

Biennial Report 2013-2014

# RUGVIN



STICHTING RUGVIN / RUGVIN FOUNDATION

# Preface

Please find the biennial report 2013-2104 of the Rugvin foundation, (Stichting Rugvin).

We continued, of course, the monitoring on the Stena Line ferries, Hollandica and Britannica. Again more and more sightings were recorded. The Dutch waters really become a hotspot for the harbour porpoises! Together with our British, Irish and Spanish partners we founded the European Cetacean Monitoring Coalition (ECMC). The first formal coalition between all ferry monitoring partners in the West European waters. We are really proud of this!



In the Eastern Scheldt we winded up the ungoing researches. First we finalised the acoustic research with the help of Niki, Catalina and Joao. We concluded that porpoises do cross the storm surge barrier, but only in low numbers. And, partly due to this locked in situation, unfortunately we saw many porpoises dying from starvation in the Eastern Scheldt. At this moment we are exploring the exact reasons for this. Researches on this matter were conducted by Margherita Zorgno and Larissa Wagenaar.

## Acknowledgements

Rugvin would like to thank WWF Netherlands for their financial support, Stena Line and crew for their everlasting hospitality at sea and on board. And of course without the enormous help of Peter Koppenaar and his crew on the MS Hammen we would have been completely helpless at the Eastern Scheldt. Thank you for sailing and lifting the C-pods out of the water!

And last but not least thanks to all skippers, volunteers and students for their passionate enthusiasm. Without your efforts we wouldn't be able to gain so much recordings and knowledge of the Dutch cetaceans.

### COLOPON

Text: Nynke Osinga and Frank Zanderink

Photo's: Wouter Jan Strietman, Ernst Schrijver, Niki Karagkouni and Frank Zanderink

Graphs: Nynke Osinga & Larissa Wagenaar

Cover design: Arthur Hendriks; cover photo's Whitebeaked dolphin, Stena Hollandica, ECMC meeting and Eastern Scheldt porpoise.

June 2015



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# Organisation

In 2013 and 2014 the board of the Rugvin foundation consisted of Ilse Belt (member), Nynke Osinga (secretary) and Frank Zanderink (treasurer and chairman). All Rugvin activities are conducted on a voluntary base. Most of the volunteers were active in one or more activity groups such as the Stena Line monitoring group, the acoustic research group and the porpoise scan group of the Eastern Scheldt.

## Students

Without the help of students who did their internships with Rugvin it would be very difficult to do all the needed analysis. In 2012 we enjoyed the company of Niki Karagkouni and Catalina Angel Yunda who did the second part of the acoustic research, Joao Rodrigues who finalized this research and the hotspot couple, Lotte Niemeijer and Sophie Neitzel, who identified the best place for observing porpoises in the Eastern Scheldt.



The Rugvin team 2013 - 2014

Suzanne, Bart, Michelle, Arthur, Ilse, Jennifer, Els, Yvonne, Marret, Esther, Merel, Rosanne, Karin, Ernst, Marije, Wouter Jan, Catherine, Maurice, Renske, Arjan, Kees, Roger, Susan, Maria, Sophie, Lotte, Catalina, Niki, Joao, Larissa, Margherita, Bas, Nynke en Frank.



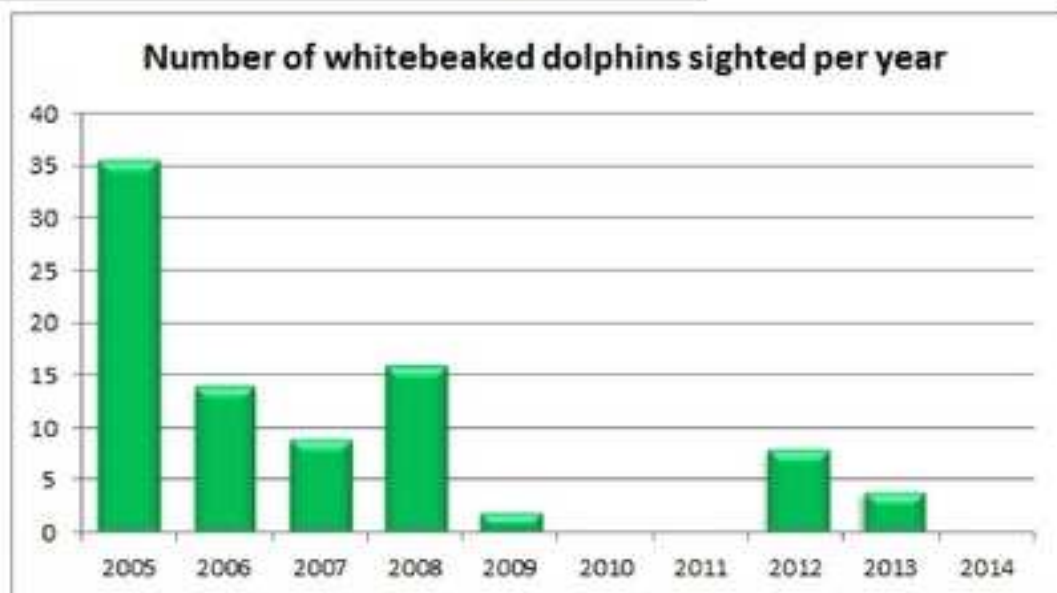
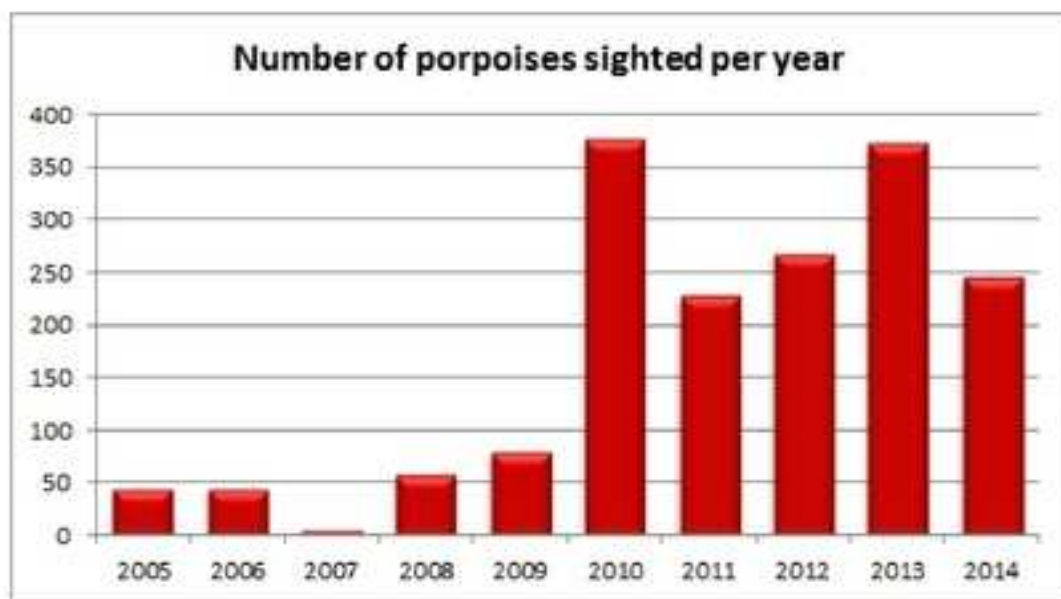
# North Sea

## Monitoring cetaceans from Stena Line ferries

**Surveys are carried out on a monthly basis. Each survey consists of two survey days (day 1: Hook of Holland to Harwich, day 2: Harwich to Hook of Holland). The total observing time is approximately six hours per survey day.**

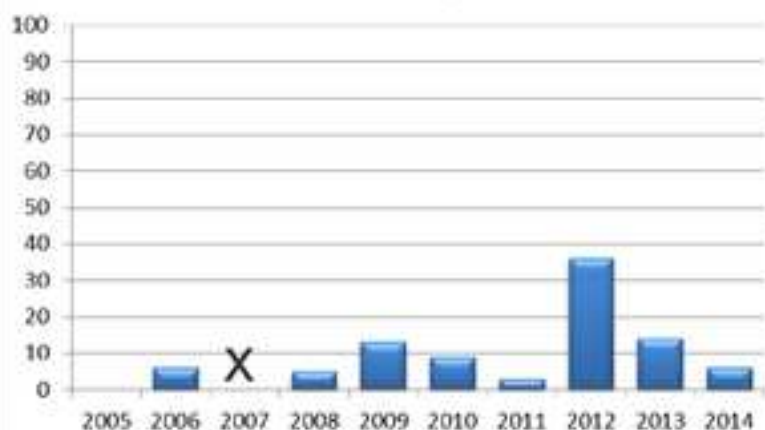
**The surveys are carried out by two observers, one on starboard side and one on port side. We use the ECOMC (European Cetacean Monitoring Coalition - previously ARC) recording forms and methods.**

**"In the past ten years, we have seen an increase in the number of harbour porpoise sightings and a decrease in the number of whitebeaked dolphin sightings"**

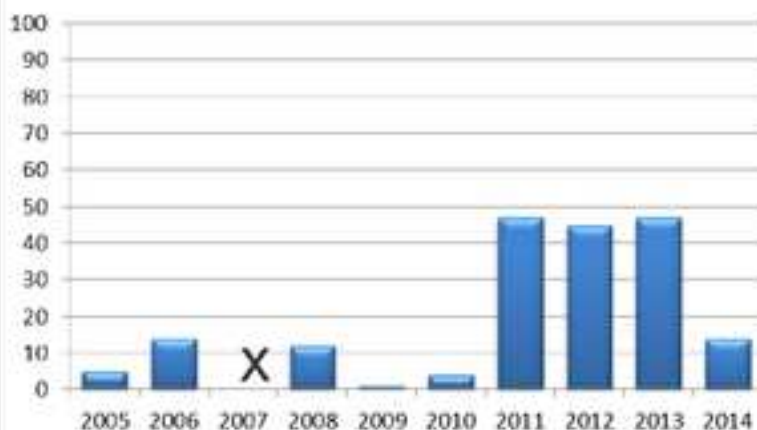


# Harbour porpoise sightings 2005-2014

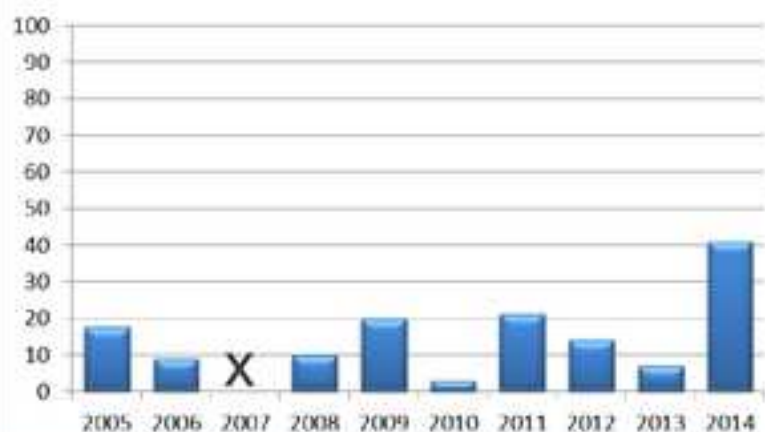
## January



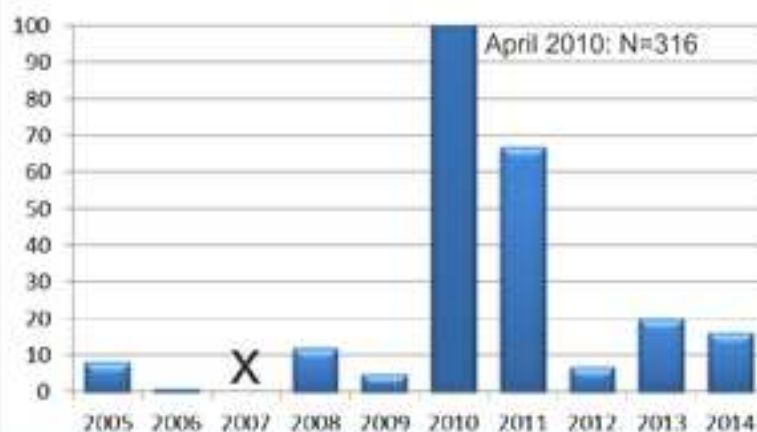
## February



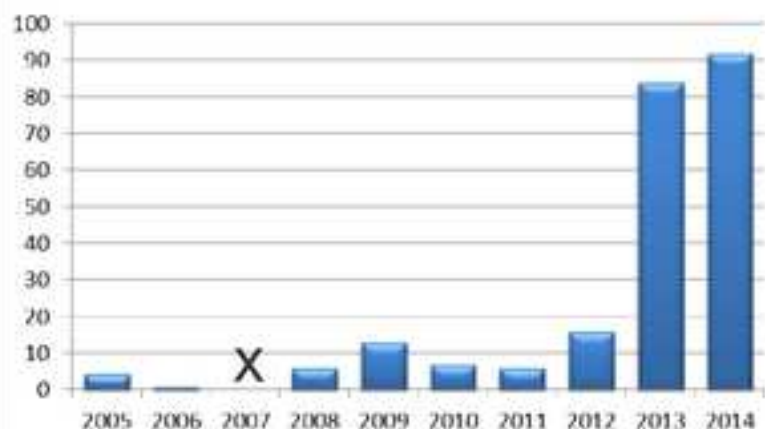
## March



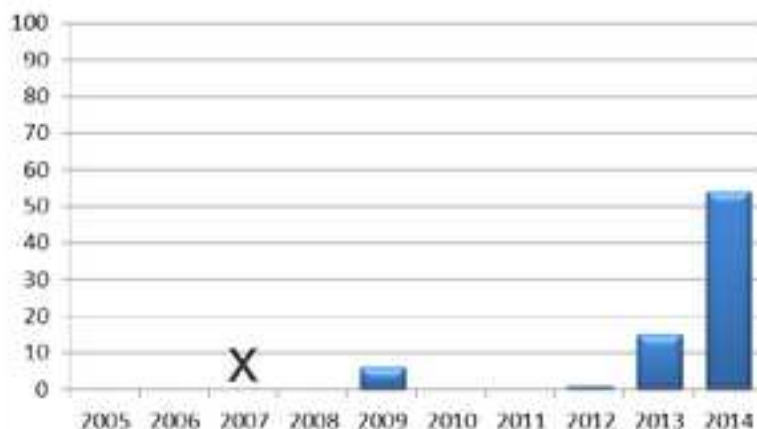
## April



## May



## June

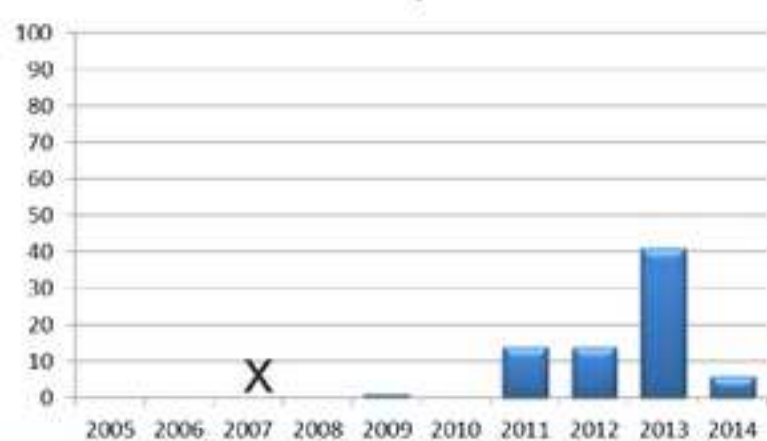


X = No survey carried out in this month

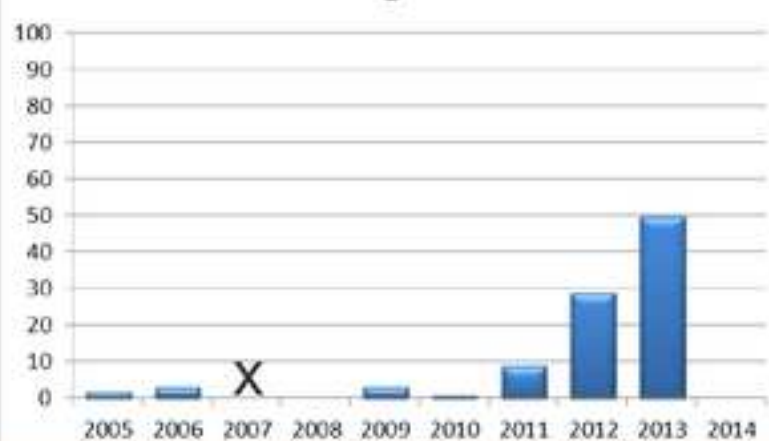




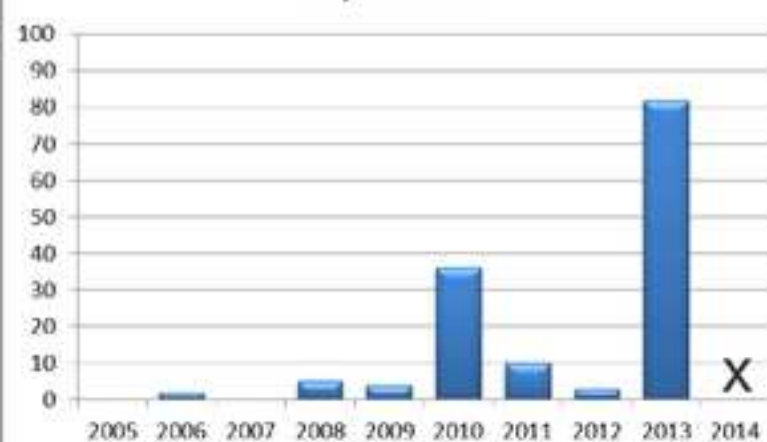
**July**



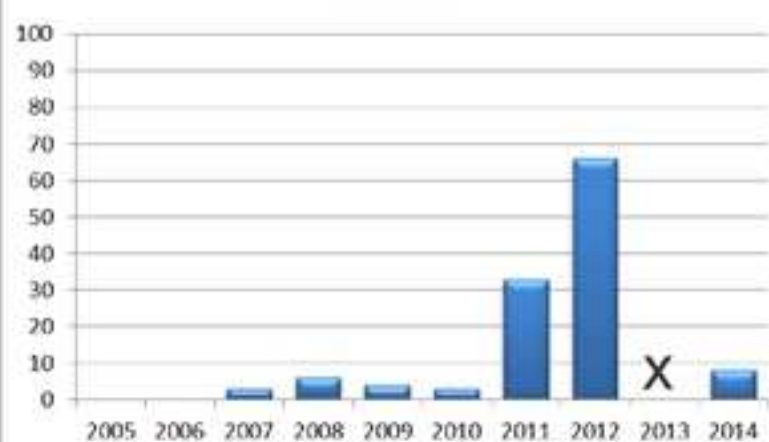
**August**



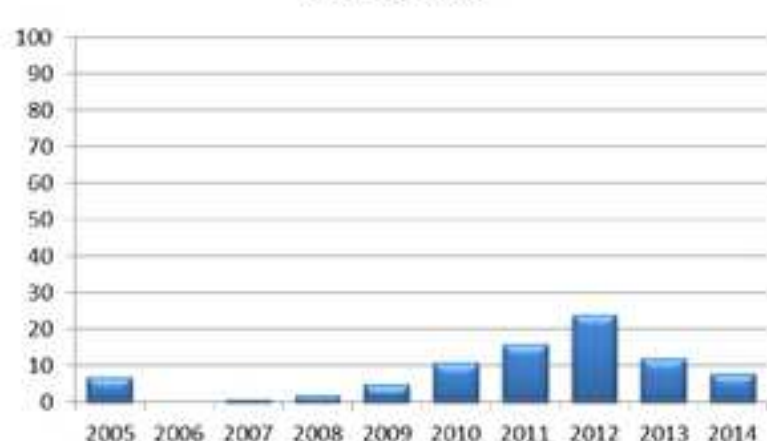
**September**



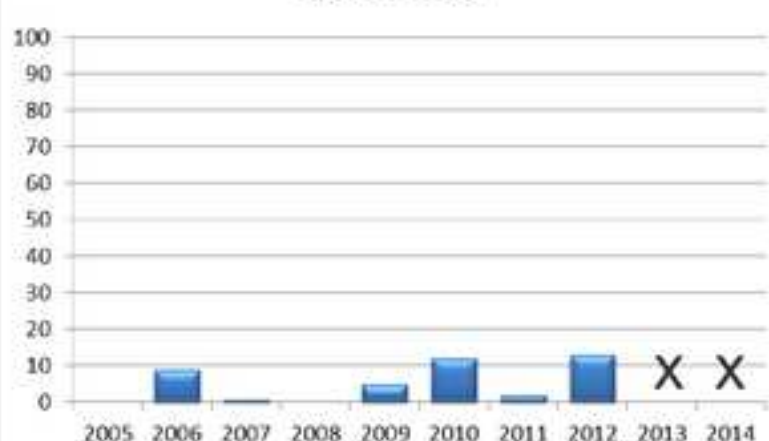
**October**



**November**



**December**





# Eastern Scheldt

## Acoustic research

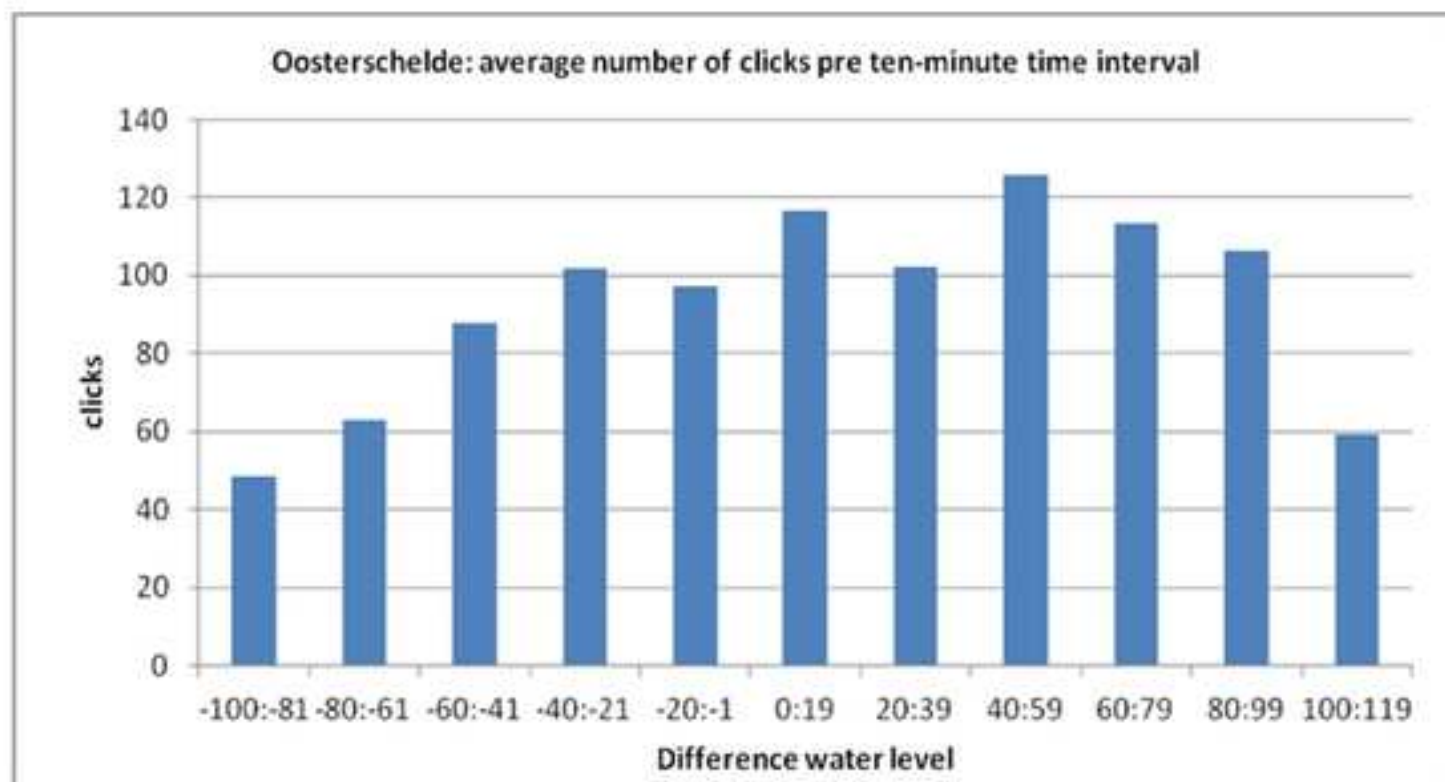
In addition to the harbour porpoise population in the North Sea, a small resident population has settled in the Eastern Scheldt, a semi-closed off part of the Dutch Delta area. Here the Eastern Scheldt storm surge barrier separates the Eastern Scheldt from the North Sea.

In order to investigate if harbour porpoises migrate through the storm surge barrier, acoustic data have been collected by so-called C-PODs.

By using the same method as in 2010- 2011 at the Southern part of the barrier, three C-PODs, devices for static acoustic monitoring, were deployed again on three locations within the Northern part of the barrier, one in the North Sea and two in the Eastern Scheldt. See: <http://rugvin.nl/onderzoek/oosterschelde>

Migration through the barrier was assumed to occur when harbour porpoise clicks were recorded in the Eastern Scheldt and in the next ten-minute time-interval in the North Sea or vice versa.

As a result of the research it appears that no frequent migration had taken place through the barrier. It even became clear that how stronger the tidal current was, streaming in or out of the Eastern Scheldt, the lower number of clicks were recorded. For us this meant the confirmation of the hypothesis that the porpoises avoided the harsh and loud sounds being generated by the rubbing water alongside the pillars and floor of the barrier. As a final conclusion it appears that the porpoises are trapped in the Eastern Scheldt.



Please read the reports being provided by Lianne Korpelshoek, Niki Karagkouni, Catalina Yunda Angel and Joao Rodrigues at our website <http://rugvin.nl/onderzoek/oosterschelde/c-pods>.





The research was carried out with the financial support from WWF Netherlands and the National Park Oosterschelde (Eastern Scheldt). Rijkswaterstaat (part of the Dutch Ministry of Infrastructure and Environment) kindly provided technical and transportation support by Peter Koppenaal as the Skipper of the MS Hammen as well as supervision on the deployed C-pods.

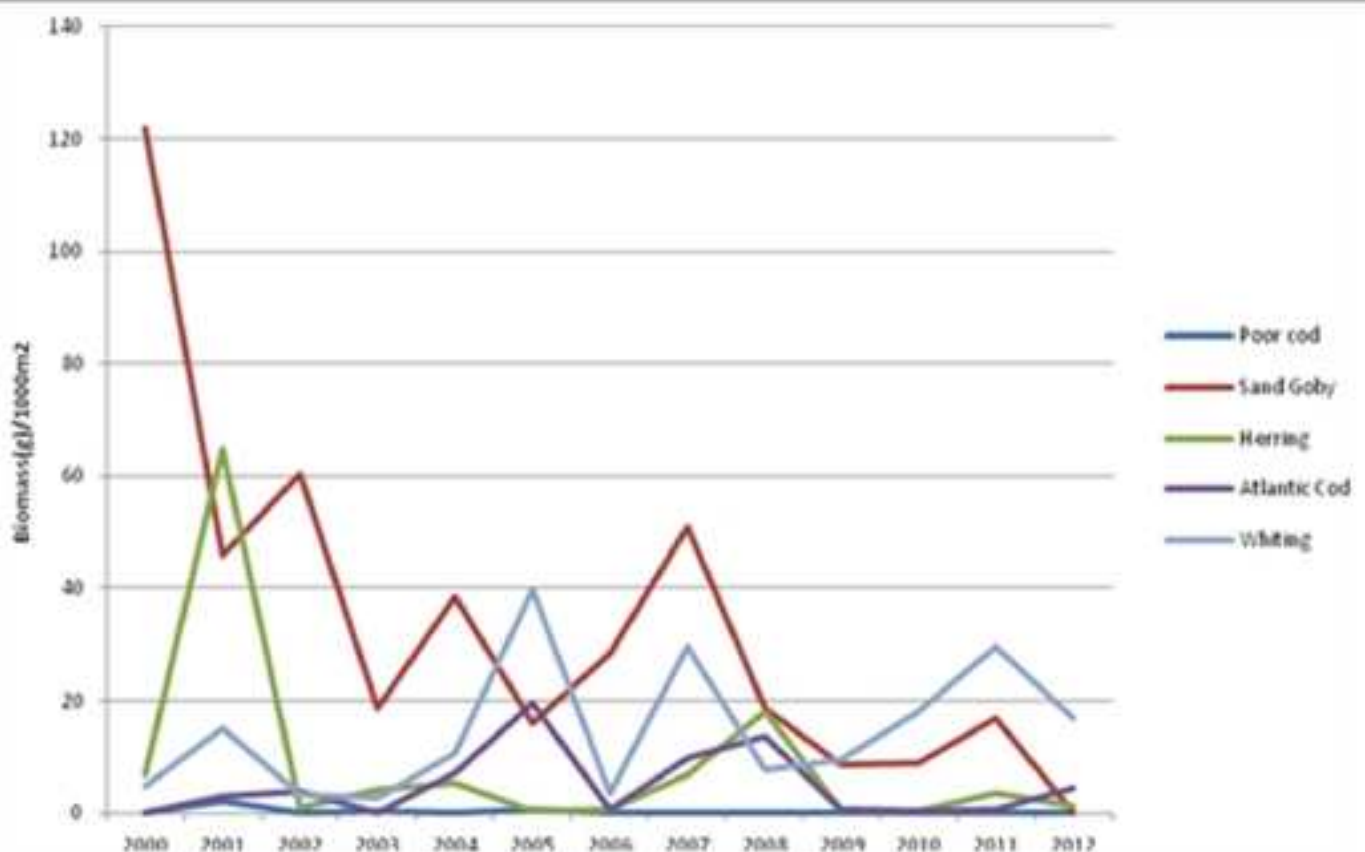
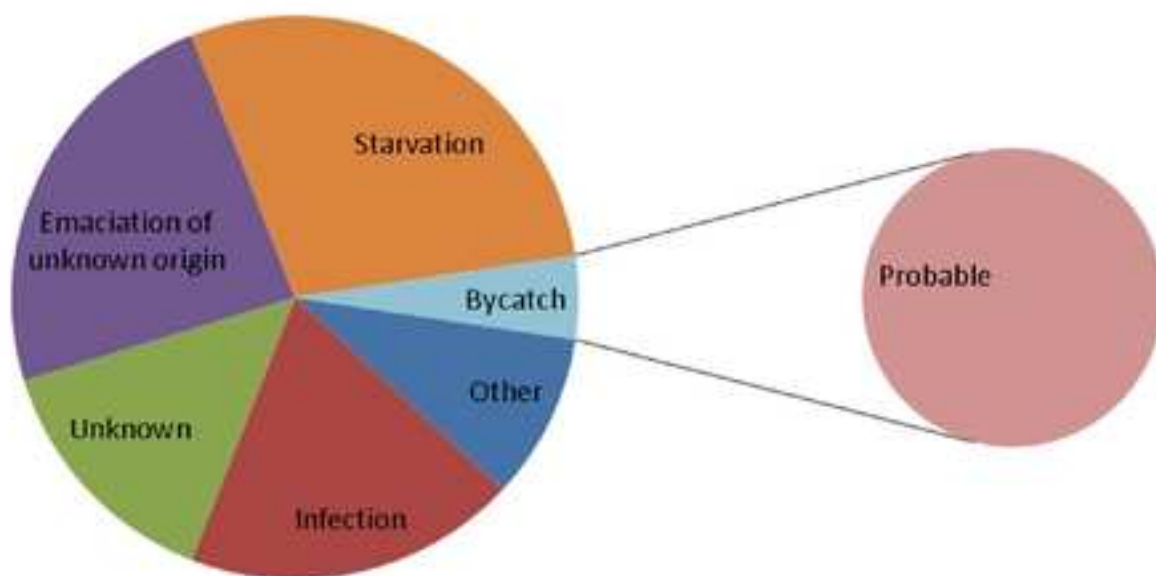


## Porpoise mortality in the Eastern Scheldt

Since 2011 the number of stranded porpoises in the Eastern Scheldt increased enormously. From the 61 dead (2010-2012) animals 30 animals could be used for determining the cause of death by the veterinary faculty of Utrecht. It turned out that almost 50 % died from starvation or emaciation. A much higher percentage than from the ones found at the North Sea shore.

With help of the fish stock data provided by Stichting Anemoon we discovered a comparable decrease of the main fish prey species (atlantic and poor cod, sand goby, whiting and herring) of the harbour porpoises. See figures below.

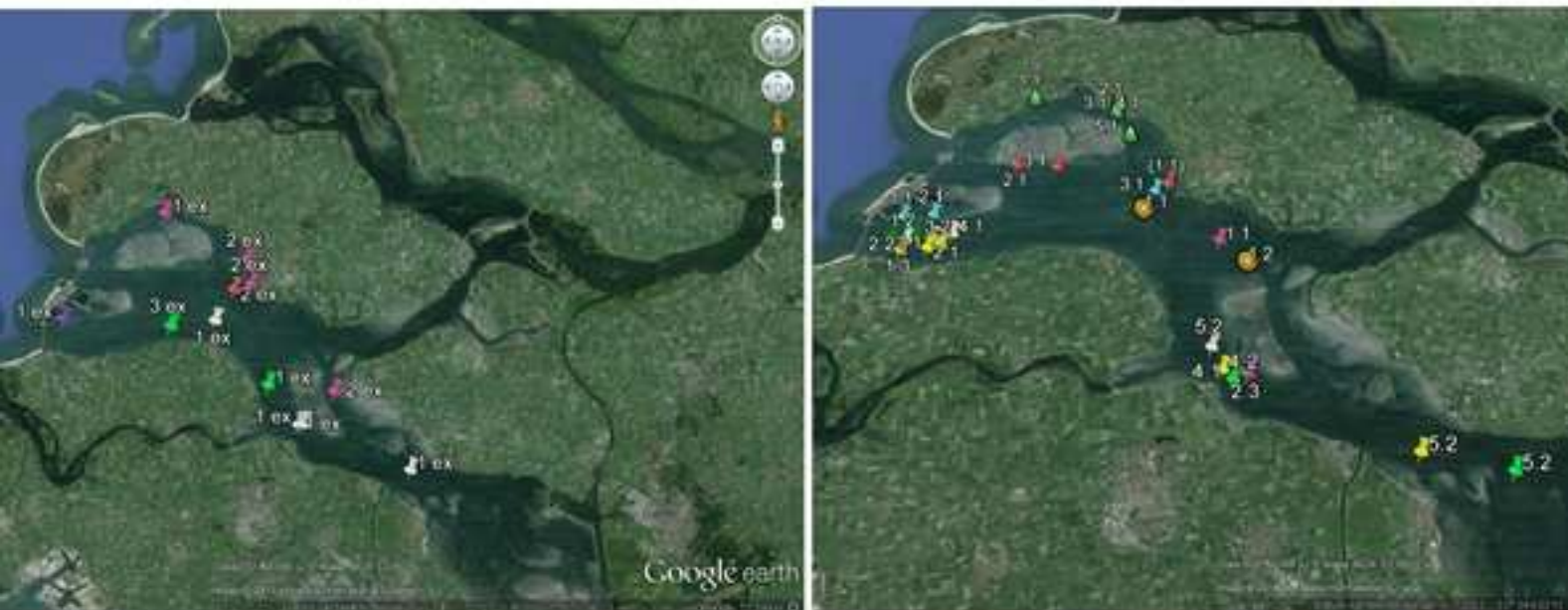
**Causes of death Eastern Scheldt population  
excluding very autolyzed animals**





## The harbour porpoise counts

Since 2009 Rugvin conducts a so called porpoise scan on an annual base. With the help of 8-9 vessels, their skippers and some 30 - 40 observers the whole surface of the Eastern Scheldt estuary is scanned from West to East. Slowly the whole fleet sails to all corners of the water by a maximum windspeed of Bft 2. See: <http://rugvin.nl/onderzoek/oosterschelde/scans>.



*The 2014 team for the annual count of porpoises in the Eastern Scheldt and results of 2013 and 2014*

In the first year (2009) of the scan 37 harbour porpoises were counted. This number developed into the record of 2011 when a total of 61 animals were observed. Since autumn 2011 a high mortality struck the Eastern Scheldt population, partly resulting in fewer animals in the following years 2012 (42), 2013 (18 under not optimal weather conditions) and 35 porpoises in 2014.





Since the first scan in the estuary in 2009, we also encountered porpoise calves, being the first ever recorded offspring of harbour porpoises in Dutch waters. Unfortunately the calves and juveniles formed a huge part of the high number of stranded dead porpoises later that year.

Because the Eastern Scheldt forms a relatively "new" habitat for the harbour porpoises there is a lot to discover. Despite the high mortality of the species in the last few years the number per square kilometer is still much higher than in the North Sea. This makes it relatively easy to study these marine mammals in this water. We even started a new project in identifying the animals individually. This is possible due to the nicks and scars on their dorsal fins, (see picture below).





# Communication and information by Rugvin


## Website

The Rugvin website ([www.rugvin.nl](http://www.rugvin.nl)) was restyled in March 2012 and a lot more visitors were attracted. From an average of about 5,000 visitors per annum (2009-2011), the number went up to 12,000 visitors in 2012 (March - December) and almost 14,000 in 2013 and over 12,000 in 2014. Not only people from the Netherlands, but also many visitors from Belgium, the UK and USA were recorded amongst others.

In 2013 and 2014 articles on the work of Rugvin appeared amongst others in "Landleven" magazine, "Roots" magazine and several occasions in newspapers and radio programmes.

In 2011 we started to give presentations for several groups like nature organisations and schools. Amongst others Rugvin gave presentations about its work in Wilnis for a nature group and the Larenstein college in Velp. We also supported Delta Safari, an organisation that conducts marine safaris, by watching sea birds, seals and cetaceans in the Dutch waters.






### Do Harbour Porpoises (*Phocoena phocoena*) migrate through the Oosterschelde (Easter Scheldt) storm surge barrier in The Netherlands?

Frank Zanenberg<sup>1</sup>, Niki Karagouni<sup>2</sup>, Catalina Angel Yonita<sup>2</sup> & Lisanne Davotia Kuyperheid<sup>3</sup>

<sup>1</sup> Rugvin Foundation, Mld, The Netherlands  
<sup>2</sup> MSc Environmental Sciences, Wageningen University, The Netherlands  
<sup>3</sup> Institute of Environmental Sciences (CMR), Leiden University, The Netherlands



#### Introduction

The study comprises data collection by static acoustic monitoring devices (C-PODs) from January 2010 until June 2011. It presents the first systematic acoustic research results, providing a unique data set of migration patterns of Harbour Porpoises from the southern North Sea to the Easter Scheldt (Oosterschelde).

#### Study area

The Oosterschelde is a large estuary situated in the south-western part of the Netherlands. Its water surface comprises about 200,000 ha and it has connection with the North Sea via large openings of the storm surge barrier.

#### Methods

Regarding migration, three C-pods were attached to buoys of the safety line and deployed on both sides of the storm surge barrier in 2010. The data of the C-pods gave information about the presence of Harbour porpoises on both sides of the storm surge throughout the year.

Migration was assumed to occur when the porpoise clicks were recorded in the Oosterschelde and at the next time interval in the North Sea or vice versa.

| Direction                  | Number of recorded clicks | Percentage of recorded clicks |
|----------------------------|---------------------------|-------------------------------|
| North Sea to Oosterschelde | 10                        | 100%                          |
| Oosterschelde to North Sea | 0                         | 0%                            |

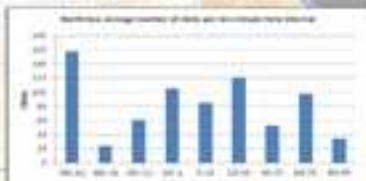
#### Results/Conclusion

The study shows that the clicks of the porpoises in the Southern North Sea are most abundant in winter and early spring suggesting that also the porpoises are more present. Porpoises are hardly observed in summer, though returning again in September, suggesting they leave the area in late spring. However, in the Oosterschelde the presence of porpoises has been recorded in all months.

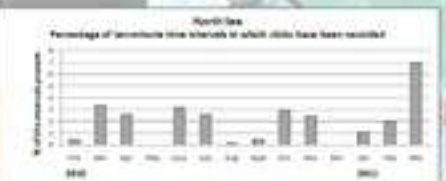
Migration between the North Sea and the Oosterschelde has been detected. In March 2010, migration from the North Sea to the Oosterschelde was observed 10 times and in October 2010 migration from the Oosterschelde to the North Sea 0 times. In March 2011 there is also a migration peak of 12 times from the North Sea and 10 times from the Oosterschelde.

In the Oosterschelde, the tidal currents of the storm surge barrier do have a significant effect on the behaviour of the animals. The stronger the currents, the more active Harbour porpoises are.

#### Number of recorded clicks of clicks per 10-minute interval



#### Percentage of recorded clicks in which at least one adult click has been recorded



Because we ran out of stock of the Dutch version of the porpoise poster it was republished in 2014.

In 2013 we presented the poster on the right at the ECS Conference in Setubal, Portugal. >>>>



## Rugvin and social media

### Twitter

When the new website was realised in 2012 it was a small step to start with Twitter as well.

In the first year 65 Tweets were posted and we created a group of about 50 followers. At the end of 2014, almost 300 tweets were posted and received by appr. 200 followers.



### Facebook

Rugvin started to have its own profile on Facebook in 2011. In October 2011 the first few messages were posted after the land based scan around the Eastern Scheldt estuary. In the second half of 2012 we started to think about how we could make better use of our profile and what we wanted to achieve. By writing in an informal way and inviting people to react on our messages we hope to become a platform where knowledge is shared and people are enthused about cetaceans by others. By informing and educating the public we hope to increase the awareness of cetacean presence in Dutch waters and the need for their conservation. We posted messages about the results of our monitoring scans on the North Sea and the estuary on a regular basis. By the end of 2014 almost 300 people "liked" us.







**RUGVIN**

## Financial report 2013 – 2014

### Revenues 2013

|                |             |
|----------------|-------------|
| Projects       | € 11.806,00 |
| Donations      | 178.00      |
| lectures       | 50.00       |
| Other          | 0.00 +      |
| Total revenues | € 12,034.00 |

### Expenses 2013

|                      |             |
|----------------------|-------------|
| Projects costs       | € 10,258.91 |
| Project reservations | 1,534.45    |
| Office costs         | 240.64 +    |
| Total expenses       | € 12,034.00 |

### Finances 2014

#### Revenues 2014

|                      |             |
|----------------------|-------------|
| Projects             | € 43,000.00 |
| Project reservations | 1,534.45    |
| Interest             | 75.57       |
| Donations            | 1,308.50    |
| lectures             | 0.00        |
| Other                | 16.61       |
| Total revenues       | € 45,935.13 |

#### Expenses 2014

|                      |             |
|----------------------|-------------|
| Projects             | € 6,091.57  |
| Project reservations | 39,700.13   |
| Office costs         | 143.43 +    |
| Total expenses       | € 44,435.00 |



[www.rugvin.nl](http://www.rugvin.nl)

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[www.jiister.nl](http://www.jiister.nl)

