Pollutant Monitoring
and
Ecological Impact Assessment
following accidental oil or other chemical spills in marine waters

Leader:
Cedre - France

Partners:
UBO – University of Western Brittany - France
IRIS - International Research Institute of Stavanger - Norway
The University of the Basque Country - Spain
CALM - Coastal Assessment Liaison & monitoring – Pembrokeshire, UK
Agenda and structure: a 3 day-workshop

Held on 9 - 11 October 2007 at Cedre, in Brest.

- **Day 1: Pollutant Monitoring**
  2 lectures (morning) 2 lectures (afternoon) + 2 round tables > recommendations

- **Day 2: Ecological Impact Assessment**
  3 introductive lectures + 2 round tables > recommendations

- **Day 3: validation of a conclusive document**
  Recommendations / comparison and complementary
Day 1: POLLUTANT MONITORING

Context during…
Which procedure to use for evaluating if marine organisms could be impacted?
Which biological and ecotoxicological indicators could be used to assess the environmental status post-spill?

Previous Cedre actions: 2 EC-Funded projects + RESPIL

HASREP (2005) => Task 3 (leader TNO): Investigation on the use of mussels as a bio-indicator to spills at sea

- Sensitivity valve movement mussels
- Chemical toxicity (LC$_{50}$ GESAMP B)
**Previous Cedre actions...**

**PRAGMA (2006)** => A pragmatic and integrated approach for the evaluation of environmental impact of oil and chemical spilled at sea.

Propose a pragmatic monitoring approach based on simple and cost-effective analytical tools:

- Biomarker
- Bioassay
- Biosensors

Selection of a panel of biological indicators for Enzymes and DNA:

- Cell
- Tissue & organs
- Individual

**Day one**
To define a minimum set of recommendations and procedures, **unanimously accepted**, enabling to monitor the effect / impact of a pollutant on marine organisms.
**Day 2: ECOLOGICAL IMPACT ASSESSMENT**

**Context**
Which procedure to use for implementing an EIA after an accidental spill (oil or chemical)?

*Previous Cedre actions*
- a detailed literature analysis (6 oil spills)
  + an international seminar (oct. 2005)
- an EC-Funded seminar held in July 2005 in Vigo, Spain, co-organized with CETMAR

It appears that targets and procedures are not always the same, even for similar conditions (oil and environment).
ECOLOGICAL IMPACT ASSESSMENT

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<tr>
<th>TARGETS</th>
<th>Amoco Cadiz</th>
<th>Sea Empress</th>
<th>Braer Aegean sea</th>
<th>Erika Exxon Valdez</th>
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<td>Thallophytes</td>
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A need felt for more homogeneous approaches.

**Day two**
identification of relevant monitoring protocols for one benthic domain: intertidal or subtidal zone? On rocks or in sediments?
Day 1
Individual level

Day 2
Population level
And more…

Day 3
How to combine in order to identify an **operational guidelines** for setting up an effective monitoring / impact assessment program
Acknowledgements

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