

SEABIRD & MARINE MAMMAL SURVEY

VOS Rambler 14-27 September 2008

For Cork Ecology

**Survey Conducted by Adam Batty, Stuart Thomas
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INTRODUCTION

This survey was carried out on board the VOS Rambler, under charter to Cork Ecology, in the latter half of September 2008. The primary aim was to survey the supplementary transects in the Dogger Bank Area. As these were completed in good time, additional areas in the area were suggested and completed. Surveys were also undertaken en route to transects. The surveys recorded seabirds using standard Seabirds At Sea Team (SAST) methodology (*Webb & Durinck 1992, Camphuysen & Garthe 2004*). A dedicated marine mammal observer was also present on board the VOS Rambler for the duration. Although the complete findings are reported elsewhere some selected marine mammal records are presented here.

METHODS

Standard ESAS methods were used (*Webb & Durinck 1992, Camphuysen & Garthe 2004*), using two observers on board. This standard method involves the simultaneous operation of three separate, but linked, methodologies (Fig. 1) Surveying a 90° scan area, from bow to beam, on one side of the vessel (the side chosen is based on observation conditions). All birds seen at any time within this area are recorded. This data can be used to give indications of abundance and distribution, and allows for the recording of scarce and unusual species which are unlikely to appear in transect.

2) Surveying a band transect. A 300 metre wide transect, ahead of the vessel within the 90° survey area is operated. This strip is further divided into four sub-bands (A-D, band E>300m). Birds recorded on the water (or making contact with the water, e.g. feeding), at any point within this 300m area are recorded as being 'in transect'.

3) A 'snapshot' method is operated for flying birds. The area ahead of the ship, within the band transect, is surveyed instantaneously at set intervals (depending on vessels speed) for flying birds. For example if the vessel travels 300m per minute, the snapshot area will be 300m ahead, and an instantaneous count of flying birds will be made every minute. Birds recorded within the snapshot are recorded as being 'in transect'. Counts of birds 'in transect' (methods 2 & 3) allow for the determination of densities and distributions of seabirds. There was no surveying during the stationary periods, while shooting or hauling nets, or when trawling. Weather limitation is usually taken to be sea state 6 or over but these conditions were not experienced on the survey.

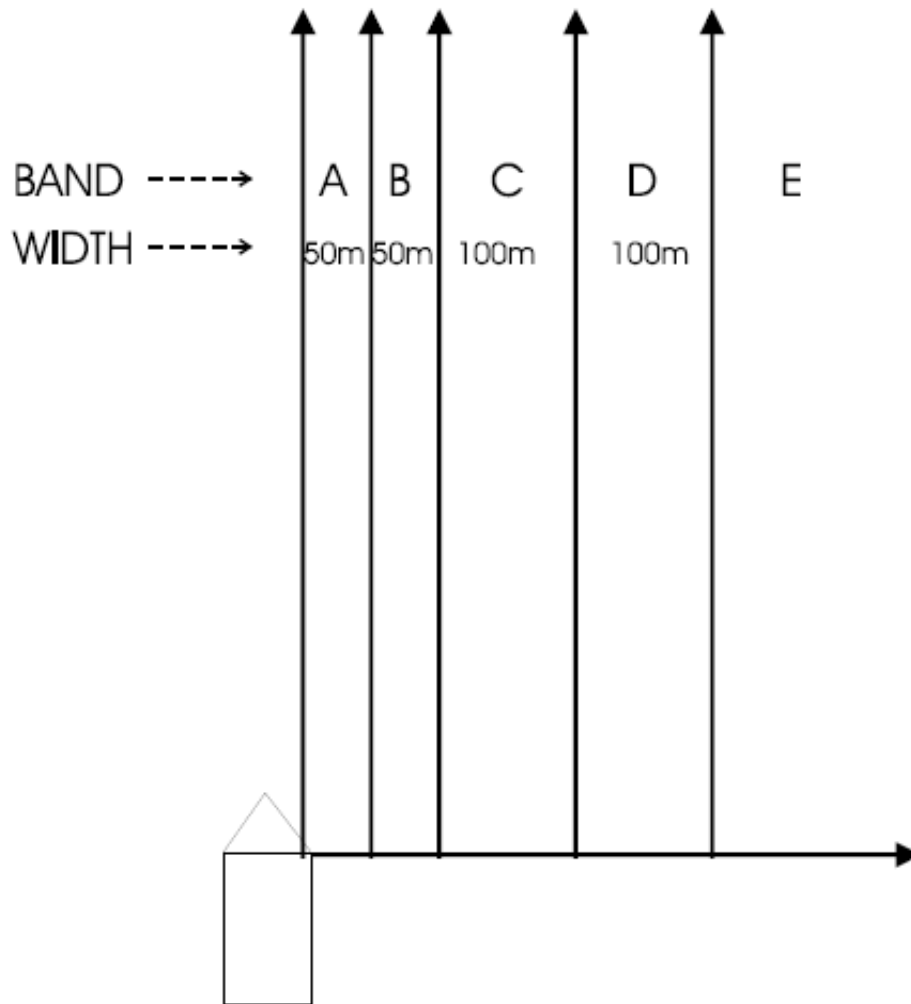


Figure 1: The 90° scan (recording) area with band transect subdivisions

Modifications to Methods

Surveying is usually performed using the naked eye, with binoculars used to check identifications or other details. Binoculars are also occasionally used to scan ahead of the vessel as an observers 'self-check' on observational efficiency during the survey.

In certain areas, where species such as divers and sea-duck are present, binoculars must be used with more regularity in order to detect these birds at distance, ahead of the vessel, before they fly off.

RESULTS

General Details

Height of eye was 7 metres, seated in an observation box on the bridge deck. Count periods were 1 minute intervals throughout the survey. Vessel speed averaged about 8-9 knots while surveying. A total of 130 hours and 55 minutes of survey were performed.

The survey area consisted of the Core area (highest priority) and adjacent Supplementary area. The Core area extended from 54°15' N to 55°00' N and 1°30' E to 3°00' E. The Supplementary area was larger; 55°00' N to 56°00' N and 1°00' E to 3°30' E. The survey transects ran north-south, approximately 5.5 miles apart. There were 9 transects, 45 miles long, in the Core area and 15 transects, 60 miles long in the Supplementary area. Additional transects were covered to the south of the Core Area. Observations were also carried out whenever possible en route to the survey area.

Half a day of survey was lost due to bad weather. Weather remained suitable throughout the survey so that no days were lost due to weather restrictions.

The location of the transects and the route taken between them illustrated below in Figure 2.



Figure 2 Position of transects and approximate route

Daily Summary

14 September 2008

Survey team mobilised at VOS Rambler in Den Helder, Netherlands at 09:30 local time. Day spent with handover from previous survey team, run through of method and datentry system with new scientific crew and calibration of measuring sticks. Due to mechanical problems that needed to be addressed, loading of provisions and waiting to obtain clearance from Immigration the departure from Den Helder was delayed until 18:00 local time. Common Scoter, Sandwich Tern, Meadow Pipit and Wheatear were seen in the short period of remaining light on departure.

15 September 2008

Weather: E 2 Sea state 2, Visibility Excellent.

In transit to Dogger Bank supplementary transects all day

All 3 surveyors surveyed together from 06:20 UTC until 09:00 when the safety briefing and orientation was conducted. Survey then recommenced from 10:00- 16:30

1 Red throated Diver, 37 Fulmar, 1 Sooty Shearwater, 74 Gannet, 4 Great Skua, 1 Arctic Skua, 14 Lesser Black-backed Gull, 1 Herring Gull, 11 Great Black-backed Gull, 33 Kittiwake, 23 Guillemot and 2 Puffin were recorded on survey.

Merlin, Osprey, Sparrowhawk, Short-eared Owl, Turnstone, Yellow Wagtail, Redstart, Wheatear, Robin, Reed Warbler, Blackcap, Willow Warbler were noted on passage. Red Admiral and Peacock butterflies and a hoverfly species were also seen.

16 September 2008

Weather: SE to E 3, sea state 2 to 3 Dry and overcast.

Commenced surveying the Dogger bank supplementary transects finishing two transects that had been partly surveyed in the previous week. As an oil rig was located directly on the transect it was necessary to undertake a slight deviation from the line to remain out with the exclusion zone. Surveyed continuously from 05:31 until 17:53.

30 Fulmar, 40 Gannet, 5 Great Skua, 2 Common Gull, 29 Lesser Black-backed Gull, 1 Herring Gull, 1 Kittiwake and 5 Guillemot were recorded on survey.

Osprey, Kestrel, 2 Sparrowhawk, 4 Teal, Robin, Redstart and Wheatear were noted on passage. A Minke whale and a probable porpoise were also recorded.

17 September 2008

Weather: SE 2-3 sea state 2-3 Generally overcast and dry except for 2 hours of light rain.

27 Fulmar, 2 Storm Petrel, 1 Leach's Petrel, 69 Gannet, 2 Great Skua, 1 Black-headed Gull, 1 Common Gull, 3 Lesser Black-backed Gull, 4 Herring Gull, 1 Kittiwake, 2 Guillemots on survey.

Three Kestrel, 1 juvenile Peregrine, 3 Sparrowhawk, Turnstone, Dunlin.(probably ssp *alpina*) three meadow pipit and reed warbler were recorded. One Sparrowhawk caught and ate the reed warbler and two meadow pipits on deck.

18 September 2008

Weather: SW2 sea state 2. Dry

30 Fulmar, 1 Sooty Shearwater, 5 Storm Petrel, 60 Gannet, 2 Great Skua, 2 Lesser Black-backed Gull, 1 Great Black-backed Gull, 15 Kittiwake, 7 Guillemot and 1 Razorbill were recorded.

The Sparrowhawk was still present on board but no other migrants were evident. A small unidentified shark was seen close to the vessel.

19 September 2008

Weather: SW 2-4, Sea state 2-4, Dry

32 Fulmar, 42 Gannet, 6 Great Skua, 1 Common Gull, 6 Kittiwake, 11 Guillemot and 1 Puffin were recorded.. Migrants Kestrel, Sparrowhawk.

20 September 2008

Weather: SW 2, sea state 1-2, Dry

A Seismic survey vessel towing lines crossed the transect so it was necessary to temporarily suspend the survey until it had crossed to safe distance.

7 Fulmar, 45 Gannets, 10 Great Skua, 1 Arctic Skua, 21 Kittiwake, 5 Guillemot and 5 Puffin were recorded.

Sparrowhawk, Kestrel, Turnstone, Meadow Pipit, and an unidentified warbler (probably an *Acrocephalus* sp.) recorded on passage.

A Minke Whale was recorded just before finishing the survey and was swimming uncharacteristically fast with a strongly arched back and surfacing rapidly and frequently. Possibly due to the seismic vessel operating in the area

21 September 2008

Weather: Variable. Wind initially S 2-3 veering through SW to W dropping to 1, Sea state 2-3 before dropping to 1. Dry throughout

24 Fulmar, 33 Gannet, 1 Male Common Scoter, 4 Great Skua, 7 Common Gull, 7 Lesser Black-backed Gull, 2 Herring Gull, 1 Great Black-backed Gull 4 Kittiwake and 5 Guillemot were recorded.

Sparrowhawk, 2 unidentified waders, Yellow Wagtail, Meadow Pipit, Redstart, Wheatear and Song Thrush were recorded on passage.

Porpoise, Minke Whale and an unidentified Shark were also recorded.

22 September 2008

Weather: Variable. Wind initially W 1 veering N 4 then NE 3. Sea state 0 at start building to 3. Dry throughout.

95 Fulmar, 1 Sooty Shearwater, 2 Leach's Petrel, 76 Gannet, 6 Common Scoter, 3 Great Skua, 2 Black-headed Gull, 7 Common Gull, 1 Lesser Black-backed Gull, 9 Kittiwake, 9 Guillemot and 1 Puffin were recorded.

Unidentified duck species, Grey Wagtail, Meadow Pipit, Redstart, Robin, Song Thrush, Blackcap, Garden Warbler, Goldcrest, Siskin, Redpoll and Crossbill were recorded on migration.

23 September 2008

Weather: NE 5, Sea state 5, 2m swell. Dry.

The final supplementary transect was completed after 3.5 hours with very few birds recorded. Suspended survey due to weather. Steamed southwest towards additional survey lines.

39 Fulmar, 13 Gannet, 1 Great Black-backed Gull, and 1 Guillemot were recorded.

No migrants seen

24 September 2008

Weather: NE 4, Sea state 3 with 2m swell. Swung E 3 Sea state 3 with 2m swell.

Commenced the additional survey lines. Agreed a safe route to cross the Traffic Separation Scheme (shipping lane) with crew. Noticeably higher numbers of birds present compared to the supplementary transect areas with highest daily totals for Fulmar, Gannet, Great Black-backed Gull and Kittiwake.

233 Fulmar, 1 Sooty Shearwater, 213 Gannet, 1 Common Scoter, 2 Great Skua, 10 Common Gull, 56 Lesser Black-backed Gull, 3 Herring Gull, 22 Great Black-backed Gull, 113 Kittiwake, 82 Guillemot, 1 Razorbill and 1 Puffin were recorded on survey.

Peregrine, Sparrowhawk, Dunlin, unidentified duck species, Skylark, Redstart, Wheatear, Robin, Song Thrush, Redwing, Starling and an unidentified passerine were recorded on migration.

A dead Blackbird was seen on the sea.

Approximately 10 White-beaked Dolphins were recorded feeding in association with over 100 Gannets.

25 September 2008

Weather: E-NE 3, Sea state 2-4 Swell 1 m

Transects across TSS, Also necessary to navigate between many oil platforms. Another day with relatively high numbers including highest daily count for Guillemot.

163 Fulmar, 140 Gannet, 3 Common Scoter, 2 Great Skua, 1 Adult Little Gull, 4 Common Gull, 4 Lesser Black-backed Gull, 2 Herring Gull, 2 Great Black-backed Gull, 8 Kittiwake, 101 Guillemot and 2 Puffin were recorded on survey.

Skylark, Rock Pipit, Song Thrush, Wren, Goldcrest and an unidentified warbler species recorded.

26 September 2008

Weather: Variable 1 Sea state 1. Dry, Visibility excellent throughout.

Final day of survey. completed additional survey areas. Large numbers of Gulls were seen loafing on oil platforms.

106 Fulmar, 1 Sooty Shearwater, 2 Leach's Petrel, 167 Gannet, 2 Arctic Skua, 2 Great Skua, 10 Common Gull, 191 Lesser Black-backed Gull, 6 Herring Gull, 5 Great Black-backed Gull, 55 Kittiwake, 32 Guillemot and 1 Puffin were recorded on survey. 144 unidentified large gulls were also recorded in band E.

Teal, Wheatear, Robin, Wren, Goldcrest and an unidentified passerine species recorded.

One Minke Whale and a total of 23 Harbour Porpoises were recorded in the excellent viewing conditions.

Species Accounts

Seabirds

Gannet *Morus bassanus*

Gannet was recorded every day, and was the most numerous bird with a total of 976 recorded, 403 in transect. As with most species observed Gannet was recorded at much higher densities in the extra transects surveyed south of the Dogger Bank compared to the supplementary transects. 420 birds were recorded North of the Dogger Bank with approximately 51 birds per survey day compared to 556 to the South with an average of 185 per survey day. Of the 863 birds that were aged 630 (73%) were adults. The immature age classes increased in abundance with increased age with 75 age class 5 birds (8.7% of all aged birds) 58 age 4, 56 age 3, 32 age 2 and 12 fledged this year. Eleven birds were aged as immature but not assigned an age class. Over 100 gannets were associated with a group of feeding white beaked dolphins on the 24th but are not included above due to being on the non-survey side of the boat.

Fulmar *Fulmarus glacialis*

Recorded on every survey day with 823 records (340 in transect). In the supplementary areas Fulmar numbers averaged 39 per day with daily figures being in the 20s or 30s every day except for on the 20th when only 7 were recorded and on the 22nd when 95 were recorded. This was most likely related to the weather conditions as the 20th coincided with light south westerly winds and an area of high pressure sitting over the North Sea. By the 22nd the wind had become more North to North Easterly with a large swell and built throughout the day. This continued into the 23rd when the combination of wind and swell made it necessary to cease surveying. In the 3 hours and 20 minutes of survey on the 23rd 39 Fulmar were recorded – four times the average incident rate for the supplementary transect area. During the 3 days of survey in the additional area south of Dogger Bank 502 Fulmar were recorded an average of 167 per day with a peak of 233 (28% of all records) on the 24th.

Lesser Black Backed Gull *Larus fuscus*

Recorded on all but 3 survey days this species was recorded in generally low numbers except for the last survey day in the most south eastern waters. Of a total of 307 birds recorded, 148 of which were in transect, 191 (62%) were recorded on the 26th and very large concentrations were also seen loafing on distant oil platforms in this area. In the supplementary transect area the largest daily total was on the 16th with 29 birds recorded 26 of which were associating with or following the vessel. The vast majority of birds recorded were of dark backed races probably *intermedius*. Of the 175 birds aged, 89 (51%) were adults and 77 (44%) were first year birds.

Guillemot *Uria aalge*

Recorded every day a total of 283 birds were recorded, 261 in transect although Guillemot was recorded only in single figures on seven days. The last three days surveying to the south of Dogger Bank accounted for 76% of the records with 101 (36%) on the 25th alone. All birds for which moult was recorded were in winter plumage and an insignificant number of Guillemots could be aged with any confidence.

Kittiwake *Rissa tridactyla*

Kittiwake was recorded on every full survey day with a total of 266 (76 in transect) although recorded in single figures on 6 of those days. The final three days accounted for 66% of records with

¹ Interestingly a significant concentration of Guillemots was recorded approximately 25 nautical miles to the east of this area on the 23rd August 2008 on a survey from the FRV Scotia one month earlier Adam Batty pers. obs.

a peak of 113 recorded on the 24th (42.5% of all birds). Of the 212 birds (80%) that were aged; 131 (62%) were adults, 78 (38%) were first year birds and just 2 (1%) were 2nd calendar year birds evidence that some colonies (possibly Norwegian colonies) were successful this breeding season despite generally gloomy expectations (RSPB July 2008 and RSPB October 2008).

Great Black-backed Gull *Larus marinus*

Recorded on 7 days a total of 43 Great Black-backed Gulls were recorded on survey (15 in transect). The final three days accounted for 67% of records with a peak of 22 recorded on the 24th (51% of all birds). The only day that more than 1 bird was recorded from the supplementary transect area was on the 15th when 11 birds were recorded with two groups of mixed age one with 5 birds the other with 4 birds contributing the bulk of these. It is possible that most birds recorded were at least loosely associated with the boat. 41 birds were aged 19 of which were adults, and 19 were first calendar year birds. .

Great Skua *Stercorarius skua*

Great Skua was recorded on every full survey days and was widely distributed across the survey area. A total of 43 birds were recorded on survey 14 of which were in transect and all birds were seen in flight. The majority of birds were recorded flying in a southerly direction (S, SE or SW) 29 compared with only 5 flying in a northerly direction which may suggest that most birds were in the process of migrating. However this was one of the few species that was recorded in lower numbers south of the Dogger Bank with an average of 2.3 per day here compared with an average of 4.5 per day in the supplementary transect area. The highest daily total recorded was 10 birds on the 20th. Given this species tends to patrol large areas in search of potential food sources and actively seeks out vessels as part of this strategy it is difficult to determine how many birds may have been double counted.

Common Gull *Larus canus*

Common Gull was recorded on 8 survey days with a total of 42 birds recorded. In common with most species this was recorded in greater numbers in the southern area with the last 3 days contributing 57% of all records (24 birds) with the 24th and 26th each recording 10 birds. Of the 30 birds (71%) that were aged; 6 (20%) were adults, 20 (66%) were first year birds and 4 (13%) were 2nd calendar year birds.

Herring Gull *Larus argentatus*

Herring Gull was recorded on 7 survey days in low numbers with a total of 19 birds recorded. In common with most species this was recorded in greater numbers in the southern area with the last 3 days contributing 58% of all records (11 birds). Of the 16 birds (84%) that were aged; 1 (6%) was an adult, 14 (88%) were first year birds and 1 (6%) was a 2nd calendar year bird.

Less common seabirds

Divers

One Red-throated Diver *Gavia stellata* was recorded in flight on the morning of the 15th.

Shearwaters and Petrels

One shearwater and 2 petrel species were recorded; 5 Sooty Shearwater *Puffinus griseus* (0 in transect). 7 Storm Petrel *Hydrobates pelagicus* (2 in transect) and 5 Leach's Petrel *Hydrobates leucorhoa* (4 in transect).

Seaduck

Eleven Common Scoter *Melanitta nigra* were recorded (3 in transect) including a group of 6 on the 26th. All were seen in flight.

Skuas

Four Arctic Skuas *Stercorarius parasiticus* were recorded 2 of which were in transect. Two of these were recorded together on the 26th one dark phase and one pale phase.

Gulls

Two other gull species were recorded 3 Black-headed Gull *Larus ridibundus* (2 in transect) and 1 Little Gull *Larus minutus* in transect. All were Adults.

Auks

A total of 13 Puffin *Fratercula arctica* were recorded on 8 survey days all of which were in transect. Only 2 Razorbill *Alca torda* were recorded one of which was in transect.

Other Bird Species

Twenty nine species of landbird were recorded on migration including 5 raptor species and 20 passerines. All species are included in the daily summaries above. Sparrowhawk was recorded on eight separate days and was more successful in catching migrating passerines seeking refuge on the vessel compared with kestrel which was also recorded at a surprisingly high frequency. It is likely that more individual Kestrels were involved and passed through more quickly than Sparrowhawk. An unprecedented influx of Scandinavian kestrels was reported in Britain at this time in the Ornithological press. (Birdguides)

Other notable records were 2 Osprey, 2 Peregrine, a Merlin and a Short-eared Owl. The only positively identified waders were Turnstone and Dunlin and Teal was the only duck species identified. Notable passerines included Yellow and Grey wagtails, Garden Warbler, Wren, Siskin and Crossbill.

Marine Mammal records

A dedicated marine mammal observer was on board – Amanda Hyam of Gardline Environmental Ltd. All records of marine mammals made by the bird observers are included in the daily summaries above.

DISCUSSION

The survey period was fortunate in experiencing excellent weather conditions for late September and so maximum survey time was possible. The range and number of species encountered was in line with expectations with generally low numbers encountered in the supplementary transect area. The additional areas surveyed to the South of the Dogger Bank yield much higher densities with 63% of all birds recorded on the three days of survey conducted there. This compares with 37% of all birds recorded over 8.25 days in the supplementary transects. Furthermore, the southern area accounted for 82% of Lesser Black-backed Gull records, 66% of Kittiwake records and 76% of Guillemot records.

ACKNOWLEDGEMENTS

Many thanks are due to the crew of the VOS Rambler for their hospitality on board. Particular thanks to Captain Valerij and first mate Anatoli for their assistance in addressing navigational issues and for their conscientious approach to enable maximum time available to survey. The crew & scientists on board made for an enjoyable working atmosphere.

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RSPB: July 2008 Seabird Failure continues for another year.

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