Report on seabird and marine mammal survey from

MV *Vos Rambler* in the Dogger Bank area of the North Sea

1 – 15 September 2008

Gannets in rough weather, Dogger Bank © Genevieve Leaper

for

Cork Ecology

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Introduction

A survey of seabirds and marine mammals was carried out over the Dogger Bank and surrounding area of the central North Sea for Cork Ecology, as part of a contract for Department of BERR.

Survey Area

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 There were several gas fields (Tyne, Murdoch, Trent) in the south of the Core area.

In addition, observations were carried out whenever possible en route to the survey area.

Vessel

The *Vos Rambler* is a 38.5m standby vessel (ERRV), owned by Vroon Offshore Services. Observations were carried out from an observation box, providing seating and shelter, placed in front of the bridge. The height of eye from the observation position was 7m above sea level. The ship maintained a speed of around 8 - 9 knots during the survey.

Observers Andy Sims, John Clarkson and Amanda Hyam on the *Vos Rambler*

Methods

Standard European Seabirds At Sea (ESAS) methods were used; all birds within a 300m transect and 90° scan were recorded (Webb & Durink, 1992). Observations were recorded in 1 minute intervals. A handheld GPS with a large track log memory was used to record the ship's position every minute. This was backed up to computer daily. There were two observers on watch at all times to reduce variation between observers. The observers were Genevieve Leaper, John Clarkson and Andy Sims. For cetacean sightings, range and bearing were recorded as accurately as possible using a simple range-finder and angle-board.

A dedicated marine mammal survey was also carried out by Amanda Hyam. This included an acoustic survey for porpoises with a towed hydrophone and visual survey from a higher observation position when weather conditions were suitable. However, the results of this survey are outside the scope of this report.

Daily Log

1 – 2 September

The surveyors joined the ship at 0930 for a briefing with Colin Barton of Cork Ecology, while the acoustic equipment was installed. Unfortunately strong winds were forecast for the next few days, so the ship did not sail as planned.

3 September

Vos Rambler departed from her homeport of Den Helder at 1300. Survey was started once the ship had left the Schulpengat and turned downwind. Conditions were marginal but it was a good opportunity to establish a routine and check that all equipment was working.

4 September

After steaming through the night, *Vos Rambler* arrived in the survey area at 0700, but the weather was still too rough to work. During the morning the wind eased and survey commenced at 1330 in the east of the Core area.

5 September

The next two transects were completed in good to reasonable conditions.

6 September

Another two transects were completed, but conditions were marginal for part of the day.

7 September

Two transects were completed in mostly reasonable conditions.

8 September

The last (westernmost) two transects of the Core area were surveyed in fairly good conditions.

9 September
Survey of the Supplementary area was started in the west, with nearly one and a half of the longer transects covered. Weather conditions were initially good, but gradually deteriorated, becoming marginal for observations, with rough seas and rain by evening.

10 September
No survey was possible in the morning due to 30 knot winds, but conditions improved during the day and the transect started the day before was completed.

11 September
Again, strong winds and rough seas delayed the start of survey work until the afternoon when around two thirds of a transect was covered in marginal conditions.

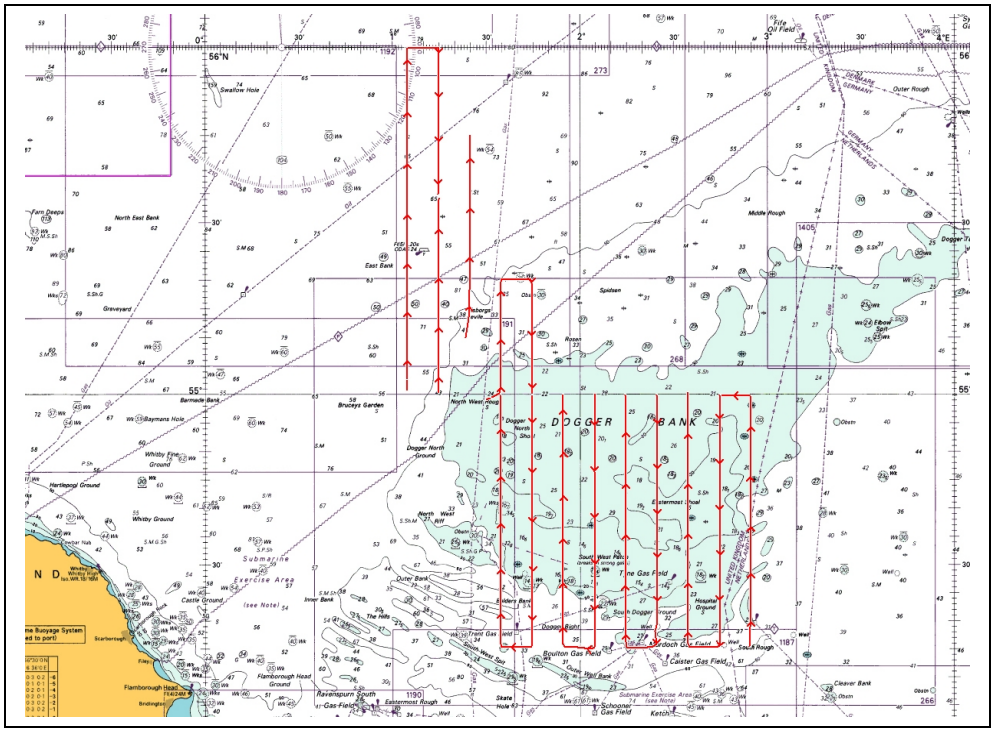
12 September
The sea was calm early in the morning, but heavy continuous rain made observations difficult, and the wind gradually increased. Parts of two transects were surveyed before heading back to Den Helder in rapidly worsening conditions.

13 September
After a rough passage, *Vos Rambler* returned to Den Helder at midday. The data entry was completed.

14 September
The observers left after a debrief with Cork Ecology and hand-over to the next team of observers.

Survey Effort

Survey was carried out on 10 days with a total of 4693 minutes of observations. This included one day in Dutch coastal waters (128 mins), 5 days in the Dogger Bank Core area (3103 mins) and 4 days in the Supplementary area (1462 mins). Two whole days were lost to bad weather at the beginning of the charter and several part days during the survey. On the days when survey was possible, conditions varied from reasonably good to marginal, with winds mostly force 3 - 5. There were short, steep swells for much of the survey, which did reduce visibility from the relatively low observation position.



The Dogger Bank showing transects surveyed

Species accounts

Seabirds

Fulmar *Fulmarus glacialis*
The fulmar was the third most abundant species (973 individuals seen in total). Fulmars were not recorded in Dutch inshore waters, but were seen throughout the survey area. Densities were highest in the western half of the Core area and on the westernmost transect of the Supplementary area.

Manx shearwater *Puffinus puffinus*
Only one Manx shearwater was seen, in the southwest of the Core area on 7 September.

Cory's shearwater *Procellaria diomedea*
One Cory's shearwater was recorded, in the north of the Core area on 6 September.

Sooty shearwater *Puffinus griseus*
Small numbers (total 52) of sooty shearwaters were seen in the Core area only, mostly in the west.

Storm petrel *Hydrobates pelagicus*
There were two sightings of storm petrels, a single bird in the Core area on 7 September and two in the Supplementary area on 12 September.

Gannet *Morus bassanus*
The gannet was the fourth most numerous species (total 723). Gannets were widespread and recorded on every day of survey but the highest numbers were found in the west of the Core Area. Nearly a quarter (24%) of gannets were immature birds, including a few juveniles.

Eider *Somateria mollissima*
A single flock of 4 female eiders was seen in the south of the Supplementary area on 12 September.

Great skua *Stercorarius skua*
Great skuas were recorded in low numbers (total 45) throughout the survey, but mostly in the west of the Core area.

Pomarine skua *Stercorarius pomarinus*
One pomarine skua was recorded, in the south of the Core area on 6 September.

Arctic skua *Stercorarius parasiticus*
Arctic skuas were less numerous than great skuas (total 22) and only seen in the Core area. Light, intermediate and dark phase birds were seen.

Little gull *Larus minutus*
A total of 7 little gulls were recorded, 5 in the Core area and 2 in the Supplementary area. Of these, 5 were adults and 2 juveniles.

Black-headed gull *Larus ridibundus*
Black-headed gulls were only recorded on 2 days, with 6 on 8 September in the Core Area and 14 on 12 September in the Supplementary area (total 20).

Common gull *Larus canus*
A small number of juvenile common gulls (total 6) were seen in the west of both areas.

Lesser black-backed gull *Larus fuscus*
Small numbers of lesser black-backs were recorded throughout the survey areas (total 15).

Herring gull *Larus argentatus*
Only one herring gull was identified, in the Core area on 7 September. However, it is possible that the flocks of unidentified large gulls included some of this species.

Great black-backed gull *Larus marinus*
The great black-back was much the most abundant of the larger gulls (total 193). It was recorded throughout the survey, including Dutch inshore waters, but was most numerous in the Core Area.

Large gull spp.
A number of the large gulls seen could not be identified to species (total 210). These were mostly in flocks associated with a beam trawler and Cavendish gas platform. From the gulls that were identified, this total probably includes a high proportion of great black-backs.

Kittiwake *Rissa tridactyla*
The kittiwake was the second most abundant species (total 1383). None were seen in Dutch inshore waters and very few in the Supplementary area. Kittiwakes were widespread throughout the Core area but their distribution was very uneven. Highest densities were found in the west and almost 90% of the total recorded in one day, 8 September (including one flock of hundreds associated with Cavendish gas platform), when large numbers of auks were also recorded.

Sandwich tern *Sterna sandvicensis*
Three sandwich terns were seen in Dutch inshore waters on 3 September, but this species was not recorded in the Dogger Bank survey areas.

Common tern *Sterna hirundo*
Common terns were seen in both survey areas, but most (9 of the total 15) were recorded in Dutch inshore waters.

Guillemot *Uria aalge*
The guillemot was the most abundant species. A total of 1229 were recorded plus an estimated 1000 of the auks not identified to species. Guillemots were found throughout the survey areas but distribution was very uneven. Low densities were recorded in the eastern half of the Core area and in the Supplementary area, in contrast to very high densities in the southwest of the Core area. The main concentrations were found in the southern half of the two western transects on 8 September and in the middle of the adjacent transect on 7 September. Many of the flocks appeared to be actively feeding.

Razorbill *Alca torda*
Razorbills were only recorded in the Core area (total 153). The highest numbers (75%) were found in the west on 8 September, in the areas with very high densities of guillemots, with which they often formed mixed flocks.

Guillemot / Razorbill
Due to the very high densities and mixed flocks in the west of the Core area, a high proportion (45%: total 1123) of the guillemots and razorbills could not be identified to species. However, from the numbers of both that were identified, it is probably that around 90% of these were guillemots.

Puffin *Fratercula arctica*
Few puffins were seen (total 12) and these were mostly juveniles (8). All the sightings were in the west of the Core area on 7 and 8 September, except for one adult in the Supplementary area on 11 September.

Lesser black-backed gull, Dogger Bank © Genevieve Leaper

Marine mammals

Porpoise *Phocoena phocoena*
A total of 15 porpoises were seen, mostly single animals, but also one group of four. The majority were recorded on 7 September in the central southern part of the Core area. There were also two sightings on 5 September in the northeast Core area and a group of 2 in the south of the Supplementary area on 12 September.

Whales
Two whales were seen, both on 8 September in the west of the Core area. On the first occasion, only the blow was visible to the seabird observers but the marine mammal observer saw the animal a few minutes later and identified it as a minke whale *Balaenoptera acutorostrata.* The second whale was also thought to be a minke but none of the observers got a good enough view for a definite identification.

Dolphins
Dolphins were seen twice in the west of the survey area; two on 8 September in the Core area and a group of at least two on 9 September in the Supplementary area. It was not possible to identify the species, but they are most likely to have been white-beaked dolphin *Lagenorhynchus albirostris***.**

Landbirds and mammals

A wide variety of migrants were seen, mostly waders and passerines. The largest numbers were recorded on 6 September in the middle of the Core area and on 12 September, during very wet weather with low cloud and reduced visibility, in the Supplementary area. Records are summarised below:-

Grey heron *Ardea cinerea* 2 on 9/9/08
Teal *Anas crecca* flocks of 9, 4 and 1 on 12/9/08
Sparrowhawk *Accipiter nisus* a female after survey finished on 6/9/08
Osprey *Pandion haliaetus* one on 7/9/08
Ringed plover *Charadrius hiaticula* one on 7/9/08
Golden plover *Pluvialis apricaria* two individuals on 6/9/08

Turnstone *Arenaria interpres* 3 on 4/9/08
Knot *Calidris canutus* a flock of 10 on 5/9/08
Dunlin *Calidris alpina* one on 5/9/08, 3 sightings (4 birds) on 6/9/08, one on 11/9/08, one on 12/9/08
Redshank *Tringa totanus* a flock of 4 on 5/9/08
Green sandpiper *Tringa ochropus* two on 7/9/08
Snipe *Gallinago gallinago* individuals on 5/9/08, 10/9/08 and 12/9/08
Swift *Apus apus* one on 6/9/08
Meadow pipit *Anthus pratensis* one on 4/9/08, 5 records (6 birds) on 5/9/08 (but possibly same birds), two onboard on 6/9/08, two individuals on 7/9/08
Pied wagtail *Motacilla alba* one on 6/9/08
Redstart *Phoenicurus phoenicurus* a juvenile on 12/9/8
Whinchat *Saxicola rubetra* two onboard on 6/9/08 and one on 11/9/08
Wheatear *Oenanthe oenanthe* one on 6/9/08 and 2 on 7/9/08
Blackbird *Turdus merula* one on 12/9/08
Song thrush *Turdus philomelos* one on 7/9/08 and one on 12/9/08
Blackcap *Sylvia atricapilla* a male was found onboard early on 8/9/08, a male and a female onboard on 12/9/08
Willow warbler *Phylloscopus trochilus* one on 6/9/08
Chiffchaff *Phylloscopus collybita* one on 6/9/08
Pied flycatcher *Ficedula hypoleuca* a juvenile onboard on 6/9/08
Spotted flycatcher *Muscicapa striata* one on 6/9/08

Meadow pipit onboard *Vos Rambler* © Genevieve Leaper

Bats
Two bats were seen, both in late morning on days when a number of migrant birds were recorded. The first was on 7/9/08 in the middle of the Core area, the other on 12/9/08 in the southwest of the Supplementary area. Unfortunately it was not possible to identify the species, but both were judged to be larger than pipistrelles.

Summary
Although conditions were not ideal for survey, overall the weather was better than might be expected at this time of year. The Dogger Bank Core area was completed with 5 days of survey work. In the Supplementary area, two whole transects and parts of a further three transects were surveyed in the west of the area.

There was a high diversity of seabirds in this part of the North Sea, with 22 species recorded in total and 21 of these within the Dogger Bank survey areas. The most abundant species were guillemot, kittiwake, fulmar and gannet. Distribution was very uneven; the highest densities of all species seen in any numbers were in the west of the Core area, including some notable concentrations of auks. Numbers were much lower in the small part of the Supplementary area which was surveyed. The species present and densities are in accordance with the results of previous surveys in September (Stone *et al.,* 1995).

Cetaceans were also seen mainly in the west of the survey area. At least three species were present, of which the porpoise was the most abundant. Due to the sea conditions, marine mammals, especially porpoises were probably under-recorded by visual survey.

Many landbirds migrate across the North Sea and the species and numbers recorded are probably not unusual during September. However, bats are much less commonly encountered at sea, so the 2 sightings are more remarkable. In the Dutch sector, for example, there have been only 34 reports of bats on offshore platforms from the first sighting in 1988 to 2007 (Boshamer and Bekker, 2008). At least 6 species of bat have been recorded in the North Sea but Nathusius' pipistrelle *Pipistrellus nathusii* appears to be much the most frequent.

References

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