

## Five centuries of sperm whale strandings along the Flemish coast

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### Abstract

Groups of male sperm whales sometimes visit the North Sea and may come close to its southern boundary, the Flemish coast, where moribund or dead specimens may sometimes become stranded at low tide. Subfossil finds prove that this phenomenon has existed for thousands of years, although it is rare, and that several specimens may sometimes become stranded together (as has happened in 1403, 1577 and 1937 and, more recently, in 1994). The stranding on 18 November 1994 involving three sperm whales stranded near Koksijde and one towed to Nieuwpoort has aroused huge interest among the public and has raised several questions and problems as many people interpret this stranding as being the result of pollution or other factors related to present-day human society.

**Keywords:** sperm whale, strandings, marine pollution.

### Résumé

Des groupes de cachalots visitent de temps en temps la mer du Nord et peuvent se rapprocher de la limite méridionale de cette mer, la côte flamande, où des individus morts ou moribonds viennent parfois s'échouer à marée basse. Les spécimens fossilisés découverts dans la région prouvent que ce phénomène se produit depuis des milliers d'années, quoique rarement, et que plusieurs individus peuvent parfois s'échouer ensemble (comme ce fut le cas en 1403, 1577 et 1937 et, plus récemment, en 1994). L'échouage du 18 novembre 1994 comprenait trois cachalots échoués près de Koksijde et un cachalot qui fut remorqué jusqu'à Nieuwpoort. Il éveilla un énorme intérêt dans le public et suscita différentes questions et problèmes du fait que de nombreuses personnes interprétèrent cet échouage comme le résultat de la pollution ou d'autres facteurs liés à la société humaine d'aujourd'hui.

**Mots-clés:** cachalot, échouages, pollution marine.

### Introduction

In the early morning of Friday 18 November 1994, three sperm whales were found on the beach at Koksijde (West Flanders, Belgium); a fourth carcass was still drifting at sea and during the course of the same day was towed to the beach between Nieuwpoort and Lombardsijde, some ten kilometres to the east.

The first reports of such an unusual event appeared so incredible that many people doubted that they were true. However, as soon as radio and television confirmed the report with details, unimaginable numbers of people

flocked to the scene. The Koksijde sperm whales were in the public eye for a period of weeks, albeit with some unfortunate secondary effects.

A stranding involving three, four or more sperm whales, cetaceans 16 to 18 metres in length, is indeed an exceptional occurrence. But it is not unknown. Science has already recorded hundreds of such incidents. Dozens of cases are also known to have occurred on the coasts of the North Sea, as will be described elsewhere. However, it is only the second time in more than 500 years for the Flemish coast, if we disregard the incidents in 1577 and 1937, which took place in the Scheldt.

Even strandings of a single sperm whale are relatively rare events in this area, and we only know of two cases on the Belgian coast and one in the Scheldt in the 20th century.

The fact that the recent strandings on Belgian territory have always occurred on a particular part of the coast, entirely on the west coast, also makes this topic interesting in its own right.

### Our knowledge of local cases

The stranding of such a large animal has obviously always attracted interest, particularly if the corpse is left behind, in other words if the animal is not re-floated at the next high tide, which is not so rare (this may have once happened at Oostduinkerke). If the site in addition is readily accessible, which is usually the case on the Flemish coast, except during the two world wars (a sperm whale may possibly have also been washed ashore during the First World War), there may be great interest among the local population. If there were also people at that time who took an interest, or at least people who wanted to write or draw something to show what happened, future generations were given an opportunity to have some idea of the cases that have occurred over the centuries. In this context, we can be guided by the list of findings of Cetacea (whales, dolphins and porpoises) along the Flemish coast and in the Scheldt (DE SMET, 1974). However, far more cases have been recorded in the Netherlands and Britain for historical reasons (chiefly because of the in-

tensive studies by Van Deinse and Fraser), and there is a much clearer picture of the situation there.

### **Circumstances surrounding strandings of sperm whales**

In order to see these strandings of sperm whales on the Flemish coast in a clearer context, we should first understand that these animals are ocean-dwellers, which mostly search for their food at great depths, utilising their outstanding diving ability. Their preferred food consists of cephalopod molluscs, such as squid and octopus. Sperm whales mostly live in groups and have a preference for staying in warm tropical waters. The social structure in the breeding groups, where a male animal (known as a bull) leads the group and does not tolerate any other sexually mature male, has the effect that many males, alone or as a group, repeatedly move away to other areas and may consequently end up in seas which are not a suitable habitat for them, for example in waters that are too shallow, with insufficient cephalopods, with an unsuitable temperature, where they are disturbed by all kinds of unnatural sounds, with different magnetic waves and so on. The North Sea is a good example of this unsuitable environment, not just now but in the past too.

Sperm whales which end up in the North Sea, possibly as a result of pursuing schools of squid and octopus, as the British cetologist Fraser established in 1937, become disoriented, cannot dive deep down, find insufficient suitable food, start to suffer from cold particularly when their protective layer of blubber shrinks away due to shortage of food, come under stress, particularly when they do not succeed in returning to the ocean after months of searching or if hierarchy-related problems occur in the group or if the insufficiently deep water affects their sonar perception etc., and they face to prospect of gradually being weakened by stress, shortage of food, excessive heat loss and so on. A long period of weakening can culminate in a slow battle with death, in which the animal rolls around powerlessly on the sea surface and is tossed around like a ball by the action of the waves.

If a fierce wind is blowing, the moribund or already dead animal is driven in a particular direction, possibly towards a coast, and may become stuck where the coastal waters are very shallow, particularly when the tide is ebbing. If not, the abdomen tears open after a few days under the pressure of decomposition gases, and the corpse then sinks down into the depths. The number of stranded sperm whales, whether alive or dead, is consequently merely a fraction of the number who have failed to find their way back to the ocean and have perished in the North Sea.

Let us assume that the multiple strandings in 1994 were attributable to a herd which was roaming around the North Sea for a period of several months. This herd ended up in the southern part of the North Sea in its meanderings, and some of its members lost their lives there, not

far from or on the southern rim of this sea, the Flemish coast.

We use the term "Flemish coast" to mean the coast that stretches from the Straits of Dover to the mouth of the Scheldt. Slightly more than half of this lies in Belgian territory. The coastline runs from south-west to north-east. It is characterised by a gradually descending sandy shore, the water depth of which regularly undergoes changes over the years and where there are local trenches with dead ends, as at Koksijde. As the wind often comes from the west or north, it is quite likely that moribund animals or their corpses will end up on this coast, provided they die less than a few dozens kilometres from the coast, and possibly will become stuck at a shallow place. But the rising tide can also push the animal into the Scheldt and leave it stranded on a sand bank there. If the wind direction is different, or if the animals have died further away from the coast, their corpses may possibly end up on the sea-bed.

### **The known figures**

Sperm whales have thus occasionally ended up on the Flemish coast and in the Scheldt. If we disregard regular April Fool's hoaxes, there have been several such incidents over the last few centuries.

The oldest information documented in any way goes back to the 15th century. However, it is clear that strandings had also occurred in preceding centuries, as is apparent from the posterior skull of an old specimen found in the polder near Heist in 1883, the shoulder pieces found at Sas-van-Gent in 1948, the rib found in Wenduine in 1966 and the first cervical vertebra and piece of rib found in the clay stratum in Middelkerke in 1967. Cervical vertebrae and ribs were also found on the beach at Ostend in 1861, but these could also come from specimens washed ashore in historic times.

A first historic case dates from 1403 (or 1404?) when eight whales were washed ashore at Ostend on Saint Brixus' day (9 July); these were probably sperm whales in view of their number (baleen whales do not become stranded in group) and size. A "whale" was also washed ashore at Dunkirk in 1401.

In 1577 there were several well documented strandings on the North Sea coasts. Some specimens, still alive, ended up in the Scheldt and one of them was killed on 2 July near Haaften, then a hamlet in Doel, close to the present-day border between Belgium and the Netherlands; others became stranded on sand banks, certainly two, but possibly three, four or five. The specimen at Haaften attracted great interest from the population of Antwerp and the Waasland. At least three different pamphlets containing prints were put on sale by the then flourishing Antwerp printworks. These pamphlets were disseminated throughout Europe and had a real impact on knowledge of this species as they were the first fairly accurate illustrations and contained a good deal of sound information (DE SMET, 1977). But the sperm whales were

not welcomed by everyone, as a text dating from some years later makes clear: "These strange creatures, as portents of impending doom, lay sadly before the people ...". The fact that Antwerp and the Waasland suffered greatly under the Spanish sieges over the next few years will perhaps have been perceived by some people of the time as proof that they were always correct with their forecasts of doom. "History repeats itself", as the proverb says.

It is unclear whether the whale which swam around in the Scheldt off Antwerp in 1603 and was finally killed close to Rupelmonde was a sperm whale, as is mentioned in some 20th century literature. This is open to doubt because sperm whales rarely come so far upstream.

There is no information from the 17th century and the first half of the 18th century, but it should be borne in mind that this was a time of constant war and poverty in which very little that had nothing to do with the war was reported.

In the winter of 1761-1762 there were again several sperm whales in the southern part of the North Sea, and several of them became stranded in the Netherlands and Denmark, and six specimens even became stranded in the Thames. One was also washed ashore near Bredene on 18 January. It was sold for the treasury of the Austrian Netherlands. Fine dishes in Delft blue were made depicting this event, only a few which still exist (including some at a museum in Bruges). This case was gradually forgotten and was unknown to Belgian zoologists in the 19th century. Other cases from the 17th and 18th centuries may similarly have been forgotten in the mists of time.

The absence of great rarity of strandings in the 19th century not just in Belgium but also in the Netherlands and in other North Sea countries is striking (Schulz, 1970). This is possibly attributable to the intensity of whaling at that time, which decimated the surplus of male specimens, so that only a few sperm whales wandered into the North Sea.

The vague information on a whale dating from the second half of the 18th century at Antwerp and on a "cachalot" (sperm whale) in 1892 near Antwerp are so poorly documented that it is best to disregard them.

In 1937 there were again several sperm whales reported in the North Sea, including two in the Western Scheldt on 24 February and one at Dunkirk at the end of July. There may also have been one in Oostduinkerke, but this animal did not remain in position, and few people have any recollection of it. The animals from the Scheldt attracted great interest, particularly when they were transported to the National Museum for Natural History in Leiden.

In December 1954 a sperm whale made its way along the North Sea coast of France, became stranded in Dunkirk, was made fast, but drifted away again and finally ended up on Belgian territory at De Panne on 19 December. It attracted limited interest during the cold wintry weather at a time when there was still very little television in Belgium. The animal's flesh was stripped off and the

skeleton is now in the museum of the Royal Belgian Institute for Natural Sciences in Brussels.

On 3 January 1970 a dead sperm whale was found in the estuary of the Scheldt and towed to Breskens (Zeeland Flanders). It aroused huge interest, particularly in Belgium. The skeleton was removed to the National Museum for Natural History in Leiden, but some organs were handed over to a Belgian zoologist for scientific research.

The sperm whale which was washed ashore at Koksijde on 14 February 1989 and was called Saint Valentine because of the day on which it became stranded is still fresh in many people's memories. It caused a great rush of people to the scene and also the first local disputes over the cause of such strandings.

These disputes were further intensified when four sperm whales attracted the huge surge of people to Koksijde and Nieuwpoort on 18 November 1994. But it is also these disputes that have prompted today's symposium.

### What conclusions can be drawn from this survey?

This survey of strandings involving sperm whales on this coast at the southern edge of the North Sea, containing information stretching back over a period of more than five centuries but with clear gaps, nevertheless allows some opinions to be put forward which can contribute to an overall assessment.

1. Strandings of sperm whales on the Flemish coast are not a phenomenon of the present-day age of industrial pollution but have also taken place in the past, and this has indeed been the case in many other countries. In addition, they have also occurred in periods before our era, at a time when these regions were very sparsely populated and there was virtually no human impact. There is little regularity in the cases, but this is because the phenomenon is related to very widely varying natural conditions and because recording of these cases depends on the level of interest at the time when the phenomenon occurs.

2. Strandings of several whales at the same time are somewhat rare, but such cases are already known for this region from 1403 (?), 1577, 1937 and now 1994. Here too there is no regularity because of the widely varying conditions. The cases from the 15th and 16th centuries, the age of the sailing ship, indicate that such strandings perhaps have nothing to do with disturbance by present-day shipping.

3. The large numbers of sperm whales which occurred in the North Sea in some years during the 15th, 16th, 17th, 18th and 20th centuries, cases of which from 1403, 1577, 1762, 1937 and 1994 are described in this report, indicate that there is often a lot of non-harem-bound males that wander off into those waters and possibly meet their end there. Such herds of wandering males probably existed to a far lesser extent during the time of intensive sperm-

whale hunting from 1780 to 1914. It could be stated on the basis of these comments that the stock in the northern Atlantic Ocean is perhaps as large now as during the time prior to 1780, and possibly even larger. This view conflicts with all kinds of claims that we have been hearing on an almost daily basis for twenty years in the news media that "the whale" is on the verge of extinction.

4. The steadily decreasing period of time between the different strandings of sperm whales on the Flemish coast over the course of the 20th century is also striking: 1937, 1954, 1970, 1989, 1994. This also points to an increasing number of sperm whales, in that the more non-harem-bound males there are in the northern Atlantic Ocean, the more of them reach the southern edge of the North Sea in their wanderings.

5. It is particularly interesting to examine how the local human population, in the context of the spirit prevailing at the time, reacts to the stranding of a sperm whale. In 1403 it was attributed to the intervention of a saint who rewards people with food. In 1577 there was great interest in the animals, but some people saw it as a bad omen. In 1762 the situation was viewed in a more matter-of-fact fashion: instead of impending doom, it represented revenue for the treasury, and an opportunity for the wealthy citizen to buy a nice souvenir. In 1937, 1954 and 1970 there was interest, both from the public and from museums which wanted a skeleton. In 1989 and especially in 1994 there was overwhelming interest, and all kinds of souvenirs were produced, but the prophets of doom were back too, this time not because of an impending unknown disaster but because of a presumed or possible calamity which Man himself is creating and of which the sperm whale is the messenger.

Are the prophets of doom in 1994 correct? It is to be hoped that the observations made on the Flemish coast

from 1403 to 1994 can contribute to an objective approach to the problem, because we can ask in any discussion on the stranding whether a specific factor was also present in all these previous centuries. Viewed from this perspective, a historically documented study can make an important, but sometimes also sobering contribution to the analysis of this still inadequately explained problem of sperm-whale strandings.

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