A review of inshore seabird distribution and abundance in SEA areas 6, 7 & 8

Guillemot at sea

Report to the DTI

dti

CORK ♦ ECOLOGY

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Non-technical Summary

Introduction

A review of the distribution and abundance of inshore species of seabirds in the SEA 6, 7 and 8 areas was carried out by Cork Ecology at the request of the UK Department of Trade and Industry (DTI), as part of the Strategic Environmental Assessment process in the U.K.

Thirty two seabird species that are regularly found in inshore waters were considered in this review. For the purposes of this review, the term seabird includes divers, grebes, shearwaters, cormorants, seaduck, gulls, terns and auks.

Objectives

The objectives of this study were:

- To assess the abundance and distribution of inshore seabird species in SEA areas 6, 7 & 8, using all relevant data, where available
- To identify gaps in the existing knowledge of these species
- To make recommendations for future work to address any gaps identified

Methodology

A combination of raw and published data, from land-based, aerial and ship-board counts were included to allow as complete a review as possible to be carried out. In general data from 1991 onward were considered with the aim of presenting the most recent estimates for the important sites. Earlier European Seabirds at Sea (ESAS) data (from 1979 onwards) for ship and aerial surveys were included, with average densities calculated using data from all years.

Sites that regularly hold more than 1 % of the national population of a species are deemed to be nationally important, and sites with more than 1 % of the biogeographic population are internationally important.

Area summary

SEA 6 - Britain

The SEA 6 area holds internationally important breeding colonies of Manx shearwater, gannet, shag, lesser black-backed gull and herring gull. A further thirteen species breed in nationally important numbers.

The most important colonies are Skomer, Skokholm & Middleholm Islands, South Walney, Ailsa Craig, Isle of Man, Ribble Estuary, Grassholm, Great & Little Orme and Bardsey Island.

Outside of the breeding season, the SEA 6 area holds internationally important concentrations of red-throated diver, Manx shearwater, eider, common scoter, lesser black-backed gull and herring gull. A further seventeen species occur in nationally important numbers.

Key areas are Liverpool Bay for red-throated divers and common scoter, and Morecambe Bay for lesser black-backed gull, eider, herring gull and black-headed gull, plus six other species of national importance. The Firth of Clyde is internationally important for eider and black-headed gull plus eight other species of national importance. The Solway Firth is nationally important for six species including scaup and common scoter, while Hilbre and the Dee Estuary hold eight nationally important species.

SEA 6 - Northern Ireland

Within Northern Ireland, Manx shearwater and Sandwich terns breed in internationally important numbers and thirteen other species breed in nationally important numbers. The main sites are Strangford Lough, Copeland Islands, Larne Lough, Carlingford Lough.

Away from breeding colonies, eider occurs in internationally important numbers, with nationally important numbers of twenty one other species. Important sites are Belfast Lough, Outer Ards, Strangford Lough, Copeland Islands, Dundrum Bay, Carlingford Lough, Larne Lough and St. John's Point.

SEA 7 - Britain

The SEA 7 area holds internationally important breeding colonies of fulmar, Manx shearwater, gannet, shag, great skua, guillemot, razorbill and black guillemot. A further twelve species breed in nationally important numbers.

Most important colonies are St. Kilda, Rum, Handa, Shiant Islands, Treshnish Isles, Priest Island, Berneray, North Uist, North Rona, Mull, Mingulay, Sula Sgeir, Lewis, Harris, Colonsay and the Flannan Isles.

Away from colonies, internationally important concentrations of great northern diver, slavonian grebe, and Manx shearwaters occur within the SEA 7 area, and nationally important numbers of a further ten species have also been recorded.

Key areas for great northern divers are Loch Indaal, Islay, the Sound of Gigha, west Kintyre peninsula, Loch Caolisport and Howmore, South Uist, while the Sound of Taransay holds internationally important numbers of slavonian grebe. Large numbers of Manx shearwaters are regularly recorded passing Frenchman's Rocks, Islay on passage.

SEA 7 - Northern Ireland

Within Northern Ireland, lesser black-backed gull, guillemot and razorbill breed in internationally important numbers and eight other species breed in nationally important numbers.

The most important colonies are on Rathlin Island, Sheep Island and the Causeway Coast.

Outside of the breeding season, nationally important numbers of eider are recorded at Rathlin Island, with important numbers of kittiwake and Arctic tern recorded flying past Ramore Head.

SEA 8

During the breeding season, the SEA 8 area supports internationally important breeding colonies of shag and lesser black-backed gull, along with nine other nationally important breeding species. The most important colonies are Langstone Harbour, North Solent and Newtown, on the Isle of Wight.

Away from breeding colonies, the SEA 8 area holds internationally important concentrations of great northern diver, slavonian grebe, Manx shearwater and lesser black-backed gull, with a further nineteen species occurring in nationally important numbers.

Key areas are St Austell Bay (Cornwall) for great northern divers, Langstone Harbour (Hampshire) for slavonian grebes, the Fal complex (Cornwall) for black-necked grebes, Carmarthen Bay (Pembrokeshire) for common scoter, the Severn Estuary for lesser black-backed gulls and several seawatching sites in south-west England for high numbers of Manx shearwaters on passage.

Conclusions

Many species of seabirds are found in important numbers in inshore waters of the SEA 6, 7 and 8 areas. They tend to form flocks in key areas, making them highly vulnerable to surface pollution.

Regular monitoring of these populations is necessary to ensure important sites are adequately protected and long-term trends are determined. This is especially important in the context of contingency plans in the event of oil spills and also in light of future windfarm developments which may have an impact on these species.

There is an urgent need to obtain up-to date data using the most appropriated methodology in key areas which have been neglected e.g. the Western Isles. At an international level, there is a need for censuses to determine the biogeographic populations particularly of divers and grebes.

Recommendations

Based on this review, it is recommended that:

- Population estimates at the national (Britain & all-Ireland) and biogeographic level should be revised for many of the species reviewed
- Vulnerability maps for the study area should be updated
- Existing aerial survey data should be incorporated into the ESAS database to enable an up-to-date assessment of survey coverage and species distribution
- Further studies should be conducted to identify important feeding areas for seabirds
- Further surveys should be conducted to confirm moulting common scoter concentrations in the SEA 6 & 8 areas.
- WeBS should be extended to include all seabirds where they occur at currently monitored sites. Monthly counts of divers, grebes and seaduck should be conducted during suitable weather conditions rather than on preset dates
- Dedicated monthly WeBS style counts should be conducted at known sites in the Western Isles between September and May at least. This would allow numbers of several key species such as great northern diver, slavonian grebe and long-tailed duck to be counted and monitored accurately. A similar approach to surveys carried out by SOTEAG on Shetland should be followed (e.g. Heubeck 2003).
- Gaps in survey coverage in the Western Isles, the Irish Sea and elsewhere should be addressed using boat-based and aerial surveys as appropriate.
- Existing monitoring programmes should be continued.

Table of Contents

1. Introduction 8

1.1 Objectives 8
1.2 Study area 8
1.3 Inshore species 8
1.4 Format of the report 9

2. Methods 11

2.1 Data sources 11
2.2 Data analysis 13

3. Species Accounts 19

3.1 Red-throated diver 19
3.2 Black-throated diver 24
3.3 Great northern diver 28
3.4 Little grebe 31
3.5 Great crested grebe 32
3.6 Red-necked grebe 35
3.7 Slavonian grebe 37
3.8 Black-necked grebe 40
3.9 Manx shearwater 42
3.10 Cormorant 46
3.11 Shag 51
3.12 Scaup 54
3.13 Eider 57
3.14 Long-tailed duck 60
3.15 Common scoter 63
3.16 Goldeneye 66
3.17 Red breasted merganser 69
3.18 Little gull 73
3.19 Black-headed gull 75
3.20 Common gull 79
3.21 Lesser black-backed gull 82
3.22 Herring gull 86
3.23 Great black-backed gull 90
3.24 Kittiwake 95
3.25 Sandwich tern 98
3.26 Roseate tern 101
3.27 Common tern 104
3.28 Arctic tern 107
3.29 Little tern 111
3.30 Guillemot 114
3.31 Razorbill 118
3.32 Black guillemot 122

4. Important sites within the SEA 6 Area 126

4.1 Summary of breeding seabirds 126

4.2 Summary of important areas for non-breeding seabirds 129

5. Important sites within the SEA 7 Area 130

5.1 Summary of breeding seabirds 130
5.2 Summary of important areas for non-breeding seabirds 133

6. Important sites within the SEA 8 Area 133

6.1 Summary of breeding seabirds 133
6.2 Summary of important areas for non-breeding seabirds 135

7. Regional summary 136

8. Discussion 140

8.1 Population estimates 140
8.2 Vulnerable concentrations of inshore seabirds 140
8.3 Monitoring 141

9. Recommendations 143

10. Conclusions 144

11. Acknowledgements 144

12. References 145

Appendix A 152
Appendix B 155
Appendix C 192

1. Introduction

A review of the distribution and abundance of inshore seabird species, was carried out by Cork Ecology at the request of the UK Department of Trade and Industry (DTI) as part of the Strategic Environmental Assessment process in the U.K.

Strategic Environmental Assessment (SEA) is a process of appraisal through which environmental protection and sustainable development may be considered, and factored into national and local decisions regarding government (and other) policies, plans and programmes.

The SEA process is now a legal requirement as the SEA directive (2001/42/EC) is in effect since July 2004 (DTI 2004). The DTI is the principal regulator of the offshore oil and gas industry in the UK SEA is used as a means of balancing economic development of the UK's offshore oil and gas resources and effective environmental protection. Wind power and other renewable energy developments are also covered by the SEA process.

This review attempts to provide a current picture of the numbers and distribution of inshore seabird species in the SEA 6, 7 and 8 areas using a variety of sources of information. Some species tend to be under-recorded by surveys from ships, while other species may not be detected during land-based counts as they may be too far offshore. By using a variety of data sources, a comprehensive overview of species and their distribution within the SEA 6, 7 & 8 areas can be produced, which also highlights gaps in survey coverage.

1.1 Objectives

The objectives of this study were:

- To assess the abundance and distribution of inshore seabird species in SEA areas 6, 7 & 8, using all relevant data, where available
- To identify gaps in the existing knowledge of these species
- To make recommendations for future work to address any gaps identified

1.2 Study area

The SEA 6, 7 & 8 areas include the UK territorial waters south and west of Britain (DTI 2004). Sea 6 covers the eastern Irish Sea and east coast of Northern Ireland. SEA 7 includes the west coast of Scotland, the Western Isles and the north coast of Northern Ireland. The Bristol Channel, south-west approaches and English Channel make up the SEA 8 area. As the emphasis is on inshore species, the offshore waters of SEA7 & 8 are not considered in this report. Some data for the western Irish Sea are included for context and to examine transboundary effects. The study area is defined in Figure 1.

1.3 Inshore species

This review considers 32 species of seabird that are regularly found in the inshore waters of the study area (Table 1.1). Some species are resident while others are seasonal visitors to Britain, for example terns which are summer visitors breeding in the UK. For the purpose of this report the term seabird includes divers, grebes, shearwaters, cormorants, seaducks, gulls, terns and auks.

Defining 'inshore' species is not straightforward as all seabirds breed on land and so even pelagic species are found in inshore waters during the breeding season. We have chosen species that are predominantly coastal in their distribution. This meant excluding pelagic species such as fulmar, gannet and puffin from the species accounts. However in the individual SEA sections, where breeding seabirds are discussed, all species are included.

Table 1.1 Inshore species reviewed in SEA 6, 7 & 8

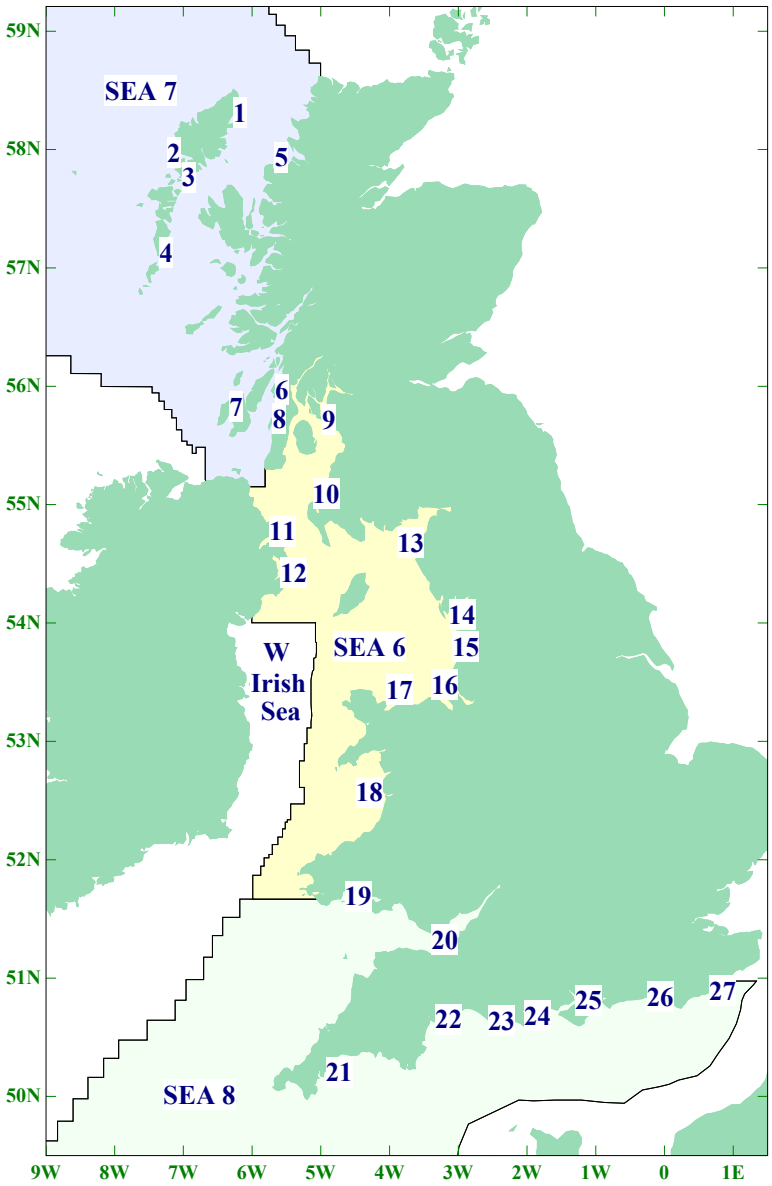
Species	Latin Name	Species	Latin Name
Red-throated diver	*Gavia stellata*	Red-breasted merganser	*Mergus serrator*
Black-throated diver	*Gavia arctica*	Little gull	*Larus minutus*
Great northern diver	*Gavia immer*	Black-headed gull	*Larus ridibundus*
Little grebe	*Tachybaptus ruficolis*	Common gull	*Larus canus*
Great crested grebe	*Podiceps cristatus*	Lesser black-backed gull	*Larus fuscus*
Red-necked grebe	*Podiceps grisegena*	Herring gull	*Larus argentatus*
Slavonian grebe	*Podiceps auritus*	Great black-backed gull	*Larus marinus*
Black-necked grebe	*Podiceps nigricolis*	Kittiwake	*Rissa tridactyla*
Manx shearwater	*Puffinus puffinus*	Sandwich tern	*Sterna sandvicensis*
Cormorant	*Phalacrocorax carbo*	Roseate tern	*Sterna dougalli*
Shag	*Phalacrocorax aristotelis*	Common tern	*Sterna hirundo*
Scaup	*Aythya marila*	Arctic tern	*Sterna paradisea*
Eider	*Somateria mollissima*	Little tern	*Sterna albifrons*
Long-tailed duck	*Clangula hyemalis*	Guillemot	*Uria aalge*
Common scoter	*Melanitta nigra*	Razorbill	*Alca torda*
Goldeneye	*Bucephala clangula*	Black guillemot	*Cepphus grille*

1.4 Format of the report

A mixture of published and raw data have been used to compile this report, and section 2 outlines all the data sources and the methods used to analyse raw data.

In section 3, the data are presented in the form of species accounts, which detail species distribution and abundance in each SEA area. In Sections 4 - 6, each SEA area is looked at in terms of it's overall seabird numbers and important areas. Section 7 is an overall summary of the three SEA regions, while section 8 is the discussion, outlining the gaps in the current knowledge and including recommendations for future studies. Conclusions are presented in section 9.

Figure 1.1 Map of study area showing SEA 6, 7 & 8 Areas



Site names

SEA 7 Area		SEA 6 Area		SEA 8 Area	
1	Braighe, Lewis	**9**	Firth of Clyde	**19**	Carmarthern Bay
2	Traigh Luskentyre & Sound of Taransay	**10**	Loch Ryan	**20**	Severn Estuary
3	Sound of Harris	**11**	Belfast Lough	**21**	Fal Complex
4	Eriskay & Howmore, S Uist	**12**	Strangford Lough	**22**	Exe Estuary & Dawlish Warren
5	Loch Ewe	**13**	Solway Firth	**23**	Fleet/Way & Portland
6	Loch Caolisport	**14**	Morecambe Bay	**24**	Poole Harbour
7	Loch Indaal, Islay	**15**	Alt Estuary	**25**	Southampton Water, Langstone & Chichester Harbours
8	Sound of Gigha	**16**	Dee Estuary	**26**	Brighton Marina
		17	Traeth Lafan	**27**	Rye Harbour & Rye Bay
		18	Cardigan Bay		

2. Methods

2.1 Data sources

This review attempts to collate all existing sources of information, to provide a current picture of the numbers and distribution of inshore seabird species in the SEA 6, 7 and 8 areas.

A combination of raw and published data, from land-based, aerial and ship-board surveys have been included to make the review as comprehensive as possible. In general, land-based data from 1997/98 onward were considered with the aim of presenting the most recent estimates for the important sites. Earlier data (from 1979 onwards) for ship and aerial surveys were included, with average densities calculated using data from all years.

Data were included from the following sources:

ESAS surveys

The Seabirds at Sea Team (SAST) of the Joint Nature Conservation Committee has used both ship and aerial survey techniques since 1979 to study seabird and cetacean distribution and abundance in the waters around Britain (e.g. Tasker *et al* 1987). Data from these surveys, and from other European countries, have been incorporated into the European Seabirds at Sea (ESAS) database (e.g. Stone *et al* 1995). Data for the SEA 6, 7 and 8 areas collected between 1979 and 2003 were provided by ESAS.

JNCC & CCW aerial surveys

An annual programme of aerial surveys has been conducted since winter 2000/01 by the Joint Nature Conservation Committee (JNCC) collecting data on wintering divers, grebes and seaduck in inshore waters (Dean *et al* 2003, Dean *et al* 2004). Although using line transect methods similar to the ESAS surveys, the current aerial surveys use distance sampling methods and geostatistical analysis so the data are not currently compatible with the ESAS database.

CCW has also conducted aerial surveys since 2001/02 in Wales, as part of the All Wales Common Scoter Survey using similar methods to JNCC (WWT Wetlands Advisory Service 2003; Cranswick, Hall & Smith 2004). Divers, gulls and auks distributions are reported as well as common scoter.

Relevant information from these surveys has been included in this review.

Seabird 2000

Seabird 2000 was a seabird census of breeding seabirds in Britain and Ireland conducted between 1998 and 2002 (Mitchell *et al* 2004). Data for the SEA 6,7 & 8 areas were provided by the JNCC Seabird Colony Team.

WeBS

The Wetland Bird Survey (WeBS) is a joint scheme of the British Trust for Ornithology (BTO), The Wildfowl & Wetlands Trust (WWT), Royal Society for the Protection of Birds (RSPB) and JNCC.

The WeBS scheme monitors non-breeding waterbirds in the UK, using monthly land-based counts undertaken by volunteers to annually identify population sizes, determine trends in numbers and to identify important sites for waterbirds.

WeBS counts are conducted monthly on pre-determined dates to avoid double-counting. While some sites are counted throughout the year, the winter months are prioritised. Recording of numbers of gulls and terns at sites is optional. Full details of the count method are outlined in Gilbert *et al* 1998.

Counts and figures were extracted from WeBS annual reports from 1991/92 to 2000/01 (Cranswick *et al* 1992, Cranswick *et al* 1995, Waters *et al* 1996, Cranswick *et al* 1997, Cranswick *et al* 1999, Pollit *et al* 2000, Musgrove *et al* 2001 & Pollit *et al* 2003).

National and County Environmental Records Centres

Where available, data were received from national and county environmental records centres (Table 2.1).

Table 2.1 Data received from environmental records centres

Region	Years covered	Source
Northern Ireland	1990 – 2004	Centre for Environmental Data and Recording (CEDaR)
Somerset	1998 – 2003	Somerset Environmental Records Centre
Sussex	1998 – 2003	Sussex Ornithological Society
Dorset	1998 – 2003	Dorset Environmental Records Centre
Lancashire	1998 – 2003	Lancashire County Council

Bird Reports

Several bird reports were reviewed for relevant counts and records for the SEA 6, 7 and 8 areas and for the Western Irish Sea:

SEA 6:

- Eastern Glamorgan Bird Report 2001-2003 (Thomas & Wilson 2002, 2003 & 2004)
- Birds & Wildlife in Cumbria 2001-2003 (Robinson *et al* 2002, 2003 & 2004)
- Lancashire Bird Report 1999-2003 (Dunstan *et al* 2000, White *et al* 2001, 2002, 2003 & 2004)
- Cheshire & Wirral Bird Report 2000-2002 (Schofield *et al* 2001 & 2002, Feltham *et al* 2003)
- Cambrian Bird Report 2000-2003 (Pritchard *et al* 2001, 2002, 2003 & 2004)
- Northern Ireland Bird Report 1999-2001 (Gordon *et al* 2001, 2002, Stewart 2003)

SEA 7:

- Scottish Bird Report 1998–2001 (SOC 2003, Murray 2004)
- Highland Bird Report 2002 (McNee 2003)
- Ayrshire Bird Report 2000-2002 (Waite 2001,2002 & 2003)

SEA 8:

- Sussex Bird Report 2000-2002 (James *et al* 2001 & 2003)
- Avon Bird Report 2000-2002 (Davis *et al* 2001, 2002 & 2003)
- Hampshire Bird Report 1999-2003 (Casalis de Pury 2001, Eyre & Wynn 2002, Wynn & Wall 2003, Cox *et al* 2003 & 2004)
- Devon Bird Report 1999-2002 (Farrell *et al* 2001, 2002 & 2003)
- Birds in Cornwall 2000-2003 (Wilson 2001, 2002, 2003, 2004)

Western Irish Sea:

- Irish East Coast Bird Report 1999-2001 (Madden & Cooney 2001, Coombes & Murphy 2003, 2004)
- Irish Bird Report 1998-2001 (McAdams *et al* 1999, 2000 & 2002, Milne 2003)

Literature

A review of literature relevant to the study area was also carried out.

Several JNCC reports are relevant to the study area (Tasker *et al* 1990; Webb *et al* 1990; Stone *et al* 1995; Pollock *et al* 1997). Mackey *et al* (2004) reports on seabirds in the SEA 6,7, & 8 areas, concentrating on offshore seabird species. Reference was also made to a series of reports covering specific areas of the south coast of Britain for SEA 8 (Aspinall & Tasker 1990, Aspinall & Tasker 1992, Lock & Robins 1994, White & Webb 1995 and Slade 1996).

The status of wintering seaduck in Britain was reviewed by Kirby *et al* 1993, while Evans (2000) reviewed numbers of wintering slavonian grebes in Britain. Gibbons *et al* (1997) reviewed red-throated divers in the UK. Wintering gulls in the UK are summarised in Burton *et al* (2003).

Information on general ecology and population trends were obtained from Prater (1981), Lack (1986), Thom (1986), Gibbons *et al* (1993), Snow & Perrins (1998) and Wernham *et al* (2002).

UK Conservation measures

Marine SPAs (mSPAs) are currently being considered for several species included in this review. Three types of mSPA around the UK are being identified. They are extensions to SPA breeding colonies, inshore areas used by birds in the non-breeding season (divers, grebes & seaduck), and marine feeding areas (Johnston *et al* 2002).

Information on current UK SPA designations is included in the individual species accounts and is based on sites selected for the UK's terrestrial SPA network, which includes sites that extend partly into marine or intertidal areas, for example, estuaries but not the wholly offshore environment (Stroud *et al* 2001).

2.2 Data analysis

2.2.1 ESAS data

Method

The ESAS database contains data from ship and aerial surveys using line transect methodology. Birds are counted ahead of the ship and out to the side usually in a 90º arc with a 300m transect width (see Webb & Durinck 1992 for full details of the method).

Study area

Data were included from 49.5°N to 59.21°N and between 1.5°E and 9°W for the SEA 6, 7 & 8 areas. As the object if this report was to look at inshore seabird distribution, deep offshore waters have not been included in the analysis. Data from the western Irish Sea were also included for context and to look at transboundary effects.

Effort

ESAS data analysed in this report were collected over 25 years between June 1979 and August 2003 covering an area 52,228.97 km^2. Most of the surveys were ship-based (86 %). Figures 2.1 & 2.2 show the seasonal survey effort. 59.5 % of surveys took place in the summer months between April and September (Table 2.2). Overall, less than 4% of the data were collected in the most recent 5 years i.e. 1999-2003. Note the aerial survey data collected by the JNCC & CCW since 2000 are not currently in the ESAS database.

Table 2.2 Seasonal survey effort

Years	Months	Total area surveyed
All available years 1979-2003	October - March	21,177.88 km^2
	April - September	31,051.09 km^2
Most recent 5 years 1999-2003	October - March	546.98 km^2
	April - September	1,462.02 km^2

ESAS data are generally examined at the scale of ¼ International Council for the Exploration of the Sea (ICES) rectangles which measure 15' latitude by 30' longitude and cover an area of 800 km^2. However a much smaller scale was adopted for this study with an area of 4' latitude by 7.5' longitude covering 53 km^2 (Figures 2 & 3). This scale was also used in a similar inshore review of the SEA 5 area (Barton & Pollock 2004).

Figure 2.1 Seasonal survey effort – April to September (ESAS data)

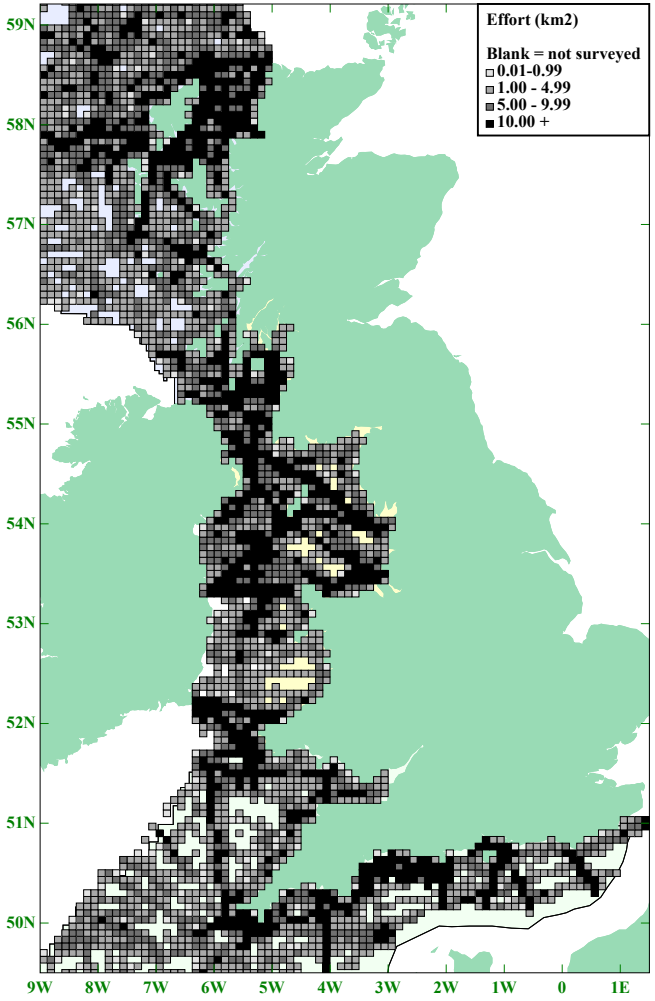
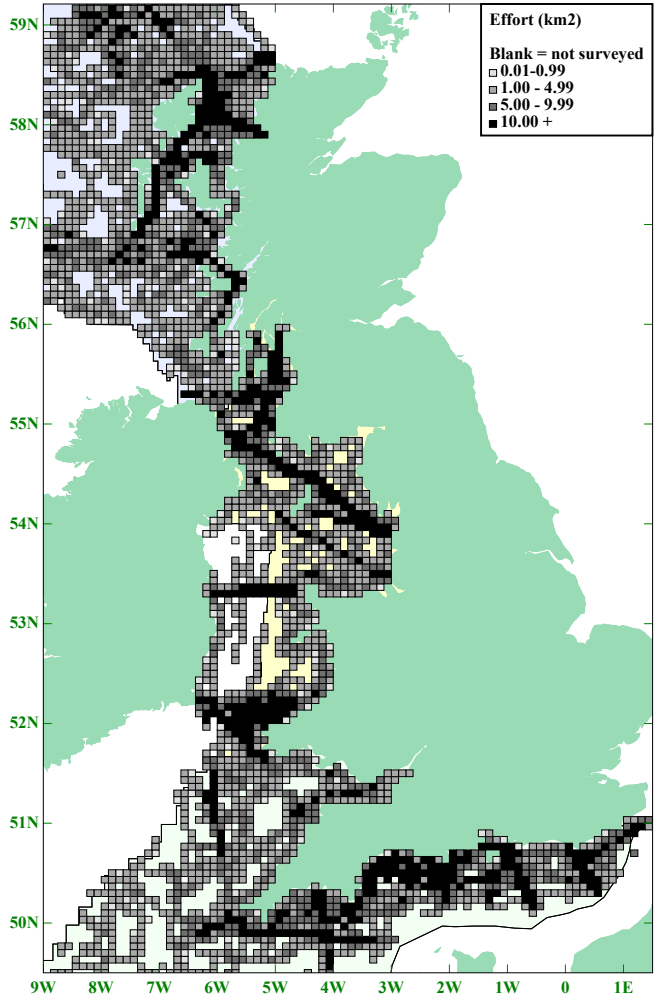


Figure 2.2 Seasonal survey effort – October to March (ESAS data)



Data Analysis

A species summary table was compiled for the study area and depending on the raw numbers of each species recorded, a mapping strategy was chosen (Table 2.3). Birds which were not identified to species, were apportioned out in the ratio of positively identified birds. e.g. black-backed gull species were divided between lesser and great black-backed gulls Generally if the proportion of unidentified birds was less than 1% of the total number of birds, they were not divided out.

Table 2.3 Raw numbers of inshore seabirds from ESAS database, 1979-2003

Species	Total	SEA 6	SEA 7	SEA 8	WIS [1]
Red-throated diver	169	64	51	45	9
Black-throated diver	35	4	12	8	11
Great northern diver	117	10	95	10	2
Diver sp	297	138	67	91	1
Great crested grebe	15	7	-	6	2
Red-necked grebe	1	1	-	-	-
Grebe sp.	1	-	-	1	-
Manx shearwater	173,099	66,936	35,780	29,507	40,876
Cormorant	1,552	804	201	294	253
Shag	8,881	1,832	6,298	421	330
Cormorant/shag	307	89	70	134	14
Eider	2,824	1,434	1,382	8	-
Long-tailed duck	27	3	22	1	1
Common scoter	6,079	4,088	26	1,397	568
Velvet scoter	5	3	-	2	-
Goldeneye	40	39	-	1	-
Red-breasted merganser	139	77	6	56	-
Mediterranean gull	12	1	-	10	1
Little gull	529	152	22	283	72
Black-headed gull	6,345	1,911	71	3,751	612
Common gull	8,722	4,421	714	3,382	205
Small gull sp.	350	7	116	136	91
Lesser black-backed gull	32,216	9,043	6,907	15,562	704
Herring/Lesser black-backed gull	900	503	42	265	90
Herring gull	65,695	29,211	16,873	18,643	968
Common/herring gull	156	123	1	32	-
Great-black-backed gull	22,576	3,580	12,450	5,913	633
Large gull sp.	27,504	8,431	9,710	8,515	848
Black-backed gull sp.	2,703	398	721	1,555	29
Kittiwake	99,649	25,316	48,753	17,326	8,254
Gull sp.	36,924	30,595	3,384	2,873	72
Sandwich tern	379	230	1	69	79
Roseate tern	20	3	-	-	17
Common tern	1,611	179	111	297	1,024
Arctic tern	1,043	180	686	34	143
Commic tern	2,745	567	1,108	183	887
Little tern	28	-	5	12	11
Tern sp.	915	305	326	52	232
Guillemot	138,154	34,761	69,731	9,359	24,303
Guillemot/razorbill	41,184	10,837	21,066	3,110	6,171
Razorbill	33,887	9,179	18,078	1,723	4,907
Black guillemot	1,251	236	1,009	-	6
Auk sp.	3,901	736	2,265	418	122

1 Western Irish Sea

Mapping strategy

Three types of maps (density, abundance and sightings) were compiled to depict species abundance and distribution, using the mapping package DMAP for Windows (Morton 2001).

Density Maps (birds/km^2)

Average densities for each 4'N x 7.5'W rectangle were calculated by dividing the total number of birds within a 300m strip by the total area surveyed (See Webb & Durinck 1992 for further details).

This type of map was utilised for the most common species, e.g. Manx shearwater and kittiwake. Generally density maps were created for species with more than 1000 birds within the 300m band transect, using the snapshot method for flying birds (see Webb & Durinck 1992 for full details). Monthly density maps were created, and depending on the distribution patterns, seasonal maps were compiled.

Abundance maps (birds/km travelled)

Abundance maps were used for less abundant species such as red-throated diver and little gull. All data including sightings of birds outside the 300m band transect were utilised. Species with more than 100 birds but less than 1,000 'in transect' were mapped as abundance. To calculate abundance for each 4'N x 7.5'W rectangle, the total number of birds was divided by the distance travelled (See Webb & Durinck 1992 for further details).

Sightings maps

For rare species (total less than 100), e.g. black-throated diver, incidental sightings were mapped.

2.2.2 Colony data

The Seabird 2000 project included data for all breeding species except for red and black-throated divers and eider. Only coastal colonies are considered in this review. Full details of the census methods and count units are in Mitchell *et al* (2004).

Two types of table were prepared for each species. The first summarises the total breeding numbers in each SEA area. The second lists nationally important colonies for each SEA area. For each SEA area, summary tables of the most important species and the most important colonies were compiled.

In all the tables, the totals are also expressed as percentages of the national population and biogeographic population. Part of SEA 6 and 7 are in Northern Ireland. It is important to note that Northern Ireland totals are expressed as percentages of the all-Ireland population totals as this is what is relevant in the context of national importance with regard to the EU Birds Directive (Mitchell *et al* 2004).

Nationally important colonies are defined as those with 1% or more of the total British (or all-Ireland) breeding population. Internationally important colonies are those with 1% or more or the total biogeographic breeding population. Population estimates follow Mitchell *et al* (2004).

2.2.3 Land-based data

Using all the available data from WeBS annual reports, bird reports and other sources (see Section 2.1), peak counts were derived for the principal sites for each species for each year. Where data were available, five year means were calculated for these sites.

The WeBS year which runs from June to May for wildfowl species and from April to March for gulls and terns and has been adopted in this report. The April to March split was also used for other seabird species such as auks and Manx shearwater.

Sites that regularly hold more than 1 % of the national population of a species are deemed to be nationally important, and sites with more than 1 % of the biogeographic population are internationally important. National thresholds were taken from Kershaw & Cranswick (2003) and Crowe (2005 in press) and international thresholds taken from Delaney & Scott (2002).

3. Species Accounts

The following species accounts give a brief outline of winter and breeding populations and distribution within the SEA 6, 7 and 8 areas for the 32 species considered in this report.

3.1 Red-throated diver

Introduction

Red-throated divers prefer relatively sheltered shallow waters and sandy bays along North Sea coasts in winter and have a patchy distribution around the west coast of Britain, with the main concentrations located along the west coast of Scotland, and the north-west coast of Wales. Numbers may fluctuate widely in response to weather and other factors affecting the food supply of sandeels, small crustaceans, sprat and herring (Lack 1986). Although they nest in freshwater lochs, breeding red-throated divers make use of sheltered inshore waters close to their nest sites (Tasker *et al* 1987, Pennington *et al* 2004).

Danielsen *et al* (1990) estimated that there may be approximately 1,200 red-throated divers wintering along the coast of western Britain, with a combined Britain and Ireland wintering population of 4,850 birds. This figure is in need of revision however, as recent aerial surveys have recorded large numbers of red-throated divers, with a provisional estimate of up to 7,500 divers present in the Greater Wash area (WWT 2004), and up to 1,600 divers in Liverpool Bay in late winter (Cranswick *et al* 2004). The outer Thames Estuary is also known to support large numbers of wintering red-throated divers (RSPB 2004). In the non-breeding season, the biogeographic population for north-west Europe has been estimated to be between 100,000 and 1,000,000 birds (Delaney & Scott 2002).

3.1.1 Breeding birds

Following the first national survey in 1994, the UK breeding population of red-throated divers was estimated at 935 breeding pairs, spread between the Northern Isles, the Inner and Outer Hebrides and mainland Scotland (Gibbons *et al* 1997). Estimated numbers of pairs for these areas are shown in Table 3.1.

Table 3.1 Estimated numbers of breeding red-throated divers in SEA 6, 7 and 8 areas, based on Gibbons *et al* (1997).

SEA Area	Site locations	Estimated number of breeding pairs
7	Outer Hebrides	125
6 and 7	Inner Hebrides	80
6 and 7	Mainland Scotland	170
8	-	0

The majority of breeding pairs were located within SEA 7, with low numbers from Arran and south-west mainland Scotland in SEA 6. Based on population estimates by Gibbons *et al* (1997) the breeding population of red-throated divers within the SEA 6 and 7 areas combined is approximately 40 % of the overall British population.

No breeding pairs are found within SEA 8.

3.1.2 Distribution within SEA 6 Area

Within the SEA 6 area, the two main areas for red-throated divers were Cardigan Bay and Liverpool Bay. Recent aerial surveys have shown that both these areas hold large numbers of divers in winter (Dean *et al* 2003, Cranswick *et al* 2004). Due to the nature of the aerial surveys, it was not possible to identify all divers to species level but it is thought likely that the vast majority of unidentified divers were red-throated divers (Cranswick *et al* 2004). Count data have been extrapolated to provide total estimates of divers from aerial surveys of Liverpool Bay (Table 3.2).

Table 3.2 Total estimates of divers from aerial surveys in Liverpool Bay [3]

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Liverpool Bay					1,599	1,210	**1,405**	-

3 from Cranswick *et al* 2004

Land-based counts of red-throated divers from coastal sites bordering the bay were also available (Table 3.3). Numbers wintering at these sites exceeded the nationally important threshold for red-throated divers in Britain (>49 birds – Kershaw & Cranswick 2003). Liverpool Bay qualifies for designation as a marine SPA based on numbers of wintering divers (Cranswick *et al* 2004), and the designation process is currently underway.

Table 3.3 Recent peak counts at sites around Liverpool Bay for red-throated divers in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
South Walney	-	-	-	-	50	125	**88**	-
Traeth Lafan	-	-	90	72	74	-	**79**	-
Morecambe Bay	-	-	52	-	81	103	**79**	35
Blackpool	-	75	-	77	-	70	**74**	-
Red Wharf Bay, Anglesey	-	-	-	-	73	-	**73**	-
Conwy Bay	-	-	-	71	63	-	**67**	-
Formby Point	-	23	-	52	101	72	**62**	-
Alt Estuary	-	57	-	-	-	-	**57**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Recent counts at important sites for red-throated divers in the SEA 6 area outwith Liverpool Bay are shown in Table 3.4. Sub-sites within Cardigan Bay are shown in italics. In addition to Cardigan Bay, large numbers of red-throated divers were regularly recorded around Silloth Bank off the Cumbrian coast, in the Clyde Estuary and along the Ayrshire coast.

Four sites in Northern Ireland regularly held numbers of all-Ireland importance of red-throated divers (>20 birds – Crowe in press) (Table 3.4). Figures for St John's Point include maximum daily counts of birds flying past. In addition, 163 birds were recorded on 25th December 2003 in Portmuck Bay (CeDAR).

The figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.4 Recent peak counts at sites away from Liverpool Bay for red-throated divers in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Cardigan Bay	536	270	229	460	-	-	**405**	555
Silloth Bank	-	-	-	-	-	240	**240**	
Clyde Estuary	178	138	123	145	142	-	**156**	54
Aberdyfi	-	-	-	-	-	*150*	***150***	-
Irvine-Ballantrae	-	-	-	-	94	-	**94**	195
Morfa Dinlle	-	-	-	*90*	-	-	***90***	-
Ballantrae-Balkenna	-	-	82	-	-	-	**82**	-
Maidens-Girvan	68	-	-	-	73		**71**	-
Aber Dysynni	-	-	*60*	-	-	*50*	***55***	-
Loch Ryan	-	66	44	-	50	-	**53**	-
Skinburness	-	-	-	-	50	55	**53**	-
Solway Firth	59	78	28	-	-	-	**51**	9
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Belfast Lough	41	57	44	85	60	25	**54**	22
St John's Point	110	51	58	40	26	26	**40**	110
Dundrum Bay	-	53	16	19	-	-	**29**	-
Portmuck Bay	-	-	-	-	29	-	**29**	-
Outer Ards	-	-	10	18	-	-	**14**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available Sites in Italics are within Cardigan Bay

3 All-Ireland threshold applies.

ESAS data

Red-throated divers were recorded on ESAS surveys throughout the year in the SEA 6 area, although highest abundances were recorded between September and March (Figures 3.1 & 3.2). Birds generally showed a coastal distribution and were recorded in the Clyde Estuary, around Stranraer, the outer Solway Firth, Morecambe Bay and Colwyn Bay, off the north coast of Wales. Between April and August, birds were only recorded around the Clyde Estuary.

3.1.3 Distribution within SEA 7 Area

Counts exceeding the nationally important threshold for red-throated divers (>49 birds – Kershaw & Cranswick 2003) were available from two sites within the SEA 7 area (Table 3.5). Figures shown were taken from WeBS counts and bird reports.

Table 3.5 Recent peak counts at main sites for red-throated divers in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Loch Indaal, Islay	-	-	-	61	54	-	**58**	-
Machrihanish	-	-	57	-	-	-	**57**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS data

Red-throated divers were recorded on ESAS surveys throughout the year within the SEA 7 area, with highest abundance between April and August, reflecting breeding distribution (Figures 3.1 & 3.2).

3.1.4 Distribution within SEA 8 Area

Within the SEA 8 area, counts exceeding the nationally important threshold for red-throated divers were recorded at seven sites in winter (>49 birds – Kershaw & Cranswick 2003) (Table 3.6). Figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.6. Recent peak counts at main sites for red-throated divers in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Hartland Point	-	376	120	100	120	25	**148**	-
Rye Bay	-	120	-	-	-	85	**103**	-
Pett Level shore	-	-	-	-	-	70	**70**	61
Church Norton	-	-	68	-	-	-	**68**	-
Newhaven	-	66	-	-	-	-	**66**	-
Otter Estuary/ Ladram Bay	-	30	50	-	27	-	**36**	-
Portland	-	-	-	3	1	77	**27**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Highest numbers were recorded between December and February, from Hartland Point in Devon east to Rye Bay in Sussex. Previous reports also highlighted Hartland Point as a nationally important site, with a mean of 101 individuals between 1979-1991 (Lock & Robins 1994). Numbers at this site appear to build up throughout the winter period, peaking in late winter (Slade 1996).

In addition to these site counts, large movements of "hundreds" of red-throated divers were regularly recorded flying past several Sussex seawatching points, and it is thought that these birds were moving to and from wintering areas on the east coast of Britain such as the Thames Estuary and the Wash. Most unidentified diver species seen were probably also this species. Patterns of movements showed a tendency to move east in December and west in January/February (James *et al* 2003). Numbers of red-throated divers moving off Devon and Dorset coasts in spring and autumn regularly approach and occasionally exceed 100 birds (Aspinall & Tasker 1990, White & Webb 1995).

ESAS data

Red-throated divers were recorded during ESAS surveys in low numbers between September and March, with the majority of birds recorded east of the Isle of Wight (Figures 3.1 & 3.2). No birds were recorded in the area during the summer months.

Figure 3.1 Red-throated diver abundance in SEA 6, 7 & 8 areas, from September to March (ESAS data)

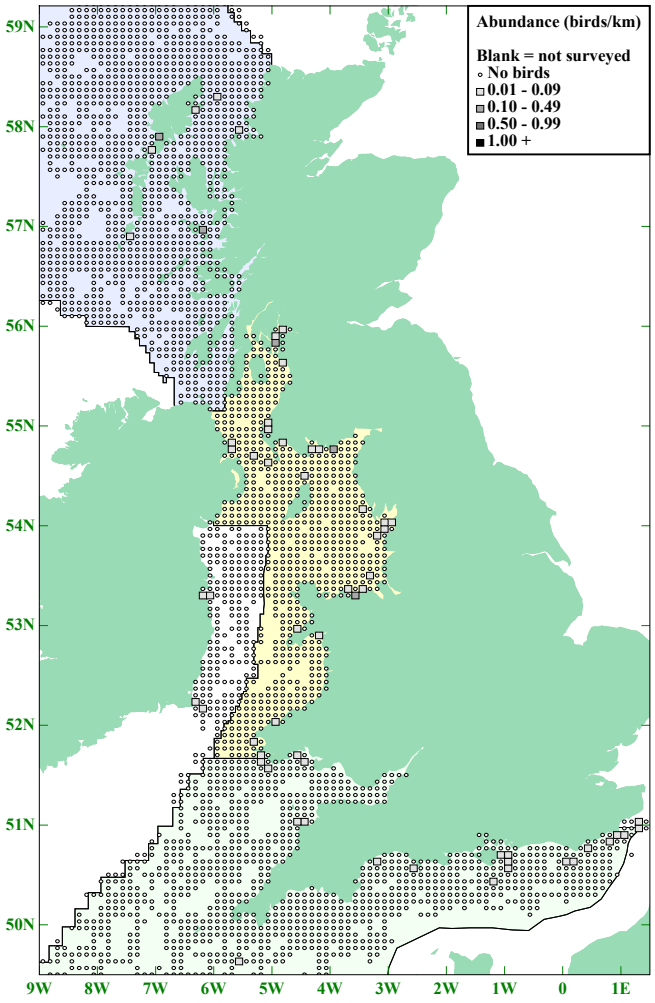
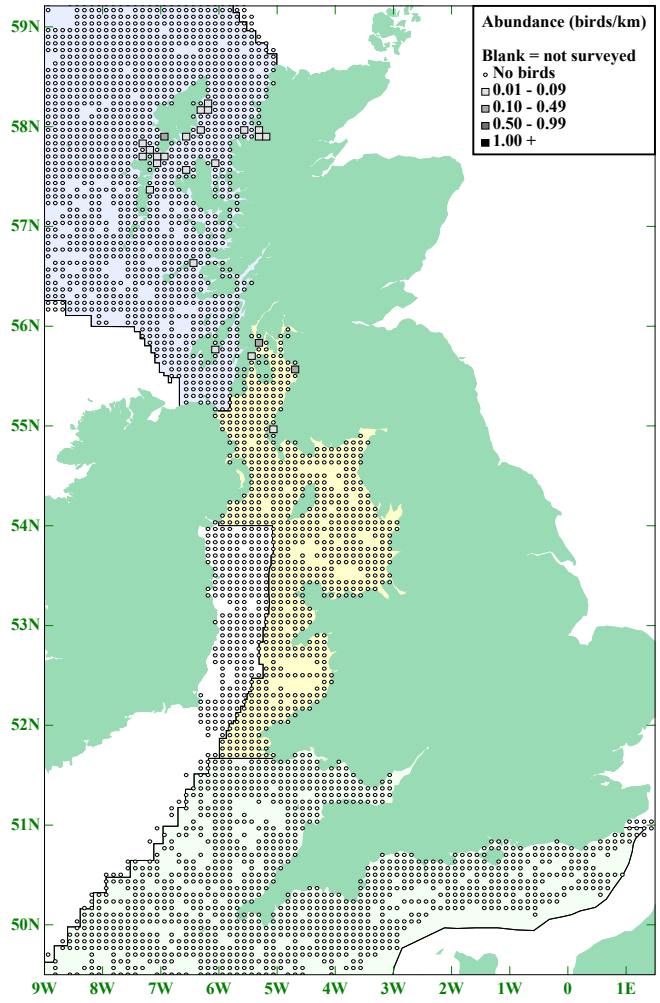


Figure 3.2 Red-throated diver abundance in SEA 6, 7 & 8 areas, from April to August (ESAS data)



3.1.5 UK Conservation measures

Ten breeding sites for red-throated divers have been selected as part of the UK's suite of Special Protection Areas (SPA), spread throughout the British breeding range. Within the SEA 7 area, Rum, the Lewis Peatlands and Mointeach Scadabhaigh on North Uist have been selected as SPAs for breeding red-throated divers (Stroud *et al* 2001).

There are no terrestrial non-breeding season SPAs for red-throated divers within the SEA 6, 7 and 8 areas (Stroud *et al* 2001). Marine SPA sites, including Liverpool Bay, are currently being considered for this species, which is listed on Annex I of the EU Birds Directive (Johnston *et al* 2002, JNCC 2004).

3.2 Black-throated diver

Introduction

Black-throated divers tend to occur in sandy bays in winter, feeding on sandeels, crustaceans and flatfish although herring and sprats are also taken (Lack 1986). Danielsen *et al* (1990) estimated that there may be approximately 150 black-throated divers wintering along the south coast, 450 wintering along the west coast of Britain, with a combined wintering population of 800 birds in Britain and Ireland. In the non-breeding season, the biogeographic population for north-west Europe has been estimated to be between 100,000 and 1,000,000 birds (Delaney & Scott 2002).

3.2.1 Breeding birds

Black-throated divers are a rare breeding species in Britain with a breeding population of 155 - 189 pairs, although there appears to have been a recent decline (Prater 1981, Mudge *et al* 1991, Stone *et al* 1997). The UK breeding range borders the SEA 7 region, with birds found on freshwater lochs in north-west Scotland and the Western Isles. Breeding birds feed almost entirely on inland waters (Tasker *et al* 1987). The species does not breed in Northern Ireland (Stroud *et al* 2001).

3.2.2 Distribution within SEA 6 Area

Along the Ayrshire coast, numbers tended to peak in March or April, and were considerably higher than the nationally important threshold for Britain (>7 birds – Kershaw & Cranswick 2003). (Table 3.7). These birds may well be of Scandinavian origin, as British birds would be back on their breeding grounds at this time (Lack 1986).

Four sites in Northern Ireland regularly held between 1 and 7 birds in winter. These numbers were higher than the "odd one or two in larger bays" suggested in the Winter Atlas (Lack 1986). Highest numbers are generally recorded between mid-February and mid-April (Hutchinson 1989). There is no nationally important threshold set for this species (Crowe in press).

Table 3.7 Recent peak counts at main sites for black-throated divers in SEA 6 area

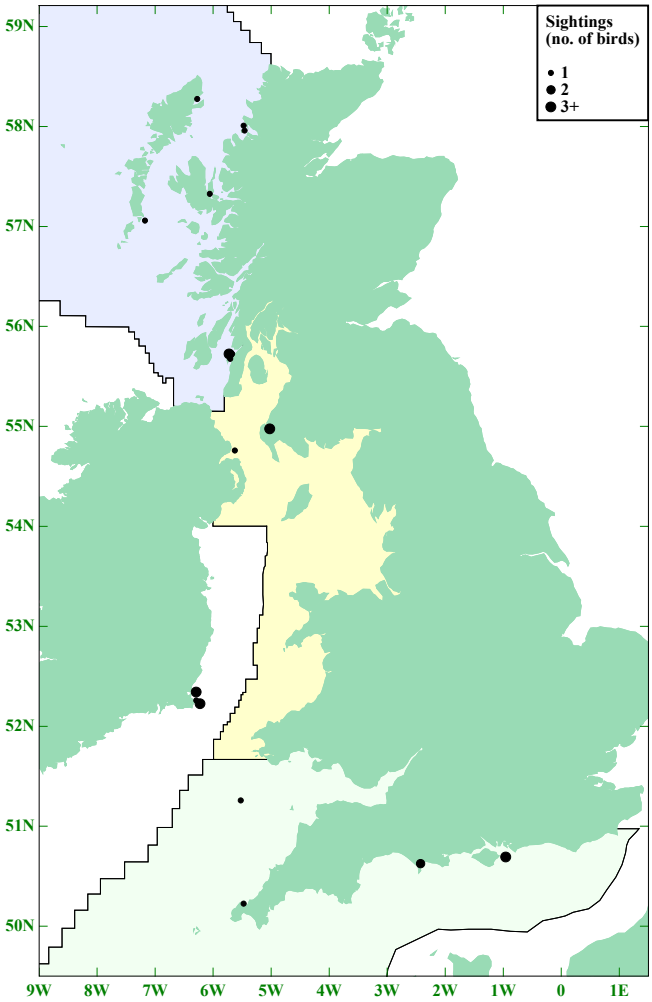
Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Maidens-Ballantrae	23	40	67	65	83	23	**56**	8
Arran	-	11	-	-	-	-	**11**	9
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Strangford Lough	7	7	5	5	4	5	**5**	7
St John's Point	-	5	3	5	-	2	**4**	-
Red Bay	-	2	3	2	-	-	**2**	-
Belfast Lough	0	2	3	2	-	-	**2**	2
Outer Ards	0	0	2	3	-	-	**1**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 No all-Ireland threshold has been set for black-throated divers

Figure 3.3 Black-throated diver sightings in SEA 6, 7 & 8 areas (ESAS data)



ESAS surveys

On ESAS surveys, three black-throated divers were recorded within the SEA 6 Area, two in Loch Ryan (Dumfries and Galloway) and 1 at the entrance to Belfast Lough (Figure 3.3).

3.2.3 Distribution within SEA 7 Area

A total of 17 sites are listed as regularly holding nationally important numbers of black-throated divers (>7 birds – Kershaw & Cranswick 2003) (Table 3.8). The figures shown were taken from WeBS counts and bird reports.

Table 3.8 Recent peak counts at main sites for black-throated divers in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Eriskay	-	-	-	-	40	-	**40**	-
Sound of Gigha	-	14	23	57	-	-	**31**	-
Kintyre	-	-	21	-	39	-	**30**	-
Loch Caolisport	44	16	-	-	22	-	**27**	-
Gruinard Bay	68	34	14	11	-	46	**26**	68
Red Point – Port Henderson	29	3	9	11	-	81	**26**	29
Loch Ewe	7	26	29	15	15	32	**23**	10
Braighe, Lewis	-	17	27	-	-	-	**22**	-
Applecross Bay	-	40	-	0	-	21	**20**	-
Skipness Bay	-	-	-	19	-	-	**19**	-
Loch Slapin, Skye	-	-	-	-	19	15	**17**	-
Loch Roag, Lewis	-	-	-	-	15	-	**15**	-
Loch Gairloch	-	4	5	23	12	22	**13**	-
Traigh Luskentyre	12	-	-	-	-	-	**12**	-
West Loch Tarbert	-	-	12	-	-	-	**12**	-
Achnahaird Bay	-	-	-	-	11	-	**11**	-
Little Loch Broom	-	4	1	17	-	-	**7**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Within the Outer Hebrides, Eriskay, Braighe, Loch Roag and Traigh Luskentyre were highlighted as important sites. The north-west Scottish coast also held significant numbers of birds in Gruinard Bay, Red Point to Port Henderson, Loch Ewe, Loch Gairloch, Achnahaird, Applecross & Skipness Bays, Little loch Broom and Loch Slapin in Skye. In the south, the Sound of Gigha, Kintyre, Loch Caolisport and West Loch Tarbert were also important for black-throated divers.

ESAS surveys

The species has only been recorded occasionally on ESAS surveys, around the Sound of Gigha, the Outer Hebrides and the north-west coast of Scotland (Figure 3.3).

3.2.4 Distribution within SEA 8 Area

Several sites along the south Cornwall coast held large numbers of black-throated divers, showing the importance of this stretch of coast for the species (Table 3.9). This has been noted in the past with Gerrans Bay and Veryan Bay along with the Falmouth area highlighted as holding notable concentrations between 1979-1991 (Lock & Robins 1994, Slade 1996). Birds appeared to be present for much of the winter, and occur in numbers well in excess of the nationally important threshold (>7 birds – Kershaw & Cranswick 2003). Further east, Torbay and Poole Harbour also held nationally important numbers. Figures were taken from WeBS counts, bird reports and records centres.

Table 3.9 Recent peak counts at main sites for black-throated divers in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Veryan Bay	-	-	100	55	38	60	**63**	-
Gerrans Bay	-	-	125	43	33	53	**51**	-
Mevagissey Bay	-	-	-	-	35	-	**35**	-
Falmouth Bay	-	-	-	10	30	-	**20**	-
St Austell Bay	-	-	20	-	14	-	**17**	-
Porthgwarra	-	-	-	17	8	-	**13**	-
Mount's Bay	-	-	8	12	10	10	**10**	
Torbay	-	-	-	-	9	-	**9**	-
Poole Harbour	-	-	-	7	-	-	**7**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Like other diver species, movements were also recorded from regular vantage points along the south coast of England. "Up to 30" have been recorded flying past several Sussex seawatching points, with birds showing a tendency to move west in January/February & east in December (James *et al* 2003). Similar movements are also known to occur off the Devon and Dorset coasts (Aspinall & Tasker 1990, White & Webb 1995).

ESAS surveys

On ESAS surveys, black-throated divers have been sighted off the Isle of Wight, Weymouth, the north Cornish coast and the outer Bristol Channel (Figure 3.3).

3.2.5 UK Conservation measures

Within the SEA 7 area, the Lewis Peatlands and Mointeach Scadabhaigh on North Uist have been selected as SPAs for breeding black-throated divers, with a further 9 sites selected in the central Highlands, and northern mainland Scotland (Stroud *et al* 2001).

There are no terrestrial SPA sites for non-breeding black-throated divers (Stroud *et al* 2001), however marine SPA sites are currently under consideration for this species, which is listed on Annex I of the EU Birds Directive (Johnston *et al* 2002).

3.3 Great northern diver

Introduction

Great northern divers spend the winter at sea, off rocky headlands, coves and sandy beaches. They feed primarily on fish such as herring and codling, but also take crustaceans and flatfish in shallower waters (Lack 1986, Skov *et al* 1995). Great northern divers tend to occur further offshore than other diver species, but still within 10km of the shore (Barrett & Barrett 1985, Mudge & Cadbury 1987).

The UK winter population of great northern divers has been estimated to be in the region of 3,000 birds, approximately 75% of the western Palaearctic wintering population of 5,000 (Lack 1986). This figure is still quoted as the best winter estimate for the northern Europe non-breeding population (Delaney & Scott 2002). Known key wintering areas for the species are western Scotland, including the Outer Hebrides, and the north and west coasts of Ireland, with low numbers elsewhere. The main winter influx tends to occur in October/November with numbers remaining stable until April/May.

As great northern divers show a preference for deeper water, it is likely that this species is under-recorded by land-based surveys. The species does not breed in the UK or Ireland.

3.3.1 Distribution within SEA 6 Area

In Britain, nationally important numbers of great northern divers were recorded between Troon and Ballantrae, on the Ayrshire coast (>30 birds – Kershaw & Cranswick 2003) (Table 3.10).

In Northern Ireland, Dundrum Bay the mean peak count was below the all-Ireland threshold (>20 birds – Crowe in press) although numbers occasionally were higher. Twenty-four great northern divers were recorded in Carlingford Lough in the winter 03-04 (CeDAR).

The figures shown were taken from WeBS counts and bird reports.

Table 3.10 Recent peak counts at main sites for great northern divers in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Troon-Ballantrae	51	-	33	-	34	-	**39**	-
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Dundrum Bay	-	23	7	6	13	-	**12**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies

ESAS surveys

Great northern diver abundances on ESAS surveys in the SEA 6 area were typically low. Abundances between December and May are shown in Figure 3.4.

3.3.2 Distribution within SEA 7 Area

Fourteen sites within the SEA 7 area held internationally important numbers of great northern divers, with an additional five nationally important sites (Table 3.11). Counts above 50 birds are internationally important (Delaney & Scott 2002), while counts above 30 birds are nationally important (Kershaw & Cranswick 2003). The main areas of significance were the Outer Hebrides, particularly North and South Uist, Benbecula and the sounds of Barra and Harris; the Kintyre peninsula, including the Sound of Gigha; and the north-west Scottish coast, particularly around Tiree and Mull, Islay and Gruinard Bay.

Figures shown were taken from WeBS counts and bird reports.

Table 3.11 Recent peak counts at main sites for great northern divers in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
West Kintyre Peninsula	-	-	-	-	417	-	**417**	-
Howmore, S Uist	-	-	-	121	-	-	**121**	-
Glendale, S Uist	-	-	-	-	91	-	**91**	-
Sound of Barra	-	-	-	127	46	-	**87**	-
Sound of Gigha	67	-	100	-	-	-	**84**	-
Kildonan, S Uist	-	-	-	-	82	-	**82**	-
Howmore, N Uist	-	71	86	-	-	-	**79**	-
Tiree coast	-	-	68	-	-	-	**68**	-
Mull coast	-	-	65	-	-	-	**65**	-
West Loch Tarbert	-	-	62	-	-	-	**62**	-
Balivanich, Benbecula	-	-	65	58	-	-	**62**	-
Loch Indaal, Islay	35	27	125	96	-	-	**59**	17
Coll	-	-	54	-	-	-	**54**	-
Loch Caolisport	-	-	50	-	-	-	**50**	-
Sound of Harris	33	-	-	60	-	-	**47**	-
Tiree	-	-	-	44	-	-	**44**	-
Sound of Taransay	-	-	43	-	-	-	**43**	-
Orosay-Ludag, S Uist	42	-	-	-	-	-	**42**	-
Gruinard Bay	42	-	-	31	-	20	**26**	42

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

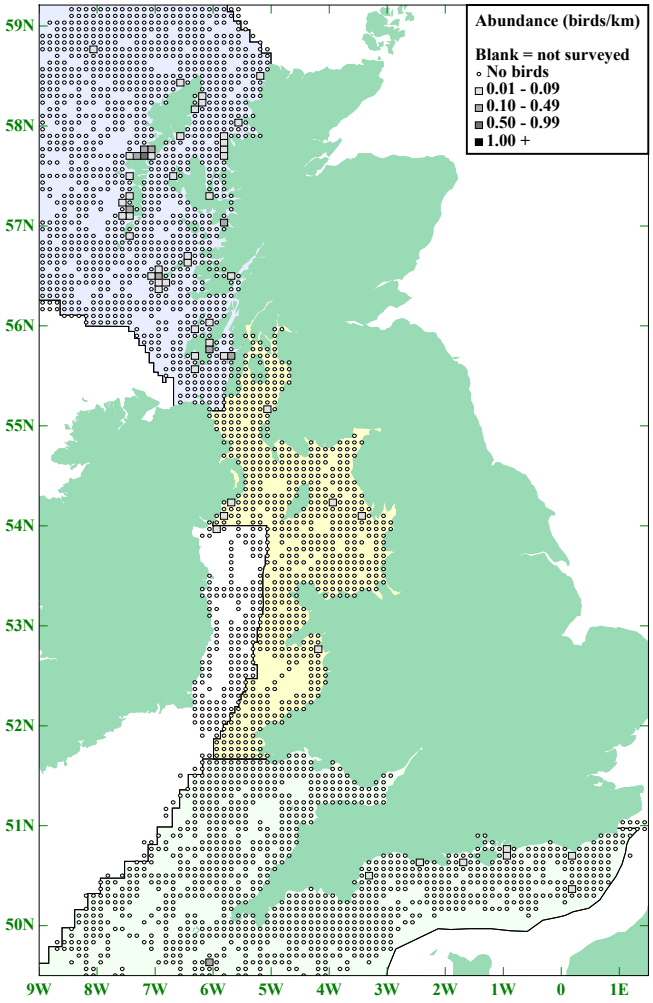
2 Mean of previous 5 years, where available

ESAS surveys

Highest abundances of great northern divers were found around the Sound of Harris, South Uist, Tiree, Skye, Mull and the Sound of Gigha (Figure 3.4).

Recent JNCC winter inshore aerial surveys highlighted Loch Indaal, Islay as an important area for great northern divers in (Dean *et al* 2003). High numbers were also recorded off the west coast of the Outer Hebrides, particularly in the Sounds of Barra, Monach and Harris, and around Taransay (Dean *et al* 2004).

Figure 3.4. Great northern diver abundance in SEA 6, 7 & 8 areas, from December to May (ESAS data)



3.3.3 Distribution within SEA 8 Area

Within the SEA 8 area, the mean peak for St Austell Bay exceeded the internationally important threshold (>50 birds – Delaney & Scott 2002) (Table 3.12). Previous concentrated survey work has shown that the stretch of coast between St. Austell Bay south-west to the Helford River, a distance of approximately 30 miles, held internationally important numbers of up to 50 birds thinly distributed along the coast (Slade 1996, Wilson 2001). This area does not feature in recent WeBS reports (Pollit *et al* 2003). Numbers were lower at sites in Devon and Dorset although the mean peak at Torbay in Devon was just below the nationally important threshold (>30 birds – Kershaw & Cranswick 2003).

The figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.12 Recent peak counts at main sites for great northern divers in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
St Austell Bay	-	-	40	48	80	44	**53**	-
Whitsand Bay	-	-	-	-	38	-	**38**	-
Dawlish Warren	-	-	-	46	-	22	**34**	-
Mount's Bay	-	-	-	-	32	-	**32**	-
Seaton/ Downderry	-	-	30	-	-	-	**30**	-
St Ives Bay	-	-	24	24	40	-	**29**	-
Hope's Nose	-	19	37	-	-	-	**28**	-
Torbay	-	23	44	11	-	-	**26**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

Great northern divers were recorded in low abundances along the south coast of England on ESAS surveys in February, April, May, November and December. (Figure 3.4).

3.3.4 UK Conservation measures

There are no terrestrial SPA sites for non-breeding great northern divers (Stroud *et al* 2001), however marine SPA sites are currently under consideration for this species, which is listed on Annex I of the EU Birds Directive (Johnston *et al* 2002).

3.4 Little grebe

Introduction

The UK wintering population of little grebe has been estimated to be 7,770 birds (Kershaw & Cranswick 2003). Although birds tend to show less movement to coasts and large lakes for winter than other UK grebes, and adult pairs may maintain a winter territory on their breeding lake, some little grebes do move to estuaries, sealochs and coastal lakes (Prater 1981, Hutchinson 1989, Snow & Perrins 1998). Within the north-west Europe biogeographic region, the wintering total is estimated to be 230,000 – 450,000 birds (Delaney & Scott 2002).

Within the SEA 6, 7 and 8 areas, the principal coastal wintering sites are Strangford Lough, the Duddon Estuary and Southampton Water, with smaller numbers of birds in sheltered coastal waters elsewhere (Prater 1981).

3.4.1 Breeding birds

The UK breeding population of little grebe is estimated at between 5,900-12,000 pairs (RSPB 2004). As little grebes breed on freshwater lakes the breeding population has not been considered further in this review.

3.4.2 Distribution within SEA 6 Area

The only coastal site that held nationally important numbers of little grebe within the SEA 6 area was Strangford Lough in Northern Ireland (>40 birds – Crowe in press) (Table 3.13). The figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.13 Recent peak counts at main sites for little grebes in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Strangford Lough	-	-	87	87	103	-	**92**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Little grebes have not been recorded on ESAS surveys within the SEA 6, 7 and 8 areas.

3.4.3 Distribution within SEA 7 Area

No coastal sites within the SEA 7 area regularly hold nationally important numbers of little grebes.

3.4.4 Distribution within SEA 8 Area

Within the SEA 8 area, two sites regularly held nationally important numbers of little grebes (>78 birds – Kershaw & Cranswick 2003) (Table 3.14). Figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.14 Recent peak counts at main sites for little grebes in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Chichester Harbour	-	-	-	78	88	111	**92**	-
Langstone Harbour	-	-	81	62	65	60	**67**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3.4.5 UK Conservation measures

Little grebes are listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive. Marine SPA sites are not being considered for this species (Johnston *et al* 2002).

Three of the ten UK sites selected as terrestrial SPAs for wintering little grebes are within the SEA 6 and 8 areas. In Northern Ireland, Strangford Lough is within SEA 6, and is estimated to support 2.5% of the all-Ireland wintering population. The other two sites (Chichester & Langstone Harbours and The Solent & Southampton Water) are both in SEA 8, and support 2.1% and 2.8% of the British wintering population respectively (Stroud *et al* 2001).

3.5 Great crested grebe

Introduction

The overall UK winter population of great crested grebe has been estimated at 15,900 birds, based on WeBS data from 1994 - 1999 (Kershaw & Cranswick 2003). An estimated 1,800 birds spend the winter in estuaries around the UK, although there are many more wintering at inland sites, with birds moving to coastal sites during very cold spells (Prater 1981). The north-western Europe population has been estimated at 370,000 – 580,000 birds (Delaney & Scott 2002).

Within the SEA 6, 7 and 8 areas, the Winter Atlas shows a strong south-east distribution. Key areas are the east coast of Northern Ireland, the Clyde Estuary, Morecambe Bay, North Wales and the south coast of England (Lack 1986).

3.5.1 Breeding birds

Gibbons *et al* (1993) estimated that there were around 4,000 pairs of great crested grebes breeding in the UK. The species breeds on freshwater lakes and so the breeding population has not been considered further in this review.

3.5.2 Distribution within SEA 6 Area

Based on mean peak counts, six sites in the SEA 6 area exceeded the nationally important threshold for Britain (>159 birds – Kershaw & Cranswick 2003) (Table 3.15). The main sites were the Solway Firth and nearby Nith Estuary, Traeth Lathan on the north Welsh coast, Morecambe Bay and Cardigan Bay. Comparable means for the Solway Firth and the Nith Estuary from the previous five year period were not available, however, numbers at Traeth Lafan, Morecambe Bay and Cardigan Bay appeared to have declined.

Belfast Lough held the largest concentration of great crested grebes in the UK and Ireland (Table 19). Formerly internationally important for great crested grebes, this site no longer qualifies, following revision of the 1% international threshold (>4,800 birds Delaney & Scott 2002). All four sites listed were well in excess of the nationally important threshold for all-Ireland (>70 birds – Crowe in press).

Figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.15 Recent peak counts at main sites for great crested grebes in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Solway Firth	710	191	248	336	-	-	**383**	82
Nith Estuary	355	-	-	-	378	-	**367**	-
Traeth Lafan	360	389	165	388	284	308	**307**	334
Morecambe Bay	282	191	239	245	-	-	**249**	321
Cardigan Bay	177	-	-	147	-	-	**212**	289
Mersehead	-	-	-	124	194	-	**159**	-
Loch Ryan	54	58	258	147	212	-	**146**	214
Swansea Bay	128	76	204	201	-	-	**138**	-
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Belfast Lough	2,403	2,246	1,570	1,338	-	-	**1,751**	1446
Carlingford Lough	231	270	249	326	200	336	**276**	227
Larne Lough	76	124	140	204	-	-	**134**	120
Strangford Lough	64	69	111	141	231	135	**137**	97

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies

ESAS surveys

A total of 7 great crested grebes have been recorded on ESAS surveys in the SEA 6 area, in February, September, November and December (Figure 3.5). All species of grebes were very much under-recorded by ESAS surveys. This is generally because birds are usually located very close to shore where it is not usually possible to survey by boat.

In recent JNCC winter inshore aerial surveys in the SEA 6 area, largest numbers of great crested grebes were recorded in the Solway Firth (Dean *et al* 2003).

3.5.3 Distribution within SEA 7 Area

No counts of national importance for great crested grebes were available within the SEA 7 region and ESAS surveys have not recorded this species in the area (Figure X).

3.5.4 Distribution within SEA 8 Area

Within the SEA 8 area, Pett Levels and Goring Beach, both on the Sussex coast, held nationally important numbers of great crested grebes (>159 birds – Kershaw & Cranswick 2003) (Table 3.16). Figures were taken from WeBS counts, bird reports and records centres. The remaining sites were below the national threshold.

Table 3.16 Recent peak counts at main sites for great crested grebes in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Pett Levels shore	119	327	262	165	500	454	**342**	113
Goring Beach	-	-	-	-	214	-	**214**	-
Langstone Harbour	-	-	144	178	182	112	**154**	-
Poole Harbour	-	-	151	-	-	-	**151**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

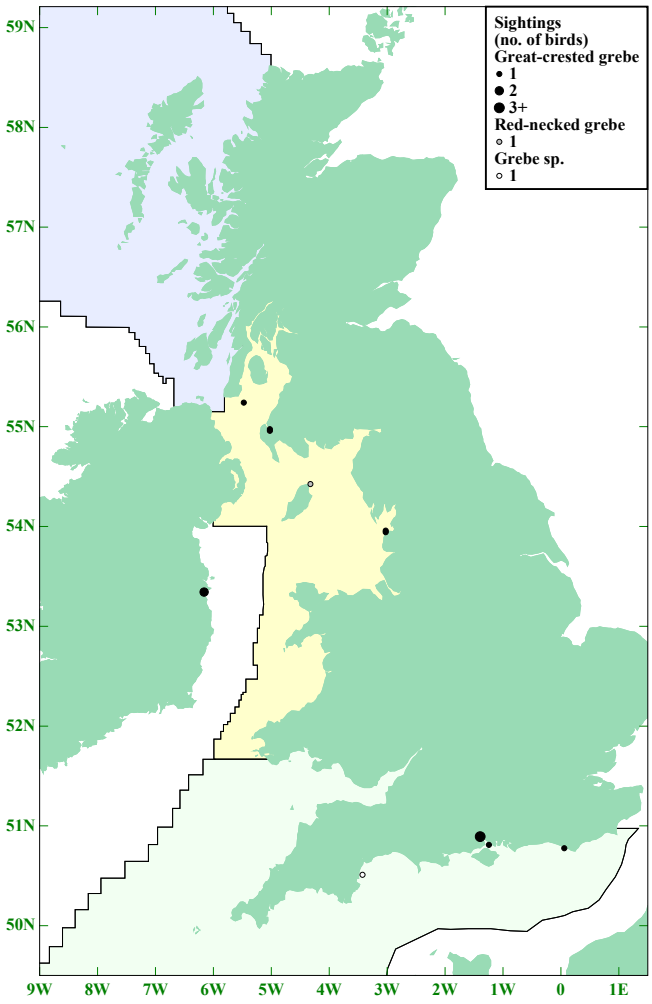
A total of 8 great crested grebes have been recorded on ESAS surveys in the SEA 8 area, in February and March (Figure 3.5). All species of grebes were very much under-recorded by ESAS surveys. This is generally because birds are usually located very close to shore where it is not usually possible to survey by boat. One unidentified grebe was sighted in Tor Bay, Devon in October (Figure 3.5).

3.5.5 UK Conservation measures

A total of 17 terrestrial sites have been selected as SPAs for great crested grebes in the non-breeding season in the UK. Five of these sites (Belfast Lough, Strangford Lough, Morecambe Bay, Upper Solway Flats & Marshes and the Mersey Estuary) are within the SEA 6 Area, with one (Solent & Southampton Water) within the SEA 8 area (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

Figure 3.5 Sightings of grebes in SEA 6, 7 & 8 areas (ESAS Data)



3.6 Red-necked grebe

Introduction

Approximately 200 red-necked grebes are estimated to spend the winter around the UK, mostly on the east and south coasts and on inland reservoirs in southeast England (Lack 1986, Kershaw & Cranswick 2003). The non-breeding biogeographic population has been estimated at between 25,000 – 100,000 birds (Delaney & Scott 2002).

Within the SEA 6, 7 and 8 areas, low numbers occur in sheltered coastal waters such as the Clyde Estuary, around Anglesey, and the south coast of England (Lack 1986).

3.6.1 Breeding birds

Red-necked grebe is a rare breeding species in Britain. Between 1991 and 2001, up to five pairs were reported from up to ten sites but successful breeding was only confirmed for the first time at a site in southern Scotland in 2001 (Ogilvie *et al* 2003). The total European breeding population been estimated at around 5,000 pairs (Skov *et al* 1995).

3.6.2 Distribution within SEA 6 Area

Recent peak counts for the main sites for red-necked grebes in the SEA 6 area are shown in Table 3.17. Figures were taken from WeBS counts, bird reports and records centres. Sites shown exceeded or were close to the nationally important threshold for Britain (>2 birds – Kershaw & Cranswick 2003). Data for sites within the SEA 6 area was fairly patchy, and the between-year distribution of birds was quite variable.

Table 3.17 Recent peak counts at main sites for red-necked grebes in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Loch Ryan	-	-	4	-	-	-	**4**	-
Ardmore Point	-	2	-	-	-	-	**2**	-
Llanfairfechan	-	-	2	-	1	1	**1**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

In Northern Ireland, red-necked grebes occurred occasionally at sites such as Carlingford Lough but there were no sites which regularly held numbers of red-necked grebes. No all-Ireland threshold for national importance has been set for this species (Crowe in press).

ESAS surveys

Only one red-necked grebe was recorded on during ESAS surveys within the SEA 6 area, off the Isle of Man in February (Figure 3.5).

3.6.3 Distribution within SEA 7 Area

There were no sites within the SEA 7 area which regularly hold numbers of red-necked grebes, and this species was not recorded during ESAS surveys in the region.

3.6.4 Distribution within SEA 8 Area

Several sites on the south coast of England regularly held nationally important numbers of red-necked grebes (>2 birds – Kershaw & Cranswick 2003) (Table 3.18). Figures were taken from WeBS counts, bird reports and records centres.

Highest mean peaks were recorded at Veryan Bay in Cornwall, Start Bay in Devon and Brighton Marina in Sussex, although numbers were very low overall. Previous surveys in south-west England highlighted that up to 25% of the British wintering population can occur in the South Cornwall area, between St Austell Bay and the Helford River (Slade 1996).

This species was not recorded during ESAS surveys within the SEA 8 area.

Table 3.18 Recent peak counts at main sites for red-necked grebes in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Veryan Bay	-	-	12	2	2	3	**5**	-
Start Bay	-	10	4	2	-	-	**5**	-
Brighton Marina	-	-	5	-	-	-	**5**	-
Dawlish Warren	-	-	-	-	4	3	**4**	-
Torbay	-	4	5	3	2	-	**4**	-
Langstone Harbour	-	-	3	-	3	-	**3**	-
Church Norton	-	-	-	-	3	-	**3**	-
Poole Harbour	-	-	-	-	2	3	**3**	-
Portland Harbour	-	-	4	2	2	5	**3**	-
Gerrans Bay	-	-	3	2	-	2	**2**	-
St Austell Bay	-	-	2	-	-	2	**2**	-
Carrick Roads	-	-	-	-	-	2	**2**	-
Dibden Bay	-	-	-	-	2	-	**2**	-
Farlington	-	-	-	-	-	2	**2**	-
Brand's Bay	-	-	-	1	-	2	**2**	-
Needs Ore	-	-	-	-	2	-	**2**	-
St Ives Bay	-	-	-	-	-	2	**2**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3.6.5 UK Conservation measures

There are no terrestrial SPA sites for red-necked grebes (Stroud *et al* 2001), however marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.7 Slavonian grebe

Introduction

Slavonian grebes are more coastal than either red-necked or great crested grebes and the UK population wintering in inshore waters has been estimated at 648 birds (Evans 2000). Birds tend to be widespread in small numbers. Within the north-west Europe biogeographic region, the population is estimated to be 2,600 – 4,100 birds (Delaney & Scott 2002).

Within the SEA 6, 7 and 8 areas, the principal wintering sites are the Outer Hebrides (although there is a lack of recent data from this area), and the south coast of England. Smaller numbers of birds are found elsewhere in sheltered coastal waters on the Scottish west coast, Liverpool Bay, the east coast of Northern Ireland and the coast of Wales (Lack 1986, Evans 2000).

3.7.1 Breeding birds

A total of 40 confirmed pairs bred at 18 freshwater localities in Scotland in 2001. Numbers have gradually declined since 1992, when there were 72 confirmed pairs (Ogilvie *et al* 2003).

3.7.2 Distribution within SEA 6 Area

Within the SEA 6 area, highest numbers of slavonian grebes were found in the Firth of Clyde, particularly at Ardmore Point (Table 3.19). Loch Ryan also regularly held high numbers, with lower numbers in Tremadog Bay, Traeth Lafan and Beddenmarch Bay in Wales. These counts still exceeded the nationally important threshold for Britain (>7 birds – Kershaw & Cranswick 2003).

Within Northern Ireland, Strangford Lough regularly held numbers of slavonian grebe in winter, although no nationally important threshold has been set for this species (Crowe in press).

Figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.19 Recent peak counts at main sites for slavonian grebes in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Ardmore Point	40	29	31	34	20	-	**31**	-
Clyde Estuary	25	5	34	20	-	-	**23**	9
Loch Ryan	11	12	10	42	36	-	**22**	11
Tremadog Bay	-	-	11	18	14	-	**14**	-
Traeth Lafan	-	-	4	9	14	13	**10**	-
Beddenmarch Bay	-	-	3	6	9	8	**7**	-
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Strangford Lough	11	17	11	17	22	32	**20**	14
Larne Lough	-	-	-	-	-	-	**-**	5

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 No All-Ireland threshold has been set

Slavonian grebes have not been recorded on ESAS surveys in the SEA 6 area.

3.7.3 Distribution within SEA 7 Area

The most recent mean peak count for the Sound of Taransay qualified as being internationally important (> 35 birds – Delany & Scott 2002) (Table 3.20). Several other sites in the SEA 7 area held nationally important numbers of slavonian grebes (>7 birds – Kershaw & Cranswick 2003). The Outer Hebrides, particularly the Sound of Taransay and Traigh Luskentyre were important for this species, as were areas further south such as the Sound of Gigha off the Kintyre peninsula and around Islay and Mull.

Figures shown were taken from WeBS counts and bird reports.

Table 3.20 Recent peak counts at main sites for slavonian grebes in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Sound of Taransay	-	25	38	41	-	-	**35**	-
Sound of Gigha	-	10	41	44	-	-	**32**	-
Loch Indaal, Islay	32	24	37	23	30	-	**29**	25
Traigh Luskentyre	8	19	38	48	-	-	**25**	15
Loch na Keal, Mull	20	29	-	-	-	-	**25**	-
Sound of Harris	-	9	23	-	-	-	**16**	-
Balgarva, S Uist	9	14	16	12	12	-	**13**	-
Loch Ewe	-	-	-	-	-	13	**13**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Slavonian grebes have not been recorded on ESAS surveys in the SEA 7 area.

3.7.4 Distribution within SEA 8 Area

Pagham Harbour qualifies as an internationally important site for slavonian grebe, based on recent 5-year mean peak counts (>35 birds – Delany & Scott 2002) (Table 3.21). A further seventeen sites in the SEA 8 area regularly held nationally important numbers of slavonian grebes (>7 birds – Kershaw & Cranswick 2003).

In winter, slavonian grebes were widespread along the south coast of England from Pagham Harbour in Sussex to Gerrans Bay in Cornwall, with birds showing site loyalty. Numbers tended to peak in December or January, with birds remaining into March (Aspinall & Tasker 1990, Slade 1996).

Figures shown were taken from WeBS counts, bird reports and records centres.

Slavonian grebes have not been recorded on ESAS surveys in the SEA 8 area.

3.7.5 UK Conservation measures

Two UK sites have been selected as terrestrial SPAs for wintering slavonian grebes. One of these, the Exe Estuary, is within the SEA 8 area (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed on Annex I of the EU Birds Directive (Johnston *et al* 2002).

Table 3.21 Recent peak counts at main sites for slavonian grebes in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Pagham Harbour	39	76	44	31	54	11	**43**	46
Selsey Bill	23	-	60	6	-	-	**30**	-
St Austell Bay	-	-	51	14	9	15	**22**	-
Dawlish Warren	-	27	15	18	12	-	**18**	-
Gerrans Bay	-	-	14	21	11	8	**14**	-
Seaton/Downderry	-	-	14	-	-	-	**14**	-
NW Solent	16	14	8	8	-	-	**12**	6
Whitsand Bay	-			14	13	10	**12**	-
Langstone Harbour	-	-	-	9	10	-	**10**	-
Lymington/Hurst	-	-	8	13	10	9	**10**	-
Hayling Bay	-	-	-	10	-	-	**10**	-
Black Point	-	-	9	-	8	-	**9**	-
Start Bay	-	11	9	7	-	-	**9**	-
Poole Harbour	9	10	3	7	-	-	**8**	10
Chichester Harbour	9	6	2	11	-	-	**8**	6
Camel Estuary	-	-	7	8	-	-	**8**	-
Portland Harbour	-	-	11	9	3	8	**8**	-
Exe Estuary	11	7	12	3	-	-	**7**	7

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3.8 Black-necked grebe

Introduction

The winter distribution of black-necked grebes is more southerly and westerly than other grebe species, and all the sites considered here are within the SEA 8 area. The overall Britain and Ireland winter population has been estimated at around 120 birds, although autumn numbers are thought to be higher than this total (Lack 1986, RSPB 2004). The European wintering population has been estimated at around 2,000 birds (Lack 1986). The population in Europe and North Africa is estimated to be 117,000 – 450,000 birds (Delaney & Scott 2002).

3.8.1 Breeding birds

The UK breeding population has been estimated at around 25 – 50 pairs (RSPB 2004). A total of 42 – 70 pairs bred at 32 sites in 18 counties in Britain in 2001. Numbers have fluctuated between 46 and 81 breeding pairs between 1992 and 2001 (Ogilvie *et al* 2003).

3.8.2 Distribution within SEA 6 Area

There were no sites within the SEA 6 area in Britain or Northern Ireland that regularly held numbers of black-necked grebes above the nationally important threshold (>1 bird – Kershaw & Cranswick 2003), and this species has not been recorded on ESAS surveys in the SEA 6 area.

3.8.3 Distribution within SEA 7 Area

There were no sites within the SEA 7 area that regularly held numbers of black-necked grebes above the nationally important threshold (>1 bird – Kershaw & Cranswick 2003), and this species has not been recorded on ESAS surveys in the SEA 7 area.

3.8.4 Distribution within SEA 8 Area

Within the SEA 8 area there were 15 sites which regularly held nationally important numbers of black-necked grebes (>1 bird – Kershaw & Cranswick 2003) (Table 3.22). Figures shown were taken from WeBS counts, bird reports and records centres. The majority of sites were in south Cornwall and Devon, although there may be some duplication of birds between sites.

Table 3.22 Recent peak counts at main sites for black-necked grebes in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Fal Complex	33	-	-	31	46	35	**37**	27
Torbay	-	25	32	38	26	5	**25**	-
Newhaven	-	-	-	-	18	-	**18**	-
Langstone Harbour	9	17	16	16	18	18	**17**	20
Studland Bay	-	-	9	15	24	21	**17**	12
Looe Beach	-	-	20	-	2	11	**11**	-
Fleet/Way	-	2	12	15	14	12	**11**	3
Gerrans Bay	-	-	7	2	16	5	**8**	-
Tamar Complex	6	6	6	9	-	-	**6**	8
Black Point	-	-	-	-	6	-	**6**	-
Knoll Beach	-	-	2	7	-	7	**5**	-
Brand's Bay	-	-	-	6	-	3	**5**	-
Ferrybridge	-	-	-	2	-	7	**5**	-
Poole Harbour	12	2	4	10	1	7	**5**	11
Shell Bay	-	-	2	4	3	5	**4**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

According to WeBS counts, the Fal complex (Falmouth area) of south Cornwall is the most important site for wintering black-necked grebes in the UK, with a mean peak of 27 birds (winters 95/96 – 97/98, Musgrove *et al* 2001). Data from recent bird reports showed that the mean peak at this site has increased to 37 birds (winters 00/01 – 02/03, Wilson 2001, 2002 & 2003).

This species has not been recorded on ESAS surveys in the SEA 8 area.

3.8.5 UK Conservation measures

No UK sites have been selected as terrestrial SPAs for wintering black-necked grebes. Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.9 Manx shearwater

Introduction

Manx shearwaters are migratory and are generally found in British and Irish waters between March and October, travelling to wintering areas off the east coast of South America from November to February. Birds return to their breeding colonies in March, with the young fledging in September (Webb *et al* 1990).

3.9.1 Breeding birds

A total of 332,267 apparently occupied Manx shearwater sites were surveyed during Seabird 2000 (Mitchell *et al* 2004), with up to 60 % of the British population found in the SEA 6 area, and up to 45% in the SEA 7 area (Table 3.23). These figures are also internationally important, with approximately ¾ of the biogeographic population breeding in the SEA 6 & 7 regions.

Table 3.23 Total numbers of Manx shearwaters breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	168,371	53.8 - 60.6	41.1 - 49.5
6	N Ireland	4,633	7.6 - 17.0	1.1 - 1.4
7	Britain	126,338	40.3 - 45.5	30.8 - 37.2
7	N Ireland	-	-	-
8	Britain	367	0.1	0.1

1 Count unit = Apparently Occupied Site (AOS)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

Four colonies in the SEA 6 region and two in the SEA 7 region are internationally important (Table 3.24). The colonies on Rum, Skomer, Skokholm and Middleholm hold over 90% of the British breeding population, confirming Manx shearwater as the most important breeding seabird in the SEA 6 area (Mitchell *et al* 2004).

Table 3.24 Nationally important Manx shearwaters colonies in SEA 6, 7 & 8 Areas

SEA [1]	Area	Site	Total [2]	% of British/Irish Population [3]	% of Biogeographic Population
6 B	Dyfed	Skomer & Middleholm Islands	104,800	33.5-37.8	25.6 - 30.8
6 B	Dyfed	Skokholm Island	46,200	14.8-16.6	11.3 - 13.6
6 B	Gwynedd	Bardsey Island & Ynysoedd Gwylan	16,183	5.2-5.8	4.0-4.8
6 NI	Down	Copeland Island, Lighthouse Island & Mew Islands	4,633	7.6-17.0	1.1 - 1.4
7 B	Lochaber	Rum National Nature Reserve	120,000	38.3-43.2	29.3 - 35.3
7 B	Western Isles	Hirta, St Kilda	4,581	1.5-1.7	1.1 - 1.4

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Site (AOS)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.9.2 Distribution in the SEA 6 Area

Recent counts of Manx shearwaters were available for four sites within the SEA 6 region (Table 3.25). Most counts were of movements of birds, during the summer months and were taken from bird reports and records centres. Note that only large counts have been included here.

Table 3.25 Recent peak counts at main sites for Manx shearwaters in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Bardsey	-	-	-	10,000	24,274	12,000	**15,425**	-
Turnberry Point	-	-	-	-	11,000		**11,000**	
Sites in Northern Ireland SEA 6 area								
St John's Point	-	10,000	6,000	5,000	10,000	5,000	**7,200**	-
Copeland Islands	-	-	-	-	6,000	20,000	**6,000**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

On ESAS surveys within the SEA 6 region, Manx shearwaters were recorded between March and September (Figure 3.6). Few birds were recorded in March and April, with numbers increasing from May to July with a peak in August, although coverage in the southern half of the Irish Sea was incomplete in these months. Density in September was similar to July, and the number of birds recorded began to decrease, with few remaining into October. Low densities were recorded off the east coast of Ireland in November.

Peak concentrations occurred in the Irish Sea, off the east coast of Ireland. Low densities were found in inshore areas of Morecambe Bay, Liverpool Bay and Cardigan Bay, in the summer months although coverage was incomplete at the latter site.

3.9.3 Distribution within SEA 7 Area

Recent counts of Manx shearwaters were available for four sites within the SEA 7 region (Table 3.26). Most counts were of movements of birds, during the summer months and were taken from bird reports and records centres. Note that only large counts have been included here.

Table 3.26 Recent peak counts at main sites for Manx shearwaters in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Frenchman's Rocks, Islay	-	-	12,500	-	20,000	-	**16,250**	-
NW Tiree	-	11,364	-	-	-	-	**11,364**	-
Machrihanish	-	-	-	-	10,000		**10,000**	-
Rubha Ardvule	-	9,600	-	-	-	-	**9,600**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

On ESAS surveys within the SEA 7 region, Manx shearwaters were recorded between March and October (Figure 3.6). Few birds were recorded in March with numbers increasing from April onwards with a peak in July and August, particularly around the major colony on Rum. By September, the number of birds recorded began to decrease, with few remaining into October.

3.9.4 Distribution within SEA 8 Area

Large movements of Manx shearwaters were recorded from several seawatching sites in south-west England (Table 3.27). Counts from Bosigran and Pendeen Watch (Cornwall) occurred on the same day in September, and may involve some duplication of birds. Other high counts listed were recorded in April and July.

Figures were taken from bird reports and records centres.

Table 3.27 Recent peak counts at main sites for Manx shearwaters in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Bosigran	-	-	-	-	42,000	-	**42,000**	-
Pendeen Watch	-	-	-	-	35,000	-	**35,000**	-
Porthgwarra	-	-	-	-	20,000	-	**20,000**	-
Cape Cornwall	-	-	-	-	18,000	-	**18,000**	-
St Austell Bay	-	-	-	-	-	17,000	**17,000**	-
Trevose Head	-	-	-	-	14,097	10,946	**12,522**	-
St Ives Bay	-	-	-	-	-	11,000	**11,000**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS Surveys

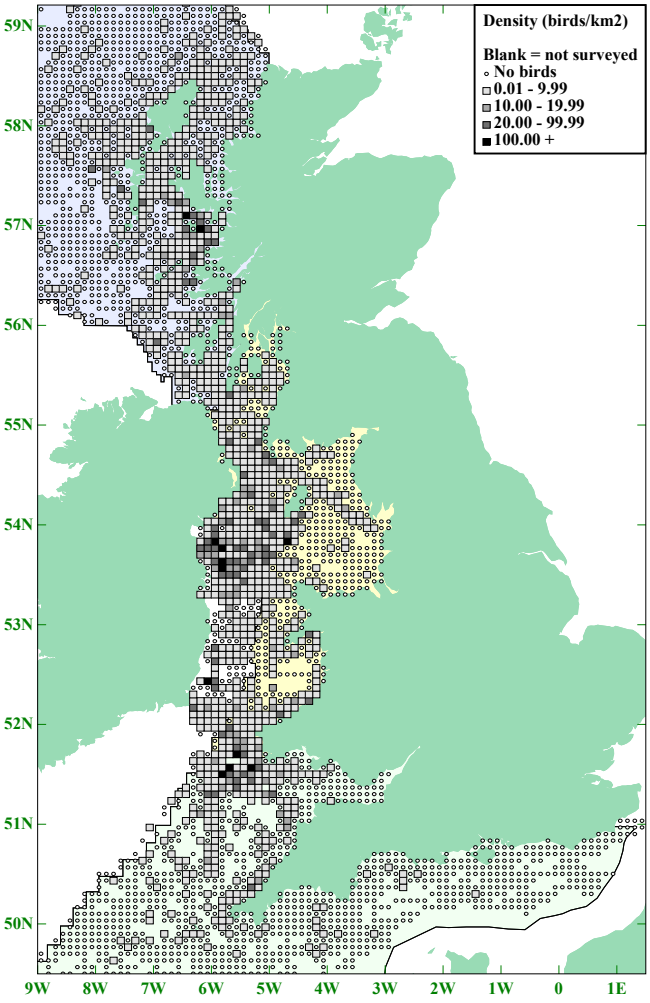
On ESAS surveys within the SEA 8 region, Manx shearwaters were recorded between March and October (Figure 3.6). Few birds were recorded in March with numbers increasing from April onwards, with a peak in July and August, particularly off Pembrokeshire, around the major colonies on Skomer, Skokholm and Middleholm (SEA 6). By September, the number of birds recorded began to decrease, with few remaining into October. Overall, survey coverage was concentrated around coastal areas.

3.9.5 UK Conservation measures

Four terrestrial SPA sites have been selected for breeding Manx shearwaters in the UK. Two of these sites (Skomer, Skokholm & Middleholm and the Aberdaron Coast & Bardsey Island)) are in the SEA 6 region, with two sites (Rum and St. Kilda) in the SEA 7 region (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

Figure 3.6 Manx shearwater density in SEA 6, 7 & 8 areas, from March to September (ESAS data)



3.10 Cormorant

Introduction

The UK wintering population of cormorant has been estimated to be 23,000 birds, although many birds are found inland on freshwater (Kershaw & Cranswick 2003). Within the north-west Europe biogeographic region, the wintering total is estimated to be 120,000 (Delaney & Scott 2002).

Historic estuary counts show that at least 9,000 birds winter on the coast around the UK (Prater 1981). Within the SEA 6, 7 and 8 areas, the principal coastal wintering sites are Morecambe Bay, Belfast and Strangford Loughs, and the Solway, Alt, Dee and Clyde Estuaries (Pollit *et al* 2003).

3.10.1 Breeding birds

A total of 13,628 apparently occupied cormorant nests were counted during Seabird 2000 (Mitchell *et al* 2004), with over 43 % of the British population found in the SEA 6 area (Table 3.28). This is more than 5% of the biogeographic population. The SEA 7 & 8 regions also holds significant numbers of breeding birds.

Table 3.28 Total numbers of cormorants breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	2,932	43.0	5.5 - 5.6
6	N Ireland	319	6.1	0.6
7	Britain	910	13.3	1.7 - 1.8
7	N Ireland	344	6.6	0.7
8	Britain	970	14.2	1.8 - 1.9

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are fourteen nationally important cormorant colonies in the SEA 6 region, with a further three in the SEA 7 region and nine in the SEA 8 region (Table 3.29).

Table 3.29 Nationally important cormorant colonies in SEA 6, 7 & 8 Areas

SEA[1]	Area	Site	Total[2]	% of British/Irish Population[3]	% of Biogeographic Population
6 B	Gwynedd	Great Orme & Little Orme	460	6.7	0.9
6 B	Gwynedd	Puffin Island, Anglesey	353	5.2	0.7
6 B	Wigtown	Loch Ryan, Mochram Lochs, Gennoch Rocks	343	5.0	0.7
6 NI	Down	Strangford Lough	278	5.3	0.5
6 B	Kyle & Carrick	Lady Isle	198	2.9	0.4
6 B	Gwynedd	Coastal Gwynedd	145	2.1	0.3
6 B	Gwynedd	Bodorgan Head & Ynys yr Adar	138	2.0	0.3
6 B	Isle of Man	Isle of Man	134	2.0	0.3
6 B	Gwynedd	Point Lynas to Trwyn Du	126	1.9	0.2
6 B	Stewartry	Port O'Warren	126	1.9	0.2
6 B	Kyle & Carrick	Starling Knowe to Downan Point	106	1.6	0.2
6 B	Stewartry	Balcary Point	95	1.4	0.2
6 B	Gwynedd	Bardsey Island & Ynysoedd Gwylan	78	1.1	0.2
6 B	Dyfed	Aberystwyth - Llanhystud	69	1.0	0.1
7 NI	Antrim	Sheep Island, Causeway Coast	344	6.6	0.7
7 B	Western Isles	Monach Islands	158	2.3	0.3
7 B	Western	Lingay - Harris	112	1.6	0.2
8 B	Isle of Wight	Isle of Wight	90	1.3	0.2
8 B	Devon	Great Mew Stone (Island)	84	1.2	0.2
8 B	Dorset	South Dorset Coast SSSI	77	1.1	0.2
8 B	Kent	Dungeness RSPB Reserve	76	1.1	0.1 - 0.2
8 B	East Sussex	Rye Harbour	75	1.1	0.1
8 B	Dorset	Studland SSSI - Purbeck	73	1.1	0.1
8 B	Avon	Steep Holm - Avon	72	1.1	0.1
8 B	Cornwall	Gunwallor Fishing Cove to Kynance Cove	69	1.0	0.1
8 B	Dyfed	Caldey & St Margaret's Islands	69	1.0	0.1

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.10.2 Distribution within SEA 6 Area

Morecambe Bay was the most important coastal site within the SEA 6 area, with the peak count in winter 2000/01 exceeding the international threshold for this species (> 1,200 birds – Delany & Scott 2002) (Table 3.30). Elsewhere, the main areas of importance were around Liverpool Bay, and the Solway and Clyde estuaries, all of which exceeded the national important threshold for Britain (>230 birds – Kershaw & Cranswick 2003).

Within Northern Ireland, 5 sites regularly held numbers of all-Ireland importance (>150 birds, Crowe in press). Comparing 5-year mean peaks, numbers at Belfast Lough appear to have remained fairly constant over the years, while numbers have increased elsewhere.

Several of these sites, including Morecambe Bay, Belfast Lough and Strangford Lough have been designated as terrestrial SPAs for non-breeding cormorants (Stroud *et al* 2001).

The figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.30 Recent peak counts at main sites for cormorants in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Morecambe Bay	1,099	963	1,030	1,223	-	-	**1,058**	944
Seaforth NR	-	416	552	702	888	700	**652**	-
Solway Firth	510	586	628	678	-	-	**572**	627
Alt Estuary	397	779	574	574	-	-	**568**	316
Dee Estuary	374	613	541	664	692	668	**636**	374
Clyde Estuary	610	470	466	606	528	-	**536**	454
Hilbre	-	-	-	500	405	201	**369**	-
Hoylake	-	-	-	-	283	-	**283**	-
Tremadog Bay	-	-	-	-	-	276	**276**	-
Formby Point	-	133	146	355	288	417	**268**	-
Furness Coast	-	-	-	213	179	400	**264**	-
Ribble Estuary	-	120	144	150	358	398	**234**	-
Burbo Bank	-	-	-	-	232	-	**232**	-
Irvine – Saltcoats	230	-	-	-	-	-	**230**	224
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Belfast Lough	514	349	321	499	449	-	**426**	430
Big Copeland	-	-	400	-	-	-	**400**	-
Strangford Lough	164	300	285	275	245	-	**254**	192
Outer Ards	158	359	303	121	-	-	**219**	133
Carlingford Lough	174	150	209	166	-	-	**177**	163

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies

ESAS surveys

Cormorants were recorded at low densities in coastal waters of the SEA 6 area on ESAS surveys (Figure 3.7). The main areas of concentrations were Belfast Lough, around Arran, Loch Ryan and the Solway Firth, around the Isle of Man, the coastal waters of Liverpool Bay and Milford Haven. Cormorants tends to be under-recorded by ESAS surveys as they prefer shallow inshore waters not usually covered by shipboard surveys (Pollock *et al* 1997).

3.10.3 Distribution within SEA 7 Area

There were no available counts of cormorants that exceeded nationally important thresholds within the SEA 7 area.

ESAS Surveys

Cormorants were recorded at low densities throughout the year from various coastal locations within the SEA 7 region on ESAS surveys but were probably under-recorded by ship surveys (Figure 3.7).

3.10.4 Distribution within SEA 8 Area

The main sites for cormorant within the SEA 8 area were Poole Harbour (Dorset) and Rye Harbour (Sussex), with occasional counts from other sites on the south coast of England (Table 3.31). Numbers at Poole Harbour appeared to be declining in recent years, although the five year means were fairly similar. Numbers at all five sites listed exceeded the nationally important threshold (>230 birds – Kershaw & Cranswick 2003).

The figures shown were taken from WeBS counts, bird reports and records centres.

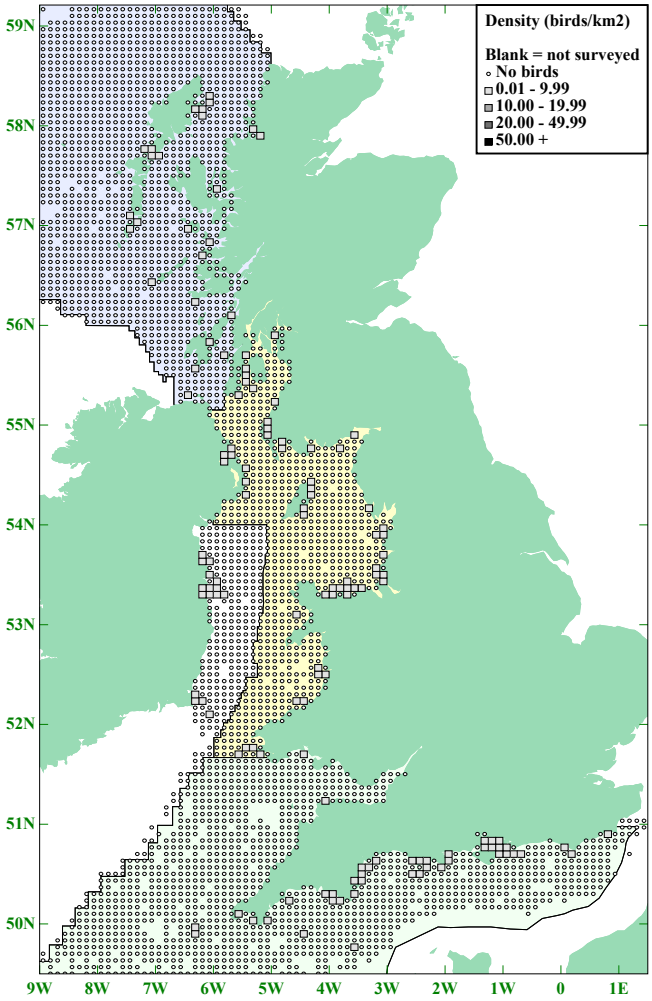
Table 3.31 Recent peak counts at main sites for cormorants in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	**Mean** [1]	Mean [2]
Poole Harbour	400	440	298	338	325	-	**360**	376
Rye Harbour	-	-	-	324	-	340	**332**	-
Shoreham	-	-	-	-	300	-	**300**	-
Church Norton	-	-	-	-	250	-	**250**	-
Pagham Harbour	-	-	234	244	247	-	**242**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Figure 3.7 Cormorant density in SEA 6, 7 & 8 areas, from January to December (ESAS data)



ESAS Surveys

Within the SEA 8 region, cormorants were recorded in low densities throughout the year, predominantly along the south coast of England (Figure 3.7). Birds were most regularly recorded around the Solent, Portland Harbour and around the Exe Estuary.

3.10.5 UK Conservation measures

A total of 32 terrestrial sites have been selected as SPAs for cormorant in the non-breeding season in the UK. Seven of these sites (Belfast Lough, Strangford Lough, Morecambe Bay, Upper Solway Flats & Marshes, Ribble & Alt Estuaries, Mersey Narrows & North Wirral Foreshore and the Dee Estuary) are within the SEA 6 Area, and 4 (Poole Harbour, Solent & Southampton Water, Chichester & Langstone Harbours and the Exe Estuary) are within the SEA 8 area (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.11 Shag

Introduction

Unlike cormorants, shags are a fully maritime species, resident in the study area. The UK wintering population of shags is estimated to be between 100-150,000 birds (RSPB 2004). Within the north-west Europe biogeographic region, the wintering total is estimated to be 222,000 – 258,000 (Delaney & Scott 2002).

3.11.1 Breeding birds

A total of 32,306 apparently occupied shag nests were counted during Seabird 2000 (Mitchell *et al* 2004), with just under 30 % of the British population found in the SEA 7 area (Table 3.32). Although all 3 SEA areas hold internationally important numbers of breeding shags, the SEA 7 area is the most important with 11-12% of the biogeographic population.

Table 3.32 Total numbers of shags breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	3,020	10.6	4.1 - 4.6
6	N Ireland	135	3.6	0.2
7	Britain	8,339	29.2	11.4 - 12.6
7	N Ireland	155	4.2	0.2
8	Britain	2,557	9.0	3.5 - 3.9

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are three nationally important shag colonies in the SEA 6 region, with eight in the SEA 7 region and one in the SEA 8 region (Table 3.33). Numbers breeding on the Isle of Man and on the Isle of Canna are internationally important.

Table 3.33 Nationally important shag colonies in SEA 6, 7 & 8 Areas

SEA[1]	Area	Site	Total[2]	% of British/Irish Population[3]	% of Biogeographic Population
6 B	Isle of Man	Isle of Man	912	3.2	1.3 - 1.4
6 B	Argyll & Bute	Sanda, Sheep & Glunimore Islands	500	1.8	0.7 - 0.8
6 NI	Antrim	The Maidens	97	2.6	0.2
7 B	Lochaber	Isle of Canna	740	2.6	1.0 - 1.1
7 B	Argyll & Bute	Treshnish Isles	601	2.1	0.8 - 0.9
7 B	Western Isles	Shiant Islands	506	1.8	0.7 - 0.8
7 B	Western Isles	Butt of Lewis to Gress - Lewis	475	1.7	0.7
7 B	Skye & Lochalsh	Skye	392	1.4	0.5 - 06
7 B	Argyll & Bute	Mull	293	1.0	0.4
7 NI	Antrim	Sheep Island, Causeway Coast	60	1.6	0.1
7 NI	Antrim	Rathlin Island	58	1.6	0.1
8 B	Cornwall	Plymouth - Falmouth	306	1.1	0.4

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.11.2 Distribution within SEA 6 Area

The main sites for shags in the SEA 6 area were in south-west Scotland and apart from the Clyde Estuary were not regularly counted (Table 3.34). Counts were from September to April. Within Northern Ireland, two sites regularly held over 100 shags.

This species is not regularly counted as part of the WeBS scheme and no thresholds for national importance have been set (Kershaw & Cranswick 2003, Crowe in press). Sites regularly holding more than 100 birds have been considered here.

The figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.34 Recent peak counts at main sites for shags in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Bute Coast	-	-	357	-	-	-	**357**	-
Lendalfoot	-	-	237	-	-	-	**237**	-
Loch Ryan	-	-	184	242	-	-	**213**	-
Irvine Harbour	-	-	-	160	-	-	**160**	-
Lady Island	-	-	-	150	-	-	**150**	-
Clyde Estuary	188	111	87	159	-	-	**136**	-
Sites in Northern Ireland SEA 6 area [3]								
Outer Ards	-	-	169	355	-	-	**262**	-
Strangford Lough	-	-	92	101	166	-	**120**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

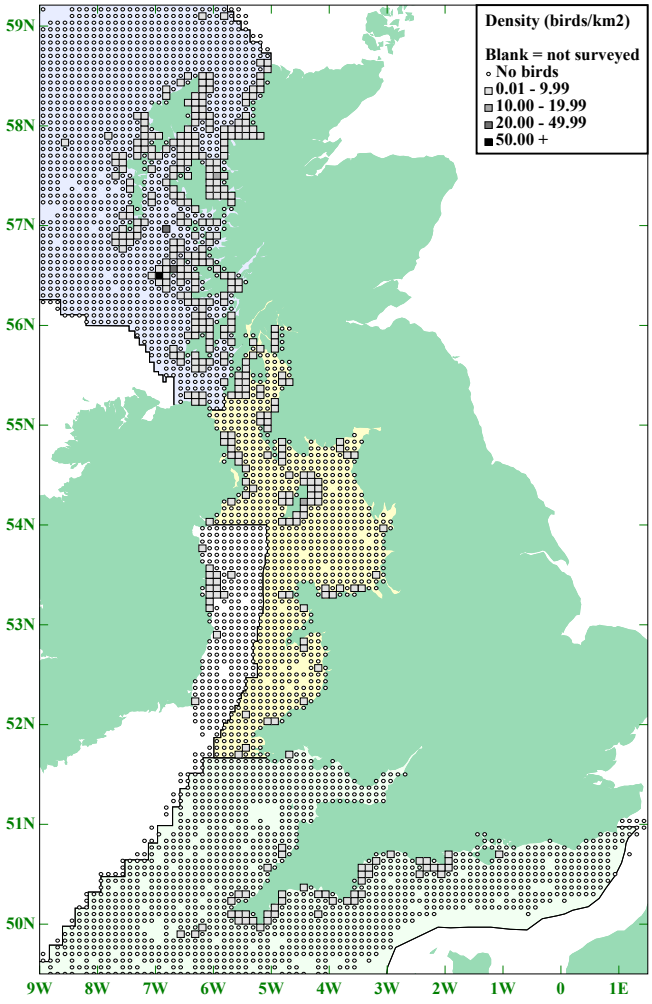
2 Mean of previous 5 years, where available

3 No all-Ireland threshold has been set

ESAS surveys

Within the SEA 6 area, main concentrations found on ESAS surveys were around the Isle of Man, the east coast of Northern Ireland, south-west Scotland and the north Wales coast (Figure 3.8). As with cormorants, the ESAS data on shags should be regarded with caution because of the lack of adequate inshore coverage (Pollock *et al* 1997).

Figure 3.8 Shag density in SEA 6, 7 & 8 areas, from January to December (ESAS data)



3.11.3 Distribution within SEA 7 Area

Within the SEA 7 area, counts were available for seven sites (Table 3.35). Large flocks of shags were recorded between Coll & Tiree, Harris & North Uist, South Uist & Barra and off Rum, Mull and Eigg between September and February. Figures were taken from bird reports.

Table 3.35 Recent peak counts at main sites for shags in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Sound of Gunna	-	-	-	1,000	-	-	**1,000**	-
Sound of Harris	-	500	400	750	-	-	**550**	-
Sound of Barra	-	-	-	-	350	-	**350**	-
Stornoway, Lewis	-	-	-	-	330	-	**330**	-
Kilmory Bay, Rum	-	220	-	-	-	-	**220**	-
Loch na Keal, Mull	-	192	-	-	-	-	**192**	-
Talm, Eigg	-	150	-	-	-	-	**150**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS Surveys

Shags were recorded at low densities throughout the year along the north-west coast of mainland Scotland and around the Western Isles, Skye, and Mull (Figure 3.8). Highest densities occurred between December and February.

3.11.4 Distribution within SEA 8 Area

Recent peak counts for shags in the SEA 8 area were only available for two sites, both in Devon (Table 3.36). The figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.36 Recent peak counts at main sites for shags in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Exe Estuary/ Dawlish Bay	414	-	250	430	200	-	**324**	-
Langerstone Point	-	-	-	180	-	-	**180**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS Surveys

Shags were recorded on ESAS surveys in the SEA 8 region in every month except May. Low densities were recorded throughout the year in coastal waters west of the Isle of Wight to north Cornwall, including the Isles of Scilly (Figure 3.8).

3.11.5 UK Conservation measures

A total of 13 terrestrial sites have been selected as SPAs for shag in the breeding season in the UK. Three of these sites are within the SEA 7 Area (Canna & Sanday, Mingulay & Berneray and the Shiant Isles) and one (Isles of Scilly) is within the SEA 8 area (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.12 Scaup

Introduction

The wintering population of scaup in the UK has been estimated at around 7,560, with the majority of birds in Scotland (Kershaw & Cranswick 2003). The estimated north-west European biogeographic population is 310,000 birds (Delaney & Scott 2002).

Several sites in Scotland regularly hold nationally important numbers of scaup but numbers have decreased since the late 1960's when very large flocks (over 30,000 in some winters) were recorded in the Firth of Forth (Thom 1986, Kirby *et al* 1993, Stroud *et al* 2001). Within the SEA 6, 7 and 8 areas, the principal coastal wintering sites are the Solway Estuary, Loch Indaal (Islay), Loch Ryan, Carlingford Lough and Belfast Lough, with low numbers recorded elsewhere (Lack 1986, Hutchinson 1989, Pollit *et al* 2003).

Some scaup regularly winter on inland freshwater lakes; for example Lough Neagh and Lough Beg in Northern Ireland hold internationally important flocks (Pollit *et al* 2003).

3.12.1 Breeding birds

Scaup are rare and sporadic breeders in Britain with between 0-3 breeding pairs between 1989-1993 (Stone *et al* 1997).

3.12.2 Distribution within SEA 6 Area

Numbers of scaup exceeded the nationally important threshold for Britain at several sites within the SEA 6 area (>76 birds – Kershaw & Cranswick 2003) (Table 3.37). WeBS counts show that away from the inland sites of Lough Neagh and Beg, the Solway Firth was the main site for wintering scaup in the UK (Pollit *et al* 2003). Other sites in the vicinity such as Carsethorn-Corbally and the Nith Estuary also held similar numbers and there may be movement between sites and double counting. Low-tide surveys in 1991/92 gave a total in excess of 5,000 scaup on the north coast of the Solway Firth (Kirby *et al* 1993).

Within Northern Ireland, two coastal sites regularly held numbers of all-Ireland importance (>70 birds – Crowe in press). Numbers at Belfast Lough have increased in recent years. It is likely that the bulk of the winter population in Ireland comes from Iceland (Hutchinson 1989).

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.37 Recent peak counts at main sites for scaup in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Carsethorn-Corbally	-	3,430	-	2,300	-	-	**2,865**	-
Solway Firth	4,533	2,006	3,001	1,818	-	-	**2,740**	2,894
Nith Estuary	-	2,540	4,034	1,560	1,000	-	**2,284**	-
Loch Ryan	1,249	346	637	631	-	-	**837**	538
Rough Firth	0	170	308	204	340	-	**204**	95
Powfoot	-	-	230	200	120	-	**183**	-
Ayr-Prestwick	-	73	120	179	268	-	**160**	-
Hilbre	-	-	75	-	188	-	**132**	-
Clyde Estuary	111	-	-	-	-	-	**111**	120
Alt Estuary	-	-	-	-	73	84	**79**	-
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Carlingford Lough	572	700	700	800	500	-	**654**	725
Belfast Lough	95	78	244	493	600	1,058	**495**	177

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies

Scaup have not been recorded within the SEA 6 area during ESAS surveys.

During recent JNCC winter inshore aerial surveys in the SEA 6 area, scaup were recorded in significant numbers in the Solway Firth (Dean *et al* 2003).

3.12.3 Distribution within SEA 7 Area

Loch Indaal on Islay was the only site within the SEA 7 area to regularly hold nationally important numbers of scaup in winter (>76 birds – Kershaw & Cranswick 2003) (Table 3.38). Peak counts fluctuated over recent years but the 5 year mean showed an increase over the previous 5 year period. Figures were taken from WeBS counts, and bird reports.

Table 3.38 Recent peak counts at main sites for scaup in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Loch Indaal, Islay	1,110	1,120	900	1,450	1,070	-	**1,130**	836

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Scaup have not been recorded within the SEA 7 area during ESAS surveys. During recent JNCC winter inshore aerial surveys in the SEA 7 area, scaup were recorded in significant numbers in Loch Indaal (Islay) (Dean *et al* 2003).

3.12.4 Distribution within SEA 8 Area

Historic counts from Rye Bay (Sussex) exceeded the nationally important threshold, with 164 scaup present in January 1996, and 245 birds there in January 1997 (>76 birds – Kershaw & Cranswick 2003) (Table 3.39). Numbers recorded there in recent years were very low. No other counts of national importance were available for the SEA 8 area.

Table 3.39 Recent peak counts at main sites for scaup in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Rye Bay	-	-	8	6	7	-	**7**	205

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Scaup have not been recorded within the SEA 8 area during ESAS surveys.

3.12.5 UK Conservation measures

Two coastal sites have been selected as non-breeding SPAs for scaup within the SEA 6 area. Belfast Lough holds an estimated 4.9 % of the all-Ireland population, while the Upper Solway Flats and Marshes are estimated to hold 14.0 % of the British wintering population (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.13 Eider

Introduction

The UK winter population of eider is estimated at around 73,000 birds, with a further 12,000-13,500 birds found on Shetland and Orkney (Kershaw & Cranswick 2003, Delaney & Scott 2002). The biogeographic population of the nominate race (*S. m. mollisima*) of eider is currently estimated at between 1,248,400 and 1,858,400 individuals.

Within the SEA 6, 7 & 8 areas the main wintering sites are the south-west Scotland, including the Clyde Estuary, Morecambe Bay, and the east coast of Northern Ireland (Pollit *et al* 2003).

3.13.1 Breeding birds

The eider is the commonest species of seaduck in the UK, with a mainly sedentary breeding population of around 31,000 pairs (Gibbons *et al* 1993). Approximately 7,000 eider are thought to breed around the Firth of Clyde each year, including Arran, Bute and Inchmarnock, with smaller populations along the Ayrshire coast e.g. Horse and Lady Islands, and in the Inner and Outer Hebrides (SOC 2000, Waltho 2001, Murray 2004). Around 230 pairs bred on Walney Island (Cumbria) in 2002 & 2003, with a further 77 nests on Foulney Island (Cumbria) in 2003 (Robinson & Hartley 2004).

3.13.2 Distribution within SEA 6 Area

The south-west coast of Scotland and north-west coast of England held the majority of eider within the SEA 6 area, with two sites, the Firth of Clyde and Morecambe Bay regularly holding several thousand birds. Co-ordinated counts around the Firth of Clyde in recent years have shown that this area holds large numbers of birds and is the most important area for this species in the UK (Waltho 2001, Pollit *et al* 2003)(Table 3.40). Sites within the Firth of Clyde are shown in italics.

Few birds were recorded south of Morecambe Bay. All sites from Britain listed here exceeded both the nationally important threshold (>730 birds – Kershaw & Cranswick 2003) and the internationally important threshold (>750 birds - Delaney & Scott 2002).

Within Northern Ireland, five sites regularly held nationally important numbers of eider (>20 birds - Crowe in press), with numbers at Belfast Lough exceeding the internationally important threshold (Table 50). Numbers appeared to be increasing at Belfast Lough, with lower numbers at Outer Ards, and Copeland Sound.

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.40 Recent peak counts at main sites for eider in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Firth of Clyde	19,450	14,539	16,546	6,126	15,692	-	**14,470**	5,922
Morecambe Bay	8,200	8,131	6,713	5,306	-	-	**6,885**	6,725
Ayr –North Troon	*3,767*	*4,355*	*2,000*	*1,700*	*7,000*	*4,000*	***3,807***	*3,647*
Foulney Island	-	-	-	-	-	3,700	**3,700**	-
South Walney	-	-	-	3,000	3,185	-	**3,093**	-
Gare Loch	*2,419*	*2,156*	*2,261*	*3,877*	-	-	***2,750***	-
Furness Coast	-	-	-	895	3,871	-	**2,383**	-
Turnberry-Girvan	*3,645*	*3,200*	-	*2,500*	*1,400*	*1,900*	***2,250***	*2,075*
Loch Long/Loch Goil	*1,331*	*2,960*	*2,164*	*1,539*	-	-	***1,856***	-
Loch Fyne	*1,499*	*1,558*	*1,510*	*1,297*	-	-	***1,466***	-
Loch Ryan	*228*	*1,202*	*1,400*	*2,037*	*1,031*	-	***1,180***	*1,220*
Bute	*1,187* [3]	*949*	*1,367*	*771*	-	-	***969***	-
Ardrossan – West Kilbride	-	-	*937*	*803*	-	-	***870***	-
Isle of Cumbrae	*833*	*909*	*577*	-	-	-	***849***	*764*
Leven Estuary	-	-	-	-	-	800	**800**	-
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Belfast Lough	922	913	1,076	2,219	-	-	**1,116**	883
Outer Ards	470	716	522	241	-	-	**532**	288
Copeland Sound	-	600	930	300	300	-	**525**	-
Strangford Lough	52	127	122	279	283	-	**173**	35
Larne Lough	39	100	157	128	-	-	**104**	76

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

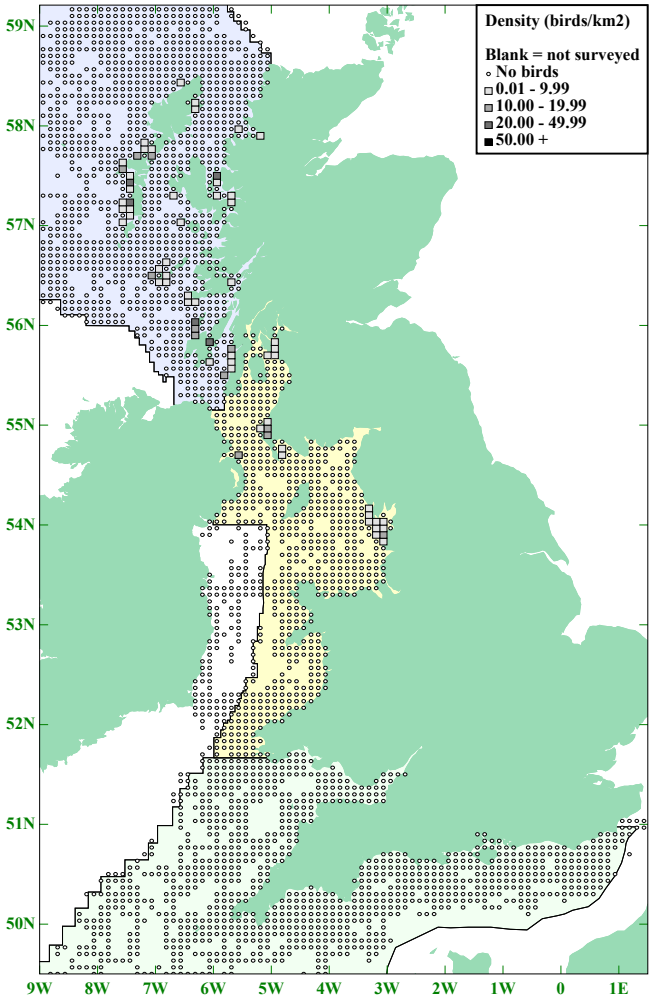
2 Mean of previous 5 years, where available

3 All-Ireland threshold applies.

ESAS surveys

During ESAS surveys within the SEA 6 area, eider were recorded in low to moderate densities between October and March (Figure 3.9). Numbers were much lower between April and September but the distribution pattern was similar. The main areas of concentrations were the Firth of Clyde, Loch Ryan and Morecambe Bay.

Figure 3.9 Eider density in SEA 6, 7 & 8 areas, from October to March (ESAS data)



3.13.3 Distribution within SEA 7 Area

Few nationally important counts for eider in the SEA 7 area were available (Table 3.41). The mean count at Otter Ferry (Argyll & Bute) exceeded the nationally important threshold for Britain (>730 birds – Kershaw & Cranswick 2003), and was close to the internationally important threshold (>750 birds - Delaney & Scott 2002). The count of 80 eider at Rathlin Island in April 2002 was above the nationally important threshold for all-Ireland (>20 birds – Crowe in press).

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.41 Recent peak counts at main sites for eider in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Otter Ferry	-	-	380	1,118	-	-	**749**	-
Kyleakin	-	-	-	-	500	300	**400**	-
Sound of Taransay	-	-	400	-	-	-	**400**	-
Sites of all-Ireland importance in Northern Ireland SEA 7 area [3]								
Rathlin Island	-	-	-	-	80	-	**80**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies.

ESAS Surveys

ESAS surveys within the SEA 7 area recorded eider in moderate to high densities in December and January around Skye and the Uists, with low densities in other months, although coverage was not complete in all months (Figure 3.9).

JNCC winter aerial surveys conducted over the winter of 2002/03 recorded the greatest numbers of eider off the west coast of the Outer Hebrides, particularly in the sounds of Barra, Monach and Harris, and around Taransay (Dean *et al* 2004).

3.13.4 Distribution within SEA 8 Area

No sites within the SEA 8 region held significant numbers of eider, and the species has not been recorded during ESAS surveys within the area.

3.13.5 UK Conservation measures

Two coastal sites have been selected as non-breeding SPAs for eider within the SEA 6 area. Belfast Lough holds an estimated 34.3 % of the all-Ireland population, while Morecambe Bay is estimated to hold 8.3 % of the British wintering population (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.14 Long-tailed duck

Introduction

An estimated 16,000 long-tailed ducks winter around the coast of the UK, with the majority of these in Scotland, (Lack 1986, Kershaw & Cranswick 2003, Pollit *et al* 2003). Numbers tend to peak in late December/early January, remaining high until mid-February, then declining sharply (Prater 1981, Lack 1986, Thom 1986).

Birds wintering around Britain are thought to originate from the Iceland/Greenland breeding population of 150,000 birds, although some birds from the western Siberia/north-west Europe population (some 4,600,000) which winters primarily in the Baltic, may also winter in UK waters (Stroud *et al* 2001).

3.14.1 Distribution within SEA 6 Area

Three sites in Northern Ireland regularly held nationally important numbers of long-tailed ducks (>20 birds – Crowe in press) (Table 3.42), although no sites in the SEA 6 area held numbers in excess of the British 1% threshold of national importance (>160 birds – Kershaw & Cranswick 2003).

Table 3.42 Recent peak counts at main sites for long-tailed ducks in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Carlingford Lough [3]	20	-	-	58	24	18	**33**	20
Belfast Lough [3]	15	29	30	12	22	40	**27**	15
Dundrum Bay [3]	-	-	31	22	23	12	**22**	22

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies.

ESAS surveys

Only three long-tailed ducks were seen during ESAS surveys in the SEA 6 area, reflecting their more northerly distribution (Figure 3.10).

3.14.2 Distribution within SEA 7 Area

Occasional counts of long-tailed duck from several sites on North and South Uist (Western Isles) exceeded the nationally important threshold (>160 birds – Kershaw & Cranswick 2003) (Table 3.43). Counts were made between October and March. Figures were taken from WeBS counts and bird reports.

Table 3.43 Recent peak counts at main sites for long-tailed duck in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Peninerine, S Uist	448	-	-	-	-	-	**448**	-
Rubha Ardvule, S Uist	302	-	-	-	-	-	**302**	-
Drimsdale, S Uist	-	-	-	-	302	-	**302**	-
Braighe, Lewis	-	-	300	-	-	-	**300**	-
Stillgarry, S Uist	209	-	-	-	-	-	**209**	-
Howmore, S Uist	205	-	-	-	-	-	**205**	-
Sound of Harris	-	179	220	-	200	-	**200**	-
Howmore, N Uist	160	-	-	-	-	-	**160**	-
Traigh Luskentyre	152	75	49	49	-	-	**94**	68

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Previous reviews estimated that the Western Isles supported between 500 and 700 long-tailed ducks (Kirby *et al* 1993). The above figures indicate that several hundred are still present around the Uists in winter but regular counts at several sites are lacking.

Ferns (1990) recorded a total of 838 long-tailed ducks off the west coast of South Uist and Benbecula in January 1986, with up to 1,000 additional birds some distance offshore in the northern part of South Uist. He concluded that there is scope for a large number of birds to be

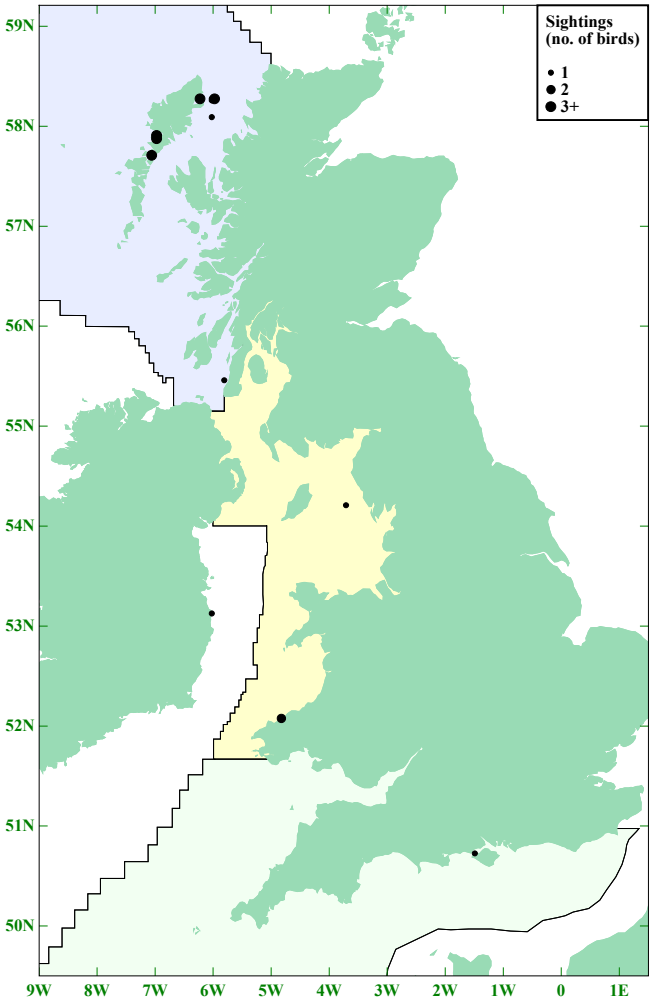
spread out feeding, out of sight of land, as the 20m depth contour is some 6km offshore of the Uists.

ESAS surveys

Sightings of long-tailed ducks during ESAS surveys within the SEA 7 area were restricted to around Lewis and Harris (Western Isles) and 1 bird off the Kintyre peninsula between October and March (Figure 3.10).

Aerial surveys conducted over the winter of 2002/03 in the SEA 7 area recorded long-tailed ducks in all areas surveyed, with the greatest numbers along the west coast of the Outer Hebrides, around Berneray and the Sound of Harris (Dean *et al* 2004).

Figure 3.10 Sightings of long-tailed ducks in SEA 6, 7 & 8 areas (ESAS Data)



3.14.3 Distribution within SEA 8 Area

No coastal sites within the SEA 8 area regularly held nationally important numbers of long tailed duck (>160 birds – Kershaw & Cranswick 2003). Only 1 long-tailed duck was recorded during ESAS surveys in the SEA 8 area, off the Isle of Wight in January (Figure 3.10).

3.14.4 UK Conservation measures

No terrestrial SPAs have been designated for long-tailed ducks within the SEA 6, 7 or 8 areas (Stroud *et al* 2001). Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.15 Common scoter

Introduction

Common scoter are usually found in shallow waters associated with sandy substrates. They feed actively by day mainly on blue mussels, crustaceans and small fish such as sandeels. Most of the UK winter population tends to be found in a few large flocks off the mouths of major estuaries around the coast of Britain. A recent review of numbers for the UK and recent survey work at key sites suggested that the number of wintering common scoter is likely to be in the region of 50,000 birds (Kershaw & Cranswick 2003).

Most wintering birds are thought to come from Fennoscandia and western Siberia (Kirby *et al* 1993). The main influx of scoter occurs in October & November with a peak between December and early February (Lack 1986). The biogeographic population is currently estimated at 1,600,000 individuals (Delany & Scott 2002).

3.15.1 Breeding birds

The UK breeding population of common scoter has declined by more than 50% in the last 25 years (UKBAP 2001). Breeding pairs are now restricted to Scotland, with an estimated 2-33 pairs in 2001 (Ogilvie *et al* 2003).

3.15.2 Distribution within SEA 6 Area

Within the SEA 6 area, the two main areas for common scoter were Liverpool Bay and Cardigan Bay (Table 3.44). Recent aerial surveys have shown that both these areas hold large numbers of common scoter in winter (Dean *et al* 2003, Cranswick *et al* 2004). Relatively few were recorded in the Solway Firth.

Recent aerial surveys by WWT using 'distance' sampling techniques estimate at least 25,000 birds overwintered in 2002/2003 with a peak of 79,000 birds in February 2003. This figure exceeds the current estimate for common scoter wintering in the UK which was put at 50,000 birds. It also exceeds the internationally important threshold of 16,000 birds, thus qualifying the site as an SPA. The most important areas are Shell Flat in the north and Colwyn Bay. Most wintering birds have departed by May but those that remain, are concentrated off the Ribble Estuary.

Land-based counts of common scoter from coastal sites in the SEA 6 area are also shown in Table 54, with sites bordering Liverpool Bay in italics. Numbers shown exceeded the nationally important threshold for common scoter in Britain (>500 birds – Kershaw & Cranswick 2003).

Aerial surveys in August 2002 showed birds were highly concentrated in offshore areas at Shell Flat, Cardigan Bay, Colwyn Bay and Carmarthen Bay (SEA 7). Some of these birds may have been moulting (Cranswick *et al* 2004).

Within Northern Ireland, Dundrum Bay held nationally important numbers of common scoter (> 120 birds – Crowe in press).

Table 3.44 Recent peak counts at main sites for common scoter in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Liverpool Bay	-	-	-	16,604	-	79,000	**47,802**	-
Shell Flat	-	-	-	-	*11,300*	*14,002*	***12,651***	-
Cardigan Bay	5,220	-	-	-	6,297	-	**5,758**	6,478
Solway Firth	5,000	-	-	-	-	5,300	**5,300**	5,000
Heston Island	-	1,450	5,400	-	5,800	-	**4,217**	-
Blackpool	-	*850*	*3,146*	*2,264*	*1,811*	*3,250*	***2,264***	-
Rough Firth	2,000	-	-	-	-	-	**2,000**	-
Ribble Estuary	-	-	-	-	-	*1,142*	***1,142***	-
Tremadog Bay	-	-	*400*	*1,000*	*3,250*	*810*	***1,365***	-
Formby Point	-	-	*572*	*399*	*1,800*	*1,818*	***1,147***	-
Wigtown Bay	-	-	-	1,000	-	-	**1,000**	-
Mersehead	-	-	-	775	-	-	**775**	-
Llanfairfechan	-	-	-	*615*	-	-	***615***	-
Balcary	-	450	-	1,000	-	-	**725**	-
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Dundrum Bay	-	755	1,400	1,500	2,100	950	**1,341**	150
Belfast Lough	-	-	86	-	-	-	**86**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies.

ESAS surveys

Common scoter were recorded in the SEA 6 area in all months of the year except October (Figure 3.11). Highest densities were recorded in January, when concentrations were noted around the coast of Liverpool Bay and in the northern half of Cardigan Bay. Moderate densities were recorded in the Solway Firth in July.

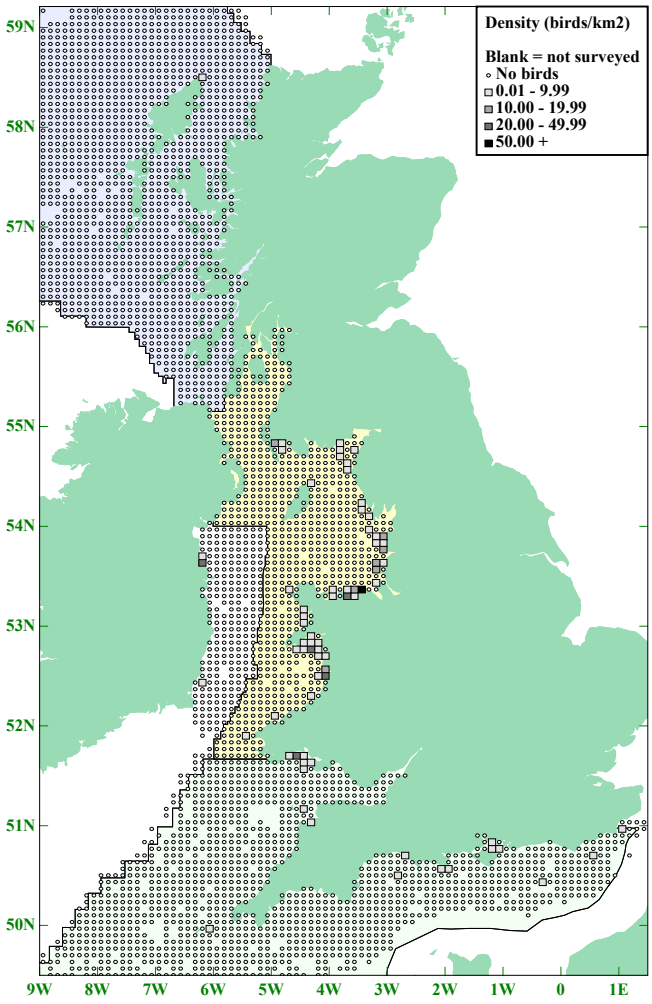
3.15.3 Distribution within SEA 7 Area

There were no sites within the SEA 7 area which regularly held nationally important numbers of common scoter.

ESAS surveys

Common scoter were only recorded in low densities off the north tip of Lewis in January during ESAS surveys in the SEA 7 area (Figure 3.11). The species was not recorded during aerial surveys off the west coast of the Outer Hebrides, conducted over the winter of 2002/03 (Dean *et al* 2004).

Figure 3.11 **Common scoter density in SEA 6, 7 & 8 areas, from January to December** (ESAS data)



3.15.4 Distribution within SEA 8 Area

The most important site for common scoter within the SEA 8 area was Carmarthen Bay (Pembrokeshire), where the most recent 5-year mean easily exceeded the nationally important threshold (>500 birds – Kershaw & Cranswick 2003) (Table 3.45). Counts between 1998 and 2001 exceeded the 1% internationally important threshold (>16,000 birds – Delaney & Scott 2002). This site has been designated as a marine SPA for common scoter.

Moulting flocks greater than 1,000 birds are regularly reported in Carmarthen Bay (Wernham *et al* 2002).

Numbers from Brighton Marina (Sussex) were peak daily counts of birds on spring passage in March and April. Historic counts from Rye Bay and the Bexhill-Hastings area (Sussex) exceeded the nationally important threshold, although recent counts were lower. Figures were from WeBS counts, bird reports and records centres.

Table 3.45 Recent peak counts at main sites for common scoter in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Carmarthen Bay	6,240	18,243	21,592	19,506	-	-	**14,276**	10,159
Brighton Marina	580	1,539	1,200	1,533	1,600	1,003	**1,375**	873
Bexhill-Hastings	-	-	80	-	133	344	**185**	548
Rye Bay	-	-	80	115	250	-	**148**	2,000

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

ESAS surveys recorded common scoter within the SEA 8 area in all months except April and May (Figure 3.11). In Carmarthen Bay, peak densities were recorded in January, March and September, although the bay was not surveyed in all months. Elsewhere, low densities were recorded along the south coast of England.

3.15.5 UK Conservation measures

One of the UK's six terrestrial non-breeding SPAs (Ribble and Alt Estuaries) for common scoter is within the SEA 6 area (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002). Carmarthen Bay, in the SEA 8 area, was classified as the first wholly marine SPA in Britain in 2003 for its wintering population of common scoter (JNCC 2004).

Part of Liverpool Bay is currently in the process of being designated as a marine SPA for common scoter and red-throated diver. The draft boundary has been determined by JNCC and Agreed by English Nature and is currently awaiting approval by the Countryside Council for Wales (CCW), before undergoing the public consultation process (S Whitehead *pers. comm.).*

An Action Plan for common scoter has been drawn up as part of the UK Biodiversity Action Plan, as the breeding population has declined by more than 50% in the last 25 years (UKBAP 2001). Amongst other recommendations, the following proposed actions on the various UK country agencies have relevance for the SEA 6 and 7 areas:

- To ensure that licensing of offshore developments does not detrimentally affect important wintering, moulting or feeding sites of Common Scoters.
- To conduct regular surveys of breeding, wintering and moulting Common Scoters

3.16 Goldeneye

Introduction

The wintering population of goldeneye in Britain is largely of Scandinavian in origin. Numbers reach their peak in mid-winter, and remain high until April, as goldeneye tend to leave for their breeding grounds later than other wintering duck species (Thom 1986).

An estimated 24,900 goldeneye are thought to winter in Britain each year, although not all of these birds will be at coastal sites (Kershaw & Cranswick 2003). These birds form part of the north-west and central European biogeographic population, currently estimated at 400,000 birds (Delaney & Scott 2002).

Goldeneye are generally found in inshore waters less than 10m deep. They feed by day and often move to roost sites at night.

3.16.1 Breeding birds

The British breeding population of goldeneye was estimated to be between 83-109 pairs from 1989-1992 (Stone *et al* 1997). Breeding is confined to freshwater lochs in Scotland although the number of birds summering in England is increasing (Ogilvie *et al* 2003).

3.16.2 Distribution within SEA 6 area

In Britain, 7 sites within the SEA 6 area held nationally important numbers of goldeneye (>249 birds – Kershaw & Cranswick 2003) (Table 3.46). With the exception of Morecambe Bay, all sites were in south-west Scotland, with the Clyde Estuary and Dipple shore, on the Ayrshire coast, holding the highest numbers.

Within Northern Ireland, five sites regularly held nationally important numbers (>140 birds – Crowe in press). The most recent 5-year mean peak numbers at Belfast, Strangford and Larne Loughs all showed a decline when compared to the previous 5-year mean peak, although numbers at Carlingford Lough showed an increase.

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.46 Recent peak counts at main sites for goldeneye in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Clyde Estuary	509	496	858	869	214	-	**589**	534
Dipple Shore	689	240	-	-	-	-	**465**	-
Morecambe Bay	310	314	288	346	-	-	**317**	474
Girvan-Turnberry	315	241	131	122	-	-	**296**	473
Loch Ryan	-	-	271	247	364	-	**294**	-
Ayr-Prestwick	-	-	-	-	270	-	**270**	-
Ardgowan	-	269	-	-	-	-	**269**	-
Doon Estuary	198	134	400	365	120	-	**243**	508
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Belfast Lough	259	337	161	376	-	-	**307**	546
Strangford Lough	302	298	238	108	256	-	**240**	298
Larne Lough	238	173	247	136	-	-	**216**	240
Carlingford Lough	227	154	139	163	-	-	**188**	115
Groomsport	-	-	153 [5]	-	-	-	**153**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

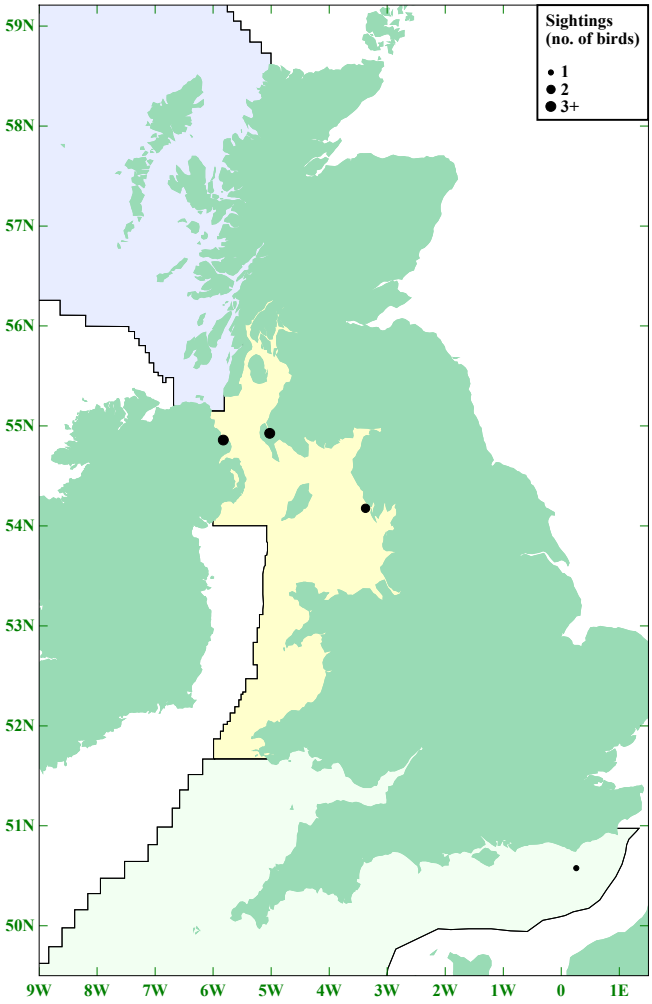
2 Mean of previous 5 years, where available

3 All-Ireland threshold applies.

ESAS surveys

Sightings of goldeneye within the SEA 6 area during ESAS surveys were restricted to Larne Lough, Lough Ryan and off the Duddon Estuary (Figure 3.12).

Figure 3.12 Sightings of goldeneye in SEA 6, 7 & 8 areas (ESAS data)



3.16.3 Distribution within SEA 7 area

No sites within the SEA 7 area regularly hold nationally important numbers of goldeneye, and the species was not recorded during ESAS surveys.

3.16.4 Distribution within SEA 8 area

Poole Harbour in Dorset was the only site in the SEA 8 area that regularly held nationally important numbers of goldeneye (>249 birds – Kershaw & Cranswick 2003) (Table 3.47).

Table 3.47 Recent peak counts at main sites for goldeneye in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Poole Harbour	405	182	273	155	-	-	**249**	175

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

One goldeneye was seen south of Beachy Head in the English Channel during ESAS surveys in the SEA 8 area (Figure 3.12).

3.16.5 UK Conservation measures

In the SEA 6 area, Strangford Lough, Belfast Lough, Morecambe Bay and the Upper Solway Flats & Marshes have been selected as non-breeding SPAs for goldeneye. Poole Harbour, in the SEA 8 area, has also been designated as a non-breeding SPA (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.17 Red breasted merganser

Introduction

Around 85-90% of wintering red-breasted mergansers are found on the coast, mainly in estuaries in small flocks of less than 30 birds (Owen *et al* 1986; Thom 1986, Lack 1986). Influxes of birds from the continent during periods of cold weather have also been recorded (Prater 1981). The wintering population in Britain has been estimated to be 9,840 birds (Kershaw & Cranswick 2003). Numbers tend to peak in December and decline from March onwards (Lack 1986).

3.17.1 Breeding birds

An estimated 2,300 pairs of red-breasted mergansers breed in Britain, with some 1,200-1,700 of these occurring in Scotland (Thom 1986, RSPB 2004). The north-western and central European biogeographic population is estimated at 170,000 birds (Delaney & Scott 2002). Most of the birds that breed in Britain are thought to be resident.

Numbers build up in coastal areas from May onwards as birds form moulting flocks, peaking in late August. Moulting flocks begin to disperse to the wintering grounds from mid-September, and these birds are joined by immigrants from Iceland (Thom 1986).

3.17.2 Distribution within SEA 6 Area

Numbers of red-breasted mergansers at 12 sites in Britain exceeded the nationally important threshold for Britain (>98 birds – Kershaw & Cranswick 2003). Morecambe Bay and Hilbre in Lancashire, and Traeth Lafan in North Wales were the main sites (Table 3.48).

Six sites in Northern Ireland held numbers of all-Ireland national importance (>40 birds – Crowe in press). Strangford, Larne and Belfast Loughs were the three main sites with lower numbers elsewhere.

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.48 Recent peak counts at main sites for red-breasted merganser in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Morecambe Bay	312	309	475	338	-	-	**351**	309
Hilbre	-	-	-	-	332	-	**332**	-
Traeth Lafan	234	453	255	317	322	236	**317**	278
Duddon Estuary	394	378	240	148	136	232	**227**	423
Clyde Estuary	186	230	244	125	92	-	**176**	189
Hodbarrow	-	-	-	-	124	185	**155**	-
Irvine – Saltcoats	148	-	-	-	-	-	**142**	110
Furness Coast	-	-	-	114	138	173	**142**	-
Balkenna-Dipple	-	166	-	149	116	124	**139**	-
Solway Firth	181	66	122	109	-	-	**122**	44
Hunterston	-	-	-	-	-	100	**100**	-
Bogside	-	-	-	-	-	100	**100**	-
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Strangford Lough	191	285	211	148	-	-	**222**	328
Larne Lough	171	195	243	188	-	-	**200**	235
Belfast Lough	270	123	166	169	-	-	**170**	181
Dundrum Bay	-	225	54	60	25	87	**90**	-
Outer Ards	50	41	52	35	-	-	**49**	40
Carlingford Lough	44	46	41	44	-	-	**42**	29

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies.

ESAS surveys

Low numbers of red-breasted mergansers were recorded within the SEA 6 area during ESAS surveys (Figure 3.13). Abundance was highest in Loch Ryan and in the Dee Estuary in Liverpool Bay. Wintering concentrations of red-breasted mergansers were recorded in Cardigan Bay during winter inshore aerial surveys between 2000/01 and 2001/02 (Dean *et al* 2003).

3.17.3 Distribution within SEA 7 Area

Counts of red-breasted mergansers from several sites within the SEA 7 area exceeded the nationally important threshold (>98 birds – Kershaw & Cranswick 2003), although only 1 site (Loch Indaal, Islay) was regularly counted (Table 3.49). Numbers here showed a peak in August and September.

Figures shown are taken from WeBS counts and bird reports.

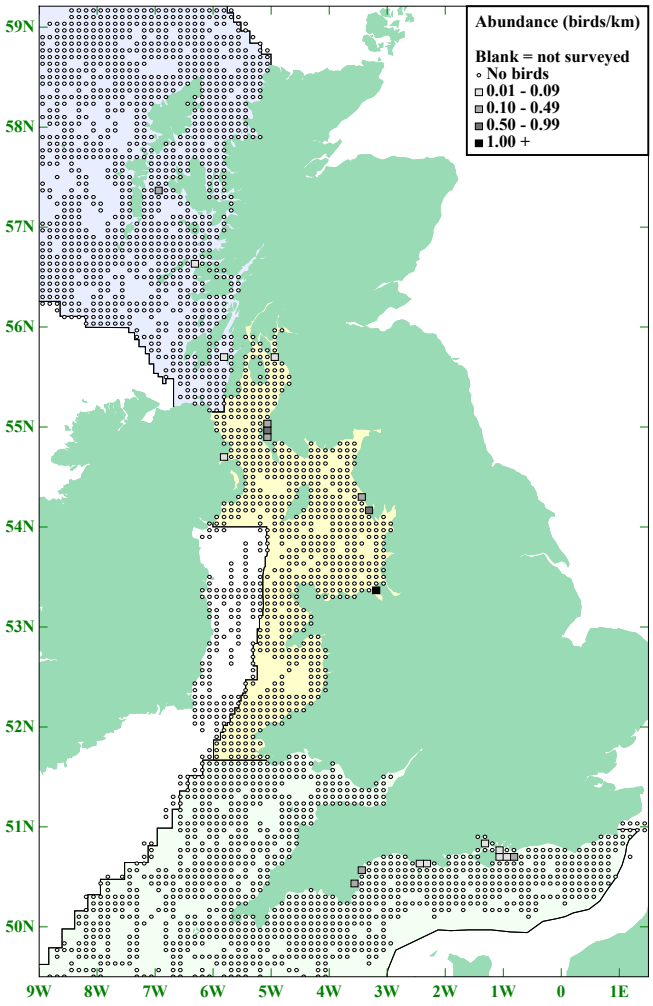
Table 3.49 Recent peak counts at main sites for red-breasted merganser in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Sound of Gigha	-	-	-	420	-	-	**420**	-
Loch Indaal, Islay	157	191	185	163	112	-	**162**	263
Braiche, Lewis	-	-	150	-	-	-	**150**	-
Gualan, Lewis	-	-	-	144	-	-	**144**	-
Skipness Bay	-	-	-	103	-	-	**103**	-
The Reef, Lewis	-	-	100	100	-	-	**100**	-
Tiree coast	-	-	100	-	-	-	**100**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Figure 3.13 Red-breasted merganser abundance in SEA 6, 7 & 8 areas, from November to April (ESAS Data)



ESAS surveys

ESAS surveys in the SEA 7 area recorded low numbers of red-breasted mergansers between Skye and South Uist in February, east of Islay in April and off Mull in November (Figure 3.13). Small numbers of red-breasted mergansers were recorded in the Sounds of Barra and Harris, during aerial surveys off the west coast of the Outer Hebrides, conducted over the winter of 2002/03 (Dean *et al* 2004).

3.17.4 Distribution within SEA 8 Area

Several sites in the SEA 8 area held nationally important numbers of red-breasted mergansers (>98 birds – Kershaw & Cranswick 2003) (Table 3.50). Poole Harbour and Fleet/Way (Devon) held the highest numbers. Highest counts from all sites listed occurred between November and April, indicating that the SEA 8 area is most important for red-breasted mergansers during the winter and early spring. Figures were taken from WeBS counts, bird reports and records centres.

Table 3.50 Recent peak counts at main sites for red-breasted merganser in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Poole Harbour	502	385	466	336	-	-	**404**	392
Fleet/Way	440	269	530	283	280	-	**360**	314
Worthing Beach	-	-	213	200	158	254	**206**	-
Goring Gap	-	173	-	200	186	-	**186**	-
Chichester Harbour	184	141	212	180	159	184	**175**	147
Langstone Harbour	199	185	190	122	213	126	**167**	226
Dawlish Warren	-	-	140	103	135	-	**126**	-
Exe Estuary	133	93	130	139	134	112	**122**	115
Selsey Bill	-	-	-	-	121	-	**121**	-
Portsmouth Harbour	107	-	104	-	125	126	**118**	107
Church Norton	-	-	100	115	115	-	**110**	-
Carrick Roads	-	-	119	-	90	-	**105**	-
Climping	-	-	-	103	-	-	**103**	-
Ferring	100	-	-	-	-	-	**100**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

ESAS surveys recorded low numbers of red-breasted mergansers between November and February in the SEA 8 area (Figure 3.13). Birds were mainly recorded around Southampton Water (Hampshire), Teignmouth and Exe Estuary (Devon) and Weymouth (Dorset).

3.17.5 UK Conservation measures

Within the SEA 6 area, Belfast Lough, Duddon Estuary, Morecambe Bay and Strangford Lough have been selected as non-breeding SPAs for red-breasted mergansers. Chichester Harbour, Exe Estuary, Poole Harbour and Solent & Southampton Water have been selected as non-breeding SPAs within the SEA 8 area (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.18 Little gull

Introduction

Little gulls occur in small numbers along the east coast of southern Scotland, England and Ireland, and scattered along the south and west coast of England and Ireland. Numbers vary between years but flocks of more than fifty are rare (Lack 1986). The wintering population of little gulls in the Irish Sea is the largest regular concentration in north-west Europe (Madden & Ruttledge 1993), with birds moving inshore in bad weather (Hutchinson 1989). Numbers have increased in recent years.

3.18.1 Breeding birds

Little gulls breed in northern Europe, in Sweden, Finland, Estonia, Latvia and Russia. Little gulls have occasionally attempted to breed in Britain, and probably bred in Scotland in 1988 and 1991 (Snow & Perrins 1998).

3.18.2 Distribution within SEA 6 Area

The main sites for little gull within the SEA 6 area were around Liverpool Bay north to Morecambe Bay (Table 3.51). Seaforth Nature Reserve and the Alt Estuary were the most regular sites for little gulls, with peak numbers occurring in spring. High numbers were seen sporadically at Hilbre and Rossall Point. Numbers recorded at Seaforth occasionally exceeded the internationally important threshold (>750 birds, Pollit *et al* 2003). No nationally important threshold has been set for this species.

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.51 Recent peak counts at main sites for little gull in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Seaforth NR	-	-	150	250	819	180	**350**	-
Hilbre	-	-	-	-	257	-	**257**	-
Alt Estuary	46	129	119	67	-	-	**121**	32
Rossall Point	-	-	-	-	100	-	**100**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Little gulls occur regularly along the coast of Northern Ireland but only in small numbers. There is evidence that spring and autumn passage does occur, but peak numbers can also occur in winter, when birds move northwards out of the southern Irish Sea during bad weather (Stewart 2003).

ESAS surveys

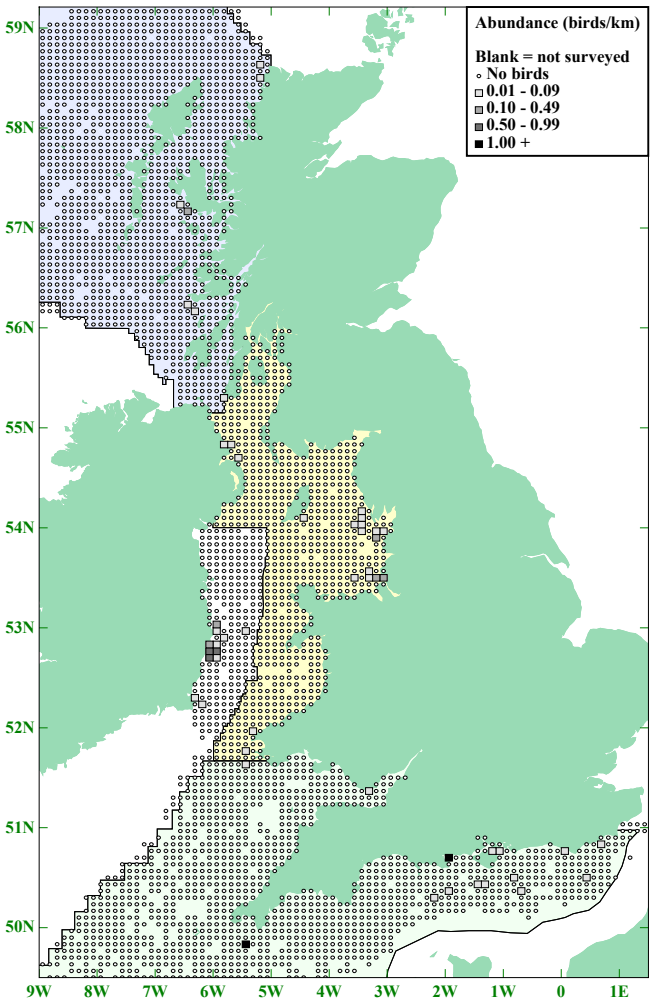
Concentrations of little gulls were recorded outside Belfast Lough, the Isle of Man, Liverpool Bay and south Wales between August and May (Figure 3.14). The highest concentrations of little gulls were recorded off the Irish east coast, west of the SEA 6 area, in November. Other dedicated ship-based surveys have also recorded high numbers of little gulls in this area, concentrating on the Arklow Bank, 13 km offshore from Arklow.

Over 1,200 little gulls were recorded there during surveys in December 2000 (Coveney & Phalan 2001). High numbers have also been recorded in nearby Wicklow Harbour e.g. 830 birds there in January 1998 (McAdams *et al* 2000).

There is some evidence that birds moving north from the Arklow Bank in spring pass through the Liverpool Bay area. The peak count of 819 birds at Seaforth Nature Reserve in 2001/02 (Table 65) occurred on 25th April, just 5 days after more than 600 were recorded on a survey on the Arklow Bank. Total numbers moving through the Seaforth area in April 2001 were estimated at 1,500 – 2,000 birds (White 2002).

Other studies concluded that flocks of little gulls in Merseyside in spring were most probably wintering birds from the Irish Sea, which then leave for the European breeding grounds by an overland route across northern England (Madden & Ruttledge 1993). Limited data from two ringing returns also supports the theory of movement of birds between Liverpool and Ireland (Madden & Ruttledge 1993).

Figure 3.14 Little gull abundance in SEA 6, 7 & 8 areas, from August to May (ESAS Data)



3.18.3 Distribution within SEA 7 Area

No sites within the SEA 7 area regularly hold significant numbers of little gull.

ESAS surveys

Little gulls were recorded in low numbers during ESAS surveys within the SEA 7 region (Figure 3.14). One bird was recorded north-west of Cape Wrath in November, while low numbers were off Skye, Mull and the Kintyre peninsula in May.

3.18.4 Distribution within SEA 8 Area

Little gulls were recorded on both spring and autumn passage from several coastal sites in the SEA 8 area, although numbers involved varied considerably between season and year (Table 3.52). Spring passage tended to peak in March and April, with birds moving east, while autumn passage was heaviest in October and November, with the majority of birds moving west. Figures were taken from WeBS counts, bird reports and records centres.

Table 3.52 Recent peak counts at main sites for little gull in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Brighton Marina	85	-	-	83	363	49	**165**	85
Selsey Bill	-	-	-	-	210	183	**197**	-
Hurst	-	-	102	-	-	-	**102**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

Within the SEA 8 area, ESAS surveys recorded little gulls in all months except March and May , with birds being most widely distributed in November, predominantly along the south coast of England (Figure 3.14).

UK Conservation measures

No terrestrial SPAs have been selected for little gulls in the UK. Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.19 Black-headed gull

Introduction

Winter populations of black-headed gulls in Britain and Ireland have been estimated at c.3,000,000, with around two thirds of these of continental origin (Lack 1986). The estimate for Britain in January 1993 was 1,682,385 birds, with a further 15,412 in Northern Ireland (Burton *et al* 2003). Many winter inland, roosting at reservoirs, sometimes in very large numbers. During very cold or harsh weather, birds move to sheltered coastal sites.

3.19.1 Breeding birds

A total of 79,392 apparently occupied black-headed gull nests were counted during Seabird 2000 (Mitchell *et al* 2004), with the SEA 6 and 8 regions combined holding over 20% of the British breeding population (Table 3.53).

Table 3.53 Total numbers of black-headed gulls breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	18,734	14.4	0.7 - 0.9
6	N Ireland	3,681	26.3	0.1 - 0.2
7	Britain	1,684	1.3	0.1
7	N Ireland	356	2.5	0.0
8	Britain	12,058	9.3	0.4 - 0.6

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are five nationally important colonies of black-headed gulls in the SEA 6 region, with one in the SEA 7 region and three in the SEA 8 region (Table 3.54).

Table 3.54 Nationally important black-headed gull colonies in SEA 6, 7 & 8 Areas

SEA[1]	Area	Site	Total[2]	% of British/Irish Population[3]	% of Biogeographic Population
6 B	Lancashire	Ribble Estuary NNR	14,581	11.4	0.5 - 0.7
6 B	Lancashire	Carnforth Marsh & Leighton Moss	1,830	1.4	0.1
6 NI	Down	Strangford Lough	1,806	12.9	0.1
6 NI	Antrim	Larne Lough	1,478	10.6	0.1
6 NI	Down	Copeland Islands	372	2.7	0.0
7 NI	Antrim	Rathlin Island	356	2.5	0.0
8 B	Hampshire	North Solent NNR	6,125	4.7	0.2 - 0.3
8 B	Hampshire	Langstone Harbour	3,179	2.5	0.1 - 0.2
8 B	Dorset	Poole Harbour	1,466	1.1	0.1

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.19.2 Trends within SEA 6 Area

Numbers of black-headed gulls in the Clyde Estuary and Morecambe Bay regularly exceeded the nationally important threshold for Britain (>19,000 birds – Pollit *et al* 2003) (Table 3.55). Numbers at Morecambe Bay peaked in August and September, while highest counts on the Clyde Estuary occurred in mid-winter. Marshside, in Lancashire held fewer birds but numbers there occasionally approached the nationally important threshold, peaking in February.

In Northern Ireland, Belfast Lough, Outer Ards and Strangford Lough all regularly supported numbers of all-Ireland importance, although the nominal threshold of 1,000 is considerably lower than the qualifying level for the UK (Crowe in press).

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.55 Recent peak counts at main sites for black-headed gull in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Clyde Estuary	-	-	26,000	15,356	28,000	-	**23,119**	-
Morecambe Bay	25,294	26,624	17,670	17,605	-	-	**21,169**	15,519
Marshside	-	2,890	17,000	-	13,200	2,000	**8,773**	-
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Belfast Lough	-	6,000	7,000	6,570	4,360	-	**5,983**	-
Outer Ards	-	3,110	8,030	-	-	-	**5,570**	-
Strangford Lough	-	3,244	2,730	-	-	-	**2,987**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies

ESAS surveys

The main concentrations of black-headed gulls recorded on ESAS surveys in the SEA 6 area were in the Firth of Clyde, Liverpool Bay and around the coast of Wales (Figure 3.15). Birds were recorded in all months, with highest densities in Liverpool Bay in January. Moderate densities were also recorded off the east coast of Ireland, to the west of the SEA 6 area in January and December.

3.19.3 Distribution within SEA 7 Area

Away from breeding colonies, no sites within the SEA 7 area regularly held nationally important numbers of black-headed gulls. On ESAS surveys within the region, low densities were recorded around Stornoway and Ullapool, in October and around Islay and Mull in August (Figure 3.15).

3.19.4 Distribution within SEA 8 Area

Counts from Pagham Harbour (Sussex) in winter 2001-2002 and Langstone Harbour (Hampshire) in winter 2000-2001 both reached the internationally important threshold for black-headed gulls (>20,000 birds – Pollit *et al* 2003)(Table 3.56). Generally, means were below national importance (>19,000 birds – Pollit *et al* 2003), although counts were incomplete at some sites. Figures were taken from WeBS counts, bird reports and records centres.

Table 3.56 Recent peak counts at main sites for black-headed gull in SEA 8 area

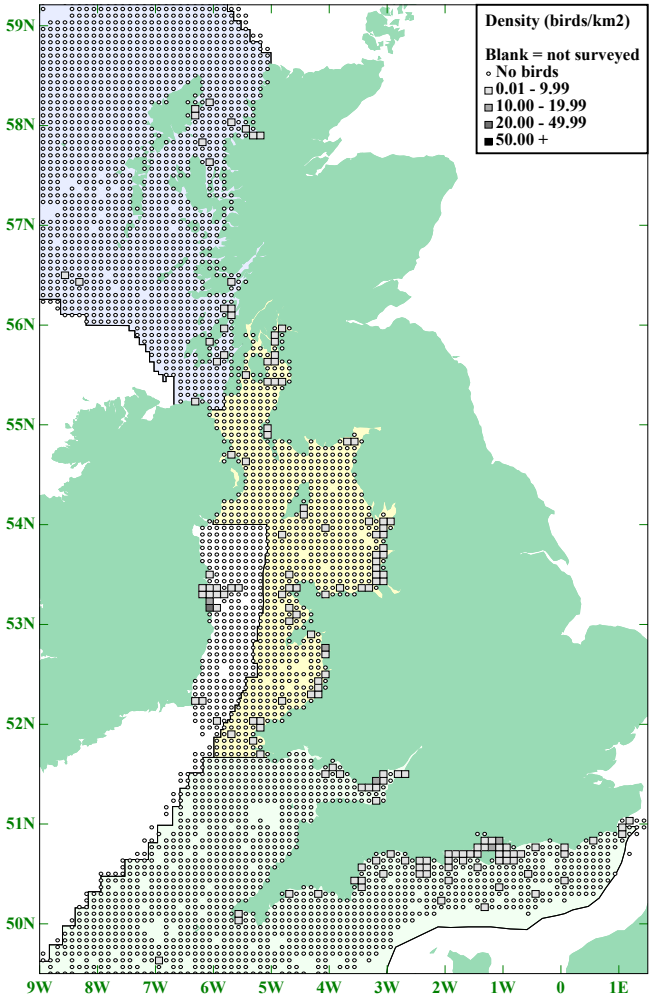
Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Pagham Harbour	-	-	-	-	20,000	-	**20,000**	-
Langstone Harbour	-	-	8,000	20,000	-	-	**14,000**	-
Portsmouth Harbour	12,642	9,388	15,509	14,247	-	12,000	**12,786**	10,523
Exe Estuary	-	-	11,650	12,000	-	-	**11,825**	-
Poole Harbour	15,844	8,816	10,629	10,162	-	-	**11,362**	18,220
Eling	-	-	-	10,000	-	-	**10,000**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

In addition to these coastal sites, very large numbers of black-headed gulls were regularly recorded at winter roosts at inland reservoirs. For example, up to 63,000 black-headed gulls were recorded at Bewl Water in Sussex, in December 2002. Large numbers appear to occur here during periods of bad weather and strong gales, when gulls are unable to roost at their usual sites on the coast (Bance 2002). There is also a "huge winter roost" at Chew Valley Lake, in Avon, although no counts were available (Davis 2003).

Figure 3.15 Black-headed gull abundance in SEA 6, 7 & 8 areas, from January to December (ESAS Data)



ESAS surveys

Black-headed gulls were recorded in all months on ESAS surveys within the SEA 8 area (Figure 3.15), with highest densities recorded around Southampton water between October and January. Birds were also most widespread over the winter months, although there were gaps in survey coverage around the Bristol Channel in some months.

3.19.5 UK Conservation measures

One terrestrial SPA site selected for breeding black-headed gulls in the UK borders the SEA 6 area - the Ribble & Alt Estuaries in Lancashire. Three other UK terrestrial SPAs have been selected for breeding black-headed gulls; Loughs Neagh & Beg in Northern Ireland, the Alde-Ore Estuary in Suffolk and Coquet Island in Northumberland (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.20 Common gull

Introduction

Common gulls are widely distributed throughout England and around the coasts of Scotland, Wales and Ireland during winter, often feeding far inland and returning to roost on estuaries, lakes or reservoirs at dusk (Lack 1986). Some of these roosts may be very large, containing tens of thousands of birds, particularly during cold weather. The Winter Atlas estimated the wintering population in Britain and Ireland to be around 702,000, with the comparatively milder climate offering an important wintering area for northern European breeding populations (Lack 1986). The Winter Gull Roost Survey in January 1993 estimated 429,331 common gulls in Britain, with a further 1,596 birds in Northern Ireland (Burton *et al* 2003).

3.20.1 Breeding birds

There were a total of 49,780 apparently occupied common gull nests recorded during Seabird 2000 (Mitchell *et al* 2004), with the SEA 7 region holding highest breeding numbers (Table 3.57). Northern Ireland was important in an all-Ireland context.

Table 3.57 Total numbers of common gulls breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	639	1.3	0.1 - 0.2
6	N Ireland	292	18.3	0.0 - 0.1
7	Britain	4,911	10.2	0.8 - 1.2
7	N Ireland	91	5.7	0.0
8	Britain	11	0.0	0.0

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are two nationally important colonies of black-headed gulls in the SEA 6 region, and two in the SEA 8 region (Table 3.58).

Table 3.58 Nationally important common gull colonies in SEA 6, 7 & 8 Areas

SEA[1]	Area	Site	Total[2]	% of British/Irish Population[3]	% of Biogeographic Population
6 NI	Down	Copeland Islands	193	12.1	0.0-0.1
6 NI	Down	Strangford Lough	82	5.1	0.0
7 B	Western Isles	North Uist	528	1.1	0.1
7 NI	Antrim	Rathlin Island	91	5.7	0.0

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.20.2 Distribution within SEA 6 Area

In Lancashire, both Ainsdale–Birkdale and Rockliffe Marsh held numbers in excess of the nationally important threshold for Britain (>9,000 birds – Pollit *et al* 2003) (Table 3.59), with lower numbers at Mersehead in south-west Scotland, Morecambe Bay and Clydesdale. The very high numbers at Ainsdale-Birkdale in winter 2001-2002 followed a wreck of starfish and shellfish washed up during onshore gales (White *et al* 2004).

In Northern Ireland, Belfast Lough regularly supported numbers of all-Ireland importance, although the nominal threshold of 500 is considerably lower than the qualifying level for the UK (Crowe in press) (Table 75). Counts from Outer Ards were below this threshold.

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.59 Recent peak counts at main sites for common gull in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Ainsdale-Birkdale	-	15,000	15,000	-	25,000	-	**18,333**	-
Rockliffe Marsh	-	-	-	-	-	11,000	**11,000**	-
Mersehead	-	-	12,800	2,550	-	-	**7,675**	
Morecambe Bay	5,536	5,869	3,397	4,860	-	-	**4,770**	5,796
Clydesdale	-	-	-	4,000	-	-	**4,000**	-
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Belfast Lough	-	805	-	1,400	-	-	**1,103**	-
Outer Ards	-	409	304	-	-	-	**357**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies

ESAS surveys

Within the SEA 6 region, ESAS surveys showed that common gulls had a mainly coastal distribution throughout the year, but were more widespread during the winter months (Figures 3.16 & 3.17). High densities were recorded in the Solway Firth in November, with low to moderate densities in Morecambe Bay, Liverpool Bay and Cardigan Bay throughout the winter months. Coverage was not complete in all months.

Figure 3.16 **Common gull density in SEA 6, 7 & 8 areas, from November to March** (ESAS Data)

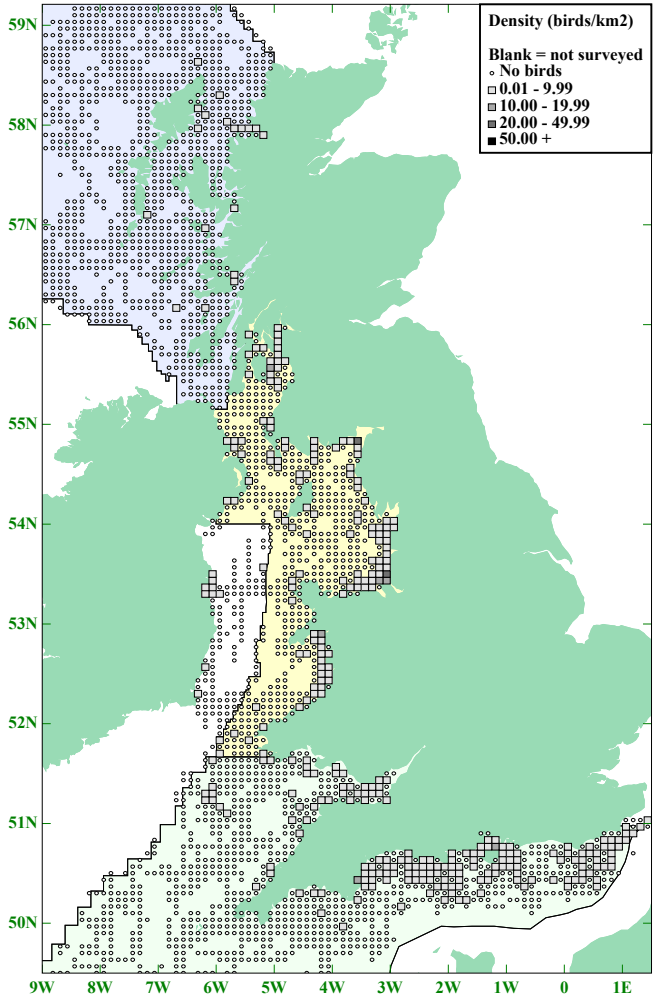
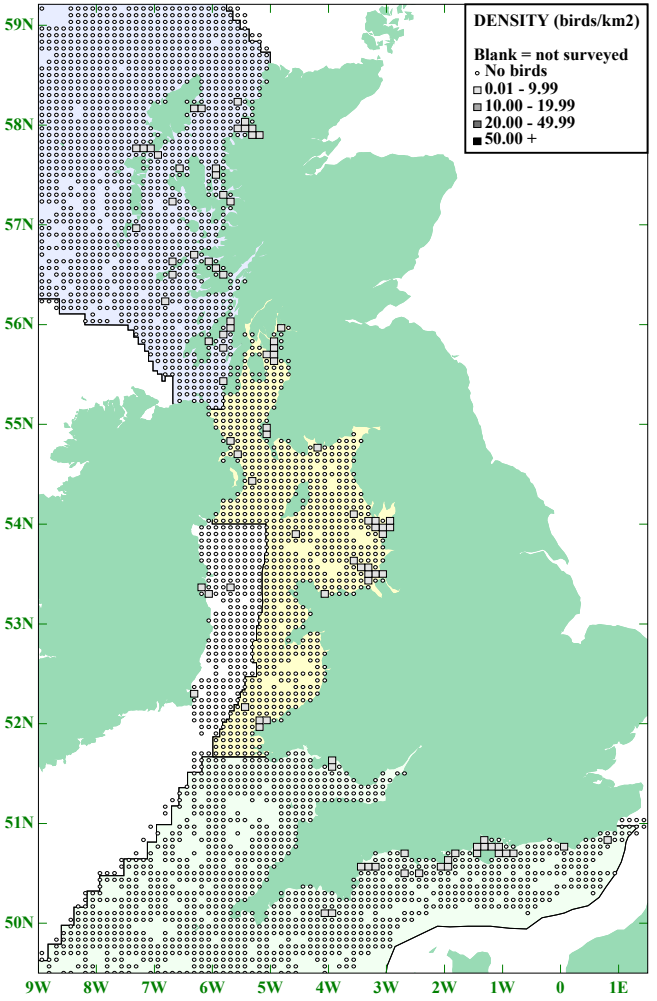


Figure 3.17 **Common gull density in SEA 6, 7 & 8 areas, from April to October** (ESAS Data)



3.20.3 Distribution within SEA 7 Area

No sites within the SEA 7 area regularly hold nationally important numbers of common gulls.

ESAS surveys

On ESAS surveys within the region, low densities were recorded around Stornoway and Ullapool between November and March, with birds scattered around other coastal locations (Figures 3.16 & 3.17). Birds were more widespread between April and October, but were still predominantly coastal.

3.20.4 Distribution within SEA 8 Area

In Sussex, Rye Harbour held numbers in excess of the nationally important threshold for Britain (>9,000 birds – Pollit *et al* 2003) (Table 3.60), with the three other sites listed holding lower numbers. Numbers at Rye Harbour showed a peak in March.

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.60 Recent peak counts at main sites for common gull in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Rye Harbour	15,500	8,000	15,000	-	3,000	-	**10,375**	6,500
Southwick	12,000	3,000	5,000	-	5,000	-	**6,250**	3,000
Pilsey Sands	-	-	-	4,000	4,000		**4,000**	-
Langstone Harbour	-	-	-	-	4,000	-	**4,000**	-

ESAS surveys

Common gulls were widespread at low densities in the SEA 8 area between November and March, with birds recorded mainly in the Bristol Channel and along the south coast of England (Figures 3.16 & 3.17). Between April and October, common gulls were recorded less frequently, with low densities around Southampton Water and along the south coast of England.

3.20.5 UK Conservation measures

Rathlin Island in the SEA 7 area has been designated as a terrestrial SPA site for breeding common gulls in the UK. Two other UK terrestrial SPAs have been selected for breeding common gulls; the Tips of Corsemaul & Tom Mor in north-east Scotland, and Loughs Neagh & Beg in Northern Ireland, both outwith the Study Area (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.21 Lesser black-backed gull

Introduction

This species was formerly considered a complete migrant, with only occasional birds remaining in winter, but increasing numbers now remain over winter, predominantly in the southern half of Britain. Counts in sites in Britain in January 1983 gave a count of 58,144. This, together with an estimated of 5,000 – 10,000 birds in Ireland gave a total UK and Ireland estimate of 70,000 birds (Lack 1986). The British total from the January 1993 wintering gull survey was an estimated 60,830 birds, with no birds recorded in Northern Ireland (Burton *et al* 2003).

3.21.1 Breeding birds

The population of lesser black-backed gulls was estimated at 116,684 apparently occupied nests during Seabird 2000 (Mitchell *et al* 2004), with the SEA 6 region holding 45% of the British breeding population (Table 3.61). This is also internationally important, accounting for almost 30% of the biogeographic population. The SEA 7 and 8 areas also held internationally important breeding numbers.

Table 3.61 Total numbers of lesser black-backed gulls breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	52,759	45.1	29.5
6	N Ireland	630	13.0	0.4
7	Britain	3,113	2.7	1.7
7	N Ireland	134	2.8	0.1
8	Britain	12,197	10.4	6.8

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are eleven nationally important colonies of lesser black-backed gulls in the SEA 6 region, one in the SEA 7 region and three in the SEA 8 region (Table 3.62).

Table 3.62 Nationally important lesser black-backed gull colonies in SEA 6, 7 & 8 Areas

SEA[1]	Area	Site	Total[2]	% of British/Irish Population[3]	% of Biogeographic Population
6 B	Cumbria	South Walney	19,487	16.7	10.9
6 B	Dyfed	Skomer & Middleholm Islands	10,083	8.6	5.6
6 B	Lancashire	Ribble Estuary NNR	4,108	3.5	2.3
6 B	Cumbria	South Solway	2,700	2.3	1.5
6 B	Cunninghame	Horse Island	2,677	2.3	1.5
6 B	Dyfed	Skokholm Island	2,419	2.1	1.4
6 B	Dyfed	Cardigan Island & Mwnt to Carreg Lydan	1,649	1.4	0.9
6 B	Cunninghame	Little Cumbrae	1,200	1.0	0.7
6 NI	Down	Copeland Islands	420	8.7	0.2
6 NI	Down	Strangford Lough	128	2.6	0.1
6 NI	Antrim	Belfast	63	1.3	0.1
7 NI	Antrim	Rathlin Island	127	2.6	0.1
8 B	South Glamorgan	Flat Holm	3,309	2.8	1.9
8 B	Gloucestershire	Gloucester City	2,224	1.9	1.2
8 B	Avon	Bristol & Bath	1,210	1.0	0.7

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.21.2 Distribution within SEA 6 Area

Morecambe Bay supported the largest numbers of lesser black-backed gulls in the UK, based on WeBS counts (Table 3.63) (Pollit *et al* 2003). Numbers were well in excess of both the international and national thresholds (Int > 4,500 birds, Nat > 500 birds – Pollit *et al* 2003), and peaked in July and August. Counts from the Furness coast (Cumbria) also exceeded these thresholds. Nationally important numbers were regularly recorded at seven other sites in the region. Figures were from WeBS counts, bird reports and records centres.

Table 3.63 Recent peak counts at main sites for lesser black-backed gull in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Morecambe Bay	51,829	43,590	41,945	40,590	-	-	**41,769**	20,305
Furness Coast	-	-	-	-	6,056	4,500	**5,278**	-
Formby Point	-	730	-	755	1,250	4,178	**1,728**	-
Alt Estuary	1,957	2,230	769	1,122	-	-	**1,712**	1,132
Seaforth NR	-	1,500	-	-	1,500	-	**1,500**	-
Cleddau Estuary	477	414	1,246	625	-	-	**967**	244
Lendalfoot	-	-	-	-	800	-	**800**	-
Solway Estuary	1,143	262	725	436	-	-	**617**	651
Duddon Estuary	606	-	-	-	-	-	**606**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Away from breeding colonies, no sites within Northern Ireland regularly held nationally important numbers of lesser black-backed gulls (>500 birds - Crowe in press).

ESAS surveys

In winter, lesser black-backed gulls were predominantly found at low densities around the Clyde Estuary, Liverpool Bay and off south Wales, but were widely distributed at low densities around the coastal areas of the SEA 6 region between February and October (Figures 3.18 & 3.19).

3.21.3 Distribution within SEA 7 Area

Away from breeding colonies, there was no data to indicate that sites within the SEA 7 area regularly held nationally important numbers of lesser black-backed gulls. Most birds move south during the winter months.

ESAS surveys

Very few lesser black-backed gulls were recorded in winter in the SEA 7 area, but the species was widespread at low densities around Lewis and the west coast of Scotland between February and October (Figures 3.18 & 3.19).

Figure 3.18 **Lesser black-backed gull density in SEA 6, 7 & 8 areas, from November to January** (ESAS Data)

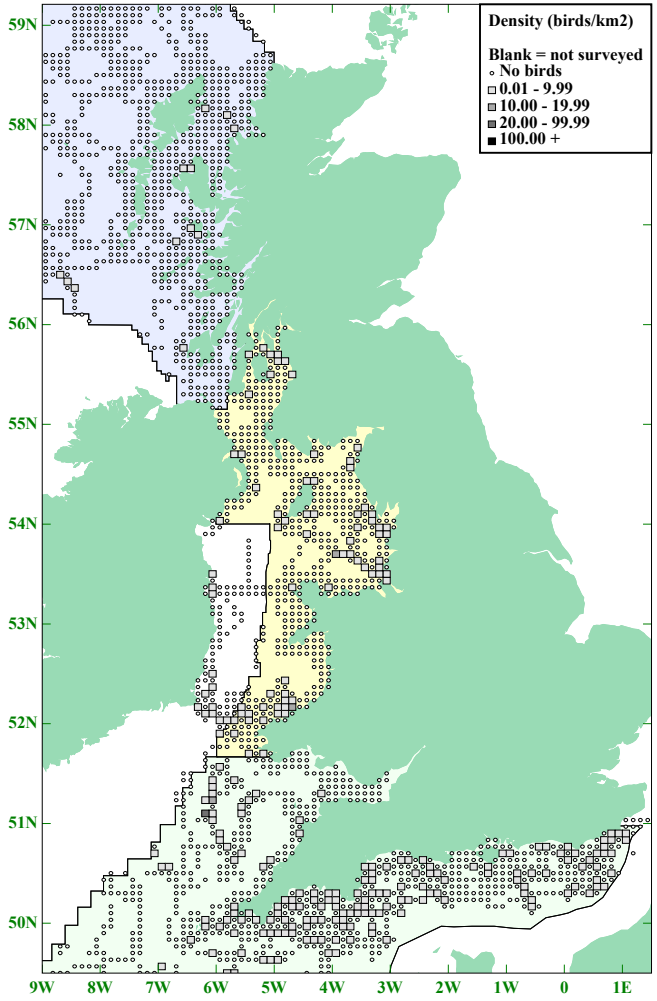
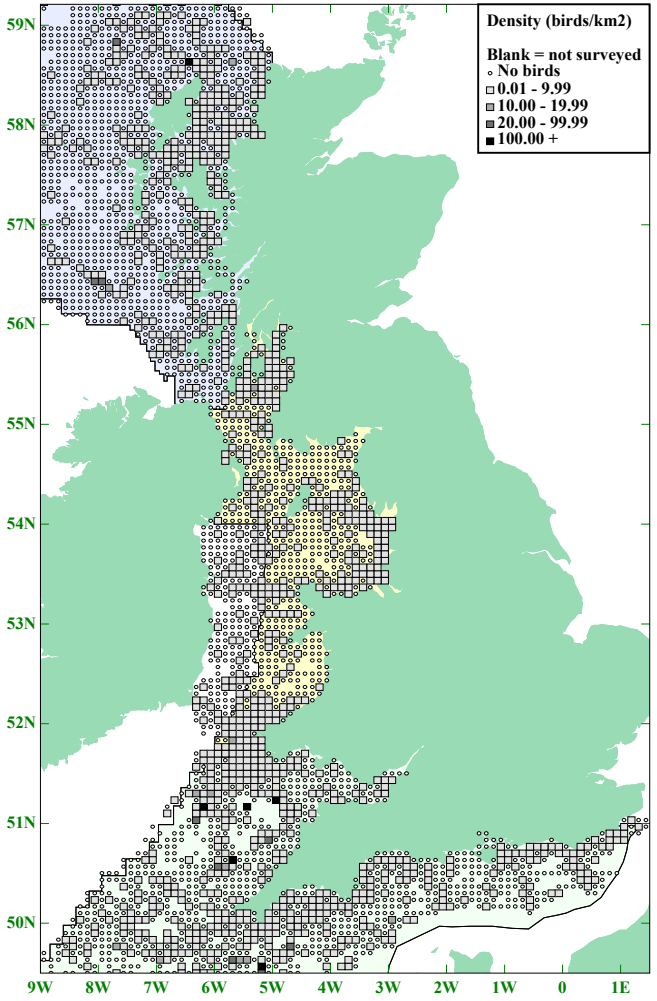


Figure 3.19 **Lesser black-backed gull density in SEA 6, 7 & 8 areas, from February to October** (ESAS Data)



3.21.4 Distribution within SEA 8 Area

Numbers of lesser black-backed gulls at the Severn Estuary regularly exceeded both the international and national thresholds (Int > 4,500 birds, Nat > 500 birds – Pollit *et al* 2003) (Table 3.64). The estuary held large numbers of birds throughout the year, with a peak in late autumn, when large numbers of post-breeding adults and juveniles congregated in the upper reaches (Pollit *et al* 2003). Four other sites in the SEA region supported nationally important numbers of lesser black backed gulls.

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.64 Recent peak counts at main sites for lesser black-backed in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Severn Estuary	6,085	7,102	7,224	669	-	-	**5,619**	138
Rhymney Estuary	-	-	-	-	750	2,500	**1,625**	-
Hayle Estuary	1,095	690	1,750	2,092	860	980	**1,274**	1,058
Camel Estuary	5,117	-	802	1,525	1,181	818	**1,082**	5,117
Poole Harbour	353	264	888	565	-	-	**510**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

ESAS surveys recorded lesser black-backed gulls at low densities in the SEA 8 area throughout the year, although birds were more widespread between February and October (Figures 3.18 & 3.19). Birds were mostly found along the south coast of England between November and January, with few birds in the Bristol Channel.

3.21.5 UK Conservation measures

Four terrestrial SPA sites selected for breeding lesser black-backed gulls in the UK are in the SEA 6 area - Ailsa Craig, Morecambe Bay, the Ribble & Alt Estuaries and Skomer & Skokholm. Rathlin Island in the SEA 7 area and the Isles of Scilly in the SEA 8 region were also selected. Four other UK terrestrial SPAs have been selected for breeding lesser black-backed gulls; the Firth of Forth islands, Loughs Neagh & Beg, the Alde-Ore Estuary and Bowland Fells (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.22 Herring gull

Introduction

In winter, herring gulls are widely distributed throughout Britain and Ireland, with greatest numbers along east coasts, along the south coast of England and north Wales. Total estimates for Britain and Ireland for the Winter Atlas were in the region of half a million birds (Lack 1986). The Winter Gull Roost Survey in January 1993 estimated the winter population for Britain at 376,775 birds, with 1,973 herring gulls in Northern Ireland (Burton *et al* 2003). National totals from recent WeBS counts have been increasing, despite a decline in the breeding population (Pollit *et al* 2003).

3.22.1 Breeding birds

The British and Irish population of herring gulls was estimated at 149,177 apparently occupied nests during Seabird 2000 (Mitchell *et al* 2004), with the SEA 6 region holding more than 35% of the British breeding population (Table 3.65). All three SEA areas hold internationally important breeding numbers.

Table 3.65 Total numbers of herring gulls breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	50,411	35.3	6.3 - 7.2
6	N Ireland	637	10.2	0.1
7	Britain	18,163	12.7	2.3 - 2.6
7	N Ireland	25	0.4	0.0
8	Britain	18,537	13.0	2.3 - 2.6

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are three internationally important colonies of herring gulls in the SEA 6 region, with a further seven nationally important colonies (Table 3.66). Both the SEA 7 region and SEA 8 region each support one nationally important colony.

Table 3.66 Nationally important herring gull colonies in SEA 6, 7 & 8 Areas

SEA	Area	Site	Total	% of British/Irish Population*	% of Biogeographic Population
6 B	Cumbria	South Walney	10,129	7.1	1.3 - 1.4
6 B	Cumbria	South Solway	7,950	5.6	1.0
6 B	Isle of Man	Isle of Man	7,126	5.0	0.9 - 1.0
6 B	Cunninghame	Little Cumbrae	2,000	1.4	0.3
6 B	Argyll & Bute	Inchmarnock Island, Bute	1,550	1.1	0.2
6 B	Kyle & Carrick	Lady Isle	1,500	1.1	0.2
6 B	Argyll & Bute	Loch Fyne	1,470	1.0	0.2
6 B	Kyle & Carrick	Ailsa Craig	1,450	1.0	0.2
6 NI	Down	Copeland Islands	355	5.7	0.0
6 NI	Down	Strangford Lough	253	4.1	0.0
7 B	Argyll & Bute	Sound of Jura	1,435	1.0	0.2
8 B	Dyfed	Caldey & St Margaret's Islands	2,222	1.6	0.3

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.22.2 Distribution within SEA 6 Area

Counts from three Lancashire sites within the SEA 6 region exceeded the threshold for international importance (>13,000 birds – Pollit *et al* 2003) (Table 3.67). The very high numbers at Ainsdale-Birkdale in winter 2001-2002 followed a wreck of starfish and shellfish washed up during onshore gales (White *et al* 2004). A further four sites regularly exceeded the nationally important threshold for Britain (>4,500 birds – Pollit *et al* 2003) while numbers at the remaining two sites occasionally exceeded this threshold.

Within Northern Ireland, both Belfast Lough and Outer Ards held numbers of all-Ireland importance (>500 birds – Crowe in press) (Table 3.67).

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.67 Recent peak counts at main sites for herring gull in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Ainsdale-Birkdale	-	-	20,000	20,000	100,000	-	**46,667**	-
Marshside	-	16,000	33,000	-	-	-	**24,500**	-
Morecambe Bay	18,165	19,168	20,553	20,470	-	-	**19,127**	20,284
South Walney	-	-	-	-	-	10,000	**10,000**	-
Furness Coast	-	-	-	-	12,020	5,630	**8,825**	-
Lendalfoot	-	4,000	-	6,000	13,000	-	**7,667**	-
Alt Estuary	5,500	9,070	6,800	3,967	-	-	**6,127**	3,694
Formby Point	-	3,400	6,300	3,650	5,000	3,035	**4,277**	-
Ribble Estuary	2,559	1,250	7,287	9,032	-	-	**4,112**	14,426
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Belfast Lough	2,598	5,291	3,637	6,749	2,000	-	**4,055**	8,158
Outer Ards	1,132	2,179	3,003	898	-	-	**1,551**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

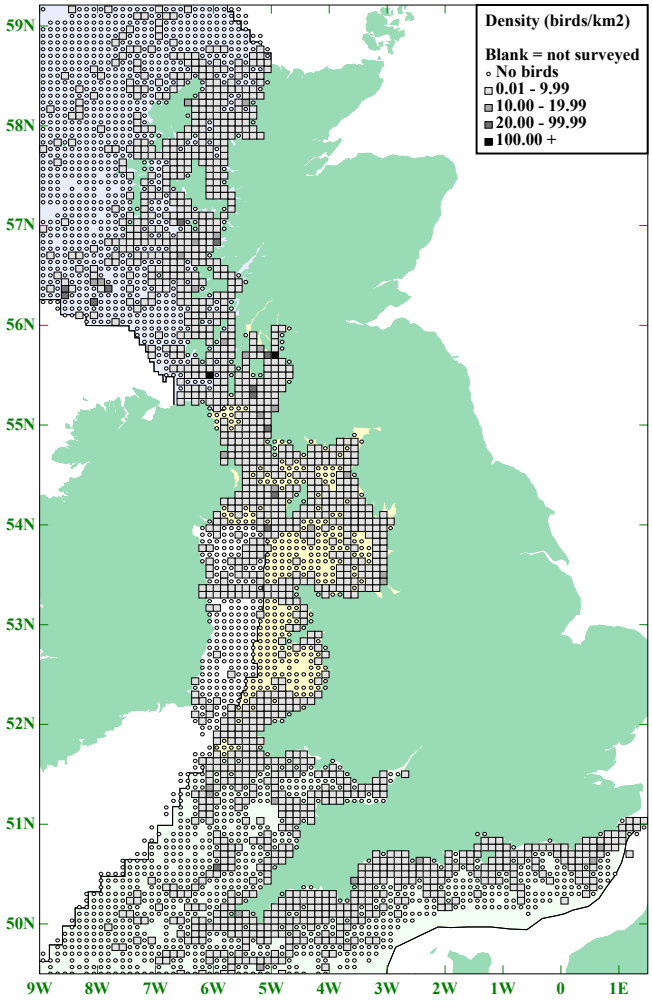
2 Mean of previous 5 years, where available

3 All-Ireland threshold applies

ESAS surveys

Herring gulls were widespread at low densities throughout the SEA 6 region on ESAS surveys (Figure 3.20). Birds were mostly found in coastal areas, although coverage was not complete in all months. High densities were recorded in the Firth of Clyde in January and November, north of Loch Ryan in March and south of Arran in May.

Figure 3.20 Herring gull density in SEA 6, 7 & 8 areas, from January to December (ESAS data)



3.22.3 Distribution within SEA 7 Area

Away from breeding colonies, there were no data to indicate that coastal sites within the SEA 7 area regularly hold nationally important numbers of herring gulls.

ESAS surveys

Within the SEA 7 region, ESAS surveys recorded herring gulls in all months with high densities recorded west of Skye in January and December, south of Islay and west of 8° offshore in February. Low to moderate densities were recorded during the rest of the year (Figure 3.20).

3.22.4 Distribution within SEA 8 Area

Five sites within the SEA 8 region regularly held nationally important numbers of herring gulls (>4,500 birds – Pollit *et al* 2003) (Table 3.68). The majority of peak counts were recorded between November and January, although the count from the Exe and Dawlish Bay was in September.

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.68 Recent peak counts at main sites for herring gull in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Tor Bay	-	-	-	8,000	10,000	-	**9,000**	-
Rhymney Estuary	-	-	-	-	5,570	7,500	**6,535**	-
St Ives Bay	-	-	6,000	-	-	-	**6,000**	-
Worthing-Ferring	-	-	-	1,300	10,000	-	**5,650**	-
Exe-Dawlish Bay	-	-	-	5,000	-	-	**5,000**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

Herring gulls were widespread at low densities throughout the SEA 8 region on ESAS surveys (Figure 3.20). High densities were recorded off the north Cornwall coast in March, and in Tor Bay in June with low to moderate densities recorded elsewhere throughout the year.

3.22.5 UK Conservation measures

A total of 12 terrestrial SPA sites have been selected for breeding herring gulls in the UK. Two of these sites (Ailsa Craig, and Morecambe Bay) are in the SEA 6 area, with two site (Canna & Sanday and Rathlin Island) in the SEA 7 area. The remaining 8 sites are on the east coast of Britain (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.23 Great black-backed gull

Introduction

The winter population of great black-backed gulls is widely distributed inland and around the coasts of England, with a more coastal distribution in Scotland, Wales & Ireland. Ringing recoveries have shown that many birds on the east coast in winter breed in Norway, while those on west coasts, and presumably those in Ireland are local breeding birds (Lack 1986). The Winter Gull Roost Survey in January 1993 estimated the winter population for Britain alone at 43,108 birds (Burton *et al* 2003).

3.23.1 Breeding birds

The British and Irish population of great black-backed gulls was estimated at 19,691 apparently occupied nests during Seabird 2000 (Mitchell *et al* 2004), with the SEA 7 region holding over a quarter of the British breeding population (Table 3.69). Overall, the SEA 6, 7 & 8 areas were internationally important for breeding great black-backed gulls.

Table 3.69 Total numbers of great black-backed gulls breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	1,529	8.8	1.4 - 1.5
6	N Ireland	58	2.5	0.1
7	Britain	4,449	25.6	4.0 - 4.5
7	N Ireland	9	0.4	0.0
8	Britain	1,442	8.3	1.3 - 1.4

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are three nationally important colonies of great black-backed gulls in the SEA 6 region and four in the SEA 7 region (Table 3.70).

Table 3.70 Nationally important great black-backed gull colonies in SEA 6, 7 & 8 Areas

SEA	Area	Site	Total	% of British/Irish Population*	% of Biogeographic Population
6 B	Isle of Man	Isle of Man	405	2.3	0.4
6 B	Kyle & Carrick	Lady Isle	200	1.2	0.2
6 NI	Down	Strangford Lough	41	1.8	0.0
7 B	Western Isles	North Rona	983	5.7	0.9 - 1.0
7 B	Argyll & Bute	Treshnish Isles	342	2.0	0.3
7 B	Western Isles	Shiant Islands	310	1.8	0.3
7 B	Argyll & Bute	Coll	176	1.0	0.2

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.23.2 Distribution within SEA 6 Area

Counts of great black-backed gulls from four sites in the SEA 6 area exceeded the nationally important threshold for Britain (> 400 birds – Pollit *et al* 2003) (Table 3.71). Counts at Lendalfoot and Hilbre peaked in the summer months, while counts from Morecambe Bay and Ainsdale were highest over winter.

Within Northern Ireland, both Belfast Lough and Outer Ards held numbers of all-Ireland importance (> 500 birds – Crowe in press) (Table 88).

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.71 Recent peak counts at main sites for great black-backed gull in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Lendalfoot-Ballantrae	-	-	-	428	1,000	-	**714**	-
Morecambe Bay	668	907	451	697	-	-	**670**	604
Hilbre	-	-	-	500	400	600	**500**	-
Ainsdale	-	-	-	413	-	-	**413**	-
Sites of all-Ireland importance in Northern Ireland SEA 6 area [3]								
Outer Ards	-	517	-	-	-	-	**517**	-
Belfast Lough	349	1,035	227	398	-	-	**512**	185

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

3 All-Ireland threshold applies

ESAS surveys

Within the SEA 6 region, ESAS surveys recorded low densities of great black-backed gulls throughout the year, mainly in Liverpool Bay, the Firth of Clyde, off the east coast of Northern Ireland and off south Wales (Figure 3.21). The species was also widespread in low densities off the east coast of Ireland.

3.23.3 Distribution within SEA 7 Area

Counts from two sites within the SEA 7 area exceeded the nationally important threshold (>400 birds – Pollit *et al* 2003) (Table 3.72), although data for this region were limited. The count from Eigg was in August, while the North Rona count was in December.

Table 3.72 Recent peak counts at main sites for great black-backed gull in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Eigg	-	-	-	-	-	700	**700**	-
North Rona	-	-	-	-	500	-	**500**	-

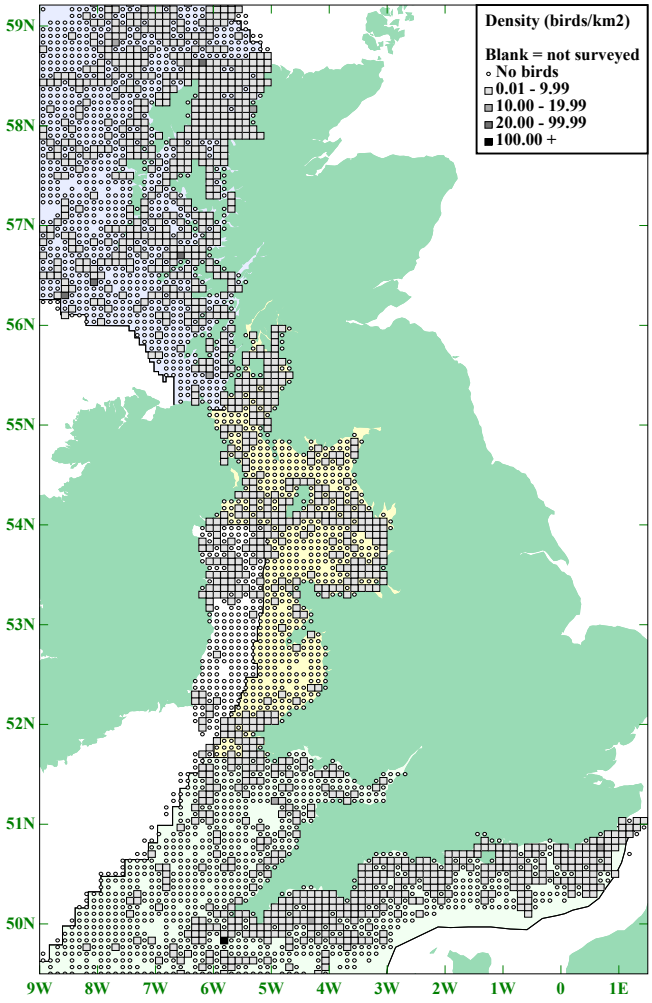
1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

ESAS surveys recorded great black-backed gulls at low to moderate densities in the SEA 7 area in all months (Figure 3.21). High densities were recorded offshore to the west of Mull in February and April, when high densities also occurred north of Lewis. High densities were also recorded north of Coll in October.

Figure 3.21 Great black-backed gull density in SEA 6, 7 & 8 areas, from January to December (ESAS data)



Distribution within SEA 8 Area

Within the SEA 8 region, counts from 14 sites exceeded the nationally important threshold (>400 birds – Pollit *et al* 2003) (Table 3.73). The majority of peak counts occurred between October and March. Figures were taken from WeBS counts, bird reports and records centres.

Table 3.73 Recent peak counts at main sites for great black-backed gull in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Pagham Harbour	-	-	-	2,300	3,000	400	**1,900**	-
Portsmouth Harbour	-	1,329	872	1,102	-	-	**1,101**	458
Plym Estuary	-	-	-	-	1,000	-	**1,000**	-
Exe Estuary	-	-	-	-	657	-	**657**	-
Camel Estuary	-	-	-	614	928	396	**646**	-
Dawlish Warren	-	-	620	605	-	647	**624**	-
Hayle Estuary	-	-	-	-	-	550	**550**	-
Fleet/Way	307	1,195	312	550	-	-	**520**	519
Langstone Harbour	-	-	-	506	500	-	**503**	-
Lade Sands	500	485	-	-	-	-	**493**	-
Plymouth Breakwater	-	-	-	550	400	-	**475**	-
Ferrybridge	-	-	-	450	-	-	**450**	-
Start Bay	-	390	510	-	-	-	**450**	-
Rye Bay	-	420	-	210	585	-	**405**	620

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

Within the SEA 8 region, high densities of great black-backed gulls were recorded on ESAS surveys south of Cornwall in October, with low to moderate densities elsewhere throughout the year (Figure 3.21).

3.23.4 UK Conservation measures

A total of six terrestrial SPA sites have been selected for breeding great black-backed gulls in the UK. One of these sites (North Rona & Sula Sgeir) is in the SEA 7 region, with another site (Isles of Scilly) in the SEA 8 area. The remaining four sites are in Orkney and Caithness (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.24 Kittiwake

Introduction

Outside the breeding season kittiwakes are mostly found offshore. Some are recorded around British and Irish coasts in winter, but the numbers involved are just a small portion of the total population (Webb *et al* 1990).

3.24.1 Breeding birds

The total British and Irish population of kittiwakes was 415,995 apparently occupied nests during Seabird 2000 (Mitchell *et al* 2004). The SEA 7 region was the most important for breeding kittiwakes (Table 3.74).

Table 3.74 Total numbers of kittiwakes breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	11,284	3.1	0.4 - 0.5
6	N Ireland	1,544	3.1	0.1
7	Britain	41,237	11.2	1.4 - 1.7
7	N Ireland	10,814	22.0	0.4
8	Britain	4,836	1.3	0.2

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There is one nationally important colony of kittiwakes in the SEA 6 region and four in the SEA 7 region (Table 3.75).

Table 3.75 Nationally important kittiwake colonies in SEA 6, 7 & 8 Areas

SEA/ Country†	Area	Site	Total	% of British/Irish Population*	% of Biogeographic Population
6 NI	Antrim	Gobbins	791	1.6	0.0
7 NI	Antrim	Rathlin Island	9,917	20.2	0.3 - 04
7 B	North-West Coast Sutherland	Handa Island	7,013	1.9	0.2 - 0.3
7 B	Argyll and Bute	Isle of Colonsay	6,485	1.8	0.2 - 0.3
7 NI	Antrim	Causeway Coast	568	1.2	0.0

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.24.2 Distribution within SEA 6 Area

Land-based counts of kittiwakes from coastal sites were largely opportunistic and sporadic. Data were only available from five sites in the SEA 6 area, all of which involved large flocks of several thousand birds (Table 3.76). No national or international thresholds have been set for this species (Pollit *et al* 2003).

Within Northern Ireland, large movements were regularly recorded from Copeland Island and from regular seawatching points such as St. John's Point with numbers peaking in the autumn (Stewart 2003). Very large numbers were occasionally recorded in the area, for example 15,000 kittiwakes were seen off Copeland Island on 2nd September 2003 (CeDAR – unpublished data).

Table 3.76 Recent peak counts at main sites for kittiwake in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Bardsey	-	-	-	-	5,735	-	**5,735**	-
Arran	-	-	5,400	-	-	-	**5,400**	-
Point Lynas, Anglesey	-	-	-	1,676	3,500	2,000	**2,392**	-
Sites in Northern Ireland SEA 6 area								
Copeland Island	-	-	-	5,000	5,000	2,000	**4,000**	-
St John's Point	-	10,000	3,000	2,500	1,000	3,500	**4,000**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

ESAS surveys recorded kittiwakes throughout the SEA 6 area at predominantly low densities (Figure 3.22). High densities were recorded in the Firth of Clyde in January, with low to moderate densities elsewhere throughout the year.

3.24.3 Distribution within SEA 7 Area

Away from breeding colonies, counts of kittiwake in the SEA 7 region were available for three sites (Table 3.77). An estimated 5,000 birds were recorded between Uig and Tarbert, off Skye in September 2002, with approximately 10,000 birds around the Ascrib Islands in November 2002, during periods of bad weather at sea (McNee 2003).

Within Northern Ireland, large movements were regularly recorded from regular seawatching points such as Ramore Head, with peak movements tending to occur during the autumn (Stewart 2003).

Table 3.77 Recent peak counts at main sites for kittiwake in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Ascrib Islands	-	-	-	-	-	10,000	**10,000**	-
Uig-Tarbert	-	-	-	-	-	5,000	**5,000**	-
Sites in Northern Ireland SEA 7 area								
Ramore Head	-	-	-	-	2,000	-	**2,000**	-

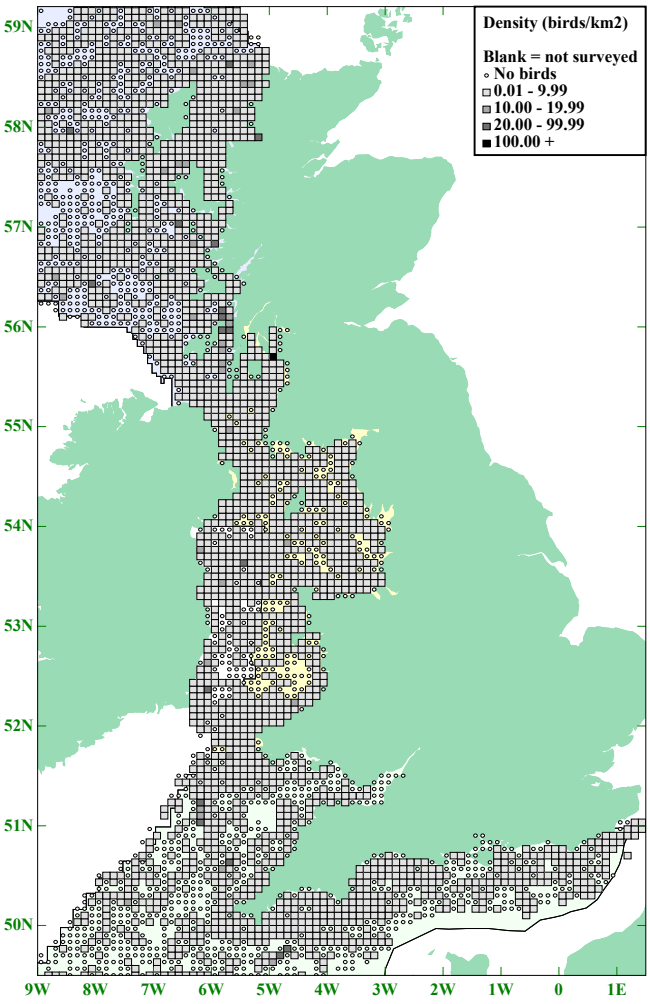
1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

Kittiwakes were widespread in the SEA 7 region throughout the year, mostly at low densities (Figure 3.22). High densities occurred offshore west of Mull in April, north of Lewis in June and October, around Skye in July, September and December and close to Ullapool in November. Moderate densities were recorded east of Islay in August and September.

Figure 3.22 Kittiwake density in SEA 6, 7 & 8 areas, from January to December (ESAS data)



3.24.4 Distribution within SEA 8 Area

Large movements of kittiwakes were recorded from several regular seawatching locations in the SEA 8 region (Table 3.78). These counts are peak daily counts, reflecting movements in response to weather conditions. Peak counts generally occurred at all sites between November and January. Figures were taken from bird reports and records centres.

Table 3.78 Recent peak counts at main sites for kittiwake in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Cape Cornwall	-	-	-	6,000	15,000	20,000	**13,667**	-
St Ives Bay	-	-	-	12,589	-	-	**12,589**	-
Pendeen Watch	-	-	-	-	-	7,083	**7,083**	-
Selsey Bill	200	-	-	7,000	5,000	1,100	**4,367**	200

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

Kittiwakes were recorded at predominantly low densities throughout the year within the SEA 8 area (Figure 3.22). Birds were most widespread between November and March, and showed a more restricted distribution for the rest of the year. High densities were recorded off the north and south coasts of Cornwall in February.

3.24.5 UK Conservation measures

A total of 33 terrestrial SPA sites have been selected for breeding kittiwakes in the UK. Two of these sites (Aisla Craig and Skomer & Skokholm) are in the SEA 6 region, with ten sites (Canna & Sanday, Rathlin Island, Cape Wrath, Flannan Isles, Handa, Mingulay & Berneray, North Rona & Sula Sgeir, Rum, Shiant Isles and St. Kilda) in the SEA 7 region. The remaining sites are in Orkney, Shetland and the east coast of Britain (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.25 Sandwich tern

Introduction

Sandwich terns are summer visitors to Britain and Ireland, spending the winter along the coast of west Africa, north of the equator (Webb *et al* 1990, Wernham *et al* 2002).

3.25.1 Breeding birds

The total British and Irish population of Sandwich terns was estimated at 14,252 apparently occupied nests during Seabird 2000 (Mitchell *et al* 2004)(Table 3.79). The SEA 6 and 8 areas were important in Britain, while over half the all-Ireland breeding population is within the SEA 6 area.

Table 3.79 Total numbers of Sandwich terns breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	1,860	8.6	1.1 - 1.3
6	N Ireland	1,903	51.2	2.4 - 2.8
7	Britain	1	0.0	0.0
7	N Ireland	-	-	-
8	Britain	387	3.7	0.5 - 0.6

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are five nationally important colonies of Sandwich terns in the SEA 6 region and one in the SEA 8 region (Table 3.80). The colony at Strangford Lough is internationally important.

Table 3.80 Nationally important Sandwich tern colonies in SEA 6, 7 & 8 Areas

SEA[1]	Area	Site	Total[2]	% of British/Irish Population[3]	% of Biogeographic Population
6 NI	Down	Strangford Lough	905	24.4	1.2 - 1.3
6 NI	Down	Carlingford Lough	650	17.5	0.8 - 0.9
6 B	Gwynedd	Cemlyn Lagoon	450	4.3	0.6 - 0.7
6 NI	Antrim	Larne Lough	348	9.4	0.4 - 0.5
6 B	Cumbria	Hodbarrow Lagoon	340	3.2	0.4 - 0.5
8 B	Hampshire	North Solent NNR	268	2.5	0.3 - 0.4

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.25.2 Distribution within SEA 6 Area

On the Cheshire coast, Hilbre and the nearby Dee Estuary held highest numbers, with a 3-year mean at Hilbre of 1,433 birds being just below the international threshold (>1,500 birds – Pollit *et al* 2003) (Table 3.81). Numbers in this area showed a peak in July, with several hundred birds regularly recorded in August and September (Schofield 2002, Feltham 2003).

Within Northern Ireland, Sandwich terns were regularly recorded at two sites. Numbers at Dundrum Bay tended to peak between June and August, while numbers at Belfast Lough peaked in August and September (CeDAR unpublished data).

Sites holding more than 200 birds were considered here as no national threshold has been set for Sandwich terns. Figures were taken from WeBS counts, bird reports and records centres.

Table 3.81 Recent peak counts at main sites for Sandwich tern in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Hilbre	-	-	-	1,000	1,800	1,500	**1,433**	-
Dee Estuary	1,256	629	672	-	-	1,632	**978**	1,098
Duddon Estuary	808	656	1,204	994	1,100	560	**903**	369
Cemlyn, Anglesey	-	-	-	1,260	-	105	**683**	-
North Solway	-	-	320	-	-	-	**320**	-
Saltcoats	-	-	300	-	-	-	**300**	-
Clyde Estuary	-	-	243	-	-	-	**243**	-
Gillfoot	-	-	238	-	-	-	**238**	-
Doonfoot	-	-	225	-	-	-	**225**	-
Sites in Northern Ireland SEA 6 area								
Dundrum Bay	592	353	234	166	-	-	**311**	152
Belfast Lough	188	250	344	195	360	-	**267**	244

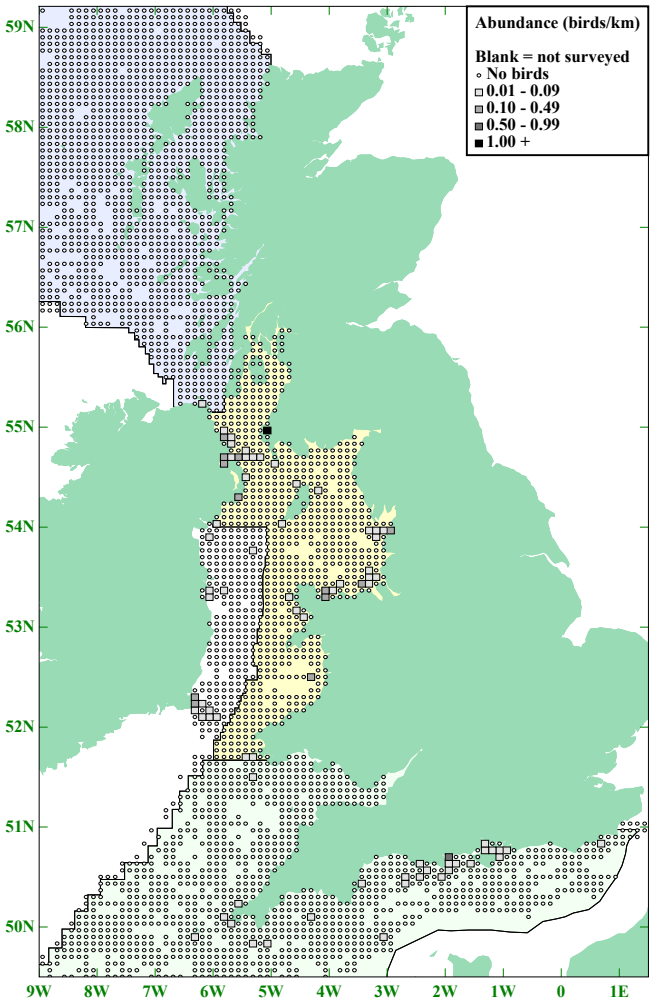
1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

Sandwich terns were recorded in the SEA 6 region between April and September, on ESAS surveys (Figure 3.23). Very few were recorded in April and May, with small concentrations in Morecambe Bay, off the east coast of northern Ireland, and around Anglesey between June and September. Low numbers were also recorded off the south-east coast of Ireland between April and September.

Figure 3.23 Sandwich tern abundance in SEA 6, 7 & 8 areas, from April to September (ESAS Data)



3.25.3 Distribution within SEA 7 Area

No sites within the SEA 7 area regularly hold numbers of Sandwich terns.

ESAS surveys

On ESAS surveys within the region, low numbers of Sandwich terns were recorded south of Rathlin Island (Figure 3.23).

3.25.4 Distribution within SEA 8 Area

Mean peak counts from seven sites within the SEA 8 region regularly held more than 200 Sandwich terns (Table 3.82). Peak passage past Brighton Marina (Sussex) occurred in April while numbers roosting at Rye Harbour (Sussex) peaked in late July and early August (James 2001 & 2003). Numbers at Exe/Dawlish Warren (Devon) peaked between July and September (Farrell, Hibbert & Reay 2001, 2002 & 2003) while highest numbers at Sandy Point (Hampshire) tended to peak during spring passage in April and May (Cox 2003 & 2004). The figures shown were taken from WeBS counts, bird reports and records centres.

Table 3.82 Recent peak counts at main sites for Sandwich tern in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Brighton Marina	150	247	563	393	558	470	**446**	150
Rye Harbour	-	-	-	318	325	650	**431**	-
Exe/Dawlish Warren	226	286	394	313	374	200	**313**	220
Sandy Point	-	-	320	140	254	254	**242**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

Sandwich terns were recorded on ESAS surveys between April and September in the SEA 8 area (Figure 3.23). Birds were widespread in low numbers in April and September, with small concentrations around Southampton Water between May and August.

3.25.5 UK Conservation measures

A total of sixteen terrestrial SPA sites have been selected for breeding Sandwich terns in the UK. Six of these sites (Larne Lough, Strangford Lough, Carlingford Lough, Duddon Estuary, Morecambe Bay and Ynys Feurig, Cemlyn Bay & The Skerries) are in the SEA 6 region, with another two sites (Chichester & Langstone Harbours and Solent & Southampton Water) in the SEA 8 area. The remaining sites are on the east coast of Britain (Stroud *et al* 2001).

Three UK sites have been selected as terrestrial SPAs for passage Sandwich terns in the UK. One of these, the Dee Estuary (Cheshire) is in the SEA 6 region (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed on Annex I of the EU Birds Directive (Johnston *et al* 2002).

3.26 Roseate tern

Introduction

Like many other terns, roseate terns spend the winter in West Africa, particularly off Ghana, which appears to be the principal wintering area for all European roseate terns (Wernham *et al* 2002).

3.26.1 Breeding birds

The total British and Irish population of roseate terns was estimated at 790 apparently occupied nests during Seabird 2000 (Mitchell *et al* 2004), with 92.9% of these occurring in Ireland. Within the SEA 6 region, 2 pairs were present at Ynys Feurig (Gwynedd) and 4 pairs at Larne Lough (Antrim). One pair was present in at the North Solent NNR (Hampshire) within the SEA 8 region during Seabird 2000 (Mitchell *et* al 2000)(Table 3.83).

Table 3.83 Total numbers of roseate terns breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	2	3.9	0.1
6	N Ireland	4	0.5	0.2
7	Britain	-	-	-
7	N Ireland	-	-	-
8	Britain	1	1.9	0.0 - 0.1

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.26.2 Distribution within SEA 6 Area

Within the SEA 6 region roseate terns were occasionally recorded in very low numbers in summer, with Seaforth NNR in Liverpool being the most regular site.

ESAS surveys

There was only one sighting of a single roseate tern west of Liverpool on ESAS surveys in the SEA 6 area. There have been several sightings in the Irish sector of the Irish Sea on ESAS surveys, particularly off the east coast around the large colony at Rockabill, and also further offshore to the south-east (Figure 3.24).

3.26.3 Distribution within SEA 7 Area

No sites within the SEA 7 area regularly held numbers of roseate terns and the species has not been recorded during ESAS surveys in the SEA 7 region (Figure 3.24).

3.26.4 Distribution within SEA 8 Area

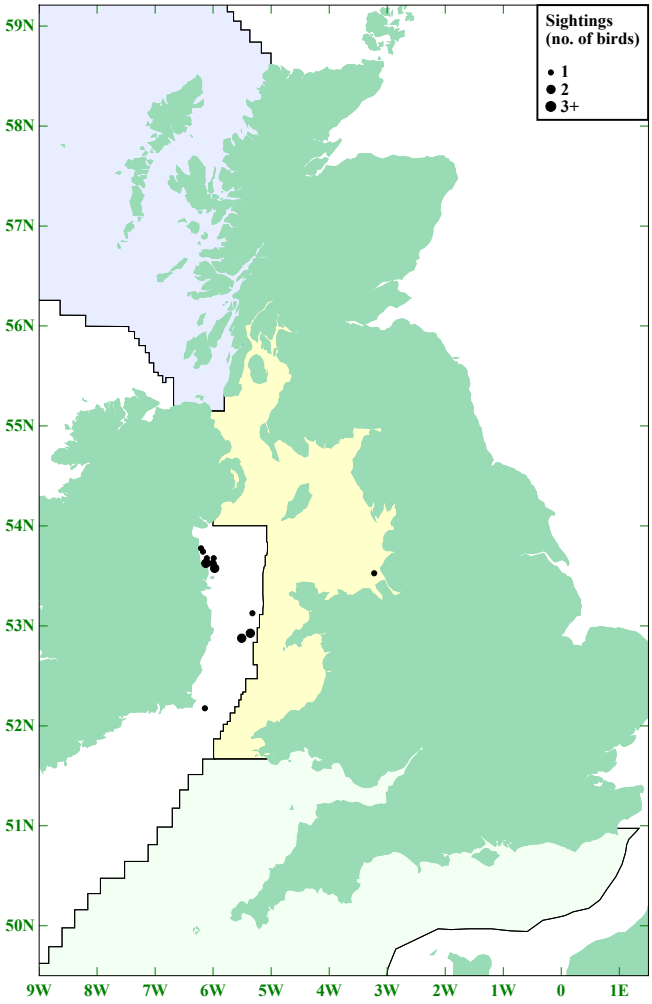
Within the SEA 8 region, roseate terns were very scarce passage migrants and occasional summer visitors that have historically bred at a few localities. One breeding pair was recorded in Hampshire during Seabird 2000 (Mitchell *et al* 2004). Roseate terns have not been recorded during ESAS surveys in the SEA 8 region (Figure 3.24).

3.26.5 UK Conservation measures

A total of seven terrestrial SPA sites have been selected for breeding roseate terns in the UK. Two of these sites (Larne Lough and Ynys Feurig, Cemlyn Bay & The Skerries) are in the SEA 6 region, with one site (Solent & Southampton Water) in the SEA 8 area. The remaining four sites are on the east coast of Britain (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed on Annex I of the EU Birds Directive (Johnston *et al* 2002).

Figure 3.24Sightings of roseate terns in SEA 6, 7 & 8 areas (ESAS Data)



3.27 Common tern

Introduction

The majority of common terns spend the winter along the coast of west Africa, between Sierra Leone and Ghana, returning to Britain and Ireland to breed between April and October (Webb *et al* 1990, Wernham *et al* 2002).

3.27.1 Breeding birds

The total British and Irish population of common terns was estimated at 14,497 apparently occupied nests during Seabird 2000 (Mitchell *et al* 2004), with more than 20% within the SEA 7 area (Table 3.84). Northern Ireland sites within the SEA 6 area are very important in an all-Ireland context.

Table 3.84 Total numbers of common terns breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	647	6.3	0.2 - 0.3
6	N Ireland	1,599	38.2	0.5 - 0.7
7	Britain	2,160	21.0	0.6 - 1.0
7	N Ireland	-	-	-
8	Britain	795	7.7	0.2 - 0.4

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are four nationally important colonies of common terns in the SEA 6 region, four in the SEA 7 region and three in the SEA 8 region (Table 3.85).

Table 3.85 Nationally important numbers of common tern breeding in SEA 6, 7 & 8

SEA[1]	Area	Site	Total[2]	% of British/Irish Population[3]	% of Biogeographic Population
6 NI	Down	Strangford Lough	559	13.3	0.2 - 0.3
6 NI	Antrim	Larne Lough	521	12.4	0.2
6 NI	Down	Carlingford Lough	509	12.2	0.2
6 B	Merseyside	Seaforth NR & Liverpool	157	1.5	0.1
7 B	Argyll & Bute	North Mull	772	7.5	0.2 - 0.4
7 B	Western Isles	North Uist	211	2.1	0.1
7 B	Argyll and Bute	Craobh Haven to Craignish & offshore islands	119	1.2	0.0 - 0.1
7 B	West Coast Ross & Cromarty	Summer Isles	109	1.1	0.0 - 0.1
8 B	Dorset	Brownsea Island	191	1.9	0.1
8 B	Hampshire	Langstone Harbour	126	1.2	0.0 - 0.1
8 B	Hampshire	North Solent NNR	123	1.2	0.0 - 0.1

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.27.2 Distribution within SEA 6 Area

Although no national threshold has been set for common terns, sites in the SEA 6 region regularly holding more than 200 birds are considered here (Table 3.86). All sites listed were in the Liverpool Bay area, and there may be overlap and movements of birds between sites. Highest counts at all sites were recorded in August, reflecting a post-breeding build up of adults and juveniles from UK colonies in this area. Figures were taken from WeBS counts, bird reports and records centres.

Table 3.86 Recent peak counts at main sites for common tern in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Alt Estuary	1,038	1,004	1,156	1,292	-	-	**1,017**	951
Seaforth NR	-	-	-	1,100	800	900	**933**	-
Hilbre	-	-	-	1,000	480	400	**627**	-
Ainsdale	-	-	-	-	500	-	**500**	-
Hoylake	-	-	-	438	-	-	**438**	-
Dee Estuary	225	567	348	246	-	192	**338**	403
Formby Point	-	-	-	250	-	-	**250**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Very few birds were recorded on passage in Northern Ireland (Pollit *et al* 2003).

ESAS surveys

Common terns were recorded in the SEA 6 area between May and September on ESAS surveys, with highest densities occurring in September in the Liverpool Bay area (Figure 3.25). Generally most common tern activity in the Irish Sea was recorded off the east coast of Ireland, although low densities were recorded off Belfast Lough in June and July.

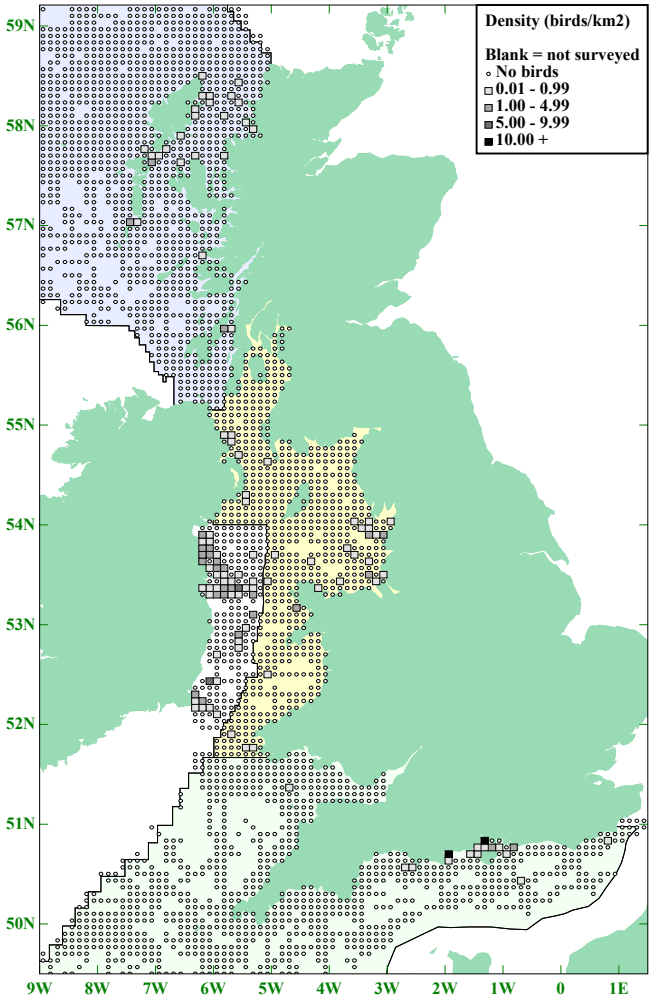
3.27.3 Distribution within SEA 7 Area

Away from breeding colonies, no coastal sites within the SEA 7 region regularly held more than 200 common terns.

ESAS surveys

The earliest common terns were recorded in the SEA 7 area in May, with highest densities recorded in June and July around the Western Isles (Figure 3.25). By August, birds were only recorded occasionally and no birds were encountered in September.

Figure 3.25 Common tern density in SEA 6, 7 & 8 areas, from June to September (ESAS Data)



3.27.4 Distribution within SEA 8 Area

Within the SEA 8 region, several sites regularly held more than 200 common terns (Table 3.87). Counts from a regular nocturnal roost at Langstone Harbour showed a 4 year mean of 2,509 birds, peaking in late August or early September, more than double the 5-year mean for the Alt Estuary (SEA 6 region), the top-rated site in WeBS reports (Pollit *et al* 2003).

In addition to the counts shown in Table 88, 3,170 common terns were recorded roosting at Langstone Harbour on 27th August 2003 (Cox 2004). Pollit *et al* (2003) acknowledged that WeBS counts may fail to record peak counts of common terns at post-breeding staging sites. This site and nearby Sandy Point did not feature in WeBS reports.

Figures were taken from WeBS counts, bird reports and records centres.

Table 3.87 Recent peak counts at main sites for common tern in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Langstone Harbour	-	-	3,200	2,025	2,510	2,300	**2,509**	208
Sandy Point	-	-	2,534	-	962	1,045	**1,514**	-
Berry Head	-	-	590	-	-	-	**590**	-
Brighton Marina	-	-	-	214	311	934	**486**	-
Severn Beach	-	-	-	400	-	-	**400**	-
Southampton Water	-	-	-	238	-	-	**238**	-
Chichester Harbour	-	-	-	209	-	-	**209**	-
Taw/Torridge Estuary	-	-	350	125	-	130	**202**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

Common terns were recorded between April and September in the SEA 8 region, with highest densities recorded around Southampton Water and Poole Harbour (Hampshire) in June and August (Figure 3.25). Elsewhere, low densities were recorded off south-west of Wales in May, and off Portland (Dorset) in May and July.

3.27.5 UK Conservation measures

A total of 22 terrestrial SPA sites have been selected for breeding common terns in the UK. Six of these sites (Larne Lough, Strangford Lough, Carlingford Lough, Ribble & Alt Estuaries, Dee Estuary and Ynys Feurig, Cemlyn Bay & The Skerries) are in the SEA 6 region, a further two sites (Glas Eileanan and the Monach Isles) are in the SEA 7 region and three sites (Dungeness to Pett Levels, Solent & Southampton Water and Poole Harbour) in the SEA 8 area. Apart from Loughs Neagh and Beg in Northern Ireland, the remaining nine SPA sites are on the east coast of Britain (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed on Annex I of the EU Birds Directive (Johnston *et al* 2002).

3.28 Arctic tern

Introduction

Arctic terns that breed in Britain and Ireland head south to Antarctic seas after the breeding season, moving down the west coast of Europe and Africa to South Africa, and on south to the edge of the pack ice. Return passage begins in early March and retraces the autumn migration route northwards (Wernham *et al* 2002).

3.28.1 Breeding birds

The total British and Irish population of Arctic terns was estimated at 56,123 apparently occupied nests during Seabird 2000 (Mitchell *et al* 2004). Numbers breeding within the SEA 6 & 7 areas were nationally important (Table 3.88).

Table 3.88 Total numbers of Arctic terns breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	1,764	3.4	0.1 - 0.4
6	N Ireland	767	21.9	0.0 - 0.2
7	Britain	6,351	12.1	0.4 - 1.3
7	N Ireland	-	-	-
8	Britain	-	-	-

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are three nationally important colonies of Arctic terns in the SEA 6 region, and three in the SEA 7 region (Table 3.89).

Table 3.89 Nationally important Arctic tern colonies in SEA 6, 7 & 8 Areas

SEA[1]	Area	Site	Total[2]	% of British/Irish Population[3]	% of Biogeographic Population
6 B	Gwynedd	The Skerries	1,368	2.6	0.1 - 0.3
6 NI	Down	Copeland Islands	650	18.6	0.0 - 0.1
6 NI	Down	Strangford Lough	110	3.1	0.0
7 B	Western Isles	Melbost - Lewis	650	1.2	0.0 - 0.1
7 B	Western Isles	North Uist	624	1.2	0.0 - 0.1
7 B	Western Isles	Monach Islands	618	1.2	0.0 - 0.1

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.28.2 Distribution within SEA 6 Area

Daily counts of passage birds from Heysham (Lancashire) peaked in late April or early May, with an additional high count of 544 birds on 29th April 2003 (Table 3.90). Counts shown are peak daily totals, which can add up to quite large movements e.g. a minimum estimate of 2,670 Arctic terns moving through the Morecambe Bay area between late April and mid-May in 2000. There is also some evidence that flocks of Arctic terns arrive in Morecambe Bay having flown overland from the south-east (White 2001). The count from Turnberry (Ayrshire) was of passage birds in May. Counts shown for Morecambe Bay were from WeBS counts between May and July, as opposed to birds on passage.

In Northern Ireland, the count at Cockle Island, Groomsport was in May, while the 120 recorded at the Copeland Islands was a feeding flock from the colony on Big Copeland in June.

Sites holding more than 100 birds were considered here as no national threshold has been set for Arctic terns. Figures were taken from WeBS counts, bird reports and records centres.

Table 3.90 Recent peak counts at main sites for Arctic tern in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Heysham	-	-	114	500	338	387	**335**	-
Turnberry	-	-	141	-	-	-	**141**	-
Morecambe Bay	124	144	80	103	-	-	**110**	73
Sites in Northern Ireland SEA 6 area								
Copeland Islands	-	-	-	-	120	-	**120**	-
Groomsport	-	-	-	100	-	-	**100**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

Arctic terns were recorded in the SEA 6 region between May and September on ESAS surveys (Figure 3.26). Low to moderate densities were recorded off Belfast Lough between June and August, when Arctic terns were most widespread in the Irish Sea. Low densities were recorded in Morecambe Bay and Liverpool Bay in September.

Low densities were also recorded off the east and south-east coast of Ireland during May and September, involving breeding birds from colonies at Rockabill and Lady's Island Lake.

3.28.3 Distribution within SEA 7 Area

Apart from breeding records, counts for the SEA 7 region were only available for Tiree in July 1999 (SOC 2003) and of passage birds at Ramore Head in September 2001. (Table 3.91).

Table 3.91 Recent peak counts at main sites for Arctic tern in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Tiree	-	-	471	-	-	-	**471**	-
Sites in Northern Ireland SEA 7 area								
Ramore Head	-	-	-	-	156	-	**156**	-

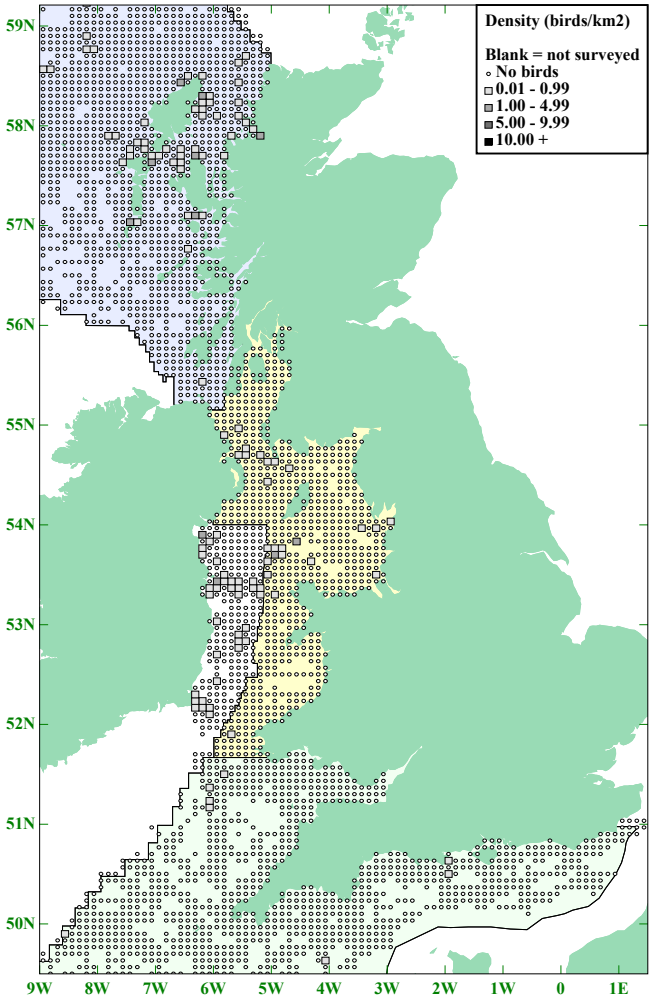
1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS surveys

The first Arctic terns were recorded in April in the SEA 7 area, during ESAS surveys in the region. Numbers of birds began to increase in May around Lewis, with low to moderate densities recorded throughout the Western Isles in June (Figure 3.26). Few birds were recorded in July, but surveys recorded Arctic terns throughout the Minch and off Skye in low to moderate densities in August. A few birds lingered into September and October.

Figure 3.26 Arctic tern density in SEA 6, 7 & 8 areas, from June to September (ESAS Data)



3.28.4 Distribution within SEA 8 Area

Counts of Arctic terns on passage were only available for the inner Severn Estuary in the SEA 8 region (Table 3.92). Although all species of terns are generally scarce visitors to the Severn Estuary, it is used as a spring migration route during anticyclonic weather conditions, particularly between late April and mid-May, with the largest movements coinciding with strong north-easterly winds. For example, in spring 1990 more than 8,000 terns were counted between April 21st and May 13th, with almost 3,000 recorded on May 1st (Lancastle 2001). Common and Arctic terns made up more than 80% of all terns recorded. The count of 600 in Table 109 were recorded on 1st May 1998. (See also Table 3.87 – common tern).

Table 3.92 Recent peak counts at main sites for Arctic tern in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Inner Severn Estuary	-	600	-	114	200	65	**245**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

In Sussex, large movements of common & Arctic terns in spring were frequently recorded, although due to the similarities between the two species, most sightings are treated together as "commic" tern. All birds were moving east and peak migration occurred between late April and mid-May. Numbers sometimes totalled several thousand per day, for example 2,285 east past Splash Point on 6th May 2000, and 4,270 east past Brighton Marina on 11th May 2001. This passage was part of a large movement of 9,816 birds east between 11th and 13th May, with a total of 18,392 "commic" terns recorded flying east past Brighton during spring 2001 (James 2003).

ESAS surveys

Low to moderate densities of Arctic terns were recorded occasionally in the SEA 8 region in May and June, during ESAS surveys, with very few birds recorded between July and August (Figure 3.26). No birds were recorded in September or October.

3.28.5 UK Conservation measures

A total of seventeen terrestrial SPA sites have been selected for breeding Arctic terns in the UK. Three of these sites (Outer Ards, Strangford Lough and Ynys Feurig, Cemlyn Bay & The Skerries) are in the SEA 6 region, while the remaining fourteen sites are in Orkney, Shetland and the east coast of Britain (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed on Annex I of the EU Birds Directive (Johnston *et al* 2002).

3.29 Little tern

Introduction

Breeding little terns from Britain and Ireland winter to the south of the breeding range, on the coasts of Africa and off the Arabian Peninsula (Wernham *et al* 2002).

3.29.1 Breeding birds

The total British and Irish population of little terns was 2,153 apparently occupied nests during Seabird 2000 (Mitchell *et al* 2004), with significant numbers of breeding birds in the SEA 6, 7 & 8 areas (Table 3.93).

Table 3.93 Total numbers of little terns breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	137	7.0	0.6 - 0.8
6	N Ireland	-	-	-
7	Britain	231	11.9	1.1 - 1.4
7	N Ireland	-	-	-
8	Britain	244	12.5	1.1 - 1.4

1 Count unit = Apparently Occupied Nest (AON)

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are three nationally important colonies of little terns in the SEA 6 region, four in the SEA 7 region and three in the SEA 8 region (Table 3.94).

Table 3.94 Nationally important numbers of little tern breeding in SEA 6, 7 & 8 Areas

SEA	Area	Site	Total	% of British/Irish Population*	% of Biogeographic Population
6 B	Clwyd	Gronant Beach	75	3.9	0.3-0.4
6 B	Cumbria	Hodbarrow Lagoon	26	1.3	0.1-0.2
6 B	Isle of Man	Isle of Man	20	1.0	0.1-0.1
7 B	Argyll and Bute	Tiree	56	2.9	0.3
7 B	Argyll and Bute	Coll	47	2.4	0.2-0.3
7 B	Western Isles	North Uist	37	1.9	0.2
7 B	Western Isles	South Uist	37	1.9	0.2
8 B	Hampshire	Langstone Harbour	129	6.6	0.6-0.8
8 B	Dorset	Chesil Beach	81	4.2	0.4-0.5
8 B	Hampshire	Lymington River	20	1.0	0.1

1 NI= Northern Ireland; B=Britain

2 Count unit = Apparently Occupied Nest (AON)

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.29.2 Distribution within SEA 6 Area

Within the SEA 6 region, little terns were regularly recorded at the Dee Estuary (Cheshire) with some counts available for other coastal sites in the region (Table 3.95). Numbers on the Dee Estuary showed a peak in June and July, and were thought to be from the nearby colony at Gronant (Clwyd) (Feltham 2003). Figures were taken from WeBS counts, bird reports and records centres. No nationally important threshold has been set for this species.

Table 3.95 Recent peak counts at main sites for little tern in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Dee Estuary	160	150	200	111	-	242	**176**	290
Hilbre	-	-	-	-	170	165	**168**	-
West Kirby	-	-	-	-	-	110	**110**	-
Duddon Estuary	-	52	56	-	-	-	**54**	-
Solway Estuary	50	-	-	-	-	-	**50**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

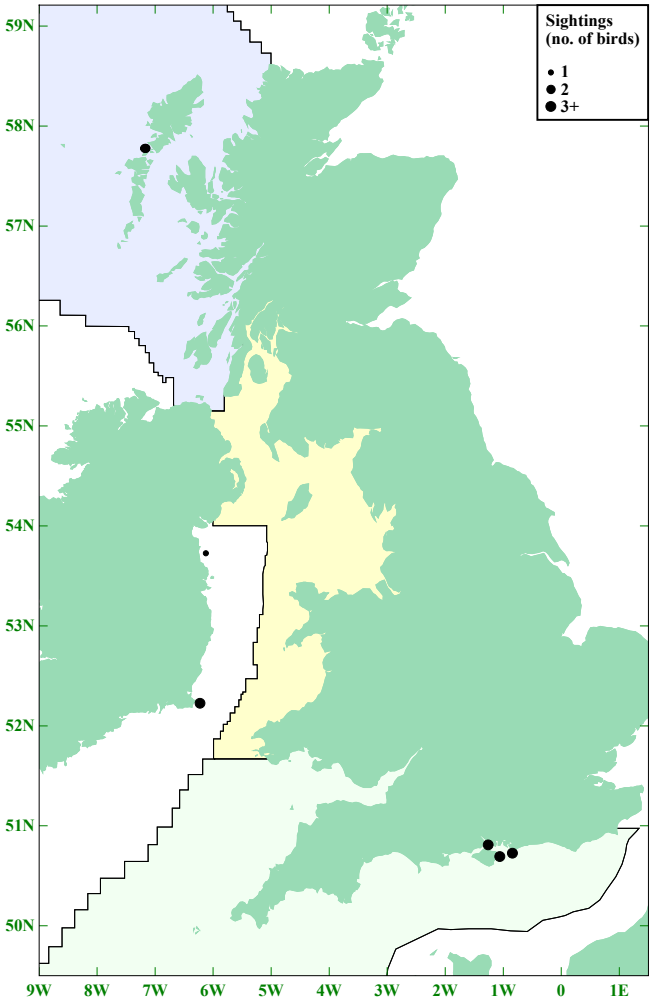
2 Mean of previous 5 years, where available

Little terns were not recorded on ESAS surveys within the SEA 6 region (Figure X).

3.29.3 Distribution within SEA 7 Area

Away from breeding colonies, no counts of little terns were available for coastal sites within the SEA 7 region. Two birds recorded during ESAS surveys south of Harris were presumably from a nearby breeding colony (Figure 3.27).

Figure 3.27Sightings of little terns in SEA 6, 7 & 8 areas (ESAS Data)



3.29.4 Distribution within SEA 8 Area

Within the SEA 8 region, little terns were regularly recorded around the breeding colonies at Langstone Harbour (Hampshire), the Fleet & Way (Dorest) and Rye Harbour (Sussex) (Table 3.96). Peak daily counts of passage birds flying east in April and May were available from Brighton Marina (Sussex), and post-breeding concentrations in August were regularly recorded at Pilsey Sands (Sussex).

Figures were taken from WeBS counts, bird reports and records centres. No nationally important threshold has been set for this species.

Table 3.96 Recent peak counts at main sites for little tern in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Langstone Harbour	-	-	296	220	190	-	**235**	205
Fleet/Way	203	154	125	102	-	-	**127**	1
Pilsey Sands	-	-	-	42	200	42	**95**	-
Brighton Marina	-	-	-	116	44	62	**74**	-
Rye Harbour	-	-	-	-	43	50	**50**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

Little terns have been recorded in the Solent and east of the Isle of Wight during ESAS surveys (Figure 3.27).

3.29.5 UK Conservation measures

A total of twenty seven terrestrial SPA sites have been selected for breeding little terns in the UK. Two of these sites (Dee Estuary and Morecambe Bay) border the SEA 6 region, and two (South Uist Machair & Lochs and the Monach Isles) are in the SEA 7 region. A further five sites (Chesil Beach & The Fleet, Chichester & Langstone Harbours, Pagham Harbour, Solent & Southampton Water and Dungeness to Pett Level) are in the SEA 8 region. The remaining eighteen sites are on the east coast of Britain (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed on Annex I of the EU Birds Directive (Johnston *et al* 2002).

3.30 Guillemot

Introduction

Guillemots are resident and are found mostly in waters over the continental shelf. During autumn and winter months, guillemots are widespread around the coasts of Britain and Ireland, with first year birds moving furthest from the colonies. According to the Winter Atlas, no winter population estimate for guillemot is available (Lack 1986).

3.30.1 Breeding birds

The total number of guillemots counted in Britain and Ireland during Seabird 2000 was 1,559,484 individuals, or approximately one million pairs (Mitchell *et al* 2004). The Sea 7 region was the most important for breeding birds within the Study Area, although all three SEA areas hold internationally important breeding numbers. Northern Ireland sites within the SEA 7 area are very important in an all-Ireland context, accounting for 43% of the all-Ireland breeding population (Table 3.97).

Table 3.97 Total numbers of guillemots breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	75,882	5.7	1.8
6	N Ireland	2,805	1.2	0.1
7	Britain	289,689	21.9	6.7 - 6.9
7	N Ireland	95,741	40.5	2.2 - 2.3
8	Britain	16,905	1.3	0.4

1 Count unit = number of individuals on land

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There is one nationally important colony of guillemots in the SEA 6 region and eight in the SEA 7 region (Table 3.98). Handa and Rathlin Island (both in SEA 7 area) are internationally important colonies.

Table 3.98 Nationally important guillemot colonies in SEA 6, 7 & 8 Areas

SEA	Area	Site	Total	% of British/Irish Population*	% of Biogeographic Population
6 B	Dyfed	Skomer & Middleholm Islands	14,175	1.1	0.3
7 B	North-West Coast Sutherland	Handa Island	112,676	8.5	2.6-2.7
7 NI	Antrim	Rathlin Island	95,117	40.2	2.2-2.3
7 B	Argyll and Bute	Isle of Colonsay	26,429	2.0	0.6
7 B	Western Isles	Sula Sgeir Island	20,877	1.6	0.5
7 B	Western Isles	Berneray	19,083	1.1	0.4-0.5
7 B	Western Isles	Shiant Islands	16,456	1.2	0.4
7 B	Western Isles	Flannan Isles	14,638	1.1	0.3-0.4
7 B	Western Isles	Mingulay	13,387	1.0	0.3

1 NI= Northern Ireland; B=Britain

2 Count unit = individuals on land

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.30.2 Distribution within SEA 6 Area

Away from breeding colonies, counts of guillemots were only available for three coastal sites within the SEA 6 region (Table 3.99). Regular spring and autumn passage occurred off seawatching points such as St. John's Point (Down), with 2,600 birds recorded on 31st May 2000 and 1,500 there on 8th October 2002. The count from Wemyss Bay, west of Glasgow, was in August.

Figures were taken from bird reports and records centres. No nationally important threshold has been set for this species.

Table 3.99 Recent peak counts at main sites for guillemot in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Wemyss Bay	1,206	-	-	-	-	-	**1,206**	-
Sites in Northern Ireland SEA 6 area								
St John's Point	100	-	300	2,600	-	1,500	**1,467**	100
Copeland Islands	-	-	-	-	-	300	**300**	500

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS Surveys

Guillemots were recorded in the SEA 6 area throughout the year on ESAS surveys (Figures 3.27 & 3.28). Birds were widespread throughout the Irish Sea between May and September, with a slightly more restricted range over the winter months, although survey coverage was incomplete for parts of the Irish Sea. Highest densities were recorded in the southern half of Cardigan Bay in August September, and November.

Coverage was lacking offshore off Cardigan Bay, and around the Isle of Man, particularly between October and April.

In the Irish Sea, largest numbers were along the coast of Ireland and in the vicinity of the Irish Sea front in July and August (Pollock *et al* 1997). There is thought to be movement into the Irish Sea at this time.

3.30.3 Distribution within SEA 7 Area

Away from breeding colonies, no counts of guillemots were available for coastal sites within the SEA 7 region.

ESAS surveys

Guillemots were widespread in the SEA 7 area in all months on ESAS surveys (Figures 3.27 & 3.28). Highest densities in the summer were recorded off north-west Scotland in May and June, and around Skye in August and September, with moderate densities throughout The Minch in July. In winter high densities were recorded off the north coast of Northern Ireland in January, and off Skye and Lewis in December.

In late summer, guillemots form large flocks in inshore waters, as they undergo a full body moult and are flightless for several weeks (Birkhead & Taylor 1977, Harris & Wanless 1990). A dedicated survey of moulting auks in 1988 found largest concentrations off the west coast of Scotland, in Loch Broom, Sound of Sleat, Sound of Jura, the Gulf of Corryvrecken and in the Clyde (SEA 6). Large numbers were also concentrated around the Butt of Lewis (Harrison *et al* 1989).

Figure 3.27 **Guillemot density in SEA 6, 7 & 8 areas, from May to September** (ESAS Data)

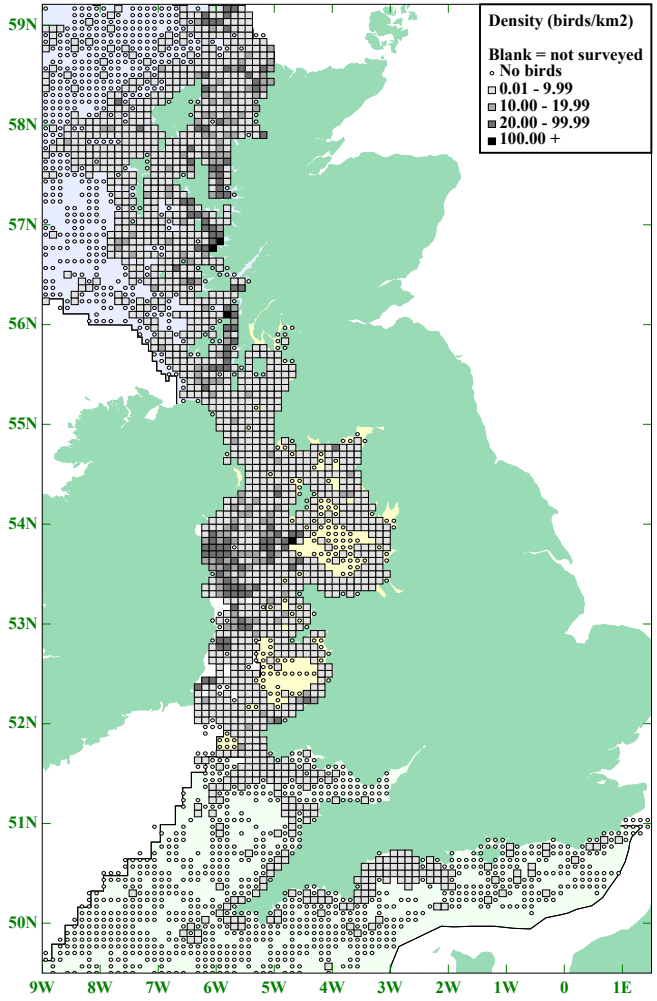
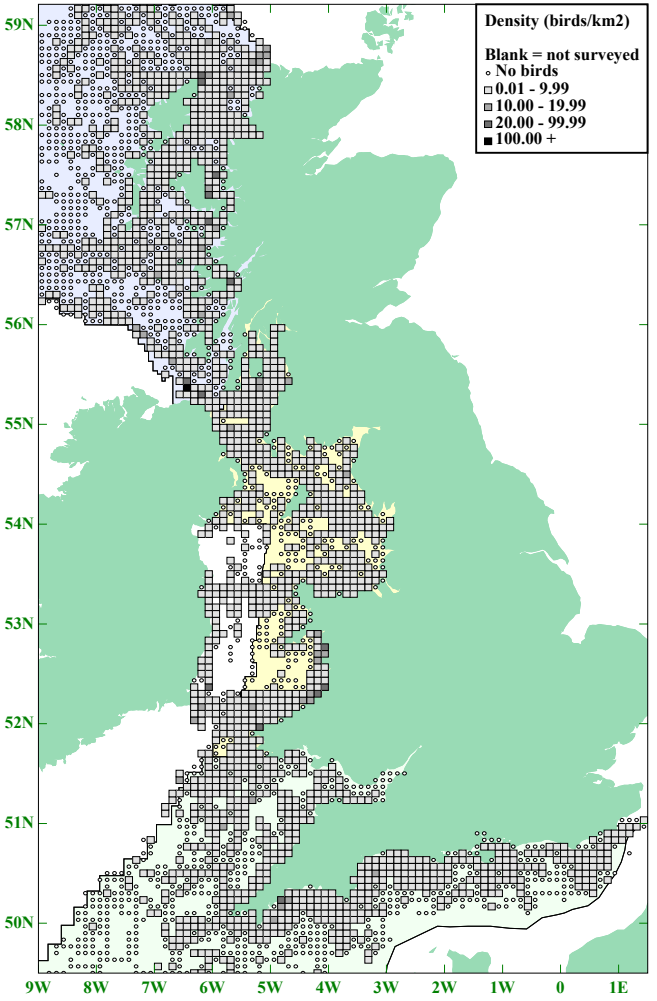


Figure 3.28 **Guillemot density in SEA 6, 7 & 8 areas, from October to April** (ESAS Data)



3.30.4 Distribution within SEA 8 Area

Away from breeding colonies, no counts of guillemots were available for coastal sites within the SEA 8 region. However, large numbers of unidentified guillemots/razorbills were recorded from several regular seawatching points within the SEA 8 region (Table 3.100).

Table 3.100 Recent peak counts at main sites for unidentified guillemots/razorbills in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Rumps Point	-	-	-	32,870	-	-	**32,870**	-
Cape Cornwall	-	-	-	-	20,000	30,000	**25,000**	-
St Ives Island	-	-	-	21,354	-	-	**21,354**	-
Trevose Head	-	-	-	-	15,678	-	**15,678**	-
Pendeen Watch	-	-	-	-	8,800	13,128	**10,964**	-
Brighton Marina	-	1,420	4,500	4,040	6,930	10,680	**5,514**	-
Berry Head	-	-	9,000	433	600	-	**3,344**	-

The top five sites were all in Cornwall, where peak daily movements occurred between October and December. Peak daily movements past Brighton Marina (Sussex) were recorded during December and January while the record of 9,000 from Berry Head (Devon) was in February.

ESAS surveys

ESAS surveys recorded guillemots within the SEA 8 area throughout the year (Figures 3.27 & 3.28). Birds were most widespread between October and April, with few birds recorded east of Portland (Dorset) between May and September. High densities were recorded off the south coast of Cornwall in February, with moderate densities off east Devon at this time. Low densities were recorded throughout the rest of the year.

3.30.5 UK Conservation measures

A total of thirty four terrestrial SPA sites have been selected for breeding guillemots in the UK. Two of these sites (Ailsa Craig and Skomer & Skokholm) are in the SEA 6 region, with ten sites (Canna & Sanday, Cape Wrath, Flannan Isles, Handa, Mingulay & Berneray, North Rona & Sula Sgeir, Rathlin Island, Rum, Shiant Isles & St. Kilda) in the SEA 7 region. The remaining twenty two sites are on Orkney, Shetland and the north & east coasts of Britain (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.31 Razorbill

Introduction

Razorbills are more widespread in winter than in the summer months, leaving the breeding colonies by mid-August with most birds not returning to land until February or March. Large scale 'wrecks' of auks, including razorbills can occur, following adverse weather periods and low availability of prey. According to the Winter Atlas, no winter population estimate for guillemot is available (Lack 1986).

3.31.1 Breeding birds

The total number of razorbills counted in Britain and Ireland during Seabird 2000 was 216,087 individuals (Mitchell *et al* 2004). The Sea 6, 7 and 8 areas held significant numbers of breeding birds, with the SEA 7 area being the most important (Table 3.101).

Table 3.101 Total numbers of razorbills breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	18,242	11.1	2.3
6	N Ireland	1,298	2.5	0.2
7	Britain	62,859	38.2	8.0
7	N Ireland	22,771	44.2	2.9
8	Britain	3,074	1.9	0.4

1 Count unit = number of individuals on land

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are five nationally important colonies of razorbills in the SEA 6 region and eight in the SEA 7 region (Table 3.102). Four colonies in the SEA 7 area are internationally important.

Table 3.102 Nationally important razorbill colonies in SEA 6, 7 & 8 Areas

SEA[1]	Area	Site	Total[2]	% of British/Irish Population[3]	% of Biogeographic Population
6 B	Dyfed	Skomer & Middleholm Islands	4,072	2.5	0.5
6 B	Argyll & Bute	Sanda, Sheep & Glunimore Islands	2,910	1.8	0.4
6 B	Dyfed	Grassholm, Bishop & Clerks, & Ramsey	1,789	1.1	0.2
6 NI	Antrim	Muck Island	746	1.5	0.1
6 NI	Antrim	Gobbins	552	1.1	0.1
7 NI	Antrim	Rathlin Island	20,860	40.5	2.6
7 B	North-West Coast Sutherland	Handa Island	16,991	10.3	2.2
7 B	Western Isles	Berneray	16,513	10.0	2.1
7 B	Western Isles	Shiant Islands	8,046	4.9	1.0
7 B	Western Isles	Mingulay	6,387	3.9	0.8
7 B	Argyll & Bute	Isle of Colonsay	2,742	1.7	0.4
7 NI	Antrim	Sheep Island, Causeway Coast	963	1.9	0.1
7 NI	Antrim	Causeway Coast	948	1.8	0.1

1 NI= Northern Ireland; B=Britain

2 Count unit = individuals on land

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.31.2 Distribution within SEA 6 Area

Limited counts for razorbill were available for sites within the SEA 6 area (Table 3.103). The count from Bardsey was in June, while the peak count of 10,000 birds from the Copeland Islands (Down) were recorded on passage in April. Largest numbers past St. John's Point (Down) occurred in September and October.

Table 3.103 Recent peak counts at main sites for razorbill in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	**Mean [1]**	Mean [2]
Bardsey	-	-	-	-	-	2,000	**2,000**	-
Sites in Northern Ireland SEA 6 area								
Copeland Islands	-	-	-	-	10,000	400	**5,200**	10,000
St John's Point	100	-	400	2,000	-	1,500	**1,300**	100

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS Surveys

Razorbills were recorded at low densities in the SEA 6 area throughout the year on ESAS surveys (Figures 3.29 & 3.30). Birds were widespread throughout the Irish Sea between May and September, with a slightly more restricted range over the winter months, although survey coverage was incomplete. Coverage was lacking in the central Irish Sea, particularly between February and June and from October to December.

Relatively few razorbills were recorded in the Irish Sea with highest densities in the western Irish Sea in July (Pollock *et al* 1997). As with guillemots, there was thought to be movement into the Irish Sea from Scottish waters following breeding (Harrison *et al* 1989, Pollock *et al* 1997).

3.31.3 Distribution within SEA 7 Area

Only one count for razorbill was available for the SEA 7 area (Table 3.104). The count from Griminish Point, North Uist was in June.

Table 3.104 Recent peak counts at main sites for razorbill in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	**Mean [1]**	Mean [2]
Griminish Point, N Uist	-	2,160	-	-	-	-	**2,160**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS Surveys

Razorbills were recorded in all months in the SEA 6 area on ESAS surveys (Figures 3.29 & 3.30). Birds were widespread at low densities throughout The Minch and west of the Western Isles between May and September, with a slightly more restricted range over the winter months. High densities of over 100 birds per km^2 were recorded off Mull in February, and between Mull and Skye in August, with moderate densities in The Minch in August.

Figure 3.29 Razorbill density in SEA 6, 7 & 8 areas, from May to September (ESAS Data)

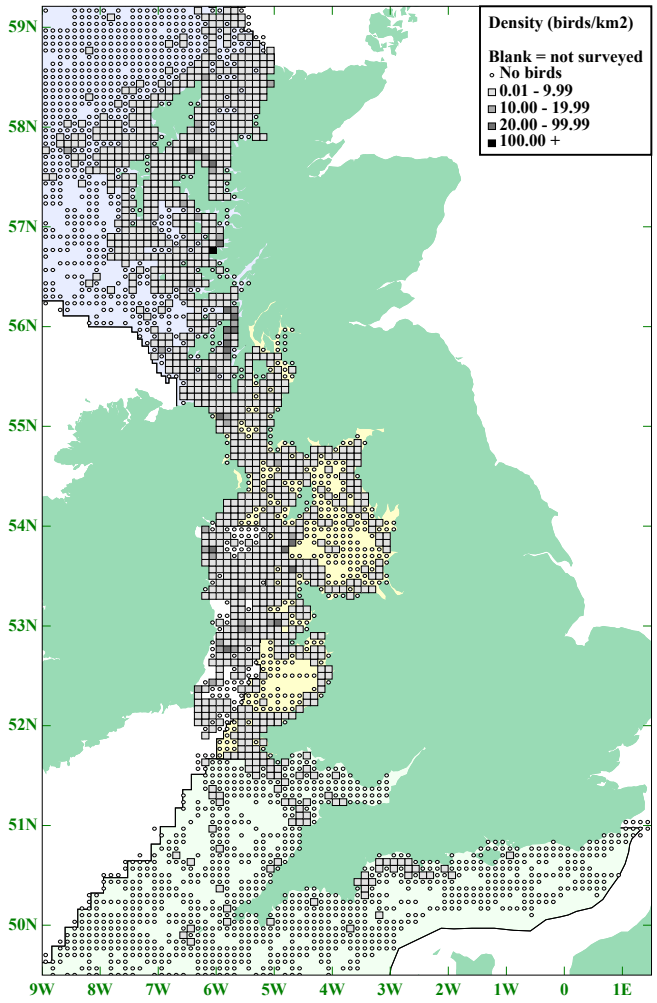
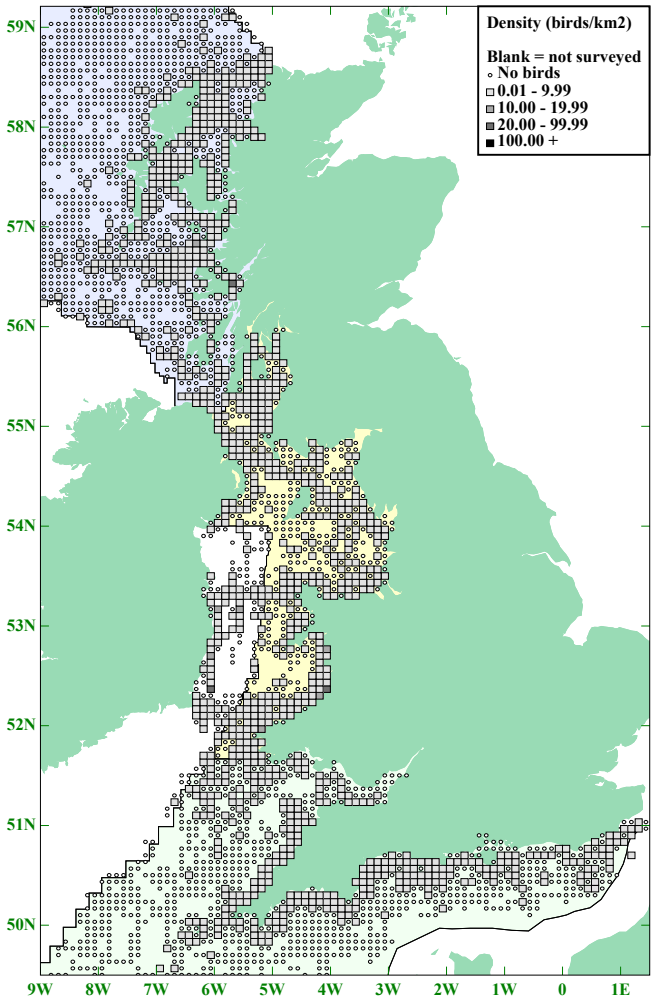


Figure 3.30 Razorbill density in SEA 6, 7 & 8 areas, from October to April (ESAS Data)



3.31.4 Distribution within SEA 8 Area

Counts for razorbills were available for four sites within the SEA 8 area (Table 3.105). High counts at Shoreham, Brighton Marina and Selsey Bill (Sussex) occurred in January and February while the count in Carbis Bay (Cornwall) was in January. In addition to these counts, large numbers of unidentified guillemots/razorbills were recorded from several regular seawatching points within the SEA 8 region (Table 3.100).

Figures are taken from WeBS counts, bird reports and records centres.

Table 3.105 Recent peak counts at main sites for razorbill in SEA 8 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Shoreham	-	-	-	-	2,500	-	**2,500**	-
Carbis Bay	-	-	-	800	-	2,000	**1,400**	-
Brighton Marina	-	692	100	700		2,000	**873**	-
Selsey Bill	-	-	325	-	66	1,000	**464**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS Surveys

Razorbills were recorded in low densities in all months in the SEA 8 area on ESAS surveys (Figures 3.29 & 3.30). Birds were widely distributed along the entire SEA 8 coastline between October and April, but were mostly concentrated around south Wales, the Bristol Channel and off the south Dorset Coast between May and September, which reflects the location of breeding colonies. Survey coverage was incomplete in some months, particularly the Bristol Channel and off north Cornwall in February, April, June and November.

Like guillemots, razorbills also moult and are flightless in late summer (Birkhead & Taylor 1977; Harris & Wanless 1990). A dedicated survey of moulting auks in 1988 found largest concentrations of razorbills along the south-west Scottish coast especially in the Sound of Jura and the Gulf of Corryvrecken (Harrison *et al* 1989).

3.31.5 UK Conservation measures

A total of nineteen terrestrial SPA sites have been selected for breeding razorbills in the UK. One of these sites (Skomer & Skokholm) is in the SEA 6 region, with eight sites (Cape Wrath, Flannan Isles, Handa, Mingulay & Berneray, North Rona & Sula Sgeir, Rathlin Island, Shiant Isles & St. Kilda) in the SEA 7 region. The remaining ten sites are on Orkney, Shetland and the north & east coasts of Britain (Stroud *et al* 2001).

Marine SPA sites are currently under consideration for this species, which is listed as a regularly occurring migratory species under Article 4.2 of the EU Birds Directive (Johnston *et al* 2002).

3.32 Black guillemot

Introduction

Black guillemot is a resident species found in coastal waters along rocky coastlines. The winter distribution of black guillemots is mainly concentrated around Shetland, Orkney, the north and west coastal waters of Scotland, and around Irish coasts, with fewest in the south-east.

The Winter Atlas estimated the mid-winter population of black guillemots in Britain and Ireland to be between 58,000 – 80,000 birds (Lack 1986).

3.32.1 Breeding birds

The total number of black guillemots counted in Britain and Ireland during Seabird 2000 was 42,638 individuals (Mitchell *et al* 2004). The SEA 7 area is particularly important, with up to 10% of the biogeographic population, as well as 34% of the British breeding population (Table 3.106). Northern Ireland is important in an all-Ireland context, with c.17% of the all-Ireland breeding population in the SEA 6 area and c.6.7% in the SEA 7 area.

Table 3.106 Total numbers of black guillemots breeding in SEA 6, 7 & 8 Areas

SEA	Country	Total [1]	% of British/Irish Population [2]	% of Biogeographic Population
6	Britain	1,779	4.7	0.9 - 1.4
6	N Ireland	783	17.2	0.4 - 0.6
7	Britain	13,167	34.5	6.4 - 10.1
7	N Ireland	306	6.7	0.2
8	Britain	-	-	-

1 Count unit = number of individuals on land

2 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

There are five nationally important colonies of black guillemots in the SEA 6 region and eight in the SEA 7 region (Table 3.106). Numbers on Lewis & Harris (SEA 7) are internationally important.

Table 3.106 Nationally important numbers of black guillemots in SEA 6, 7 & 8 Areas

SEA	Area	Site	Total	% of British/Irish Population*	% of Biogeographic Population
6 B	Isle of Man	Isle of Man	602	1.6	0.3 - 0.5
6 B	Argyll & Bute	Argyll - Mainland & Islets	484	1.3	0.2 - 0.4
6 Ni	Antrim	Larne Lough & Island Magee	232	5.1	0.1 - 0.2
6 NI	Antrim	Carrickfergus to White Head	207	4.6	0.1 - 0.2
6 NI	Down	Copeland Islands	72	1.6	0.0 - 0.1
6 NI	Down	Bangor	60	1.3	0.0 - 0.1
6 NI	Antrim	Larne to Towe Head	48	1.1	0.0
7 B	Western Isles	Lewis & Harris	2,264	5.9	1.1 - 1.7
7 B	West Coast Ross & Cromarty	Rubha Coigeach to Summer Isles & Rubha Dubh A	973	2.6	0.5 -0.8
7 B	Western Isles	Monach Isles	819	2.2	0.4 - 0.6
7 B	Argyll & Bute	Mull (incl. Treshnish)	724	1.9	0.4 - 0.6
7 B	Lochaber	Rum	645	1.7	0.3 - 0.5
7 B	Skye & Lochalsh	Skye - Neist to Meall Greepa	639	1.7	0.3 - 0.5
7 B	Argyll & Bute	Islay	610	1.6	0.3 - 0.5
7 B	Western Isles	Islands South of Barra	473	1.2	0.2 - 0.4
7 NI	Antrim	Rathlin Island	203	4.5	0.2 - 0.4
7 NI	Antrim	Runkerry - Benbane Head	79	1.7	0.1 - 0.2

1 NI= Northern Ireland; B=Britain

2 Count unit = individuals on land

3 SEA totals for Britain are expressed as % of British population whereas Northern Ireland totals are expressed as % of all-Ireland population

3.32.2 Distribution within SEA 6 Area

In the SEA 6 area, counts of black guillemots were available for 6 sites (Table 3.106). Peak daily passage past St. John's Point (Down) occurred in September. No nationally important thresholds have been set for this species. Figures were taken from bird reports and records centres.

Table 3.106 Recent peak counts at main sites for black guillemot in SEA 6 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Turnberry Point	-	76	-	-	-	-	**76**	-
Finnart's Point-Burn Foot	-	-	-	-	66	-	**66**	-
Maidens-Girvan	-	-	-	55	-	42	**49**	-
Sites in Northern Ireland SEA 6 area								
St John's Point	-	-	32	150	500	-	**227**	-
Belfast Lough	65	101	-	40	-	-	**69**	-
Dundrum Bay	-	-	-	-	-	50	**50**	-

1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS Surveys

ESAS surveys recorded black guillemot throughout the year in low to moderate numbers off the Kintyre pensinsula, off the east coast of Northern Ireland, around Loch Ryan, the Isle of Man and off the north coast of Wales (Figure 3.31). Birds showed a coastal distribution throughout the year.

3.32.3 Distribution within SEA 7 Area

Within the SEA 7 region, occasional counts of black guillemots were available for 3 sites (Table 3.107). Figures were taken from bird reports and records centres. No nationally important thresholds have been set for this species.

Table 3.107 Recent peak counts at main sites for black guillemot in SEA 7 area

Site	97-98	98-99	99-00	00-01	01-02	02-03	Mean [1]	Mean [2]
Sound of Gigha	144	-	60	-	-	-	**102**	-
Sound of Harris	-	80	-	-	-	-	**80**	-
Sites in Northern Ireland SEA 7 area								
Ramore Head	-	54	-	-	-	-	**54**	-

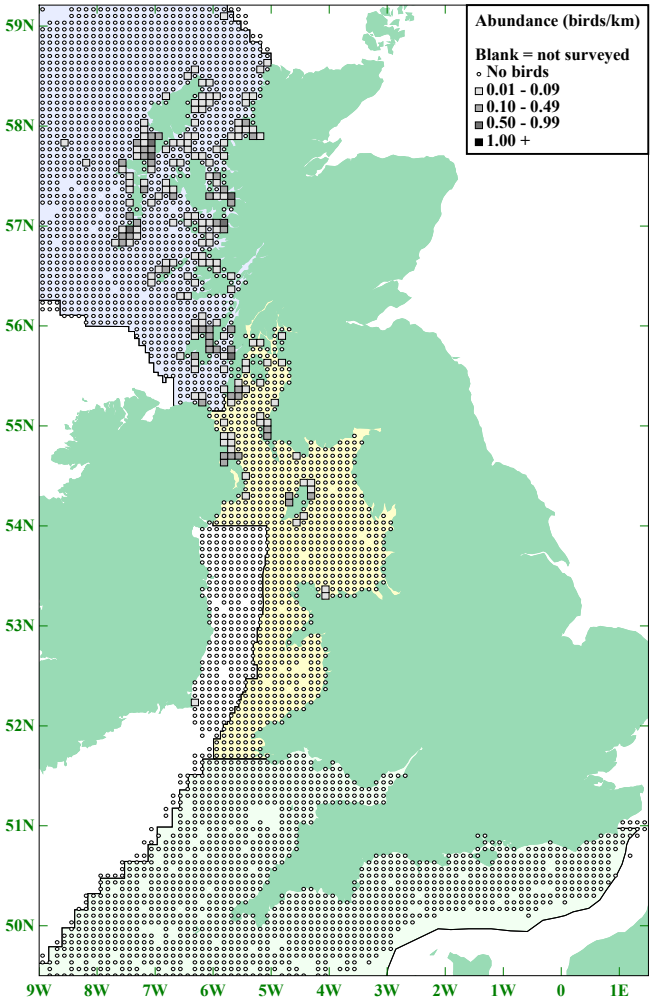
1 Mean of most recent 5 years, where available. A more detailed breakdown of data and data sources is shown in Appendix B

2 Mean of previous 5 years, where available

ESAS Surveys

Black guillemots were widely recorded in coastal areas throughout the SEA 7 area on ESAS surveys (Figure 3.31). Birds were present in all months, with highest numbers recorded around the Uists, Skye and Tiree in August.

Figure 3.31 Black guillemot abundance in SEA 6, 7 & 8 areas, all year (ESAS Data)



3.32.4 Distribution within SEA 8 Area

No sites within the SEA 8 area regularly held numbers of black guillemots and the species has not been recorded during ESAS surveys in the SEA 8 region.

3.32.5 UK Conservation measures

Terrestrial and marine SPA sites are not being considered for this species (Stroud *et al* 2001, Johnston *et al* 2002).

4. Important sites within the SEA 6 Area

4.1 Summary of breeding seabirds

Approximately 487,000 pairs of twenty four species of seabird breed in the SEA 6 area, with 4% of these birds breeding in Northern Ireland (Seabird Colony data; Thom 1986). Almost 82% of all breeding seabirds were made up of just 5 species (Manx shearwater 35.5%, gannet 14.0%, lesser black-backed gull 11.0%, guillemot 10.8% and herring gull 10.5%).

In Britain, the SEA 6 area holds 1% or more of the British population for 21 seabird species (Table 4.1). Manx shearwater is the most important species with up to 60% of the British population and up to 50% of the biogeographic population breeding in the SEA 6 area. Significant proportions of the biogeographic populations of lesser black-backed gull (29.5%), and gannet (17.5%) also occur. The SEA 6 area holds between 1% and 7% of the biogeographic population of a further 10 species.

In addition, the breeding population of red-throated divers within the SEA 6 and 7 areas combined is approximately 40 % of the overall British population, based on population estimates by Gibbons *et al* (1997). The SEA 6 area also holds nationally important numbers of breeding eider, with the Firth of Clyde holding an estimated 10% of the British breeding population (Waltho 2001).

Table 4.1 Important species of seabird breeding in the SEA 6 Area (Britain) [1]

Species	Total [2]	% of British Population	% of Biogeographic Population
Manx shearwater	168,371	53.7 - 60.6	41.1 - 49.5
Lesser black-backed gull	52,759	45.1	29.5
Cormorant	2,932	43.0	5.5 - 5.6
Herring gull	50,411	35.3	6.3 - 7.1
Gannet	68,183	30.1	17.5
Black-headed gull	18,734	14.4	<1
Shag	3,020	10.6	4.1 - 4.6
Storm petrel	3,005	9.0 - 14.3	0.4 - 1.0
Great black-backed gull	1,529	8.8	1.4 - 1.5
Sandwich tern	860	8.2	1.1 - 1.3
Razorbill	18,242	7.4	2.3
Little tern	137	7.0	<1
Common tern	647	6.3	<1
Roseate tern	2	3.9	<1
Guillemot	75,882	3.8	1.8
Arctic tern	1,764	3.4	<1
Black guillemot	1,779	3.1	0.9 - 1.4
Kittiwake	11,284	3.1	<1
Puffin	10,696	1.9	<1
Fulmar	7,752	1.6	<1
Common gull	639	1.3	<1

1 Data from Seabird 2000

2 Count unit = pairs

In Northern Ireland, the SEA 6 area accounts for more than 1% of the all-Ireland population for 16 species (Table 4.2). Gulls and terns are the most important species groups. Sandwich terns and Manx shearwaters breed in internationally important numbers.

Table 4.2 Important species of seabird breeding in the SEA 6 Area (Northern Ireland) [1]

Species	Total [2]	% of all-Ireland Population	% of Biogeographic Population
Sandwich tern	1,903	51.2	2.4 - 2.8
Mediterranean gull	2	40.0	<1
Common tern	1,599	38.2	<1
Black-headed gull	3,681	26.3	<1
Arctic tern	767	21.9	<1
Common gull	292	18.3	<1
Lesser black-backed gull	630	13.0	<1
Black guillemot	783	11.6	<1
Herring gull	637	10.2	<1
Manx shearwater	4,633	7.6 - 17.0	1.1 - 1.4
Cormorant	319	6.1	<1
Shag	135	3.6	<1
Kittiwake	1,544	3.1	<1
Great black-backed gull	58	2.5	<1
Razorbill	1,298	1.7	<1
Fulmar	454	1.1	<1

1 Data from Seabird 2000

2 Count unit = pairs

Table 4.3 lists the most important seabird colonies in the SEA 6 area i.e. colonies which hold 5% or more of the national breeding population for 1 species or a combination of species. Sites and species are arranged in descending order of importance, with species that occur in internationally important numbers shown in bold.

Table 4.3 Summary of important seabird colonies in the SEA 6 Area [1]

SEA [2]	Area	Sites	Species
6 NI	Down	Strangford Lough	**Sandwich tern**, Mediterranean gull, common tern, black-headed gull, cormorant, common gull, herring gull, Arctic tern, lesser black-backed gull, great black-backed gull
6 NI	Down	Copeland Islands	Mediterranean gull, Arctic tern, common gull, lesser black-backed gull, Manx shearwater, herring gull, black-headed gull, black guillemot
6 NI	Antrim	Larne Lough	Common tern, black-headed gull, sandwich tern
6 NI	Down	Carlingford Lough	Sandwich tern, common tern
6 NI	Antrim	Larne Lough & Island Magee	Black guillemot
6 B	Dyfed	Skomer & Middleholm Islands	**Manx shearwater, Lesser black-backed gull**, razorbill, puffin, guillemot
6 B	Dyfed	Skokholm Island	**Manx shearwater**, storm petrel, **lesser black-backed gull**
6 B	Cumbria	South Walney	**lesser black-backed gull, herring gull**
6 B	Kyle & Carrick	Ailsa Craig	**Gannet**, herring gull
6 B	Isle of Man	Isle of Man	**Herring gull, shag,** great black-backed gull, cormorant, black guillemot, little tern
6 B	Lancashire	Ribble Estuary NNR	Black-headed gull, **lesser black-backed gull**
6 B	Dyfed	Grassholm, Bishop & Clerks & Ramsey	**Gannet**, razorbill
6 B	Cumbria	South Solway	**lesser black-backed gull, herring gull**
6 B	Gwynedd	Great & Little Orme	Cormorant
6 B	Gwynedd	Bardsey Island & Ynysoedd Gwylan	**Manx shearwater**, cormorant
6 B	Gwynedd	Puffin Island - Anglesey	Cormorant
6 B	Kyle & Carrick	Lady Isle	Cormorant, great black-backed gull, herring gull
6 B	Wigtown	Loch Ryan, Mochram Lochs, Gennoch Rocks	Cormorant

1 Based on Seabird 2000 data

2 NI= Northern Ireland; B=Britain

4.2 Summary of important areas for non-breeding seabirds

Table 4.4 lists the most important areas for inshore seabirds in the SEA 6 area i.e. sites which hold 5% or more of the nationally important population for 1 species or a combination of species. Sites and species are arranged in descending order of national importance, with species that occur in internationally important numbers shown in bold. Species shown in italics are passage counts.

Table 4.4 Summary of important sites for inshore seabirds in the SEA 6 Area

Sites	Species
Liverpool Bay	**Common scoter**, red-throated diver
Morecambe Bay	**Lesser black-backed gull**, **eider**, cormorant, **herring gull**, red-breasted merganser, great black-backed gull, red-throated diver, great crested grebe, goldeneye, **black-headed gull**
Solway Firth	Scaup, common scoter, cormorant, great crested grebe, red-breasted merganser, red-throated diver
Hilbre & Dee Estuary	Sandwich tern, little gull, little tern, red-breasted merganser, common tern, scaup, cormorant, great black-backed gull
Clyde Estuary	**Eider**, slavonian grebe, red-throated diver, goldeneye, cormorant, red-breasted merganser, scaup, **black-headed gull**, sandwich tern, red necked grebe
Shell Flat	Common scoter, little gull
Cardigan Bay	Common scoter, red-throated diver, great crested grebe
Loch Ryan	Scaup, slavonian grebe, red-necked grebe, **eider**, goldeneye, red-throated diver
Furness Coast	Lesser black-backed gull, **eider**, herring gull, red-breasted merganser, cormorant
Seaforth NR	Little gull, common tern, lesser black-backed gull, cormorant
Alt Estuary	Common tern, lesser black-backed gull, cormorant, little gull, herring gull, red-throated diver, scaup
Ainsdale – Birkdale	**Herring gull**, **common gull**, common tern, great black-backed gull
Formby Point	Lesser black-backed gull, common scoter, red-throated diver, common tern, cormorant
Duddon Estuary	Sandwich tern, red-breasted merganser, little tern, lesser black-backed gull
South Walney & Foulney Island	**Eider**, herring gull, red-throated diver
Ballantrae shore	Black-throated diver
Traeth Lafan	Red-breasted merganser, red-throated diver, slavonian grebe, great crested grebe, common scoter
Blackpool	Common scoter, red-throated diver
Tremadog Bay	Common scoter, slavonian grebe, cormorant
Marshside	**Herring gull**
Ayr – Barrasie	**Eider**
SEA 6 sites within Northen Ireland	
Belfast Lough	**Eider**, great crested grebe, herring gull, scaup, black-headed gull, red-breasted merganser, sandwich tern, cormorant, red-throated diver, common gull, goldeneye, black guillemot, long-tailed duck, great black-backed gull, black-throated diver
Outer Ards	Eider, black-headed gull, shag, herring gull, cormorant, red-breasted merganser, great black-backed gull, black-throated diver
Strangford Lough	Eider, red-breasted merganser, black-headed gull, little grebe, great crested grebe, goldeneye, cormorant, shag, black throated diver, slavonian grebe
Copeland Islands	*Manx shearwater*, eider, *razorbill*, arctic tern
Dundrum Bay	Common scoter, Sandwich tern, red-breasted merganser, red-throated diver, black guillemot, long-tailed duck
Carlingford Lough	Scaup, great crested grebe, long-tailed duck, goldeneye, cormorant, red-breasted merganser
Larne Lough	Eider, red-breasted merganser, great crested grebe, goldeneye
St. John's Point	*Manx shearwater, black guillemot, kittiwake, razorbill, red-throated diver, black-throated diver*

5. Important sites within the SEA 7 Area

5.1 Summary of breeding seabirds

Twenty seven species of seabird totalling over one million pairs of birds breed in the SEA 7 area, with 9% of these birds breeding in Northern Ireland (Seabird Colony data). Nearly 72% of this total is comprised of just four species (guillemot 24.0%, puffin 22.4%, fulmar 13.7% and Manx shearwater 11.7%).

More than 1% of the British breeding population of 22 species occurs within the SEA 7 area (Table 5.1). Numbers of Manx shearwater are internationally important with up to 37% of the biogeographic population breeding in the region. Gannet and shag are also important in an international context and a further 16 species breed in internationally important numbers.

Table 5.1 Important species of seabird breeding in the SEA 7 Area (Britain) [1]

Species	Total [2]	% of British Population	% of Biogeographic Population
Leach's petrel	48,012	74.0 - 131.8	1.0
Puffin	239,056	41.3	3.6 - 4.4
Manx shearwater	126,338	40.3 - 45.5	30.8 - 37.2
Storm petrel	11,347	33.9 - 53.9	1.7 - 3.8
Gannet	73,287	32.4	18.8
Shag	8,339	29.2	11.4 - 12.6
Fulmar	143,234	28.7	3.5 - 5.3
Razorbill	62,859	25.6	8.0
Great black-backed gull	4,449	25.6	4.0 - 4.5
Black guillemot	13,167	23.1	6.4 - 10.1
Common tern	2,160	21.0	0.6 - 1.0
Guillemot	289,689	14.7	6.7 - 6.9
Cormorant	910	13.3	1.7 - 1.8
Herring gull	18,163	12.7	2.3 - 2.6
Arctic tern	6,351	12.1	0.4 - 1.3
Little tern	231	11.9	1.1 - 1.4
Kittiwake	41,237	11.2	1.4 - 1.7
Arctic skua	221	10.4	0.6 - 1.5
Common gull	4,911	10.2	0.8 - 1.2
Great skua	553	5.7	3.5
Lesser black-backed gull	3,113	2.7	1.7
Black-headed gull	1,684	1.3	<1

1 Data from Seabird 2000

2 Count unit = pairs

In a national context, Leach's petrel was the most significant with almost 100% of the breeding population occurring in the SEA 7 area. However internationally, this is only c. 1% of the biogeographic population. Puffin, Manx shearwater, storm petrel, gannet, shag, fulmar, razorbill, great black-backed gull, black guillemot and common tern were also very important species with over 20% of the British population breeding in the SEA 7 area. The SEA 7 area holds between 5.7 and 14.7 % of the British breeding population of a further 9 species.

In addition, the breeding population of red-throated divers within the SEA 6 and 7 areas combined is approximately 40 % of the overall British population, based on population estimates by Gibbons *et al* (1997). The SEA 7 area also supports nationally important numbers of black-throated divers with birds found on freshwater lochs in north-west Scotland and the Western Isles, although detailed figures were not available.

More than 1 % of the all-Ireland population of 11 species are found in the Northern Ireland section of the SEA 7 area (Table 5.2). Razorbill, guillemot and kittiwake are the most important species, each with over 20% of the all-Ireland population. Numbers of breeding razorbills and guillemots are also internationally important.

Table 5.2 Important species of seabird breeding in the SEA 7 Area (Northern Ireland) [1]

Species	Total [2]	% of British Population	% of Biogeographic Population
Razorbill	22,771	29.6	2.9
Guillemot	95,741	27.1	2.2 - 2.3
Kittiwake	10,814	22.0	<1
Fulmar	4,198	10.5	<1
Puffin	1,582	7.4	<1
Cormorant	344	6.6	<1
Common gull	91	5.7	<1
Black guillemot	306	4.5	<1
Shag	155	4.2	<1
Lesser black-backed gull	134	2.8	<1
Black-headed gull	356	2.5	<1

1 Data from Seabird 2000

2 Count unit = pairs

Table 5.3 lists the most important seabird colonies in the SEA 7 area i.e. colonies which hold 5% or more of the nationally important breeding population for 1 species or a combination of species. Sites and species are arranged in descending order of importance, with species that occur in internationally important numbers shown in bold.

Table 5.3 Summary of important seabird colonies in the SEA 7 Area [1]

SEA [2]	Area	Sites	Species
7 NI	Antrim	Rathlin Island	**Razorbill, guillemot**, kittiwake, puffin, common gull, fulmar, black guillemot, lesser black-backed gull, black-headed gull, shag
7 NI	Antrim	Sheep Island, Causeway Coast	Cormorant, razorbill, shag
7 NI	Antrim	Causeway Coast	Fulmar, razorbill, kittiwake
7 B	Western Isles	Boreray, St Kilda	Gannet, Leach's petrel, puffin, fulmar
7 B	Western Isles	Dun, St Kilda	Leach's petrel, puffin, fulmar
7 B	Lochaber	Rum NNR	Manx shearwater
7 B	North-West Sutherland	Handa Island	**Razorbill, guillemot, great skua,** Arctic skua, kittiwake
7 B	Western Isles	Shiant Islands	**Puffin**, razorbill, great black-backed gull, shag, guillemot
7 B	Western Isles	Hirta, St Kilda	**Fulmar**, Leach's petrel, storm petrel, **Manx shearwater**, great skua, puffin
7 B	Argyll and Bute	Treshnish Isles	**Storm petrel**
7 B	West Coast Ross & Cromarty	Priest Island	**Storm petrel**
7 B	Western Isles	Berneray	**Razorbill**, guillemot
7 B	Western Isles	Soay, St Kilda	Puffin, Leach's petrel, fulmar, storm petrel
7 B	Western Isles	North Uist	Arctic skua, common tern, little tern, Arctic tern, common gull
7 B	Western Isles	North Rona	Great black-backed gull, Leach's petrel, storm petrel
7 B	Argyll & Bute	North Mull	Common tern
7 B	Western Isles	Mingulay	Razorbill, fulmar, guillemot
7 B	Western Isles	Sula Sgeir Island	**Gannet**, guillemot
7 B	Western Isles	Lewis and Harris	**Black guillemot**
7 B	Argyll & Bute	Isle of Colonsay	Guillemot, kittiwake, razorbill
7 B	Western Isles	Flannan Isles	Puffin, fulmar, guillemot

1 Based on Seabird 2000 data

2 NI= Northern Ireland; B=Britain

5.2 Summary of important areas for non-breeding seabirds

Table 5.4 lists the most important areas for inshore seabirds in the SEA 7 area i.e. sites which hold 5% or more of the nationally important population for 1 species or a combination of species. Sites and species are arranged in descending order of importance, with species that occur in internationally important numbers shown in bold. Species shown in italics are passage counts.

Table 5.4 Summary of important sites for inshore seabirds in the SEA 7 Area

Sites	Species
Loch Indaal, Islay	Scaup, slavonian grebe, **great northern diver**, red-breasted merganser, red-throated diver
Sound of Gigha	Slavonian grebe, black-throated diver, red-breasted merganser, **great northern diver**
West Kintyre Peninsula	**Great northern diver**
Braighe, Lewis	Black-throated diver, long-tailed duck, red-breasted merganser
Sound of Taransay	**Slavonian grebe**, great northern diver
Eriskay	Black-throated diver
Loch Caolisport	Black-throated diver, **great northern diver**
Howmore, S Uist	**Great northern diver**, long-tailed duck
Traigh Luskentyre	Slavonian grebe, black-throated diver
Loch Ewe	Black-throated diver, slavonian grebe
Sound of Harris	Slavonian grebe, great northern diver, long-tailed duck
Frenchman's Rocks, Islay	***Manx shearwater***

6. Important sites within the SEA 8 Area

6.1 Summary of breeding seabirds

Approximately 72,500 breeding pairs of nineteen species of seabird breed in the SEA 8 area (Seabird colony data). Four species account for almost 75% of the breeding seabirds; herring gull (25.5%), lesser black-backed gull (16.8%), black-headed gull (16.6%) and guillemot (15.6%).

Several species breed in internationally important numbers, with lesser-black-backed gull the most important as 6.8% of the biogeographic population breeds in the SEA8 area (Table 6.1).

Fourteen species are important in a national context. Almost 64% of the British population of Mediterranean gulls breeds in the region. However as this species is a fairly recent colonist, the population is very small and in biogeographic terms represents less than 0.1% of the total population. Cormorant, herring gull, little tern and lesser black-backed gull breeding numbers account for 10 - 14% of the national population estimate.

Table 6.1 Important species of seabird breeding in the SEA 8 Area [1]

Species	Total [2]	% of British Population	% of Biogeographic Population
Mediterranean gull	69	63.9	<1
Cormorant	970	14.2	1.8 - 1.9
Herring gull	18,537	13.0	2.3 - 2.6
Little tern	244	12.5	1.1 - 1.4
Lesser black-backed gull	12,197	10.4	6.8
Black-headed gull	12,058	9.3	<1
Shag	2,557	9.0	3.5 - 3.9
Great black-backed gull	1,442	8.3	1.3 - 1.4
Common tern	795	7.7	<1
Storm petrel	1,475	4.4 - 7.0	<1
Sandwich tern	387	3.7	<1
Roseate tern	1	1.9	<1
Kittiwake	4,836	1.3	<1
Razorbill	3,074	1.3	<1

1 Data from Seabird 2000

2 Count unit = pairs

Table 6.2 lists the most important seabird colonies in the SEA 8 area i.e. colonies which hold 5% or more of the national breeding population for 1 or more species. Sites and species are arranged in descending order of importance, with species that occur in internationally important numbers shown in bold.

Table 6.2 Summary of important seabird colonies in the SEA 8 Area [1]

SEA	Area	Sites	Species
8	Hampshire	Langstone Harbour	Mediterranean gull, little tern, black-headed gull, common gull, common tern
8	Hampshire	North Solent NNR	Black-headed gull, sandwich tern, roseate tern, common tern
8	Isle of Wight	Newtown NNR	Mediterranean gull

1 Based on Seabird 2000 data

6.2 Summary of important areas for non-breeding seabirds

Table 6.3 lists the most important areas for inshore seabirds in the SEA 8 area i.e. sites which hold 5% or more of the nationally important population for 1 species or a combination of species. Sites and species are arranged in descending order of importance, with species that occur in internationally important numbers shown in bold. Species shown in italics are passage counts.

Table 6.3 Summary of important sites for inshore seabirds in the SEA 8 Area

Sites	Species
Langstone Harbour	Black-necked grebe, common tern, little tern, red-necked grebe, slavonian grebe, great black-backed gull
Fal Complex	Black necked grebe
Carmarthen Bay	Common scoter
Torbay	Black-necked grebe, red-necked grebe, black-throated diver
Newhaven	Black-necked grebe, red-throated diver
Gerrans Bay	Black-necked grebe, black-throated diver, slavonian grebe
Studland bay	Black-necked grebe
Fleet/Way	Black-necked grebe, little tern, great black-backed gull
Brighton Marina	*Little gull, common scoter,* red-necked grebe, *common tern, Sandwich tern, little tern*,
Pagham Harbour	**Slavonian grebe**, great black-backed gull, **black-headed gull**, cormorant
Poole Harbour	Black-necked grebe, cormorant, red-necked grebe, slavonian grebe, lesser black-backed gull, black-throated diver, goldeneye
Veryan Bay	Black-throated diver, red-necked grebe
St Austell Bay	Slavonian grebe, Manx shearwater, black-throated diver, **great northern diver**, red-necked grebe
Severn Estuary	**Lesser black-backed gull**
Looe Beach	Black-necked grebe
Sandy Point	*Common tern, Sandwich tern*
Selsey Bill	Slavonian grebe, *little gull*
Black Point	Black-necked grebe, slavonian grebe
Dawlish Warren & Exe Estuary	Slavonian grebe, red-necked grebe, great black-backed gull, Sandwich tern, red-breasted merganser, herring gull
Ferrybridge	Black-necked grebe, great black-backed gull
St Ives Bay	*Manx shearwater*, *kittiwake*, herring gull, red-necked grebe
Tamar Complex	Black-necked grebe
Brand's Bay	Black-necked grebe, red-necked grebe
Rye Harbour	Sandwich tern, cormorant, little tern, common gull
Porthgwarra	Manx shearwater, black-throated diver
Cape Cornwall	Manx shearwater, kittiwake
Knoll Beach	Black-necked grebe
Mevagissey Bay	Black-throated diver
Bosigran	*Manx shearwater*
Pendeen Watch	*Manx shearwater*

7. Regional summary

SEA 6

Britain

The SEA 6 area holds internationally important breeding colonies of Manx shearwater, gannet, shag, lesser black-backed gull and herring gull. A further thirteen species breed in nationally important numbers (Table 7.1).

The most important colonies are Skomer, Skokholm & Middleholm Islands, South Walney, Ailsa Craig, Isle of Man, Ribble Estuary, Grassholm, Great & Little Orme and Bardsey Island (Table 4.3).

Outside of the breeding season, the SEA 6 area holds internationally important concentrations of red-throated diver, Manx shearwater, eider, common scoter, lesser black-backed gull and herring gull. A further seventeen species occur in nationally important numbers (Table 7.2).

Key areas are Liverpool Bay for red-throated divers and common scoter, and Morecambe Bay for lesser black-backed gull, eider, herring gull and black-headed gull, plus six other species of national importance. The Firth of Clyde is internationally important for eider and black-headed gull plus eight other species of national importance. The Solway Firth is nationally important for six species including scaup and common scoter, while Hilbre and the Dee Estuary hold eight nationally important species (Table 4.4).

Northern Ireland

Within Northern Ireland, Manx shearwater and Sandwich terns breed in internationally important numbers and thirteen other species breed in nationally important numbers (Table 7.1). The main sites are Strangford Lough, Copeland Islands, Larne Lough, Carlingford Lough (Table 4.3).

Away from breeding colonies, eider occurs in internationally important numbers, with nationally important numbers of twenty one other species . Important sites are Belfast Lough, Outer Ards, Strangford Lough, Copeland Islands, Dundrum Bay, Carlingford Lough, Larne Lough and St. John's Point (Table 4.4).

Regular annual monitoring of Liverpool Bay is currently carried out by the WWT as part of a DTI programme, co-funded by CCW, JNCC and wind farm companies. WeBS monitoring of wildfowl and waders is also carried out on a monthly basis at several sites within the SEA 6 area.

SEA 7

Britain

The SEA 7 area holds internationally important breeding colonies of fulmar, Manx shearwater, gannet, shag, great skua, guillemot, razorbill and black guillemot. A further twelve species breed in nationally important numbers (Table 7.1).

Most important colonies are St. Kilda, Rum, Handa, Shiant Islands, Treshnish Isles, Priest Island, Berneray, North Uist, North Rona, Mull, Mingulay, Sula Sgeir, Lewis, Harris, Colonsay and the Flannan Isles (Table 5.3).

Away from colonies, internationally important concentrations of great northern diver, slavonian grebe, and Manx shearwaters occur within the SEA 7 area, and nationally important numbers of a further ten species have also been recorded (Table 7.2).

Key areas for great northern divers were Loch Indaal, Islay, the Sound of Gigha, west Kintyre peninsula, Loch Caolisport and Howmore, South Uist, while the Sound of Taransay held internationally important numbers of slavonian grebe. Large numbers of Manx shearwaters are regularly recorded passing Frenchman's Rocks, Islay on passage (Table 5.4).

Northern Ireland

Within Northern Ireland, lesser black-backed gull, guillemot and razorbill breed in internationally important numbers and eight other species breed in nationally important numbers (Table 7.1).

The most important colonies are on Rathlin Island, Sheep Island and the Causeway Coast (Table 5.3).

Outside of the breeding season, nationally important numbers of eider were recorded at Rathlin Island, with important numbers of kittiwake and Arctic tern recorded flying past Ramore Head. Lough Foyle (Londonderry) is an important site for several species of inshore seabird but was not included in this review as it lies outwith the SEA 7 boundary.

Some areas within the SEA 7 area have been covered on recent JNCC aerial surveys (Dean *et al* 2004), however there is a need for regular, dedicated annual monitoring of key areas of species such as great northern diver and slavonian grebe and surveys of areas that could hold concentrations of birds, particularly the Western Isles for species such as long-tailed duck (Musgrove *et al* 2001). WeBS monitoring of wildfowl and waders is carried out on a monthly basis at some sites within the SEA 7 area, although coverage is lower than the SEA 6 or 8 areas.

SEA 8

During the breeding season, the SEA 8 area supports internationally important breeding colonies of shag and lesser black-backed gull, along with nine other nationally important breeding species (Table 7.1). The most important colonies are Langstone Harbour, North Solent and Newtown, on the Isle of Wight (Table 6.2).

Away from breeding colonies, the SEA 8 area holds internationally important concentrations of great northern diver, slavonian grebe, Manx shearwater and lesser black-backed gull, with a further nineteen species occurring in nationally important numbers (Table 7.2).

Key areas are St Austell Bay (Cornwall) for great northern divers, Langstone Harbour (Hampshire) for slavonian grebes, the Fal complex (Cornwall) for black-necked grebes, Carmarthen Bay (Pembrokeshire) for common scoter, the Severn Estuary for lesser black-backed gulls and several seawatching sites in south-west England for high numbers of Manx shearwaters on passage (Table 6.3).

WeBS monitoring of wildfowl and waders is also carried out on a monthly basis at several sites within the SEA 8 area.

Table 7.1 Summary of important seabird species breeding in SEA 6, 7 & 8 Areas

Species group	Species	SEA 6	SEA6 NI	SEA 7	SEA 7 NI	SEA 8
Petrels	Fulmar					
	Manx shearwater					
	Storm Petrel [2]					
	Leach's Petrel [2]					
Gannets	Gannet					
Cormorants	Cormorant					
	Shag					
Skuas	Arctic Skua					
	Great Skua					
Gulls	Mediterranean Gull [2]					
	Black-headed gull					
	Common gull					
	Lesser black-backed gull					
	Herring gull					
	Great black-backed gull					
	Kittiwake					
Terns	Sandwich tern [2]					
	Roseate tern [2]					
	Common tern [2]					
	Arctic tern [2]					
	Little tern [2]					
Auks	Guillemot					
	Razorbill					
	Black guillemot					
	Puffin					

1 based on 1% of national (Britain or All-Ireland) and biogeographic breeding populations (Mitchell et al 2004)

2 Annex I species

Key

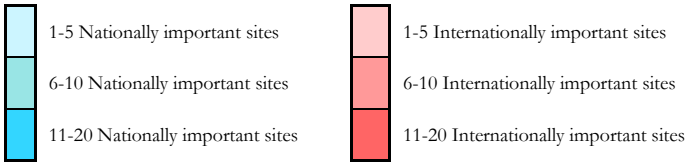


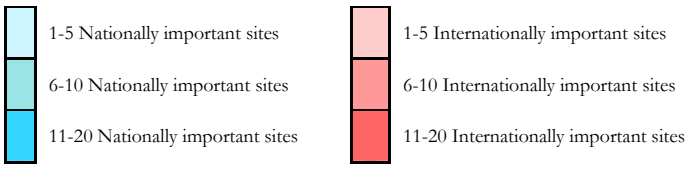
Table 7.2 Summary of important inshore seabirds in SEA 6, 7 & 8 Areas [1] (non breeding counts)

Species group	Species	SEA 6	SEA6 NI	SEA 7	SEA 7 NI	SEA 8
Divers	Red-throated diver [2]					
	Black-throated diver [2]					
	Great northern diver [2]					
Grebes	Little grebe					
	Great crested grebe					
	Red-necked grebe					
	Slavonian grebe [2]					
	Black-necked grebe					
Petrels	Manx shearwater					
Cormorants	Cormorant					
	Shag					
Seaduck	Scaup					
	Eider					
	Long-tailed duck					
	Common scoter					
	Goldeneye					
	Red-breasted merganser					
Gulls	Little gull					
	Black-headed gull					
	Common gull					
	Lesser black-backed gull					
	Herring gull					
	Great black-backed gull					
	Kittiwake					
Terns	Sandwich tern [2]					
	Roseate tern [2]					
	Common tern [2]					
	Arctic tern [2]					
	Little tern [2]					
Auks	Guillemot					
	Razorbill					
	Black guillemot					

1 based on 1% thresholds defined in Appendix A

2 Annex I species

Key



8. Discussion

The inshore waters of the SEA 6, 7 and 8 areas are important for many species of inshore seabirds throughout the year. Eleven species breed in internationally important numbers with a further fourteen species breeding in nationally important numbers. Away from colonies, a total of eight species occur in internationally important numbers with a further twenty two species occurring in nationally important numbers.

8.1 Population estimates

A problem encountered during the course of this review has been that 1% population thresholds are out-dated for some species, while for others no thresholds have been set. This impacts on the conservation status of these species because sites are considered nationally important if they regularly support 1% or more of the national population and internationally important for 1% or more of the biogeographic population.

National population estimates in Britain for the three diver species, little grebe, black-necked grebe, long-tailed duck, common scoter and red-breasted merganser are based on out-of-date or incomplete data (e.g. Kershaw & Cranswick 2003). In Ireland, there are no population estimates for red-necked grebe, slavonian grebe or black-necked grebe and only nominal thresholds have been assigned for gulls (Crowe in press). There is no national thresholds set for little gull in either the UK or Ireland, and a nominal threshold of 50 birds was adopted for this report. There are also no national thresholds for Manx shearwater, shag, kittiwake, terns and auks. In this report a threshold of 1% of the breeding population was used.

The biogeographic population estimates for red-throated diver, black-throated diver, and all the grebes also need to be updated (Delaney & Scott 2002).

Recent aerial surveys of common scoter in Liverpool Bay have revealed unprecedented numbers over winter. However, total numbers extrapolated from these surveys have very large confidence intervals, which has a considerable bearing on national population estimates. Further surveys have been conducted in the last two winters and hopefully when these results are published, there will be more detailed information on the distribution and abundance of common scoter throughout the year.

8.2 Vulnerable concentrations of inshore seabirds

Seabird species show different vulnerability to surface pollution depending on their ecology and overall numbers. JNCC have published vulnerability atlases which show monthly maps depicting the overall vulnerability of the waters around the coast of Britain and Ireland (e.g. Webb *et al* 1995, NERC 1998). However these are now out of date and do not reflect the large numbers of common scoter and red-throated divers recorded in the SEA 6 area on recent aerial surveys. As yet this aerial data is not compatible with the ESAS database, thus maps generated from ESAS data do not provide an up to date picture of seabird distribution.

Breeding birds

Seabird vulnerability may be very high in waters around seabird colonies during the breeding season as many species form rafts on the water.

Breeding data for the study area is up to date following Seabird 2000, a complete census of Britain and Ireland between 1998-2002 (Mitchell *et al* 2004). However, there is generally little known about usage of waters around colonies and distances to feeding grounds. JNCC have conducted research in this area with the aim of producing generic boundaries on the seaward extension of seabird colony SPAs (McSorley *et al* 2003). Studies have also examined tern foraging ranges from colonies (Allcorn *et al* 2003).

Moulting concentrations

Moulting birds are susceptible to surface pollution as they tend to concentrate in large flocks and may be flightless for several weeks.

A survey of moulting auks in August 1988 identified important concentrations of guillemot in the SEA 7 area in inshore waters along the west of Scotland and around the Butt of Lewis. Razorbill distribution was more restricted with large concentrations were recorded in the Sound of Jura and Gulf of Corryvrecken. In the Irish Sea, highest numbers of both species were recorded off the east coast of Ireland (Harrison *et al* 1990; Pollock *et al* 1997).

Common scoter also moult and are flightless in August. Moulting flocks are regularly recorded in Carmarthen Bay (Wernham et al 2002) and may also occur at Shell Flat, Cardigan Bay and Colwyn Bay (Cranswick *et al* 2004). Further studies in August are needed to confirm flock sizes and locations (Cranswick *et al* 2004).

Non-breeding concentrations

Many species of seabirds form inshore concentrations within the SEA 6, 7 & 8 areas outside the breeding season. Most of these areas are well known and regularly monitored by WeBS.

8.3 Monitoring

Existing monitoring programmes

JNCC currently conduct annual winter aerial surveys of a number of UK inshore areas, as part of an annual programme of surveillance of wintering inshore waterbirds in the UK (Dean *et al* 2004). The west coast of the Outer Hebrides in the SEA 7 area was covered by surveys in 2002/03. This monitoring was first carried out in the winters of 2000/01 and 2001/02 and is likely to continue on an annual basis (JNCC *pers comm*).

Aerial surveys in Liverpool Bay were repeated in winters 2003/04 and 2004/05 by the Wildfowl and Wetlands Trust (WWT) as part of the All-Wales Common Scoter Survey and a DTI programme, co-funded by CCW, JNCC and wind farm companies). Results of the 2003/04 survey period are expected by September 2005. It is intended to continue this survey programme over the winter 2005/06 (S Whitehead pers. comm.).

WWT have also conducted aerial surveys of all UK wind farm consultation areas, including Liverpool Bay and Morecambe Bay under contract to the UK DTI. This survey work is currently ongoing (P. Cranswick pers. comm.).

The British Trust for Ornithology (BTO) have been conducting survey work over the last three winters in Carmarthen Bay, investigating ways of monitoring the site (S Whitehead pers. comm.).

Monthly WeBS counts are conducted by volunteers at many sites within the SEA 6, 7 and 8 areas, and these counts are ongoing.

Survey Methods

Land-based counts

WeBS counts tend to underestimate numbers of divers, grebes and seaduck as counts are conducted on preset dates which frequently do not coincide with the good weather and calm sea conditions required to obtain accurate counts of these species (Evans 2000).

Conducting counts in less than ideal conditions affects count accuracy as distant flocks will be much harder to count in heavy rain and/or strong winds. Some counts from other data sources such as bird reports reviewed here were found to be higher than corresponding WeBS counts, or else included sites not listed by WeBS e.g. common terns roosting at Langstone Harbour (see section 3.27.4).

There may also be problems covering large sites resulting in incomplete counts, incomplete geographical coverage and reduced coverage of non-estuarine habitat types e.g. rocky shores. In addition, some species were not always counted during certain WeBS counts e.g. gulls.

At-sea surveys

Seabird surveys using the ESAS method are most suited to assessing offshore seabird distribution and tend to under-record inshore species such as divers, grebes and seaduck (Pollock *et al* 1997). However, dedicated inshore surveys, both aerial (Dean *et al* 2003) and ship-based (Cronin & Webb 1998), are suitable survey methods and are also useful in detecting birds too far out to sea for land-based counts. Combinations of these two techniques should be used depending on the species and area to be surveyed.

Some species such as grebes, scaup and goldeneye are best counted from land as they are found too close to shore for boat surveys and grebes may dive in response to aerial surveys (Cronin & Webb 1998, Dean *et al* 2003). Divers are best surveyed from land or boat as it is more difficult to identify birds to species level in aerial surveys (Dean *et al* 2003). Divers, grebes and long-tailed ducks may fly away from approaching ships, so binoculars should be used to scan ahead of the survey track to detect birds in advance of any disturbance (Cronin & Webb 1998, Webb & Durinck 1992). Generally, aerial surveys are suitable for counting seaduck (Dean *et al* 2003).

Gaps in Survey Coverage

Best estimates for several species within the SEA 7 area produced in the course of this review have highlighted that WeBS coverage in the region is generally sporadic, with only occasional counts for several sites. Monitoring and coverage of sites on a regular basis is generally better in the SEA 6 and 8 areas.

ESAS data is useful for showing seabird abundance distribution in coastal waters. However the data analysed in this report is quite old with less than 4% collected in the most recent 5 years (i.e. 1999-2003). Survey data in the Irish Sea showed patchy coverage away from ferry routes across the Irish Sea in several areas (Appendix C). The main gaps were in the coastal waters south of Belfast Lough, the Solway Firth, Liverpool and Cardigan Bays, the Firth of Clyde and around the Isle of Man.

Dedicated aerial surveys have been carried out in inshore areas of Liverpool Bay and Cardigan Bay in recent years as part of the All Wales Common Scoter Survey (e.g. Cranswick *et al* 2004) and by JNCC (e.g. Dean *et al* 2004) however the areas further offshore may require boat-based surveys.

A combination of land-based and aerial surveys would be required on a regular basis to improve count data and adequately monitor populations species such as great northern divers, slavonian grebes and long-tailed duck in the Western Isles.

9. Recommendations

Based on this review, it is recommended that:

- Population estimates at the national (Britain & all-Ireland) and biogeographic level should be revised for many of the species reviewed
- Vulnerability maps for the study area should be updated
- Existing aerial survey data should be incorporated into the ESAS database to enable an up-to-date assessment of survey coverage and species distribution
- Further studies should be conducted to identify important feeding areas for seabirds
- Further surveys should be conducted to confirm moulting common scoter concentrations in the SEA 6 & 8 areas.
- WeBS should be extended to include all seabirds where they occur at currently monitored sites. Monthly counts of divers, grebes and seaduck should be conducted during suitable weather conditions rather than on preset dates
- Dedicated monthly WeBS style counts should be conducted at known sites in the Western Isles between September and May at least. This would allow numbers of several key species such as great northern diver, slavonian grebe and long-tailed duck to be counted and monitored accurately. A similar approach to surveys carried out by SOTEAG on Shetland should be followed (e.g. Heubeck 2003).
- Gaps in survey coverage in the Western Isles, the Irish Sea and elsewhere should be addressed using boat-based and aerial surveys as appropriate.
- Existing monitoring programmes should be continued.

10. Conclusions

Many species of seabirds are found in important numbers in inshore waters of the SEA 6, 7 and 8 areas. They tend to form flocks in key areas e.g. common scoter in Liverpool Bay, making them highly vulnerable to surface pollution caused by oil spills.

Regular monitoring of these populations is necessary to ensure important sites are adequately protected (e.g. Marine SPA designations) and long-term trends are determined. This is especially important in the context of contingency plans in the event of oil spills and also in light of future windfarm developments which may have an impact on these species.

There is an urgent need to obtain up-to date data using the most appropriated methodology in key areas which have been neglected e.g. the Western Isles. At an international level, there is a need for censuses to determine the biogeographic populations particularly of divers and grebes.

11. Acknowledgements

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