



Response at Sea

Cooperation and Coordination

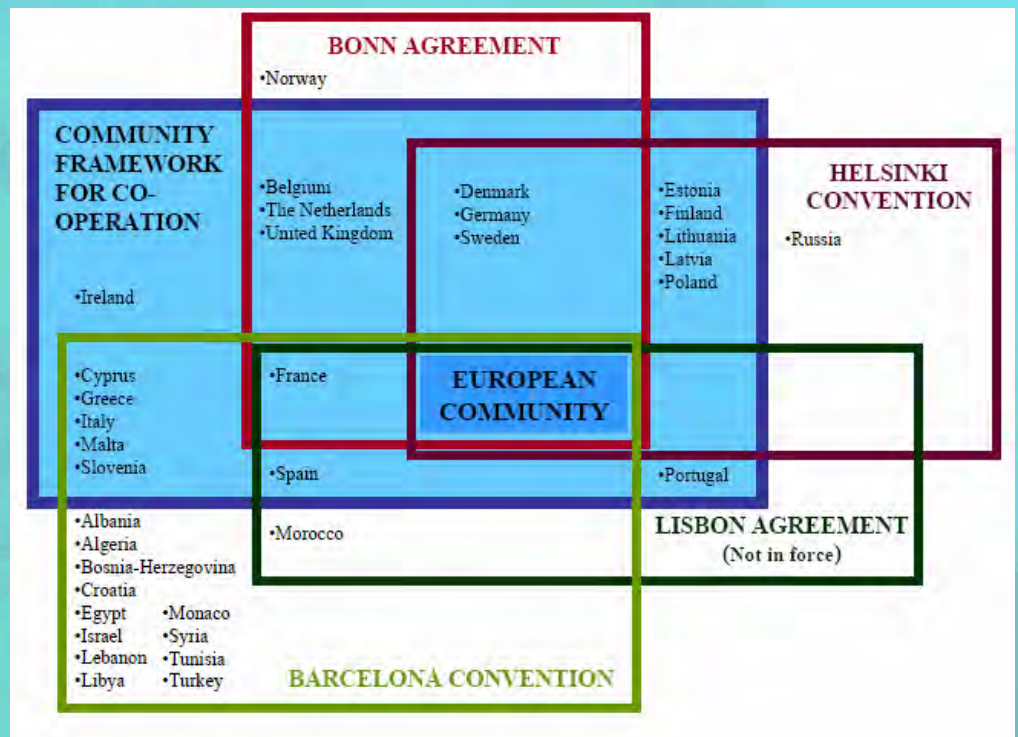
C.J.Kool (Advisor - Response Organisation North Sea)

9 March 2006

INTRODUCTION

- Introduction
- Cooperation
 - International
 - Regional
- From Request to Assistance
- The Response at Sea
 - The system
 - Discharging of the recovered pollution
 - The coordination
 - Cleaning of the Vessels
- Conclusions
- DVD “a lot of Oil”
- Questions

International framework for cooperation In combating accidental pollution



Overview:
http://europa.eu.int/comm/environment/civil/pdfiles/int_agreements_table.pdf

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Regional cooperation

- DenGerNeth – Waddenzee
 - Denmark
 - Germany
 - The Netherlands
- FrUkBeNeth – Dover Straits to Rotterdam
 - France
 - Belgium
 - England
 - Netherlands

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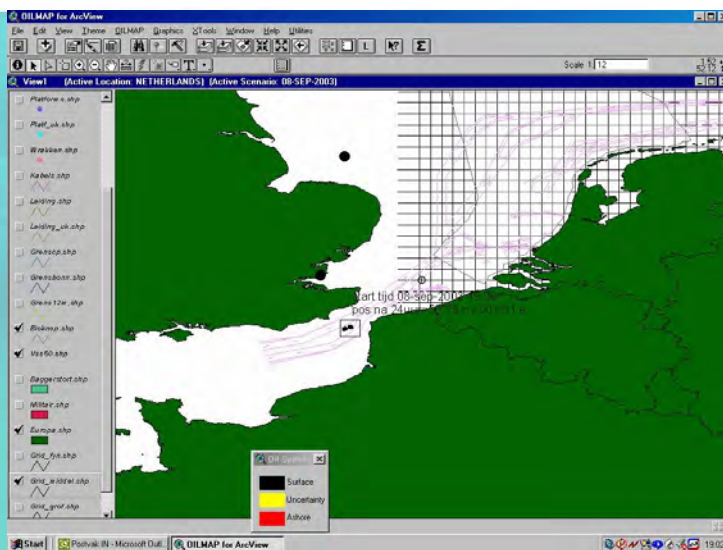
Regional cooperation



ERIKA
11 December 1999

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Regional cooperation



TRICOLOR 2002
January 2003
September 2003



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Cooperation

- Exchange of information (POLREP)
- Exercises
- Manuals and procedures
- Research
- Network
- Assistance between Member States

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“PRESTIGE” From request to Assistance

Accident “PRESTIGE”

- 13th November 2002
- 77000 ton HFO
- NW coast of Spain



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“PRESTIGE”

From request to Assistance

- The first Request 14th November 2002
 - Uk, FR and NL
- The Dutch offer
 - ARCA - 1000m³ - specialized oil-combating vessel, but hydraulic problems
 - ZIRFEAE - 200m³ – too small
 - RIJNDELTA - 3000m³ dredger with oil-combating equipment



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“PRESTIGE”

From request to Assistance

- 1 or 2 papers
- A lot of paper
- Nothing, no existing contract
- Bonn Agreement Standard Contract in production



Nothing
and see
later

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“PRESTIGE”

From request to Assistance

- The acceptance of the Dutch offer
 - 16th November 2002
 - Communication and network!!!
 - RIJNDELTA leaves ROTTERDAM



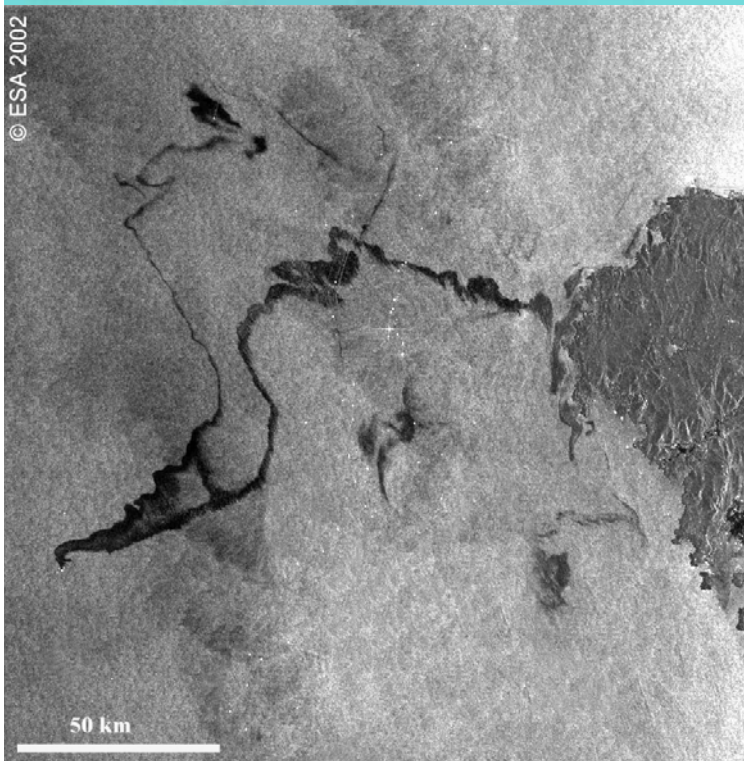
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Arrival of the RIJNDELTA of the coast of La Coruña on November the 19th



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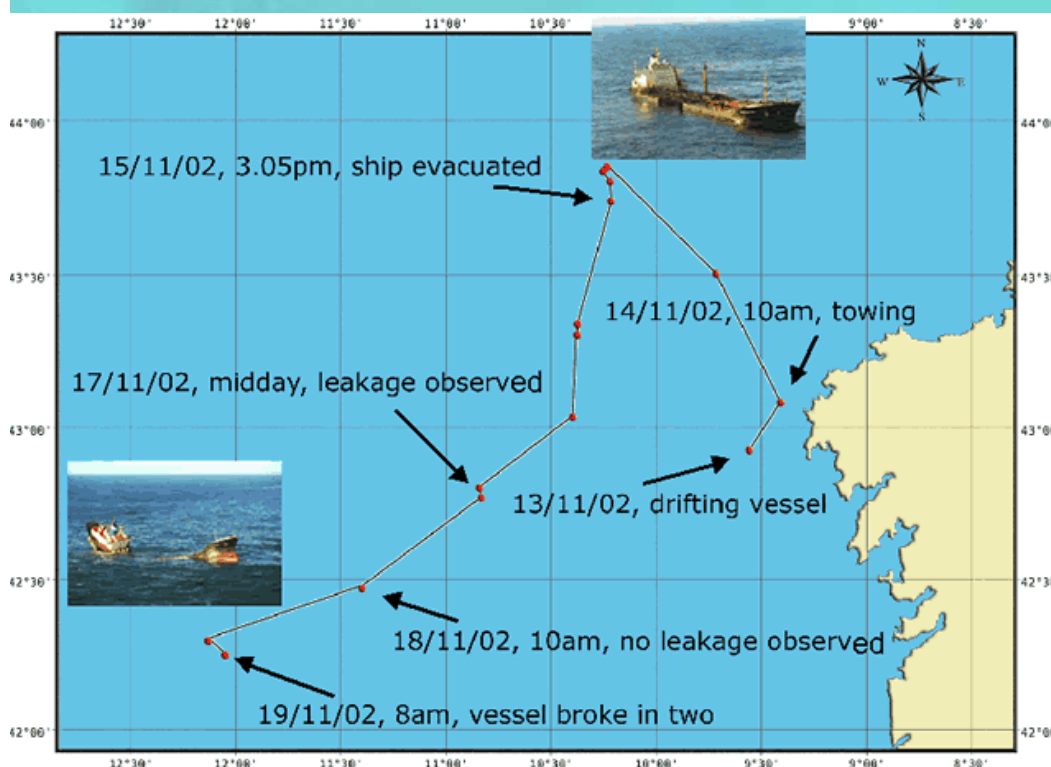
“PRESTIGE” – The Disaster



- The pollution, on the 17th November 2002
- What you see is what you get???
- Airborne monitoring is indispensable

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“PRESTIGE” – The Disaster



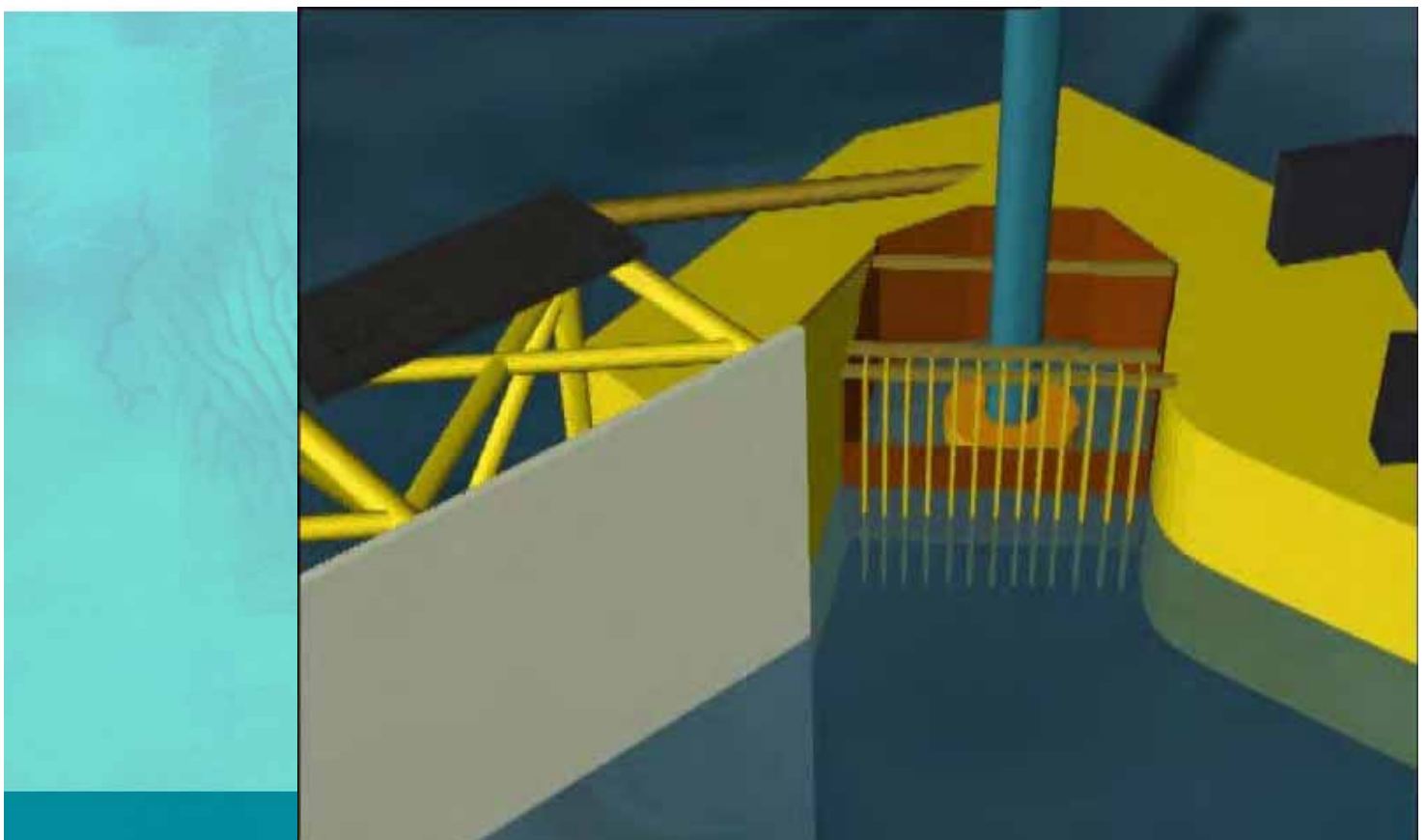
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2nd request for Assistance

- Bad Weather circumstances until 23th November 2002
- The RIJNDELTA 24th November: 1.748 ton
- 2nd Request for assistance on the 23th November 2002
- the m.v. ARCA left Scheveningen and arrived 26th November 2002

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The Response at Sea the system - sweeping arm

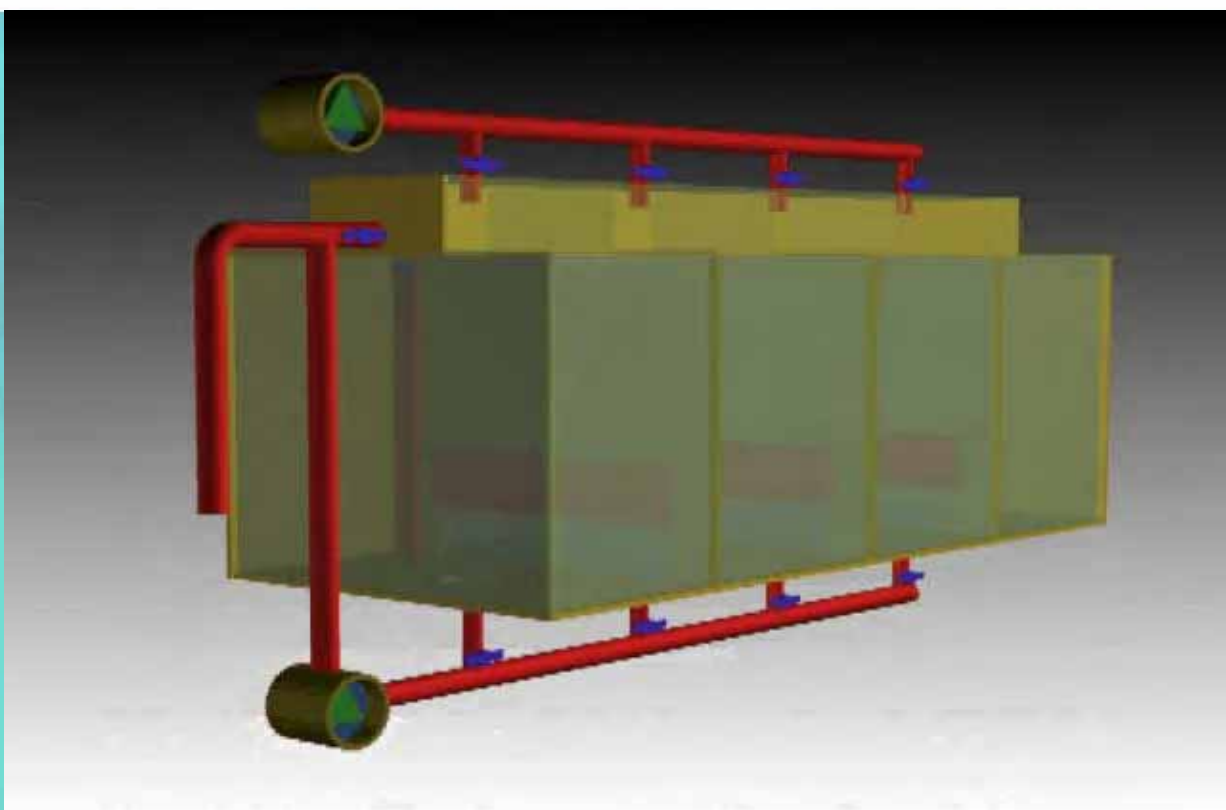


The Response at Sea the system - sweeping arm



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The Response at Sea the system – storage (ARCA)



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The Response at Sea the system – storage (RIJNDELTA)



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The Response at Sea Pumping rate 100 m³/hour of one sweeping arm



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The Response at Sea

the pomp of the sweeping arm



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The Response at Sea

Physical limits in response operations

- Up to Beaufort 6.
- Wave height 2.5 meters
- Angle of attack (between arm and vessel)
- Length of sweeping arm
- Viscosity of the oil



Response at Sea – oil slick on drift



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Response at Sea – layer thickness up to 1 meter



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Response at Sea – emulsification of the oil



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Response at Sea – oil slicks, size of a soccer field



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Response at Sea – Oil victim



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The Response at Sea

- Recovery vessels



Neuwerk (D)



La Coruna (SP)



Alcyon (FR)



Far scout (N)



Gunnar Seidenfaden (DK)



Alonso de Chaves (SP)

The Response at Sea by local fishermen



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Response at Sea – Local fisherman assisting



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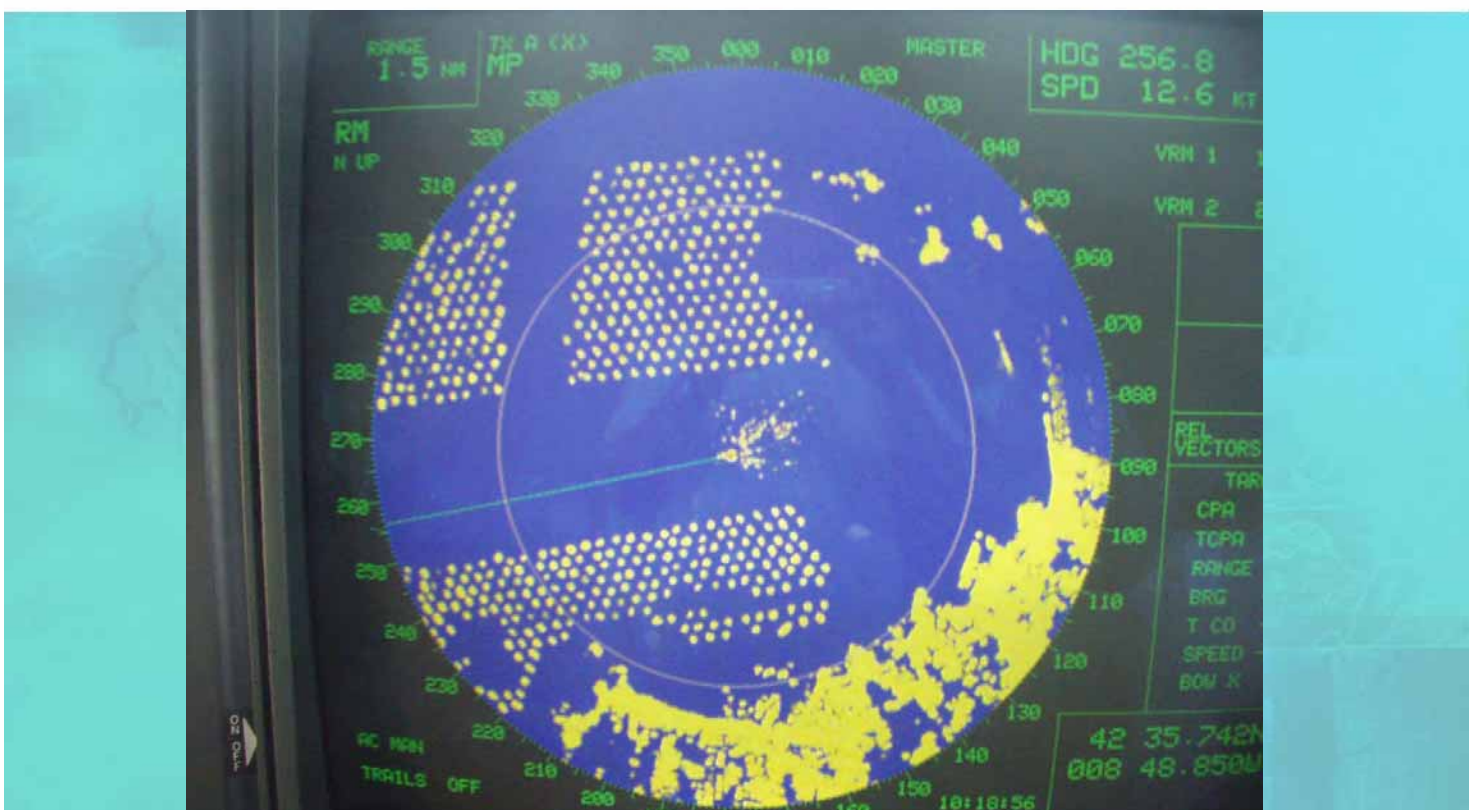
The Response at Sea

- Air support: guidance to response vessels
- Communication: aircraft to ship



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Response at Sea – Mussel cultures in the bay of Ria de Arousa on radar screen



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Discharging of the Rijndelta: the Arca as booster on the jetty of Repsol at La Coruña



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Discharging of the RIJNDELTA

Booster station

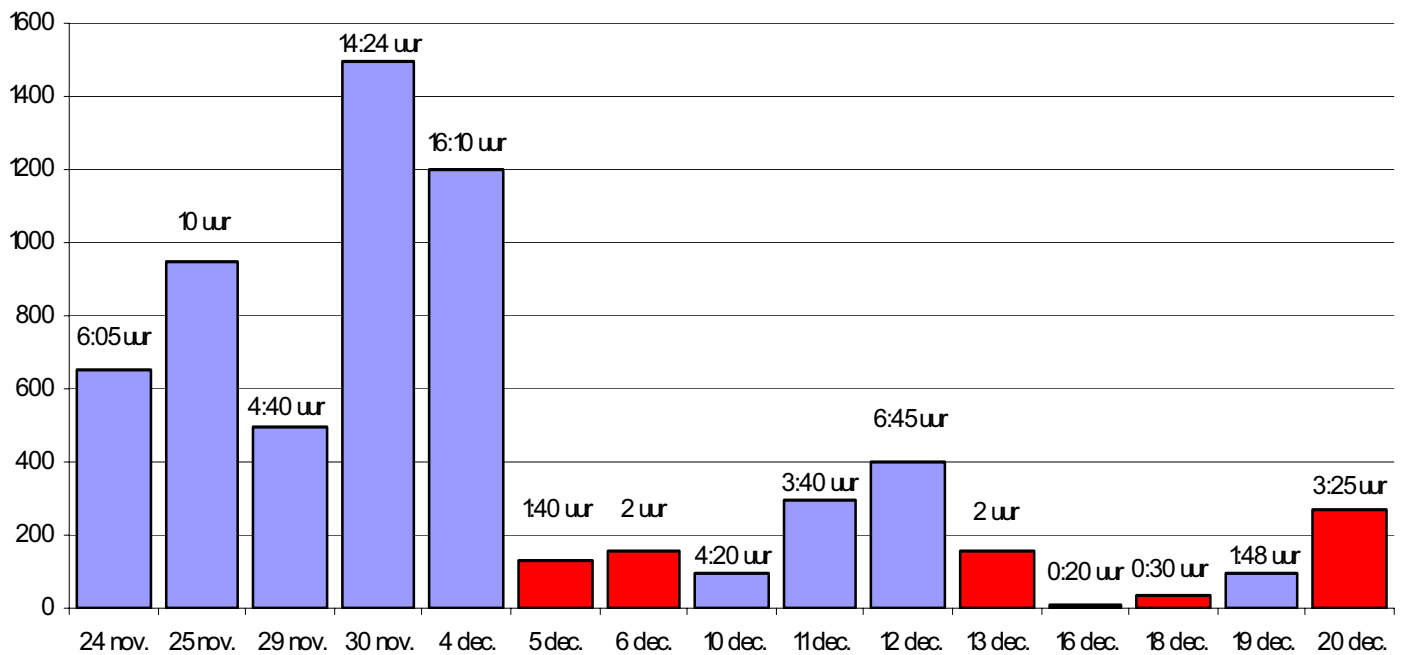


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The Result

Graph diagram of oil collection

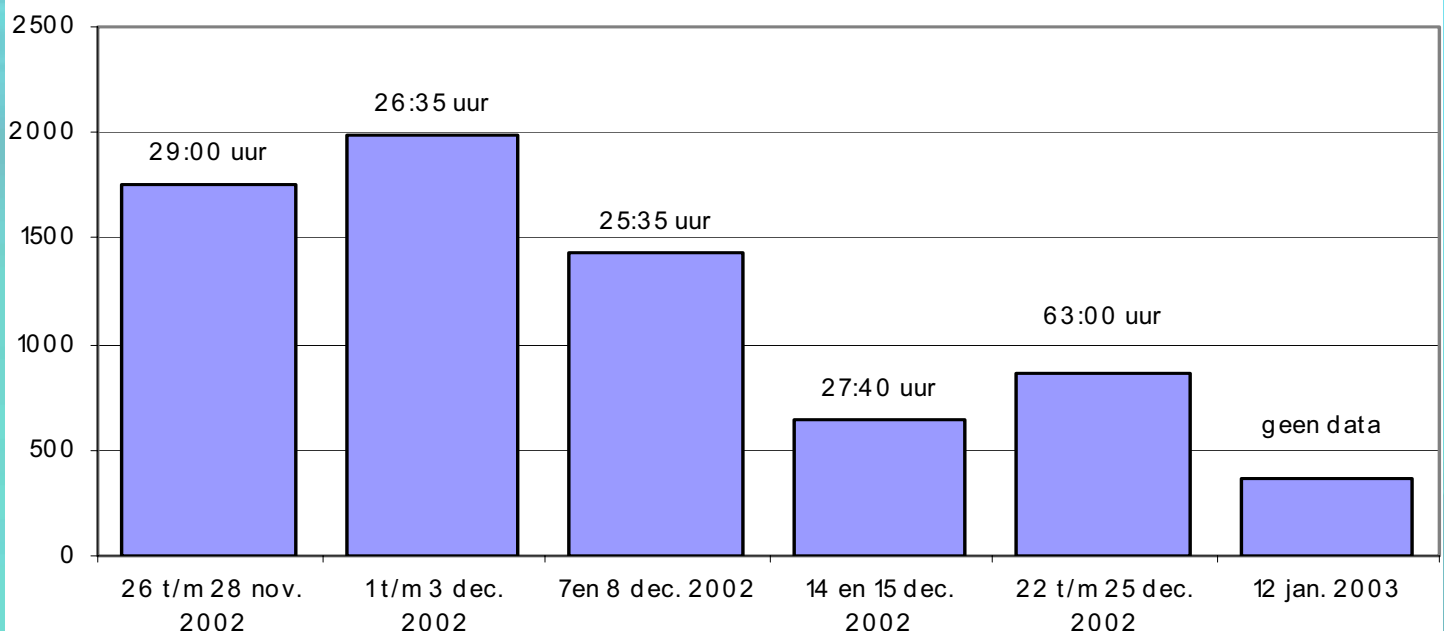
hoeveelheid geruimde olie (in m³) door RIJNDELTA ende daar aan besteedetijd (in uren), per dag



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The Result: recovered oil, discharged at REPSOL terminal

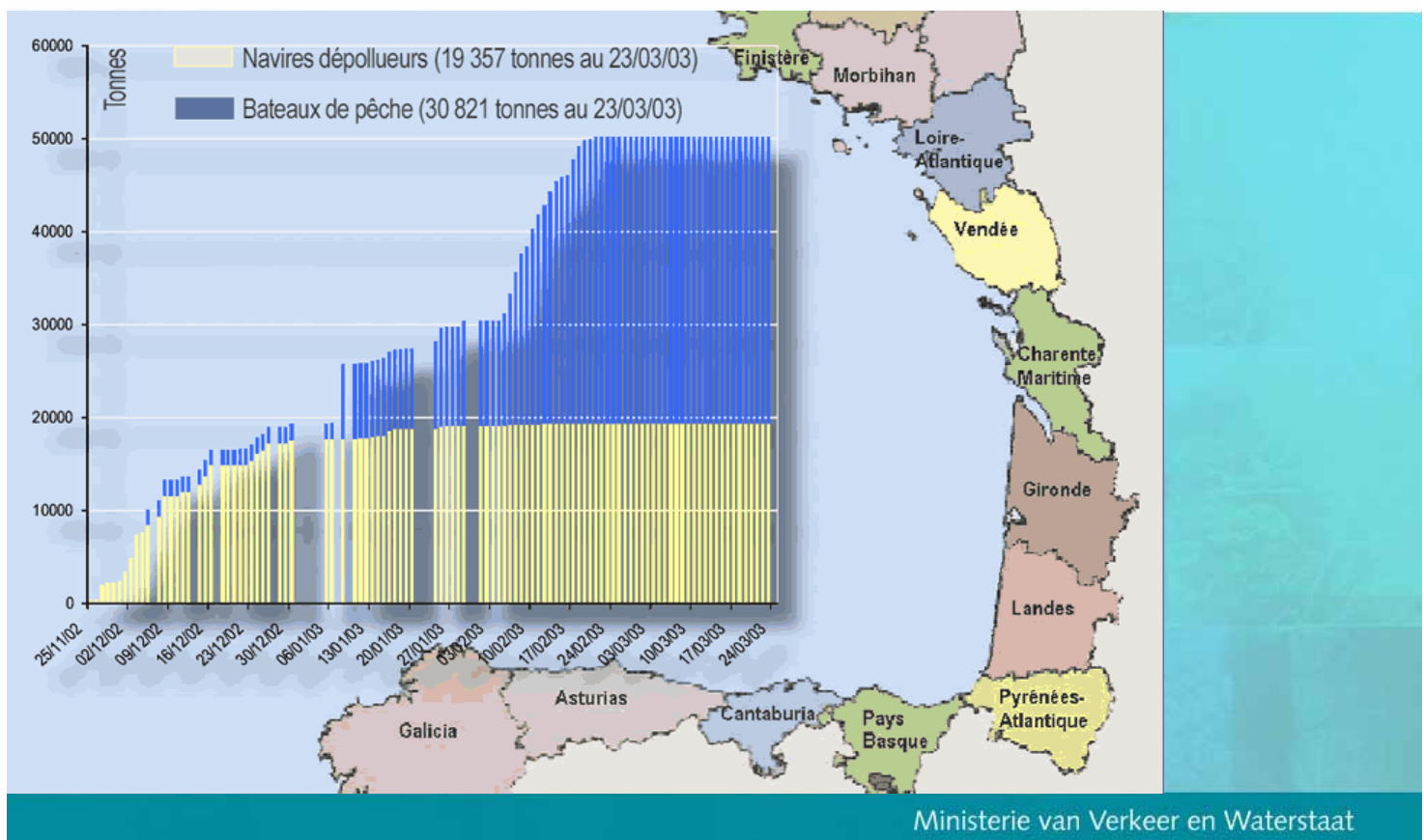
geloste hoeveelheid olie (in tonnen) uit Rijndelta en duur van lossen, per losperiode



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The Result

(source Cedre)



The Clean up operation

- The RIJNDELTA - 25th December 2002 ended his operations and returned on the 28th December 2002 at ROTTERDAM. Clean-up operations - until 12 February 2003, due to low temperature and the difficulties during the clean-up. (the hold of the vessel)
- The ARCA was cleaned in Spain and returned to the Netherlands on the 15th of March 2003

Conclusions

- Standard contracts
- Liaison officer at the crisis centre
- Aerial guidance: efficiency in recovery
- Discharging of the oil



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DVD – a lot of oil



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QUESTIONS

