

DOGGER BANK BLOG 2025



ITAW Dogger Bank ship survey
April 22nd – May 1st, 2025

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Day 1 – Tuesday, April 22nd

We left on a slightly drizzly Tuesday morning around 9:15 am. With a full capacity of twelve passengers and five crew members, the Fortuna Kingfisher slowly made its way out of the harbour in Büsum. Seven ITAW members (Dominik Nachtsheim, Johannes Baltzer, Patrick Stührk, Nadya Ramirez Martinez, Isabel Avila, Rémi Pigeault and Leonie Mahlke), two external marine mammal observers (Carsten Rocholl & Nino Pierantonio), two bird observers from the DDA (Lukas Ehmke & Bronte Evans Rayward) and one BfN member (Tim Luedtke) were among the passengers.

Once everything was loaded onto the boat, first mate Samuel gave us a safety tour throughout the boat. Afterwards we went to the bridge and refreshed our skills in estimating distances. With the help of the captain, we estimated the distances from the boat to approaching buoys. We also checked and prepared the primary and tracking platforms on the boat. The primary platform is a large space above the bridge with two bird boxes installed on either side facing the bow, which is where the two primary observers were positioned. The tracking platform can be reached by a ladder and is located just above the primary platform. It is a rather small platform, where the two tracker observers, the duplicate identifier and the data recorder were positioned.

In the afternoon, we went through some complicated imaginative sightings in the data collection software “Logger 2010” to get used to the data entry process in the following days. After dinner (17:30 pm), we went back up to the platforms and plugged in all of our devices to conduct a “test run”. We watched the sunset onboard and were excited about the first survey on the following day.



ABOUT THE BOAT

The Fortuna Kingfisher is a 39 m long boat, which is currently sailing under the flag of Denmark. It is an Offshore Support Vessel, which was built in 1989. The captain describes it as a very quiet vessel. So far it has frequented both the Baltic and North Sea and sailed into Büsum for the first time to pick us up for our expedition.



Day 2 – Wednesday, April 23rd

The Fortuna Kingfisher arrived at the Dogger Bank in the early morning hours. Since the weather forecast looked promising, we started setting up the equipment at around 6:15 am and started the survey just after 7:00 am. The first day of surveying started off with an unexpected sighting. During the first shift we already spotted a group of twenty dolphins and some grey seals. But at one point, the trackers detected four cetaceans with very large dorsal fins in the far distance – they were identified as killer whales! Due to the distance, it was impossible to take any pictures.

The sea calmed down even more in the late morning, and the surface waters were merely more than a ripple. Sightings of harbour porpoises followed, and tracker Isabel spotted a minke whale in the distance, which was unfortunately out of reach for the naked eye of the primary platform observers. Johannes, while on his shift as duplicate identifier, spotted another minke whale, that only surfaced once. In the evening, we continued the survey until around 9:00 pm. In the last few hours of the survey, a few shy sightings were recorded.



ABOUT THE DATA COLLECTION

A pair of observers on the primary platform search close to the ship with the naked eye and another pair of observers on the tracking platform, called the trackers, search with binoculars far ahead of the ship. The trackers then follow detected animals until they have been seen by the observers on the primary platform or have passed abeam. This judgement is made by a third observer on the tracking platform, who identifies duplicate sightings (animals which have been seen by observers on both platforms), and is called the duplicate identifier (DI). Another member of the team will act as data recorder (DR).

Primary Platform observers > Pair 1: Rémi & Carsten, Pair 2: Johannes & Leonie
Trackers > Pair 1: Nadya & Dominik, Pair 2: Isabel & Nino

We rotated the positions of data recorder and duplicate identifier. Every shift lasted an hour, with the observers switching sites, port or starboard, every 30 mins.

Day 3 – Thursday, April 24th

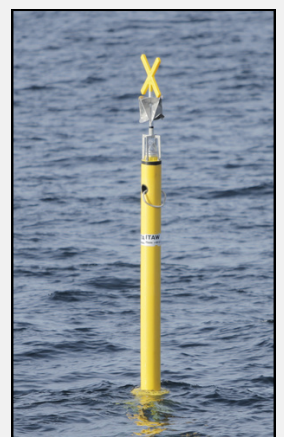
After the weather forecast was not too promising for Thursday, we met at 6:00 am in the morning to re-evaluate if it was worth surveying that day. The conditions on the water were good, so we decided to give it a try.



We started surveying around 7:00 am with winds of Beaufort scale 2. Later it picked up to 3 Beaufort scale (and sometimes we called it a “bad” Beaufort 3), but we continued the survey. However, conditions made it hard to spot animals. Most sightings were made by the trackers, especially those of harbour porpoises and grey seals.



In the afternoon, we also recorded some white-beaked dolphins. Along the way, we went briefly off effort, leaving the transect line to deploy three of the four short-term acoustic devices (SoundTraps), that were recording for the duration of the trip and to be retrieved on our way back to Büsum. We finished the survey at 20:30 pm.



ABOUT THE DOGGER BANK

The Dogger Bank is the largest sand bank in the North Sea with 25.000 km². Being permanently submerged, its depth ranges from 15 to 36 metres. It is located in the EEZs (exclusive economic zones) of the UK, Netherlands, Germany and Denmark and stretches over a length of approx. 300 km. The Dogger Bank is influenced by Atlantic water masses coming from the North and water inflow through the English Channel from the South.



The substrate mainly consists of clean sands. There is high circulation and whirlpools, causing high levels of phytoplankton production all year round. Especially at the edges of the Dogger Bank, where masses of cold and nutrient-rich waters are transported to the surface, primary production sets in.

Day 4 – Friday, April 25th

We met at 6:00 am in the morning to decide whether we were going to survey right away. The night and early morning hours felt rather bumpy on the boat compared to the day before. In addition, the swell was around two meters high, and the Beaufort scale was at around 4. Surveying in these conditions is beyond optimal to see our study species. Instead, we decided to deploy the fourth short-term acoustic station, which was over an hour away from our position. Afterwards, we travelled to one of our long-term acoustic stations which had already been deployed in February. The main buoy got detached because the buoyline connecting it to the anchor stone was broken. Luckily, the acoustic station still had another floating device attached to it, which we immediately discovered when arriving at the position. Johannes and Patrick, together with the crew of the Fortuna Kingfisher, attached another buoy to the station and the fixed device remained on position.

Since the transect line ran in favour of the wind, which came from the North, we started surveying at around 11:15 am. Conditions were still not great. Setting up the equipment was particularly challenging on the moving boat. The day unfolded with not too many sightings. Nonetheless, one minke whale was spotted relatively close to the boat and we were able to witness a few resurfacings. When we finished the transect line, the vessel crossed over to the most western and shorter transect, line 9.



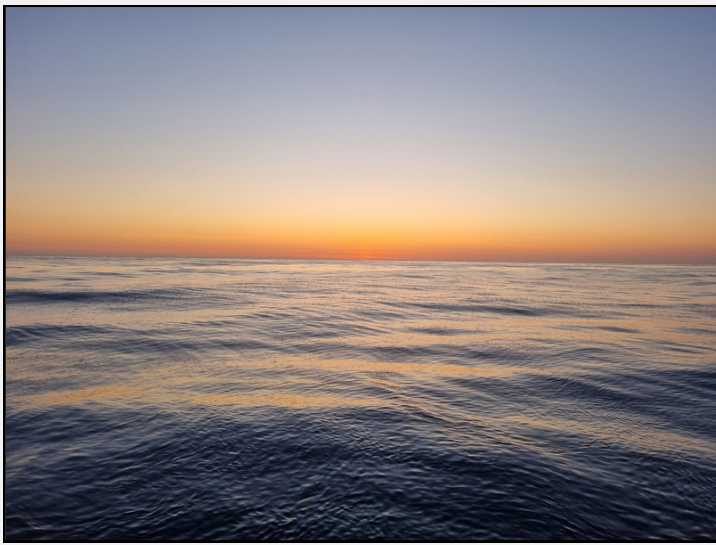
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After dinner we began with the second set of transects, Replicate 2.

Day 5 – Saturday, April 26th

When we woke up this morning, the boat was still moving due to the swell. The forecast sounded promising with a very low Beaufort scale, so we started setting up and started surveying at 6:30 am. Our new record starting time!

The sunrise was stunning, and we soon started to record our first sightings. The glassy surface was a nice change compared to the previous days with lots of wind and huge swell. Towards the end of the transect line, when the boat was near and at the dropping edge of the Dogger Bank, we suddenly recorded many sightings in a row. Among them was a group of four white-beaked dolphins, harbour porpoises and a minke whale. In the afternoon the wind picked up to Beaufort scale 3.



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ABOUT THE BIRDS

The bird observers from the DDA were usually positioned on one side of the bridge, using binoculars for their identifying birds. The most common species they saw include the lesser black-backed gull (*Larus fuscus*), common guillemot (*Uria aalge*), northern gannet (*Morus bassanus*) and arctic tern (*Sterna paradisaea*).

Rare sightings were those of the Atlantic puffin (*Fratercula arctica*), yellow-billed loon (*Gavia adamsii*) and arctic skua (*Stercorarius parasiticus*). There was also a single sighting of a manx shearwater (*Puffinus puffinus*), which was spotted among a group of terns.



Day 6 – Sunday, April 27th

The plan for today was to survey as long as conditions allowed for it, since the forecast predicted stronger winds for the afternoon. The survey was started at around 6:30 am with slow winds and a calm ocean. Today we recorded many sightings of white-beaked dolphins, usually in groups of 2-3 animals. Just before lunchtime, we were facing a thick wall of fog, which – when entered – limited our visibility to less than 300 m. The captain had to switch on the radar for safety reasons and since it is located by the tracking platform, the decision was made to have a break for the whole team until the visibility improved. The fog cleared up after approximately 60 min and we continued the survey.

Afterall, the conditions were better than expected and having the wind at our back improved the sighting conditions too. Among other sightings, a minke whale and more white-beaked dolphins were spotted. The dolphins were swimming extremely fast, so it was challenging to detect and track them visually.

Later in the afternoon, winds increased to Beaufort Scale 3 and it became more difficult to see animals. This is the maximum sea state we survey for our study species. Both harbour porpoises and minke whales are elusive species. This means they are relatively hard to spot with short surfacing times, hardly any surface activity and sometimes only a few resurfacings. Given the conditions were not optimal and swell was too challenging to keep a watch with the binoculars for the tracking platform, after dinner only the primary platform observers were surveying. We finished surveying at 7:20 pm when we reached the end of a transect line.

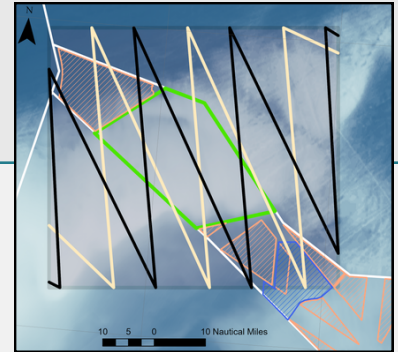


Day 7 – Monday, April 28th

WEATHER CONDITIONS NOT SUITABLE FOR MARINE MAMMAL SURVEYING

ABOUT THE SURVEY DESIGN

The survey design consists of two separate sets of equally spaced zigzag transect lines (Replicate 1 and Replicate 2), across the study area. Replicate 1 has a length of 640 km and nine transects, replicate 2 has a length of 544 km and seven transects. The transects were designed in such a way, that the Dogger Bank nature reserve is covered well. Moreover, the study area is covered in a representative manner including shallower areas (bank) but also deeper areas (slope).



Day 8 – Tuesday, April 29th

The morning survey started right off with a minke whale sighting on a beautifully flat ocean. Soon after we spotted three white-beaked dolphins, who swam straight to the ship and ended up bow riding for around 15 minutes. Happy faces all around! Even when the ship took a slight turn to move to the next transect, the dolphins stayed and kept bow riding.



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In the early afternoon, long stretches with no sightings followed. The weather conditions varied a little over the course of the day, but overall, it was one of the best days for surveying on this year's expedition.

At around 5:00 pm in the evening something very unexpected happened: In the distance, tracker Nino spotted a large group of harbour porpoises. At first, he only saw two animals, which did not seem unusual. But more and more animals appeared and both tracking and primary platform observers quickly entered numerous sightings in a row. Since the animals were moving around a lot and split up to join other subgroups, it was hard to keep track of how many animals there were. Data recorder Rémi had a tough time up on the tracking platform, with so many sightings being entered into the system.

The area we were in seemed to be very rich in food. The surface was partially covered in phytoplankton, indicating that there was a lot of primary production going on. The bird observers recorded several birds in the same area. Among the groups of harbour porpoises were also many calves, with the highest estimate being ten calves.

While the harbour porpoise's behaviour was mainly recorded as swimming, their erratic swimming patterns could indicate some feeding, however we did not see fish or other porpoise's prey items. Our overall (and highest) estimate of individuals in the larger aggregation was around fifty harbour porpoises. Seeing such a large aggregation of porpoises is a very rare event.

After today's survey, we had officially covered all of the transects except for that one-hour strip, when surveying was impossible due to thick fog.



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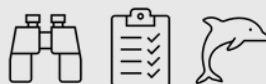
Day 9 – Wednesday, April 30th

In the morning, the four short-term acoustic devices (SoundTraps) - that were deployed in the beginning of the expedition - were retrieved. In the meantime, we went through some data validation from the previous day. After lunch, we conducted one hour of survey effort for the missed-out section due to the fog on day 6. We were confronted with winds of Beaufort scale 3. One sighting of a seal was recorded. Once the 1-hour survey was concluded, the Fortuna Kingfisher changed course to St. Peter Ording - our way back home had started. In the evening, we continued the data validation process and checked the overall resightings of both primary and tracking platform observers. At last, all marine mammal and bird observers met on the lower deck for a nice sunset, some pictures and a recap of the 10-day expedition.

Day 10 – Thursday, May 1st

The Fortuna Kingfisher arrived in the coastal waters of St. Peter Ording at around 7:00 am. Johannes, Patrick and the crew retrieved an acoustic station, which was deployed in February 2024. Since the yellow buoy attached to the station was covered in mussels, it was exchanged and the station put back in the water. We continued our journey to BÜsum after approximately 1,5 hours. After a last lunch, we entered the harbour at around 12:15 pm with the incoming high tide. When all the equipment was unloaded and the Fortuna Kingfisher was getting ready for departure, captain Marc could not resist playing the song “time to say goodbye” by Sarah Brightman and Andrea Bocelli via the ships outside speakers. Tourists near the harbour basin were startled and so were we. One last honk and the Fortuna Kingfisher had left again. Goosebumps!

ABOUT OUR SIGHTINGS



During the survey, we recorded sightings of harbour porpoises (*Phocoena phocoena*), minke whales (*Balaenoptera acutorostrata*), white-beaked dolphins (*Lagenorhynchus albirostris*), killer whales (*Orcinus orca*) and grey seals (*Halichoerus grypus*). In addition, there were also several unidentified sightings of dolphins and seals, as well as sightings of platforms, other vessels and marine debris.

Conclusion

On this year's Dogger Bank survey, we were once again able to get a glimpse to what extent the waters of the North Sea are industrially used. We came across offshore wind farms and numerous platforms (e.g. used for oil/ gas drilling, converting). Some of the platforms (in the EEZ of neighbouring countries) were built in close vicinity to the Dogger Bank.

The Fortuna Kingfisher turned out to be a great boat for the survey with both primary and tracking platforms available. The crew was very supportive and professional, the food prepared by chef Divson simply outstanding.

With 1,5 days of unsuitable weather conditions, we were still able to conduct the survey on most days. The wind on these days was usually somewhere between 1 and 3 of the Beaufort scale. We were lucky as for the day after we had concluded our survey, the forecast was Beaufort 6!

