

Common Challenges Faced in Implementing Effective Environmental Monitoring: An International Perspective

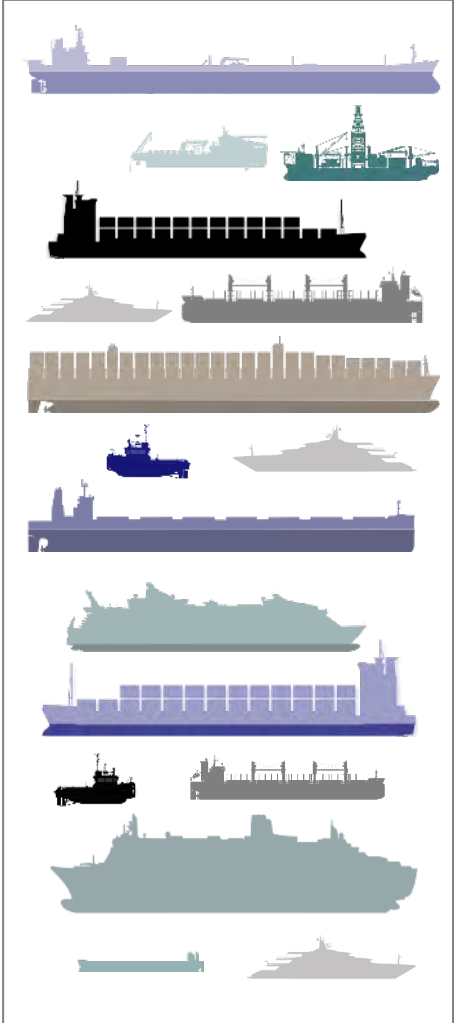
Miguel Patel, Senior Technical Adviser

PREMIAM CONFERENCE, 22ND JUNE 2022



ITOPF BACKGROUND

ITOPF'S SHIPOWNER MEMBERS & ASSOCIATES



»»»»
FUNDING

Main Function



Technical advice on effective response to spills of oil, chemicals and other substances in the marine environment.



»»»»
TECHNICAL ADVICE

SPILL RESPONSE COMMUNITY & STAKEHOLDERS



ITOPF'S AIM:



**PROMOTING EFFECTIVE
SPILL RESPONSE**

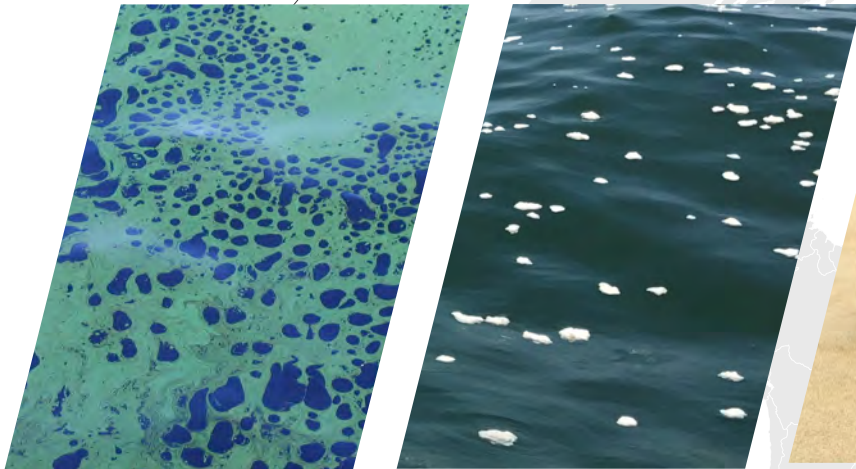
**TECHNICAL
5
SERVICES**



ITOPF'S REMIT:



MINERAL & VEGETABLE OILS



OTHER SUBSTANCES CARRIED BY SHIPS



CHEMICALS

ITOPF

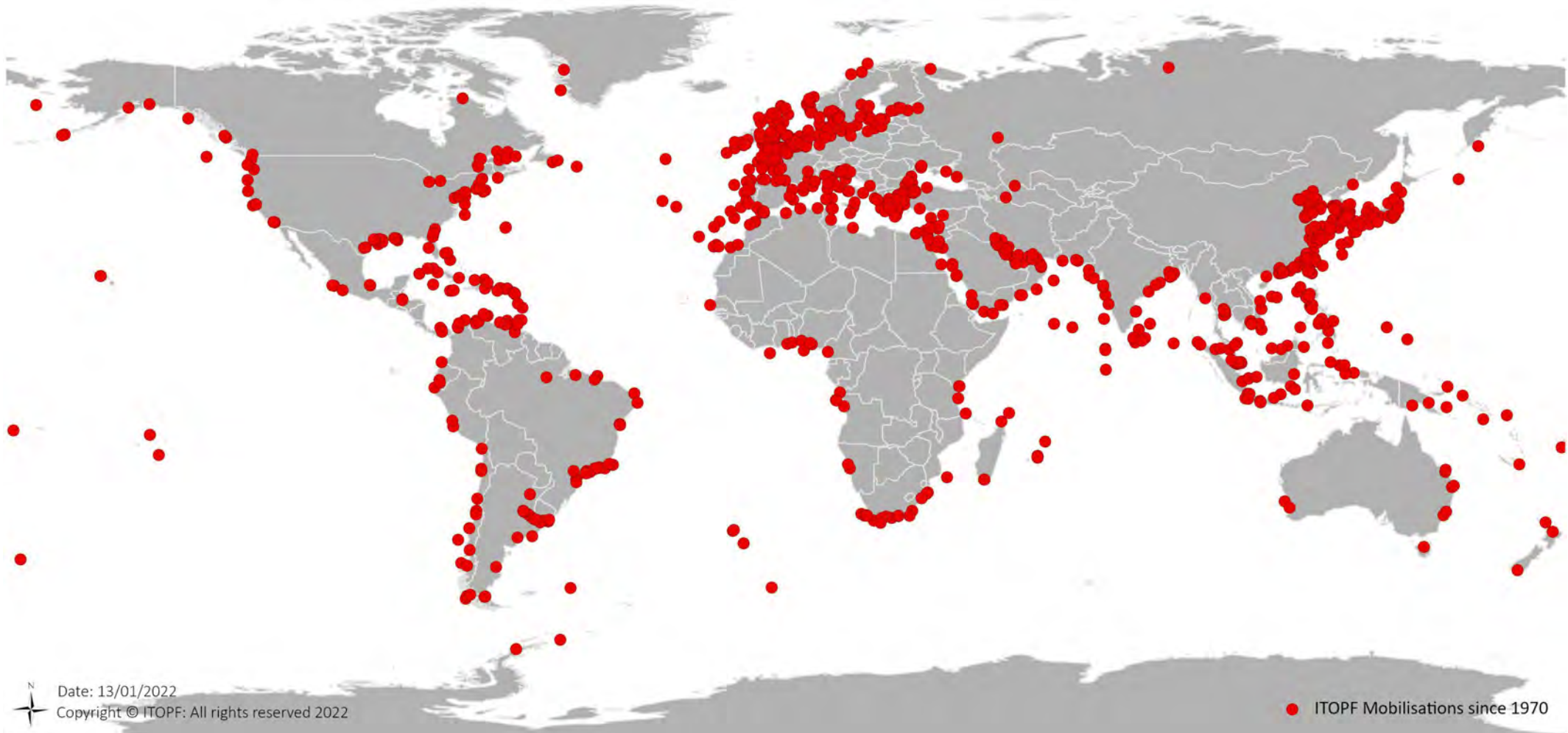
STATISTICS

> 800
incidents

in 100
countries

Avg.
20-30
spills/yr

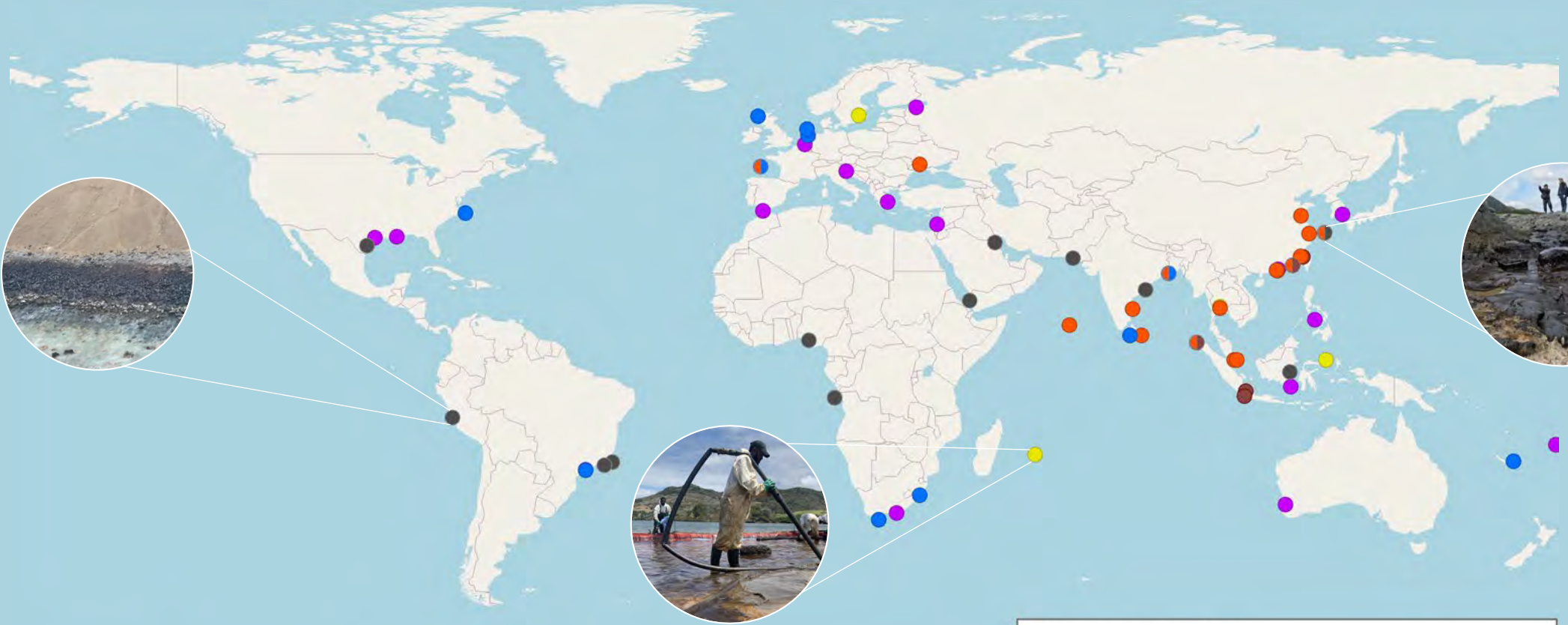
Attended Spills 1970 - 2020



ITOPF

STATISTICS

ITOPF assistance: 2017-2022



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ITOPF on-site and remote advice		
● HNS	● Crude	● HNS/Coal
● Plastic	● HFO	● HNS/Crude
● Coal	● LSFO	● HNS/Plastic

EFFECTIVE SPILL RESPONSE

Priority actions

- **Limiting the spread** of pollutant is generally the **priority** in a pollution incident.
- **Measuring the effect** of pollution and the **recovery** of damaged environmental components is generally a **lower-priority** in the early stages.

OPRC CONVENTION 1990



*“In the event of an oil pollution incident, **prompt** and **effective** action is essential in order to minimise the damage which may result from such an incident”*

EFFECTIVE SPILL RESPONSE

Key factors for success



ORGANISATIONAL



TECHNICAL



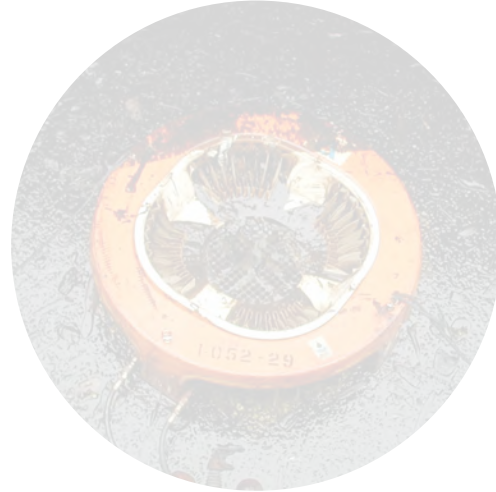
LEGAL & ECONOMIC

EFFECTIVE POST-INCIDENT MONITORING

Key factors for success



ORGANISATIONAL



TECHNICAL



LEGAL & ECONOMIC



Why the disparity in preparedness?

OIL SPILL RESPONSE

- Effective **spill response precludes impact**, so naturally treated as a **priority**.
- The **behaviour of oil** at sea is generally **predictable**.
- **Clear aims**; less need for protracted project scoping and design.
- **Easier to plan for and resource**.

POST-INCIDENT MONITORING

- The **nature of impact** depends on wide array of factors and is **difficult to predict**.
- The **aims, scope and design** of impact studies **vary from case-to-case**.
- **Planning and resourcing** more **complex**.



Academic
Institutions

National
Environmental
Authorities

Local
Laboratories

Community/
species- specific
ecologists

Other service
providers

EFFECTIVE POST-INCIDENT
MONITORING

Organisational factors

Shipowner/
P&I Club

NGOs

Technical
specialists

Site/resource
Managers

National
Maritime
Authority

Academic
Institutions

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Environmental
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species- specific
ecologists

Other service
providers

- **Roles and responsibilities** of stakeholders generally **poorly mutually understood**;
- **Channels of communication absent**, requiring **relationship building on ad-hoc basis** after an incident → leading to **delays**;
- **Lack of integration and coordination** results in various stakeholders acting in **isolation** → leading to **adversarial approach** and **duplication of effort**.

Shipowner/
P&I Club

NGOs

Technical
specialists

Site/resource
Managers

National
Maritime
Authority





EFFECTIVE POST-INCIDENT MONITORING

Organisational factors

- **Integration into the response preparedness activities** brings numerous benefits:
 - Improved **coordination** and **management**;
 - **Response data** offers vital **scoping information**;
 - Existing **funding** source and synergies in **resource use**.

- **But there are some drawbacks...**



EFFECTIVE POST-INCIDENT MONITORING

Organisational factors

- Response exercises typically encompass only the **first hours and days following an incident;**
- Most post-incident **monitoring activities** occur over a **longer timeframe;**
- Scope to fully **explore issues** is therefore **limited;**



EFFECTIVE POST-INCIDENT MONITORING

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- Scope to fully **explore issues** is therefore **limited**;
- **Potential for bolt-on training** as part of response exercises.



EFFECTIVE POST-INCIDENT MONITORING

Key factors for success



ORGANISATIONAL



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LEGAL & ECONOMIC

EFFECTIVE POST-INCIDENT MONITORING

Technical factors

Environmental
Impact
Assessment
(EIA)



- Generally relate to potential **chronic pollution sources**;
- **Longer timeframes** to mobilise relevant **expertise**;
- **Parameters** based on **regulatory requirements**; pre-existing environmental conditions examined.

VS.

Although **technical skills** relating to specific **environmental receptors** may be available; **experience in post-incident monitoring** is scarcer.

Post-incident
monitoring



- Generally relate to acute pollution (excl. sunken wrecks);
- **Shorter timeframes** to mobilise **relevant expertise**;

EFFECTIVE POST-INCIDENT MONITORING

Technical factors

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Post-incident
monitoring

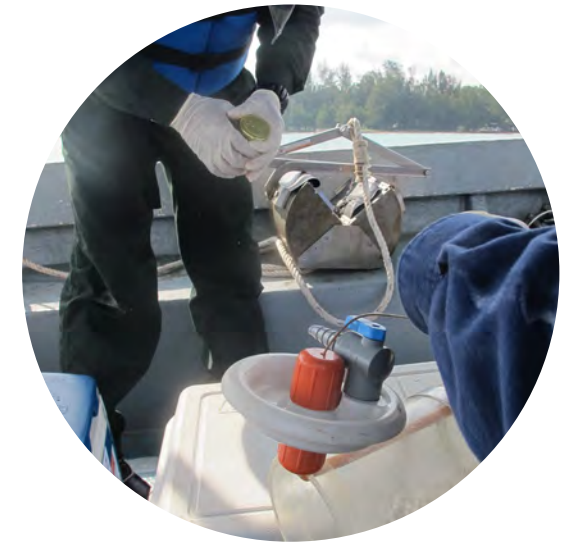
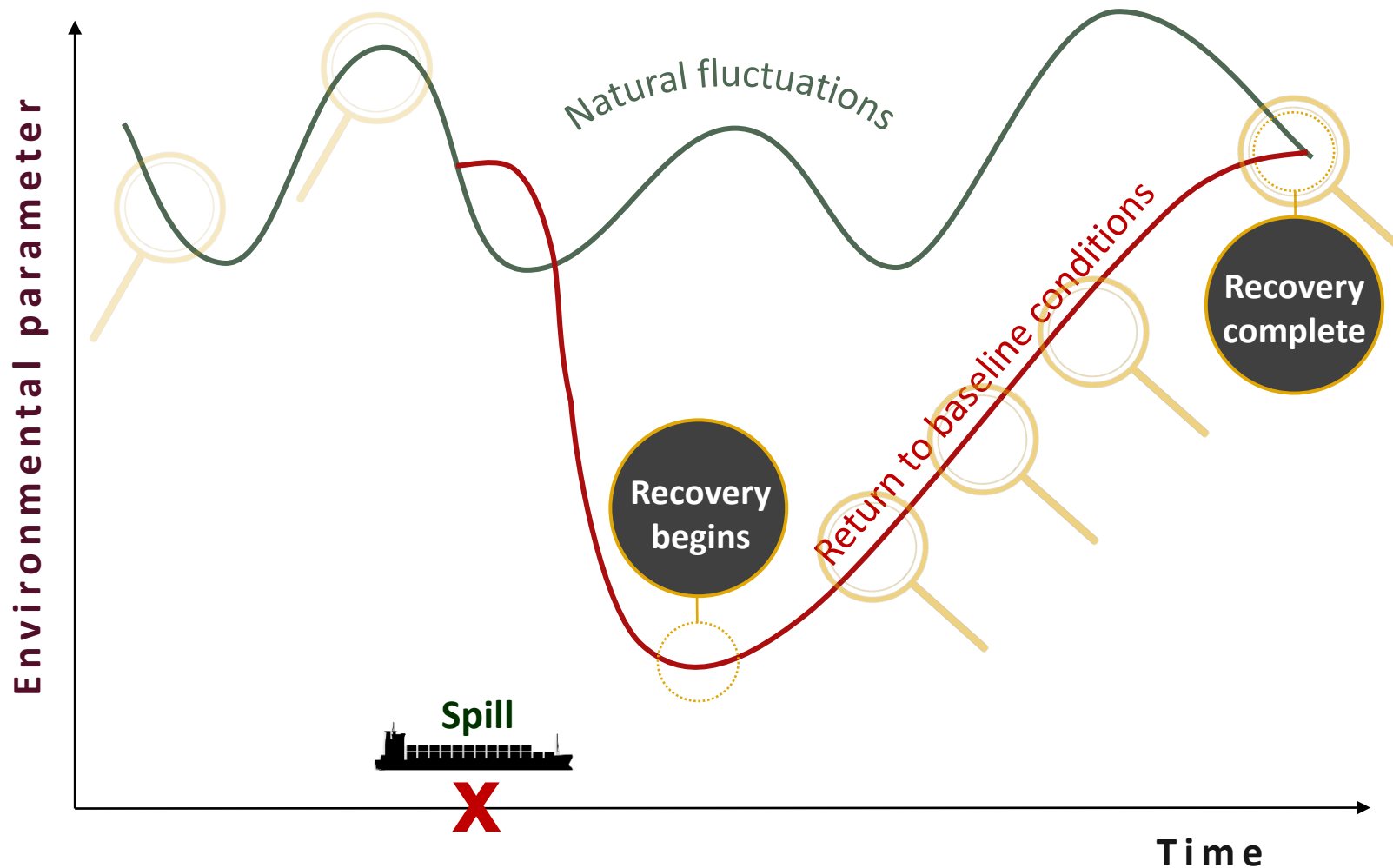


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EFFECTIVE POST-INCIDENT MONITORING

Technical factors



COMMON ISSUES:

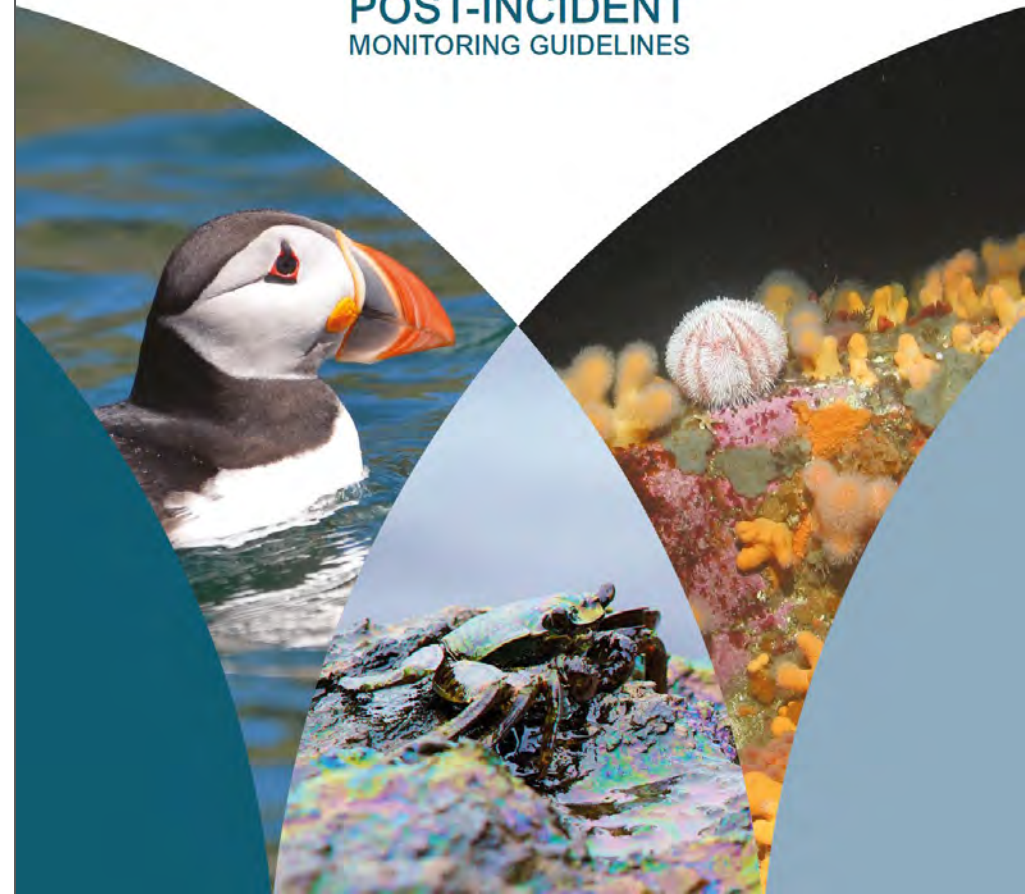
- **Pre-spill baseline data** is very seldom available;
- **Ephemeral data** collection and use of **reference sites** for comparison are a **valid option**.
- ...But this requires **human and material resources** to be ready to go.

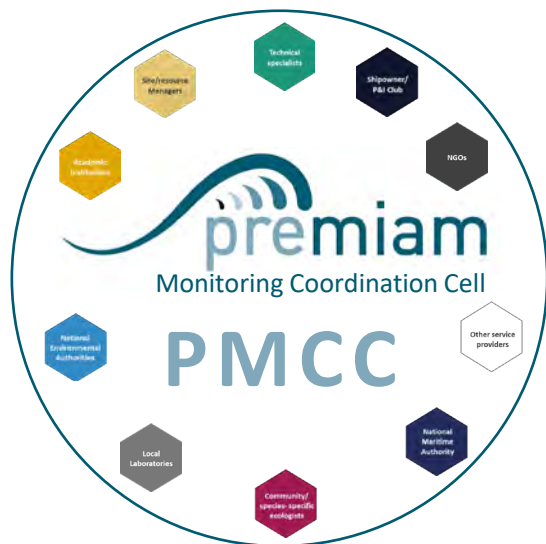


**POLLUTION RESPONSE
IN EMERGENCIES**

MARINE IMPACT
ASSESSMENT
AND MONITORING

**POST-INCIDENT
MONITORING GUIDELINES**

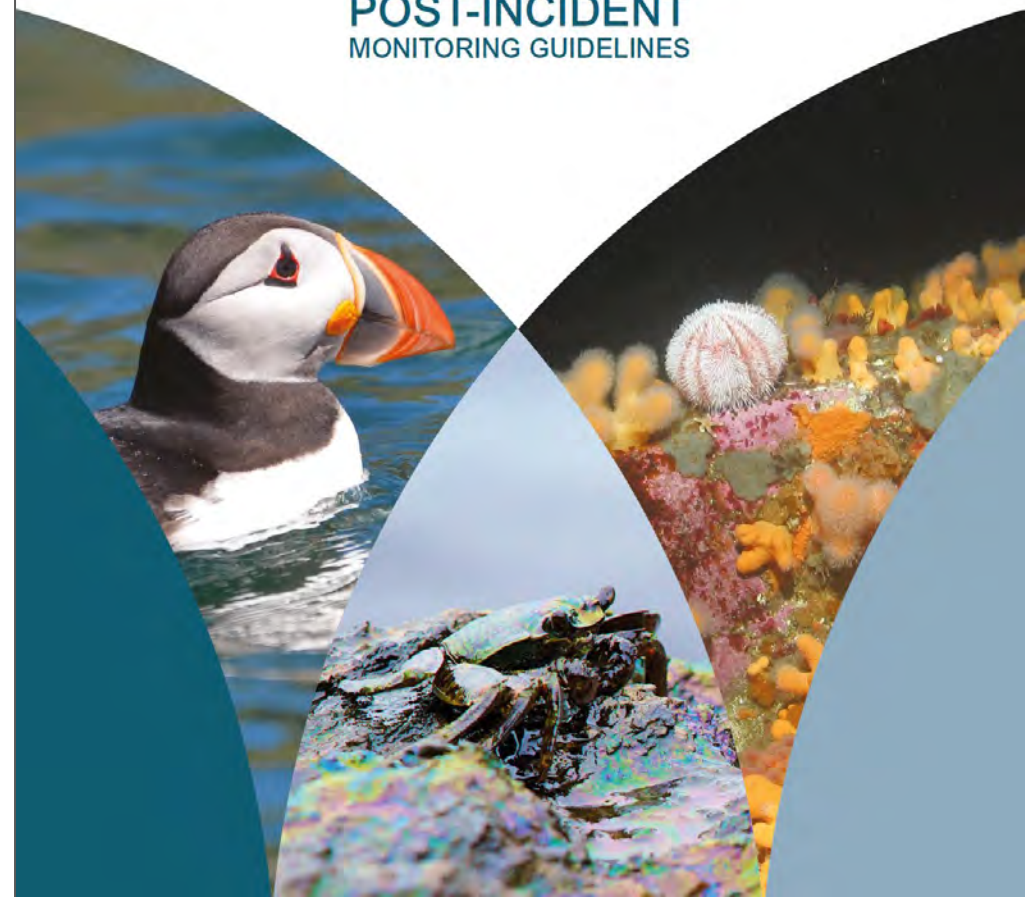




**POLLUTION RESPONSE
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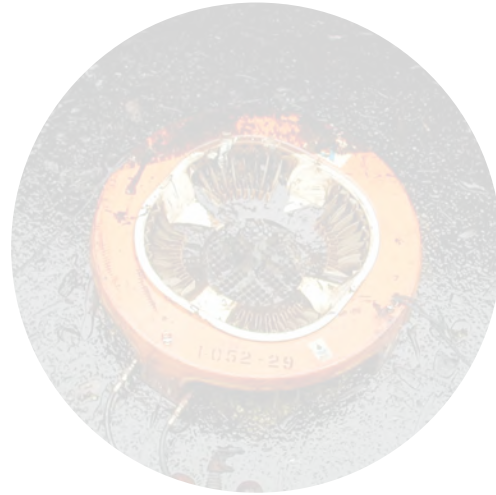


EFFECTIVE POST-INCIDENT MONITORING

Key factors for success



ORGANISATIONAL



TECHNICAL



LEGAL & ECONOMIC

EFFECTIVE POST-INCIDENT MONITORING

Legal/economic factors



TORREY CANYON, 1967

CLC
1969

Source: PA



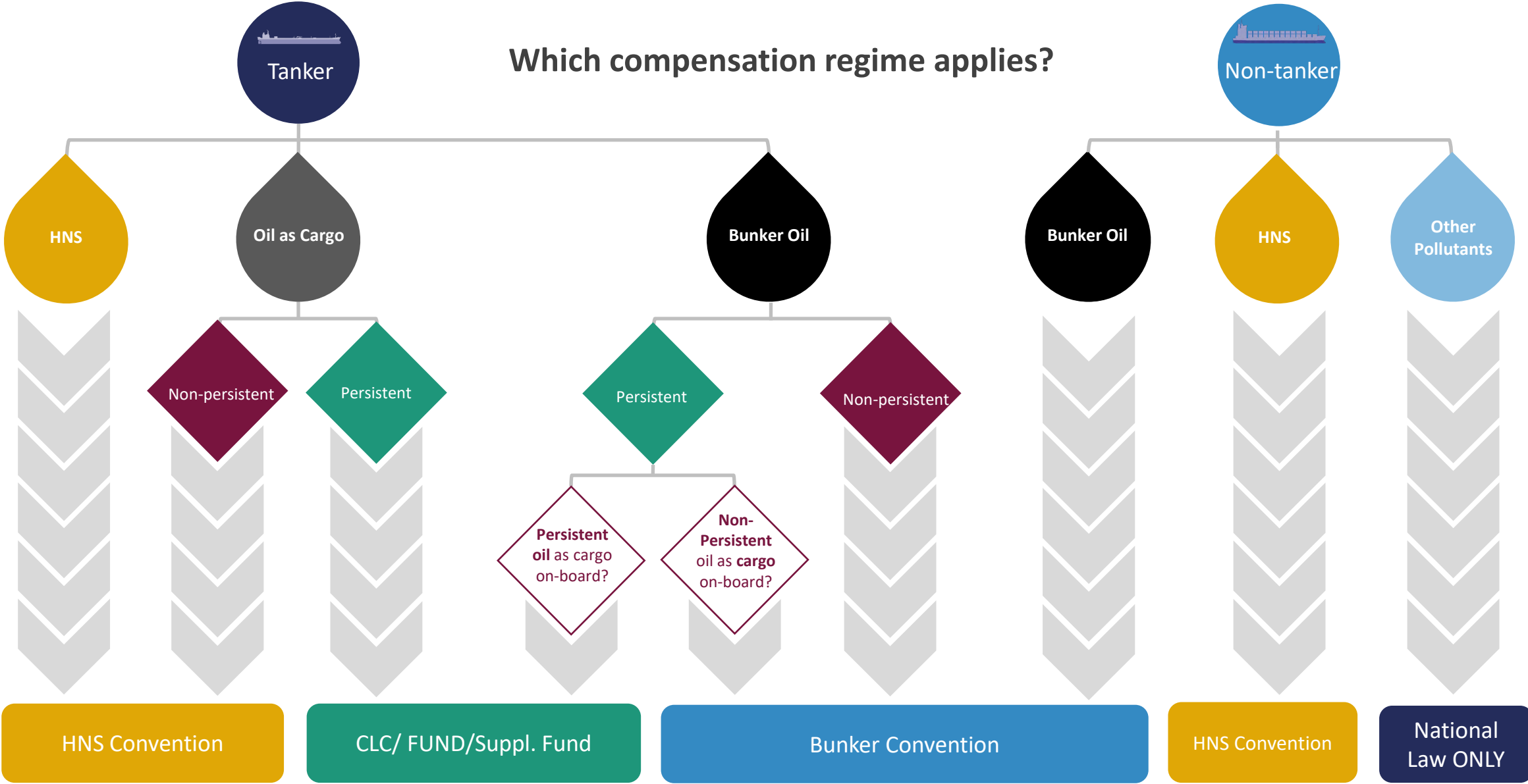
EXXON VALDEZ, 1989

OPA 90

CLC
1992

Source: RGB Ventures / SuperStock / Alamy Stock

Which compensation regime applies?



CLAIM CATEGORIES

Preventive measures



Property damage



Economic loss



Environmental damage



EFFECTIVE POST-INCIDENT MONITORING

Legal/economic factors

- Shipowner is **strictly liable** for pollution damage regardless of established fault;
- Under the **Bunker Convention**, *Shipowner* includes **registered owner, bareboat charterer, manager and operator** of the ship.
- Exemptions include **acts of god, act of war, third party sabotage or negligence** from government/authorities.

CHANNELLING

Under **CLC 92** and **HNS Conventions** claims are to be brought only against the shipowner.



'compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of **reasonable measures of reinstatement** actually undertaken or to be undertaken.'

EFFECTIVE POST-INCIDENT MONITORING

Legal/economic factors



- Compensation is available for the costs of **post-incident studies** and **reinstatement measures**;
- Environmental damage claims based on **theoretical models** and **loss of services *per se*** are **not admissible**;
- **Detailed guidance** on admissibility is provided in the **IOPC Claims Manual** and **Environmental Damage Guidelines**.

EFFECTIVE POST-INCIDENT MONITORING

Legal/economic factors



COMMON ISSUES:

- **Lack of awareness** among stakeholders of benefits of **early engagement** with the **shipowner** (via P&I Club), the **IOPC Funds** and their **experts**;
- **Lack of understanding of funding** may lead to **delays** in initiating monitoring. Critical in the case of **ephemeral data collection**;
- **Studies** conducted in **isolation** are less likely to meet **admissibility criteria**.

EFFECTIVE POST-INCIDENT MONITORING

Legal/economic factors



COMMON ISSUES:

- In some cases, **punitive action** against the polluter can take precedence over **detailed monitoring studies**;
- **Financial penalties** (often based on abstract calculation) are generally **not used to address actual damage** caused by a given incident;
- This detracts from the goal of **understanding damage** in order to inform **decision-making** around **reinstatement**.

EFFECTIVE POST-INCIDENT MONITORING

Legal/economic factors

- Some countries have moved **towards legally mandated monitoring** following pollution incidents;
- The **level of prescription** dictated by regulations can lead to **inappropriate scoping of studies**;



- **Set time intervals** are commonly encountered, whereas an **iterative approach** is encouraged.



TAKE HOME POINTS

- All aspects of **response, including post-incident monitoring** are subject to a range of **organisational, technical and economic/legal** factors.
- Further **integration of monitoring activities** into response **preparedness activities** is needed to enhance **understanding, skills and experience**.
- **Close collaboration** between stakeholders **following an incident** and in **'peace-time'** is critical to overcome many of the **challenges** faced in implementing **effective post-incident monitoring**.

Common Challenges Faced in Implementing
Effective Environmental Monitoring:
An International Perspective

