Technical report on offshore seabirds and waders in the SEA 8 area (including an update of inshore seabird species)

Northern Gannet
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Report to the DTI

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Non-technical Summary

Introduction

A review of the distribution and abundance of offshore seabird species, as well as wader species recorded at coastal sites in the SEA 8 area, was carried out by Cork Ecology at the request of the UK Department of Trade and Industry (DTI). This review was conducted as part of the Strategic Environmental Assessment process in the U.K.

This review focuses on 15 seabird species regularly found in the offshore waters of the SEA 8 area. The review also contains information on 13 species of waders that are regularly recorded in nationally and internationally important concentrations at coastal sites within the SEA 8 area. Additional information on a further 19 inshore seabird species previously reported in a review of inshore seabird species in SEA 6, 7 & 8 (Barton & Pollock 2005) is also included.

Objectives

The objectives of this study were:

- To produce an overview of distribution and abundance of offshore seabird species, as well as wader species recorded at coastal sites, within the SEA 8 area, including seasonal and longer term temporal variations;
- Identification of important areas for offshore seabirds and waders within the SEA 8 area;
- Examine offshore seabird vulnerability to surface pollution in SEA 8;
- To produce an overview of the importance of the SEA 8 area for seabirds and waders in a UK and international context;
- To identify gaps in the existing knowledge and survey coverage of these species;
- To update information in previous SEA reports (Barton & Pollock 2005 & 2006) on inshore seabirds in the SEA 8 area.

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 land-based data from 1999 onward were considered with the aim of presenting the most recent estimates for the important sites. Earlier European Seabirds at Sea (ESAS) data (from 1980 onwards) for ship and aerial surveys were included, with average densities calculated using data from all years.

For coastal sites, all available data from WeBS annual reports between 1999/2000 and 2003/2004 and relevant county bird reports for the same period were used to derive peak counts for the principal sites for each species for each year. Five year means were then calculated for these sites.

Coastal sites that regularly held more than 1 % of the national population of a species were deemed to be nationally important, and sites with more than 1 % of the biogeographic population were considered internationally important.

Offshore Species

ESAS surveys found that the most commonly recorded species in offshore waters of the SEA 8 area were Northern Gannet, Black-legged Kittiwake, Northern Fulmar and Lesser Black-backed Gull. Four offshore seabird species found in SEA 8 are listed as Annex I species on the EU Bird Directive; Cory's Shearwater, Balearic Shearwater, European Storm-petrel and Arctic Tern. One of these, the European Storm Petrel breeds in nationally important numbers in the SEA 8 area.

The Celtic Deep, Outer Bristol Channel and waters south of Devon were important offshore areas for seabirds.

Waders

Several coastal sites within the SEA 8 area held internationally important concentrations of Black-tailed Godwit, Dunlin, Avocet and Redshank, with a further eight species occurring in nationally important numbers. Most of these sites are regularly monitored on a monthly basis as part of the WeBS monitoring programme. Poole Harbour in Dorset is the most important site for Avocet (an Annex I species) in the UK.

Additional information on inshore seabirds

Inshore seabird species were covered in more detail in the SEA 6, 7 & 8 inshore seabird review (Barton & Pollock 2005) and the technical update for this review (Barton & Pollock 2006). However, additional count information for the SEA 8 area was available from bird reports for several species and was included here.

Vulnerability to surface pollution

Seabird vulnerability in offshore areas of SEA 8 was generally low throughout the year. However there were two areas of high vulnerability beyond the 100 m depth contour, south of Cornwall and in the Celtic Deep. Vulnerability was also moderate to high west of Lundy in the outer Bristol Channel.

Conclusions

Overall, there are large gaps in coverage in the offshore waters of SEA 8, particularly in September and October and between December and February. However, based on survey work conducted to date, total seabird density is generally low throughout the SEA 8 area throughout the year, while species diversity is generally lower in offshore waters compared to inshore areas. Species vulnerability in offshore areas was generally low.

Recommendations

Based on this review, it is recommended that:

- Seabird surveys in the SEA 8 area should be continued to improve existing data, particularly in months of insufficient survey coverage in offshore areas;
- Further studies are needed to establish the importance of the SEA 8 area to migrant species, particularly Balearic Shearwater and other Annex I species
- Seabird vulnerability maps of UK waters should be updated to put the SEA 8 area (and other SEA areas) in a national context.

Table of Contents

1. Introduction

A review of the distribution and abundance of offshore seabird species, as well as wader species recorded at coastal sites in the SEA 8 area, 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 report attempts to provide a current picture of the numbers and distribution of offshore seabird species, as well as wader species recorded at coastal sites within the SEA 8 area, using a variety of sources of information. By combining data sources, a comprehensive overview of species and their distribution within the SEA 8 area can be produced, which also highlights gaps in survey coverage.

In addition, where new data were available for inshore seabird species in SEA8, updates have been included in this report. This report follows a recent review of the distribution and abundance of inshore seabird species in SEA areas 6, 7 and 8 (Barton & Pollock 2005), and a technical update using the most recent available data in SEA areas 6, 7 and 8 (Barton & Pollock 2006).

1.1 Objectives

The objectives of this study were:

- To produce an overview of distribution and abundance of offshore seabird species, as well as wader species recorded at coastal sites, within the SEA 8 area, including seasonal and longer term temporal variations;
- Identification of important areas for offshore seabirds and waders within the SEA 8 area;
- Examine offshore seabird vulnerability to surface pollution in SEA 8;
- To produce an overview of the importance of the SEA 8 area for seabirds and waders in a UK and international context;
- To identify gaps in the existing knowledge and survey coverage of these species;
- Update information in previous SEA reports (Barton & Pollock 2005 & 2006) on inshore seabirds in the SEA 8 area.

1.2 Study area

The SEA 8 area includes the UK territorial waters south and west of Britain (DTI 2004) and cover the Bristol Channel, south-west approaches and English Channel (Figure 1.1). Figure 1.2 shows the bathymetry and important areas for seabirds and waders in the SEA 8 area.

Figure 1.1 SEA Areas in UKCS waters

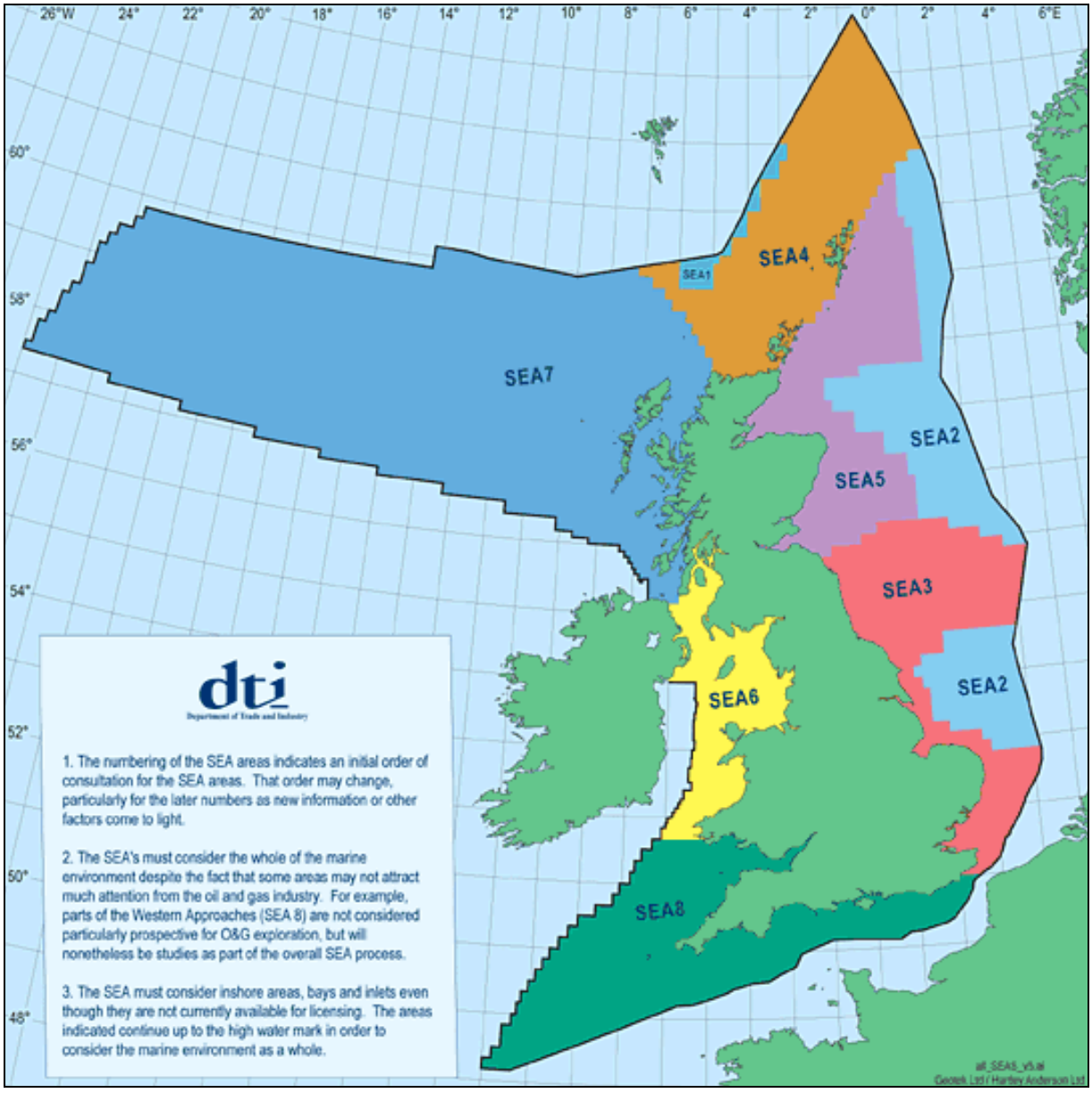
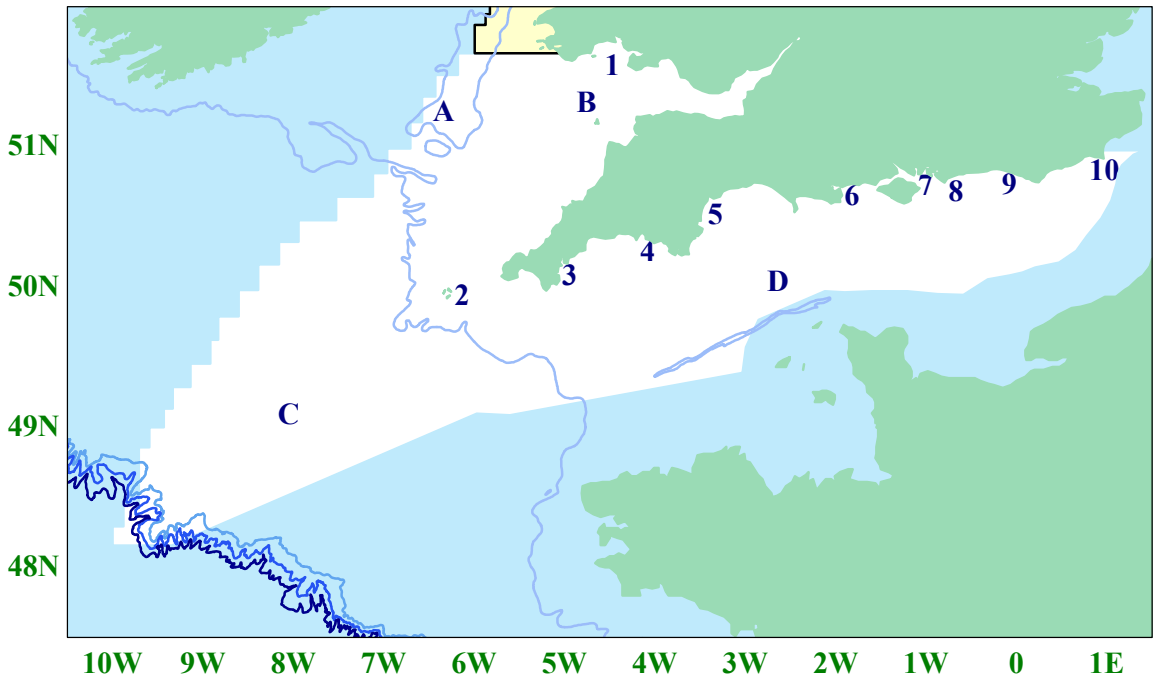


Figure 1.2 Bathymetry and important areas for seabirds & waders in SEA 8



Key

Sea Areas

A	Celtic Deep
B	Bristol Channel
C	South-West Approaches
D	English Channel

Bathymetry

- 100 m
- 200 m
- 500 m
- 1,000 m

Important sites in SEA 8

1	Carmarthen Bay
2	Isles of Scilly
3	Fal Estuary and Bay
4	Tamar Estuary complex
5	Exe Estuary & Dawlish Warren
6	Poole Harbour
7	Langstone & Chichester Harbours
8	Pagham Harbour & Church Norton
9	Brighton Marina
10	Dungeness

Bathymetry contours from Gebco Digital Atlas (IOC, IHO, and BODC 2003

1.3 Species considered

Offshore species

This review focuses on 15 seabird species regularly found in the offshore waters of SEA 8 (Table 1.1). Some species such as Northern Fulmar are resident throughout the year, while others such as Cory's Shearwater are seasonal visitors to the area.

Four other species (Manx Shearwater, Herring Gull, Guillemot and Great Black-backed Gull) also regular in offshore waters, are not considered in this report as they have been previously discussed in an Inshore Seabird Review of SEA 6,7 & 8 (Barton & Pollock 2005, Barton & Pollock 2006).

Table 1.1 Offshore seabird species in SEA 8

Species	Species
Northern Fulmar	Arctic Skua
Cory's Shearwater	Great Skua
Great Shearwater	Sabine's Gull
Sooty Shearwater	Lesser Black-backed Gull
Balearic Shearwater	Black-legged Kittiwake
European Storm-petrel	Arctic Tern
Northern Gannet	Atlantic Puffin
Pomarine Skua	

Waders

This review also contains information on 13 species of waders that are regularly recorded at coastal sites within the SEA 8 area in nationally and internationally important concentrations (Table 1.2).

Table 1.2 Important wader species in SEA 8

Species	Species
Oystercatcher	Black-tailed Godwit
Avocet	Bar-tailed Godwit
Ringed Plover	Whimbrel
Golden Plover	Curlew
Grey Plover	Redshank
Sanderling	Greenshank
Dunlin	

Additional information on inshore species

The distribution and abundance of inshore seabird species in the SEA 8 area has been previously reviewed (Barton & Pollock 2005) and updated (Barton & Pollock 2006).

However additional data is now available from recently published WeBS counts and relevant bird reports and has been incorporated into this review, where relevant. Additional counts were available for 19 inshore seabird species (Section 6).

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 offshore seabird species, as well as wader species recorded at coastal sites in the SEA 8 area. In addition, updates were made to inshore species accounts published in Barton & Pollock (2005 & 2006), where new data were available.

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 April 1999 onward were considered with the aim of presenting the most recent estimates for the important sites. Earlier data (from 1980 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 (JNCC) 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 8 area collected between 1980 and 2002 were provided by ESAS.

Several JNCC reports are relevant to the study area (Webb *et al* 1990; Stone *et al* 1995; Webb *et al* 1995; Pollock *et al* 1997). Mackey & Giménez (2004) reported on seabirds in the SEA 6,7, & 8 areas, concentrating on offshore seabird species.

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 8 area 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.

Relevant counts were extracted from WeBS annual reports from 1999/00 to 2003/04 (Musgrove *et al* 2001, Pollit *et al* 2003, Cranswick *et al* 2005 and Collier *et al* 2005).

Bird Reports

Several bird reports were reviewed for relevant counts and records for the SEA 8 area:

- Eastern Glamorgan Bird Report 1999-2004 (Smith & Wilson 2000, Thomas & Wilson 2001, 2002, 2003, 2004 & 2006)
- Avon Bird Report 1999-2004 (Davis *et al* 2000, 2001, 2002 & 2003, Rose *et al* 2004 & 2005)
- Kent Bird Report 2000-2003 (Braggs 2002, 2004, 2005 & 2006)
- Sussex Bird Report 2000-2004 (James *et al* 2001 & 2003 a & b, Paul *et al* 2004 & 2005)
- Hampshire Bird Report 1999-2004 (Casalis de Pury 2001, Eyre & Wynn 2002, Wynn & Wall 2003, Cox *et al* 2003, 2004 & 2005)
- Dorset Bird Report 1999-2004 (Davenport *et al* 2000, 2001, 2002 & 2003, Hull 2004 & 2005)
- Devon Bird Report 1999-2003 (Farrell *et al* 2001 a & b, 2002, 2003 & 2004)
- Birds in Cornwall 2000-2004 (Wilson 2001, 2002, 2003, 2004 & 2005)

Table 2.1 summarises the data used for each species group in this report.

Table 2.1 Data sources for species groups reviewed in SEA 8

Data	Species group
ESAS	Offshore seabirds
WeBS	Waders, inshore seabirds
Bird reports	Waders, inshore seabirds, some offshore seabirds
Seabird 2000	Breeding seabirds

2.2 ESAS data analysis

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 300 m transect width (see Webb & Durinck 1992 for full details of the method). A snapshot method is used for flying birds, which takes the ship's speed into account and prevents overestimation of seabird densities.

2.2.1 Study area

Although the main objective of this report was to review offshore seabird distribution, all ESAS data for the SEA 8 area, including inshore waters are included on species maps, for completeness.

ESAS data in the past have been 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. This scale is suitable for offshore areas and has been used in this report.

2.2.2 Offshore Species

A review of offshore seabirds in SEA 7 defined offshore waters as greater than 200 m in depth (Pollock & Barton 2006a). In general the SEA 8 area is much shallower, with only the south-western tip of the study area fitting this description. For the purposes of this review, the term "offshore species" was used to describe species that regularly occur in waters greater than 100 m deep. Seabird data for coastal waters of the SEA 8 area are included in species maps to give context.

With the exception of Black-legged Kittiwake and Lesser Black-backed Gull, seabird species which were discussed in the Inshore Review of SEA 6, 7 and 8 (Barton & Pollock 2005, Barton & Pollock 2006) have not been repeated in this report, even if they occurred in waters greater than 100 m. Four species of inshore seabirds (Manx Shearwater, Herring Gull, Guillemot and Great Black-backed Gull) were common in waters greater than 100 m, accounting for 7-11 % of the overall numbers of these species recorded in the SEA 8 area.

Black-legged Kittiwake and Lesser Black-backed Gull, which are numerous in inshore waters are nonetheless considered again in this report, because significant numbers of these species were recorded in waters south of 48°30' N, which were not included in the inshore report.

Rare species such as Wilson's Petrel and Grey Phalarope which occurred less than 10 times or where less than 10 birds were sighted on ESAS surveys, were excluded from this report.

2.2.3 Mapping strategy for offshore seabird species

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

Density Maps (birds/km^2)

This type of map was utilised for the most common species, defined as species with more than 1,000 birds recorded 'in transect'. This is defined as birds on the water within the transect area, and flying birds included in snapshot (see Webb & Durinck 1992 for full details). To account for decreased detection rates of birds on the water at increased distance from the ship, correction factors were applied to compensate for those birds missed. Correction factors were applied to birds on the water 'in transect'. Correction factors for 200 m and 300 m transects followed Stone *et al* (1995).

Average densities for each ¼ ICES rectangle were calculated by dividing the total number of birds within a 300 m strip by the total area surveyed (See Webb & Durinck 1992 for further 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. All data including sightings of birds outside the 300 m 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 ¼ ICES rectangle, the total number of birds was divided by the distance travelled. Again, monthly and seasonal abundance maps were compiled.

Sightings maps

For rare species (total less than 100 but more than 10), e.g. Sabine's Gull, incidental sightings were mapped.

2.2.4 Total Seabird Density & Species Diversity Maps

As well as individual species maps, seabird data for all species were combined and density maps were produced to show overall species density in the SEA 8 area. These maps attempt to identify important areas for seabirds.

Numbers of species recorded in ¼ ICES rectangles throughout the year and seasonally were also mapped to show species diversity in different areas.

2.2.5 Vulnerability Analysis

An analysis of the vulnerability of seabirds to surface pollution in SEA 8 was conducted using density data for all seabird species. Following the method of Williams *et al* (1995), the relative vulnerability of each ¼ ICES rectangle to surface pollution was calculated using the formula:

$$\text{Area Vulnerability Score (AVS)} = \sum \text{species ln } (d+1) \times \text{OVI}$$

where d = density of each species after application of correction factor

OVI = the offshore vulnerability index score for each species

The OVI scores from Webb *et al* (1995) were used, apart from Common Tern, which was modified as the biogeographic population had changed following more recent surveys (Pollock & Barton 2006a).

Unidentified species groups were allocated the mean OVI of the constituent species. For example, the OVIs for Common Guillemot and Razorbill are 22 and 24 respectively, therefore unidentified guillemot/razorbill records were allocated an OVI of 23.

Species for which an OVI had not previously been calculated in Webb *et al* (1995) or Williams *et al* (1995) and occurred in numbers of less than 100 in the study area, were excluded from the analysis.

As in Webb *et al* (1995), ¼ ICES rectangles with survey effort of less than 2 km^2 per month were excluded from the analysis. Monthly vulnerability maps were compiled as well as seasonal (summer and winter) and all year maps. The value of each ¼ ICES rectangle was placed into four categories of vulnerability (from lowest to highest) by dividing the range of AVS values into four equal sized groups. Seasonal and all year scores were calculated by using the average AVS for each ¼ ICES rectangle for the appropriate months and dividing into quartiles for mapping purposes.

Note in this analysis, unlike Webb *et al* (1995), there was no smoothing of the data. Also as the primary objective was to look at seabird vulnerability in offshore waters, additional information from other sources for important inshore areas was not added to the vulnerability maps. An example of this is data from recent inshore aerial surveys that the Countryside Council for Wales (CCW) conducted for common scoter in Carmarthen Bay in 2001 and 2002, as part of the All Wales Common Scoter Survey (WWT Wetlands Advisory Service 2003; Cranswick *et al* 2004). Divers, gulls and auks were also counted during these surveys. To date, these data have not been added to the ESAS database.

2.3 Land-based data analysis

Using all available data from WeBS annual reports between 1990/2000 and 2003/2004 and relevant bird reports for the same period (see Section 2.1), peak counts were derived for the principal sites for each species for each year. Five year means were then calculated for these sites.

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

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. International and national thresholds were taken from Collier *et al* (2005) (Appendix A). For the purposes of this review, only coastal sites that held nationally or internationally important numbers of a species were considered in the species accounts.

Additional counts of inshore seabird species

Where new data were available for inshore species, they were incorporated into the existing species tables.

The five year mean for each site listed was revised to give a five year mean from 1999/00 to 2003/2004. The revised tables include all sites listed in the original report, except sites where no count data was available for the period 1999/00 to 2003/04. Changes to tables are detailed in the accompanying text.

For the 19 species included in this report, the tables in this report should be used with reference to additional species information contained in the previous SEA inshore species reports (Barton & Pollock 2005, Barton & Pollock 2006).

3. ESAS survey coverage in the SEA 8 area

3.1 Survey Effort

ESAS data analysed in this report were collected over 23 years between April 1980 and April 2002 covering an area 18,867.79 km². A total of 53.8 % of surveys took place in the summer months between April and September (Table 3.1). Overall, 5 % of the data (974.78 km²) were collected in the most recent 5 years i.e. 1998-2002. Most of the surveys were ship-based (88 %).

Table 3.1 Seasonal survey effort

Years	Months	Total area surveyed
All available years 1979-2003	October - March	8,710.34 km²
	April - September	10,157.45 km²
Most recent 5 years 1998-2002	October - March	252.54 km²
	April - September	722.24 km²

Figures 3.1 & 3.2 show the seasonal survey effort. In general almost all the area was surveyed during the summer and winter months although there was less coverage in waters greater than 100 m in winter.

Figure 3.1 Seasonal survey effort within SEA 8 area – April to September (ESAS data)

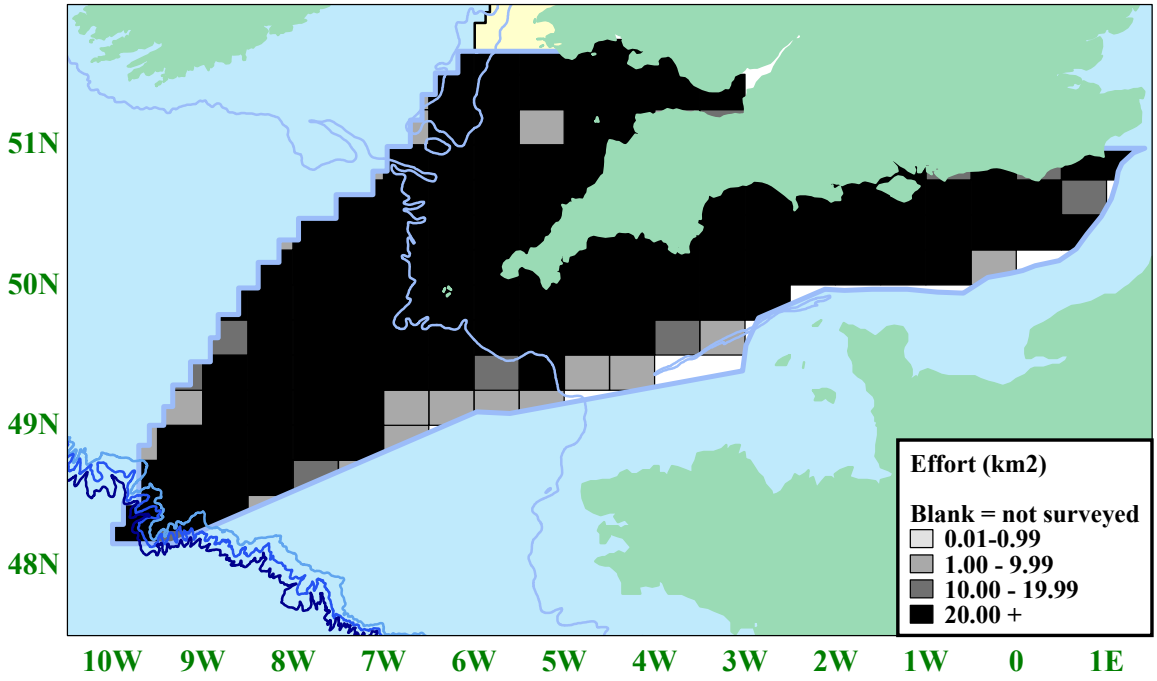
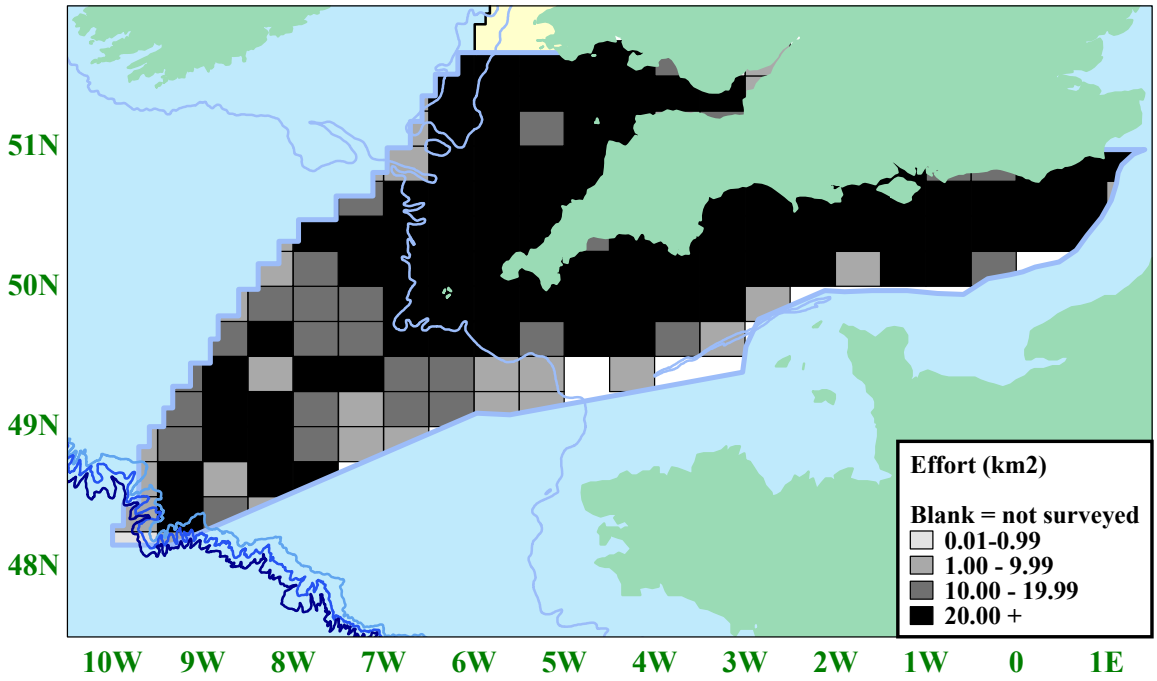


Figure 3.2 Seasonal survey effort within SEA 8 area – October to March (ESAS data)



3.2 Monthly survey effort maps

Monthly effort maps in the SEA 8 area are shown in Figures 3.3 to 3.14. Offshore coverage beyond the 100 m depth contour was lowest in January, February, September, October and December.

Coverage in inshore areas such as the Bristol Channel and off the Sussex and Kent coast was lowest in February, April, June and November, while there were gaps in coverage off the Welsh coast in September and October.

Figure 3.3 Survey effort within SEA 8 area in January

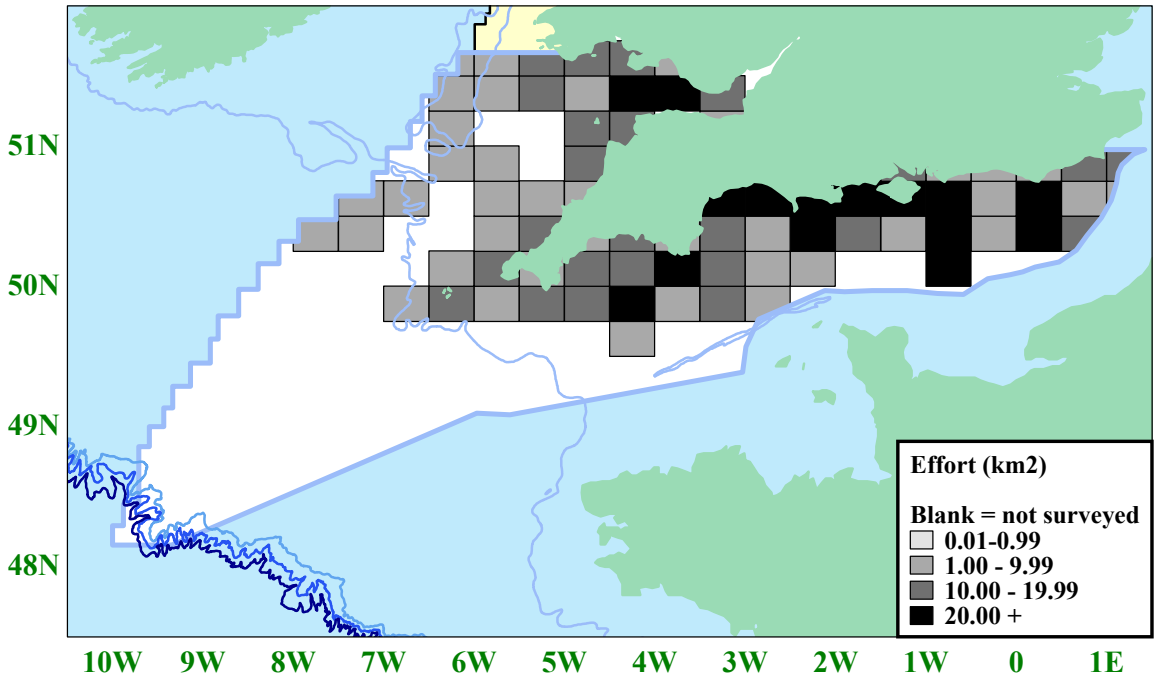


Figure 3.4 Survey effort within SEA 8 area in February

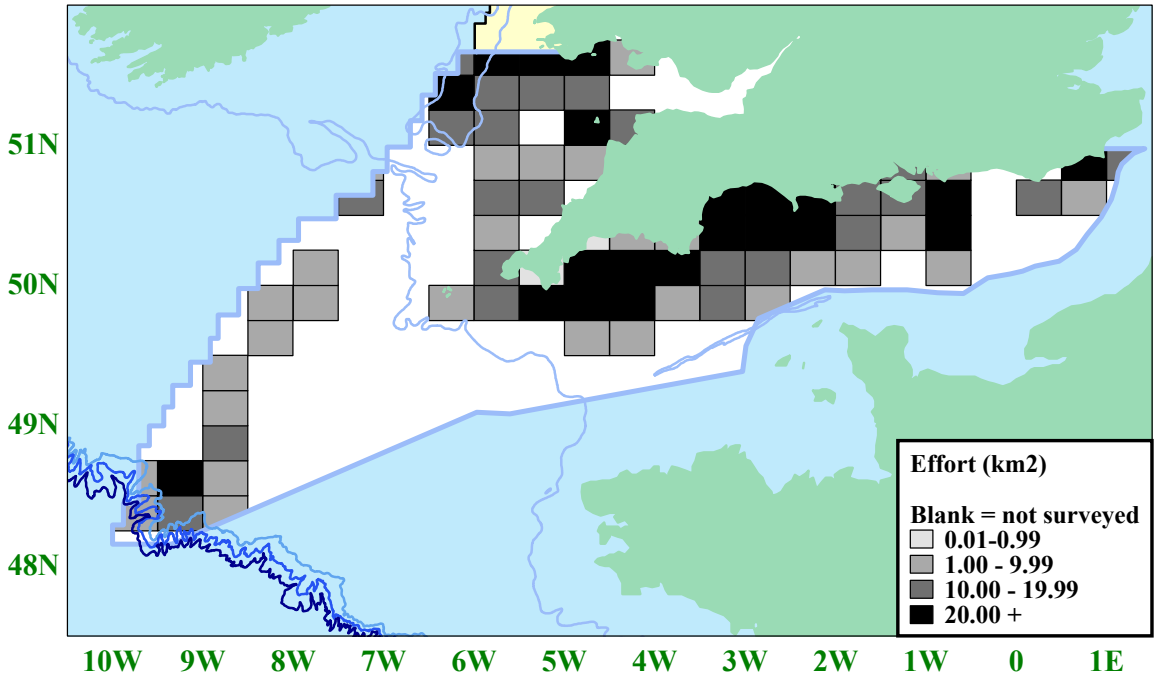


Figure 3.5 Survey effort within SEA 8 area in March

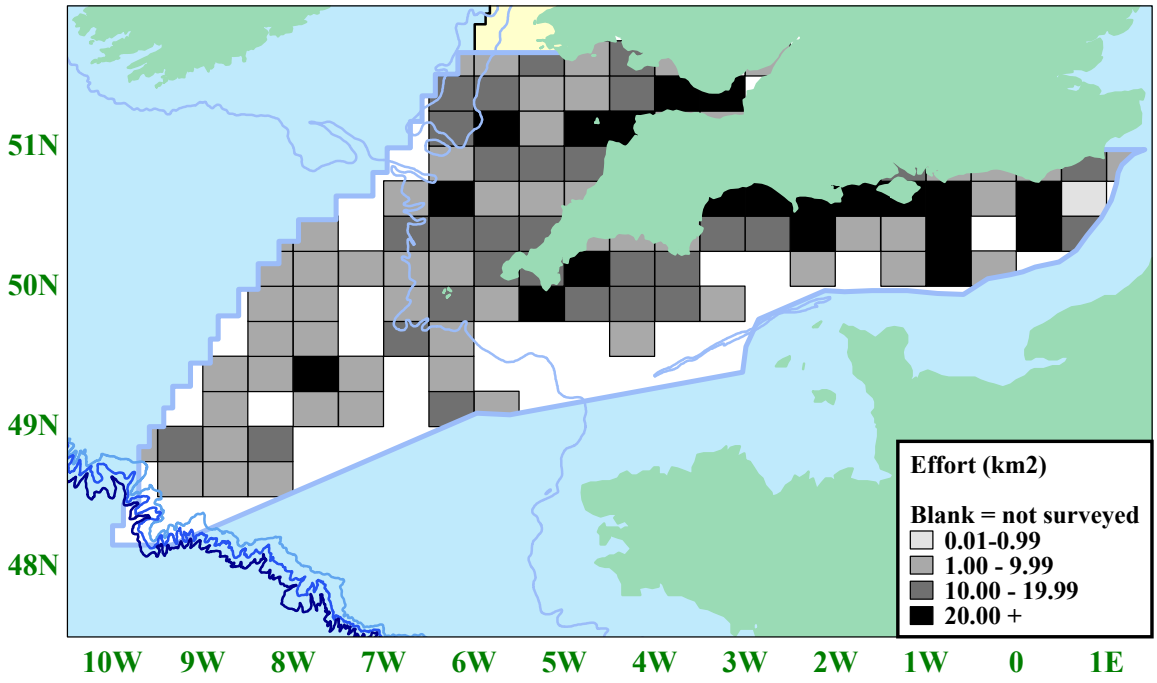


Figure 3.6 Survey effort within SEA 8 area in April

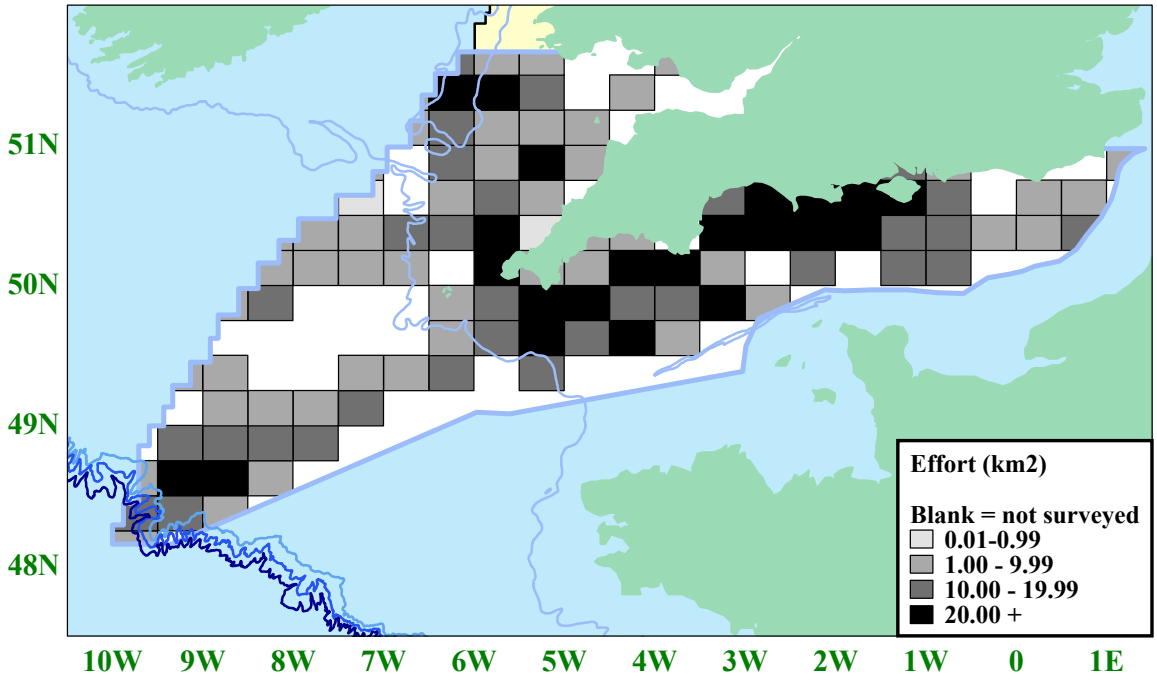


Figure 3.7 Survey effort within SEA 8 area in May

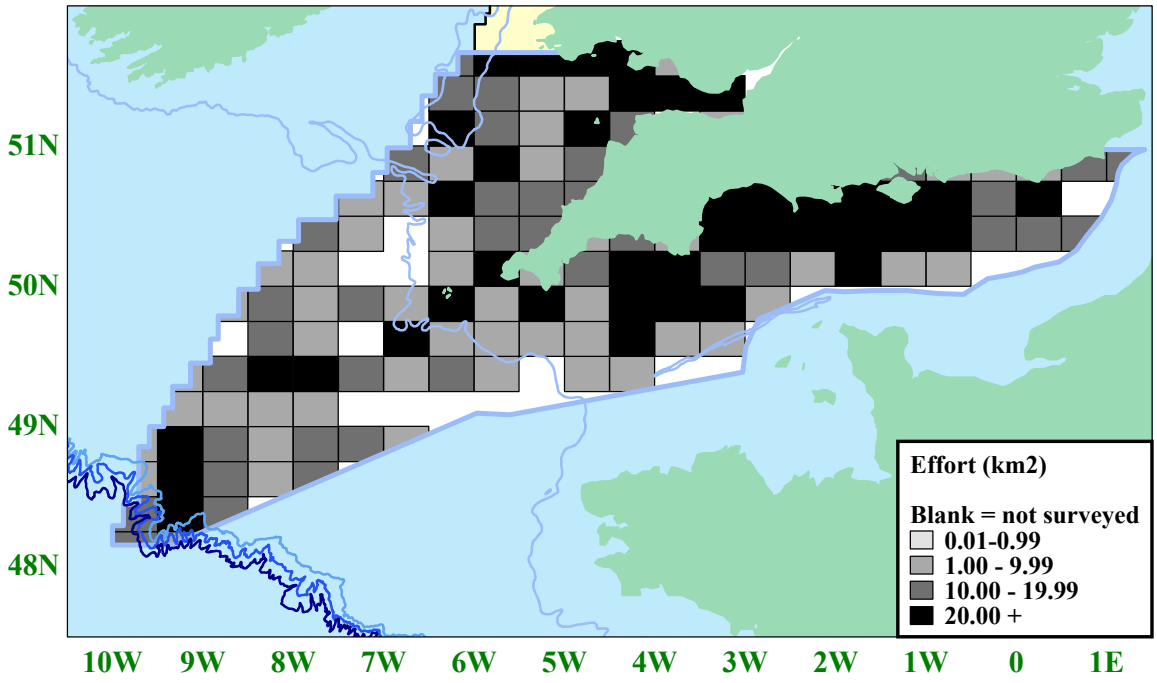


Figure 3.8 Survey effort within SEA 8 area in June

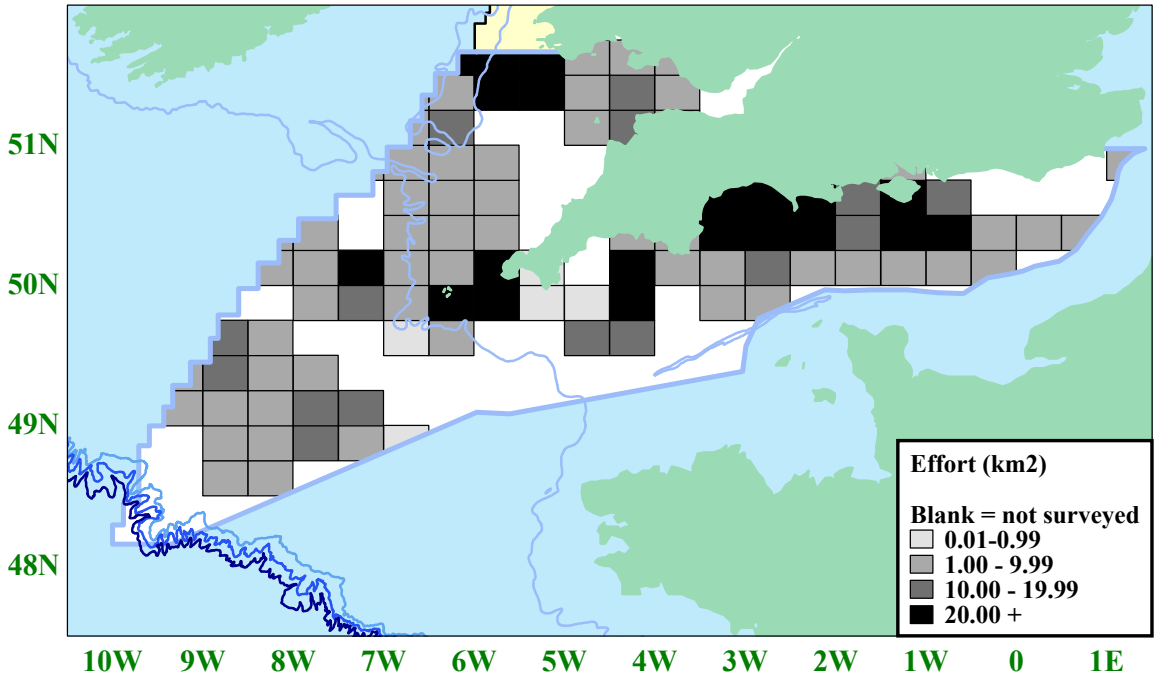


Figure 3.9 Survey effort within SEA 8 area in July

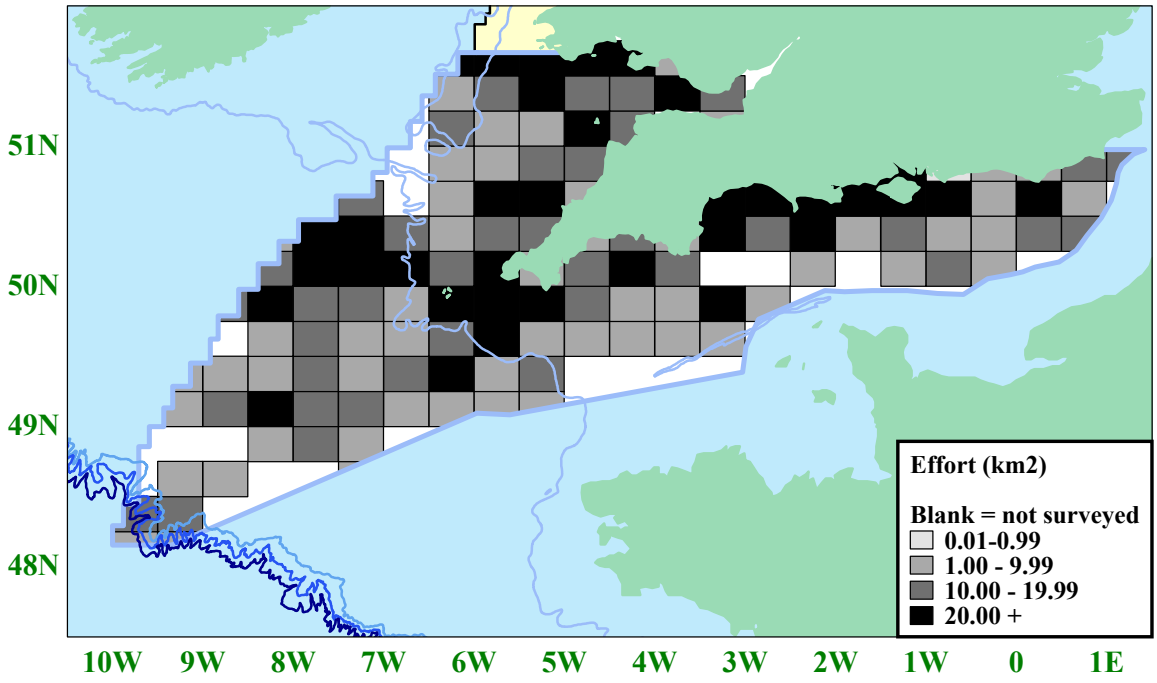


Figure 3.10 Survey effort within SEA 8 area in August

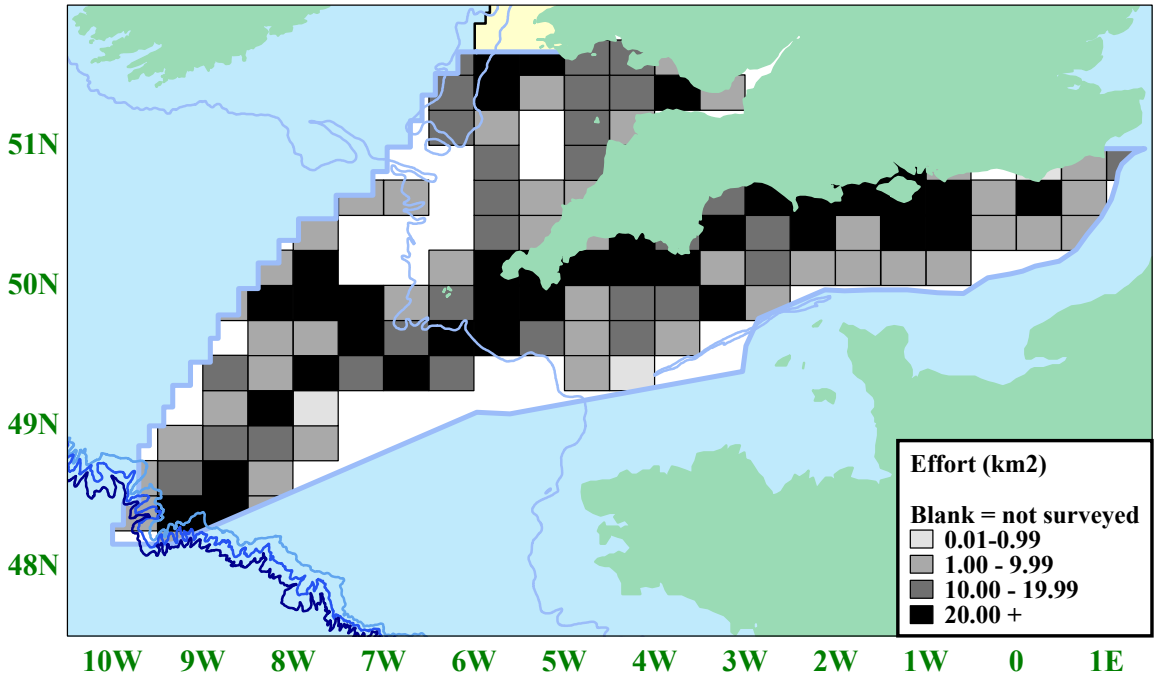


Figure 3.11 Survey effort within SEA 8 area in September

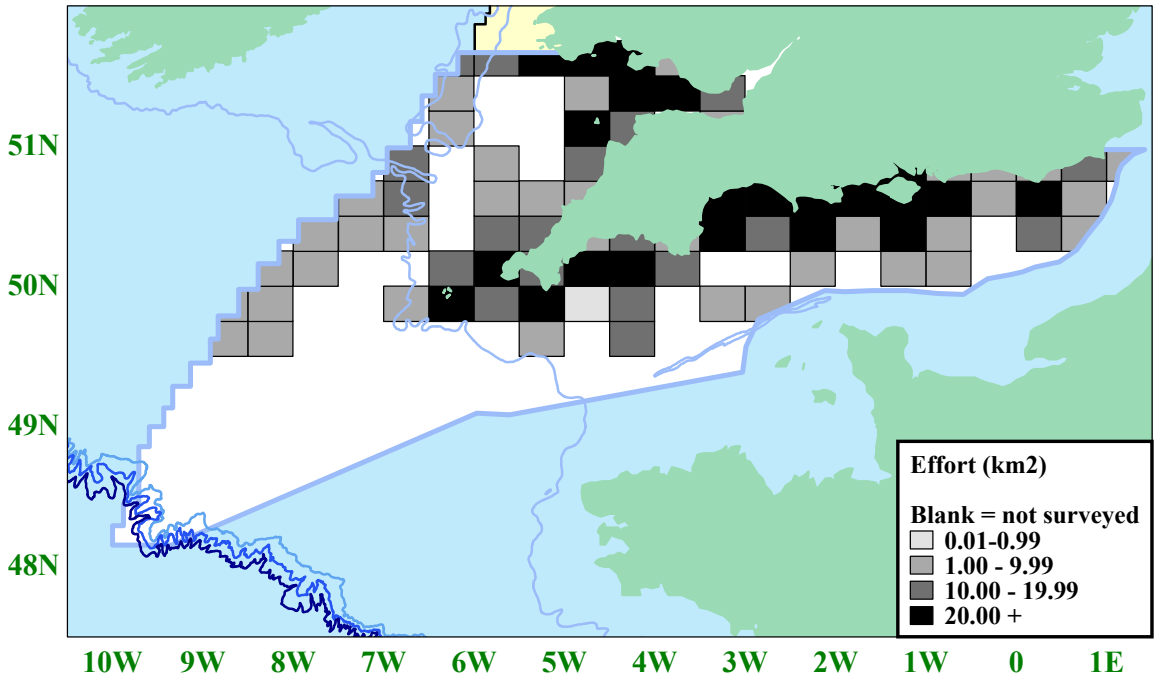


Figure 3.12 Survey effort within SEA 8 area in October

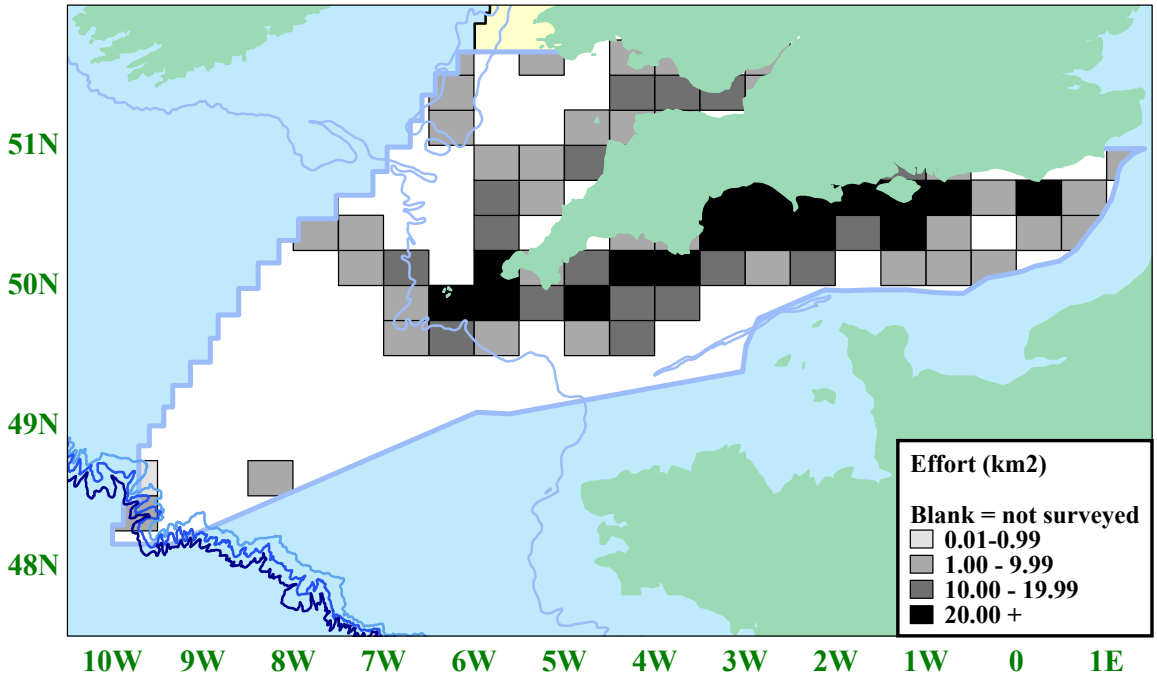


Figure 3.13 Survey effort within SEA 8 area in November

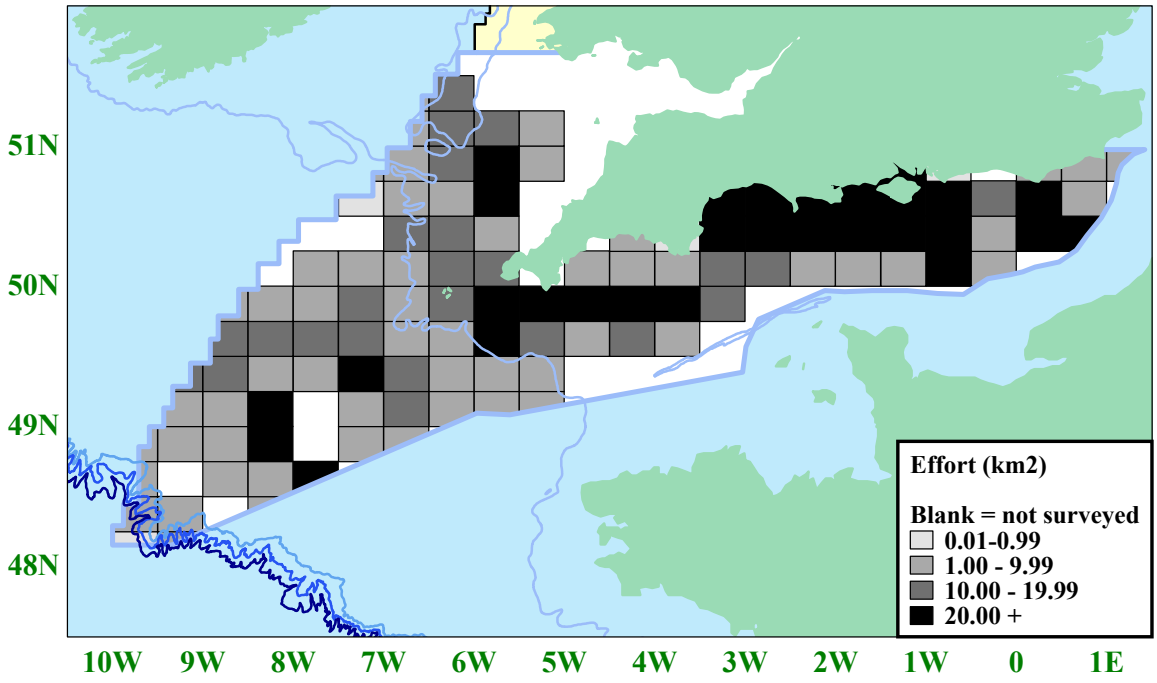
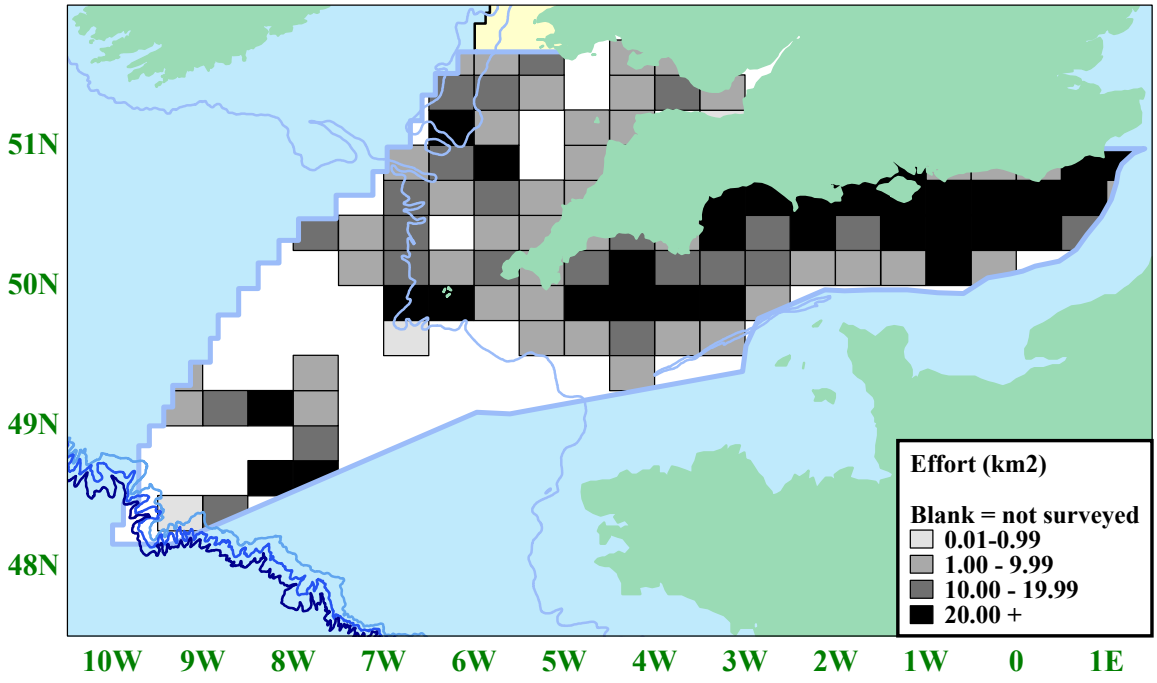


Figure 3.14 Survey effort within SEA 8 area in December



3.3 Gaps in coverage

A recent analysis of gaps in survey coverage for all SEA areas found that in SEA 8, 17 % of the total SEA 8 area was surveyed, amounting to 61 % of the overall suggested target coverage. During the summer months, 66 % of the target coverage was reached while in winter this dropped to 56 % (Pollock & Barton 2006b).

Inshore coverage of the Bristol Channel on ESAS surveys was found to be poor, however recent aerial surveys conducted by WWT and JNCC have improved survey coverage in this area, particularly around Carmarthen Bay. (Note these data are not displayed here as they are not included in the ESAS database).

4. Offshore Seabird Species

Fifteen species of offshore seabirds were considered in this review. Raw numbers of these species recorded in the entire SEA 8 area during ESAS surveys are shown in Table 4.1. Northern Gannet, Black-legged Kittiwake, Northern Fulmar and Lesser Black-backed Gull were the most abundant species recorded in offshore waters of the SEA 8 area.

Table 4.1 Raw numbers of offshore seabirds in SEA 8 from ESAS database, April 1980 to April 2002

Species	SEA 8 Total [1]
Northern Gannet	29,953
Black-legged Kittiwake	19,500
Lesser Black-backed Gull	16,924
Northern Fulmar	15,355
European Storm-petrel	3,690
Great Skua	1,023
Atlantic Puffin	787
Great Shearwater	271
Arctic Skua	102
Cory's Shearwater	89
Arctic Tern	57
Pomarine Skua	34
Sabine's Gull	24
Sooty Shearwater	24
Balearic Shearwater	19

1 Total includes birds from inshore and offshore waters

The following species accounts present ESAS data and land-based counts where available for offshore species that occur within the SEA 8 area.

4.1 Northern Fulmar *Fulmarus glacialis*

Numbers of Northern Fulmars around the UK have increased considerably since the mid-19th century and the distribution of birds has also expanded accordingly. The expansion has been from the north (originally Iceland) and numbers breeding within the SEA 8 area are low compared to other areas in Britain.

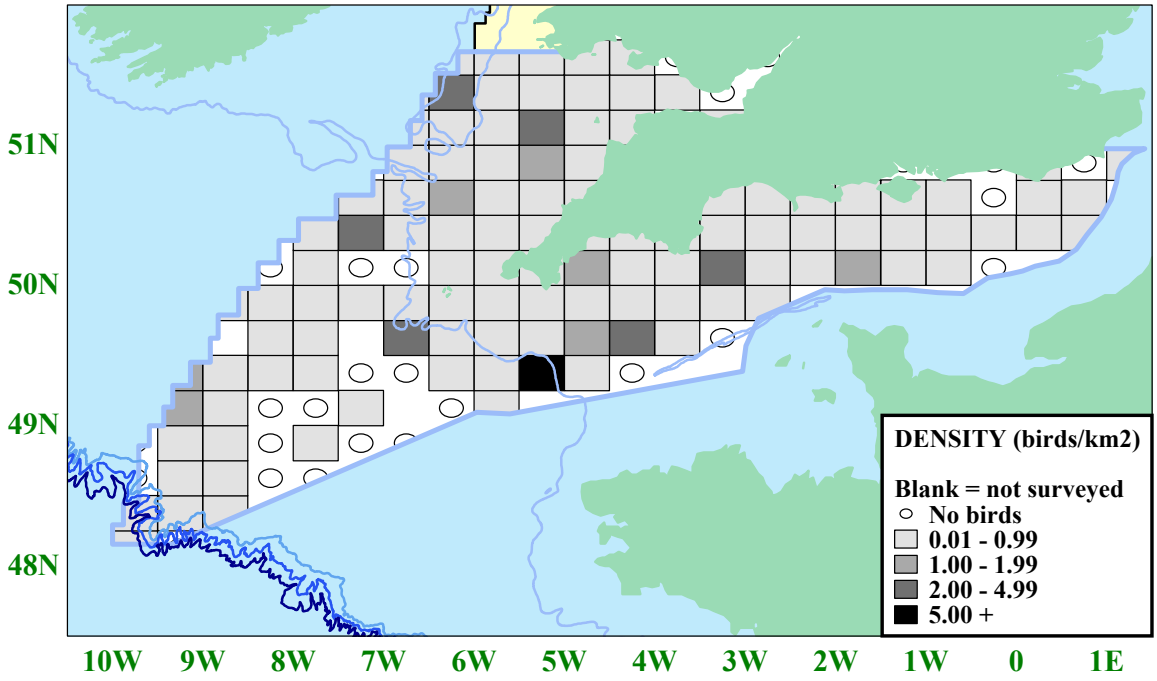
Seabird 2000 recorded an increase of breeding numbers on the Isles of Scilly with 180 Apparently Occupied Sites (AOS) compared to 92 AOS in 1985-1988, although numbers in Devon decreased by 42 % from 817 AOS in 1985-1988 to 471 AOS in 1998-2002 (Mitchell *et al* 2004).

Distribution within SEA 8 Area

Northern Fulmars were widely distributed throughout the SEA 8 area in all months. Peak densities were recorded in May, with the lowest densities recorded in September.

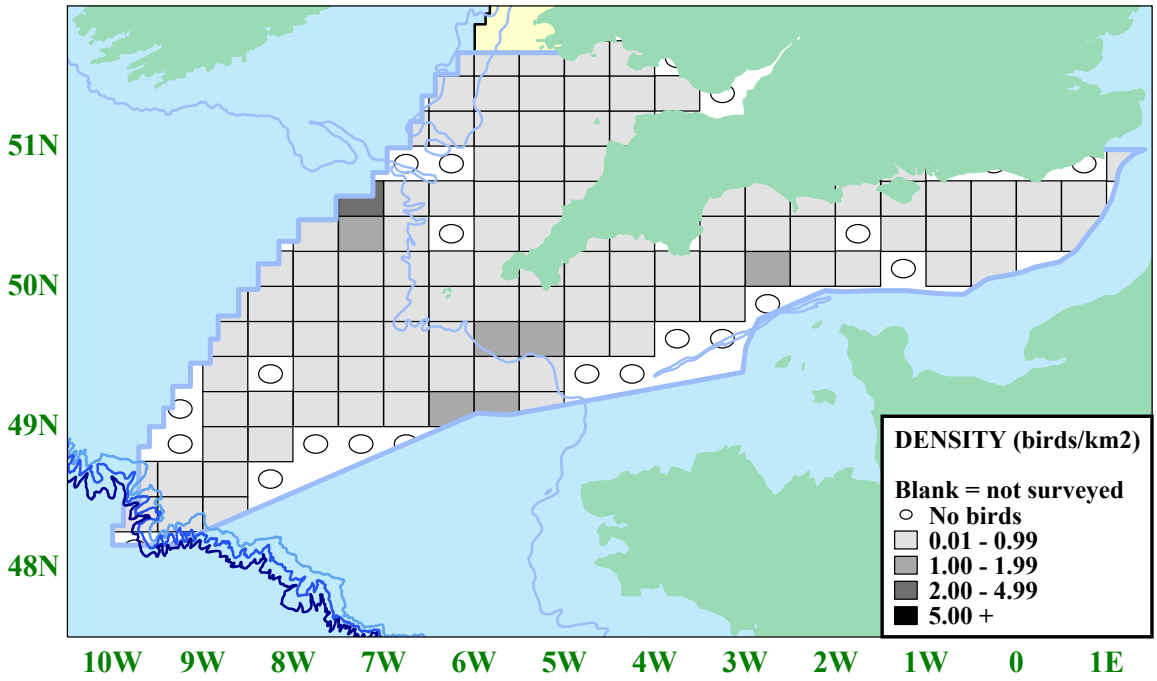
Between February and May, Northern Fulmars were widespread mostly at low densities, with concentrations along the 100 m depth contour (Figure 4.1). Birds were absent from inshore areas such as the inner Severn Estuary, and along the Hampshire coast, and in offshore areas, south to the territorial limits.

Figure 4.1 Northern Fulmar density in SEA 8 area from February to May



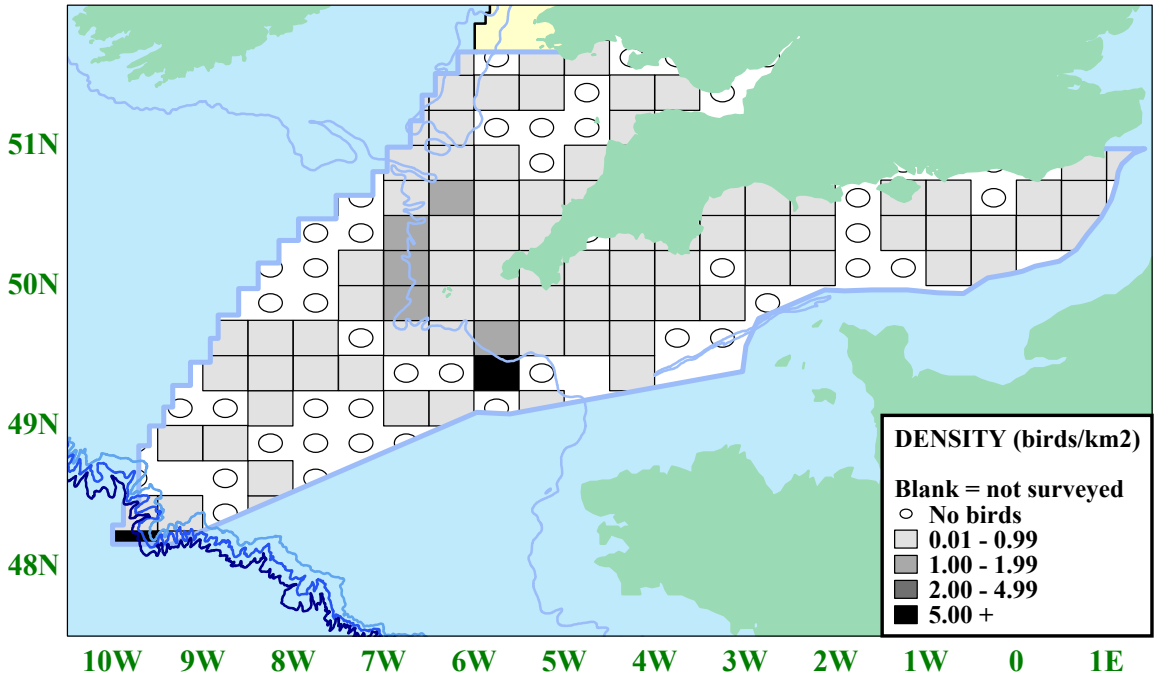
Distribution between June and August was similar to between February and May, although densities were slightly lower (Figure 4.2). Birds were again absent from inshore areas such as the inner Severn Estuary, and the Hampshire coast, and in offshore areas, close to territorial limits.

Figure 4.2 Northern Fulmar density in SEA 8 area from June to August



Lowest densities of Northern Fulmars were recorded in the SEA 8 area between September and January. Distribution was also more patchy, with just one area of high density found close to the 100 m contour, south of Land's End (Figure 4.3).

Figure 4.3 Northern Fulmar density in SEA 8 area from September to January



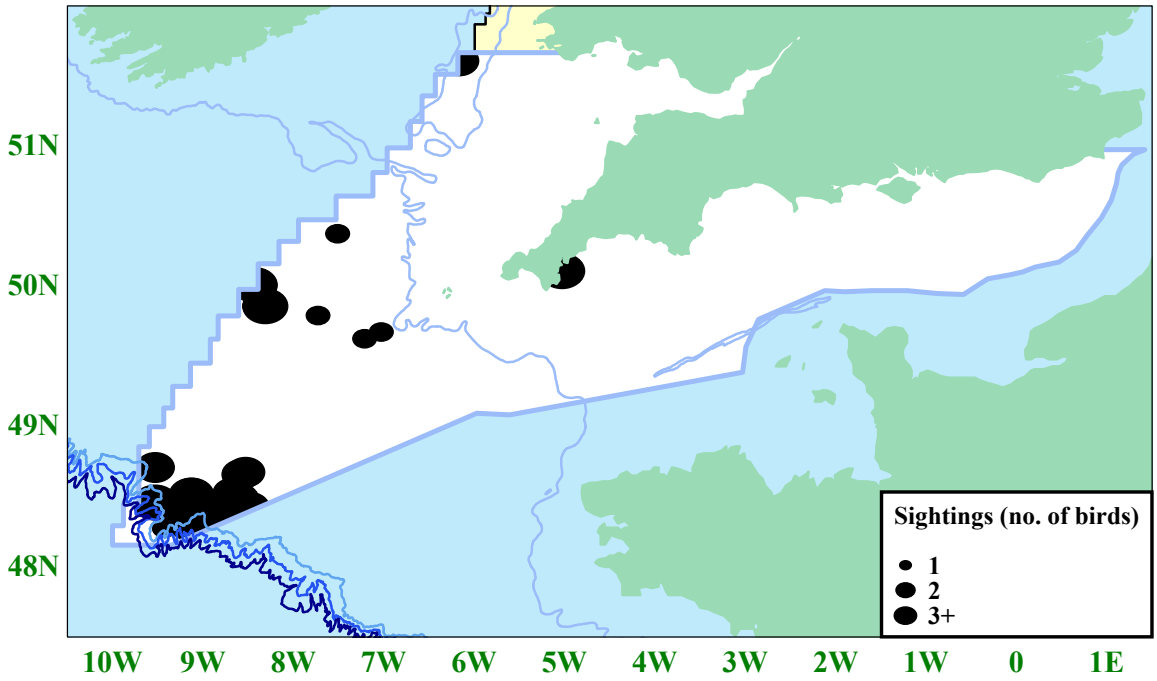
4.2 Cory's Shearwater *Calonectris diomedea*

Cory's Shearwaters breed on rocky coasts and islands of the Mediterranean Sea and eastern Atlantic Ocean (Hajemeijer & Blair 1997). They occur in highest numbers in waters west of Britain and Ireland during late summer and autumn on migration. Cory's Shearwater is listed on Annex I of the EU Birds Directive (79/409/EEC).

Distribution within SEA 8 Area

Within the SEA 8 area, Cory's Shearwater is a scarce pelagic species recorded mainly between mid-June to early September. ESAS surveys within the SEA 8 area recorded 9 birds in July and 80 birds in August, with the majority of records from the shelf edge in the south-west corner of the SEA 8 area (Figure 4.4).

Figure 4.4 Cory's Shearwater sightings in SEA 8 area



Numbers recorded from headlands around the south-west coast of England varied from year to year, with large numbers recorded occasionally. Counts were available from bird reports for one regular seawatching site, Porthgwarra in Cornwall (Table 4.2).

Table 4.2 Recent peak counts at main sites for Cory's Shearwaters in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Porthgwarra	261 [a]	600 [a]	31 [a]	58 [a]	23 [a]	**195**

1 Five year mean between 1999/00 and 2003/04, where available a Birds in Cornwall

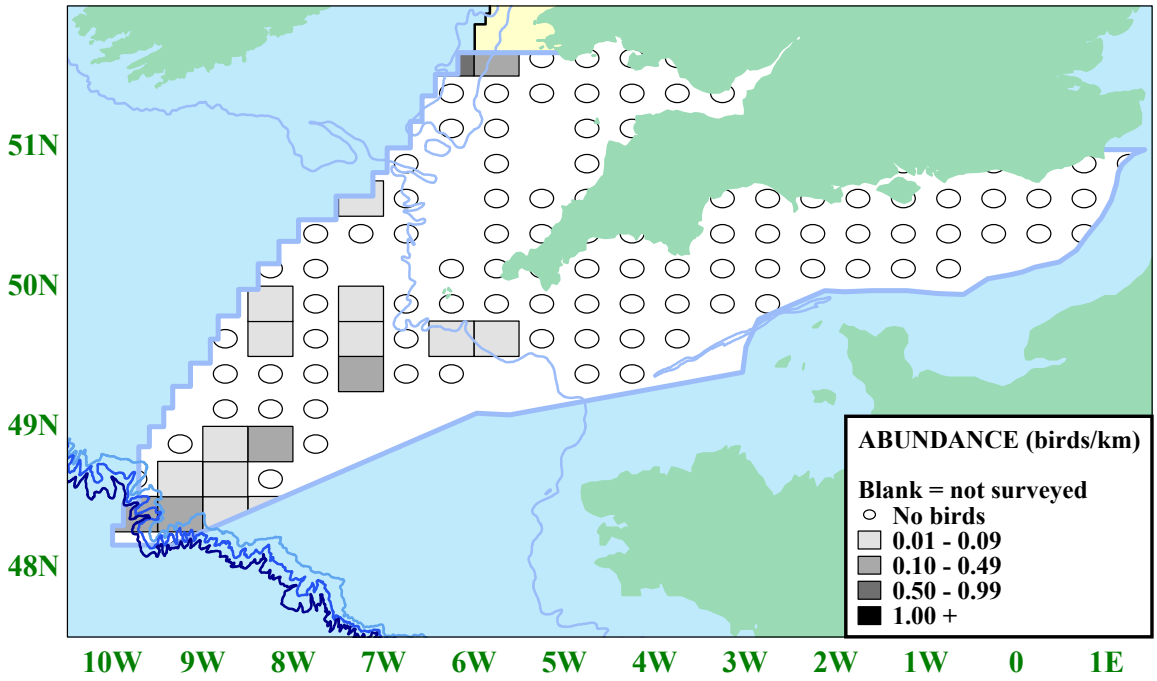
4.3 Great Shearwater *Puffinus gravis*

Great Shearwaters breed on islands in the South Atlantic, and occur in highest numbers in waters west of Britain and Ireland during late summer and autumn on migration, with occasional records of birds remaining over the winter months.

Distribution within SEA 8 Area

Like Cory's Shearwater, Great Shearwater is a pelagic species which is a scarce autumnal visitor to the SEA 8 area, where it is recorded mainly between mid-June and early September. ESAS surveys in the SEA 8 area recorded Great Shearwaters between July and November, with peak numbers in August and September (Figure 4.5). Most birds were recorded in the south-west corner of the SEA 8 area, in waters more than 100 m deep.

Figure 4.5 Great Shearwater abundance in SEA 8 area



Numbers seen from headlands around the south-west coast of England varied from year to year, with 320 recorded off Berry Head (Devon) on 23rd September 1999, but only low numbers seen from there in the following years (Table 4.3). Numbers seen from Porthgwarra (Cornwall) were lower but more regular.

Table 4.3 Recent peak counts at main sites for Great Shearwaters in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Berry Head	320 [a]	1 [a]	1 [a]	3 [a]	0 [a]	**65**
Porthgwarra	-	31 [b]	39 [b]	52 [b]	2 [b]	**31**

1 Five year mean between 1999/00 and 2003/04, where available a Devon Bird Report b Birds in Cornwall

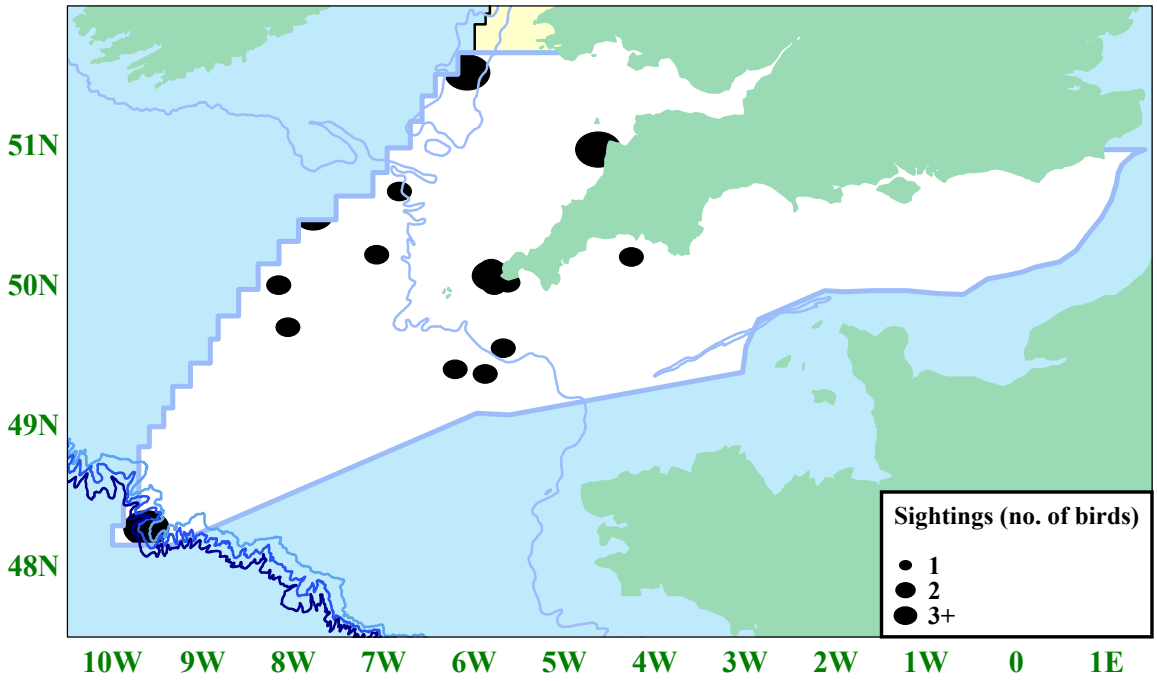
4.4 Sooty Shearwater *Puffinus griseus*

Sooty Shearwaters are passage visitors to the North Atlantic during their non-breeding season. The first birds tend to arrive in British waters in July, with most birds leaving again by November.

Distribution within SEA 8 Area

Sooty Shearwater is a regular but uncommon visitor to the SEA 8 area, recorded between July and November on ESAS surveys (Figure 4.6). Numbers recorded were low, with a maximum number of 8 birds recorded in September. Sightings were predominantly from offshore waters beyond the 100 m depth contour, although sightings of more than three birds were recorded in inshore waters off Hartland Point (Devon) and Land's End (Cornwall).

Figure 4.6 Sooty Shearwater sightings in SEA 8 area



Numbers seen from headlands around the south-west coast of England varied from year to year, with a maximum day count of 195 recorded off Cape Cornwall (Cornwall) on 28th September 2000 (Table 4.4). Numbers seen from Pendeen Watch (Cornwall) and Berry Head (Devon) were lower but more regular.

Table 4.4 Recent peak counts at main sites for Sooty Shearwaters in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Cape Cornwall	-	195 [a]	-	-	-	**195**
Hartland Point	-	-	-	89 [b]	-	**89**
Pendeen Watch	-	-	140 [a]	92 [a]	8 [a]	**80**
Off Lundy	-	-	-	50 [b]	-	**50**
Prawle Point	39 [b]	-	12 [b]	-	-	**26**
Berry Head	34 [b]	14 [b]	7 [b]	3 [b]	-	**15**

1 Five year mean between 1999/00 and 2003/04, where available a Birds in Cornwall b Devon Bird Report

4.5 Balearic Shearwater *Puffinus mauretanicus*

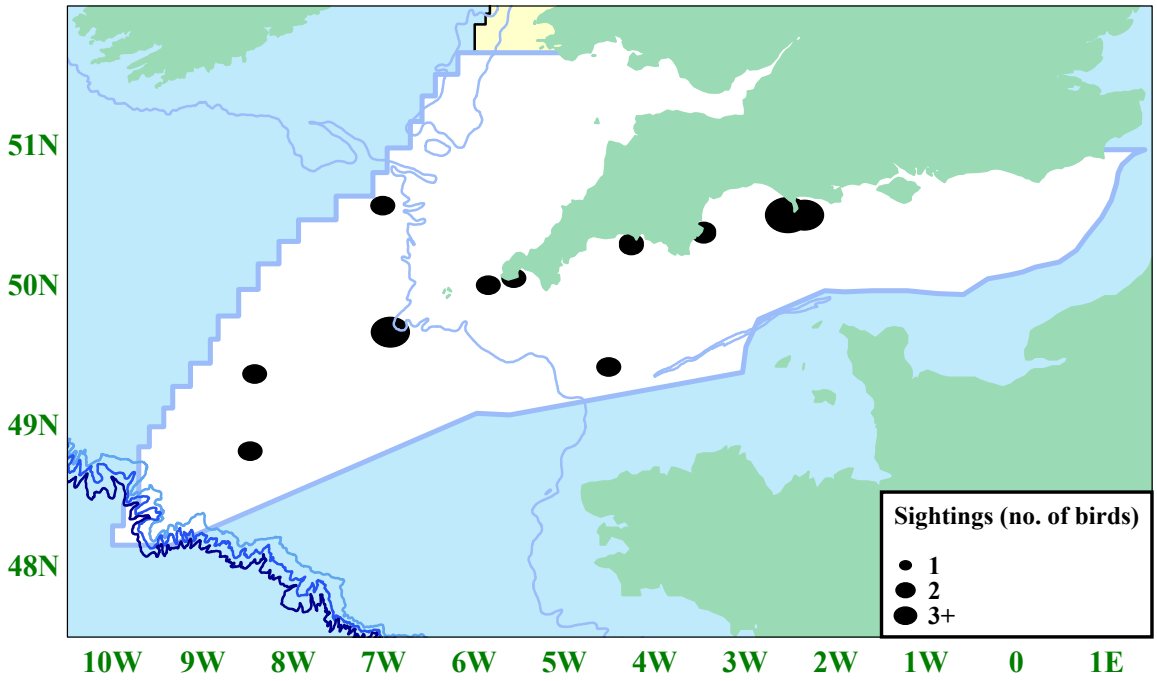
Balearic Shearwaters breed around the Balearic Islands in the Mediterranean Sea. From June to October birds move west out of the Mediterranean to the Atlantic coast from Morocco to the North Sea (Hagemeijer & Blair 1997).

This species is listed as Critically Endangered on the International Union for Conservation of Nature and Natural Resources (IUCN) 2006 Red List, based on its tiny breeding range and the small population that is declining rapidly due to a number of threats including predation at breeding colonies by feral cats, and by-catch of foraging birds from long-line fisheries (BirdLife International 2006). Balearic Shearwater is also listed on Annex I of the EU Birds Directive (79/409/EEC).

Distribution within SEA 8 Area

Balearic Shearwaters were uncommon but regular in the SEA 8 area, recorded between June and October. ESAS surveys recorded 17 birds in July, with single birds recorded in June and October (Figure 4.7). Birds were found mainly in the south west of the SEA 8 area, with highest numbers off Portland (Dorset).

Figure 4.7 Balearic Shearwater sightings in SEA 8 area



Numbers of Balearic Shearwaters seen from headlands around the south-west coast of England varied from year to year, with a maximum day count of 150 recorded off Torbay (Devon) on 31st July 2001 (Table 4.5). Numbers seen from Porthgwarra and Pendeen Watch (Cornwall) and Berry Head (Devon) were lower but more regular.

Table 4.5 Recent peak counts at main sites for Balearic Shearwaters in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Torbay	-	-	150 [a]	-	-	**150**
Porthgwarra	-	-	85 [b]	17 [b]	48 [b]	**50**
Exmouth	-	-	-	-	47 [a]	**47**
Berry Head	54 [a]	15 [a]	70 [a]	14 [a]	18 [a]	**34**
Hartland Point	-	-	-	32 [a]	-	**32**
Pendeen Watch	-	12 [b]	35 [b]	32 [b]	46 [b]	**31**
St Ives Island	-	13 [b]	17 [b]	17 [b]	12 [b]	**15**
Portland Bill	-	19 [c]	-	8 [c]	14 [c]	**14**
Trevose Head	-	-	10 [a]	-	12 [a]	**11**
Hengistbury Head	-	-	20 [c]	1 [c]	9 [c]	**10**

1 Five year mean between 1999/00 and 2003/04, where available

a Devon Bird Report b Birds in Cornwall c Dorset Bird Report

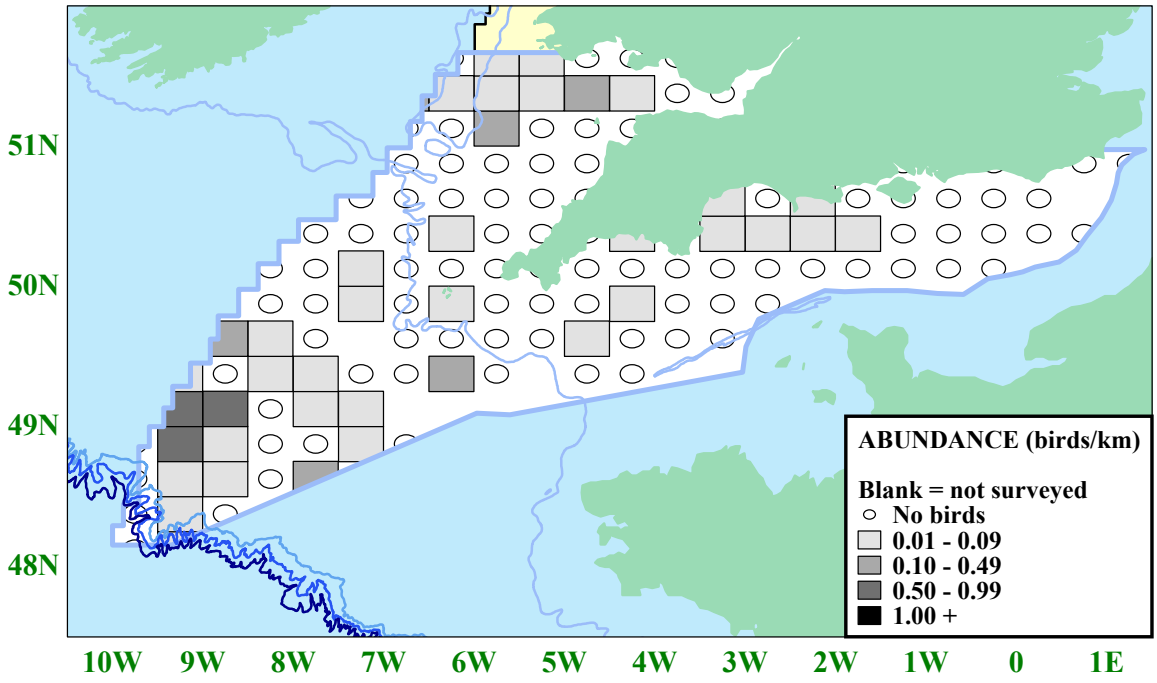
4.6 European Storm-petrel *Hydrobates pelagicus*

The European Storm-petrel is a pelagic species, which spends most of its time at sea, only coming ashore to breed on remote offshore islands. Accurate censusing of their breeding numbers is very difficult due to the remoteness of these colonies, and the fact that they nest in burrows. The first comprehensive survey of breeding European Storm-petrels in Britain and Ireland was only achieved during Seabird 2000, between 1999 and 2002 (Mitchell *et al* 2004). An estimated 4.4-7.0 % (1,475 Apparently Occupied Sites) of the British breeding population breeds within the SEA 8 area, all on the Isles of Scilly (JNCC, Seabird 2000 database). European Storm-petrel is listed on Annex I of the EU Birds Directive (79/409/EEC).

Distribution within SEA 8 Area

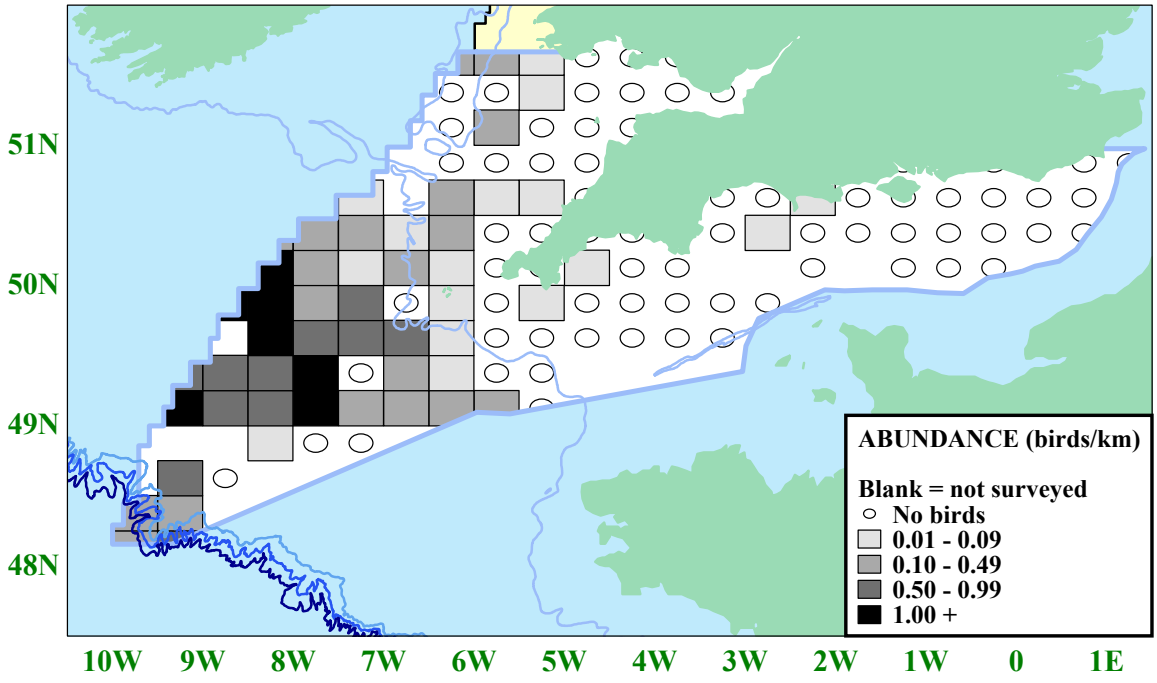
European Storm-petrels were a regular but uncommon species recorded mainly between May and November on ESAS surveys within the SEA 8 area. Records in May and June were scattered throughout the western half of the SEA 8 area, generally in low numbers (Figure 4.8).

Figure 4.8 European Storm-petrel abundance in SEA 8 area between May and June



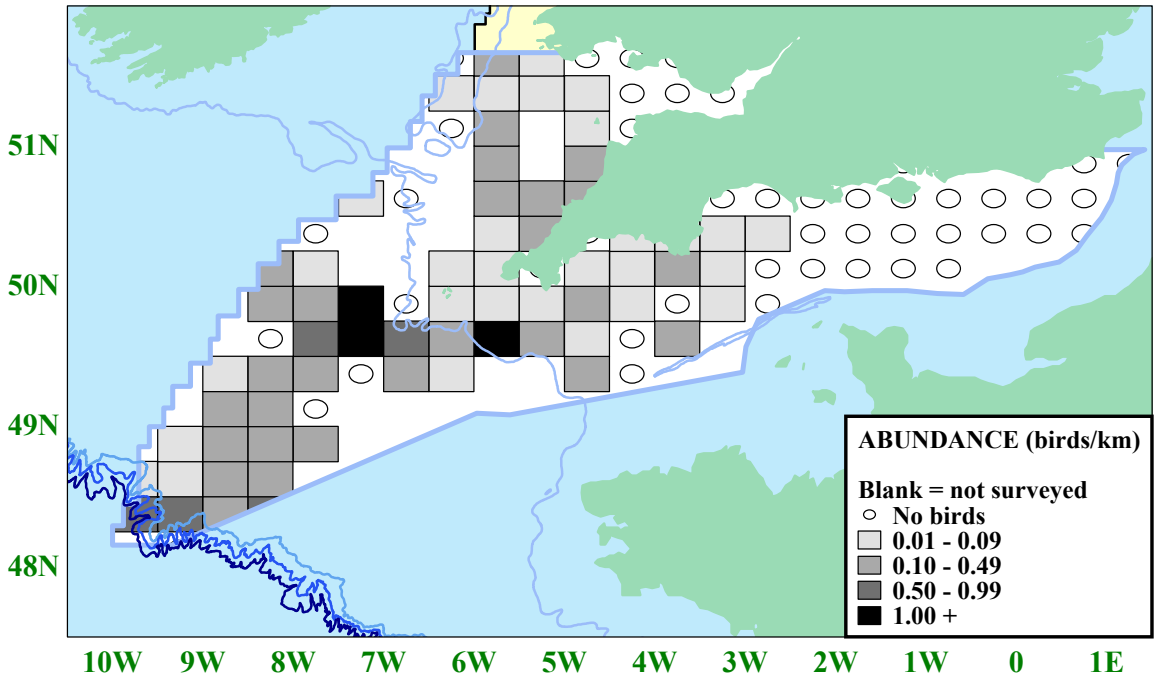
In July, ESAS surveys recorded high numbers of European Storm-petrels south-west of Land's End, primarily in water deeper than 100 m. A few patches of low abundance were also recorded in inshore waters off the coast of Cornwall and Pembrokeshire (Figure 4.9).

Figure 4.9 European Storm-petrel abundance in SEA 8 area in July



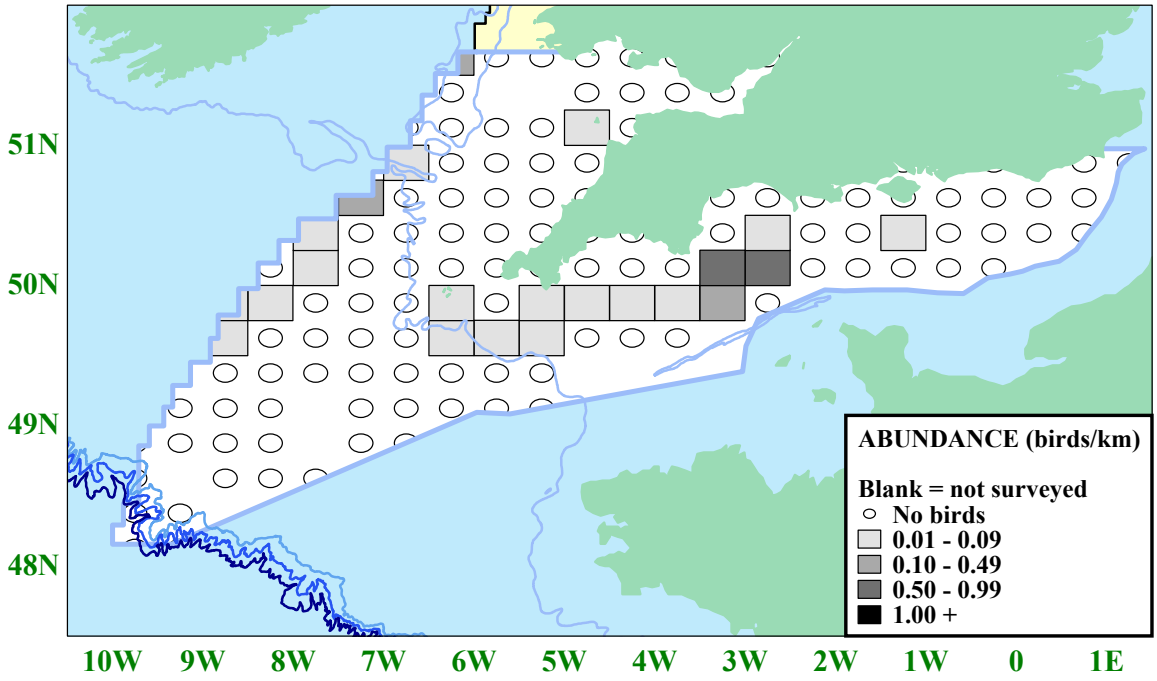
In August, European Storm-petrels were more frequently recorded in inshore waters off Devon and Cornwall, in low numbers, with no birds recorded east of Portland (Dorset) (Figure 4.10). Highest abundance was recorded close to the 100 m contour, south west of Land's End. Further offshore, abundance was lower, although coverage was not complete at this time.

Figure 4.10 European Storm-petrel abundance in SEA 8 area in August



European Storm-petrels were recorded occasionally from September to November, although higher numbers were recorded south-east of Start Point (Devon) in November (Figure 4.11).

Figure 4.11 European Storm-petrel abundance in SEA 8 area from September to November



Land-based counts from headlands around the south-west coast of England (Table 4.6) varied from year to year, with a maximum day count of 1,315 recorded off Porthgwarra (Cornwall) on 13th August 2001. Counts at this site for other years refer to numbers of birds trapped during night-time ringing operations. European Storm-petrels were also regularly recorded at several other sites in much lower numbers.

Table 4.6 Recent peak counts at main sites for European Storm-petrels in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Porthgwarra	-	230 [a]	1,315 [a]	198 [a]	150 [a]	**473**
Newquay	-	132 [a]	-	-	-	**132**

1 Five year mean between 1999/00 and 2003/04, where available a Birds in Cornwall

In addition, unseasonal wet and windy weather in May 2006 resulted in high numbers of European Storm Petrels being recorded along the southern coasts of England and Wales during the prolonged gales. There was some evidence of a detrimental impact on breeding success of birds in Brittany as a result (Waltho 2007).

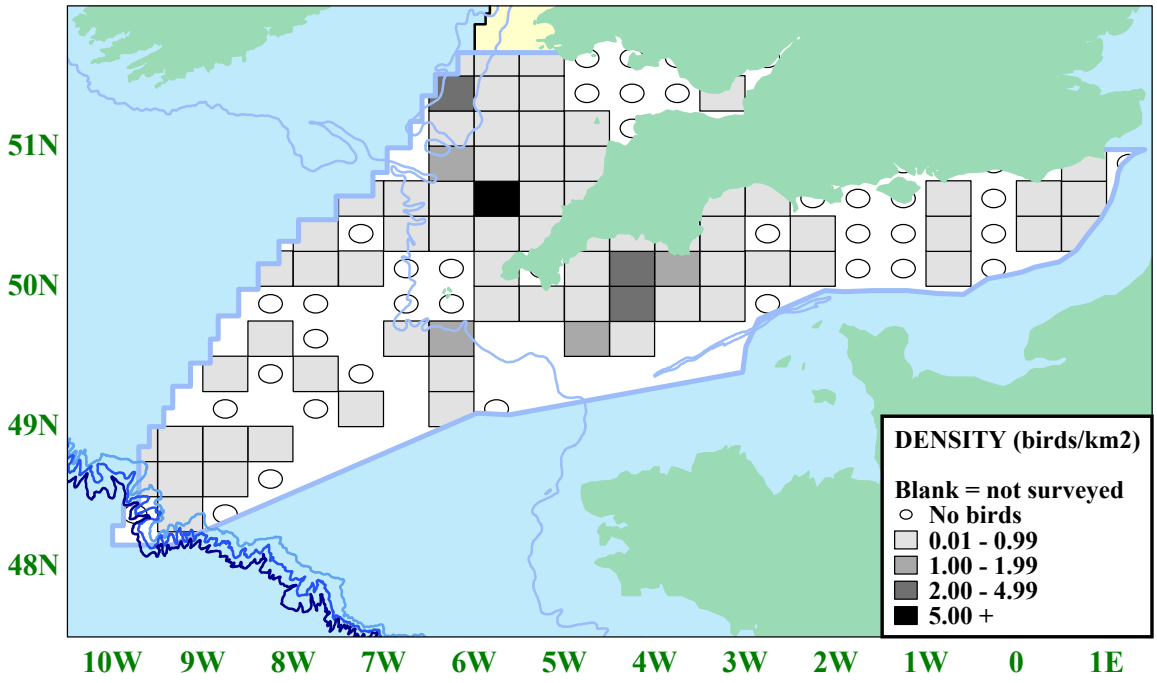
4.7 Northern Gannet *Morus bassanus*

Northern Gannet was the most common species recorded in offshore waters in SEA 8. This species breeds at several colonies around the coasts of Britain and Ireland, and tends to migrate south after the breeding season. Northern Gannets are currently censused every 10 years, with the most recent census in 2003/04 (Wanless *et al* 2005). There is a very small colony in the SEA 8 area, of just 1 pair on St Margaret's Island (Pembrokeshire), which first attempted to breed there in 2003. The colony of Grassholm lies just outside the SEA 8 area, in SEA 6. Grassholm supports an estimated 12.3 % (32,094 Apparently Occupied Sites) of the British population, based on data from Wanless *et al* (2005). Numbers at Grassholm increased by 16 % on the previous 1994/95 survey.

Distribution within SEA 8

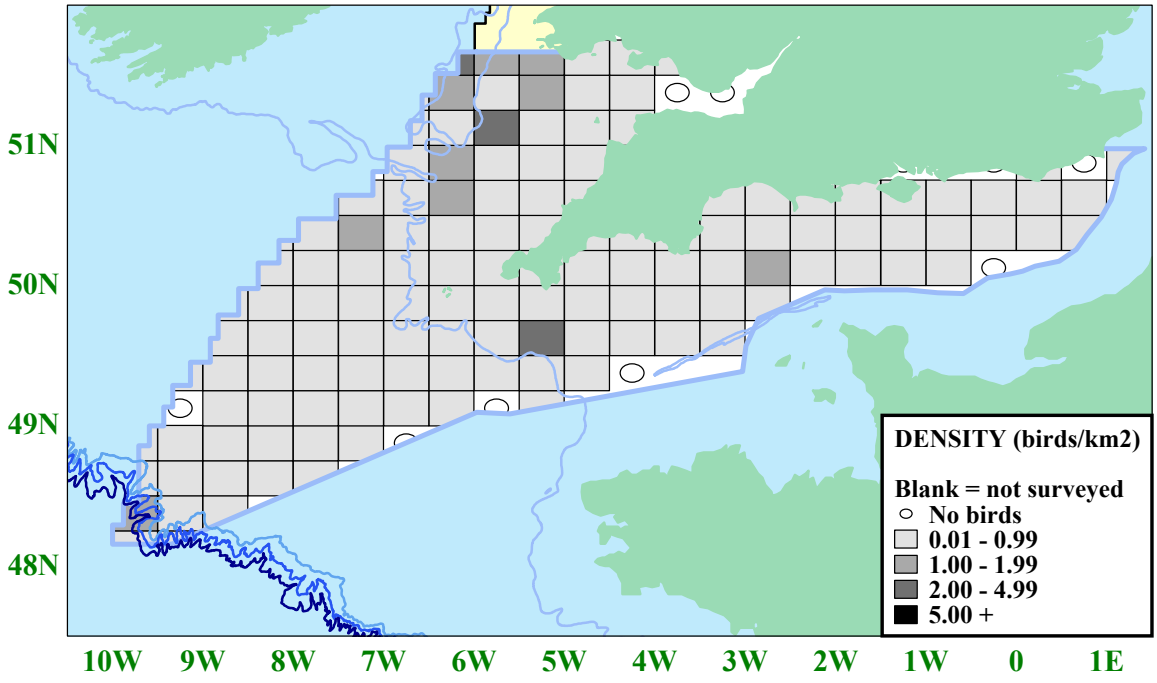
Between January and March, Northern Gannets were reasonably widespread in the SEA 8 area in low to moderate densities, although coverage was not complete at this time (Figure 4.12). Most birds were recorded in waters less than 100 m in depth.

Figure 4.12 Northern Gannet density in SEA 8 area between January and March



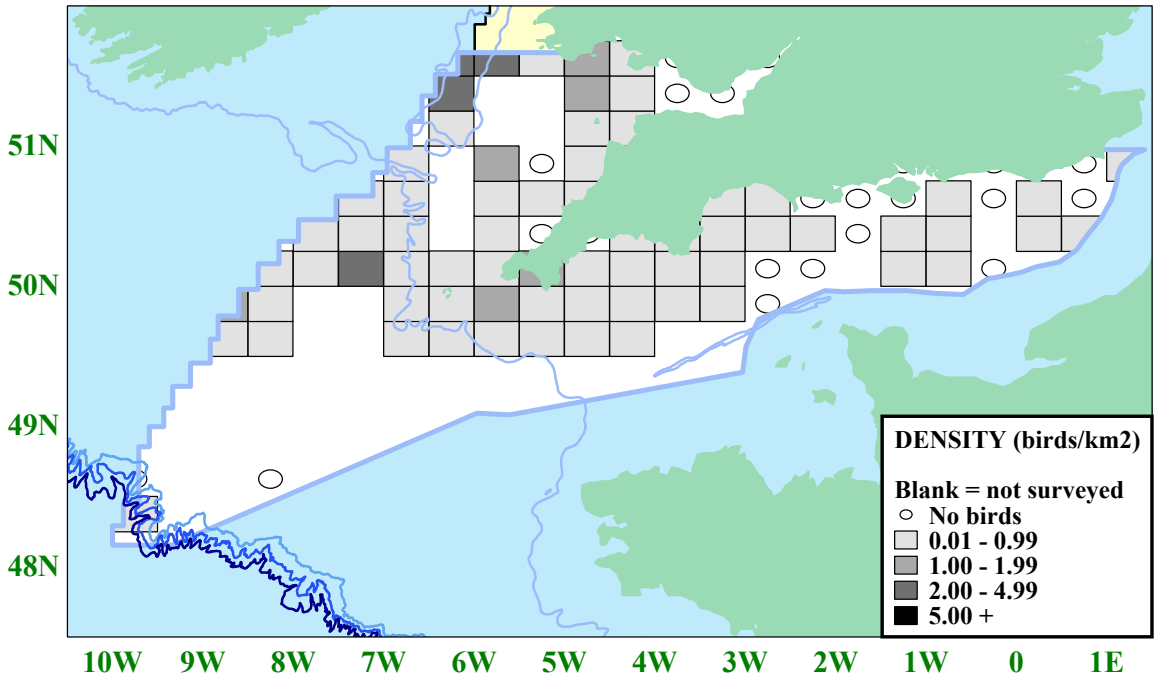
Between April and August, ESAS surveys recorded Northern Gannets throughout the SEA 8 area at predominantly low densities (Figure 4.13) Moderate densities were recorded in the outer reaches of the Bristol Channel, south of Grassholm. Birds were not recorded in inshore waters of the Severn Estuary and the Hampshire and Kent coasts or in some offshore waters.

Figure 4.13 Northern Gannet density in SEA 8 area between April and August



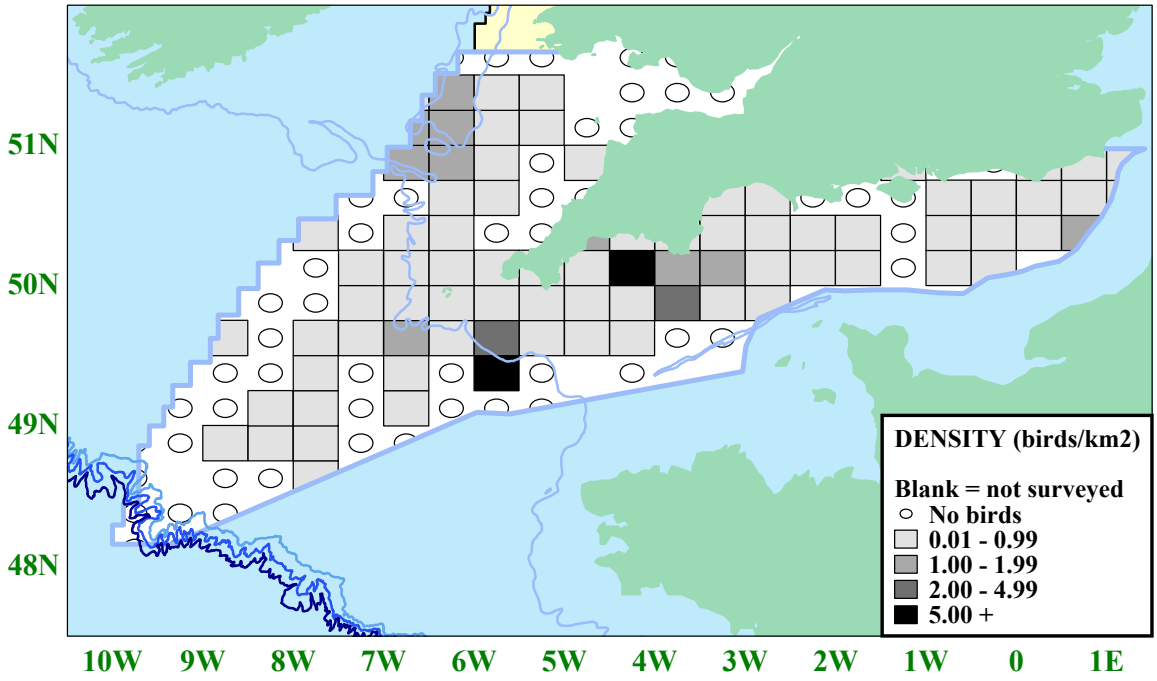
Northern Gannets were less widespread between September and October, particularly in inshore waters of the Severn Estuary, and off the south coast between Dorset and Kent, although coverage was not complete (Figure 4.14). Recorded densities were generally low to moderate.

Figure 4.14 Northern Gannet density in SEA 8 area between September and October



In November and December Northern Gannets were recorded in predominantly low densities. Moderate densities were recorded around the Celtic Deep, and off south Devon. Birds were absent from the Bristol Channel, and between Dorset and Hampshire and in offshore waters in the south west of the SEA 8 area (Figure 4.15).

Figure 4.15 Northern Gannet density in SEA 8 area between November and December



Northern Gannets were occasionally recorded in large numbers from coastal headlands in the SEA 8 area (Table 4.7). Peak movements varied from year to year, with a maximum day count of 13,225 recorded off Pendeen Watch (Cornwall) on 22nd October 2002, but lower maximum counts in other years. Peak counts were recorded from sites in Cornwall, with generally lower figures from sites further east such as Hope's Nose and Prawle Point (Devon), Hurst (Hampshire) and Selsey Bill (Sussex).

Table 4.7 Recent peak counts at main sites for Northern Gannets in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
St Ives Island	-	-	10,000 [a]	-	-	**10,000**
Pendeen Watch	4,200 [a]	5,018 [a]	-	13,225 [a]	-	**7,481**
Trevose Head	-	-	-	-	4,036 [a]	**4,036**
Hope's Nose	-	4,000 [b]	-	-	-	**4,000**
Prawle Point	-	3,150 [b]	-	-	-	**3,150**
Hurst	-	-	2,000 [c]	-	554 [c]	**1,277**
Selsey Bill	-	-	1,050 [d]	-	500 [d]	**775**

1 Five year mean between 1999/00 and 2003/04, where available a Birds in Cornwall b Devon Bird Report
c Hampshire Bird Report d Sussex Bird Report

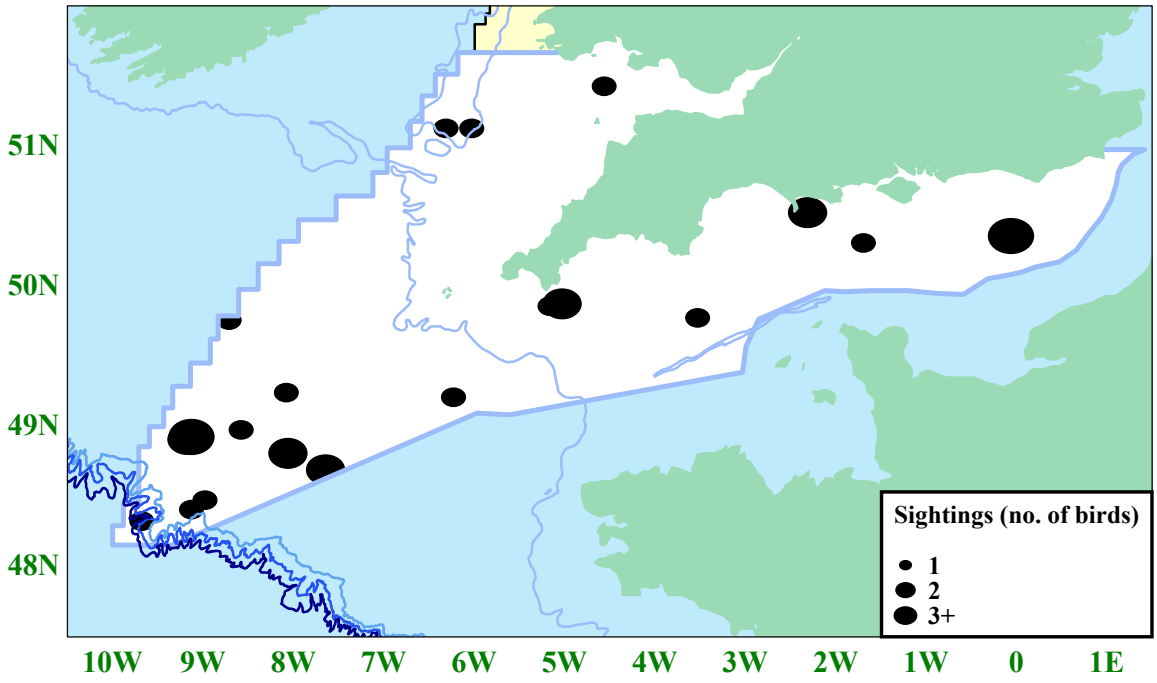
4.8 Pomarine Skua *Stercorarius pomarinus*

Pomarine Skuas breed in the Arctic and winter at sea in the tropics. In spring, birds move north through UK waters to their northern breeding grounds, with varying numbers seen from land each year. Returning birds in autumn are more widespread, with some birds travelling down the east coast of Scotland.

Distribution within SEA 8

ESAS surveys recorded Pomarine Skuas in April, May, July, August and October to December (Figure 4.16). Birds were widely scattered throughout the SEA 8 area, with concentrations in the south-west approaches and in the English Channel. Highest numbers of birds were recorded in April (16 birds), with 1 in August and 1 in December.

Figure 4.16 Pomarine Skua sightings on ESAS surveys in SEA 8 area



Peak land-based counts of Pomarine Skuas recorded off Dungeness (Kent) varied from year to year, with a maximum day count of 146 on 13th May 2001, but lower maximum counts in other years (Table 4.8). Lower numbers were also recorded from other south coast sites. Figures were taken from bird reports.

Table 4.8 Recent peak counts at main sites for Pomarine Skuas in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Dungeness	-	53 [a]	146 [a]	54 [a]	48 [a]	**75**

1 Five year mean between 1999/00 and 2003/04, where available a Kent Bird Report

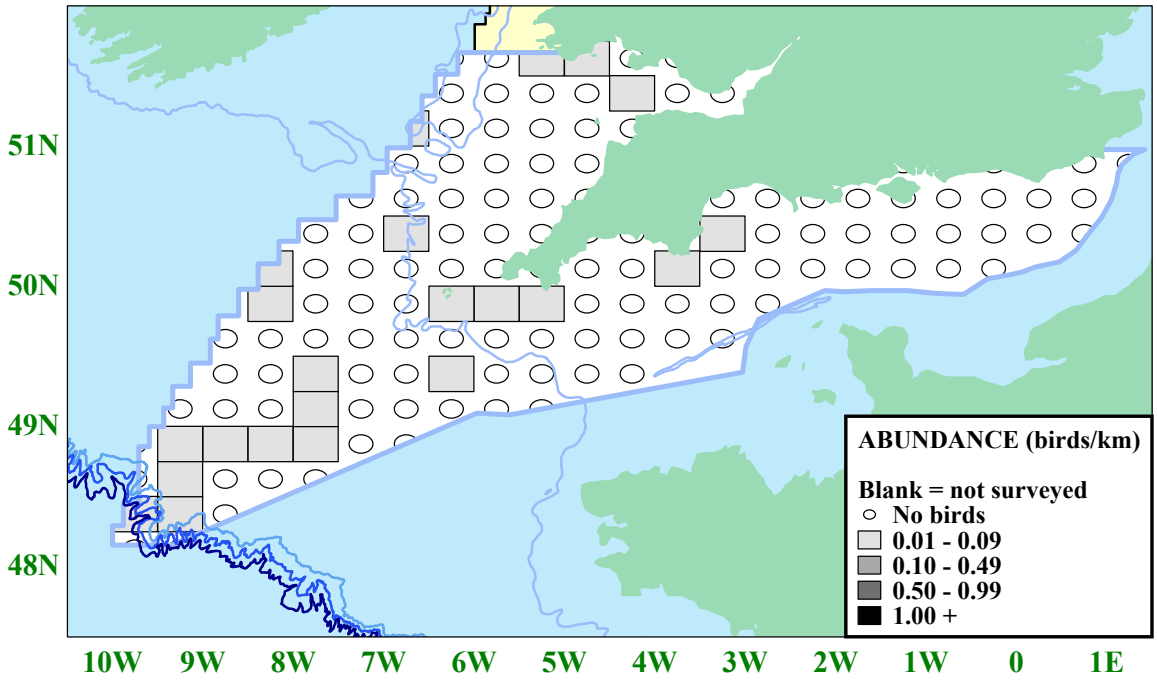
4.9 Arctic Skua *Stercorarius parasiticus*

Arctic Skuas nest in the high Arctic, with a small population breeding in north and west Scotland, at the southern limit of the breeding range. Within Britain, the bulk of the breeding population is found on Orkney and Shetland. In spring, birds move north through UK waters to their northern breeding grounds, returning south in the autumn.

Distribution within SEA 8

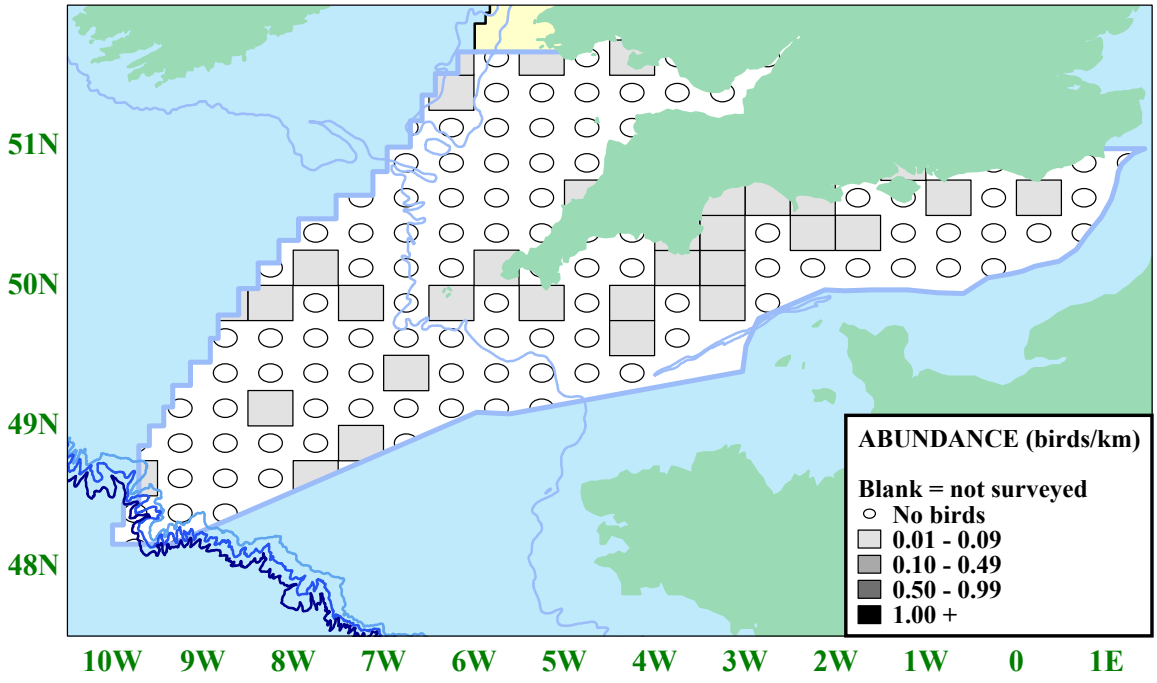
Between April and July, ESAS surveys in the SEA 8 area recorded low numbers of Arctic Skuas in the South-West Approaches, and off the south Cornwall, Devon and Pembrokeshire coasts (Figure 4.17). These birds would be predominantly adults heading north to their breeding grounds.

Figure 4.17 Arctic Skua abundance in SEA 8 area between April and July



A similar distribution pattern was recorded on ESAS surveys between August and November, although numbers of birds in the eastern half of the SEA 8 area were higher in autumn (Figure 4.18).

Figure 4.18 Arctic Skua abundance in SEA 8 area between August and November



Arctic Skuas were recorded in varying numbers each year from regular land-based seawatching sites along the south coast of England. The maximum day count was 143 recorded off Berry Head (Devon) on 30th September 2001 (Table 4.9). Numbers passing Berry Head showed a peak in August and September, while numbers passing Dungeness (Kent) and Brighton Marina (Sussex) were highest in April, with birds heading east.

Table 4.9 Recent peak counts at main sites for Arctic Skuas in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Berry Head	75 [a]	100 [a]	143 [a]	34 [a]	31 [a]	**77**
Dungeness	-	61 [b]	49 [b]	24 [b]	64 [b]	**50**
Brighton Marina	-	67 [c]	33 [c]	27 [c]	31 [c]	**40**

1 Five year mean between 1999/00 and 2003/04, where available

a Devon Bird Report b Kent Bird Report c Sussex Bird Report

4.10 Great Skua *Stercorarius skua*

The majority of the world's Great Skua population breed on Shetland, Orkney and Iceland, although the breeding range has expanded in recent years (Mitchell *et al* 2004). Great Skuas spend the winter off Atlantic coasts from the Bay of Biscay north to the Celtic Sea, including the SEA 8 area. Birds also pass through the SEA 8 area in spring and autumn on migration to and from the breeding grounds.

Distribution within SEA 8

Regular counts from land were only available from Berry Head (Devon) (Table 4.10), although much lower numbers were recorded passing several other coastal sites along the south coast. Numbers showed a peak in September and October.

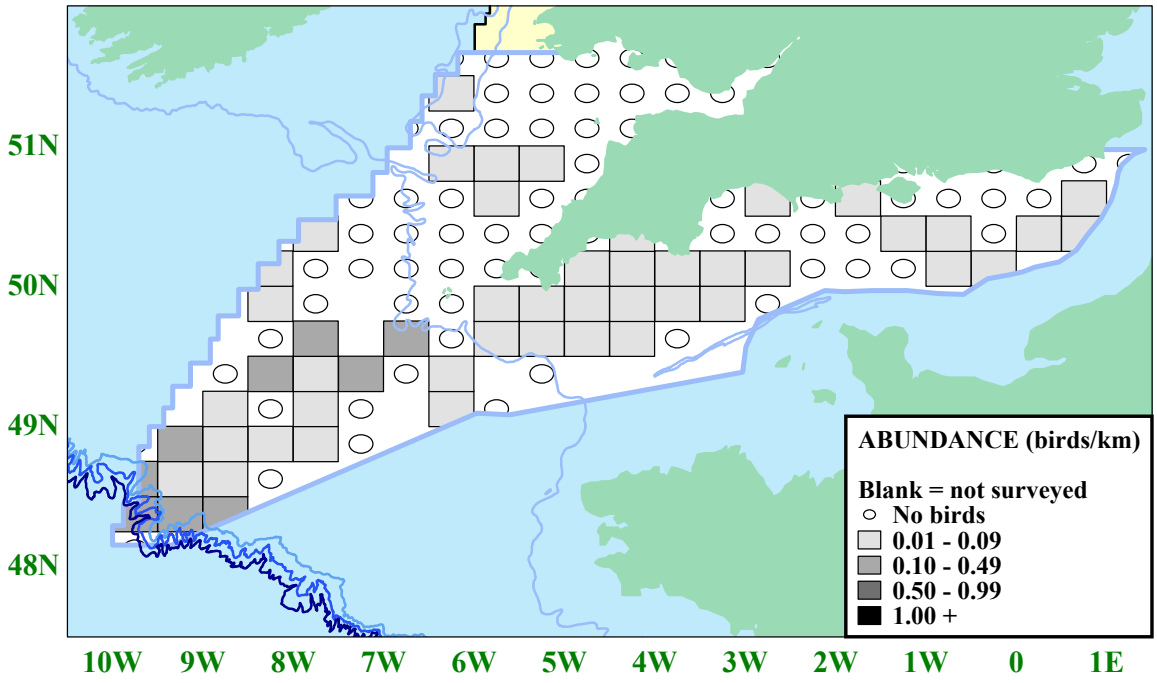
Table 4.10 Recent peak counts at main sites for Great Skuas in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Berry Head	42 [a]	25 [a]	62 [a]	26 [a]	25 [a]	**36**

1 Five year mean between 1999/00 and 2003/04, where available a Devon Bird Report

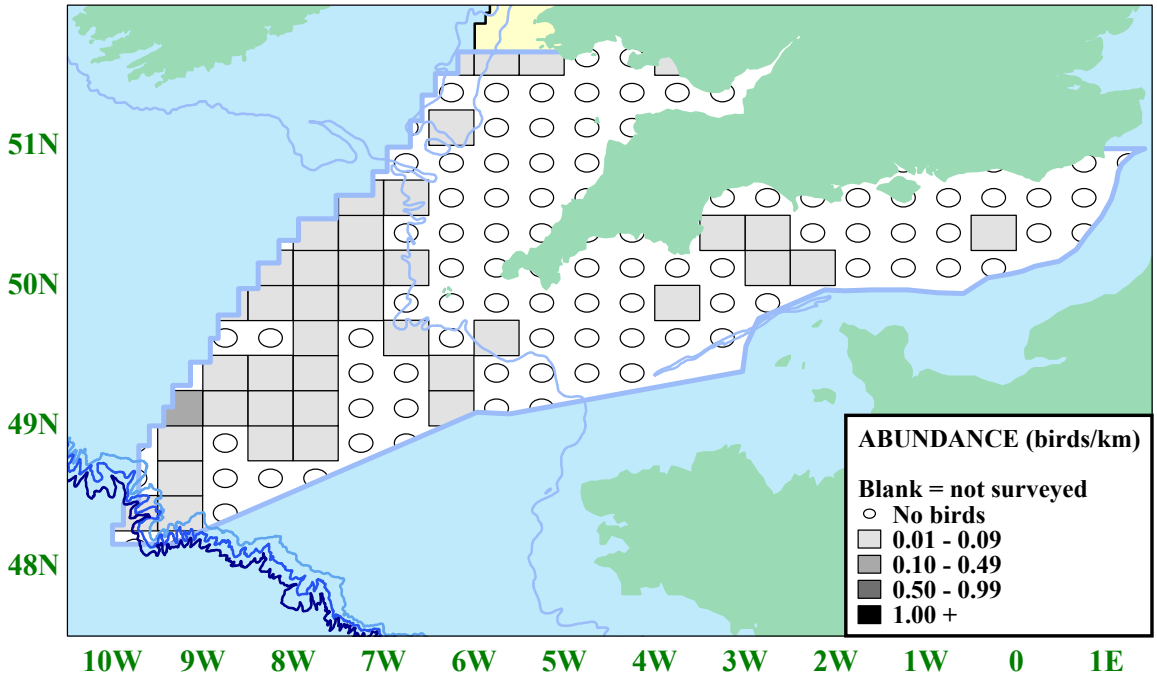
Between January and April ESAS surveys recorded Great Skuas in low numbers in the English Channel and in low to moderate numbers in the South-West Approaches. Few birds were recorded west of Cornwall at this time (Figure 4.19). Numbers recorded were lowest in January and highest in April.

Figure 4.19 Great Skua abundance in SEA 8 area between January and April



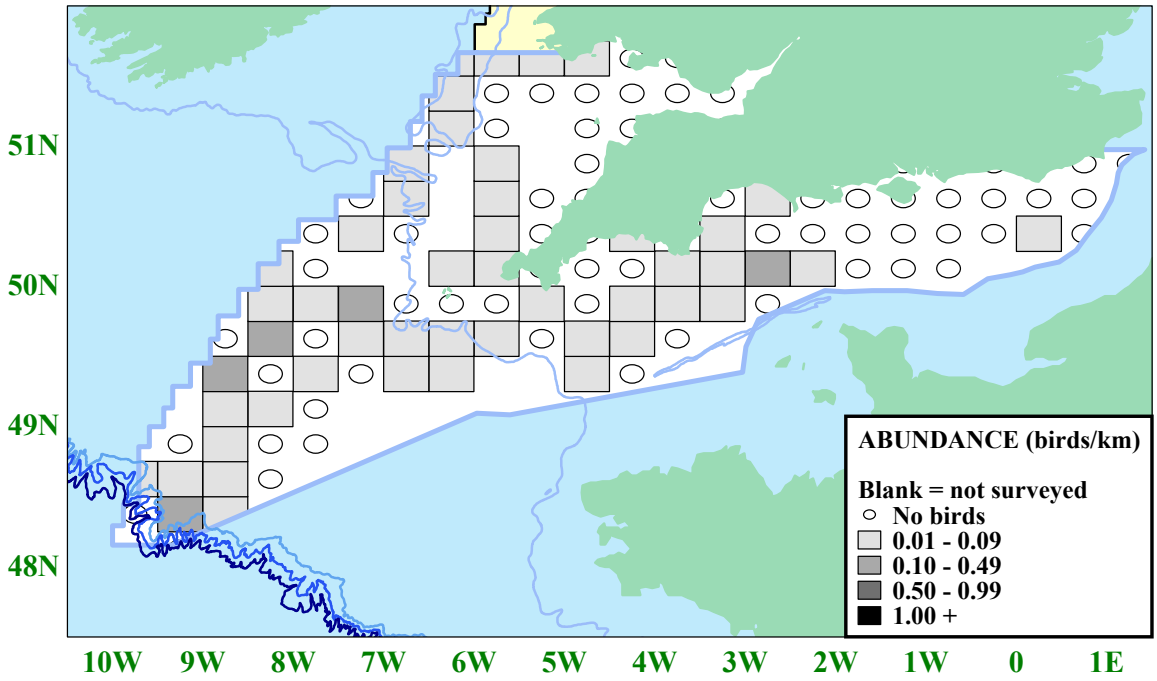
Numbers of Great Skuas recorded on ESAS surveys between May and July in the SEA 8 area were lower than previous months with the majority of birds found in the south-west of the SEA 8 area in waters greater than 100m deep (Figure 4.20).

Figure 4.20 Great Skua abundance in SEA 8 area between May and July



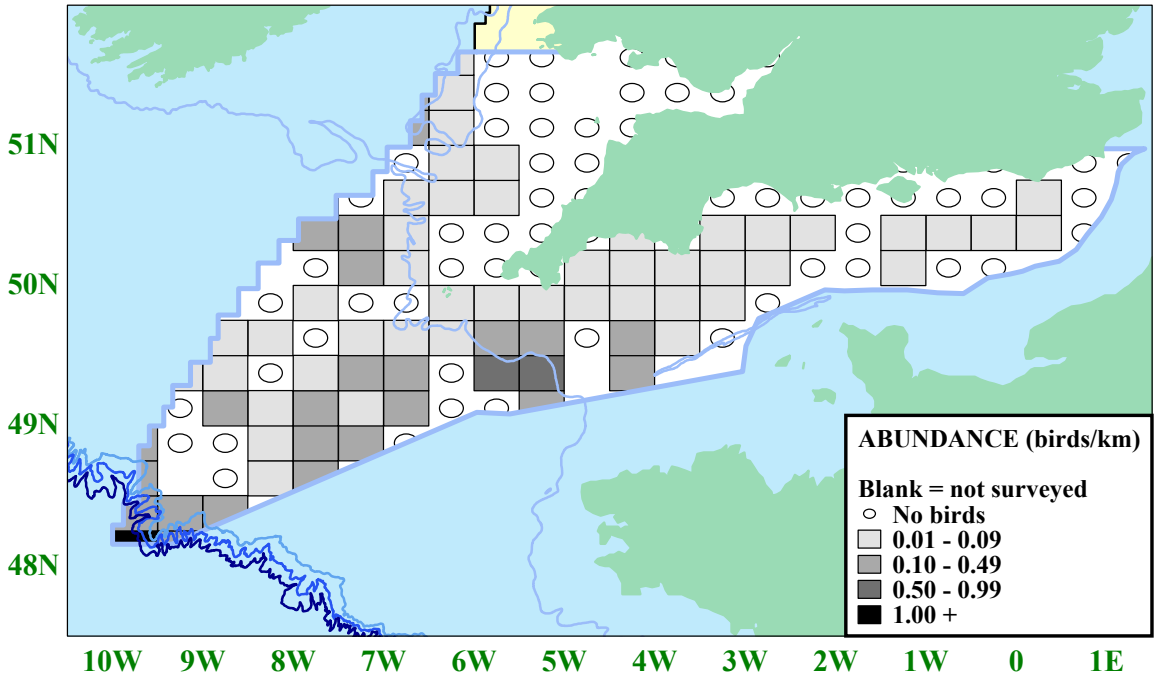
Great Skuas were more widespread in the SEA 8 area in August and September, although survey coverage was not complete at this time. Again, few birds were recorded in the east of the SEA 8 area (Figure 4.21).

Figure 4.21 Great Skua abundance in SEA 8 area between August and September



Numbers of Great Skuas seen on ESAS surveys in the SEA 8 area were highest between October and December, with a peak of 300 birds recorded in November. Birds were widespread in offshore areas of the SEA 8 area at this time, with moderate abundances recorded in the South-West Approaches, but were largely absent from coastal waters (Figure 4.22).

Figure 4.22 Great Skua abundance in SEA 8 area between October and December



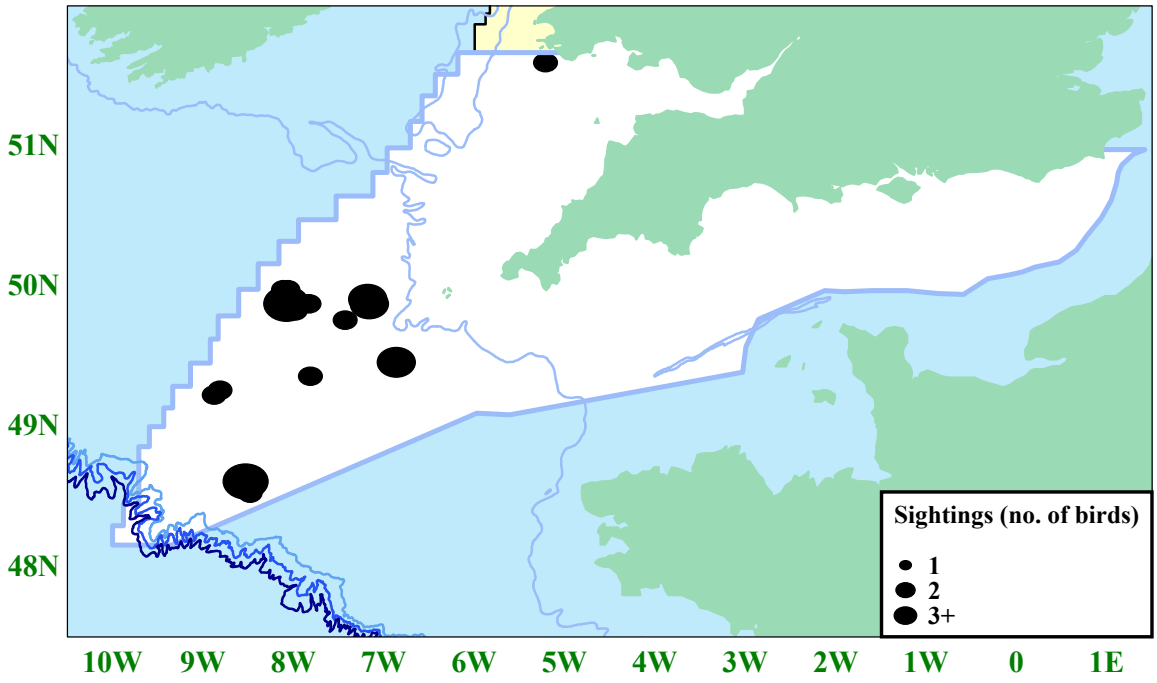
4.11 Sabine's Gull *Larus sabini*

Sabine's Gull is a pelagic seabird species that passes through the SEA 8 area in autumn on passage from Greenland south to the wintering areas off South Africa (Pollock *et al* 1997).

Distribution within SEA 8 Area

ESAS surveys recorded almost all birds in the South-West Approaches, between July and December, with most sightings in August (21 birds) (Figure 4.23).

Figure 4.23 Sabine's Gull sightings on ESAS surveys in SEA 8 area



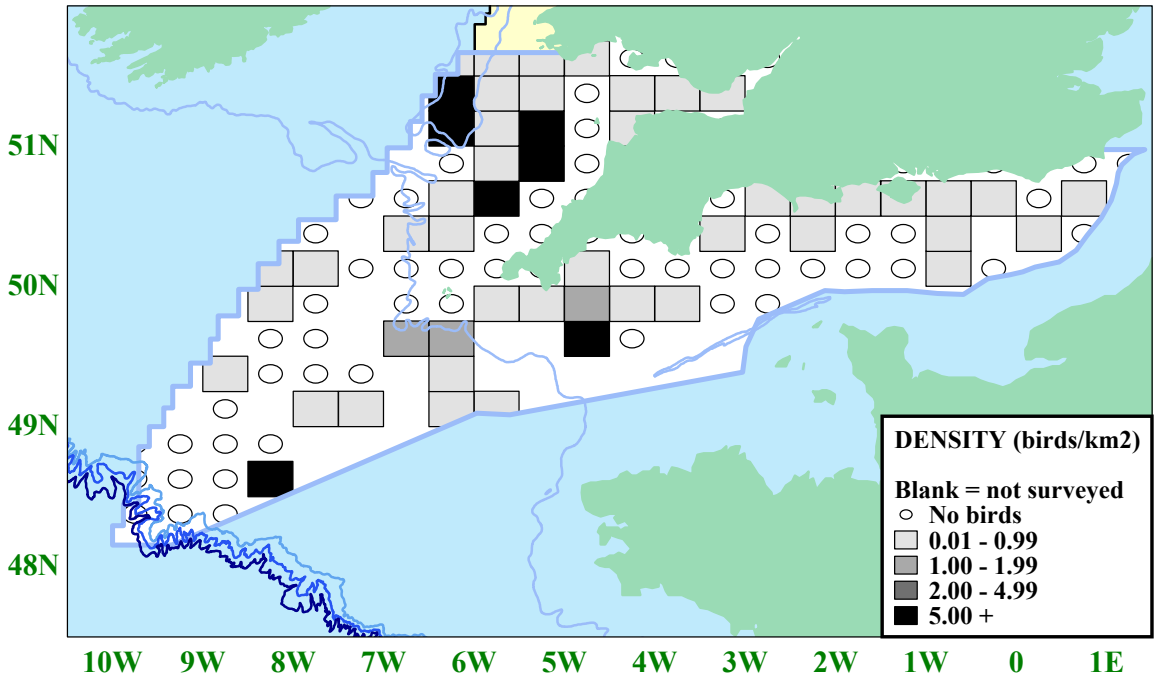
4.12 Lesser Black-backed Gull *Larus fuscus*

Lesser Black-backed Gulls were once considered a complete migrant to Britain, with only occasional birds present in winter, but increasing numbers now over-winter, predominantly in the southern half of Britain. Information on breeding birds in the SEA 8 area is shown in Barton & Pollock (2005).

Distribution within SEA 8 Area

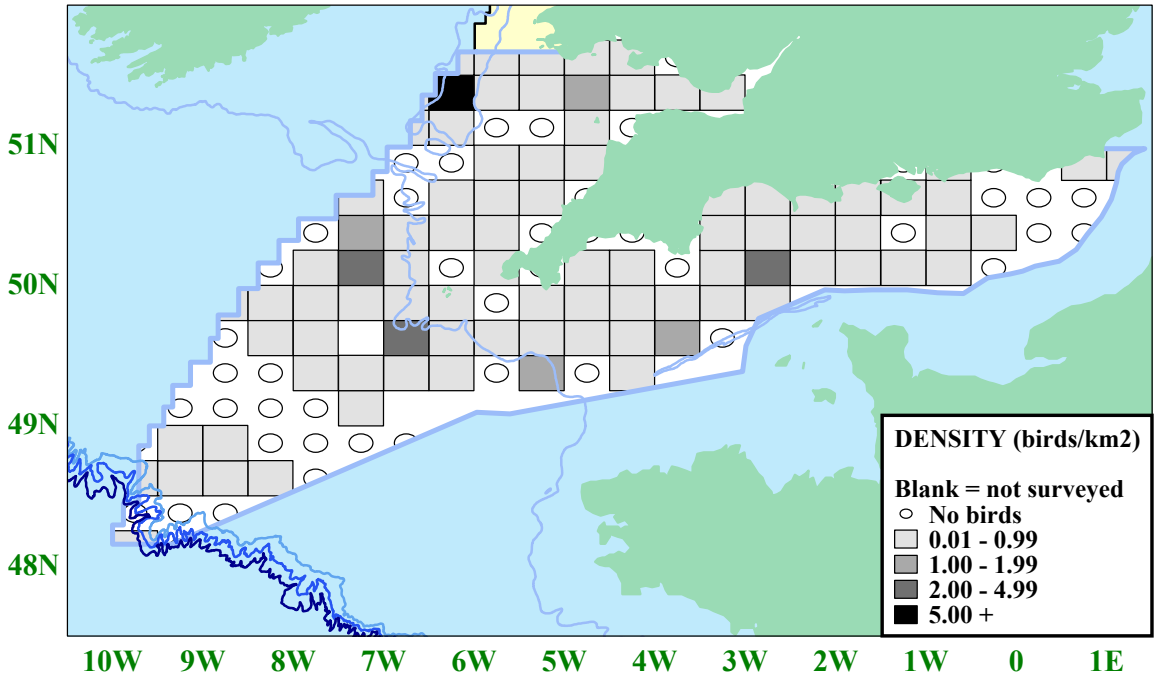
Peak numbers of Lesser Black-backed Gulls were recorded on ESAS surveys in February and March, although coverage in offshore waters was not complete (Figure 4.24). High densities were recorded in the Celtic Deep and outer Bristol Channel and south of Cornwall at this time.

Figure 4.24 Lesser Black-backed Gull density in SEA 8 area in February and March



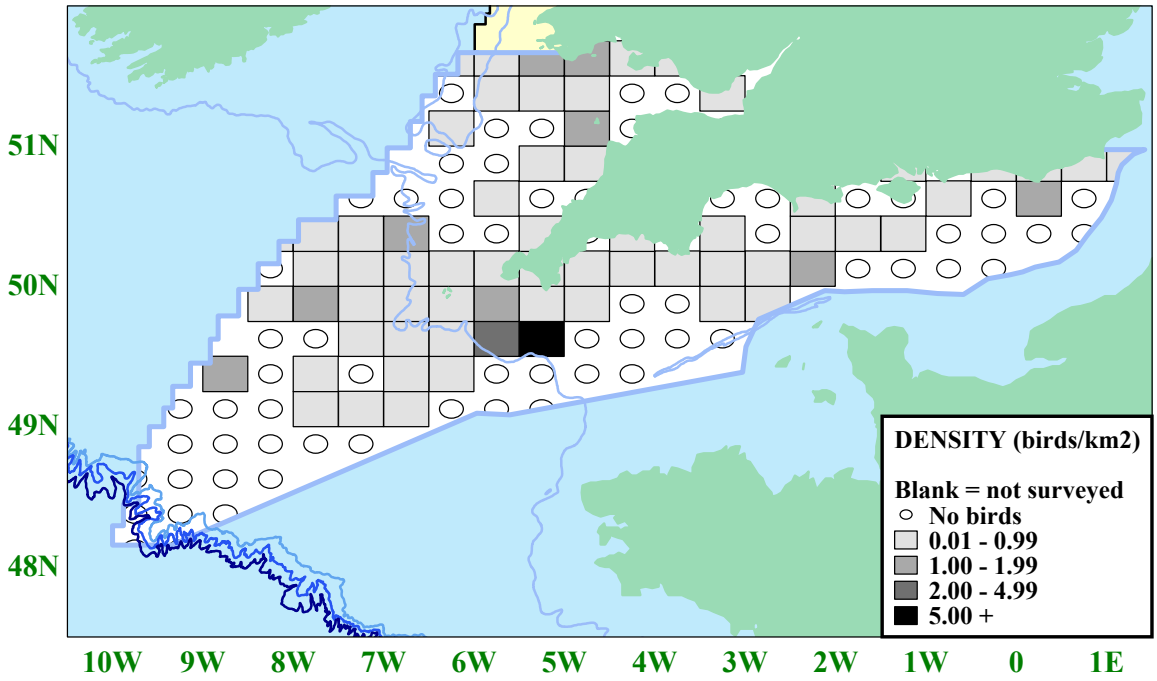
ESAS surveys found that Lesser Black-backed Gulls were widespread throughout most of the SEA 8 area between April and June, although few birds were recorded in the east and far south-west (Figure 4.25). Again high densities were recorded over the Celtic Deep.

Figure 4.25 Lesser Black-backed Gull density in SEA 8 area between April and June



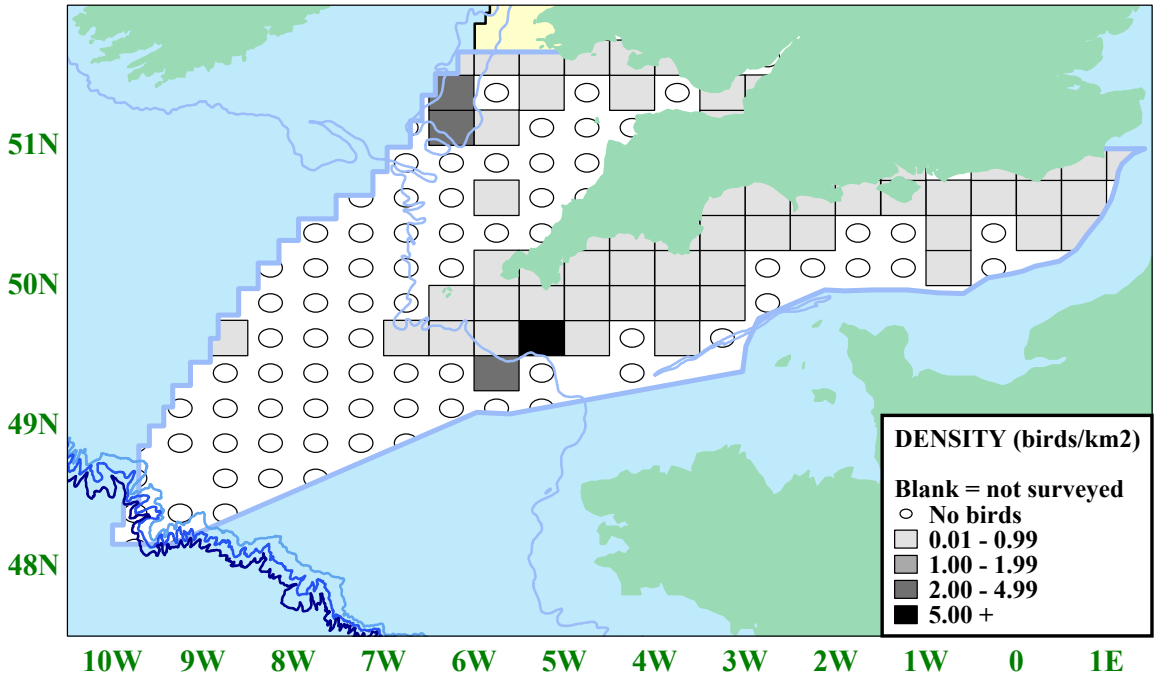
Between July and August, Lesser Black-backed Gulls were largely absent from the offshore waters in the south of the SEA 8 area, but were found in low to moderate densities closer inshore (Figure 4.26). Distribution west of Cornwall was also patchy.

Figure 4.26 Lesser Black-backed Gull density in SEA 8 area between July and August



Lesser Black-backed Gulls showed a largely inshore distribution between September and January, with few birds recorded beyond the 100 m depth contour (Figure 4.27). Lowest numbers were recorded in January, reflecting the partial migrant status of the species in the area.

Figure 4.27 Lesser Black-backed Gull density in SEA 8 area between September and January



Additional land-based counts of Lesser Black-backed Gull were available from WeBS reports and bird reports for six sites within the SEA 8 area (Table 4.11). All eight sites listed exceeded the nationally important threshold (>500 birds – Collier *et al* 2005). The five year mean for the Rhymney Estuary (Glamorgan) decreased, following inclusion of counts from 1999/00 and 2000/01, while the five year means for the Hayle and Camel Estuaries (Cornwall) both increased slightly, with the inclusion of higher counts from 2003/04. Counts from Eling (Hampshire), Cardiff Bay (Glamorgan) and Dungeness (Kent) were unavailable for previous SEA reports (Barton & Pollock 2005, 2006).

Table 4.11 Recent peak counts at main sites for Lesser Black-backed Gulls in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Severn Estuary	7,224 [a]	669 [a]	945 [a]	(3,072) [a]	6,051 [a]	**3,592**
Rhymney Estuary	2,500 [b]	150 [b]	750 [b]	2,500 [b]	1,700 [b]	**1,520**
Hayle Estuary	1,750 [c]	2,092 [c]	860 [c]	980 [c]	1,034 [c]	**1,343**
Camel Estuary	802 [c]	1,525 [c]	1,181 [c]	818 [c]	1,214 [c]	**1,108**
Eling	1,320 [d]	-	500 [d]	-	-	**910**
Cardiff Bay	594 [b]	900 [b]	1,000 [b]	1,000 [b]	472 [b]	**793**
Dungeness	-	600 [e]	-	-	900 [e]	**750**
Poole Harbour	888 [a]	565 [a]	(237) [a]	285 [a]	997 [a]	**684**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Eastern Glamorgan Bird Report c Birds in Cornwall d Hampshire Bird Report e Kent Bird Report ( ) Incomplete count

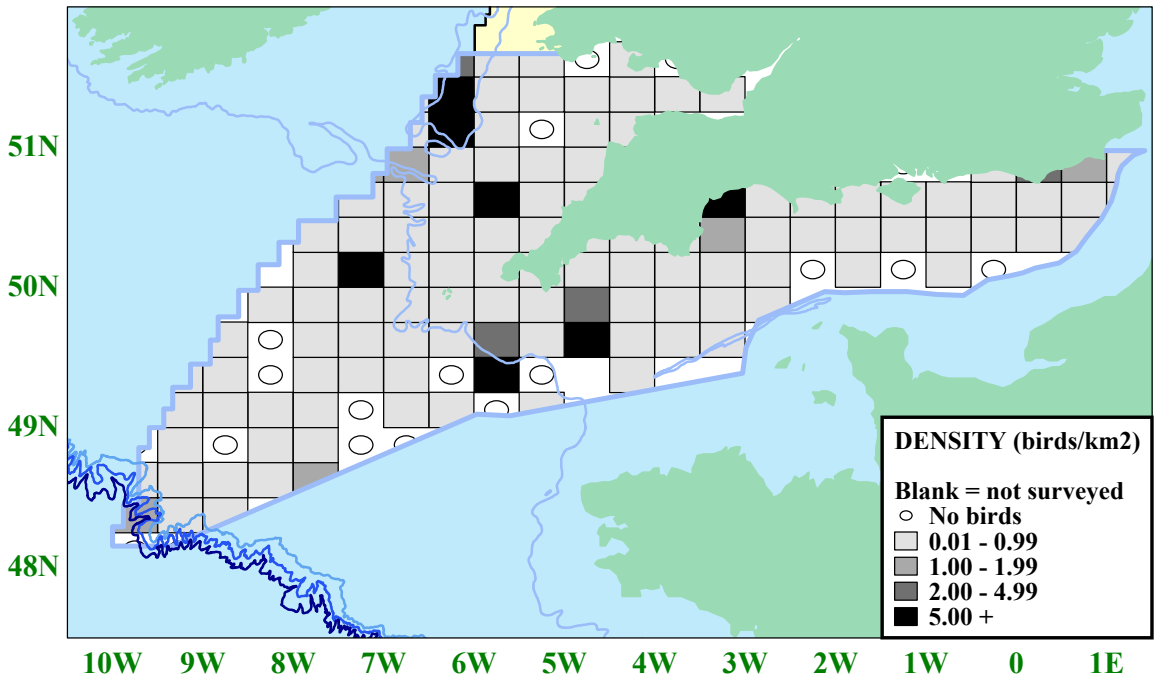
4.13 Black-legged Kittiwake *Rissa tridactyla*

Black-legged Kittiwakes are largely oceanic in nature, only coming ashore during the breeding season. Although a small proportion of birds occur around British and Irish coasts in winter, the majority of the population spends the winter in the North Atlantic and North Sea. Information on breeding birds in the SEA 8 area is shown in Barton & Pollock (2005). Black-legged Kittiwake was the second most common species in offshore waters in SEA 8.

Distribution within SEA 8 Area

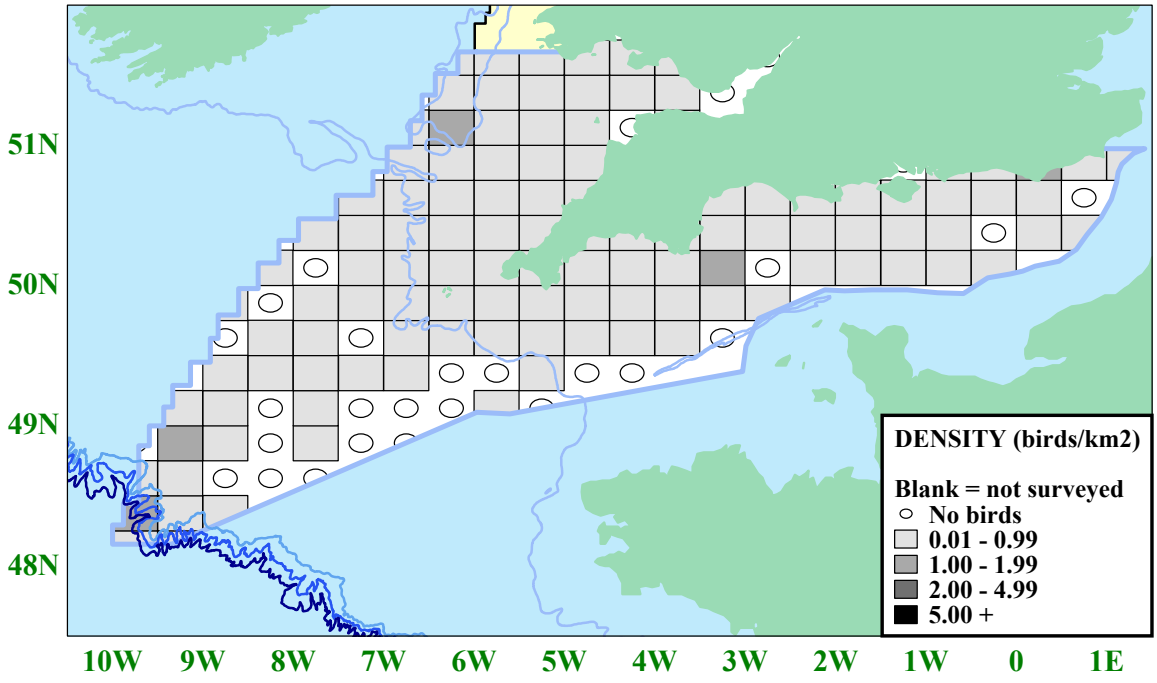
ESAS surveys recorded Black-legged Kittiwakes as widespread at predominantly low densities throughout the SEA 8 area between November and February (Figure 4.28). Occasional patches of higher densities were recorded in the Celtic Deep and off the coasts of Cornwall, south Devon and Sussex at this time.

Figure 4.28 Black-legged Kittiwake density in SEA 8 area between November and February



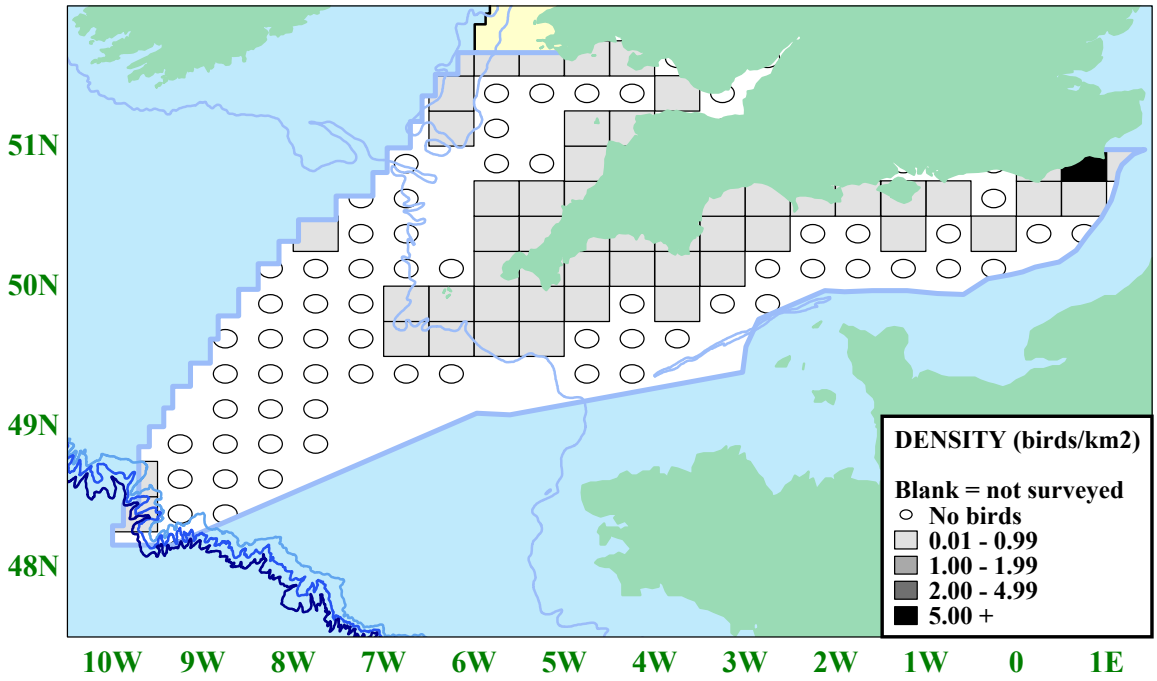
Between March and July, Black-legged Kittiwakes were widespread at low densities in the SEA 8 area, although fewer were recorded in offshore waters in the south-west at this time (Figure 4.29).

Figure 4.29 Black-legged Kittiwake density in SEA 8 area between March and July



ESAS surveys showed a mostly inshore distribution of Black-legged Kittiwakes between August and October, generally at low densities, although a high density area was recorded off the Kent coast (Figure 4.30). Very few birds were recorded beyond the 100 m depth contour at this time.

Figure 4.30 Black-legged Kittiwake density in SEA 8 area between August and October



Land-based counts for Black-legged Kittiwakes in the SEA 8 area are shown in Barton & Pollock (2005 & 2006).

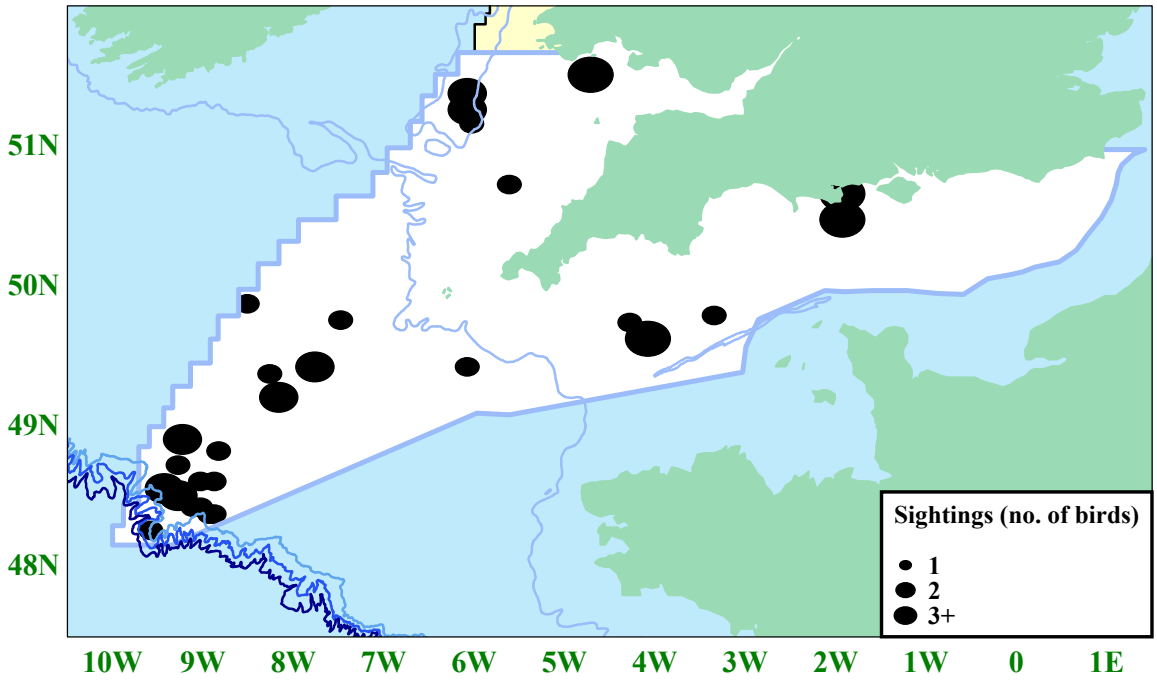
4.14 Arctic Tern *Sterna paradisaea*

Arctic Terns are the commonest tern breeding in Britain and Ireland, and have a northerly distribution. After breeding, Arctic Terns head south to Antarctic seas, moving down the west coasts of Europe and Africa and 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). This species is listed on Annex I of the EU Birds Directive (79/409/EEC).

Distribution within SEA 8 Area

Arctic Terns do not breed in the SEA 8 area but were recorded on ESAS surveys between April and August (Figure 4.31). The majority of sightings were recorded in May (40 birds), with almost half of these recorded on a survey in the South-West Approaches in May 1992.

Figure 4.31 Arctic Tern sightings on ESAS surveys in SEA 8 area



No significant additional counts from land were available for Arctic Terns.

4.15 Atlantic Puffin *Fratercula arctica*

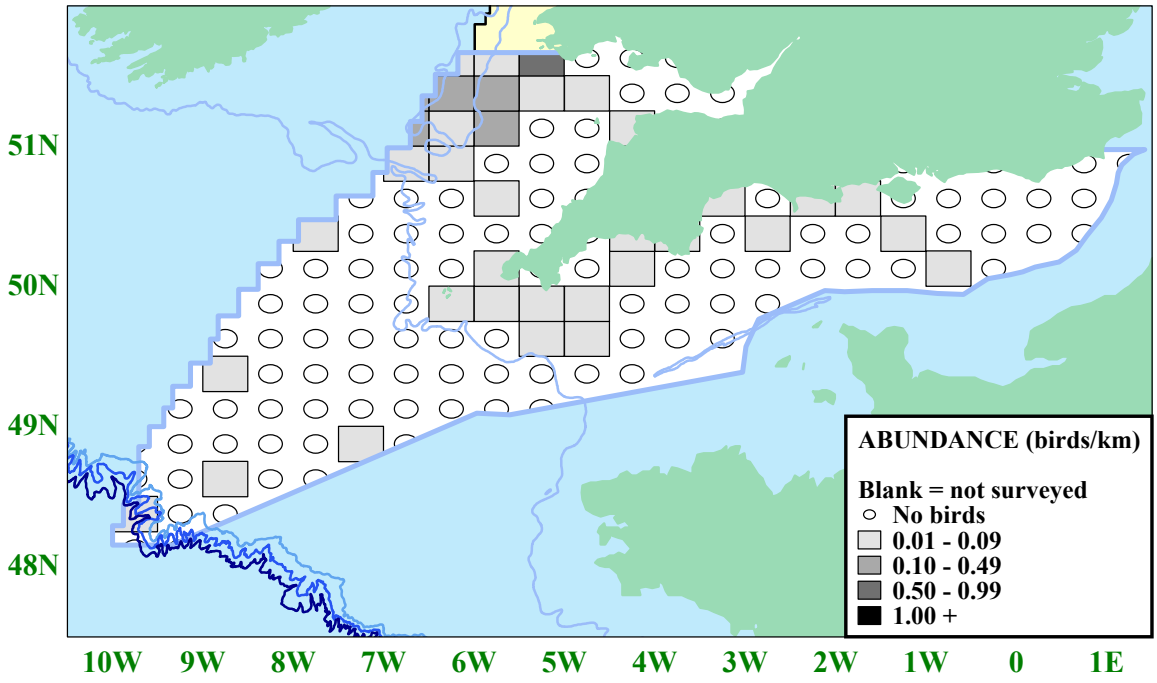
Atlantic Puffins are largely pelagic, only coming ashore to breed between March and August. The SEA 8 area contains several small scattered colonies of Atlantic Puffins. An estimated 0.04 % of the British breeding population of Atlantic Puffins are found within the SEA 8 area (JNCC, Seabird 2000 database), although two large colonies on Skomer and Skokholm, lie just outside the SEA 8 area, in SEA 6. These two colonies support 1.6 % of the British breeding population of Atlantic Puffins.

Within the SEA 8 area, Seabird 2000 recorded decreases in breeding numbers in almost all the counties where Atlantic Puffins breed e.g. Cornwall –50 %, Devon –67 %, Dorset –26 %, although numbers have increased on the Isles of Scilly, where the population has increased by 14 % (121 Apparently Occupied Burrows) since the last survey in 1985-1988 (Mitchell *et al* 2004).

Distribution within SEA 8 Area

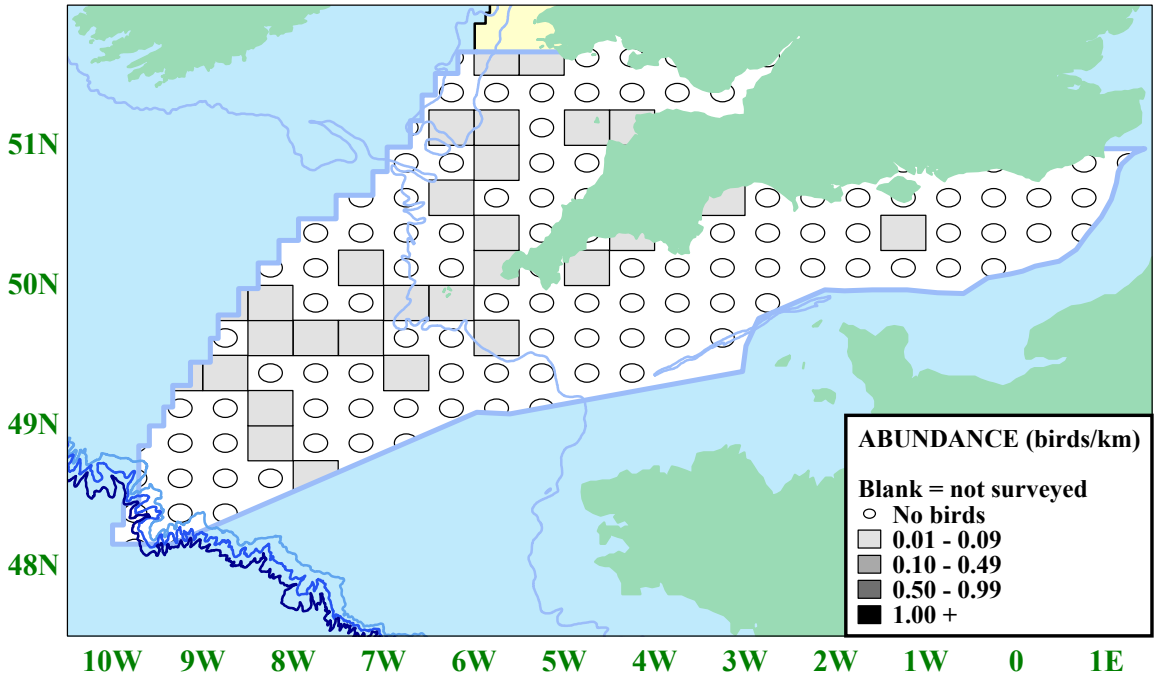
ESAS surveys recorded highest numbers of Atlantic Puffins in SEA8 during the breeding season between April and July. Moderate densities were observed in the Celtic Deep and outer Bristol Channel to the south of the major breeding colonies of Skomer and Skokholm (Figure 4.32). Elsewhere in the SEA 8 area, birds were mainly found in low numbers along the south coast of England, with very few birds in offshore waters at this time.

Figure 4.32 Atlantic Puffin sightings in SEA 8 area between April and July



Between August and March, Atlantic Puffins were recorded in low numbers predominantly in the west of the SEA 8 area. Birds were recorded further offshore than during the summer months, particularly in November (Figure 4.33).

Figure 4.33 Atlantic Puffin sightings in SEA 8 area between August and March



No significant counts from land were available for Atlantic Puffins.

5. Waders in the SEA 8 area

The following species accounts present nationally important counts of waders at sites within the SEA 8 area over the period 1999/2000 to 2003/2004. All counts are taken from WeBS reports and bird reports.

5.1 Oystercatcher *Haematopus ostralegus*

Oystercatchers are widespread and common throughout the UK. The species breeds inland and in coastal areas, while wintering birds are found almost exclusively at coastal sites. An estimated 200,000 individuals winter in Britain and Ireland, with some of these birds returning to Iceland and the Faeroes to breed, while the remainder breed in Britain and Ireland (Wernham *et al* 2002).

Distribution within SEA 8 Area

The five year mean for Oystercatchers at Carmarthen Bay (Pembrokeshire) exceeded the national importance threshold (>3,200 birds – Collier *et al* 2005) (Table 5.1). While the five year mean for Oystercatcher at the Exe Estuary (Devon) was below this threshold, some recent peak counts have exceeded it.

Table 5.1 Recent peak counts at main sites for Oystercatcher in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Carmarthen Bay	4,851 [a]	4,154 [a]	5,575 [a]	4,530 [a]	5,747 [a]	**4,971**
Exe Estuary	2,882 [b]	3,221 [b]	3,665 [b]	2,500 [b]	3,100 [b]	**3,074**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Devon Bird Report

5.2 Avocet *Recurvirostra avosetta*

Avocets have been increasing as both a breeding and a wintering species in Britain in recent years. Many British breeders move to southern Europe and Africa for the winter months, while continental birds move into Britain at this time. Avocet is listed on Annex I of the EU Birds Directive (79/409/EEC).

Distribution within SEA 8 Area

The five year mean for Poole Harbour (Dorset) exceeded the international threshold (>730 birds – Collier *et al* 2005), showing a peak between November and February (Table 5.2). This was the most important site for Avocets within the UK over the period (Collier *et al* 2005).

Recent peak counts from the Exe Estuary (Devon) and the Tamar Complex in Plymouth (Cornwall) regularly held nationally important numbers of Avocets (>35 birds – Collier *et al* 2005), with peaks between November and January.

Table 5.2 Recent peak counts at main sites for Avocet in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Poole Harbour	823 [a]	1,491 [a]	1,893 [a]	1,007 [a]	1,493 [a]	**1,341**
Exe Estuary	660 [b]	411 [b]	528 [a]	500 [b]	569 [b]	**534**
Tamar Complex	305 [b]	452 [a]	277 [a]	317 [a]	394 [a]	**349**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Devon Bird Report

5.3 Ringed Plover *Charadrius hiaticula*

Ringed Plovers are a widespread breeding species around the coastline of Britain and Ireland, and several estuaries are used as wintering sites or stopover sites during passage, by a significant proportion of the East Atlantic Flyway populations (Wernham *et al* 2002).

Distribution within SEA 8 Area

The five year mean for the Severn Estuary (Avon), Chichester Harbour (Hampshire/Sussex) and Dawlish Warren (Devon) exceeded the nationally important passage threshold (>300 birds – Collier *et al* 2005), with peaks between August and September (Table 5.3).

The five year mean for Langstone Harbour (Hampshire) exceeded the nationally important winter threshold (>330 birds – Collier *et al* 2005), with peak counts between November and January (Table 5.3).

Table 5.3 Recent peak counts at main sites for Ringed Plover in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Severn Estuary	1,050 [a]	566 [a]	681 [a]	371 [a]	595 [a]	**653**
Chichester Harbour	508 [b]	852 [b]	581 [b]	415 [b]	215 [b]	**514**
Dawlish Warren	400 [c]	500 [c]	227 [c]	350 [c]	530 [c]	**401**
Langstone Harbour	605 [a]	413 [a]	268 [a]	394 [a]	201 [a]	**376**

1 Five year mean between 1999/00 and 2003/04, where available

a Collier et al 2005 b Hampshire Bird Report c Devon Bird Report

5.4 Golden Plover *Pluvialis apricaria*

Golden Plovers breed in upland moorland areas of Britain and Ireland and some move to coastal estuaries for the winter while others migrate south to France and Spain. Breeding birds from Scandinavia and Iceland also spend the winter in Britain and Ireland (Wernham *et al* 2002). Golden Plover is listed on Annex I of the EU Birds Directive (79/409/EEC).

Distribution within SEA 8 Area

The five year mean for Carmarthen Bay (Pembrokeshire) exceeded the internationally important threshold (>9,300 birds – Collier *et al* 2005), although counts were not complete (Table 5.4).

Table 5.4 Recent peak counts at main sites for Golden Plover in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Carmarthen Bay	-	(5,001) [a]	-	-	(9,832) [a]	**(9,832)**
Taw/Torridge Estuary	3,440 [a]	(1,900) [a]	4,500 [a]	2,900 [a]	5,000 [a]	**3,970**
Camel Estuary	2,585 [b]	3,700 [b]	2,600 [b]	727 [b]	1,400 [b]	**2,202**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Birds in Cornwall

( ) Incomplete count

The five year mean for the Taw & Torridge Estuary (Devon) exceeded the nationally important threshold (>2,500 birds – Collier *et al* 2005), showing a peak between November and February.

Peak numbers recorded at the Camel Estuary (Cornwall) exceeded the nationally important threshold in January 2000, February 2001 and December 2001, but the five year mean was below this threshold.

5.5 Grey Plover *Pluvialis squatarola*

Grey Plovers breed in the high Arctic regions of Russia and North America, occurring in Britain and Ireland as both passage migrants and winter visitors. Numbers of Grey Plovers wintering in Britain have increased considerably in recent years, predominantly in coastal areas of the south-east of England (Wernham *et al* 2002).

Distribution within SEA 8 Area

The five year means for Langstone Harbour (Hampshire), Chichester Harbour (Hampshire/Sussex) and Pagham Harbour (Sussex) exceeded the nationally important threshold (>530 birds – Collier *et al* 2005), with most peak counts recorded between November and February (Table 5.5).

Peak counts from Beaulieu Estuary (Hampshire) also exceeded this threshold between 1999 – 2002, but numbers decreased between 2002 and 2004, so this site no longer qualifies as nationally important for this species.

Table 5.5 Recent peak counts at main sites for Grey Plover in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Chichester Harbour	2,145 [a]	2,180 [a]	3,180 [a]	1,700 [a]	1,515 [a]	**2,144**
Langstone Harbour	1,454 [a]	1,405 [a]	1,250 [b]	982 [a]	1,119 [a]	**1,242**
Pagham Harbour	1,139 [a]	979 [a]	713 [a]	704 [a]	1,348 [a]	**977**
Beaulieu Estuary	600 [a]	600 [a]	708 [a]	188 [a]	130 [a]	**445**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Hampshire Bird Report

5.6 Sanderling *Calidris alba*

Sanderling breed in the Arctic tundra of North America, Greenland, Siberia and Svalbard. Britain and Ireland are important for both passage migrants and winter visitors, with birds moving from the high arctic breeding grounds through Iceland, the Baltic and North Sea countries to Britain from July onwards. In winter, Sanderling are found from Britain south to the southern tip of Africa (Wernham *et al* 2002).

Distribution within SEA 8 Area

The five year mean for Carmarthen Bay (Pembrokeshire) was just below the internationally important threshold (>1,200 birds – Collier *et al* 2005), although peak counts exceeded this threshold in 2 seasons (Table 5.6).

Peak counts from Swansea Bay (Pembrokeshire) and Lade Sands (Kent) exceeded the nationally important threshold (>210 birds – Collier *et al* 2005), with peak numbers occurring between November and March.

Table 5.6 Recent peak counts at main sites for Sanderling in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Carmarthen Bay	592 [a]	730 [a]	1,600 [a]	1,770 [a]	833 [a]	**1,105**
Swansea Bay	235 [a]	234 [a]	356 [a]	410 [a]	200 [a]	**287**
Lade Sands	330 [a]	320 [a]	236 [a]	140 [a]	118 [a]	**229**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005

5.7 Dunlin *Calidris alpina*

Three races of Dunlin regularly occur in Britain. The majority of the wintering population is of the nominate *alpina* race, with birds of the *arctica* and *schinzii* races occurring on passage, although some *schinzii* also breed in Britain. The *schinzii* race of Dunlin is listed on Annex I of the EU Birds Directive (79/409/EEC). Less than 10,000 pairs are thought to breed on moorland areas in the north and west of Britain and Ireland, while more than half a million Dunlin occur in coastal areas outside of the breeding season (Wernham *et al* 2002).

Distribution within SEA 8 Area

The five year means for the Severn Estuary (Avon), Langstone Harbour (Hampshire) and Chichester Harbour (Hampshire/Sussex) exceeded the internationally important threshold (>13,300 birds – Collier *et al* 2005), with peak numbers occurring between November and February (Table 5.7).

Peak counts from Poole Harbour (Dorset) exceeded the nationally important winter threshold (>5,600 birds – Collier *et al* 2005), with peak numbers occurring between December and February. The five year mean for the Exe Estuary was just below the nationally important threshold but peak counts exceeded this threshold in 2 seasons.

Table 5.7 Recent peak counts at main sites for Dunlin in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Severn Estuary	(20,700)[a]	(17,417)[a]	20,401 [a]	25,734 [a]	23,801 [a]	**23,312**
Langstone Harbour	24,090 [a]	23,790 [a]	20,880 [b]	17,320 [a]	24,286 [a]	**22,073**
Chichester Harbour	(16,680)[a]	16,773 [a]	17,947 [a]	15,661 [a]	12,552 [a]	**15,923**
Poole Harbour	6,693 [a]	4,852 [a]	6,929 [a]	6,323 [a]	(5,463) [a]	**6,199**
Exe Estuary	4,106 [c]	4,582 [c]	5,780 [c]	4,400 [c]	7,000 [c]	**5,182**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Hampshire Bird Report

c Devon Bird Report ( ) Incomplete count

5.8 Black-tailed Godwit *Limosa limosa*

Black-tailed Godwits are common in Britain and Ireland in the non-breeding season, but there is only a small breeding population. The majority of the British and Irish wintering population is made up of the *islandica* subspecies, which breeds mainly in Iceland (Wernham *et al* 2002).

Distribution within SEA 8 Area

The five year means for the top seven sites listed in Table 5.8 exceeded the internationally important threshold (>350 birds – Collier *et al* 2005), with peak numbers occurring between August and March.

The five year mean for Portsmouth Harbour (Hampshire) exceeded the nationally important threshold (>150 birds - Collier *et al* 2005), peaking between September and December. The five year mean for the Severn Estuary was below the nationally important threshold but peak counts exceeded this threshold in the two most recent seasons.

Table 5.8 Recent peak counts at main sites for Black-tailed Godwit in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Poole Harbour	2,051 [a]	1,134 [a]	2,115 [a]	2,691 [a]	2,133 [a]	**2,025**
Exe Estuary	1,113 [a]	880 [a]	737 [a]	940 [b]	1,079 [a]	**950**
Chichester Harbour	579 [c]	296 [c]	552 [a]	715 [a]	1,053 [c]	**639**
Langstone Harbour	680 [c]	296 [c]	820 [c]	670 [c]	595 [a]	**612**
Southampton Water	522 [a]	1,265 [a]	(358) [a]	196 [a]	(434) [a]	**661**
Pagham Harbour	182 [a]	248 [a]	252 [a]	826 [a]	541 [a]	**410**
NW Solent	(231) [a]	323 [a]	452 [a]	(261) [a]	373 [a]	**383**
Portsmouth Harbour	395 [c]	368 [c]	111 [c]	246 [a]	211 [a]	**266**
Severn Estuary	35 [a]	5 [a]	141 [a]	193 [a]	200 [a]	**115**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Devon Bird Report
c Hampshire Bird Report ( ) Incomplete count

5.9 Bar-tailed Godwit *Limosa lapponica*

Bar-tailed Godwits do not breed in Britain and Ireland but occur in large numbers on estuaries outside the breeding season. Ringing recoveries have indicated that birds from breeding populations in northern Scandinavia, western Russia and central Siberia pass through Britain and Ireland (Wernham *et al* 2002). This specis is listed on Annex I of the EU Birds Directive (79/409/EEC).

Distribution within SEA 8 Area

The five year means for Brighton Marina (Sussex) and Chichester Harbour (Hampshire/Sussex) exceeded the nationally important threshold (>620 birds - Collier *et al* 2005) (Table 5.9). The numbers recorded at Brighton Marina in April and May were passage birds heading east, with the peak day counts of 1,905 birds on 2nd May 2000 and 1,323 birds on 22nd April 2001 exceeding the

internationally important threshold (>1,200 birds - Collier *et al* 2005). Counts from Chichester Harbour were winter WeBS counts, peaking between December and March.

The five year mean for Dungeness (Kent) was below the nationally important threshold but peak day counts of birds moving east exceeded this threshold in two seasons. Numbers at Pilsey Sands (Sussex) were also below this threshold but occasionally exceeded it in December and January.

Table 5.9 Recent peak counts at main sites for Bar-tailed Godwit in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Brighton Marina	1,905 [a]	1,323 [a]	610 [a]	1,093 [a]	50 [a]	**996**
Chichester Harbour	462 [b]	925 [b]	910 [b]	930 [c]	910 [b]	**828**
Dungeness	1,100 [d]	840 [d]	250 [d]	275 [d]	-	**616**
Pilsey Sands	380 [a]	400 [a]	968 [a]	360 [a]	850 [a]	**592**

1 Five year mean between 1999/00 and 2003/04, where available a Sussex Bird Report b Collier et al 2005
c Hampshire Bird Report d Kent Bird Report

5.10 Whimbrel *Numenius phaeopus*

A small population of Whimbrels breed in the far north of Britain but the majority of birds that occur in Britain and Ireland are passage birds moving between their breeding grounds in Iceland, Scandinavia and western Siberia, and the main wintering areas in West Africa (Collier *et al* 2005).

Distribution within SEA 8 Area

As no nationally important threshold has been set for Whimbrel, Table 5.10 shows sites in the SEA 8 area where the five year mean exceeded 200 birds. The highest count was of 1,267 birds flying east past Hurst (Sussex) in April 2003, while lower numbers of birds heading east was recorded in spring from other sites such as Brighton Marina and Dungeness. All counts were recorded in April or May.

Table 5.10 Recent peak counts at main sites for Whimbrel in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Hurst	-	165 [a]	-	1,267 [a]	85 [a]	**506**
Rye Harbour	330 [b]	300 [b]	285 [b]	353 [b]	214 [b]	**296**
St Austell Bay	165 [c]	55 [c]	-	650 [c]	180 [c]	**263**
Exe Estuary	115 [d]	287 [d]	171 [d]	400 [d]	134 [e]	**221**
Brighton Marina	169 [b]	323 [b]	158 [b]	298 [b]	140 [b]	**218**
Dungeness	47 [f]	506 [f]	138 [f]	130 [f]	-	**205**
Newhaven	201 [b]	-	-	-	-	**201**

1 Five year mean between 1999/00 and 2003/04, where available a Hampshire Bird Report b Sussex Bird Report
c Birds in Cornwall d Devon Bird Report e Collier et al 2005 f Kent Bird Report

5.11 Curlew *Numenius arquata*

The breeding population of Curlews in Britain and Ireland is still widespread over upland areas of moorland and rough grazing, despite some recent declines. Their winter distribution is predominantly coastal, with concentrations around the major estuaries. Most birds breeding in Britain move south-west in autumn to the west coast of Britain or into Ireland, with birds from further north and east arriving along the east coast of Britain at this time (Wernham *et al* 2002).

Distribution within SEA 8 Area

Within the SEA 8 area, the five year mean for four sites exceeded the nationally important threshold (>1,500 birds – Collier *et al* 2005) (Table 5.11). Counts for the Severn Estuary (Avon) were incomplete but were considerably higher than the other sites, peaking between September and November. Numbers at Chichester Harbour (Hampshire/Sussex) peaked mainly between July and August, while counts at Langstone Harbour (Hampshire) peaked in September, and counts at Poole Harbour (Dorset) peaked in January and February. Peak numbers at the Exe Estuary (Devon) exceeded the nationally important threshold in two seasons.

Table 5.11 Recent peak counts at main sites for Curlew in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Severn Estuary	(2,190) [a]	(1,695) [a]	(2,164) [a]	3,615 [a]	2,898 [a]	**3,702**
Chichester Harbour	1,923 [b]	1,876 [c]	1,743 [b]	1,764 [c]	1,670 [a]	**1,795**
Langstone Harbour	1,615 [b]	1,728 [b]	1,703 [b]	1,817 [b]	1,500 [b]	**1,673**
Poole Harbour	1,712 [a]	1,484 [a]	1,577 [a]	1,605 [a]	1,427 [a]	**1,561**
Exe Estuary	1,203 [d]	1,557 [d]	1,667 [d]	1,352 [d]	1,299 [d]	**1,416**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Hampshire Bird Report c Sussex Bird Report d Devon Bird Report ( ) Incomplete count

5.12 Redshank *Tringa totanus*

Redshank is a common wader throughout Britain and Ireland, and much of the breeding population over-winters, joined by large numbers of Icelandic birds and some from Europe. Larger numbers of European breeding birds occur during passage (Wernham *et al* 2002).

Distribution within SEA 8 Area

Within the SEA 8 area, two sites regularly held internationally important numbers of Redshank (> 1,300 birds – Collier *et al* 2005) (Table 5.12). Peak counts from the Severn Estuary (Avon) were not complete but showed a peak between November and February, while numbers in Chichester Harbour (Hampshire/Sussex) peaked predominantly in September and October.

Table 5.12 Recent peak counts at main sites for Redshank in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Severn Estuary	(1,254) [a]	(1,528) [a]	2,616 [a]	2,439 [a]	(1,865) [a]	**2,528**
Chichester Harbour	1,422 [b]	2,607 [b]	2,422 [a]	1,911 [b]	2,450 [a]	**2,162**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Hampshire Bird Report ( ) Incomplete count

5.13 Greenshank *Tringa nebularia*

In Britain, the breeding population of Greenshank is almost totally restricted to upland areas of north-west Scotland. The species is however common on both spring and autumn passage, and several hundred birds also over-winter in Britain and Ireland, mainly in the south west of England and in Ireland (Wernham *et al* 2002).

Distribution within SEA 8 Area

Within the SEA 8 area, several sites regularly held nationally important numbers of Greenshank (> 6 birds – Collier *et al* 2005) (Table 5.13). Chichester Harbour (Hampshire/Sussex) was the most important site, with numbers showing a peak between July and September. Langstone Harbour (Hampshire) and the Exe Estuary (Devon) also held good numbers at this time of year, with other sites holding fewer birds.

Table 5.13 Recent peak counts at main sites for Greenshank in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Chichester Harbour	337 [a]	192 [a]	156 [a]	191 [a]	179 [a]	**211**
Langstone Harbour	54 [b]	70 [b]	70 [b]	60 [b]	52 [b]	**61**
Exe Estuary	55 [c]	55 [c]	60 [c]	57 [c]	72 [a]	**60**
Tamar Complex	46 [c]	48 [c]	37 [c]	37 [c]	57 [a]	**45**
Taw Estuary	89 [c]	31 [c]	24 [c]	37 [c]	31 [c]	**42**
Kingsbridge Estuary	26 [c]	32 [c]	36 [c]	41 [c]	36 [c]	**34**
Fal Complex	(23) [a]	26 [a]	26 [a]	27 [a]	32 [a]	**28**
Dungeness	24 [d]	25 [d]	45 [d]	3 [d]	30 [d]	**25**
Pagham Harbour	-	22 [e]	19 [e]	29 [e]	-	**23**
Yealm Estuary	18 [c]	13 [c]	27 [c]	20 [c]	28 [c]	**21**
Poole Harbour	10 [a]	50 [a]	6 [a]	11 [a]	(6) [a]	**19**
Camel Estuary	(2) [a]	9 [a]	(6) [a]	17 [a]	17 [a]	**14**
Southampton Water	7 [a]	8 [a]	15 [a]	13 [a]	19 [a]	**12**
Christchurch Harbour	10 [f]	15 [f]	30 [f]	8 [f]	4 [f]	**13**
North West Solent	10 [a]	8 [a]	11 [a]	(5) [a]	11 [a]	**10**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Hampshire Bird Report
c Devon Bird Report d Kent Bird Report e Sussex Bird Report f Dorset Bird Report ( ) Incomplete count

6. Additional information on inshore species

Additional data from WeBS reports and other bird reports was available for 19 inshore seabird species reviewed in previous SEA reports (Barton & Pollock 2005, Barton & Pollock 2006). The tables in the following species accounts have been updated to reflect the new data. For further species information refer to Barton & Pollock (2005 & 2006).

6.1 Red-throated Diver *Gavia stellata*

Distribution within SEA 8 Area

Counts of Red-throated Diver from several sites in Kent were not previously available and have been included here along with data for the other nationally important sites for Red-throated Divers within the SEA 8 area (>49 birds – Collier *et al* 2005) (Table 6.1).

Large numbers were regularly recorded at Dungeness (Kent) and nearby Rye Harbour (Sussex) with the highest 5 year mean count at Dungeness. Numbers here and at nearby Lade Sands fluctuated considerably between years but tended to be highest between January and March.

The largest movement of birds recorded was 835 flying west offshore in Rye Bay (Sussex) on 14th January 2002. These birds were dispersing from a large flock and it was thought that the movement was localised and probably food related (James *et al* 2003b).

Numbers at Brighton Marina (Sussex) were recorded on spring passage. Counts from Hartland Point (Devon) showed a slight decrease from previous years, resulting in a lower five year mean.

Table 6.1 Recent peak counts at main sites for Red-throated Diver in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Dungeness	168 [a]	446 [a]	344 [a]	570 [a]	231 [a]	**352**
Rye Bay	45 [a]	-	835	70	-	**317**
Lade Sands	100 [b]	0 [b]	800 [b]	100 [b]	10 [b]	**202**
Brighton Marina	136 [c]	189 [c]	125 [c]	245 [c]	90 [c]	**157**
Hartland Point	120 [d]	100 [d]	120 [d]	50 [d]	32 [d]	**84**
Church Norton	68 [a]	-	-	-	-	**68**

1 Five year mean between 1999/00 and 2003/04, where available a Kent Bird Report b Collier et al 2005

c Sussex Bird Report d Devon Bird Report

ESAS surveys

ESAS data for Red-throated Divers in the SEA 8 area is shown in Barton & Pollock (2005).

6.2 Black-throated Diver *Gavia arctica*

Distribution within SEA 8 Area

Additional counts were available for Veryan Bay and Mount's Bay in Cornwall, Dungeness in Kent and Portland Harbour in Dorset (Table 6.2). The south Cornwall coast remained a stronghold for this species in winter, with the majority of nationally important sites (>7 birds – Collier *et al* 2005) in the SEA 8 area here. Birds recorded past Dungeness were heading east on spring passage.

Table 6.2 Recent peak counts at main sites for Black-throated Diver in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Veryan Bay	100 [a]	55 [a]	38 [a]	60 [a]	63 [a]	**63**
Gerrans Bay	125 [a]	43 [a]	33 [a]	53 [a]	37 [a]	**58**
Mevagissey Bay	-	-	35 [a]	-	-	**35**
St Austell Bay	20 [a]	-	14 [a]	-	45 [a]	**26**
Falmouth Bay	-	10 [a]	30 [a]	-	-	**20**
Dungeness	14 [b]	25 [b]	13 [b]	19 [b]	-	**18**
Brighton Marina	14 [c]	32 [c]	8 [c]	23 [c]	10 [c]	**17**
Porthgwarra	-	17 [a]	8 [a]	-	-	**13**
Mount's Bay	8 [a]	12 [a]	10 [a]	10 [a]	4 [a]	**9**
Torbay	-	-	9 [d]	-	-	**9**
Portland Harbour	8 [e]	3 [e]	14 [e]	8 [e]	-	**8**
Poole Harbour	-	7 [f]	-	-	-	**7**

1 Five year mean between 1999/00 and 2003/04, where available a Birds in Cornwall b Kent Bird Report
c Sussex Bird Report d Devon Bird Report e Dorset Bird Report f Collier et al 2005

Movements of Black-throated Divers were also recorded from regular vantage points along the south coast of England. While peak spring passage counts for Brighton Marina (Sussex) are shown in Table 6.2, total monthly counts from the main seawatching sites in Sussex showed a peak in April, with a 5 year mean of 68 birds per month (Paul *et al* 2005).

ESAS surveys

ESAS data for Black-throated Divers in the SEA 8 area is shown in Barton & Pollock (2005).

6.3 Great Crested Grebe *Podiceps cristatus*

Distribution within SEA 8 Area

Additional counts were available for Lade Sands and nearby Dungeness in Kent (Table 6.3). Based on the five year mean, Lade Sands is the most important British site for this species (Collier *et al* 2005), with numbers considerably above the nationally important threshold (>159 birds – Collier *et al* 2005). Peak numbers occurred in January and February.

Table 6.3 Recent peak counts at main sites for Great Crested Grebe in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Lade Sands	1,100 [a]	1,012 [a]	755 [a]	1,600 [a]	1,080 [a]	**1,109**
Dungeness	400 [b]	350 [b]	930 [b]	1,050 [b]	-	**683**
Pett Levels shore	266 [c]	165 [c]	500 [c]	454 [c]	350 [c]	**347**
Goring Beach	-	-	214 [c]	-	-	**214**
Langstone Harbour	144 [d]	178 [d]	182 [d]	112 [d]	134 [d]	**150**
Poole Harbour	76 [a]	151 [a]	171 [a]	127 [a]	202 [a]	**145**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Kent Bird Report
c Sussex Bird Report d Hampshire Bird Report

ESAS surveys

ESAS data for Great Crested Grebes in the SEA 8 area is shown in Barton & Pollock (2005).

6.4 Slavonian Grebe *Podiceps auritus*

Distribution within SEA 8 Area

Additional counts were available for twelve sites in the SEA 8 area (Table 6.4). The five year mean for the Pagham Harbour area, (including Church Norton and Selsey Bill) in Sussex exceeded the internationally important threshold for Slavonian Grebe (>35 birds – Collier *et al* 2005), with peak numbers in February and March.

A further thirteen sites in the SEA 8 area regularly held nationally important numbers of Slavonian Grebes (>7 birds – Collier *et al* 2005). Peak counts from the 2003/04 season were available for several of these sites.

Recent counts from the Camel Estuary in Cornwall, Start Bay in Devon and Poole Harbour in Dorset no longer qualified as nationally important, based on the five year mean.

ESAS surveys

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

Table 6.4 Recent peak counts at main sites for Slavonian Grebe in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Pagham Harbour	60 [a]	31 [a]	54 [a]	15 [a]	37 [a]	**39**
St Austell Bay	51 [c]	14 [c]	9 [c]	15 [c]	8 [c]	**19**
Gerrans Bay	14 [c]	21 [c]	11 [c]	8 [c]	24 [c]	**16**
Seaton/Downderry	14 [c]	-	-	-	-	**14**
Dawlish Warren	15 [d]	18 [d]	12 [d]	11 [d]	7 [d]	**13**
Whitsand Bay	14 [c]	14 [c]	13 [c]	10 [c]	16 [c]	**13**
Exe Estuary/ Dawlish Bay	15 [e]	18 [e]	12 [e]	11 [e]	7 [e]	**13**
Langstone Harbour	-	9 [f]	10 [f]	-	-	**10**
Lymington/Hurst	8 [f]	13 [f]	10 [f]	9 [f]	-	**10**
Black Point/ Hayling Bay	9 [f]	10 [f]	8 [f]	6 [f]	11 [f]	**9**
Portland Harbour	15 [e]	10 [e]	7 [e]	8 [e]	6 [e]	**9**
NW Solent	8 [b]	8 [b]	10 [b]	(4) [b]	5 [b]	**8**
Chichester Harbour	2 [b]	11 [b]	-	-	-	**7**
Studland Bay	10 [e]	5 [e]	7 [e]	6 [e]	5 [e]	**7**
Camel Estuary	7 [c]	8 [c]	4 [c]	5 [c]	4 [c]	**6**
Start Bay	9 [d]	7 [d]	3 [d]	3 [d]	-	**6**
Poole Harbour	3 [e]	7 [e]	5 [e]	7 [e]	4 [e]	**5**

1 Five year mean between 1999/00 and 2003/04, where available a Sussex Bird Report b Collier et al 2005
c Birds in Cornwall d Devon Bird Report e Dorset Bird Report f Hampshire Bird Report

6.5 Black-necked Grebe *Podiceps nigricollis*

Distribution within SEA 8 Area

Additional counts from the 2003/04 season were available for several nationally important sites for Black-necked Grebe within the SEA 8 area (Table 6.5). The five year means for the Fal Complex (Cornwall), Studland Bay (Dorset) and Needs Ore (Hampshire) all increased slightly, while the five year means for Torbay (Devon), Poole Harbour (Dorset) and Black Point (Hampshire) decreased slightly. Black-necked Grebes have also been recorded flying east on spring passage past Dungeness (Kent). All sites listed exceeded the nationally important threshold for Black-necked Grebes (>1 bird – Collier *et al* 2005).

ESAS surveys

Black-necked Grebes have not been recorded on ESAS surveys in the SEA 8 area.

Table 6.5 Recent peak counts at main sites for Black-necked Grebe in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Fal Complex	32 [a]	31 [a]	46 [a]	35 [a]	17 [a]	**32**
Torbay	32 [b]	38 [b]	26 [b]	18 [b]	5 [b]	**24**
Newhaven	-	-	18 [c]	-	-	**18**
Studland Bay	13 [d]	15 [d]	24 [d]	21 [d]	17 [d]	**18**
Langstone Harbour	16 [e]	16 [e]	22 [f]	18 [e]	12 [e]	**17**
Fleet/Way	12 [d]	15 [d]	14 [d]	12 [d]	-	**13**
Gerrans Bay	7 [a]	2 [a]	16 [a]	5 [a]	6 [a]	**7**
Poole Harbour	6 [d]	6 [d]	3 [d]	7 [d]	5 [d]	**5**
Tamar Complex	6 [f]	9 [f]	3 [f]	6 [f]	2 [f]	**5**
Needs Ore	6 [e]	3 [e]	4 [e]	6 [e]	7 [e]	**5**
Black Point	-	6 [e]	2 [e]	-	-	**4**
Dungeness	-	6 [g]	2 [g]	-	-	**4**

1 Five year mean between 1999/00 and 2003/04, where available a Birds in Cornwall b Devon Bird Report
c Sussex Bird Report d Dorset Bird Report e Hampshire Bird Report f Collier et al 2005 g Kent Bird Report

6.6 Manx Shearwater *Puffinus puffinus*

Distribution within SEA 8 Area

Additional counts were available for Cape Cornwall and St Ives Head (Table 6.6).

Table 6.6 Recent peak counts at main sites for Manx shearwaters in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Bosigran	-	-	42,000 [a]	-	-	**42,000**
Pendeen Watch	-	-	35,000 [a]	-	-	**35,000**
Porthgwarra	-	-	20,000 [a]	-	-	**20,000**
Cape Cornwall	-	-	20,000 [a]	-	18,000 [a]	**19,000**
St Austell Bay	-	-	-	17,000 [a]	-	**17,000**
St Ives Bay	-	-	20,000 [a]	11,000 [a]	-	**15,500**
Trevose Head	-	-	14,097 [a]	10,946 [a]	13,077 [a]	**12,707**

1 Five year mean between 1999/00 and 2003/04, where available a Birds in Cornwall

6.7 Cormorant *Phalacrocorax carbo*

Distribution within SEA 8 Area

Additional counts were available for four sites within the SEA 8 area (Table 6.7). The five year mean for Poole Harbour (Dorset) and Rye Harbour (Sussex) increased, while nationally important counts from Dungeness (Kent) and the Exe Estuary (Devon) were not previously available. The five year means at all seven sites exceeded the nationally important threshold (>230 birds – Collier *et al* 2005).

Table 6.7 Recent peak counts at main sites for Cormorant in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Poole Harbour	298 [a]	504 [b]	585 [a]	566 [b]	477 [b]	**486**
Rye Harbour	211 [a]	324 [c]	258 [c]	340 [c]	382 [c]	**303**
Shoreham	-	-	300 [c]	-	-	**300**
Dungeness	250 [d]	250 [d]	300 [d]	250 [d]	-	**263**
Pagham Harbour	234 [c]	244 [c]	247 [c]	240 [c]	303 [c]	**254**
Church Norton	-	-	250 [c]	-	-	**250**
Exe Estuary	113 [e]	140 [e]	205 [e]	310 [e]	415 [e]	**237**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Dorset Bird Report c Sussex Bird Report d Kent Bird Report e Devon Bird Report

ESAS surveys

ESAS data for Cormorants in the SEA 8 area is shown in Barton & Pollock (2005).

6.8 Shag *Phalacrocorax aristotelis*

Distribution within SEA 8 Area

Recent additional counts were available for the Exe Estuary/Dawlish Bay (Table 6.8). The five year mean decreased slightly. No nationally important threshold has been set for this species.

Table 6.8 Recent peak counts at main sites for Shag in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Exe Estuary/ Dawlish Bay	250 [a]	430 [a]	200 [a]	200 [a]	184 [a]	**253**
Langerstone Point	-	180 [a]	-	-	-	**180**

1 Five year mean between 1999/00 and 2003/04, where available a Devon Bird Report

ESAS Surveys

ESAS data for Shags in the SEA 8 area is shown in Barton & Pollock (2005).

6.9 Common Scoter *Melanitta nigra*

Distribution within SEA 8 Area

Additional counts of Common Scoter were available for Dungeness (Kent) and Brighton Marina (Sussex) (Table 6.9). Counts from both these sites were peak daily counts of birds on spring passage in March and April.

Carmarthen Bay (Pembrokeshire) remained the most important site for Common Scoter within the SEA 8 area, with counts exceeding the 1 % internationally important threshold (>16,000 birds – Collier *et al* 2005). This site has been designated as a marine SPA for Common Scoter.

Table 6.9 Recent peak counts at main sites for Common Scoter in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Carmarthen Bay	21,592 [a]	19,506 [a]	20,078 [a]	23,288 [a]	20,271 [a]	**20,947**
Dungeness	2,370 [b]	2,850 [b]	3,090 [b]	3,450 [b]	-	**2,940**
Brighton Marina	1,200 [c]	1,533 [c]	1,600 [c]	1,003 [c]	1,105 [c]	**1,288**

1 Five year mean between 1999/00 and 2003/04, where available

a Collier et al 2005 b Kent Bird Report c Sussex Bird Report

ESAS surveys

ESAS data for Common Scoter in the SEA 8 area is shown in Barton & Pollock (2005).

6.10 Goldeneye *Bucephala clangula*

Distribution within SEA 8 area

Based on the five year mean, numbers of Goldeneye at Poole Harbour (Dorset) no longer exceed the nationally important threshold (>249 birds – Collier *et al* 2005) (Table 6.10).

Table 6.10 Recent peak counts at main sites for Goldeneye in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Poole Harbour	273 [a]	155 [a]	146 [b]	242 [b]	108 [b]	**185**

1 Five year mean between 1999/00 and 2003/04, where available a Collier et al 2005 b Dorset Bird Report

ESAS surveys

ESAS data for Goldeneye in the SEA 8 area is shown in Barton & Pollock (2005).

6.11 Mediterranean Gull *Larus melanocephalus*

Mediterranean Gulls have undergone a significant expansion of their range in recent decades, and first bred in Britain in Hampshire in 1968. Seabird 2000 estimated that 113 pairs now breed in Britain and Ireland, with most colonies on the south and south-east coasts of England (Mitchell *et al* 2004). The species is listed on Annex I of the EU Birds Directive.

Distribution within SEA 8

Langstone Harbour (Hampshire) was the most important site within the SEA 8 area for Mediterranean Gulls, with numbers showing a peak in June and July (Table 6.11). Regular counts of more than 50 birds were also recorded at Brading Harbour and Newtown Estuary, both on the Isle of Wight (Hampshire). No nationally important threshold has been set for this species.

In addition, counts of up to 450 Mediterranean Gulls regularly occur at Copt Point, Folkestone (Kent), just outside the SEA 8 area (Braggs 2006).

Table 6.11 Recent peak counts at main sites for Mediterranean Gulls in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Langstone Harbour	53 [a]	93 [a]	92 [a]	52 [a]	145 [a]	**87**
Brading Harbour	51 [b]	35 [b]	28 [b]	126 [b]	57 [b]	**59**
Newtown Estuary	37 [b]	49 [b]	65 [b]	80 [b]	(15) [b]	**58**
Camel Estuary	-	16 [c]	11 [c]	21 [c]	55 [c]	**21**
Chichester Harbour	(5) [b]	36 [b]	4 [b]	(16) [b]	(1) [b]	**20**
Tamar Complex	27 [b]	28 [b]	14 [b]	30 [b]	0 [b]	**20**

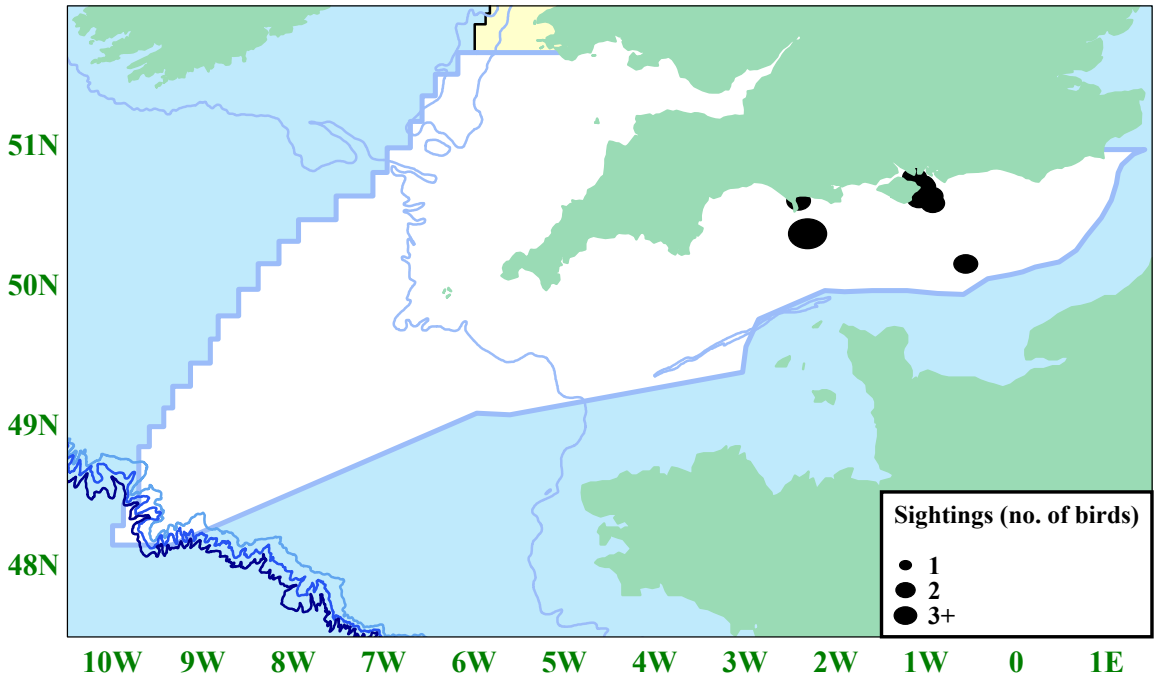
1 Five year mean between 1999/00 and 2003/04, where available a Hampshire Bird Report b Collier et al 2005

c Birds in Cornwall ( ) Incomplete count

ESAS surveys

ESAS surveys recorded the majority of Mediterranean Gulls in inshore waters close to the Isle of Wight (Hampshire) and off Portland (Dorset), with one individual seen in the middle of the English Channel (Figure 6.1). A total of 10 birds were recorded, with all sightings between November and January.

Figure 6.1 Mediterranean Gull sightings on ESAS surveys in SEA 8 area



6.12 Little Gull *Larus minutus*

Distribution within SEA 8 Area

Additional counts of Little Gull were available for five sites within the SEA 8 area (Table 6.12). Peak day counts from Brighton Marina (Sussex) occurred in April, with all birds heading east. Numbers passing Dungeness (Kent) and Selsey Bill (Sussex) were generally highest between October and January, with birds heading west, although good movements of birds heading east in April were also recorded. Similarly, numbers passing Hurst (Hampshire) in 1999 and 2001 peaked in April but were highest in November 2002, with birds heading west. No nationally important threshold has been set for this species.

Table 6.12 Recent peak counts at main sites for Little Gulls in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Brighton Marina	-	-	363 [a]	134 [a]	564 [a]	**354**
Dungeness	-	275 [b]	96 [b]	445 [b]	117 [b]	**187**
Selsey Bill	-	-	210 [a]	183 [a]	31 [a]	**141**
Hurst	102 [c]	-	73 [c]	85 [c]	-	**87**
Hayling Bay	-	-	108 [c]	45 [c]	-	**77**

1 Five year mean between 1999/00 and 2003/04, where available

a Sussex Bird Report b Kent Bird Report c Hampshire Bird Report

ESAS surveys

ESAS data for Little Gull in the SEA 8 area is shown in Barton & Pollock (2005).

6.13 Common Gull *Larus canus*

Distribution within SEA 8 Area

Additional counts of Common Gull were available for four sites in the SEA 8 area (Table 6.13). A count of 30,000 birds at Greatstone (Kent) in February 2000 exceeded the internationally important threshold for this species (> 17,000 birds – Collier *et al* 2005), while a count of 10,000 birds at nearby Dungeness (Kent) in January 2001 exceeded the nationally important threshold (> 9,000 birds – Collier *et al* 2005). Additional counts were also available for Pilsey Sands in Chichester Harbour (Hampshire/Sussex) and Langstone Harbour (Hampshire).

Table 6.13 Recent peak counts at main sites for Common Gulls in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Greatstone	30,000 [a]	-	-	-	-	**30,000**
Rye Harbour	15,000 [b]	-	3,000 [b]	-	8,600 [c]	**8,867**
Dungeness	-	10,000 [a]	-	4,000 [a]	7,000 [a]	**7,000**
Chichester Harbour	-	4,000 [b]	4,000 [b]	5,000 [b]	8,000 [b]	**5,250**
Southwick	5,000 [b]	-	5,000 [b]	-	-	**5,000**
Langstone Harbour	-	595 [d]	4,000 [d]	-	1,670 [d]	**2,088**

1 Five year mean between 1999/00 and 2003/04, where available a Kent Bird Report b Sussex Bird Report

c Collier et al 2005 d Hampshire Bird Report

ESAS surveys

ESAS data for Common Gull in the SEA 8 area is shown in Barton & Pollock (2005).

6.14 Herring Gull *Larus argentatus*

Distribution within SEA 8 Area

Additional counts of Herring Gull were available for four sites within the SEA 8 area (Table 6.14). Counts from Greatstone (Kent) from February 2000 and January 2001 and nearby Dungeness (Kent) in February 2001 exceeded the internationally important threshold (> 13,000 birds – Collier *et al* 2005). A count of 15,000 birds in Tor Bay (Devon) on 2nd January 2003 was also internationally important, although the most recent five year mean was below this threshold.

The five year mean for the Rhymney Estuary (Glamorgan) fell below the nationally important threshold (> 4,500 birds – Collier *et al* 2005), following inclusion of counts from 1999/00 and 2000/01.

Table 6.14 Recent peak counts at main sites for Herring Gulls in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Greatstone	30,000 [a]	20,000 [a]	-	-	-	**25,000**
Dungeness	5,000 [a]	25,000 [a]	5,000 [a]	10,000 [a]	-	**11,250**
Tor Bay	-	8,000 [b]	10,000 [b]	15,000 [b]	-	**11,000**
St Ives Bay	6,000 [c]	-	-	-	-	**6,000**
Rye Harbour	-	-	-	-	5,850 [d]	**5,850**
Hastings to Bexhill	-	-	-	-	5,700 [d]	**5,700**
Worthing-Ferring	-	1,300 [e]	10,000 [e]	-	-	**5,650**
Rhymney Estuary	2,500 [f]	1,000 [f]	5,570 [f]	7,500 [f]	4,000 [f]	**4,114**
Exe/Dawlish Bay	-	5,000 [b]	3,000 [b]	-	-	**4,000**

1 Five year mean between 1999/00 and 2003/04, where available a Kent Bird Report b Devon Bird Report
c Birds in Cornwall d Collier et al 2005 e Sussex Bird Report f Eastern Glamorgan Bird Report

ESAS surveys

ESAS data for Herring Gulls in the SEA 8 area is shown in Barton & Pollock (2005).

6.15 Yellow-legged Gull *Larus michahellis*

As a result of the recent taxonomic review by the British Ornithologist's Union (BOU) into the status of Yellow-legged Gull, this former subspecies is now considered to be a separate species (BOU 2005). Small numbers breed in the SEA 8 area, with 2 pairs raising young at a site in Dorset in 2001 (Ogilvie *et al* 2003).

Distribution within SEA 8 Area

Counts of Yellow-legged Gull were available for three sites within the SEA 8 area (Table 6.15). Highest numbers were recorded in Pagham Harbour (Sussex), with peak counts occurring between July and August. Birds were also regularly recorded at Southampton Water (Hampshire) and Poole Harbour (Dorset). No nationally important threshold has been set for this species.

Table 6.15 Recent peak counts at main sites for Yellow-legged Gulls in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Pagham Harbour	-	110 [a]	220 [a]	240 [a]	140 [a]	**178**
Southampton Water	41 [b]	92 [b]	70 [b]	-	57 [b]	**65**
Poole Harbour	72 [b]	16 [b]	47 [b]	38 [b]	21 [b]	**39**

1 Five year mean between 1999/00 and 2003/04, where available a Sussex Bird Report b Collier et al 2005

ESAS surveys

There were only 2 sightings of Yellow-legged Gull on ESAS surveys within the SEA 8 area. Both involved single birds in the English Channel in August and December 1991.

6.16 Great Black-backed Gull *Larus marinus*

Distribution within SEA 8 Area

Additional counts of Great Black-backed Gulls were available for seven sites in the SEA 8 area (Table 6.16). Counts from Greatstone and nearby Dungeness (Kent) were previously unavailable and exceeded the nationally important threshold (> 400 birds – Collier *et al* 2005), showing a peak between November and February.

The five year mean for Pagham Harbour (Sussex) and the Exe Estuary (Devon) decreased slightly following inclusion of 2003/04 data. Counts for the Plym Estuary and Plymouth Breakwater (Devon) have been combined. The five year mean for the Camel Estuary (Cornwall) increased slightly following inclusion of 2003/04 data, while the five year means for Langstone Harbour (Hampshire) and the Hayle Estuary (Cornwall) fell below the nationally important threshold.

Table 6.16 Recent peak counts at main sites for Great Black-backed Gull in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Greatstone	1,000 [a]	3,000 [a]	1,500 [a]	-	3,550 [a]	**2,263**
Pagham Harbour	-	2,300 [b]	3,000 [b]	400 [b]	650 [b]	**1,588**
Dungeness	1,000 [a]	1,000 [a]	1,500 [a]	1,200 [a]	2,000 [a]	**1,340**
Plymouth Estuary & Breakwater	-	550 [c]	1,000 [c]	-	750 [c]	**767**
Camel Estuary	-	614 [d]	928 [d]	396 [d]	802 [d]	**685**
Dawlish Warren	620 [c]	605 [c]	-	647 [c]	-	**624**
Exe Estuary	-	-	657 [c]	-	490 [c]	**574**
Hastings to Bexhill	-	-	-	-	520 [e]	**520**
Start Bay	510 [c]	-	-	-	-	**510**
Portsmouth Harbour	872 [e]	1,102 [f]	54 [e]	304 [e]	186 [e]	**504**
Rye Bay	-	210 [b]	585 [b]	-	-	**398**
Fleet/Way	312 [e]	550 [e]	576 [e]	87 [e]	200 [e]	**345**
Langstone Harbour	200 [f]	506 [f]	500 [f]	-	75 [f]	**320**
Hayle Estuary	-	95 [d]	162 [d]	550 [d]	173 [d]	**245**

1 Five year mean between 1999/00 and 2003/04, where available a Kent Bird Report b Sussex Bird Report c Devon Bird Report d Birds in Cornwall e Collier et al 2005 f Hampshire Bird Report

ESAS surveys

ESAS data for Great Black-backed Gulls in the SEA 8 area is shown in Barton & Pollock (2005).

6.17 Sandwich Tern *Sterna sandvicensis*

Distribution within SEA 8 Area

Additional counts of Sandwich Tern were available for five sites in the SEA 8 area (Table 6.17). The five year mean for Brighton Marina (Sussex) decreased very slightly while means from Rye Harbour (Sussex) and Dawlish Warren (Devon) increased following inclusion of counts from 2003/04. While counts from Dungeness (Kent) were previously unavailable, counts since 2000 show this to be an important site for Sandwich Tern. The five year mean for Langstone Harbour (Hampshire) decreased following inclusion of counts from previous years. No nationally important threshold has been set for this species.

Table 6.17 Recent peak counts at main sites for Sandwich Terns in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Brighton Marina	563 [a]	393 [a]	558 [a]	470 [a]	479 [a]	**493**
Rye Harbour	-	318 [a]	325 [a]	650 [a]	650 [a]	**486**
Dungeness	-	411 [b]	237 [b]	528 [b]	692 [b]	**467**
Langstone Harbour	-	200 [c]	-	100 [c]	780 [c]	**360**
Dawlish Warren	394 [d]	313 [d]	374 [d]	200 [d]	400 [d]	**336**
Sandy Point	320 [c]	140 [c]	254 [c]	254 [c]	433 [c]	**280**

1 Five year mean between 1999/00 and 2003/04, where available a Sussex Bird Report b Kent Bird Report
c Hampshire Bird Report d Devon Bird Report

ESAS surveys

ESAS data for Sandwich Terns in the SEA 8 area is shown in Barton & Pollock (2005).

6.18 Little Tern *Sterna albifrons*

Distribution within SEA 8 Area

Additional counts of Little Terns were available for four sites (Table 6.18). The five year mean for Langstone Harbour (Hampshire) increased following a count of 111 birds in July 2003, while the five year mean for Fleet/Way (Dorset) also increased following inclusion of counts from the Ferrybridge area in 2001/02 and 2002/03. Counts from Dungeness (Kent) which were previously unavailable, show peak day passage counts in spring. Counts from Pilsey Sands were combined with counts from Chichester Harbour, resulting in a slight increase in the five year mean. The five year mean for Brighton Marina decreased following poor spring passage in 2003. No nationally important threshold has been set for this species.

Table 6.18 Recent peak counts at main sites for Little Tern in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Langstone Harbour	296 [a]	220 [a]	190 [a]	(140) [b]	111 [a]	**204**
Fleet/Way	154 [b]	125 [b]	80 [c]	155 [c]	58 [b]	**114**
Dungeness	-	161 [d]	54 [d]	79 [d]	82 [d]	**94**
Chichester Harbour	0	42 [e]	200 [b]	42 [b]	28 [b]	**78**
Brighton Marina	-	116 [e]	44 [e]	62 [e]	16 [e]	**60**
Rye Harbour	-	-	43 [e]	50 [e]	-	**47**

1 Five year mean between 1999/00 and 2003/04, where available a Hampshire Bird Report b Collier et al 2005
c Dorset Bird Report d Kent Bird Report e Sussex Bird Report () Incomplete count

ESAS surveys

ESAS data for Little Terns in the SEA 8 area is shown in Barton & Pollock (2005).

6.19 Guillemot *Uria aalge*

Distribution within SEA 8 Area

Additional counts were available for Dungeness (Kent), which was the only inshore site within the SEA 8 area where significant numbers of Guillemots were recorded (Table 6.19). All three counts were made in late December.

Table 6.19 Recent peak counts at main sites for Guillemots in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Dungeness	-	6,000 [a]	1,400 [a]	6,100 [a]	-	**4,500**

1 Five year mean between 1999/00 and 2003/04, where available a Kent Bird Report

Additional counts of unidentified Guillemots/Razorbills were available for three sites (Table 6.20). The five year mean for Brighton Marina (Sussex) increased slightly following a count of 11,500 birds in January 2004. Previously unavailable counts from Portland Bill (Dorset) peaked between December and February, while counts from Dungeness (Kent) were recorded in January.

Table 6.20 Recent peak counts at main sites for unidentified Guillemots/Razorbills in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Rumps Point	-	32,870 [a]	-	-	-	**32,870**
Cape Cornwall	-	-	20,000 [a]	30,000 [a]	-	**25,000**
St Ives Island	-	21,354 [a]	-	-	-	**21,354**
Trevose Head	-	-	15,678 [a]	-	14,246 [a]	**14,962**
Pendeen Watch	-	-	8,800 [a]	13,128 [a]	15,000 [a]	**12,309**
Portland Bill	5,000 [b]	-	10,000 [b]	10,000 [b]	10,000 [b]	**8,750**
Brighton Marina	4,500 [c]	4,040 [c]	6,900 [c]	10,680 [c]	11,500 [c]	**7,524**
Dungeness	5,550 [d]	-	5,270 [d]	-	-	**5,410**
Berry Head	9,000 [e]	433 [e]	600 [e]	-	-	**3,344**

1 Five year mean between 1999/00 and 2003/04, where available a Birds in Cornwall b Dorset Bird Report
c Sussex Bird Report d Kent Bird Report e Devon Bird Report

ESAS surveys

ESAS data for Guillemots in the SEA 8 area is shown in Barton & Pollock (2005).

6.20 Razorbill *Alca torda*

Distribution within SEA 8 Area

Additional counts for Razorbills were available for four sites within the SEA 8 area (Table 6.21). The counts from Pendeen Watch (Cornwall) and Berry Head (Devon) occurred in October while the count from Killigerran Head (Cornwall) was in January and the count from Cape Cornwall (Cornwall) in February.

Table 6.21 Recent peak counts at main sites for Razorbills in SEA 8 area

Site	99-00	00-01	01-02	02-03	03-04	Mean [1]
Shoreham	-	-	2,500 [a]	-	**-**	**2,500**
Carbis Bay	-	800 [b]	-	2,000 [b]	**-**	**1,400**
Brighton Marina	692 [a]	700 [a]	-	2,000 [a]	**-**	**1,131**
Pendeen Watch	-	-	1,100 [b]	-	**-**	**1,100**
Cape Cornwall	-	-	1,000 [b]	-	**-**	**1,000**
Killigerran Head	-	-	798 [b]	-	**-**	**798**
Berry Head	-	-	-	630 [c]	**-**	**630**
Selsey Bill	325 [a]	-	66 [a]	1,000 [a]		**464**

1 Five year mean between 1999/00 and 2003/04, where available
a Sussex Bird Report b Birds in Cornwall c Devon Bird Report

ESAS Surveys

ESAS data for Razorbills in the SEA 8 area is shown in Barton & Pollock (2005).

7. Important areas in SEA 8

7.1 Important areas for offshore seabirds

In order to identify important offshore areas, the data were mapped in three ways. Firstly all seabird species were mapped together to show total densities in ¼ ICES rectangles. Then species diversity was mapped. Finally, maps of seabird vulnerability to surface pollution were compiled.

7.1.1 Total seabird density

Total seabird density for the SEA 8 area was calculated for each ¼ ICES square and mapped. These maps give a visual representation of total density in relation to bathymetry and are shown over the whole year, by season and by month.

Important areas highlighted using total seabird density were the outer Bristol Channel and Celtic Deep and south of Cornwall, particularly over the 100 m depth contour (Figure 7.1). Overall densities ranged between low to moderate, with no high density areas recorded.

Figure 7.1 Total seabird density in SEA 8 area throughout the year

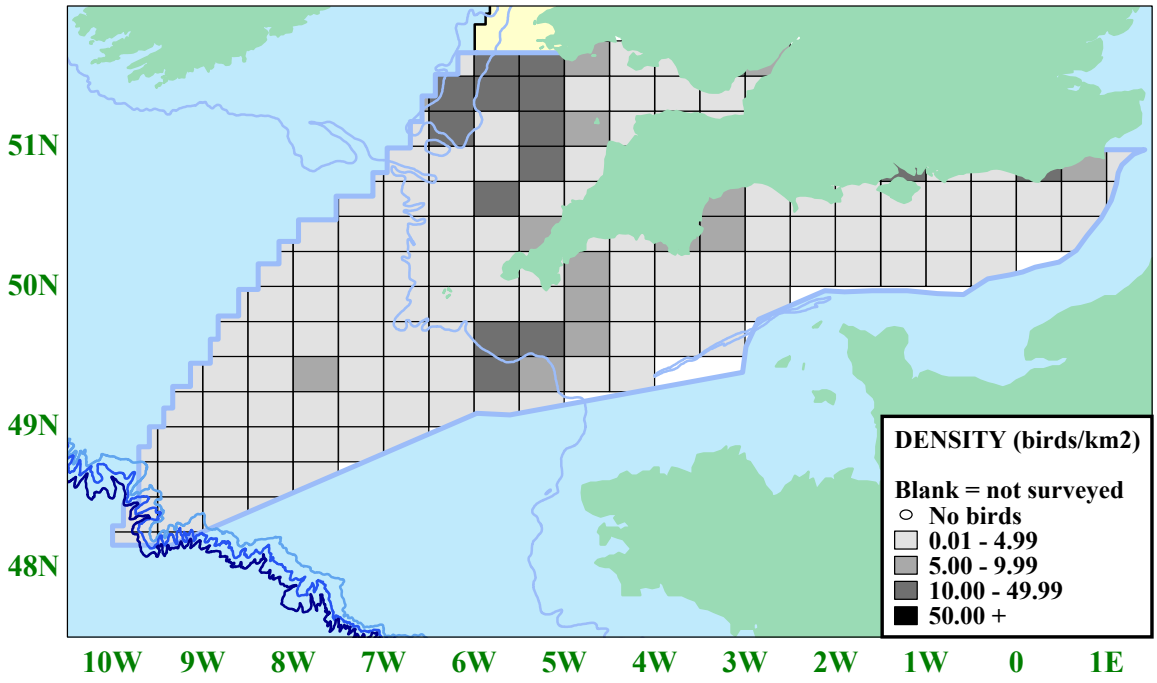
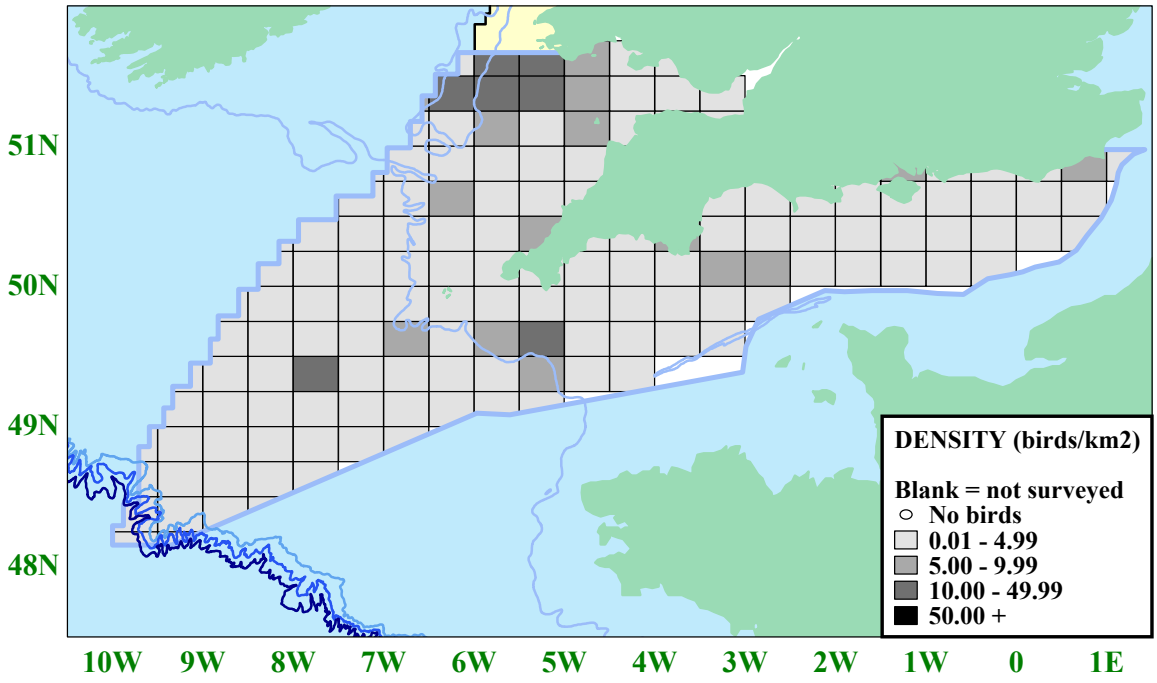


Figure 7.2 Total seabird density in SEA 8 area in summer – April to September



Seabirds generally occurred at low densities throughout the SEA 8 area in summer, with moderate concentrations in the outer Bristol Channel and patches of moderate density south of Cornwall and off the Devon coast (Figure 7.2). In winter, high densities were recorded over the 100 m depth contour south of Cornwall, with moderate densities around the coasts of Devon and Cornwall and the Celtic Deep (Figure 7.3).

Figure 7.3 Total seabird density in SEA 8 area in winter – October to March

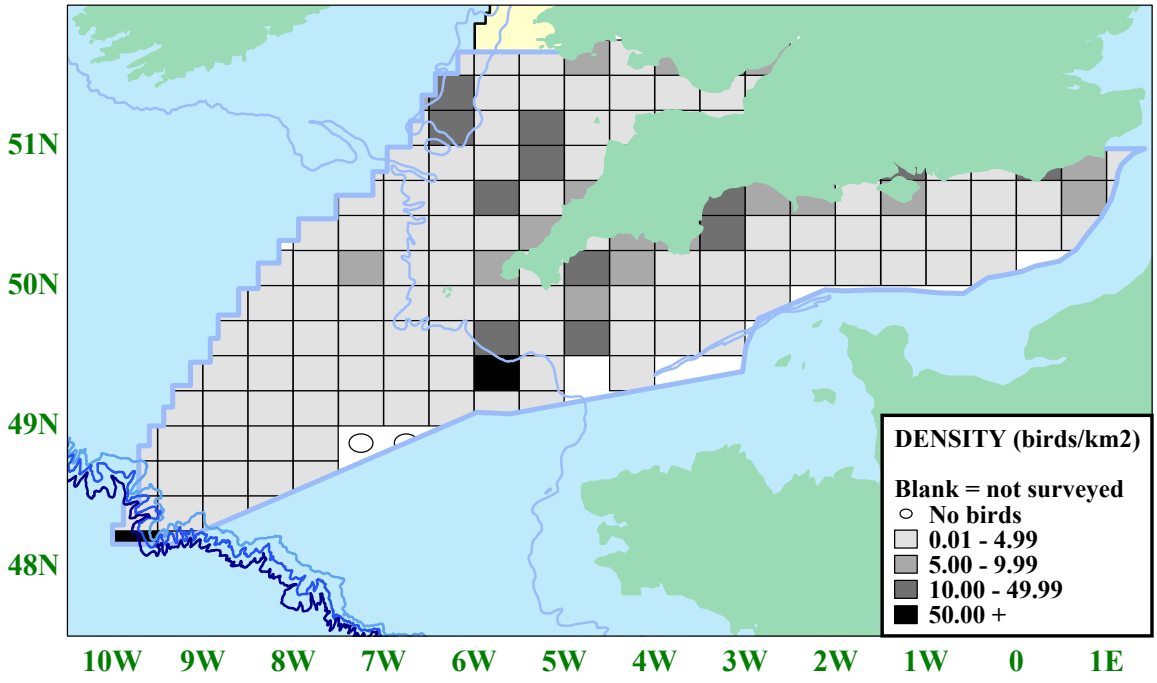
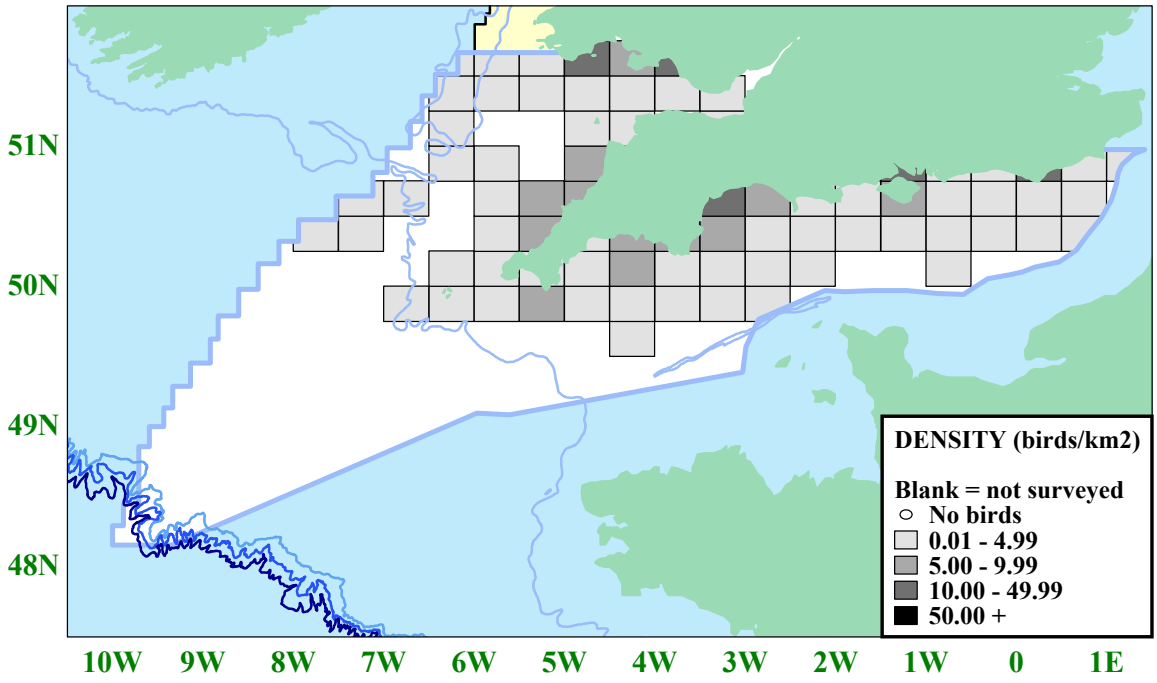


Figure 7.4 Total seabird density in SEA 8 area in January



Coverage of offshore waters of the SEA 8 area was incomplete in January and February (Figures 7.4 and 7.5). Low to moderate densities were recorded around the coasts of Devon and Cornwall and in Carmarthen Bay in January. In February, high densities were recorded beyond the 100 m depth contour south-west of Milford Haven, and north-west and south-east of Land's End in Cornwall. Moderate densities were recorded in inshore waters off Devon and Kent.

Figure 7.5 Total seabird density in SEA 8 area in February

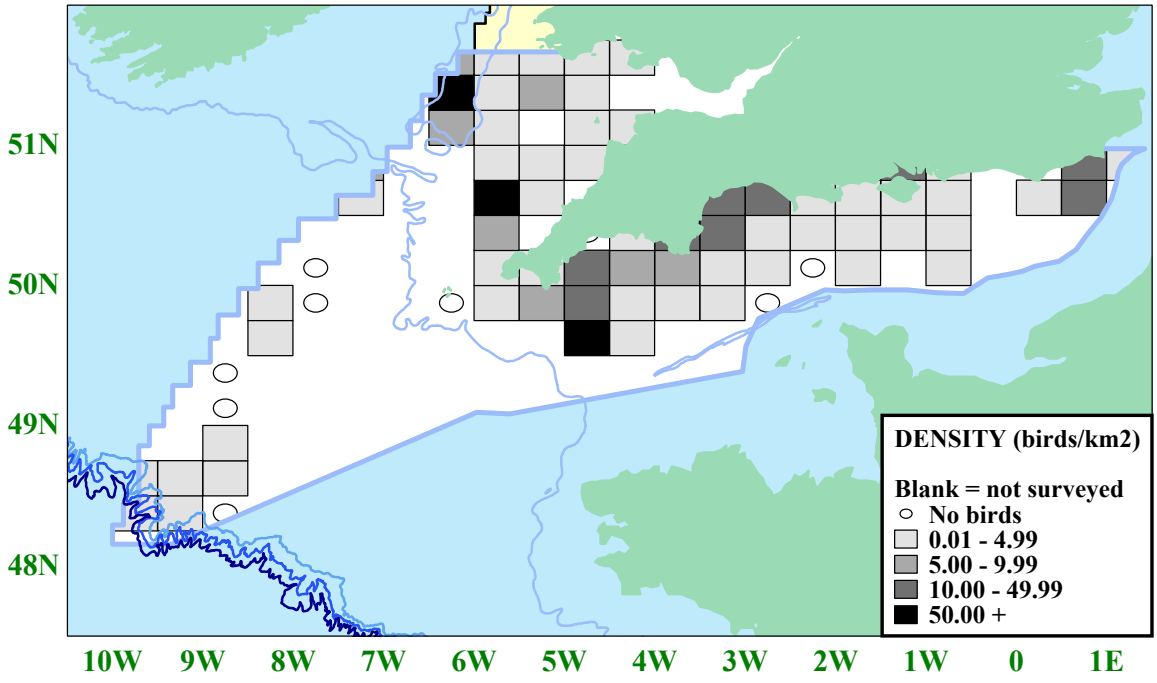
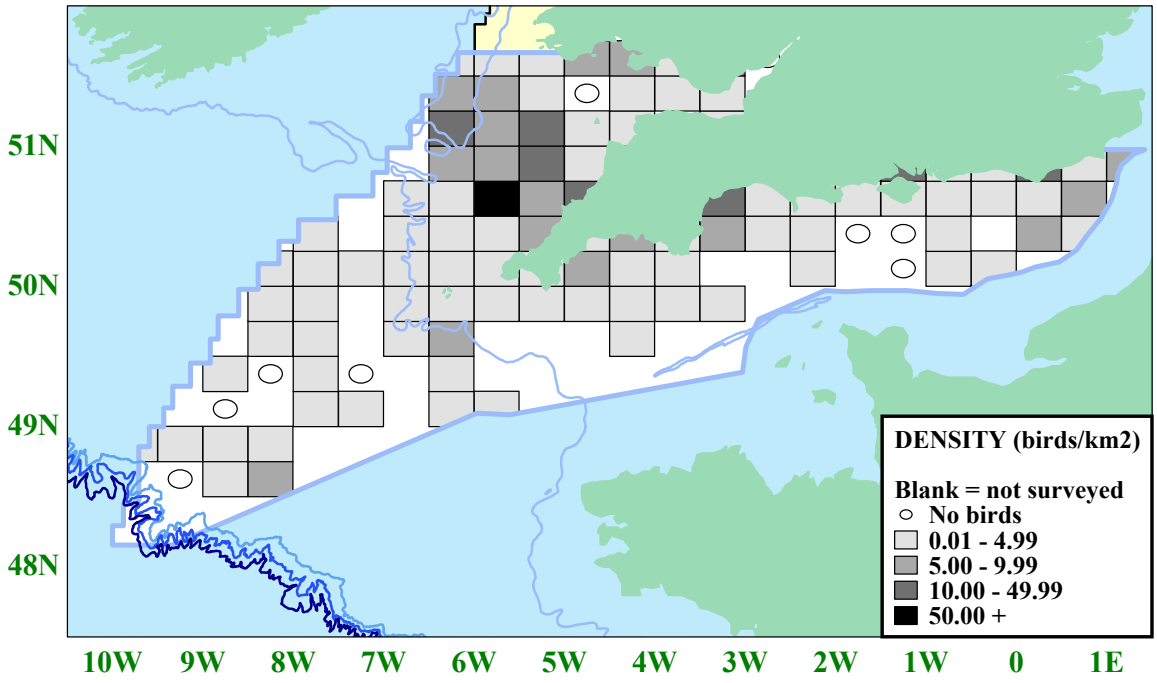


Figure 7.6 Total seabird density in SEA 8 area in March



In March, high densities were recorded north-west of Land's End in Cornwall, with moderate densities in the surrounding area (Figure 7.6). This area also held moderate densities in April (Figure 7.7).

Figure 7.7 Total seabird density in SEA 8 area in April

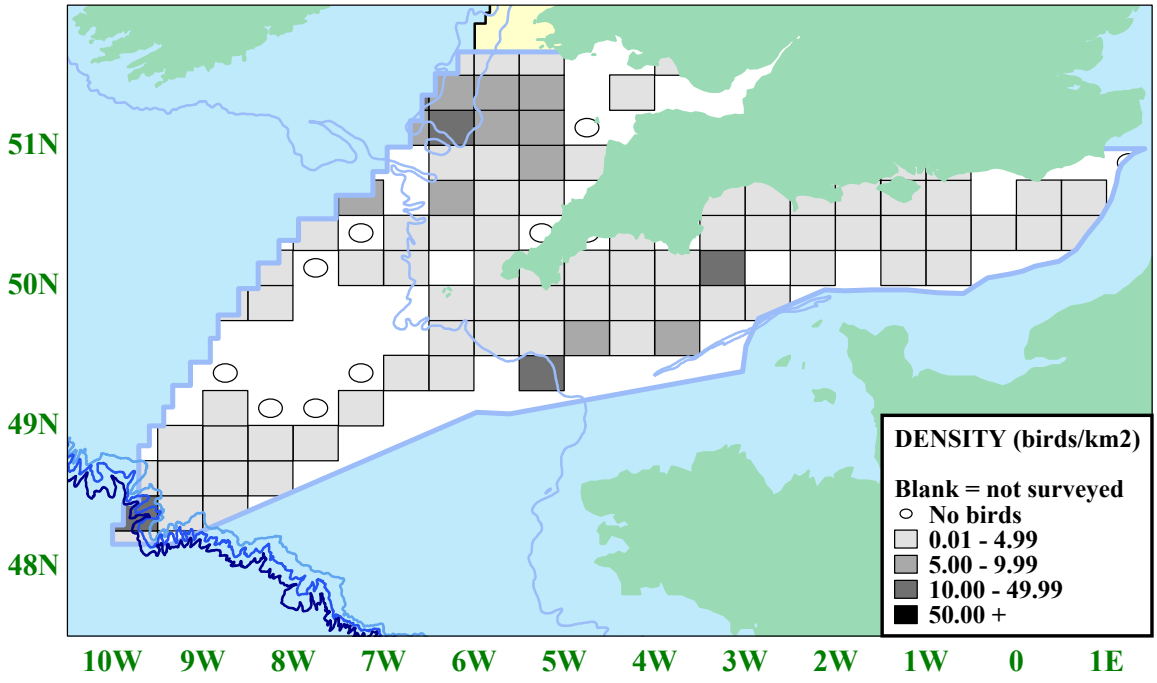
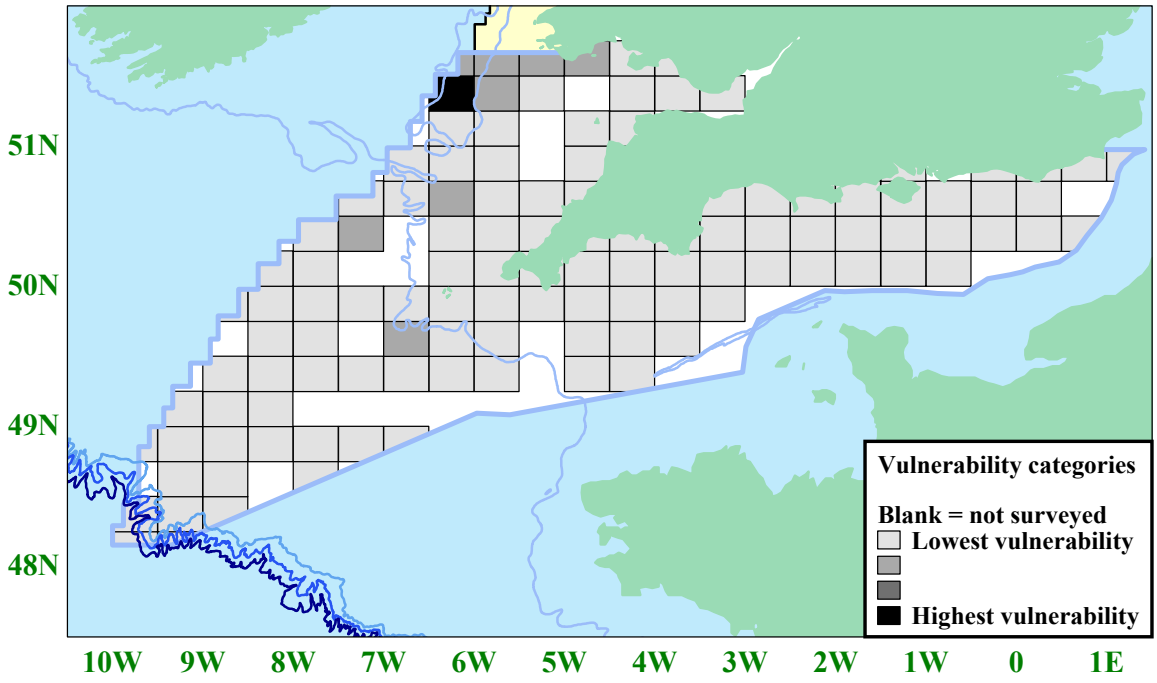


Figure 7.8 Total seabird density in SEA 8 area in May



In May, high densities were recorded in the Celtic Deep, with low to moderate densities elsewhere (Figure 7.8). Moderate densities were also recorded to the south-west of Milford Haven in June (Figure 7.9).

Figure 7.9 Total seabird density in SEA 8 area in June

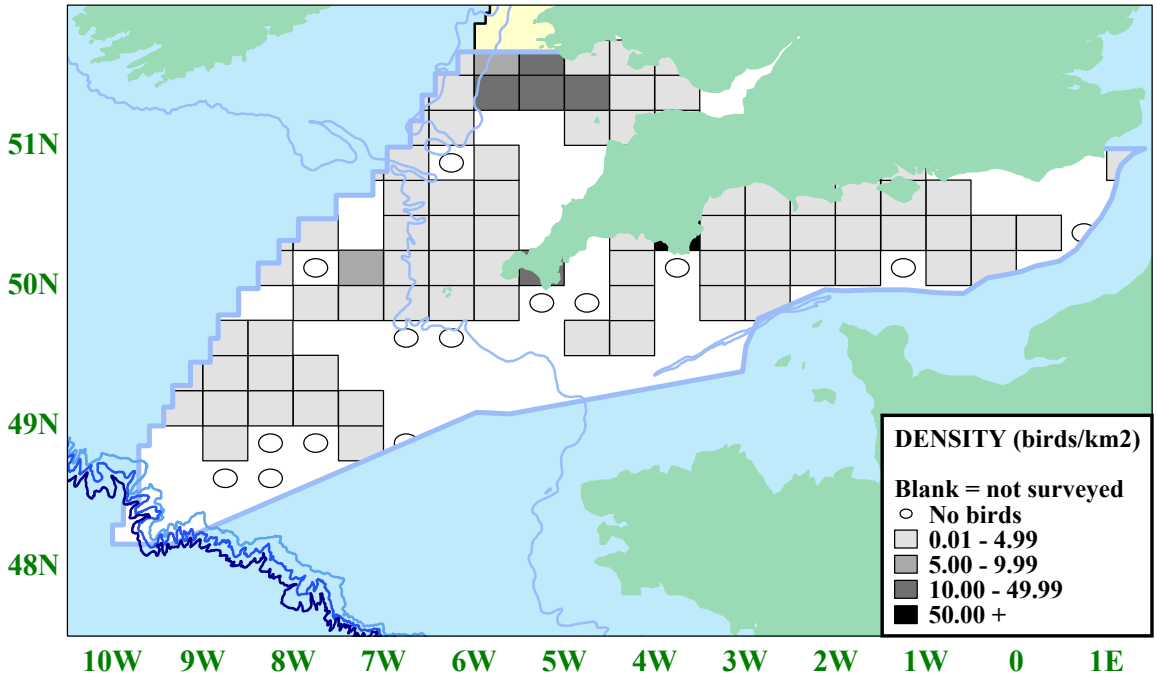
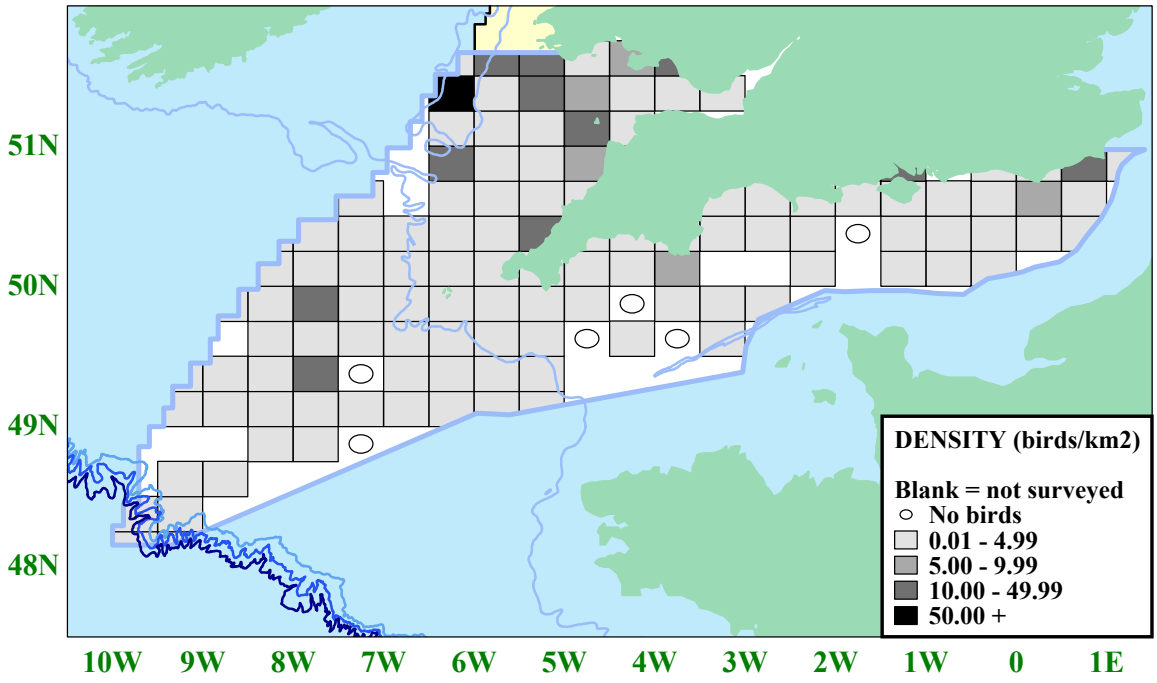


Figure 7.10 Total seabird density in SEA 8 area in July



High densities were again recorded in the Celtic Deep in July with moderate densities in the outer Bristol Channel and sporadically in deeper waters in the south-west of the SEA 8 area (Figure 7.10). In August, high densities were recorded close to the large colonies of Skomer and Skokholm north of Milford Haven, with low to moderate densities recorded elsewhere (Figure 7.11).

Figure 7.11 Total seabird density in SEA 8 area in August

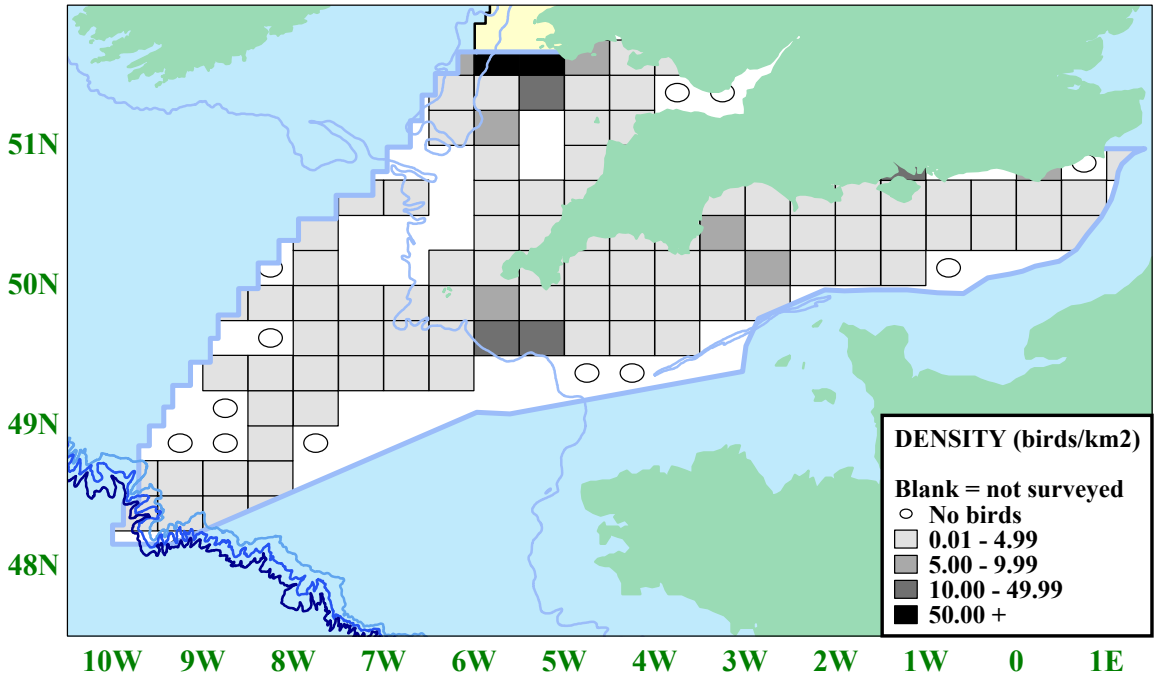
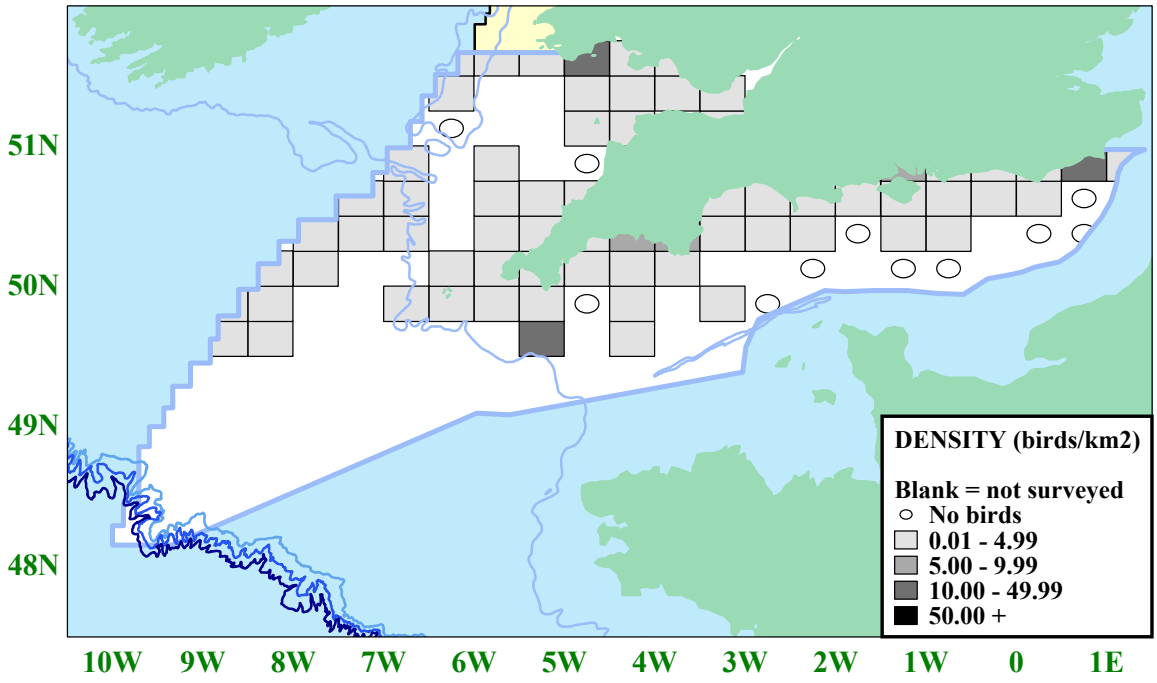


Figure 7.12 Total seabird density in SEA 8 area in September



Coverage in September was quite limited, with moderate densities recorded in Carmarthen Bay, off the south coast of Kent and south of Cornwall, close to the 100 m depth contour (Figure 7.12). In October, coverage in offshore waters was poor with mostly low densities of seabirds recorded (Figure 7.13).

Figure 7.13 Total seabird density in SEA 8 area in October

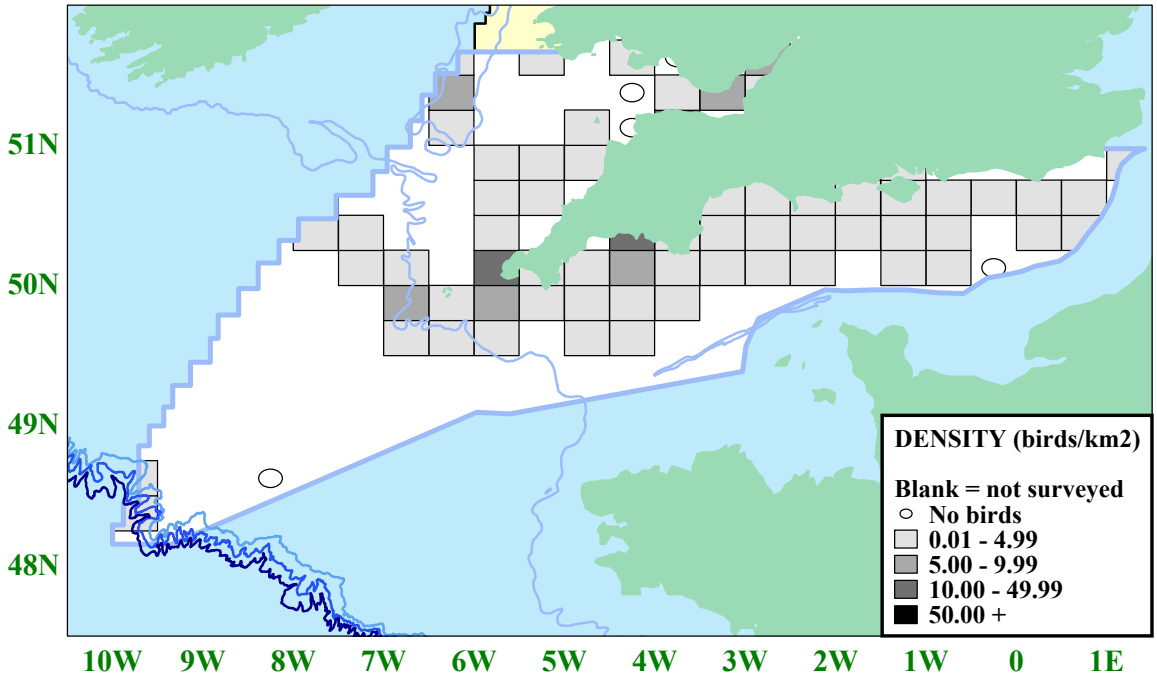
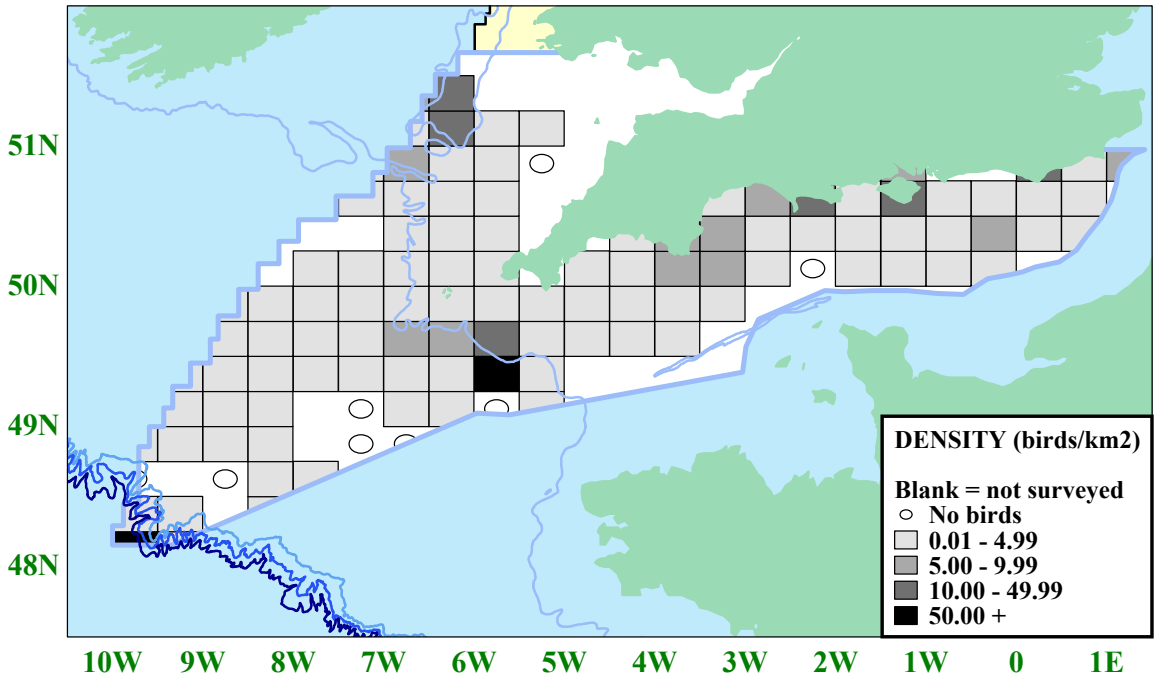
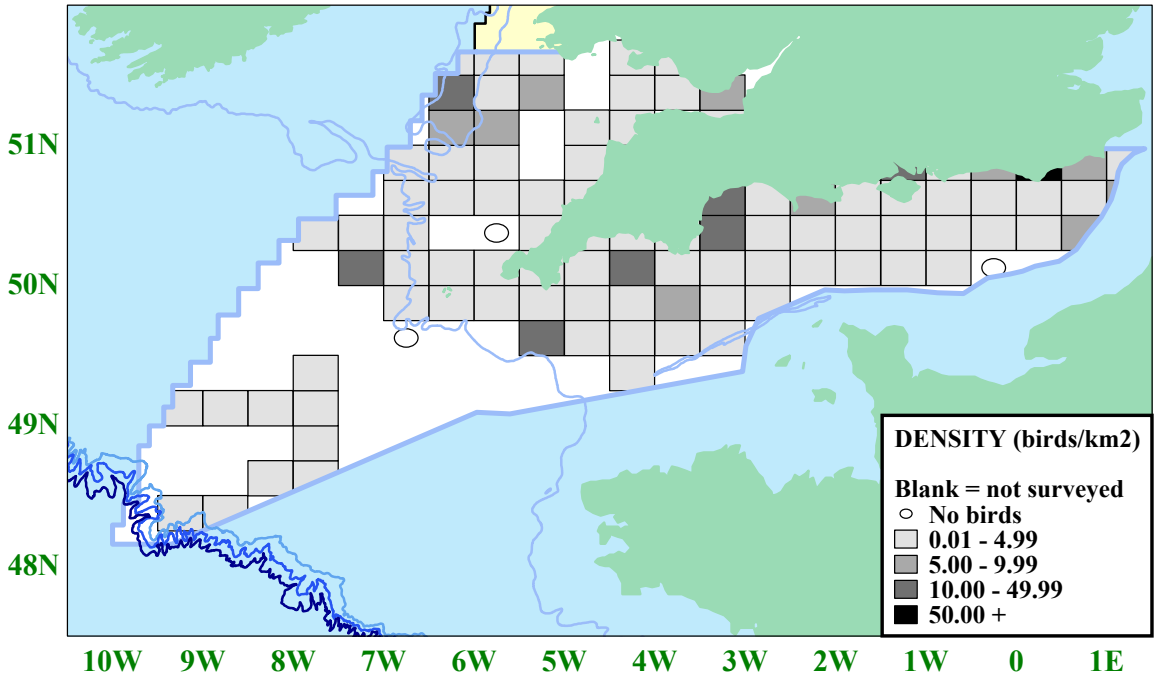


Figure 7.14 Total seabird density in SEA 8 area in November



The Bristol Channel was not surveyed in November (Figure 7.14). Moderate and high densities were recorded in waters over the 100 m depth contour south of Cornwall, with moderate densities in the Celtic Deep and in coastal waters off Devon, Dorset and Hampshire. Coverage of offshore waters in December was not complete (Figure 7.15). Offshore, moderate densities were recorded in the Celtic Deep, Outer Bristol Channel and in the South-West Approaches.

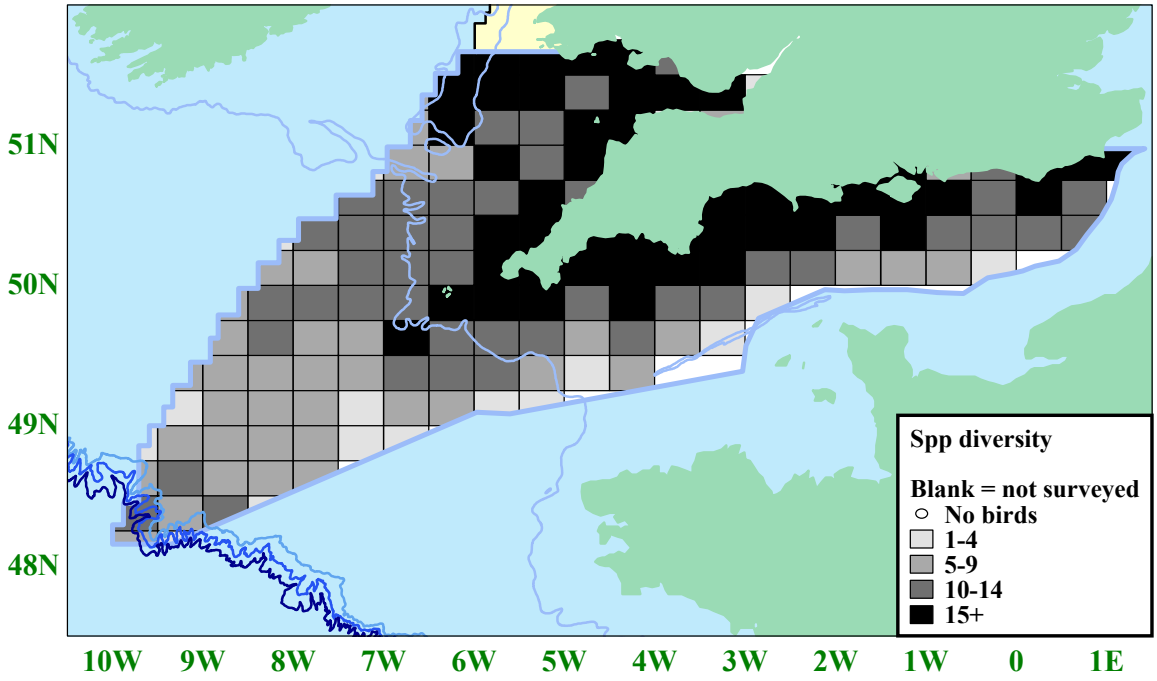
Figure 7.15 Total seabird density in SEA 8 area in December



7.1.2 Species diversity

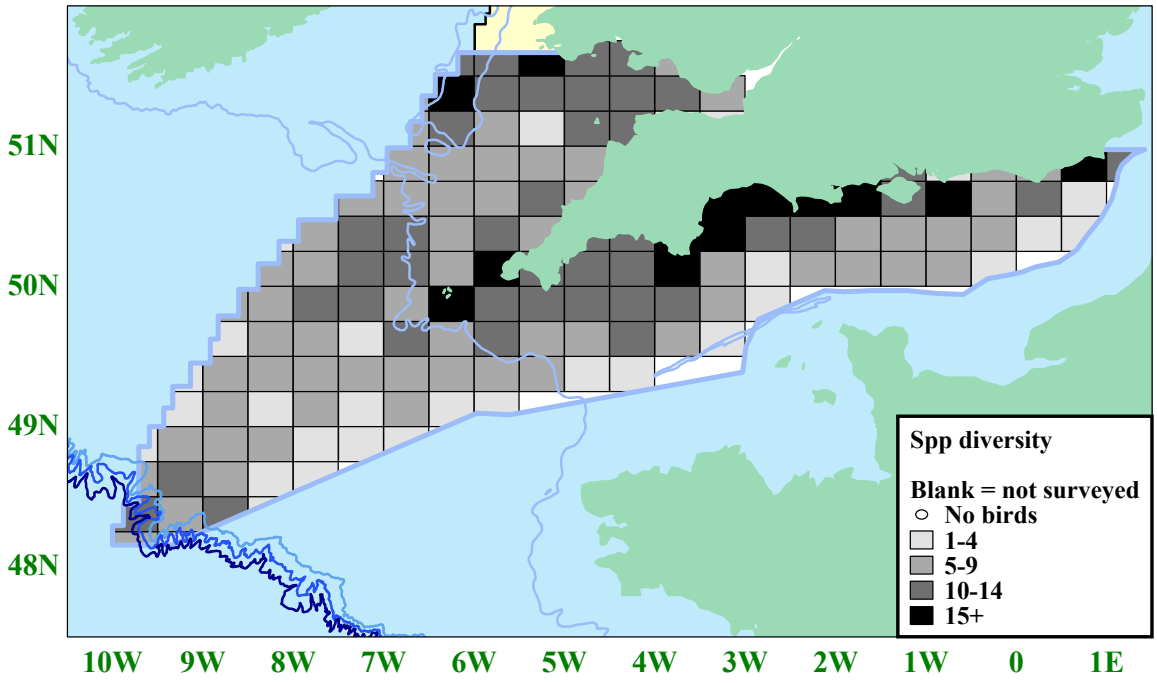
Overall species diversity in the SEA 8 area was highest in coastal waters throughout the year, where over 15 species were recorded (Figure 7.16). In offshore waters, species diversity was high in the Celtic Deep and moderate to high along the 100 m contour to the south-west. In waters great than 100 m in the South-West Approaches, species diversity was generally between 5 and 9 species. Lowest species diversity was found in the middle of the English Channel.

Figure 7.16 Species diversity in SEA 8 area throughout the year



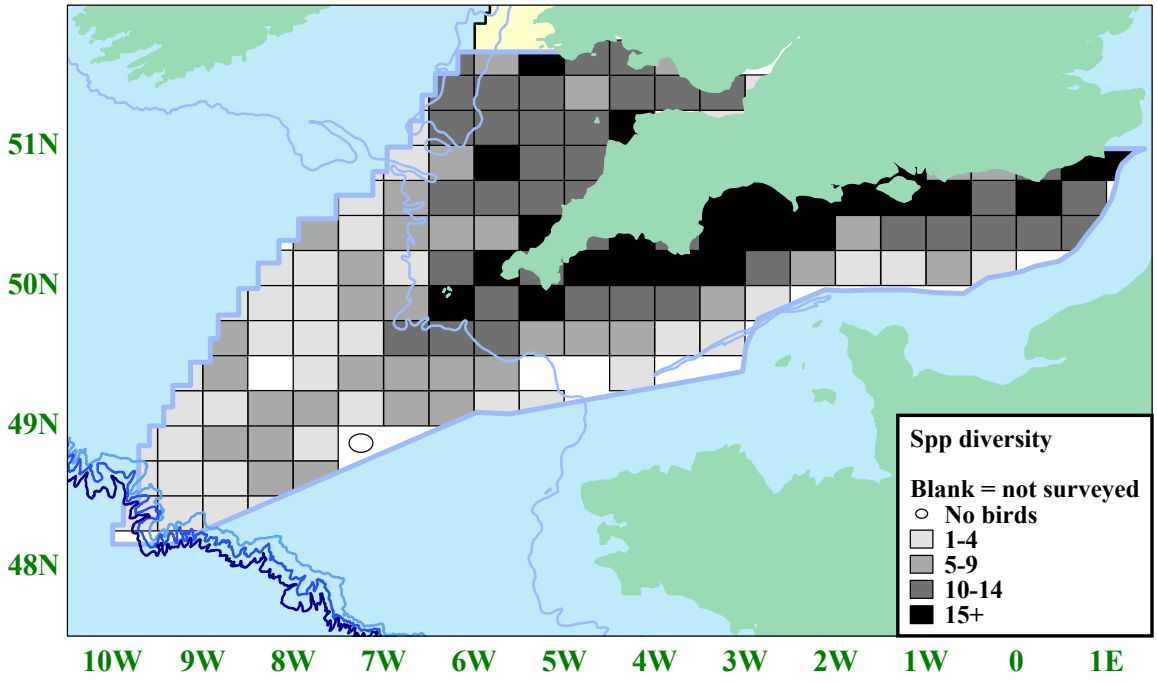
During the summer months, more than 15 species were recorded in coastal waters off the south coast of England, the Isles of Scilly and off south-west of Wales, with diversity generally decreasing with distance offshore (Figure 7.17). Offshore highest diversity was found in the Celtic Deep.

Figure 7.17 Species diversity in SEA 8 area in summer (April to September)



In winter, high species diversity in inshore waters was generally more extensive than in summer, with more than 15 species recorded in coastal waters almost the whole length of the south coast of England. The outer Bristol Channel also held more species than in summer. Offshore waters beyond the 100 m depth contour generally held slightly fewer species with less than 5 species recorded in many areas (Figure 7.18).

Figure 7.18 Species diversity in SEA 8 area in winter (October to March)



7.1.3 Offshore seabird vulnerability to surface pollution

The following maps show vulnerability to surface pollution for all species, and have been compiled using ESAS data (see Section 2.25) (Figures 7.19 to 7.33). Although the primary focus of this report was on the offshore waters of the SEA 8 area, data from inshore areas was included in the analysis for comparison. (Note these figures do not include recent inshore aerial survey data as they have not been added to the ESAS database).

Seabird vulnerability in offshore areas of SEA 8 was generally low throughout the year (Figure 7.19). However there were two areas of high vulnerability beyond the 100 m depth contour, south of Cornwall and in the Celtic Deep. Vulnerability was also moderate to high west of Lundy in the outer Bristol Channel. Vulnerability in inshore waters was generally low to moderate apart from around Beachy Head (Sussex) where vulnerability was high.

Figure 7.19 Average seabird vulnerability in SEA 8 area – all year

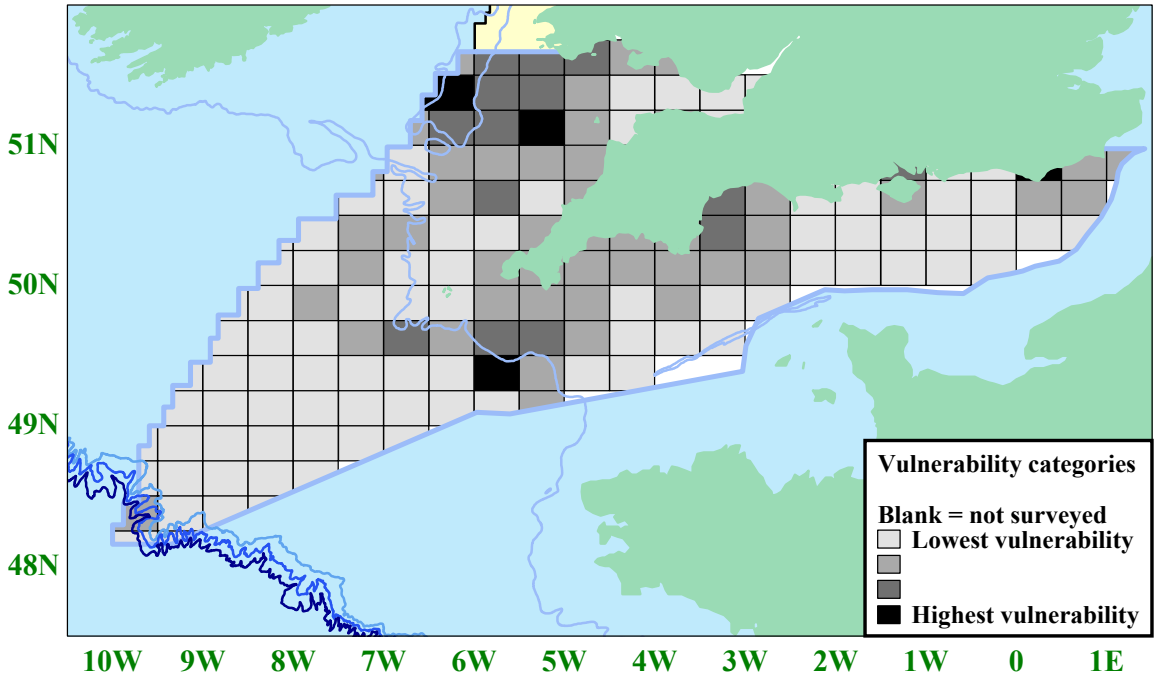
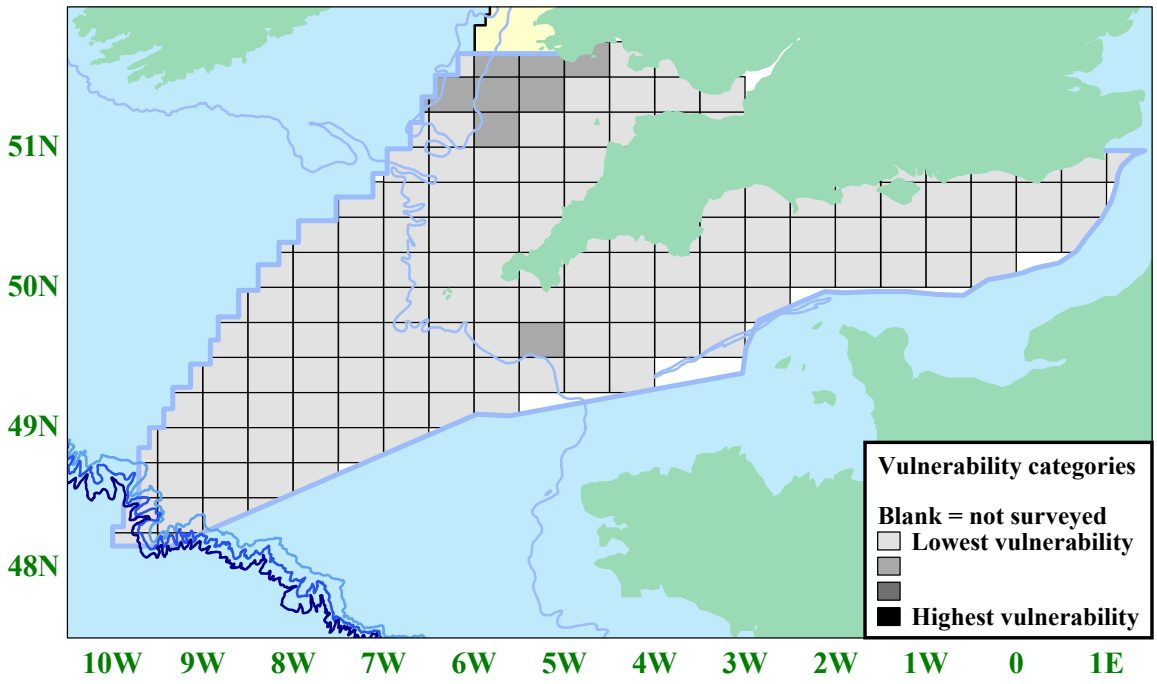
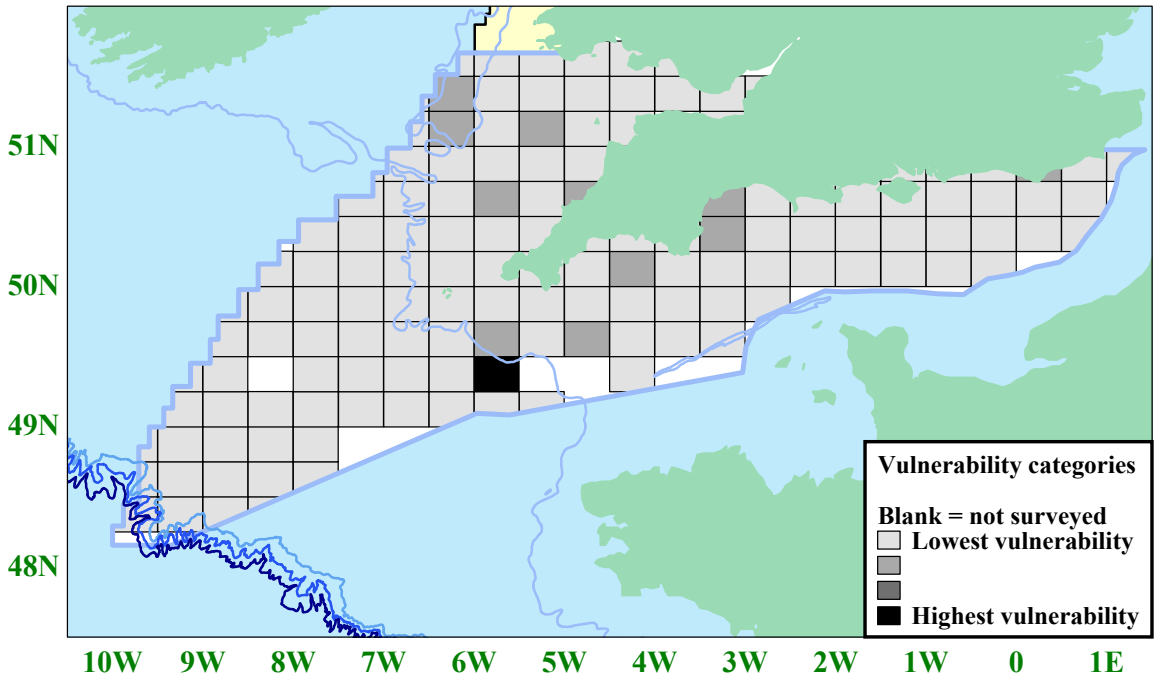


Figure 7.20 Average seabird vulnerability in SEA 8 area in summer – April to September



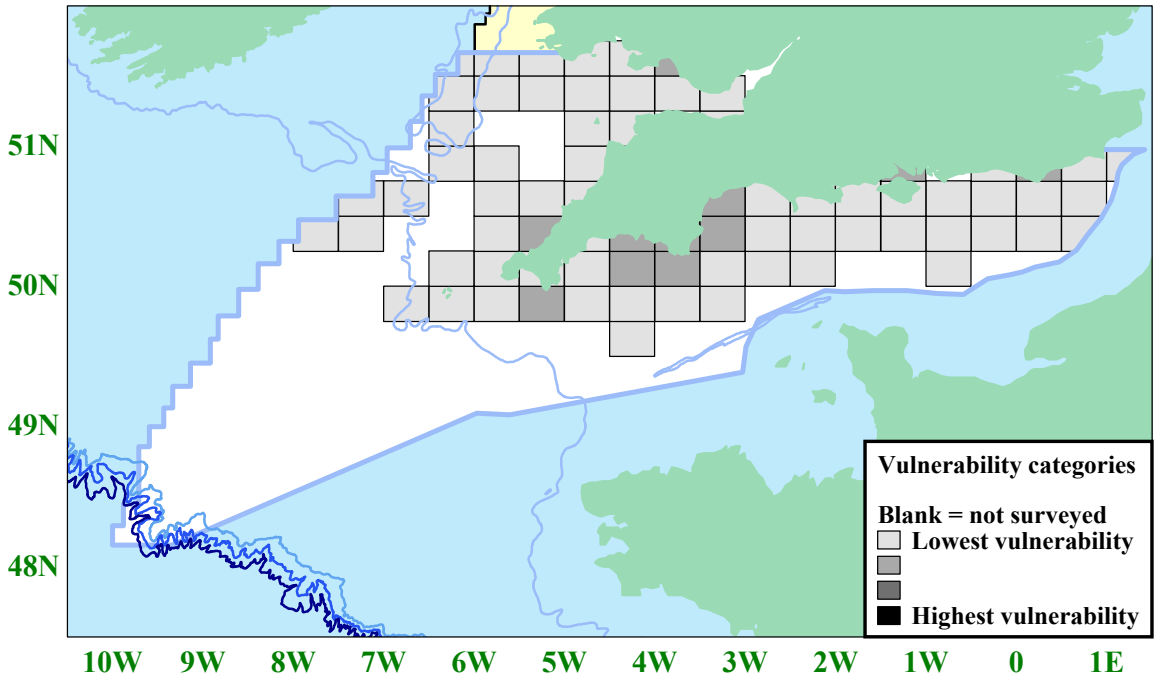
In summer, seabird vulnerability in SEA 8 was generally low (Figure 7.20). The waters south-west of Wales were moderately vulnerable to surface pollution, reflecting the presence of the large seabird colonies on Skomer and Skokholm to the north (in SEA 6). In winter, there was one area of high vulnerability beyond the 100 m depth contour, south of Cornwall and several areas of moderate vulnerability in the outer Bristol Channel and in the English Channel south-east of Cornwall and Devon (Figure 7.21).

Figure 7.21 Average seabird vulnerability in SEA 8 area in winter – October to March



Seabird vulnerability to surface pollutants in the SEA 8 area by month are shown in Figures 7.22 to 7.33.

Figure 7.22 Seabird vulnerability in SEA 8 area in January



Coverage in offshore waters of SEA 8 was poor in both January and February (Figures 7.22 & 7.23). In areas covered, vulnerability was low to moderate in January while there were two areas of high vulnerability over the Celtic Deep and off the north coast of Cornwall in February.

Figure 7.23 Seabird vulnerability in SEA 8 area in February

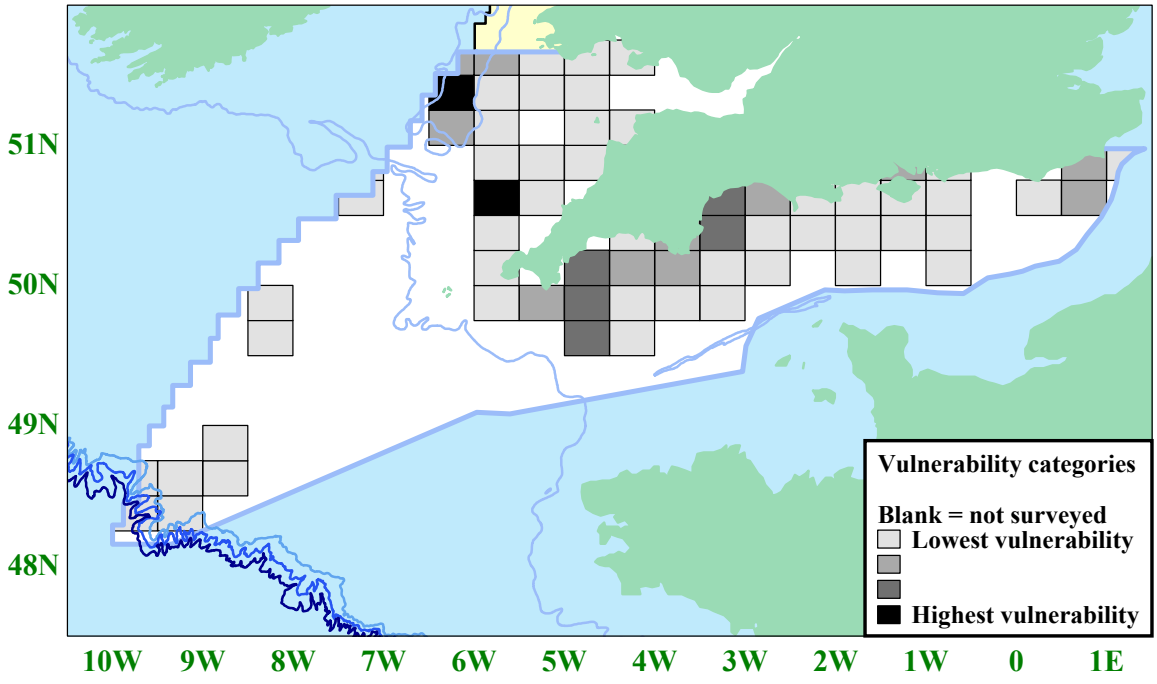
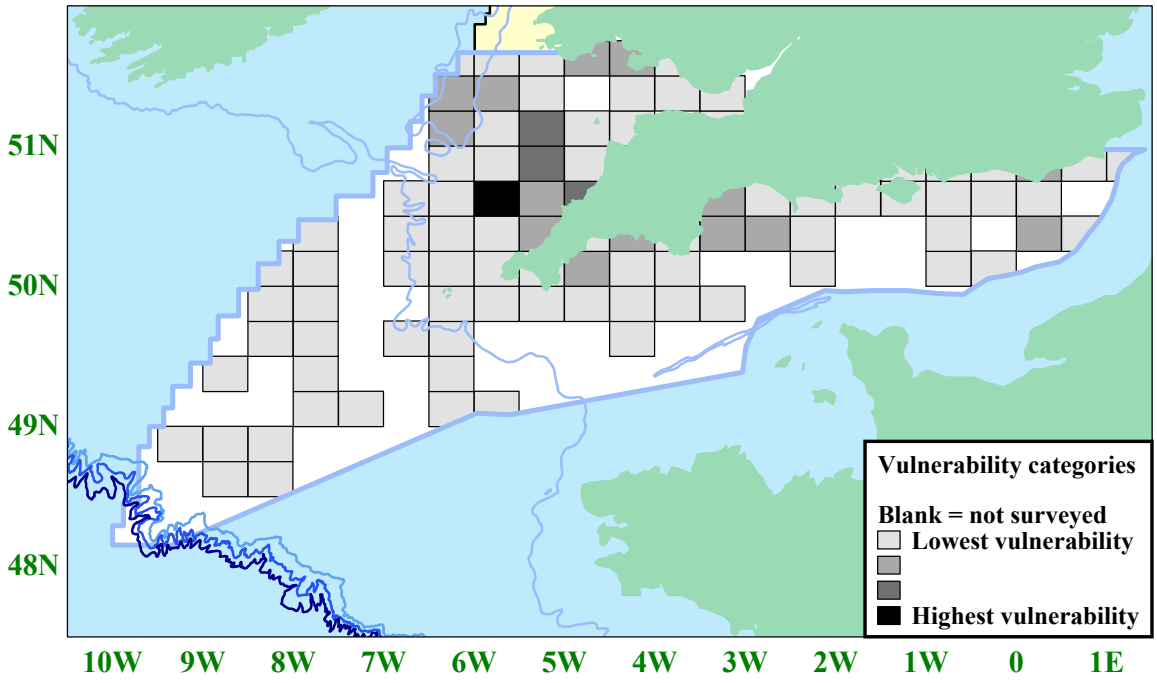


Figure 7.24 Seabird vulnerability in SEA 8 area in March



Although coverage in offshore waters was patchy in March and April, vulnerability was generally low at this time (Figures 7.24 & 7.25). Vulnerability was moderate to high in parts of the outer Bristol Channel and Celtic Deep in March. Vulnerability in April was generally low, but was moderate in areas of the Bristol Channel, Celtic Deep and English Channel.

Figure 7.25 Seabird vulnerability in SEA 8 area in April

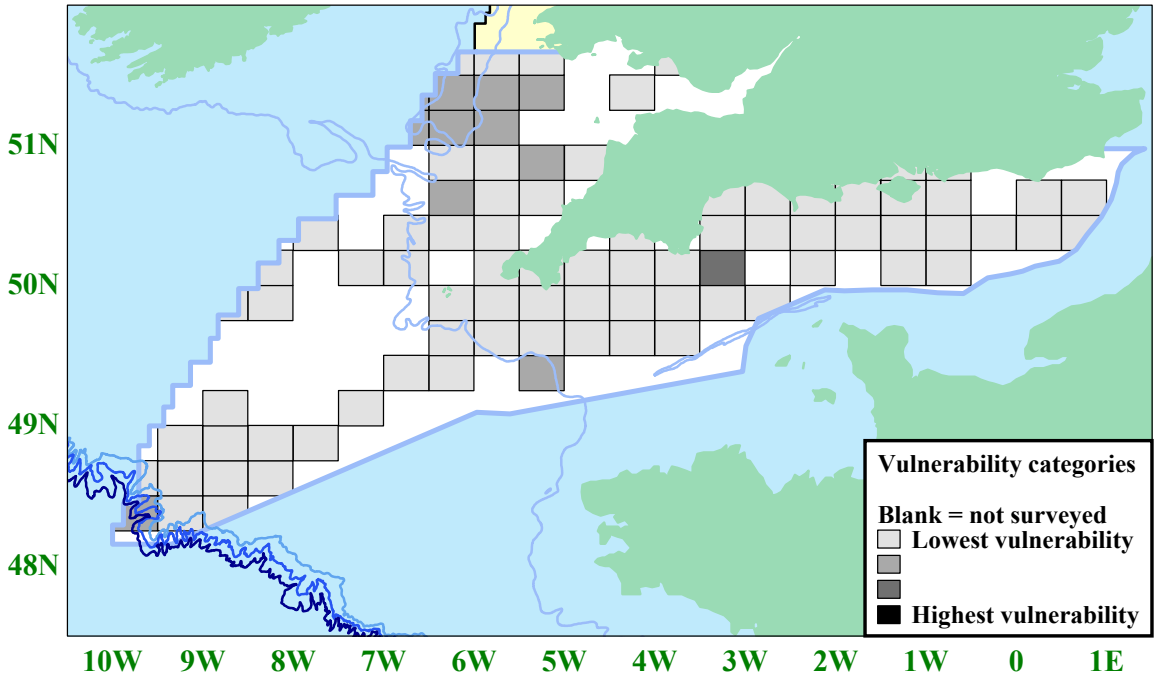
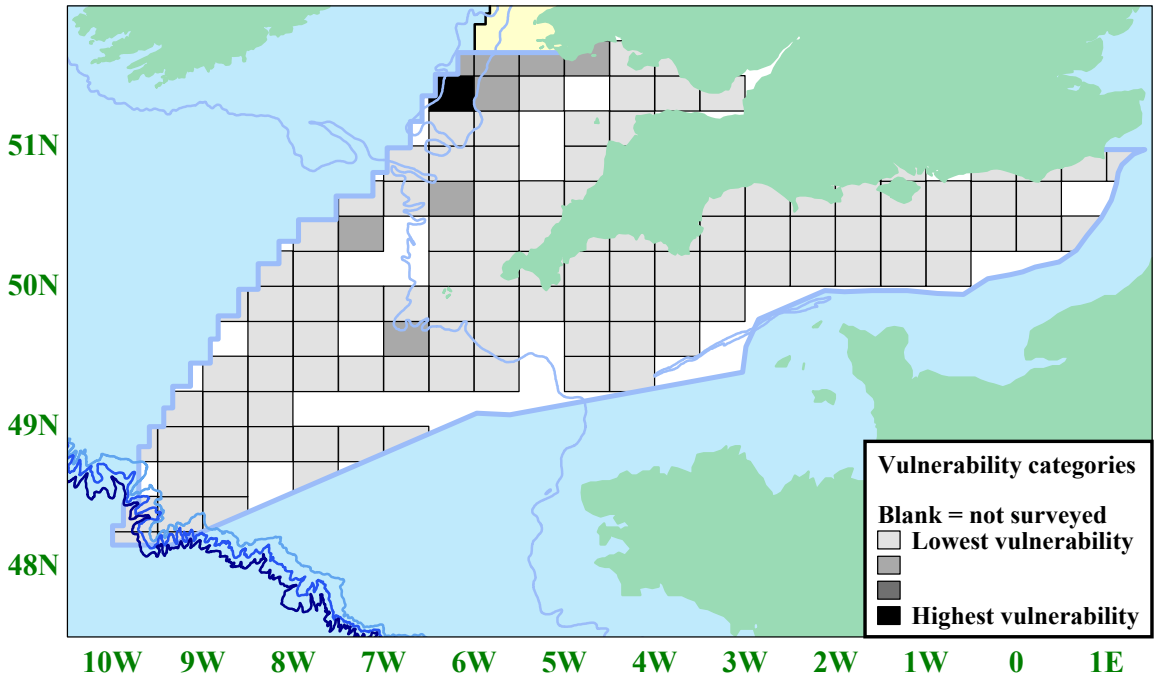


Figure 7.26 Seabird vulnerability in SEA 8 area in May



In May, the waters south-west of Milford Haven were classed as moderately vulnerable, with high vulnerability in the Celtic Deep (Figure 7.26). There were also patches of moderate vulnerability in waters greater than 100 m to the south-west of the study area. In June, vulnerability was generally low, rising to moderate in the waters south-west of Milford Haven, although survey coverage was incomplete (Figure 7.27).

Figure 7.27 Seabird vulnerability in SEA 8 area in June

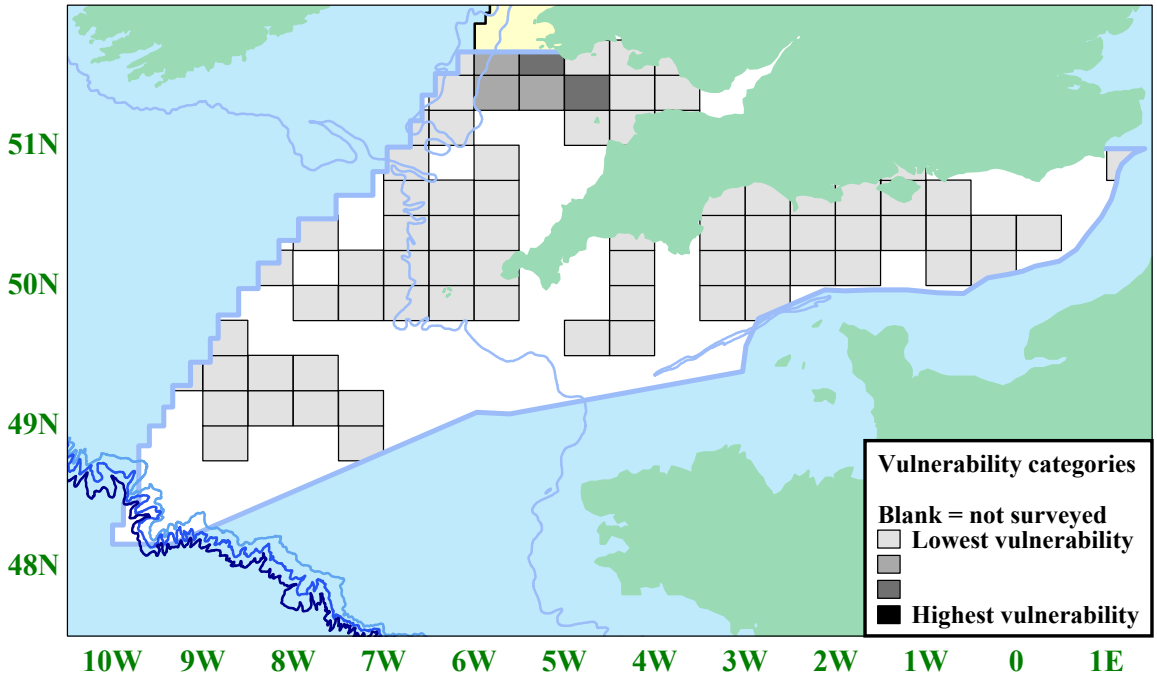
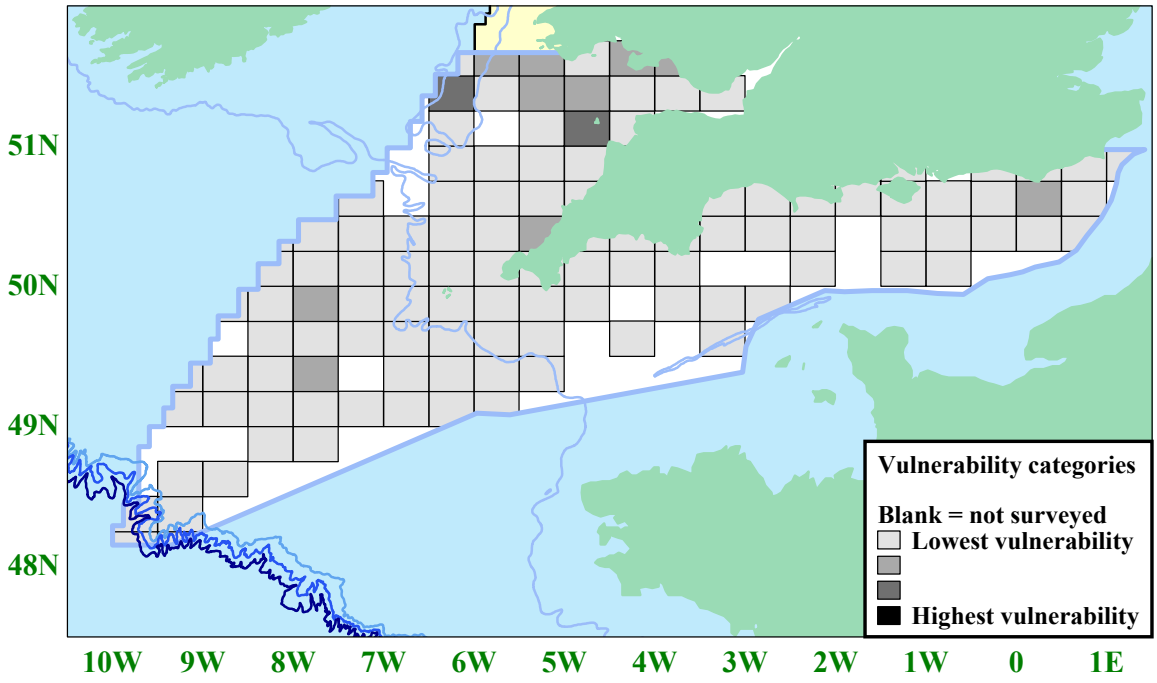


Figure 7.28 Seabird vulnerability in SEA 8 area in July



Vulnerability in July and August was generally low, with areas of the Bristol Channel classed as moderately vulnerable (Figures 7.28 & 7.29). There were moderate patches of vulnerability in waters greater than 100 m to the south-west in July and along the 100 m contour in August.

Figure 7.29 Seabird vulnerability in SEA 8 area in August

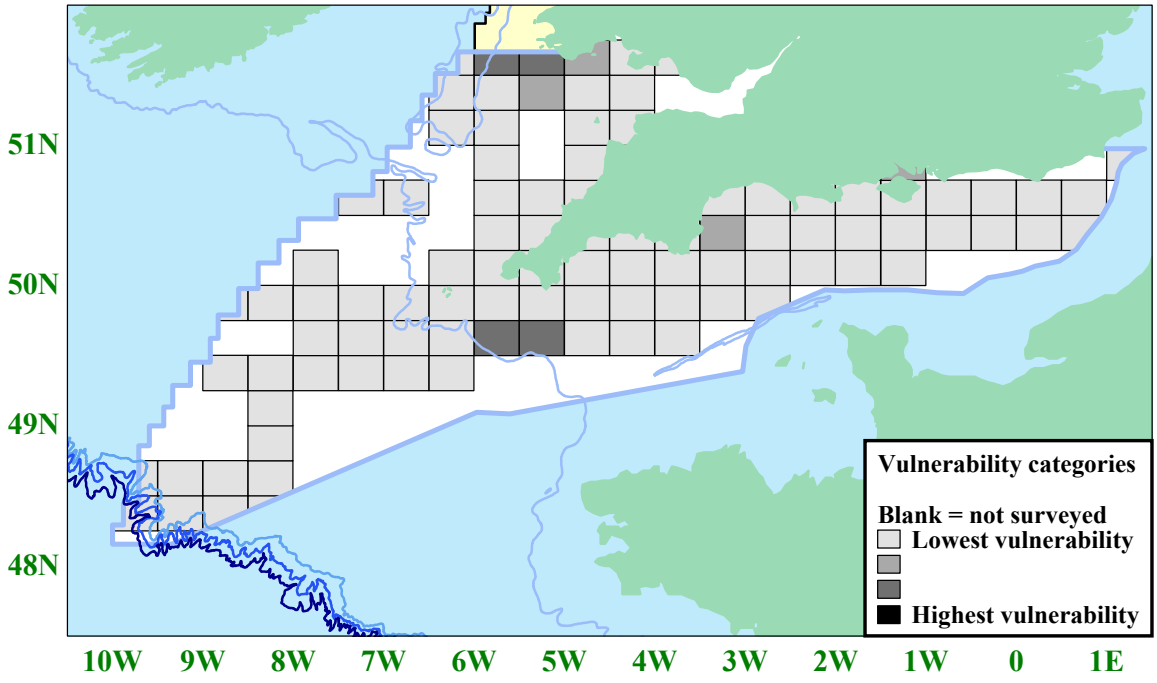
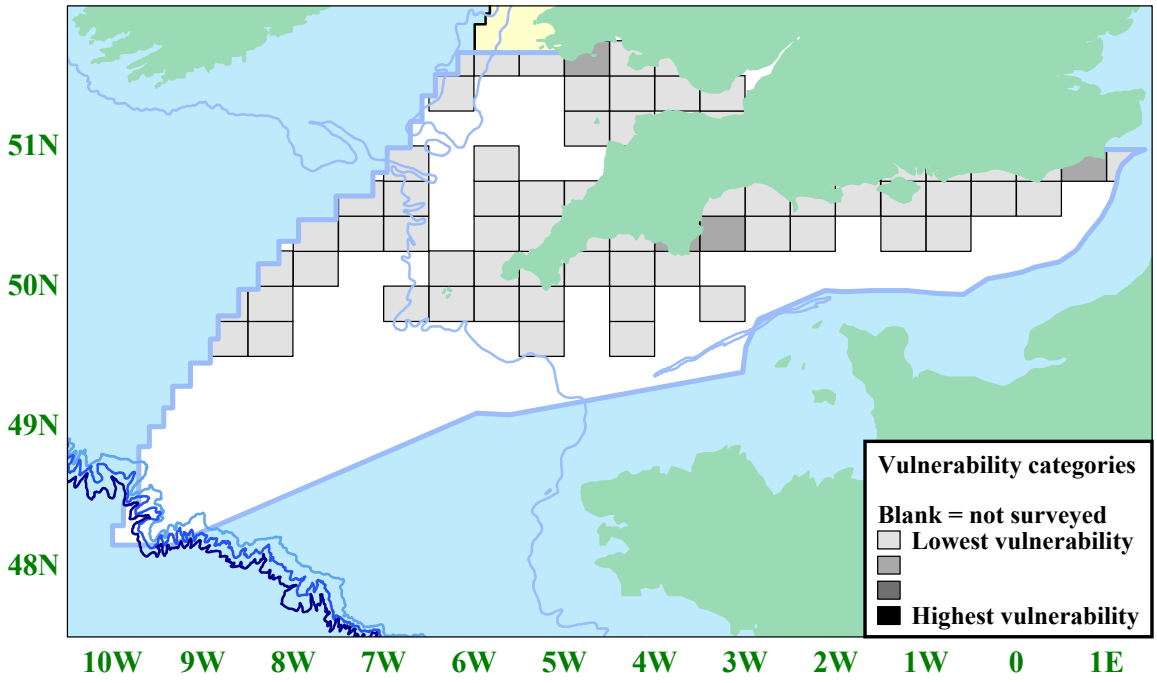


Figure 7.30 Seabird vulnerability in SEA 8 area in September



Vulnerability in September and October was generally low, although survey coverage was not complete in either month (Figures 7.30 & 7.31). The waters off Cornwall and south Devon were moderately vulnerable in October.

Figure 7.31 Seabird vulnerability in SEA 8 area in October

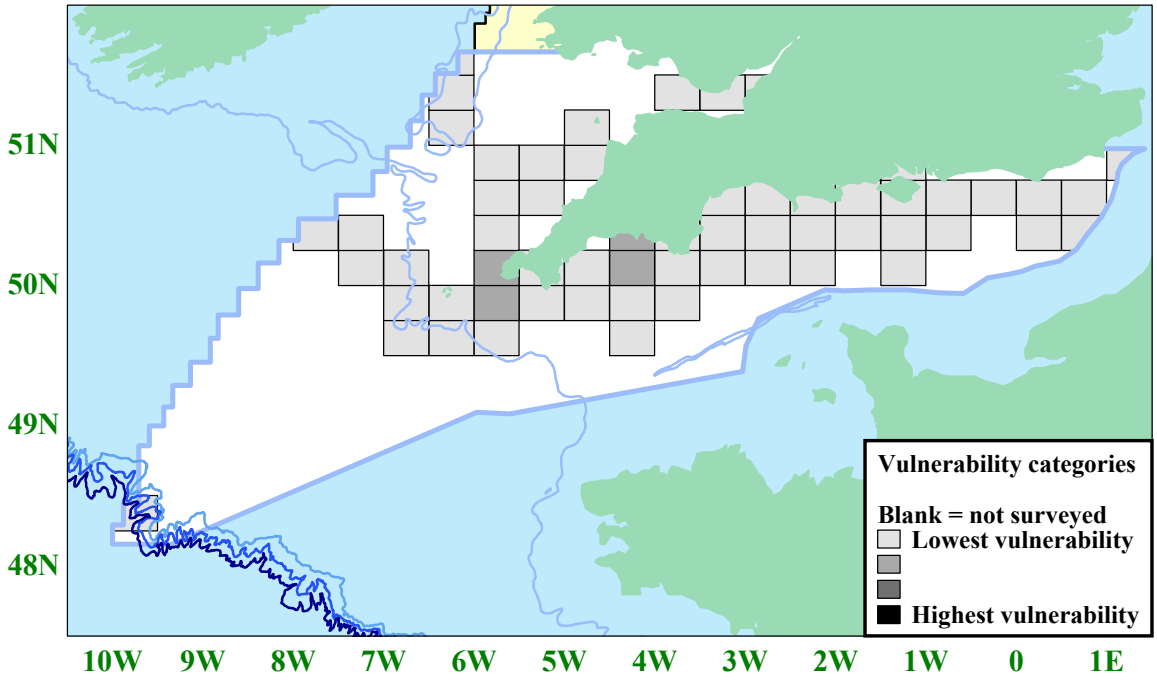
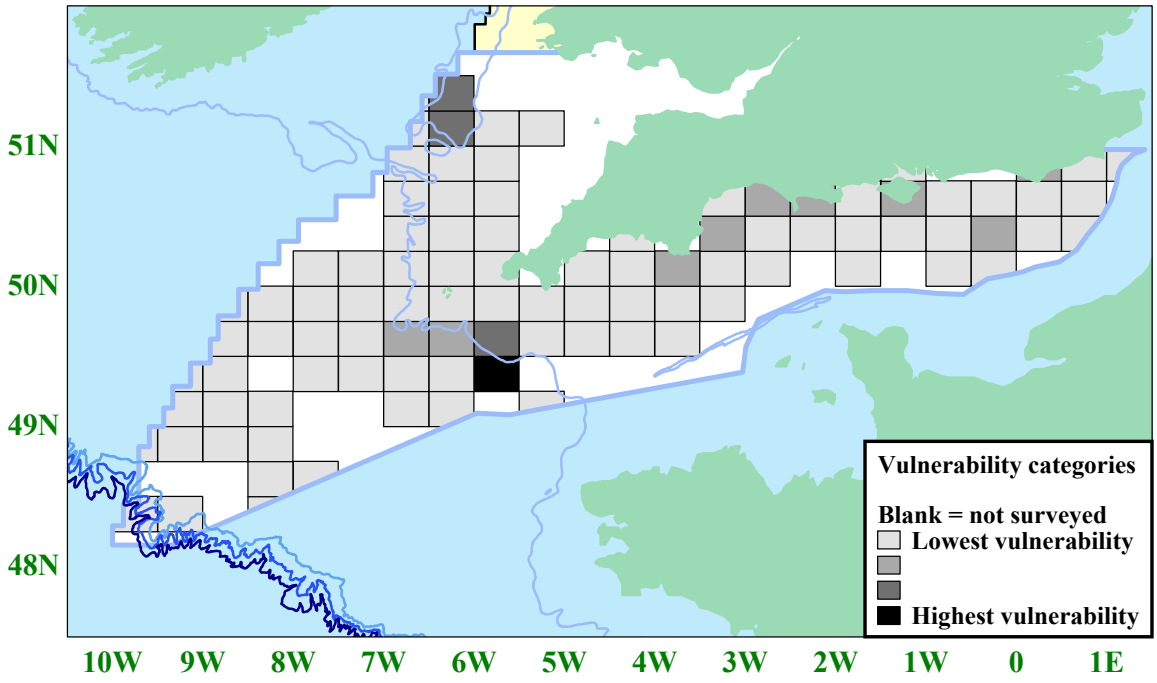
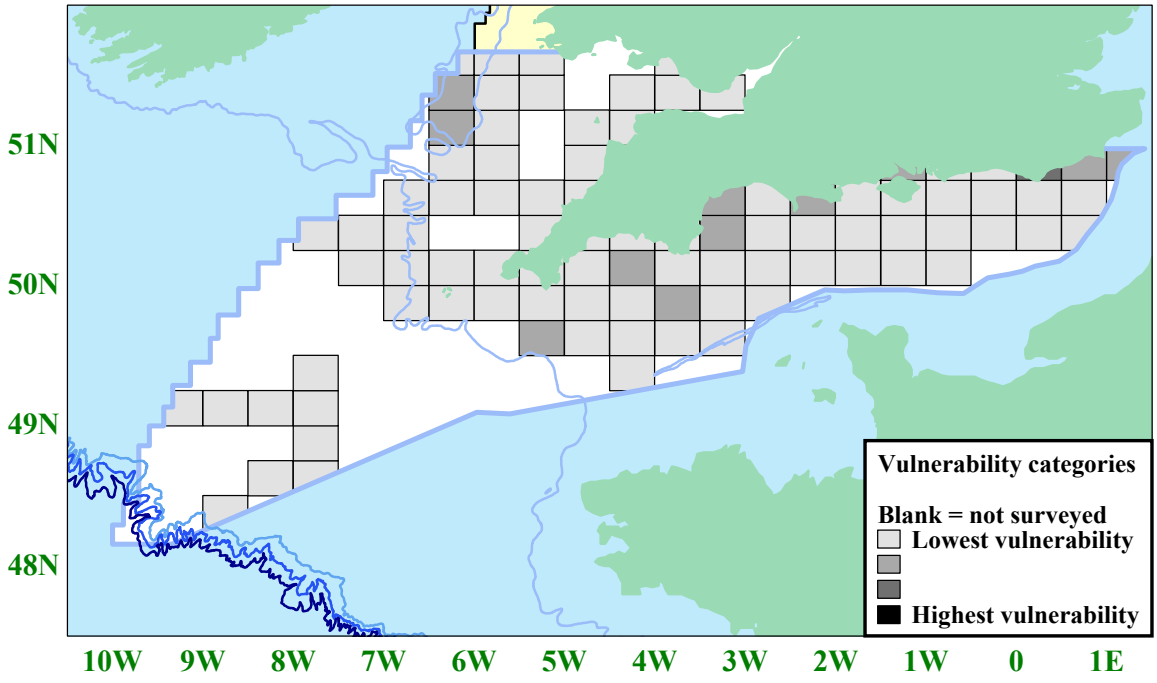


Figure 7.32 Seabird vulnerability in SEA 8 area in November



In November there were two areas of high vulnerability beyond the 100 m depth contour, south of Cornwall and in the Celtic Deep. Vulnerability was mostly low elsewhere in offshore waters (Figure 7.32). In December, vulnerability was low to moderate, although survey coverage was not complete in offshore waters (Figure 7.33).

Figure 7.33 Seabird vulnerability in SEA 8 area in December



7.2 Important sites for waders and inshore seabirds in SEA 8

Table 7.1 lists the most important sites for waders and inshore seabirds in the SEA 8 area i.e. sites which held 5 % or more of the nationally important population for one species or a combination of species. Sites and species are arranged in descending order of national importance, with species that occurred in internationally important numbers shown in bold. Species shown in italics are passage counts. Thresholds used are shown in Appendix A.

Table 7.1 Summary of important coastal sites for waders and inshore seabirds in the SEA 8 Area

Sites	Species
Langstone Harbour	Mediterranean Gull, Black-necked Grebe, **Common Tern**, Greenshank, Little Tern, **Black-tailed Godwit**, **Dunlin**, Grey Plover, Red-breasted Merganser, Sandwich Tern, Red-necked Grebe, Slavonian Grebe, Ringed Plover, Curlew
Poole Harbour	**Avocet**, **Black-tailed Godwit**, Black-necked Gebe, Red-breasted Merganser, Greenshank, Cormorant, Yellow-legged Gull, Lesser Black-backed Gull, Red-necked Grebe, Dunlin, Curlew, Black-throated Diver
Chichester Harbour	Greenshank, Mediterranean Gull, **Black-tailed Godwit**, Grey Plover, **Dunlin**, Red-breasted Merganser, **Redshank**, Ringed Plover, Little Tern, Little Grebe, Bar-tailed Godwit, Common Tern, Curlew, Black-necked Grebe
Carmarthen Bay	**Common scoter**, Sanderling, Golden Plover, Oystercatcher
Dungeness	Red-throated Diver, *Common Scoter*, *Little Gull*, Great Crested Grebe, Greenshank, *Black-necked Grebe*, Great Black-backed Gull, *Black-throated Diver*, Herring Gull, *Little Tern*, *Sandwich Tern*, *"Commic" Tern* [1], Lesser Black-backed Gull, *Arctic Skua*, Cormorant
Exe Estuary & Dawlish Warren	Avocet, Greenshank, **Balearic Shearwater**, **Black-tailed Godwit**, Slavonian Grebe, Sandwich Tern, Great Black-backed Gull, Black-necked Grebe, Red-breasted Merganser, Ringed Plover, Red-necked Grebe, Cormorant
Brighton Marina	*Little Gull,* Black-necked Grebe, *Common Tern*, *Red-throated Diver, "Commic" Tern* [1], Red-necked Grebe, *Black-throated Diver, Sandwich Tern, Common Scoter, Bar-tailed Godwit*, *Little Tern*
Tamar Complex	Avocet, Mediterranean Gull, Greenshank, Black-necked Grebe
Fal Complex & Bay	Black necked Grebe, Greenshank, Black-throated Diver
Brading Harbour	Mediterranean Gull
Church Norton & Pagham Harbour	Yellow-legged Gull, **Slavonian Grebe**, Great Black-backed Gull, Greenshank, **Black-tailed Godwit**, Grey Plover, Red-breasted Merganser, Cormorant, **Black-headed Gull**, Red-necked Grebe, Black-necked Grebe
Tor Bay & Hope's Nose	**Balearic Shearwater**, Black-necked Grebe, Herring Gull, Red-necked Grebe, Black-throated Diver, Great Northern Diver
Newtown Estuary	Mediterranean Gull
Camel Estuary	Mediterranean Gull, Lesser Black-backed Gull, Great Black-backed Gull, Greenshank, Black-necked Grebe
Gerrans Bay	Black-throated Diver, Black-necked Grebe, Slavonian Grebe, Red-necked Grebe
Studland Bay	Black-necked Grebe
Newhaven	Black-necked Grebe
Rye Harbour & Bay	Red-throated Diver, Sandwich Tern, Great Crested Grebe, Cormorant, Little Tern, Herring Gull, Black-necked Grebe, Common Gull
Severn Estuary	Lesser Black-backed Gull, **Dunlin**, Ringed Plover, Common Tern, Curlew, **Redshank**
Greatstone	Great Black-backed Gull, **Herring Gull, Common Gull**
Fleet/Way & Portland Harbour	Black-necked Grebe, Red-breasted Merganser, Red-necked Grebe, Little Tern, Slavonian Grebe, Black-throated Diver
Lade Sands	Great Crested Grebe, Red-throated Diver, Sanderling
Veryan Bay	Black-throated Diver, Red-necked Grebe

Continued overleaf

Table 7.1 Summary of important coastal sites (continued)

Sites	Species
St Austell Bay	Black-throated Diver, ***Manx Shearwater***, Slavonian Grebe, **Great Northern Diver**
St Ives Bay/Island	***Manx Shearwater***, ***Northern Gannet***, *Black-legged Kittiwake*, "*Guillemot/Razorbill*"[2], Herring Gull, Black-necked Grebe
Southampton Water, (incl Eling & Dibden Bay)	**Black-tailed Godwit**, Yellow-legged Gull, Greenshank, Lesser Black-backed Gull, Common Tern, Black-necked Grebe, Red-necked Grebe
Black Point/ Hayling Bay	Black-necked Grebe, *Little Gull*, Slavonian Grebe, *Sandwich Tern*, Red-necked Grebe
Taw Estuary	Greenshank, Golden Plover
Sandy Point	*Common Tern, Sandwich Tern*
Hill Head & Stokes Bay	*Common Tern*, Black-necked Grebe, *Sandwich Tern*, Red-necked Grebe
Pendeen Watch	***Manx Shearwater, Northern Gannet***
Kingsbridge Estuary	Greenshank, Black-necked Grebe
Shoreham, Worthing – Ferring & Southwick	Herring Gull, Red-breasted Merganser, Razorbill, Black-necked Grebe, *Little Tern*, Cormorant
Bosigran	***Manx Shearwater***
Cape Cornwall	***Manx Shearwater***, "*Guillemot/Razorbill*"[2]
North west Solent (Including Needs Ore)	Black-necked Grebe, Black-tailed Godwit, Greenshank, Red-necked Grebe, Slavonian Grebe
Start Bay	Black-necked Grebe, Great Black-backed Gull, Red-necked Grebe
Porthgwarra	***Manx Shearwater, Balearic Shearwater***, Black-throated Diver
Lymington/Hurst	*Common Tern, Little Gull*, Black-necked Grebe, Slavonian Grebe
Mevagissey Bay	Black-throated Diver
Berry Head	***Balearic Shearwater***, *Common Tern, Arctic Skua*
Selsey Bill	*Little Gull*, Red-necked Grebe
Mount's Bay	Black-necked Grebe, Black-throated Diver, Great Northern Diver
Portsmouth Harbour	Black-tailed Godwit, Great Black-backed Gull, Red-breasted Merganser
Hayle Estuary	Lesser Black-backed Gull, Black-necked Grebe
Yealm Estuary	Greenshank
Christchurch Harbour	Greenshank, Common Tern
Trevose Head	***Manx Shearwater***, "*Guillemot/Razorbill*"[2]
Cardiff Bay	Lesser Black-backed Gull, Black-necked Grebe
Hartland Point	Red-throated Diver, **Manx Shearwater**
Rhymney Estuary	Lesser Black-backed Gull
Prawle Point	Black-necked Grebe
Hastings to Bexhill	Great Black-backed Gull, Herring Gull, Black-necked Grebe
Plymouth Estuary & Breakwater	Great Black-backed Gull
Rump's Point	"*Guillemot/Razorbill*"[2]
Dartmouth	Black-necked Grebe
Splash Point, Seaford	*"Commic" Tern* [1]
Whitsand Bay	Slavonian Grebe
Swansea Bay	Sanderling
Carbis Bay	Black-necked Grebe
Carlyon Bay	Black-necked Grebe
Nanjizal	Black-necked Grebe
Seaton/Downderry	Great Northern Diver

1 Unidentified Common or Arctic Terns – see Barton & Pollock (2005) for further information. 2 Unidentified Guillemot or Razorbill

Note: The above table is an update of Table 6.3 in Barton & Pollock 2005 and Table 4.3 in Barton & Pollock 2006.

7.3 The importance of SEA 8 in a national and international context

7.3.1 Seabirds

Twenty-one species of seabird totalling over 75,541 pairs of birds breed within the SEA 8 area (JNCC, Seabird 2000 data). Of these 21 species, 14 species breed within the SEA 8 area in nationally important numbers (i.e. more than 1 % of the British breeding population). Breeding numbers in a British and biogeographic context for the 15 offshore species considered in this review are shown in Table 7.2. (See Barton & Pollock 2005 & 2006 for information on inshore seabird species). An indication of the at-sea distribution in SEA 8 and the other SEA areas is also shown in Table 7.2.

Table 7.2 Overview of importance of SEA 8 area for offshore seabird species

Species	Numbers breeding in SEA 8 as % of British population	Numbers breeding in SEA 8 as % of biogeographic population	Important SEA areas based on ESAS data[3]
Northern Fulmar [1]	< 1 %	< 1 %	1, 4, 5, 7
Cory's Shearwater	-	-	8
Great Shearwater	-	-	7,8
Sooty Shearwater	-	-	4, 7
Balearic Shearwater	-	-	8
European Storm-petrel [1]	4.4 – 7.0 %	< 1 %	7, 8
Northern Gannet [2]	< 1 %	< 1 %	5, 7, 8
Pomarine Skua	-	-	3, 5, 7
Arctic Skua	-	-	5
Great Skua	-	-	4, 5, 7, 8
Sabine's Gull	-	-	8
Lesser Black-backed Gull [1]	10.4 %	6.8 %	6, 7, 8
Black-legged Kittiwake [1]	1.3 %	< 1 %	3, 4, 5, 6, 7, 8
Arctic Tern	-	-	5, 6, 7
Atlantic Puffin [1]	< 1 %	< 1 %	3, 5, 7

1 JNCC, Seabird 2000 database 2 Wanless *et al* 2005 3 Based on Stone *et al* 1995, Pollock *et al* 1997 and Mackay & Giménez 2004

In a national context, Lesser Black-backed Gull is the most significant species with 10.4 % of the breeding population occurring in the SEA 8 area, which is 6.8 % of the biogeographic population. European Storm-petrel and Black-legged Kittiwake are also important breeding species with over 1 % of the British population of each species breeding in the SEA 8 area.

For non-breeding migrant species such as Cory's, Great and Balearic Shearwater and Sabine's Gull, the SEA 8 area is important on a national level. Balearic Shearwater is listed as Critically Endangered on the International Union for Conservation of Nature and Natural Resources (IUCN) 2006 Red List. The SEA 8 area is also important for Great Skuas outside the breeding season.

European Storm-petrel, Cory's Shearwater, Balearic Shearwater and Arctic Tern are listed on Annex I of the EU Birds Directive (79/409/EEC).

7.3.2 Waders

A total of 13 species of waders were regularly recorded in nationally and internationally important numbers at coastal sites within the SEA 8 area (Table 7.3).

Table 7.3 Summary of importance of SEA 8 area for waders

Species	Nationally or internationally important concentrations in SEA 8 area
Oystercatcher	Nationally important
Avocet	Internationally important
Ringed Plover	Nationally important
Golden Plover	Internationally important
Grey Plover	Nationally important
Sanderling	Nationally important
Dunlin	Internationally important
Black-tailed Godwit	Internationally important
Bar-tailed Godwit	Nationally important
Whimbrel	No threshold set
Curlew	Nationally important
Redshank	Internationally important
Greenshank	Nationally important

Avocet, Golden Plover, Dunlin (*schinzii* race) and Bar-tailed Godwit are listed on Annex I of the EU Birds Directive (79/409/EEC). Several sites within the SEA 8 area held important concentrations of Avocet, with internationally important numbers recorded in Poole Harbour (Dorset).

8. Discussion

8.1 Offshore species

ESAS surveys found that the most commonly recorded species in offshore waters of the SEA 8 area were Northern Gannet, Black-legged Kittiwake, Northern Fulmar and Lesser Black-backed Gull.

Although only recorded in small numbers, the majority of sightings of Balearic Shearwater on ESAS surveys in UK waters were in SEA 8. This species is listed as Critically Endangered on the International Union for Conservation of Nature and Natural Resources (IUCN) 2006 Red List. ESAS data also showed that the SEA 8 area is important for other migrant shearwater species such as Cory's and Great Shearwaters as well as Sabine's Gull, although overall numbers were low. Both Cory's Shearwater and Balearic Shearwater are listed on Annex I of the EU Birds Directive (79/409/EEC). Further studies are needed to determine the importance of the SEA 8 area for these migrant species.

Lesser Black-backed Gull is the most important breeding seabird in the SEA 8 area which hosts almost 7 % of the biogeographic population. Numbers of breeding European Storm-petrels within the SEA 8 area are nationally important with up to 7 % of the UK population breeding on the Isles of Scilly. This species is also listed on Annex I of the EU Birds Directive (79/409/EEC).

The Celtic Deep, Outer Bristol Channel and waters south of Devon were important offshore areas for seabirds. Overall, there were large gaps in coverage in the offshore waters of SEA 8, particularly in September and October and between December and February. However, based on survey work conducted to date, total seabird density was generally low across the SEA 8 area throughout the year, while species diversity was generally lower in offshore waters compared to inshore areas.

Seabird vulnerability to surface pollution in offshore areas of the SEA 8 area was generally low throughout the year. However there were two areas of high vulnerability beyond the 100 m depth contour, south of Cornwall and in the Celtic Deep. Vulnerability was also moderate to high west of Lundy in the outer Bristol Channel.

In order to evaluate seabird vulnerability in the SEA 8 area on a national basis, new vulnerability analyses are needed. Previous vulnerability maps such as UKDMAP (NERC 1998) are now very much out of date, especially following recent inshore aerial surveys from 2000 to the present (e.g. Cranswick *et al* 2004).

Seabird surveys in the SEA 8 area should be continued to improve existing data, particularly in months of insufficient survey coverage and in offshore areas. This would allow long term trends and short term fluctuations in the distribution of seabirds in the SEA 8 area to be determined.

8.2 Waders

Several coastal sites within the SEA 8 area held internationally important concentrations of Black-tailed Godwit, Dunlin, Avocet and Redshank, with a further eight species occurring in nationally important numbers. Most of these sites are regularly monitored on a monthly basis as part of the WeBS monitoring programme (see Collier *et al* 2005).

Key areas were Langstone Harbour (Sussex) for Black-tailed Godwit and Dunlin, Poole Harbour (Dorset) for Avocet and Black-tailed Godwit, Chichester Harbour (Hampshire/Sussex) for Black-tailed Godwit, Dunlin and Redshank, the Exe Estuary & Dawlish Warren (Devon) for Black-tailed Godwit, Church Norton & Pagham Harbour (Sussex) for Black-tailed Godwit, the Severn Estuary (Avon) for Dunlin and Redshank and Southampton Water (Hampshire) for Black-tailed Godwit.

Poole Harbour is the most important site in the UK for Avocet.

8.3 Additional information on inshore seabirds

Inshore seabird species were covered in the SEA 6, 7 & 8 inshore seabird review (Barton & Pollock 2005) and the SEA 6, 7 & 8 inshore review technical update (Barton & Pollock 2006). However, additional count information for the SEA 8 area was available from bird reports for several species and was included here.

Outside the breeding season, the SEA 8 area held internationally important concentrations of Great Northern Diver, Slavonian Grebe, Balearic Shearwater, Manx Shearwater, Northern Gannet, Common Scoter, Black-headed Gull, Common Gull, Herring Gull and Common Tern, with a further eighteen species occurring in nationally important numbers.

Key areas were St Austell Bay (Cornwall) for Great Northern Divers, Church Norton and Pagham Harbour (Sussex) for Slavonian Grebes and Black-headed Gulls, Carmarthen Bay (Pembrokeshire) for Common Scoter, Greatstone (Kent) for Common Gull and Herring Gull, Langstone Harbour (Hampshire) for Common Tern and several seawatching sites in south-west England for high numbers of Balearic Shearwaters, Manx Shearwaters and Northern Gannets on passage.

9. Recommendations

Based on this review, it is recommended that:

- Seabird surveys in the SEA 8 area should be continued to improve existing data, particularly in months of insufficient survey coverage in offshore areas.
- Further studies are needed to establish the importance of the SEA 8 area to migrant species, particularly Balearic Shearwater and other Annex I species
- Seabird vulnerability maps of UK waters should be updated to put the SEA 8 area (and other SEA areas) in a national context

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APPENDIX A

National & International Thresholds used in this review

Appendix A National & International thresholds used in this review (after Collier *et al* 2005 unless otherwise stated)

Species	Definition	National threshold (individuals)	International threshold (individuals
Red-throated Diver	1% national importance	49	10,000
Black-throated Diver	1% national importance	7	10,000
Great Northern Diver	1% national importance	30	50
Little Grebe	1% national importance	78	3,400
Great Crested Grebe	1% national importance	159	4,800
Red-necked Grebe	1% national importance	2	1,000
Slavonian Grebe	1% national importance	7	35
Black-necked Grebe	1% national importance	1	2,800
Cory's Shearwater [2]	1% breeding population	-	6,000
Great Shearwater [2]	1% breeding population	-	150,000
Sooty Shearwater [2]	1% breeding population	-	200,000
Manx Shearwater [1]	1% breeding population	5,902	7,500
Balearic Shearwater [2]	1% breeding population	-	33
European Storm-petrel [1]	1% breeding population	514	9,800
Northern Gannet [3]	1% breeding population	4,411	6,275
Cormorant	1% national importance	230	1,200
Shag	1% breeding population	572 [3]	2,400
Common Scoter	1% national importance	500	16,000
Goldeneye	1% national importance	249	4,000
Red-breasted Merganser	1% national importance	98	1,700
Oystercatcher	1% national importance	3,200	10,200
Avocet	1% national importance	35	730
Ringed Plover	1% national importance	330	730
Golden Plover	1% national importance	2,500	9,300
Grey Plover	1% national importance	530	2,500
Sanderling	1% national importance	210	1,200
Dunlin	1% national importance	5,600	13,300
Black-tailed Godwit	1% national importance	150	350
Bar-tailed Godwit	1% national importance	620	1,200
Whimbrel	1% national importance	-	6,100
Curlew	1% national importance	1,500	4,200
Redshank	1% national importance	1,200	1,300
Greenshank	1% national importance	6	3,100
Turnstone	1% national importance	500	1,000

Pomarine Skua [2]	1% breeding population	-	750
Arctic Skua [1]	1% breeding population	42	500
Great Skua [1]	1% breeding population	192	320
Mediterranean Gull [1]	1% breeding population	2	1,620
Little Gull	nominal threshold	50 [4]	840
Black-headed Gull	1% national importance	19,000	20,000
Common Gull	1% national importance	9,000	17,000
Lesser Black-backed Gull	1% national importance	500	5,300
Herring Gull	1% national importance	4,500	13,000
Yellow-legged Gull	nominal threshold	20 [5]	7,000
Great Black-backed Gull [1]	1% national importance	400	4,700
Black-legged Kittiwake	1% breeding population	7,336 [3]	20,000 [2]
Sandwich Tern	1% breeding population	210 [3]	1,700 [2]
Common Tern	1% breeding population	206 [3]	1,900 [2]
Arctic Tern	1% breeding population	1,052 [3]	22,930 [3]
Little Tern	1% breeding population	38 [3]	340 [2]
Guillemot	1% breeding population	13,228 [3]	42,537 [3]
Razorbill	1% breeding population	1,646 [3]	7,910 [3]

1 1% breeding population thresholds from Mitchell *et al* 2004
2 1% population estimates from Birdlife International 2007
3 1% breeding population threshold from Wanless *et al* 2005
4 No national threshold set – 50 birds chosen as nominal threshold
5 No national threshold set – 20 birds chosen as nominal threshold