



Ministerie van Landbouw,
Natuur en Voedselkwaliteit



CSI in the North Sea: solving the mass stranding mystery

Anne-Marie Svoboda

Ministry of Agriculture, Nature
and Food Quality



The case

- > +- 200 strandings of Harbour porpoise last week August
- > Yearly around 500 strandings
- > Dutch Wadden islands
- > Vlieland, Terschelling, Ameland, Schiermonnikoog





Steps after

- > Group of experts
- > PM investigation 22 animals (normal 50 per year)
- > Call to North Sea users
- > Outreach neighbouring countries
- > Drift model Rijkswaterstaat





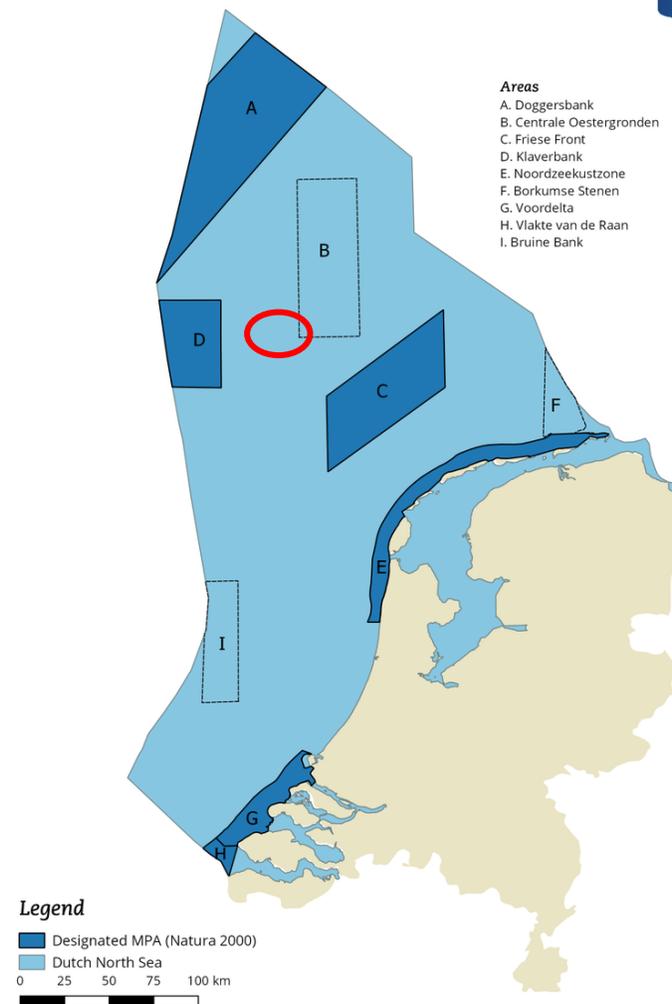
Hypotheses

- › Strong north/western wind previous 10 days
- › Noise impact (e.g. explosion)
- › Other human activity
- › Toxic algal bloom/ other substance



Drift model

- > Drift model based on humans
- > Modelling back and ahead from 3 islands
- > Based on +- 2 weeks prior
- > Point of 11 August which had very similar outcomes, appr. 10x10km





Preliminary results PM investigation

- > 22 animals
 - All decomposed quite far
 - 16 adult females/ 6 adult males
 - Good health, some F pregnant/lactating
 - 11 empty stomachs, rest nearly empty
 - Hors mackerel in 2 sp, which is only found on Frisian Front
- > Conclusion: subacute cause
- > Rare, but potentially lethal zoonotic pathogen *Erysipelothrix rhusiopathiae* found in all 3 specimens
- > 21 additional liver specimens investigated
- > Saxitoxine (STX) found in some specimens, but concentrations unclear



Report Coast Guard aerial survey

- 05-08-21 CG01: LARGE STRINGS OF ORANGE ALGAE ALL ALONG THE DUTCH COAST FROM BELGIUM ALL THE WAY UP TO GERMANY 20NM FROM SHORE
- 08-08-21 CG01: Langs de Noord-Hollandse kust veel bruine smurrie in de branding, waarschijnlijk veroorzaakt door afstervende algen.
- 11-08-21 CG01: CENTER POSITION. ORANGE STRINGS OF ALGAE.
- 12-08-21 CG04: Er zijn geen verontreinigen waargenomen op de route. Wel een grotere concentratie algen in het VSS boven Vlieland.





Results outreach

- › No uncommon activities reported
- › Only explosion in South of Netherlands early August
- › UK reported large numbers of bird strandings (Scotland) and crabs (Tees Bay)
- › Many bird strandings in NL last weeks



Hypotheses

- > Strong north/western wind previous 10 days: not likely as most healthy adult animals
- > Noise impact (e.g. explosion, seismic): not likely as location/timing does not match any activity; had to be too impactful to be unnoticed (also seems physically impossible)
- > Other human activity: no unusual activities reported, but cannot be ruled out completely
- > Toxic algal bloom/ other substance: seems a plausible possibility, but results need to be further analysed



Follow up

- > Awaiting final results analyses
- > Collaboration UK
- > In the case of toxic algal bloom:
 - Address in OSPAR
 - Additional monitoring algae?
 - Other?

