EMSA's Pollution Response & Detection Services

PAJ Oil Spill Symposium 2008

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Background

Post-*Erika* (2002: EMSA established)
Post-*Prestige* (2004: new tasks include pollution response)

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Agency of the European Community

- Own legal identity
- No legislative role
- Technical and operational support

EMSA provides operational support

- A European network of oil recovery vessels
- Setting up a network of chemical experts for responding to HNS spills
- A satellite monitoring and surveillance service
- EMSA experts service to second the MS and the EC during the marine pollution response operations

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Major European Oil Spills >10,000 Tonnes

Year	Name of the Vessel	Tonnes spilled	Countries affected
1989	*KHARK 5*	80,000	Portugal/Morocco
1989	*ARAGON*	25,000	Portugal
1990	*SEA SPIRIT*	10,000	Spain/Morocco
1991	*HAVEN*	144,000	Italy
1992	*AEGEAN SEA*	73,500	Spain
1993	*BRAER*	84,000	United Kingdom
1994	*NASSIA*	33,000	Turkey
1994	*NEW WORLD*	11,000	Portugal
1996	*SEA EMPRESS*	72,360	United Kingdom
1999	*ERIKA*	19,800	France
2002	*PRESTIGE*	63,000	Spain

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Large oil spills in European waters

	Spills >700 tonnes
	Spills >10,000 tonnes

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Recent major incidents in Europe

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Erika
Dec.1999; 20,000 tons HFO spilled
Prestige
Nov. 2002; 63,000 tons HFO spilled

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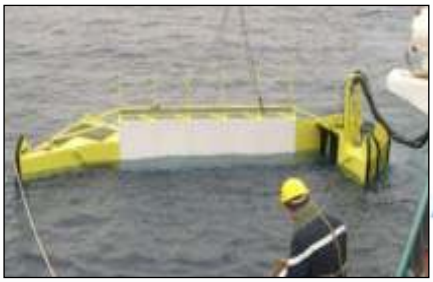
Oil Pollution Response Equipment



Different Methods for Mechanical Recovery

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Network of Stand-by Oil Recovery Vessels

Concept:

- Vessel carries out normal commercial service
- Request from Member State for assistance
- Short notice transformation into oil recovery vessel

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Pre-spill Preparation:

- Appropriate modification to vessel made in advance
- Rapid installation of equipment
- Operated safely by trained crew

Vessels classed as "Occasional / Oil Recovery Vessels"

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Common characteristics

- Pre-agreed model contract (fixed fees and conditions)
- Obliged to react positively to all requests for assistance (regardless of the spill location)
- The primary oil recovery system is based around the "sweeping arm" concept with an alternate "ocean going boom and skimmer" system
- The requesting Member State selects the equipment in accordance with the incident characteristics

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Common characteristics

- **Speed:** Over 12 knots for prompt arrival on site
- **Decanting:** Capability to "decant" excess water from recovered oil/water mixture. Maximising the utilisation of the on board storage capacity
- **Cargo Heating & Pumping:** Capability to heat & pump oil/water mixture for improved discharging
- **Slick Detection System:** Range: ~ 2 nautical miles Increased opportunity for oil recovery operations
- **Manoeuvrability**

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EMSA contracted Oil Recovery Vessels

Name of the Vessel	Type of the Vessel	Commercial Operation Area & Equipment Depot	Tank Capacity (m³)	L.O.A. (m)	Breadth (m)	Draught (m)	Oil Spill Response Equipment
Tinka	Bunker Tanker	**Baltic Sea** Porvoo /Finland & Copenhagen / Denmark (Max 2 vessels can be mobilised)	1,800	84.05	13.72	5.30	4 Flex. Sweeping arms 2 Brush skimmers 2 Arctic skimmers 2 Booms (400m/500m) 2 Slick detection systems
Breeze	Bunker Tanker		2,005	74.90	14.00	5.70	
Ophelia	Oil Tanker		6,936	106.20	15.99	7.17	
Otilia	Oil Tanker		9,889	105.00	18.00	7.92	
Tellus	Product Tanker		10,475	124.50	18.10	7.60	
Ile de Brehat	Cable Repair Vessel	**Atlantic Coast and Channel** Brest / France	4,000	123.90	23.40	8.01	2 Rigid sweeping arms 1 Weir skimmers 1 Boom (500m) 1 Slick detection system
Galp Marine	Oil Tanker	**Atlantic Coast** Sines / Portugal	3,023	82.98	12.50	5.00	2 Rigid sweeping arms 1 Brush skimmer 1 Booms (500m) 1 Slick detection system
Forth Fisher	Product Tanker	**Atlantic Coast** Cork / Ireland (Max 2 vessels can be mobilized)	4,754	91.00	15.58	5.10	2 Rigid sweeping arms 2 Weir skimmers 2 Booms (250m each) 2 Slick detection systems
Galway Fisher	Product Tanker		4,754	91.00	15.58	5.10	
Mersey Fisher	Product Tanker		5,028	91.40	15.50	6.02	

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EMSA contracted Oil Recovery Vessels

Name of the Vessel	Type of the Vessel	Commercial Operation Area & Equipment Depot	Tank Capacity (m³)	L.O.A. (m)	Breadth (m)	Draught (m)	Oil Spill Response Equipment
Bahia Tres	Oil Tanker	**Mediterranean Sea** Algeciras / Spain (Max 1 vessel can be mobilised)	7,413	99.80	18.00	7.00	2 Rigid sweeping arms 1 Brush skimmer 1 Boom (500m) 1 Slick detection system
Bahia Uno	Bunker Vessel		3,800	71.01	15.60	5.80	
Salina Bay	Bunker Vessel	**Mediterranean Sea** La Spezia / Italy	2,800	74.70	13.10	5.53	2 Rigid sweeping arms 1 Weir skimmer 1 boom (500m) 1 Slick detection system
Mistra Bay	Bunker Vessel	**Mediterranean Sea** Valletta / Malta	1,805	86.03	13.04	5.19	2 Rigid sweeping arms 1 Weir skimmer 1 Boom (500m) 1 Slick detection radar system
Santa Maria	Bunker Vessel	**Mediterranean Sea** Valletta / Malta	2,421	93.1	14.5	6.82	2 Rigid sweeping arms 1 Weir skimmer 1 Boom (500m) 1 Slick detection system
Aktea OSRV	Oil Tanker	**Aegean Sea** Piraeus / Greece	3,000	78.78	12.60	4.87	2 Rigid sweeping arms 1 Weir skimmer 1 Boom (500m) 1 Slick detection system

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EMSA Vessels and Equipment Stockpiles

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HNS Action Plan: Scope

- Focus on ship-sourced pollution involving the release of HNS in the marine environment
- Initially covers bulk cargoes of HNS/large quantities of HNS transported
  (packaged goods may be addressed in the future)

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HNS Action Plan: Objectives

- Overview of existing available HNS information
  - Current regulatory & response structures across the EU
  - HNS trade & transport in EU waters
  - Fate, hazards, risks & impact of HNS marine pollution
  - Past HNS incidents & possible operational response options
- Framework for developing EMSA's HNS activities
  - Facilitate the exchange of specialised HNS knowledge
  - Provide scientific, technical and operational support to Member States & the Commission
  - Make an added value contribution at EU level, by topping-up existing response capacities

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HNS Actions: 2008

- Analysis and dissemination of statistical information regarding seaborne transportation of HNS in European waters
- Network of specialised HNS experts to advise and support the Member States during the response to an HNS incident: M-ICE
- Study: Minimum technical requirements for a "safe platform" to respond to marine HNS incidents
- IMO model training course on preparedness for and response to marine HNS pollution incidents (entitled *HNS Supervisor*)

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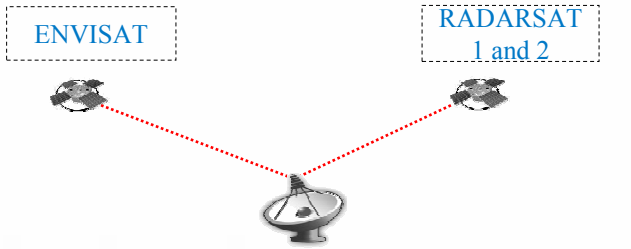
The *CleanSeaNet* oil spill detection service



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30 min

EMSA/EU Coastal States

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Satellite radar for detecting oil spills

- SAR (Synthetic Aperture Radar) "illuminates" the ocean surface and processes the back scatter signal. This signal contains information on the level of roughness of the sea surface.
- The dampening effect of floating oil films enables SAR sensors to detect oil slicks.
- Limitations: as sea roughness is driven by the local wind speed and direction.
- Despite these limitations, satellite SAR imagery has proven to be an effective tool to detect oil spills at sea as it has the capacity to cover large areas (up to 400 Km wide) day and night and is almost unaffected by cloud cover.

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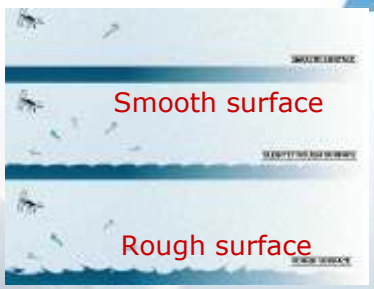

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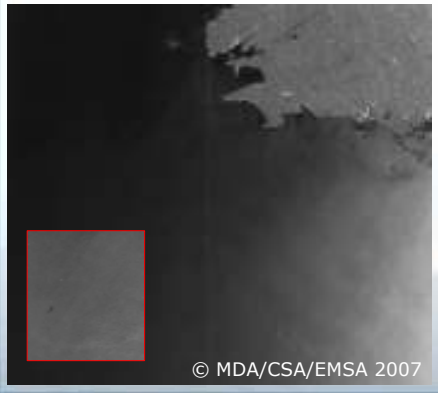
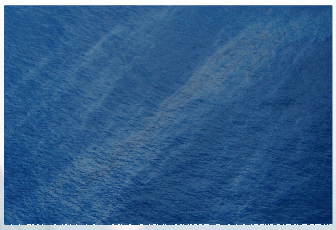
CleanSeaNet alert is delivered in less than 30 minutes from the satellite overpass

- Alert via e-mail and by phone
- Satellite image available via a web map browser





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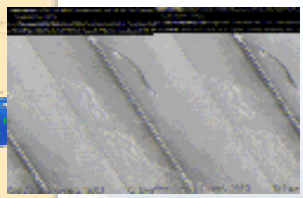
1731 possible oil spills detected in 2007



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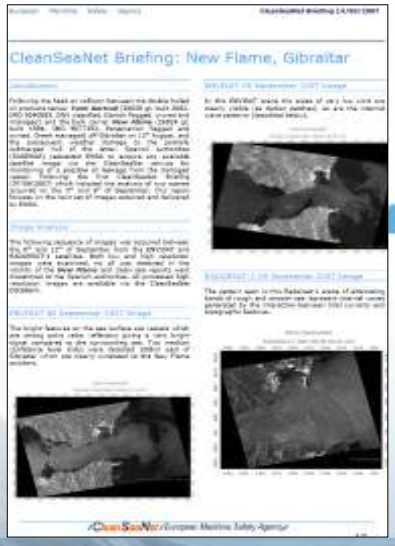
CleanSeaNet Operational Support : Emergencies

Spain, Ibiza
- Dom Pedro incident
- July 2007
- 1 scene ordered

Spain, Gibraltar
- New Flame incident
- Sept 2007
- 11 scenes ordered

Black Sea, Kerch Strait
- Nov-Dec 2007
- 13 scenes ordered

Norway, Statfjord-A rig accident
- Dec 2007
- EMSA as the project manager for the International Charter



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Future development of the *CleanSeaNet* service

- Integration of oil drift forecast and hind cast models
- Identification of suspected polluter
  - Systematic integration of satellite image information with numerical back-tracking models and
  - Ship routing information, e.g. AIS (Automatic Identification Systems) or the coming LRIT (Long Range Identification and Tracking)

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EMSA's Pollution Response Expert Service

EMSA provides MS and the EC with technical and scientific assistance on request. The provision of expertise by the Agency can be characterised on the following basis:

- On-site personnel providing support across a range of issues including equipment selection and response coordination,
- Personnel providing support as part of the central response coordination of the MS.

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Thank you for your attention

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Further information available at:

www.emsa.europa.eu