	Cleit Bheag	ND16792931	ND18083095
	Cnoc na Croiche	ND10182069	ND10732082
	Cnoc na Stri 1	ND07031797	ND07141807
	Cnoc na Stri 2	ND07141807	ND07561855
	Corbiegoe	ND35384357	ND35884500
	Creag na Cuinge 1	ND07561855	ND08131900
	Creag na Cuinge 2	ND08131900	ND08171908
	Creag na Cuinge 3	ND08171908	ND08731960
	Creag na Cuinge 4	ND08731960	ND08901985
	Forse Head	ND21643332	ND22063379
	Gearty Head	ND34144193	ND34804281
	Gotten Dubh	ND18083095	ND19063215
	Halberry Head	ND29753709	ND30583827
	Helman Head	ND36234628	ND36734779
	Hill Head	ND24553480	ND26353529
	Inver Hill	ND10732082	ND11742179
	Invershore	ND23043399	ND24483479
	Ires Geo	ND35884500	ND36234628
	Latheronwheel	ND19063215	ND21643332
	Llama Farm	ND12752351	ND13192385
	Ness Castle	ND30583827	ND31373941
	Occumster	ND26353529	ND27433547
	Ord of Caithness 1	ND05691725	ND05941725
	Ord of Caithness 2	ND05941725	ND07031797
	Overton	ND29113628	ND29753709
	Poll Gallon	ND11742179	ND12012247
	Ramsgate	ND14932678	ND15072696
	Rockhead	ND13812536	ND14162600
	Roy Geo	ND27433547	ND27913574
	Sarplet Head	ND34804281	ND35384357
	Screadan	ND13292404	ND13812536
	Sithean Dubh	ND15072696	ND15802800
	Skerry Mor	ND27913574	ND29113628
	Stack of Ulbster	ND33114138	ND34144193

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	The Brough	ND36734779	ND37034889
	The Clett	ND14162600	ND14852678
	Whaligoe 1	ND31373941	ND32544055
	Whaligoe 2	ND32544055	ND33114138
Fair Isle	Fair Isle	HZ19447079	
Fetlar	Big Holm	HU62258839	
	Big Holm to Moo Wick	HU62278840	HU62158776
	Corbie Head to Brough Slipway	HU58249145	HU57799273
	Cruss	HU63339130	
	East Neap	HU64089438	HU62329486
	Elbow	HU58309220	
	Fetlar RSPB	HU660910	
	Funzie Bay to Wick of Aith	HU66338946	HU64168998
	Gruna Water	HU66419113	
	Head of Hosta to Natural Arch	HU67719184	HU67129282
	Head of Hosta to the Tind	HU67719184	HU67439051
	Hestaness	HU66229260	
	Horn of Rams Ness to Rams Ness	HU61128704	HU60738710
	HU570930	HU570930	
	HU580910	HU580910	
	HU580920	HU580920	
	HU580930	HU580930	
	HU580940	HU580940	
	HU590880	HU590880	
	HU590890	HU590890	
	HU590900	HU590900	
	HU590910	HU590910	
	HU590920	HU590920	
	HU590930	HU590930	
	HU600870	HU600870	
	HU600880	HU600880	
	HU600890	HU600890	
	HU600920	HU600920	
	HU600930	HU600930	
	HU610870	HU610870	
	HU610890	HU610890	
HU610900	HU610900		
HU610910	HU610910		
HU610920	HU610920		

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	HU610930	HU610930	
	HU610940	HU610940	
	HU620870	HU620870	
	HU620880	HU620880	
	HU620910	HU620910	
	HU620920	HU620920	
	HU620930	HU620930	
	HU620940	HU620940	
	HU630890	HU630890	
	HU630900	HU630900	
	HU630910	HU630910	
	HU630920	HU630920	
	HU630930	HU630930	
	HU630940	HU630940	
	HU640880	HU640880	
	HU640890	HU640890	
	HU640900	HU640900	
	HU640910	HU640910	
	HU640920	HU640920	
	HU640930	HU640930	
	HU640940	HU640940	
	HU650870	HU650870	
	HU650880	HU650880	
	HU650890	HU650890	
	HU650900	HU650900	
	HU650910	HU650910	
	HU660880	HU660880	
	HU660890	HU660890	
	HU660900	HU660900	
	HU660920	HU660920	
	HU660930	HU660930	
	HU66108940	HU66108940	
	HU670900	HU670900	
	HU670910	HU670910	
	HU670920	HU670920	
	Inner Brough to Hesta Ness	HU67089313	HU66279279
	Klifts to Big Holm	HU60518989	HU62278840
	Lamb Hoga	HU610885	
	Lamb Hoga - shearwaters	HU60738958	

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	Little Harold's Water	HU66108940	
	Mongirdale	HY49674928	
	Moo Wick to Horn of Rams Ness	HU64519203	HU64089438
	Natural Arch to Inner Brough	HU67129282	HU67089313
	Ness of Gruting	HU65799131	HU64519203
	Outer Brough	HU67039316	HU67039316
	Pobies Grey Stack	HU66279279	HU66159226
	Rams Ness to Corbie Head	HU60738710	HU58249145
	Ramsness	HU61118716	
	Strandburgh Ness	HU671931	HU671931
	The Tind to Funzie Bay	HU67439051	HU66338946
	Upper Trona Mires	HU66749098	
	Urie	HU59749451	
	Uriesetter	HU62329486	HU59769454
	Wick of Aith to Wick of Houbie	HU64168998	HU62589052
	Wick of Gruting	HU66159226	HU65799131
	Wick of Houbie to Krokahellia	HU62589052	HU61009034
	Woodenbreck 1	HU64958955	
	Woodenbreck 2	HU64958875	
	Woodenbreck 3	HU64858915	
	Woodenbreck 4	HU64658925	
	Woodenbreck 5	HU64458945	
	Woodenbreck 6	HU64658975	
	Woodenbreck 7	HU64759035	
Firth of Tay and Eden Estuary	Barry Buddon	NO50043213	
	Barry Burn	NO56123393	
	Tentsmuir	NO50562744	
Flannan Isles	East Group (including Eilean Mor)	NA727468	
	Eilean A'Ghobha	NA693464	NA693464
	Eilean Mor	NA726467	NA726467
	Eilean Mor A-D, F-H	NA727468	
	Eilean Mor E	NA723468	
	Eilean Tighe	NA728463	NA728463
	Roareim	NA692467	
	Sgeir Toman	NA724452	NA724452
	Soray	NA725454	NA725454
	South Group	NA725455	NA726452
	West Group	NA687465	NA694463
Forth Islands	Bass Rock	NT60078733	

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	Craigleith	NT55108697	
	Fidra	NT51158697	
	Inchmickery	NT20608063	
	Isle of May	NT65969907	
	The Lamb	NT53428660	
Foula	Foula	HT95953914	
Fowlsheugh	Fowlsheugh RSPB	NO881798	NO880817
Glas Eilenan	Glas Eileanan	NM71463996	
Handa	Handa	NC12414767	
Hermaness, Saxa Vord and Valla Field	Ayre of Tonga to Tonga Stack	HP58511463	HP57921494
	Greff to Ayre of Tonga	HP58221399	HP58511463
	Hermaness	HP610180	
	Hols Hellier to The Lug	HP62731768	HP63581804
	HP 580129	HP580129	
	HP 584057	HP584057	
	HP 584068	HP584068	
	HP 588094	HP588094	
	HP 589042	HP589042	
	HP 589078	HP589078	
	HP 590113	HP590113	
	HP 595132	HP595132	
	Muckle Flugga	HP60431925	
	Norwick Hevda to Hols Hellier	HP62511713	HP62731768
	Saxavord	HP627175	HP633184
South Geo Brough to Greff	HP57131239	HP58221399	
The Keen to Norwick Hevda	HP62161547	HP62511713	
Hoy	Bakingstone Hill	ND24549242	
	Bay of Creekland	HY26060269	HY23590538
	Binga Fea	ND27349321	
	Burn of Forse	ND22629417	
	Cairn Hill	ND25759095	
	Deepdale	HY25400224	
	Enegars	HY20140380	
	Gliffters of Lyrawa 1	ND26179876	
	Gliffters Of Pegal - Gliffters Of Lyr	ND262988	
	Grutfea	HY18950085	
	Ha Wick	ND250890	
	Hoglinns Water	ND24439150	
	Hoy - Whole Island	ND24839740	

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	Hoy RSPB Reserve	HY215015	
	HOY10	ND17379911	ND19109884
	HOY11	ND19109884	ND20579773
	HOY12	ND20579773	ND20829656
	HOY13	ND20829656	ND21009529
	HOY14	ND21009529	ND22309393
	HOY15	ND22309393	ND23029248
	HOY16	ND23029248	ND23699063
	HOY17	ND23699063	ND25158861
	HOY18	ND25158861	ND26418862
	HOY19	ND26418862	ND28148853
	HOY29	HY28850072	HY27700159
	HOY3	HY22190580	HY21170519
	HOY30	HY27700159	HY26060269
	HOY4	HY21170519	HY20770497
	HOY5	HY20770497	HY20520483
	HOY6	HY20520483	HY19780491
	HOY7	HY19780491	HY18410310
	HOY8	HY18410310	HY17530088
	Melsetter Hill	ND26308971	
	Moss of Whitestanes	ND20369926	
	Old Man of Hoy to Rora Head	HY17530088	ND17379911
	Red Hill of Sneuk	ND23909610	
	Saltness	ND26999034	
	Sands Water	ND23759375	
	Sandy Loch	HY219030	
	Stourdale	ND177997	
	Suifea Lochs	HY19000165	
	Whaness	HY250020	
Imperial Docks	Leith Docks	NT26787725	
Loch of Strathbeg	Loch of Strathbeg	NK06675973	
Marwick Heak	Marwick Head	HY22702440	HY23202620
Mingulay & Berneray	Berneray1	NL55938010	
	Mingulay1	NL56008313	
Monach Islands	Ceann Ear 1	NF64726166	NF64316270
	Ceann Ear 2	NF64316270	NF63636247
	Ceann Ear 3	NF63636247	NF63366098
	Ceann Ear 4	NF63366098	NF63986092
	Ceann Ear 5	NF63986092	NF64726166

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	Ceann Ear 6	NF64056205	
	Ceann Ear 7	NF63656135	
	Ceann Iar 1	NF62536233	NF61106212
	Ceann Iar 2	NF61106212	NF60986250
	Ceann Iar 3	NF60986250	NF61766331
	Ceann Iar 4	NF61766331	NF62176324
	Ceann Iar 5	NF62176324	NF62536233
	Ceann Iar 6	NF61526252	
	Shillay	NF59126280	
	Shivinish 1	NF62636202	NF62636202
	Shivinish 2	NF628621	
	Stockay	NF65956317	
Moray and Nairn coast	Tips of Corsemaul	NJ39333968	
	Tom Mor	NJ40393833	
Mousa	Mousa RSPB	HU460240	
	Duncansby Head	ND40327277	ND40207360
	Dunnet Head 1	ND21667511	ND21197636
	Dunnet Head 2	ND21197636	ND20587669
	Dunnet Head 3	ND20587669	ND19477641
	Dunnet Head 4	ND19477641	ND18307452
	Dunnet Head 5	ND18307452	ND20697128
	Holburn Head 1	ND10717073	ND10937158
	Holburn Head 2	ND10937158	ND08337123
North Caithness Cliffs	Holburn Head 3	ND08337123	ND07247112
	Melvich 1	NC93026603	NC92146563
	Melvich 2	NC92146563	NC91606550
	Melvich 3	NC91606550	NC89846595
	Sandside Head 1	NC95726627	NC94036590
	Sandside Head 2	NC94036590	NC93026603
	Skirza Head	ND39386811	ND39936966
	Stacks of Duncansby	ND39936966	ND40327277
	Stroma Island	ND355775	
	Balnahard 1	NR40519932	NR40899970
	Balnahard 2	NR40899970	NM41640026
	Balnahard 3	NM41640026	NM42360088
North Colonsay and Western Cliffs	Balnahard 4	NM42360088	NM42450088
	Balnahard 5	NM42450088	NM42740050
	East Coast 2	NR42769928	NR42409864
	East Coast 4	NR41989804	NR41599724

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	East Coast 5	NR41599724	NR41409699
	East Coast 6	NR41409699	NR40989618
	Kiloran Bay - North	NR40349837	NR40519932
	Pigs Paradise 1	NR384980	NR382977
	Pigs Paradise 10	NR369969	NR367967
	Pigs Paradise 11	NR367967	NR365964
	Pigs Paradise 12	NR365964	NR364965
	Pigs Paradise 13	NR364965	NR363963
	Pigs Paradise 2	NR382977	NR379976
	Pigs Paradise 3	NR379976	NR378975
	Pigs Paradise 4	NR378975	NR375975
	Pigs Paradise 5	NR375975	NR374974
	Pigs Paradise 6	NR374974	NR372970
	Pigs Paradise 7	NR369970	NR368971
	Pigs Paradise 8	NR372970	NR369970
	Pigs Paradise 9	NR368971	NR369969
	Uragaig Cliffs	NR395981	NR383980
North Rona and Sula Sgeir	North Rona	HW81193252	
	Sula Sgeir	HW62083062	
Noss	Noss Whole Island	HU545405	
Papa Stour	Christie's Hole	HU15356075	
	Cullavoe Dale	HU16916133	
	Cullavoe East	HU16926170	
	Gardie North	HU18356125	
	Gardie Water East	HU17056045	
	Hamnavoe North Beach	HU16356055	
	Lamba Ness	HU16656229	
	Little Virda Field	HU15356175	
	Lochs of Aesha	HU15056105	
	Mauns Hill Southwest	HU15856015	
	North Ness East	HU18356175	
	North Ness West	HU17706145	
	Papa Stour	HU160610	
	Quida Ness	HU17056145	
	Robie's Noust	HU17856125	
The Creed	HU17756175		
Papa Westray (North Hill and Holm)	Holm Of Papa Westray	HY506519	
	North Hill 1	HY50005555	
	North Hill 10	HY506546	

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	North Hill 12	HY50315497	
	North Hill 13	HY49795484	
	North Hill 14	HY49355415	
	North Hill 15	HY49805418	
	North Hill 16	HY49325396	
	North Hill 17	HY49355382	
	North Hill 18	HY49905483	
	North Hill 2	HY498555	
	North Hill 2	HY50775474	HY49335451
	North Hill 3	HY49335451	HY49105378
	North Hill 3	HY501557	
	North Hill 4	HY502555	
	North Hill 5	HY50315525	
	North Hill 6	HY49995494	
	North Hill 7	HY50515464	
	North Hill 8	HY504546	
	Papa Westray - North Hill RSPB	HY499550	
	Papa Westray coast 10	HY49105378	HY48765274
	Papa Westray coast 41	HY50515372	HY50735443
Pentland Firth Islands	Muckle Skerry	ND465783	
	Pentland Skerries	ND46447849	
	Swona	ND38818438	
Priest Island	Priest Island	NB92740237	
Raman Stacks and Gruney	Fladda	HU37539717	
	Gruney	HU38049681	
	Hyter	HU37479738	
	Ofoora	HU37579729	
	Outer Stack	HU37609785	
	Scordar	HU37449779	
	Turla	HU37479755	
Rousay	Brings	HY38003364	
	Faraclett Head 1	HY449336	
	Faraclett Head 10	HY440327	
	Faraclett Head 11	HY436329	
	Faraclett Head 12	HY435329	
	Faraclett Head 13	HY43623267	
	Faraclett Head 16	HY442331	
	Faraclett Head 17	HY436333	
	Faraclett Head 2	HY448337	

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	Faraclett Head 3	HY445337	
	Faraclett Head 4	HY447334	
	Faraclett Head 5	HY446336	
	Faraclett Head 6	HY443337	
	Faraclett Head 7	HY443336	
	Faraclett Head 8	HY444332	
	Horse Brae	HY38463456	
	Leeon 2	HY419327	
	Moan	HY38163285	
	Quendal (North)	HY37463314	
	Quendal (South)	HY37073208	
	Rousay 1	HY371306	HY363314
	Rousay 10	HY401335	HY408328
	Rousay 12	HY433327	HY441337
	Rousay 13	HY441337	HY448338
	Rousay 14	HY448338	HY449333
	Rousay 15	HY449333	HY455324
	Rousay 16	HY455324	HY449325
	Rousay 17	HY448324	HY449280
	Rousay 2	HY363314	HY362323
	Rousay 20	HY382289	HY371306
	Rousay 3	HY362323	HY369330
	Rousay 4	HY369330	HY373340
	Rousay 5	HY373340	HY382347
	Rousay 6	HY382347	HY389350
	Rousay 7	HY389350	HY398349
	Rousay 8	HY398349	HY401344
	Rousay 9	HY401344	HY401335
Rum	Rum	NM36869828	
Shiant Islands	Eilean an Taighe	NG421972	
	Eilean Mhuire	NG431986	
	Galta Beag Group	NG400982	
	Galta Mor Group	NG390984	
	Garbh Eilean	NG41419845	
South Uist Machair and Lochs	Ardivachar Machair	NF74654535	
	Around Daliburgh	NF75352145	
	Howbeg and How More	NF76303530	NF76303620
	Loch Ardvule	NF71332992	
	Loch Druidbeg	NF79053755	

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	Loch Fada	NF75523441	
	Loch Grogarry	NF76183932	
	Loch Hallan	NF73862218	
	Loch na Liana Moire	NF73312489	
	Loch nam Balgan	NF76214004	
	Loch Stilligarry	NF76283813	
	Mid Loch Ollay	NF75433154	
	Rubha Ardvule	NF70952995	
	West Loch Ollay	NF74053273	
St Abb's Head to Fast Castle	Broadhaven to Moorburn Point	NT90756908	NT89006946
	Fast Castle Head	HY443329	NT834701
	Moorburn Point to Fast Castle	NT89006946	NT86137113
	St Abb's Head NNR	NT91776765	NT90756908
St Kilda	Boreray & Stacs	NA155050	
	Dun	NF10299753	
	Hirta	NF09269966	
	Levenish	NF13309667	
	Soay - whole island	NA06420146	
Sule Skerry and Sule Stack	Sule Skerry Whole Island	HX62112445	
	Sule Stack1	HX56221791	
Sumburgh Head	Compass Head	HU407095	
	Grutness	HU407102	
	Grutness Pier to Greystane Geo	HU405099	HU409084
	Sumburgh Head	HU405083	HU409084
Treshnish Isles	Bac Beag	NM23743776	
	Bac Mor	NM24383900	
	Cairn na Burgh - Manx shearwater count	NM30464493	NM30464493
	Cairn na Burgh Beg	NM30854502	
	Cairn na Burgh More	NM30584485	
	Fladda	NM297437	
	Lunga and Sgeir a' Chaisteil	NM27774192	
	Sgeir An Eirionnaich	NM28504337	
	Sgeir an Fheoir	NM28704323	
	Sgeir na h-Iolaire	NM28934390	NM28934390
	Sgeirean Na Giusaich 15	NM28764267	
Sgeirean Na Giusaich 16	NM28864276		
Troup, Pennan and Lion's Heads	Troup, Pennan and Lion's Heads SPA	NJ80706554	NJ88326487
West Westray	West Westray 1	HY40054955	HY39235014

SPA Name	Site Name	Start Position (National Grid)	End Position (National Grid)
	West Westray 2	HY39235014	HY40444816
	West Westray 3	HY40444816	HY40914789
	West Westray 5	HY41524734	HY41944569
	West Westray 6	HY41944569	HY41754386
	West Westray 7	HY41754386	HY42284368
Ythan Estuary, Sands of Forvie and Meikle Loch	Sands Of Forvie	NK030270	NK030290

4 Species account

Each species account presents a summary of the colony count data coverage at each SPA for which that species is a designated qualifying feature. Data availability is assessed for each species since the last national census and including any data collected prior to the last national census. Where there is sufficient data a trend plot is presented for colonies at each SPA.

4.1 Northern fulmar (*Fulmarus glacialis*)

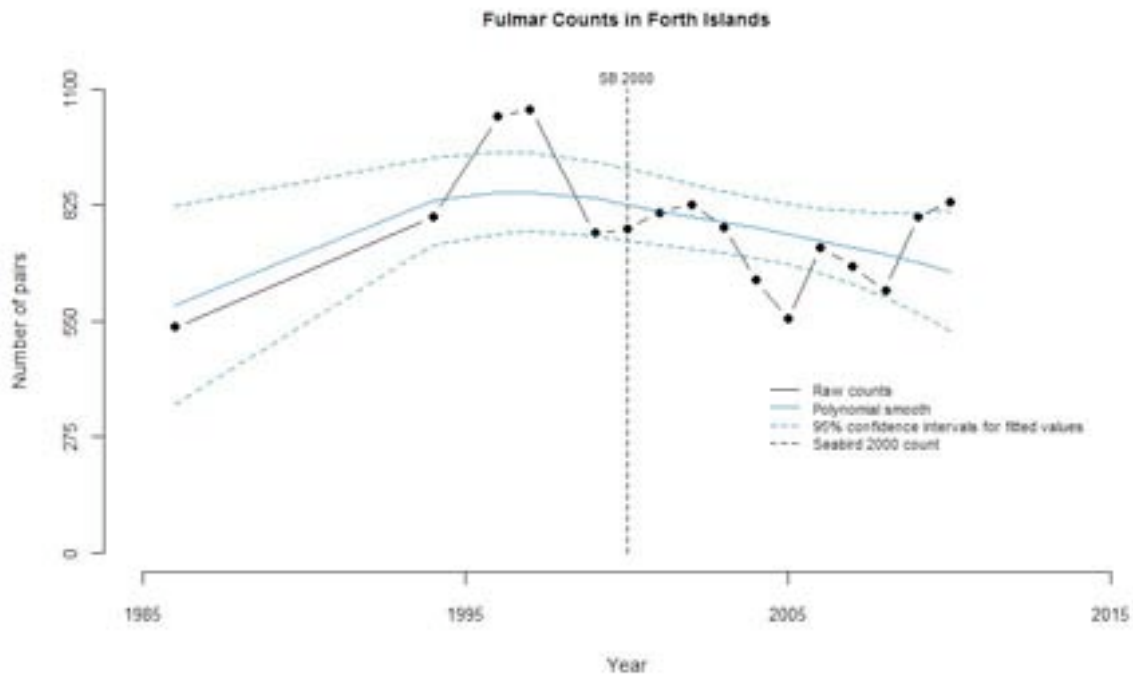
4.1.1 Data availability

Table 4.1. Data availability at northern fulmar SPAs.

SPA designated for Northern Fulmar	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Buchan Ness to Collieston coast SPA	2 (0.18)	2 (0.18)	2	2
Calf of Eday SPA	1 (0.1)	1 (0.1)	0	0
Cape Wrath SPA	1 (0.08)	1 (0.08)	0	0
Copinsay SPA	2 (0.15)	4 (0.19)	0	3
East Caithness Cliffs SPA	1 (0.08)	1 (0.08)	0	0
Fair Isle SPA	3 (0.25)	3 (0.25)	3	3
Fetlar SPA	0 (0)	3 (0.07)	0	1
Forth Islands SPA	12 (0.86)	14 (0.95)	4	12
Flannan Islands SPA	1 (0.07)	3 (0.07)	1	1
Foula SPA	1 (0.08)	1 (0.08)	1	1
Fowlsheugh SPA	3 (0.23)	3 (0.23)	2	2
Handa SPA	3 (0.25)	3 (0.25)	2	2
Hermaness, Saxa Vord and Valla Field SPA	1 (0.08)	1 (0.08)	0	1
Hoy SPA	1 (0.08)	1 (0.15)	0	1
Mingulay and Berneray SPA	3 (0.21)	5 (0.29)	2	2
North Caithness Cliffs SPA	0 (0)	4 (0.09)	0	3
North Rona and Sula Sgeir SPA	2 (0.14)	2 (0.14)	1	1
Noss SPA	4 (0.29)	4 (0.29)	2	2
Rousay SPA	1 (0.08)	3 (0.16)	0	0

Shiant Islands SPA	1 (0.08)	1 (0.08)	0	0
St Kilda SPA	1 (0.08)	2 (0.09)	0	2
Sumburgh Head SPA	0 (0)	3 (0.14)	0	1
Troup, Pennan and Lions Heads SPA	2 (0.18)	2 (0.18)	2	2
West Westray SPA	3 (0.23)	4 (0.24)	0	3

4.1.2 Trends



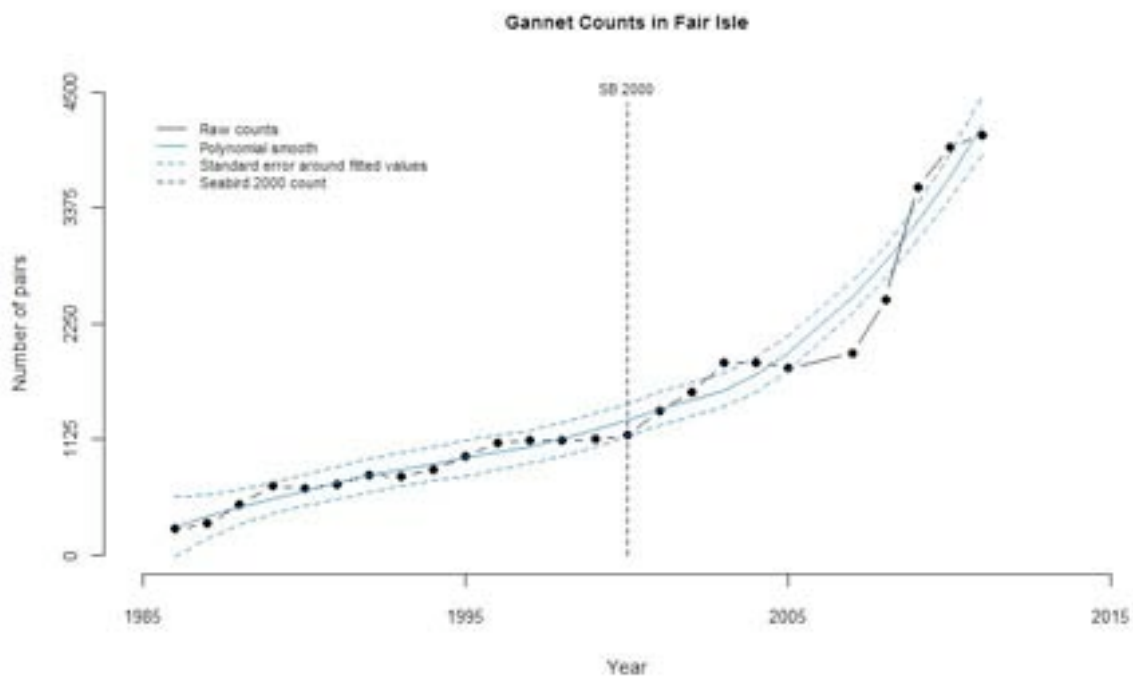
4.2 Northern gannet (*Morus bassanus*)

4.2.1 Data availability

Table 4.2. Data availability at northern gannet SPAs.

SPA designated for Northern Gannet	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Ailsa Craig SPA	2 (0.15)	2 (0.15)	0	3
Fair Isle SPA	12 (0.86)	12 (0.86)	13	13
Forth Islands SPA	3 (0.23)	3 (0.23)	3	3
Hermaness, Saxa Vord and Valla Field SPA	3 (0.23)	3 (0.23)	4	4
North Rona and Sula Sgeir SPA	2 (0.15)	2 (0.15)	2	2
Noss SPA	3 (0.23)	3 (0.23)	3	3
St Kilda SPA	1 (0.13)	1 (0.25)	2	2
Sule Skerry and Sule Stack SPA	1 (0.08)	5 (0.09)	0	2

4.2.2 Trends



4.3 Leach's storm petrel (*Oceanodroma leucorhoa*)

4.3.1 Data availability

Table 4.3. Data availability at Leach's storm petrel SPAs.

SPA designated for Leach's Storm Petrel	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Flannan Islands SPA	1 (0.08)	1 (0.08)	0	0
Foula SPA	1 (0.08)	1 (0.08)	0	0
North Rona and Sula Sgeir SPA	2 (0.18)	2 (0.18)	0	0
Ramna Stacks and Gruney SPA	1 (0.08)	1 (0.08)	0	0
St Kilda SPA	No Data	No Data	No Data	No Data
Sule Skerry and Sule Stack SPA	No Data	No Data	No Data	No Data

Due to insufficient data coverage no trends have been plotted for Leach's storm petrel.

4.4 European storm petrel (*Hydrobates pelagicus*)

4.4.1 Data availability

Table 4.4. Data availability at European storm petrel SPAs.

SPA designated for European Storm Petrel	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Auskerry SPA	3 (0.27)	3 (0.27)	0	0
Mousa SPA	1 (0.25)	1 (0.25)	1	1
North Rona and Sula Sgeir SPA	1 (0.09)	1 (0.09)	0	0
Priest Island SPA	2 (0.15)	2 (0.15)	0	0
St Kilda SPA	1 (0.08)	1 (0.08)	0	0
Sule Skerry and Sule Stack SPA	1 (0.09)	1 (0.09)	0	0

Due to insufficient data coverage no trends have been plotted for European storm petrel.

4.5 Manx shearwater (*Puffinus puffinus*)

4.5.1 Data availability

Table 4.5. Data availability at Manx shearwater SPAs.

SPA designated for Manx Shearwater	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Rum SPA	1 (0.09)	1 (0.09)	0	0
St Kilda SPA	1 (0.08)	1 (0.08)	0	0

Due to insufficient data coverage no trends have been plotted for Manx shearwater.

4.6 Great cormorant (*Phalacrocorax carbo*)

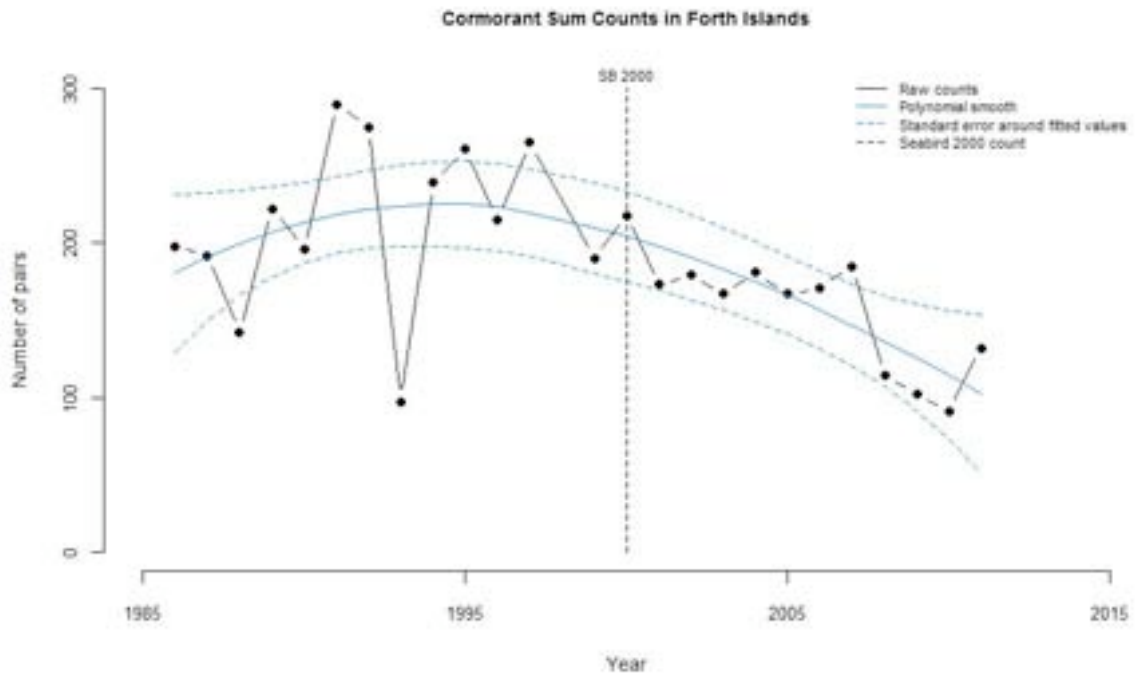
4.6.1 Data availability

Table 4.6. Data availability at great cormorant SPAs.

SPA designated for Great Cormorant	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Calf of Eday	3 (0.25)	3 (0.25)	2	2
East Caithness Cliffs	0 (0)	12 (0.66)	0	10
Firth of Forth Islands	5 (0.36)	9 (0.70)	0	12

Four count sites have been surveyed since 2000 for cormorant. Of these four sites cormorants were recorded regularly at Craig Leith and the Lamb. No cormorants have been observed at Bass Rock and at Inchmickery five pairs were observed in 2002 but have not been recorded there since. For the purposes of identifying a trend in population since 1986 when surveys began Bass Rock and Inchmickery have both been excluded from the analysis.

4.6.2 Trends



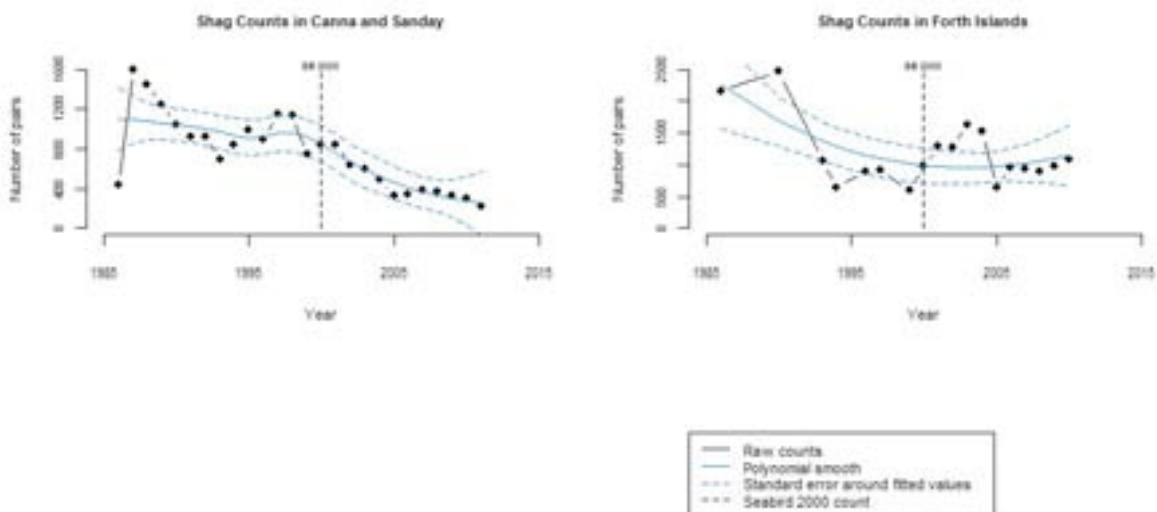
4.7 European shag (*Phalacrocorax aristotelis*)

4.7.1 Data availability

Table 4.7. Data availability of European shag SPAs.

SPA designated for European Shag	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Buchan Ness to Collieston coast SPA	3 (0.27)	3 (0.27)	2	2
Canna and Sanday SPA	14 (1.0)	14 (1.0)	12	12
East Caithness Cliffs SPA	1 (0.08)	1 (0.08)	0	0
Fair Isle SPA	4 (0.29)	4 (0.29)	12	12
Forth Islands SPA	12 (0.86)	14 (0.95)	6	12
Foula SPA	1 (0.08)	1 (0.08)	0	0
Mingulay and Berneray SPA	3 (0.21)	5 (0.29)	2	2
Shiant Islands SPA	1 (0.08)	1 (0.08)	0	0
St Abb's Head to Fast Castle SPA	1 (0.07)	14 (0.38)	0	12
Sule Skerry and Sule Stack SPA	3 (0.21)	3 (0.21)	2	2

4.7.2 Trends



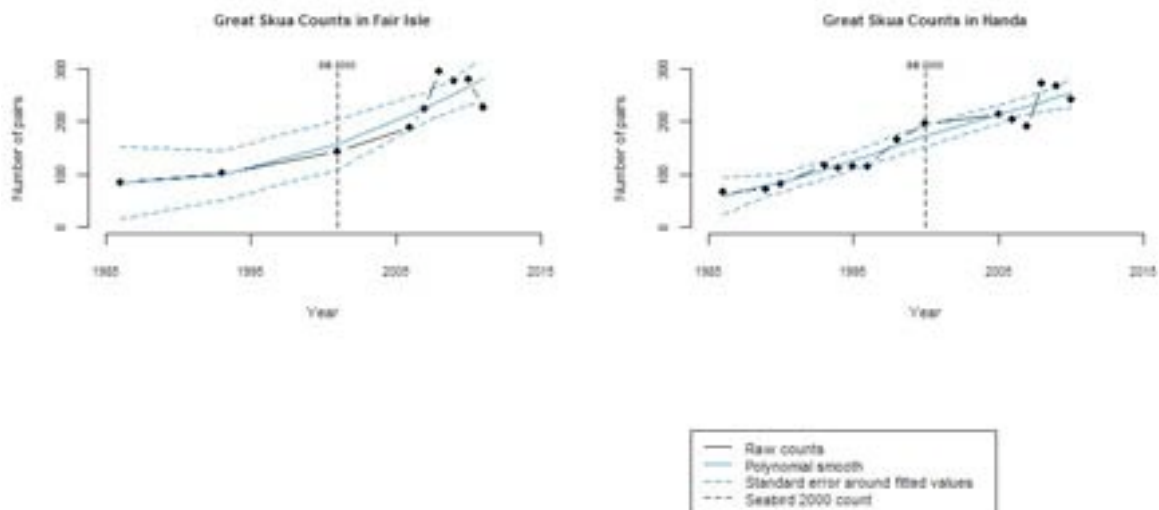
4.8 Great skua (*Stercorarius skua*)

4.8.1 Data availability

Table 4.8. Data availability at great skua SPAs.

SPA designated for Great Skua	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Fair Isle SPA	7 (0.64)	7 (0.64)	2	2
Fetlar SPA	0 (0)	1 (0.08)	0	2
Foula SPA	1 (0.08)	1 (0.08)	0	0
Handa SPA	8 (0.57)	8 (0.57)	7	7
Hermaness, Saxa Vord and Valla Field SPA	0 (0)	3 (0.10)	0	1
Hoy SPA	2 (0.17)	2 (0.17)	2	2
Noss SPA	2 (0.18)	2 (0.18)	0	0
St Kilda SPA	1 (0.08)	1 (0.08)	3	3

4.8.2 Trends



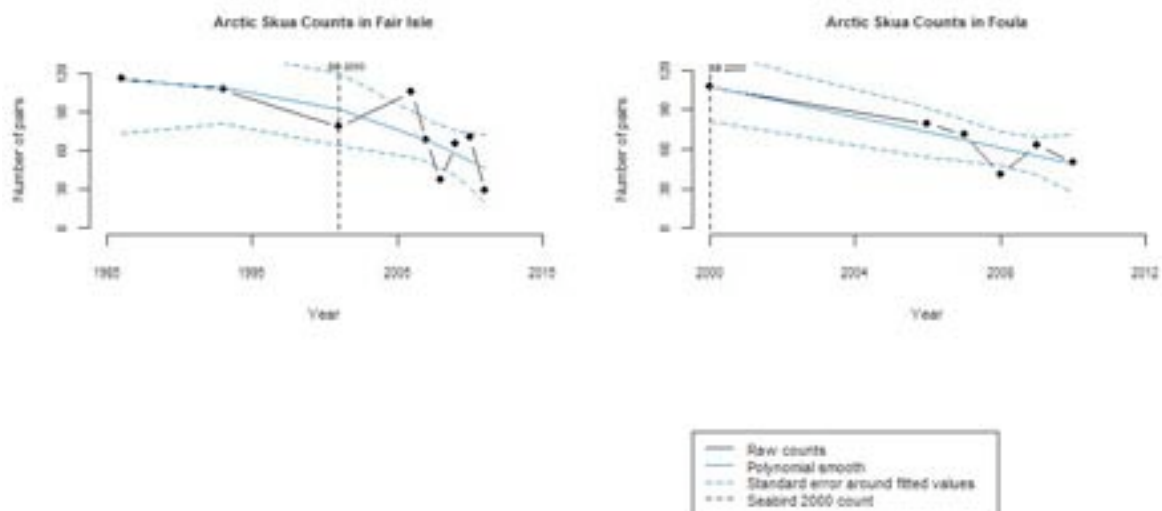
4.9 Arctic skua (*Stercorarius parasiticus*)

4.9.1 Data availability

Table 4.9. Data availability at Arctic skua SPAs.

SPA designated for Arctic Skua	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Fair Isle SPA	7 (0.64)	7 (0.64)	2	2
Fetlar SPA	1 (0.09)	3 (0.11)	0	2
Foula SPA	6 (0.50)	6 (0.50)	0	0
Hoy SPA	1 (0.08)	4 (0.21)	0	2
Papa Westray SPA	2 (0.17)	6 (0.33)	1	4
Rousay SPA	2 (0.17)	2 (0.17)	0	0
West Westray SPA	1 (0.20)	1 (0.20)	0	0

4.9.2 Trends



4.10 Lesser black-backed gull (*Larus fuscus*)

4.10.1 Data availability

Table 4.10. Data availability at lesser black-backed gull SPAs.

SPA designated for Lesser Black-backed Gull	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Ailsa Craig SPA	3 (0.27)	3 (0.27)	0	0
Fair Isle SPA	2 (0.18)	2 (0.18)	2	2
Forth Islands SPA	1 (0.07)	14 (0.57)	2	12

Due to insufficient data coverage no trends have been plotted for lesser black-backed gull.

4.11 Herring gull (*Larus argentatus*)

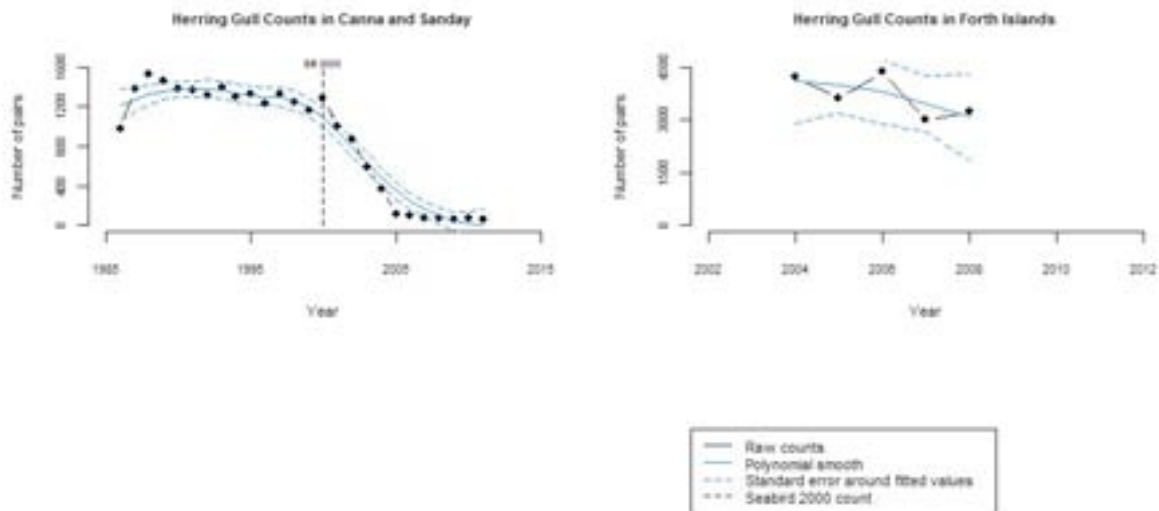
4.11.1 Data availability

Table 4.11. Data availability at herring gull SPAs.

SPA designated for Herring Gull	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Ailsa Craig SPA	3 (0.27)	3 (0.27)	0	0
Buchan Ness to Collieston coast SPA	2 (0.18)	2 (0.18)	2	2
Canna and Sanday SPA	14 (1.0)	14 (1.0)	12	12
East Caithness Cliffs SPA	1 (0.08)	1 (0.08)	0	0
Forth Islands SPA	1 (0.07)	13 (0.63)	2	12
Fowlsheugh SPA	4 (0.31)	4 (0.31)	2	2
St Abb's Head to Fast Castle SPA	1 (0.07)	14 (0.38)	0	12
Troup, Pennan and Lions Heads SPA	2 (0.18)	2 (0.18)	2	2

Count sites at each of the islands within the Forth Islands SPA have not been recorded consistently since the Seabird 2000 national census. During collation of the raw counts five counts of the entire SPA colony at the SPA wide scale conducted separately from 2004 – 2008 were acquired from the Forth Seabird Group; these five counts have been used to identify any trends in the data over this period as they provide a more consistent data set than the SMP collected data.

4.11.2 Trends



4.12 Great Black-Backed Gull (*Larus marinus*)

4.12.1 Data availability

Table 4.12. Data availability at great black-backed gull SPAs.

SPA designated for Great Black-backed Gull	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Calf of Eday SPA	0 (0)	2 (0.13)	0	2
Copinsay SPA	2 (0.15)	3 (0.29)	0	0
East Caithness Cliffs SPA	1 (0.08)	1 (0.08)	0	0
Hoy SPA	0 (0)	9 (0.11)	0	4
North Rona and Sula Sgeir SPA	1 (0.07)	2 (0.14)	1	3

Due to insufficient data coverage no trends have been plotted for great black-backed gull.

4.13 Black-Legged Kittiwake (*Rissa tridactyla*)

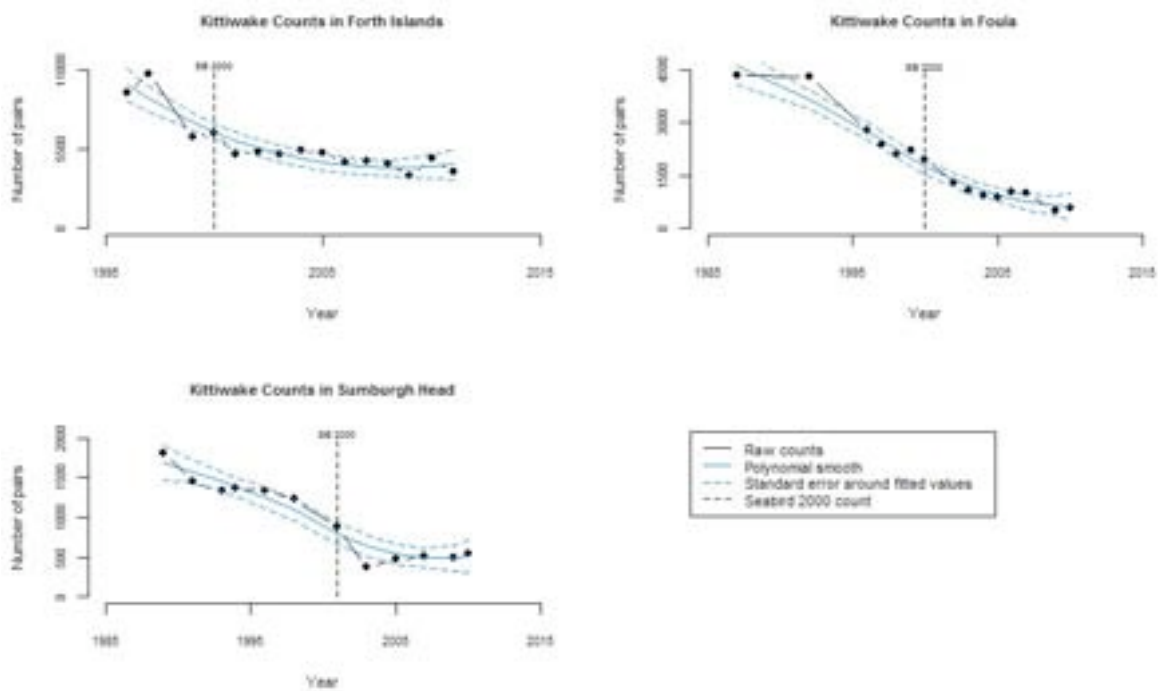
4.13.1 Data availability

Table 4.13. Data availability at black-legged kittiwake SPAs.

SPA designated for Black-legged Kittiwake	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Ailsa Craig SPA	3 (0.27)	3 (0.27)	0	0
Buchan Ness to Collieston Coast SPA	3 (0.27)	3 (0.27)	2	2
Calf of Eday SPA	2 (0.20)	2 (0.20)	0	0
Cape Wrath	1 (0.08)	1 (0.08)	0	0
Copinsay	2 (0.15)	3 (0.17)	0	1
East Caithness	1 (0.08)	1 (0.08)	0	0
Fair Isle	4 (0.33)	4 (0.33)	4	4
Flannan Island SPA	1 (0.07)	1 (0.07)	1	1
Forth Islands	5 (0.36)	14 (0.86)	0	12
Foula SPA	11 (0.79)	11 (0.79)	4	4
Fowlsheugh SPA	3 (0.23)	3 (0.23)	3	3
Handa SPA	3 (0.21)	3 (0.21)	1	1
Hoy SPA	2 (0.15)	2 (0.15)	0	0
Marwick Head SPA	4 (0.31)	4 (0.31)	4	4
Mingulay and Berneray SPA	3 (0.21)	5 (0.29)	2	2
North Caithness Cliffs SPA	0 (0)	3 (0.08)	0	0
North Colonsay and Western Cliffs SPA	1 (0.08)	1 (0.08)	0	1
North Rona and Sula Sgeir	1 (0.07)	4 (0.21)	1	2
Noss SPA	4 (0.29)	4 (0.29)	4	4
Rousay SPA	2 (0.15)	2 (0.15)	0	0
Rum SPA	1 (0.08)	1 (0.08)	0	0
St Abb's Head to Fast Castle SPA	1 (0.07)	13 (0.38)	0	12
St Kilda SPA	3 (0.23)	3 (0.23)	0	12
Sumburgh Head SPA	7 (0.50)	9 (0.57)	5	7
Shiant Islands SPA	2 (0.15)	2 (0.15)	1	1
Troup, Pennan and Lion's Head SPA	3 (0.27)	3 (0.27)	2	2
West Westray SPA	2 (0.15)	3 (0.17)	0	3

During and since the Seabird 2000 census the Inchmickery count site within the Firth of Forth Islands SPA has been surveyed five times. No kittiwakes have ever been recorded at this site and as such surveys where this site was not observed are considered to be a survey of the full Firth of Forth Islands SPA colony.

4.13.2 Trends



4.14 Little Tern (*Sterna albifrons*)

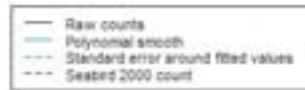
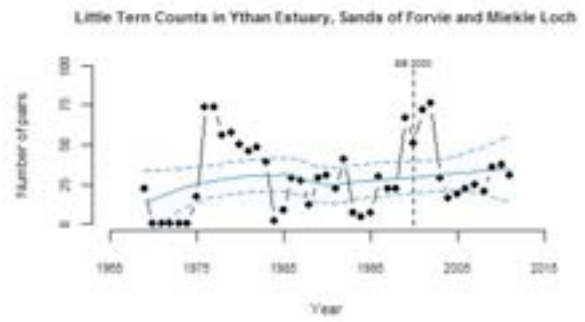
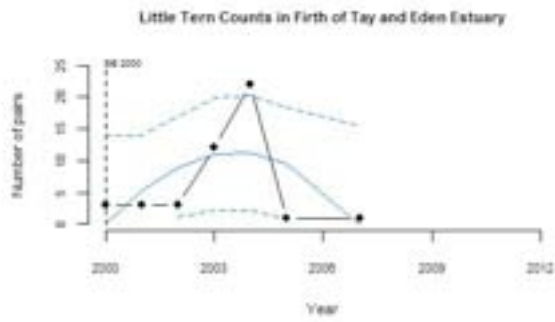
4.14.1 Data availability

Table 4.14. Data availability at little tern SPAs.

SPA designated for Little Tern	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Firth of Tay & Eden Estuary SPA	2 (0.14)	8 (0.50)	1	17
Monach Islands SPA	1 (0.09)	1 (0.09)	6	6
South Uist Machair and Lochs SPA	0 (0)	1 (0.05)	0	0
Ythan Estuary, Sands of Forvie and Meikle Loch SPA	14 (1.0)	14 (1.0)	30	30

Little terns have been recorded at four count sites within the Firth of Tay and Eden Estuary SPA historically: Eden Estuary, Barry Burn, Tentsmuir and Barry Buddon. However, since the Seabird 2000 census breeding pairs were only observed at the Eden Estuary count site. At Barry Burn, Tentsmuir and Barry Buddon no terns have been recorded since 1997, 1987 and 1994 respectively. The trend line plotted for Little Tern at this site incorporates data from the Eden Estuary count site since 2000 and may not reflect the population trend across the entire SPA.

4.14.2 Trends



4.15 Common Tern (*Sterna hirundo*)

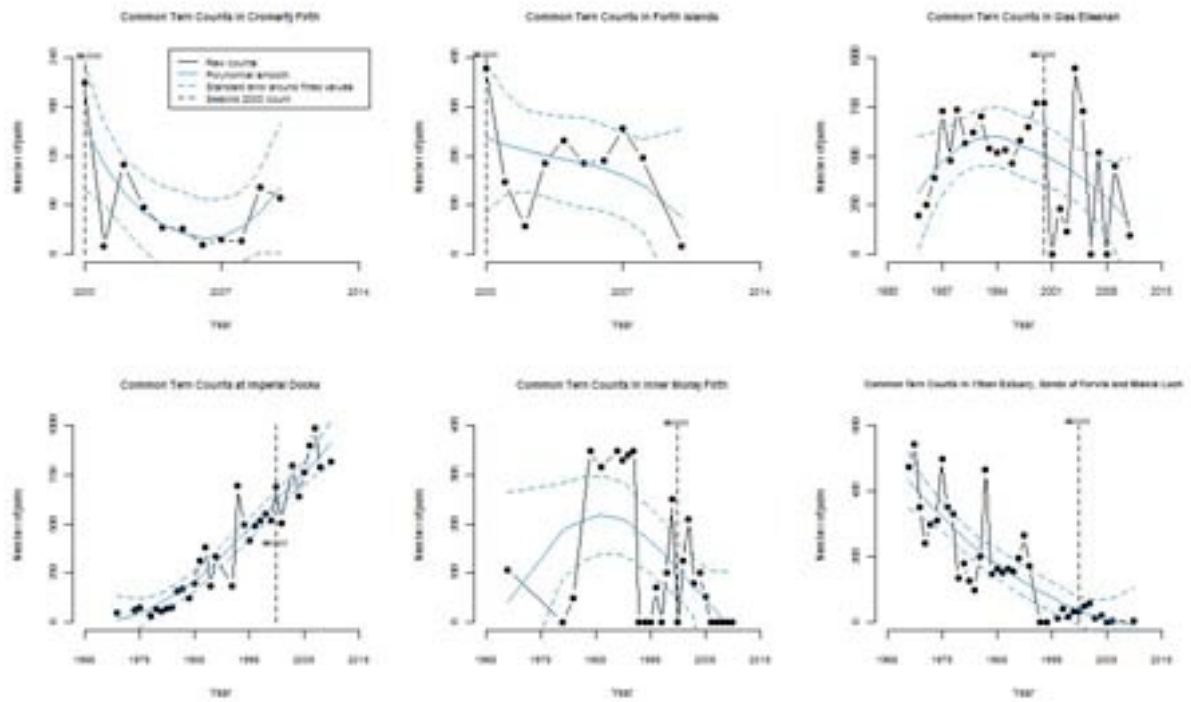
4.15.1 Data availability

Table 4.15. Data availability at common tern SPA's.

SPA designated for Common Tern	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Cromarty Firth SPA	11 (0.79)	13 (0.52)	0	13
Forth Islands SPA	0 (0)	14 (0.57)	0	29
Glas Eileanan SPA	13 (0.93)	13 (0.93)	14	14
Imperial Docks SPA	11 (0.79)	11 (0.79)	22	22
Inner Moray Firth SPA	13 (0.93)	13 (0.93)	14	14
Monach Islands SPA	1 (0.09)	1 (0.09)	0	0
Ythan Estuary, Sands of Forvie and Meikle Loch SPA	10 (0.71)	10 (0.71)	27	27

The Firth of Forth Island SPA common tern colony counts have been collected at five count sites historically: Bass Rock, Inchmickery, Fidra, Isle of May and Long Craig. Bass Rock has only been surveyed once in 2007 and no pairs were observed so this was excluded from further analysis. No birds have been observed at Inchmickery and Fidra since 1998 and 1994 respectively. For the purposes of identifying a population trend raw counts at Isle of May and Long Craig have been plotted since 2000.

4.15.2 Trends



4.16 Arctic Tern (*Sterna paradisaea*)

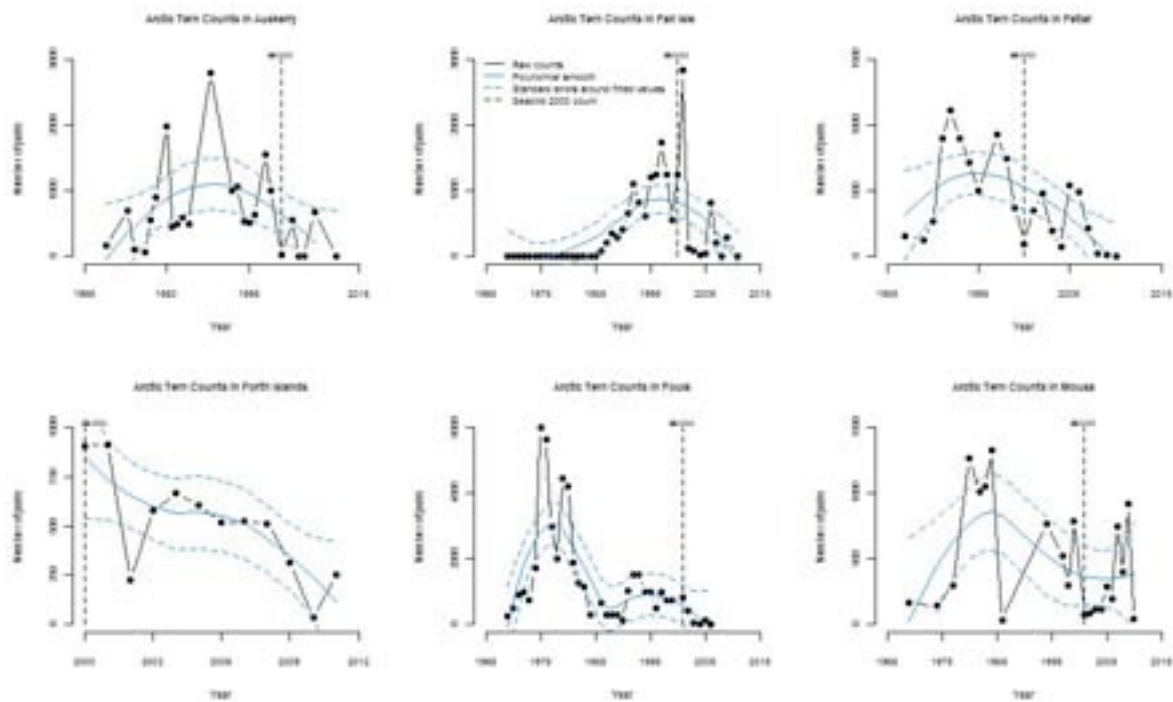
4.16.1 Data availability

Table 4.16. Data availability at Arctic tern SPAs.

SPA designated for Arctic Tern	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Auskerry SPA	8 (0.57)	8 (0.57)	17	17
Fair Isle SPA	13 (0.93)	13 (0.93)	29	29
Fetlar SPA	13 (0.93)	13 (0.93)	9	9
Forth Islands SPA	0 (0)	14 (0.41)	0	29
Foula SPA	8 (0.57)	8 (0.57)	28	28
Mousa SPA	12 (0.86)	12 (0.86)	10	10
Papa Stour SPA	1 (0.08)	1 (0.08)	0	0
Papa Westray SPA	4 (0.29)	13 (0.61)	0	24
Pentland Firth Islands SPA	3 (0.38)	4 (0.44)	0	17
Rousay SPA	0 (0)	0 (0)	1	1
Sumburgh Head SPA	No Data	No Data	No Data	No Data
West Westray SPA	No Data	No Data	No Data	No Data

Historically Arctic tern colony counts have been undertaken at four count sites: Bass Rock, Fidra, Inchmickery and Isle of May. However, no pairs have been recorded at any count sites since the Seabird 2000 census although not all count sites have been surveyed every year. Consequently the trend line plotted for Arctic terns uses data from the Isle of May count site only collected from 2000.

4.16.2 Trends



4.17 Roseate Tern (*Sterna dougallii*)

4.17.1 Data availability

Table 4.17. Data availability at Roseate tern SPAs.

SPA designated for Roseate Tern	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Forth Islands SPA	No Data	No Data	No Data	No Data

Due to insufficient data coverage no trends have been plotted for Roseate tern.

4.18 Sandwich tern (*Sterna sandvicensis*)

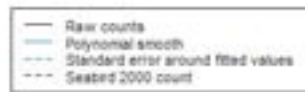
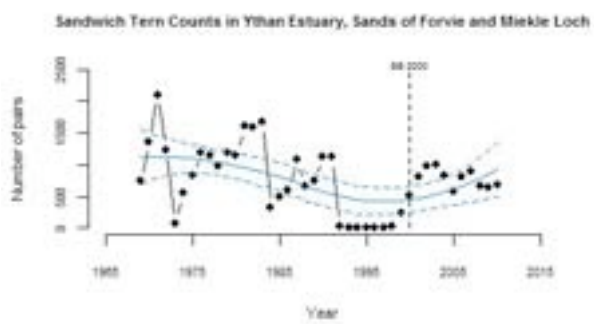
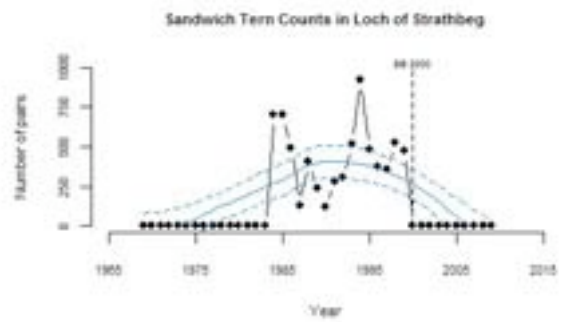
4.18.1 Data availability

Table 4.18 Data availability at Sandwich tern SPAs.

SPA designated for Sandwich Tern	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Forth Islands SPA	9 (0.64)	12 (0.75)	29	29
Loch of Strathbeg SPA	12 (0.86)	12 (0.86)	29	29
Ythan Estuary, Sands of Forvie and Mickle Loch SPA	13 (0.93)	13 (0.93)	30	30

The Firth of Forth Island Sandwich tern population has been recorded at four count sites historically: Fidra, Inchmickery, Isle of May and Long Craig. In recent years few pairs have been observed at any of these sites and in 2007, 2008 and 2010 not all count sites were observed. Furthermore, since 2006 only one nesting pair has been observed at any count sites. To identify any trends in population only data collected between 1969 and 2005 has been plotted.

4.18.2 Trends



4.19 Guillemot (*Uria aalge*)

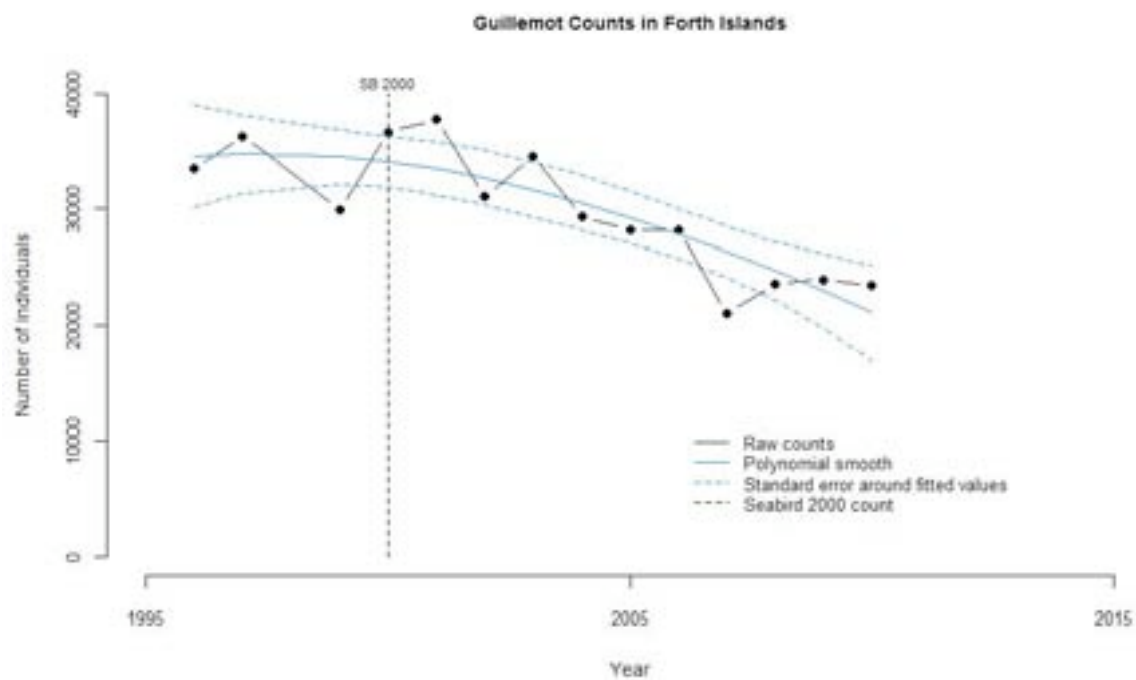
4.19.1 Data availability

Table 4.19. Data availability at Guillemot SPAs.

SPA designated for Guillemot	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Ailsa Craig SPA	3 (0.27)	3 (0.27)	0	0
Buchan Ness to Collieston Coast SPA	2 (0.18)	2 (0.18)	2	2
Calf of Eday SPA	2 (0.2)	2 (0.2)	0	0
Canna and Sanday SPA	1 (0.08)	1 (0.08)	0	0
Cape Wrath SPA	1 (0.08)	1 (0.08)	0	0
Copinsay SPA	3(0.23)	3 (0.23)	1	1
East Caithness Cliffs SPA	1 (0.08)	1 (0.08)	0	0
Fair Isle SPA	3 (0.23)	3 (0.23)	1	1
Forth Islands SPA	12 (0.86)	14 (0.96)	2	11
Flannan Islands SPA	1 (0.07)	1 (0.07)	1	1
Foula SPA	1 (0.08)	1 (0.08)	0	0
Fowlsheugh SPA	3 (0.23)	3 (0.23)	2	2
Handa SPA	4 (0.29)	4 (0.29)	2	2
Hermaness, Saxa Vord and Valla Field SPA	0 (0)	4 (0.10)	0	5
Hoy SPA	2 (0.15)	2 (0.15)	0	0
Marwick Head SPA	3 (0.23)	3 (0.23)	2	2
Mingulay and Berneray SPA	3 (0.21)	5 (0.29)	1	2
North Caithness Cliffs SPA	0 (0)	3 (0.08)	0	2
North Colonsay and Western Cliffs SPA	1 (0.07)	4 (0.09)	0	2
North Rona and Sula Sgeir SPA	1 (0.07)	1 (0.11)	1	2
Noss SPA	4 (0.36)	4 (0.36)	3	3
Rousay SPA	1 (0.08)	3 (0.15)	0	0
Rum SPA	1 (0.08)	1 (0.08)	0	0
Shiant Isles SPA	2 (0.15)	2 (0.15)	0	0
St Abb's Head to Fast Castle SPA	0 (0)	4 (0.12)	0	6
St Kilda SPA	1 (0.08)	1 (0.08)	0	1

Sule Skerry and Sule Stack SPA	1 (0.07)	2 (0.11)	1	2
Sumburgh Head SPA	0 (0)	4 (0.18)	0	6
Troup, Pennan and Lions Heads SPA	2 (0.18)	2 (0.18)	2	2
West Westray SPA	2 (0.15)	3 (0.17)	0	3

4.19.2 Trends



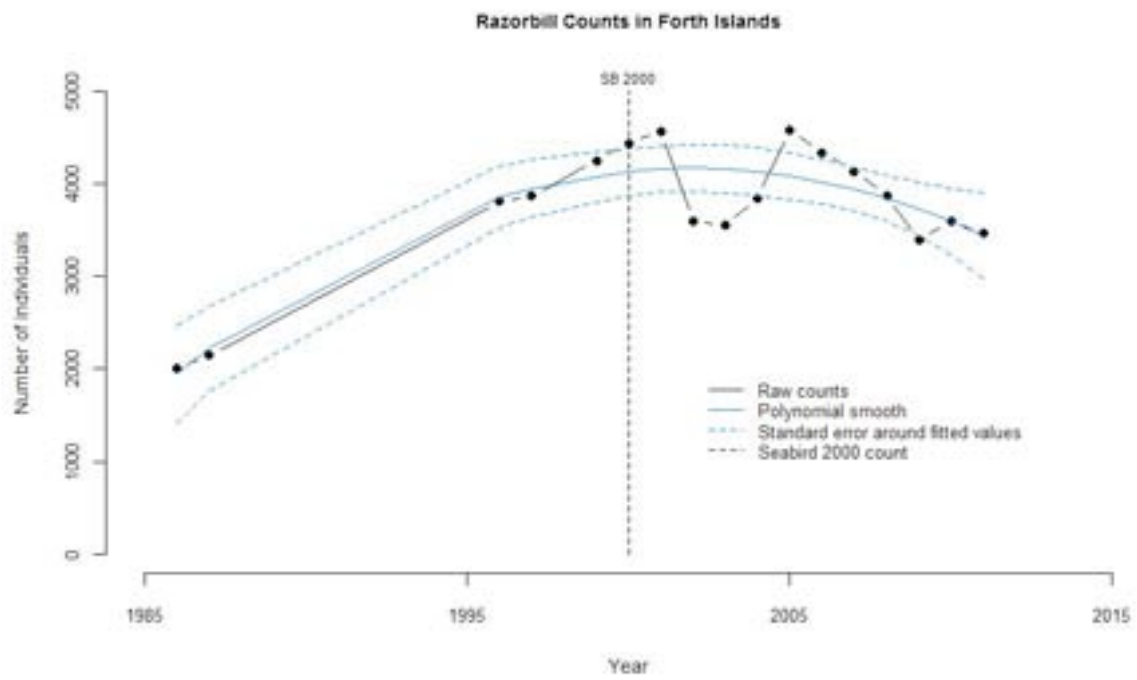
4.20 Razorbill (*Alca torda*)

4.20.1 Data availability

Table 4.20. Data availability at Razorbill SPAs.

SPA designated for Razorbill	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Cape Wrath SPA	1 (0.08)	1 (0.08)	0	0
East Caithness Cliffs	1 (0.08)	1 (0.08)	0	0
Fair Isle SPA	4 (0.29)	4 (0.29)	3	3
Forth Islands SPA	13 (0.93)	14 (0.96)	4	13
Flannan Islands SPA	1 (0.07)	1 (0.07)	1	1
Foula SPA	1 (0.08)	1 (0.08)	1	1
Fowlsheugh SPA	3 (0.23)	3 (0.23)	2	2
Handa SPA	3 (0.27)	3 (0.27)	2	2
Mingulay and Berneray SPA	3 (0.21)	5 (0.29)	1	2
North Caithness Cliffs SPA	0 (0)	3 (0.08)	0	0
North Rona and Sula Sgeir SPA	1 (0.07)	2 (0.11)	1	2
Shiant Islands SPA	2 (0.15)	2 (0.15)	0	0
St Abb's Head to Fast Castle SPA	0 (0)	4 (0.12)	0	6
St Kilda SPA	1 (0.08)	1 (0.08)	0	3
Troup, Pennan and Lions Heads SPA	2 (0.18)	2 (0.18)	2	2
West Westray SPA	2 (0.15)	3 (0.17)	0	0

4.20.2 Trends



4.21 Atlantic puffin (*Fratercula arctica*)

4.21.1 Data availability

Table 4.12. Data availability at Atlantic Puffin SPAs.

SPA designated for Atlantic Puffin	Number of years data since SZK for all count sites. Parenthesis () indicates proportion of total possible counts.	Number of years data since SZK including years with only some count sites recorded. Parenthesis () indicates proportion of total possible counts.	Number of years data before SZK when all count sites were recorded.	Number of years data before SZK including years with only some count sites recorded.
Canna and Sanday SPA	1 (0.08)	1 (0.08)	0	0
Cape Wrath SPA	No data	No data	No data	No data
East Caithness Cliffs SPA	1 (0.08)	1 (0.08)	1	1
Fair Isle SPA	4 (0.33)	4 (0.33)	3	3
Forth Islands SPA	0 (0)	6 (0.17)	0	5
Flannan Islands SPA	0 (0)	2 (0.04)	0	1
Foula SPA	1 (0.08)	1 (0.08)	0	0
Hermaness, Saxa Vord and Valla Field SPA	2 (0.15)	2 (0.15)	3	3
Hoy SPA	No data	No data	No data	No data
Mingulay and Berneray SPA	2 (0.14)	5 (0.25)	0	0
North Caithness Cliffs SPA	0 (0)	2 (0.08)	0	0
North Rona and Sula Sgeir SPA	0 (0)	1 (0.07)	0	1
Noss SPA	3 (0.23)	3 (0.23)	1	1
Shiant Islands SPA	1 (0.08)	1 (0.08)	0	0
St Kilda SPA	0 (0)	2 (0.08)	0	2
Sule Skerry and Sule Stack SPA	1 (0.07)	1 (0.07)	2	2

Due to insufficient data coverage no trends have been plotted for Atlantic puffin.



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The Scottish Government
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EH1 3DG

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