

Post spill impact assessment in France: preparedness status and perspectives

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Sharing best practice and experience
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Cedre

- Private not-for-profit organization
- State-approved association with a public service mission
- Created in 1978, as part of measures taken in the aftermath of the *Amoco Cadiz* oil spill.
 - Technical advice (response techniques)
 - Research and development; oil studies (weathering, properties,...)
 - Testing response equipment & products ;
 - Advisor for post pollution monitoring, environ. impact assessment;
 - Emergency response plans (private and public);
 - Training;
- www.cedre.fr ; contact@cedre.fr

Content

- Views about post-spill Environmental Impact Assessment (EIA)
- Feedback from 2 major spills in France
- EIA status in the French contingency planning
- Perspectives:
 - Potential inputs from Cedre's projects → scientific guidance in case of a spill

Generalities

- Major spills: authorities in charge of response management

→ Acknowledged need for environmental/scientif. expertise

Emergency phase (hrs, days, weeks)

- Inform the public and stakeholders whether there are risks and/or impacts linked with the presence of pollutant in the environment;
- Inform the response: avoid forgetting any impact mitigating action.

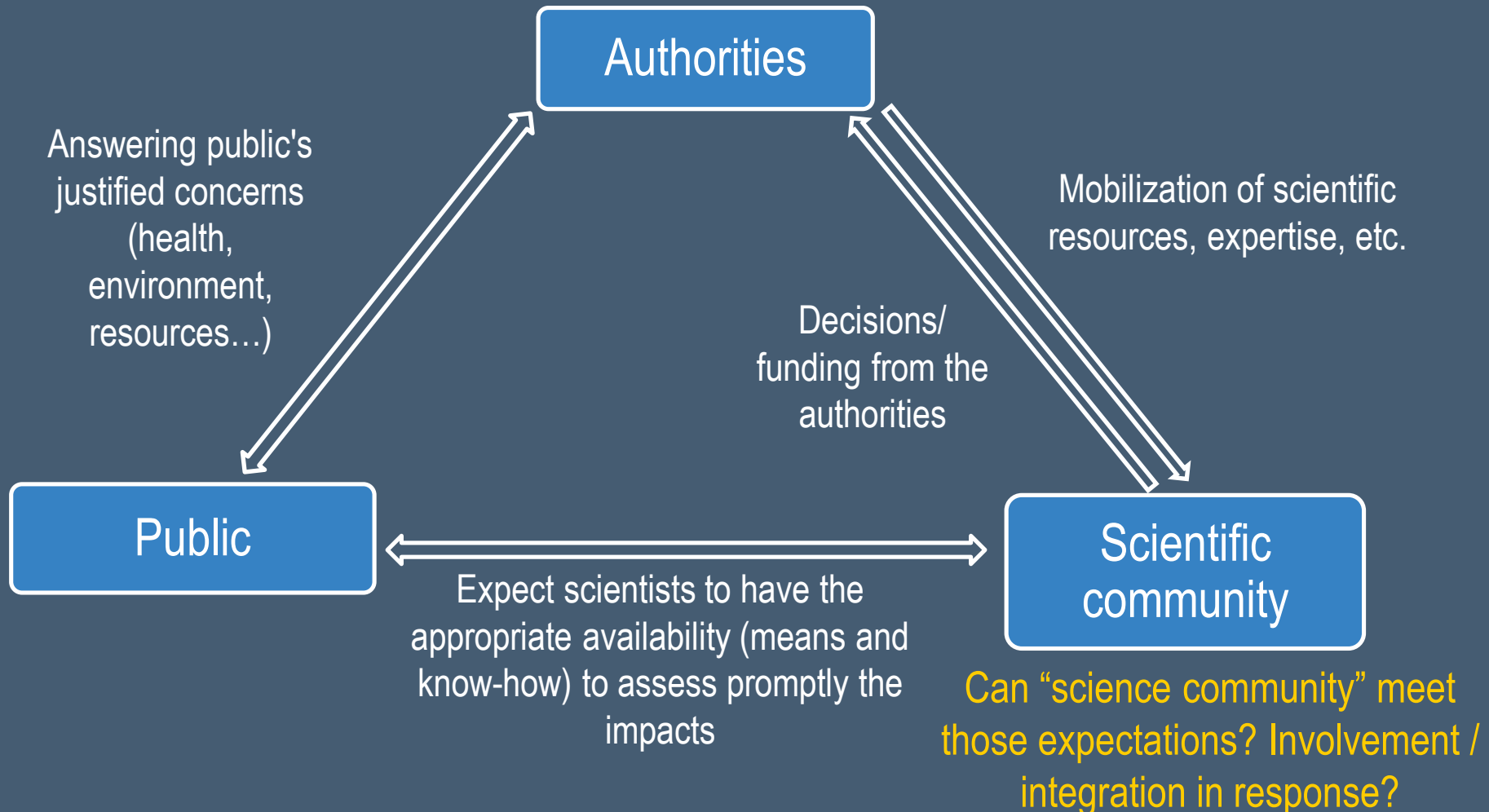
... Beyond:

- Contribute to scientific programme /studies → assessment on a longer term

Generalities

- Significant spill:

Scientific EIA is a recognized issue... expectations:



Contrasted facts from major spills in France

• EIAP setting up

Amoco Cadiz - 16th March 1978

Scientists

- Immediate spontaneous mobilization
- Local labs (Univ. of Brest): sightings, sampling...
- During the first 20 days: experts from USA (e.g.: NOAA, EPA), Can. (Bedford Inst. Oceanogr.) , UK (MoA /Fisheries Lab., Burnham-on-Crouch)

National authorities

- March 17 (t_{+1}): French MoE entrusts CNEXO to define and co-ordinate (sci. committee) a national programme
- Direct contracting
- 3 yrs. EIAP swiftly implemented

Complementary programme

- July: joint NOAA/CNEXO Sci. Commission → oversee a programme through a special *Amoco Transports Co.* fund (managed by NOAA)

Erika - 19th December 1999

Scientists

- Less readily mobilized:
 - availability constraints...
 - local expertise? (coastal/littoral ecol. labs)
 - awaiting upon authorities' decision as to organization and funding;

National authorities

- 28 Feb. 2000 ($t_{+2.5 \text{ months}}$) : 1st decision taken through an inter-ministerial committee (CIADT)
 - to create « *a scientific network for monitoring ecological and ecotoxicological impacts of the oil spill* »
- Open call for proposals under coordination of MoE
- 5 yrs. EIAP launched in December 2000 ($t_{+1 \text{ yr.}}$)

Experience and lessons learnt

- Outputs/learnings

Amoco Cadiz

Knowledge gained (examples)

- successive stages of ecological effects and recovery processes (e.g. macrobenthos);
- description of large range of impacts (populations, communities); sp. sensitivities; persistence vs. habitats; detoxification processes/kinetics; etc.

Application/development of valuable tools (examples)

- Application of existing Environmental Sensitivity Index
- Data → *Biotic Index* (macrobenthic “ecological groups” translating “disturbance level”)
 - Potential for “meiofaunal index”? (copepod/nematod ratio)
- An original development: benthic invertebrates survival index (*BIGHORN*; shelved)

Lacks

- Monitoring of oil distribution/degradation in environment
- Human health impact assessment / monitoring
- Pre-spill data / references?

Experience and lessons learnt

• Outputs/learnings

Erika

from the EIAP sci. committee:

Example of learnings

- Validation of **biomarkers** (recommended since in monitoring networks)
- Baseline/reference data acquisition
 - Two **observation networks** initiated by DIREn Bretagne :
 - shoreline terrestrial vegetation (inventory) (CBNB)
 - macrobenthic communities: “*ReBent network*” (coord. Ifremer Brest) → init. in '03
 - Sustainability? (fundings, adjustments as regards to priorities/objectives...)

Remarks

- For a same item: diff. methods → results often not readily comparable.
- Interpretation of *in situ* fluctuations, for some resources?

Recommendations

- Link research and observation/monitoring activities;
- Develop techniques and id. biological attributes **appropriate for EIA and survey/monitoring**

Experience and lessons learnt

- Comparison between 2 major spills

1) Delays in setting up / launch of the EIAP

- Decisional process/ funding procedures
- Mobilization from science community

→ Improvement / planning:

guidance for a swift mobilization of relevant scientific expertise?

Experience and lessons learnt

- Comparison between 2 major spills,
 - 1) Delays in setting up / launch of the EIAP
 - 2) Techniques, tools → approaches
 - Ability to detect and record more changes, at higher resolution
 - ... assigning causes to observed fluctuations?

→ Improvement / planning:

Guidance (drawn from feedback from actual IAP)

- Definition of an adequate scope for investigations (res./hab., relevance w. issues);
- Encouraging combined approaches (optimized use of new tools; e.g. biomarkers);
- Ensure studies design fits the needs and constraints of accidental event context.

EIA in the French contingency planning

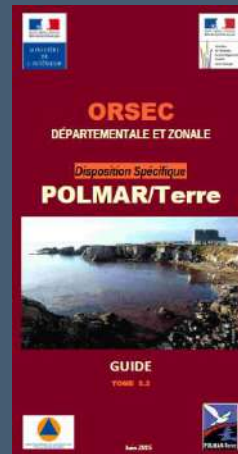
- Context

- Each Department → draw/update his own contingency planning

- in accordance with the national regulatory framework (ORSEC plan)
- considering its own specificities/sensitivities

- Coastal Departments:

- incl. Specific POLMAR provisions (oil spills)
- recommendations in “*POLMAR Plan revision guide*”
- A section (annex):
 - Advocates planning of “*Actions to assess the effects of accidental oil spills*”
 - Introduced in 2003, but providing little detailed guidance



EIA in the French contingency planning

§ *“Measures to assess the effects of accidental oil spills”*

– Section developed and expanded (Cedre) at the demand of the authorities

– Using outcomes from various Cedre's projects

- based on lessons learned from case studies
- involved the science community (advice, inputs, ...)



Objective & scientifically relevant directions for improvement

Projects

- Related projects

	Project	Action
1997	Feedback about <i>Amoco Cadiz</i> spill EIA studies	Survey (questionnaire) with french scientists involved (30)
2003/ 2004	- Comparative analysis of EIAPs in the aftermath of 6 major oil spills - Synthesis on approaches, protocols, methods	Literature analysis
2005	A workshop on EIA on marine benthic environments*	Conferences, round tables
2007	EC funded workshop “Pollutant Monitoring and Ecological Impact Assessment following accidental spill in marine waters”**	Conferences, round tables
2010/ 2012	<i>IMPOLEST</i> (Environmental <u>imp</u> act assessment of an oil <u>pollu</u> tion incident in <u>estu</u> arine waters)	Site-specific EIAP framework

* Participants (FR, SP, UK): scientists, experts, stakeholders (from academia, french admin., insurance/shipping experts...)

** Participants: EC delegates + external attendees & 15 lecturers (FR,UK,SP...)

EIA in the French contingency planning

§ “*Measures to assess the effects of accidental oil spills*”

– Current version:

- Reminder of the objectives of EIA activities (≠ oiled wildlife response; ≠ sanitary/food concerns,...)
 - Describes basics on resources to consider (vulnerability, importance, ...)
 - Recommendations as to:
 - Integration & role of scientists in the organization (MoE-managed);
 - Pre-identifying relevant expertise according to sensitivities (up-to-date list of local/non-local laboratories);
 - Consider/plan a phased approach for EIA activities, **as needed/relevant**
- ... Next?: more details about approaches/methods

Conclusion

- Need for IA activities recognized by French authorities
 - Management/coordination: organization well identified;
 - Links exist between key public stakeholders (could be strengthened –mutual role, expectations...)
 - Science: General principles and guidance available (through Cedre's advisor mission)
- Perspectives:
 - Contributions to *Polmar* (*revision guide*, working groups);
 - Challenge: clear & shared understanding of the 'ins and outs' of EIA
 - Development of comprehensive guidelines?
 - Challenge: fundings...(level of awareness outside crisis time?)

Thank you
for your attention