



SHIPPING INCIDENTS ***Trends, Issues and R&D Needs***

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SINTEF - FUTURE RESPONSE CONFERENCE
Trondheim: 7 – 8 April 2011

LARGEST TANKER SPILL?



1979: ATLANTIC EMPRESS - 287,000 MT

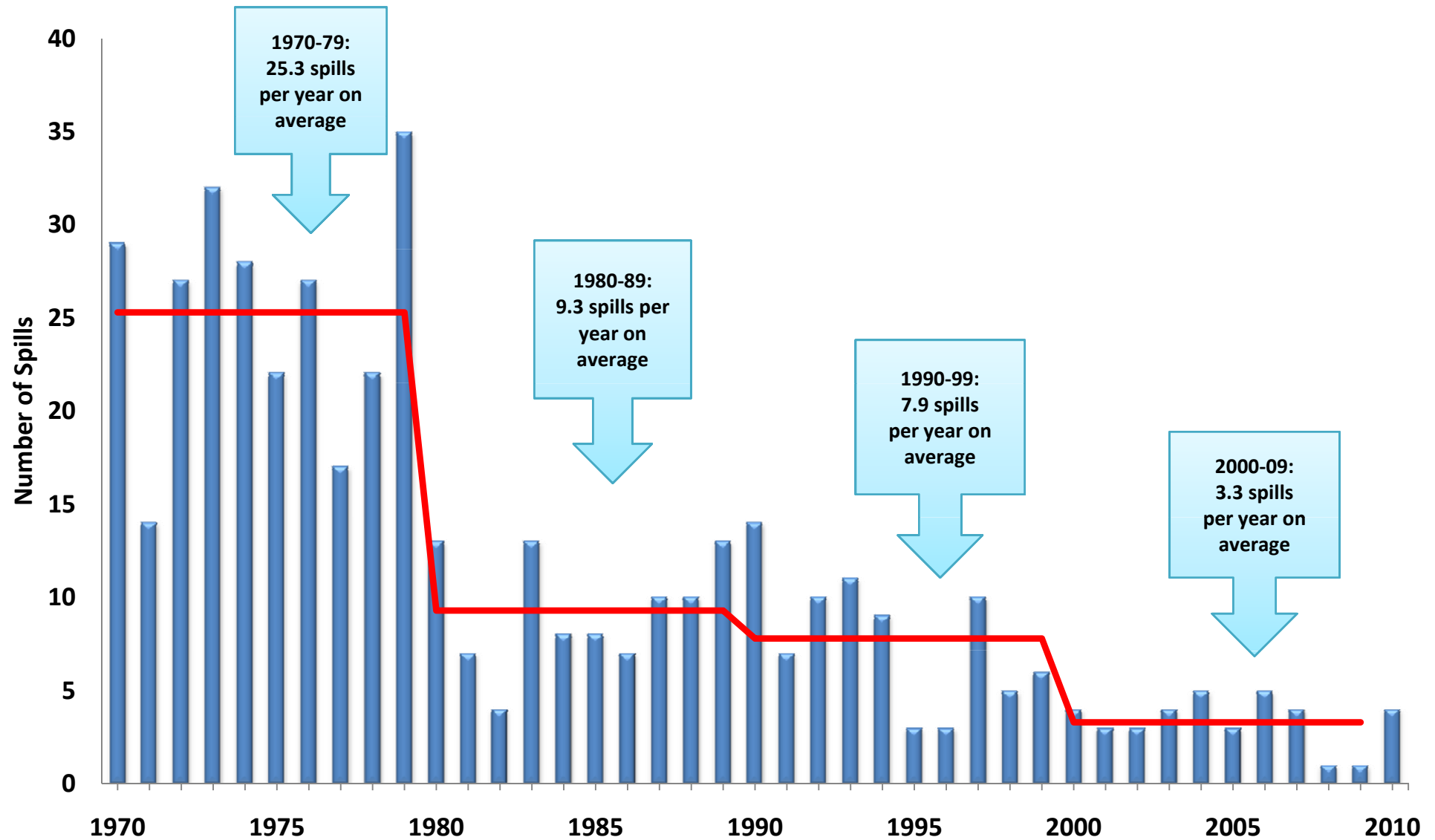
TRENDS IN SHIP SOURCE SPILLS

MAIN ISSUES IN OIL SPILL RESPONSE

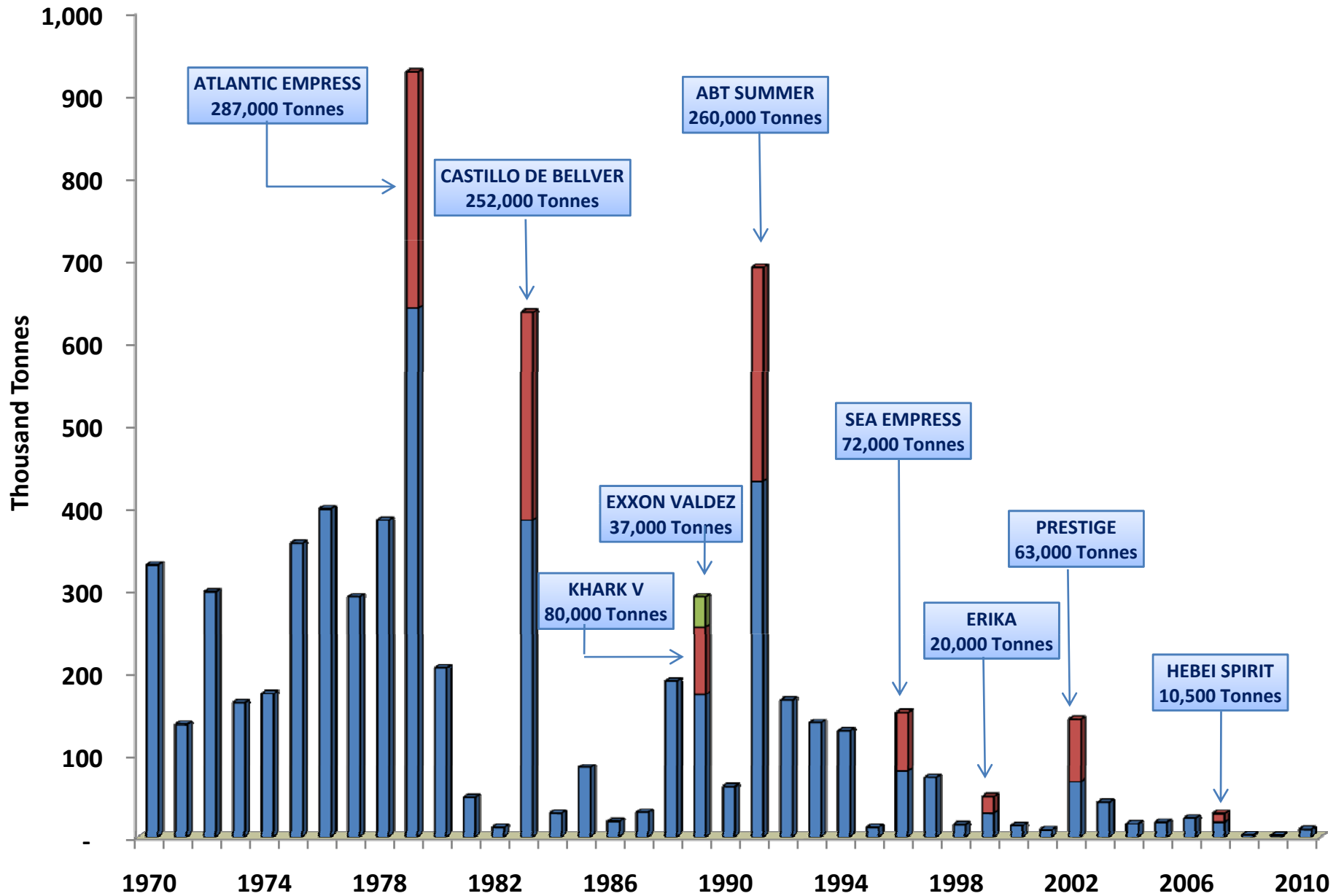
RESEARCH AND DEVELOPMENT NEEDS



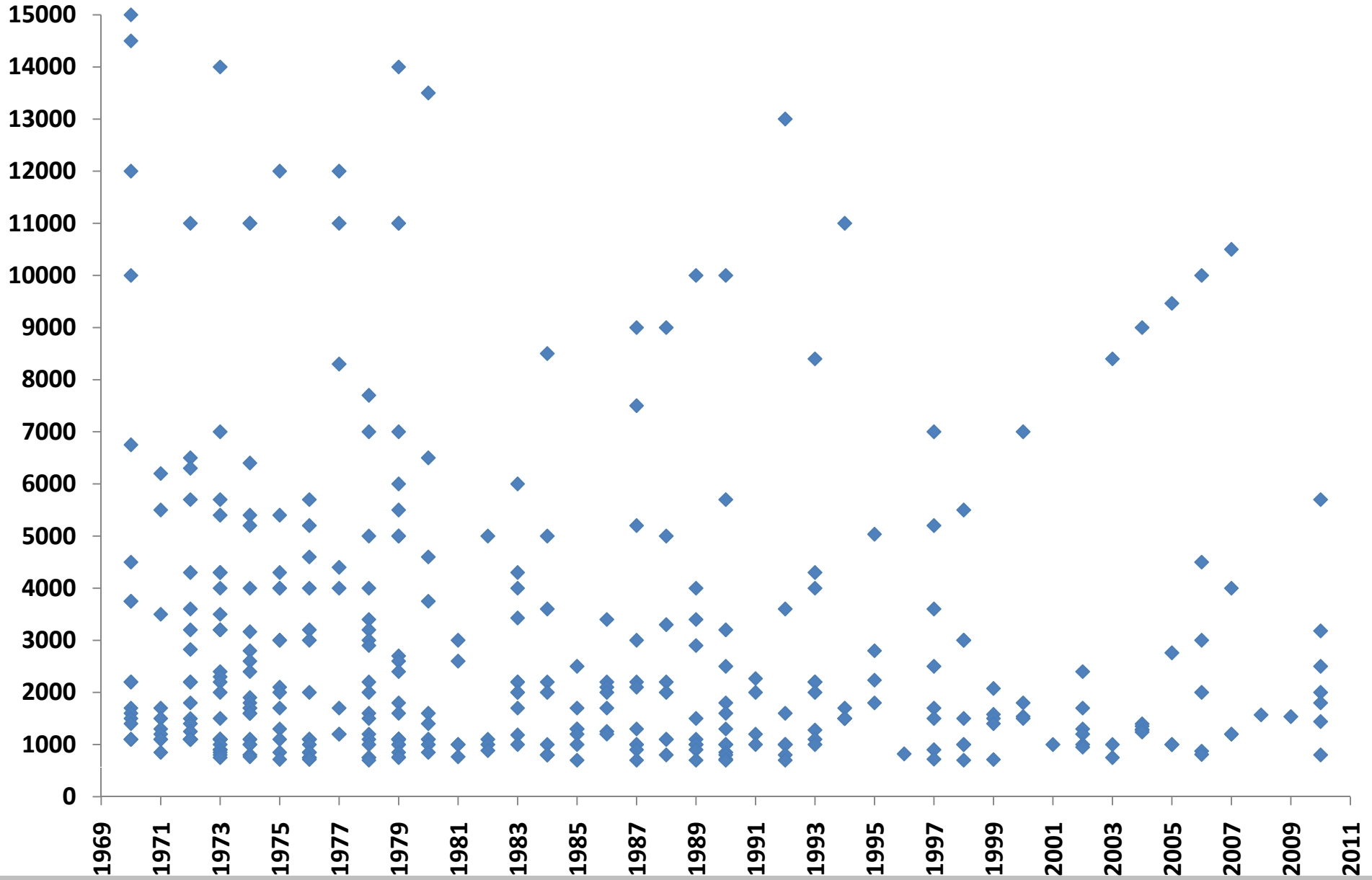
Spills > 700 MT



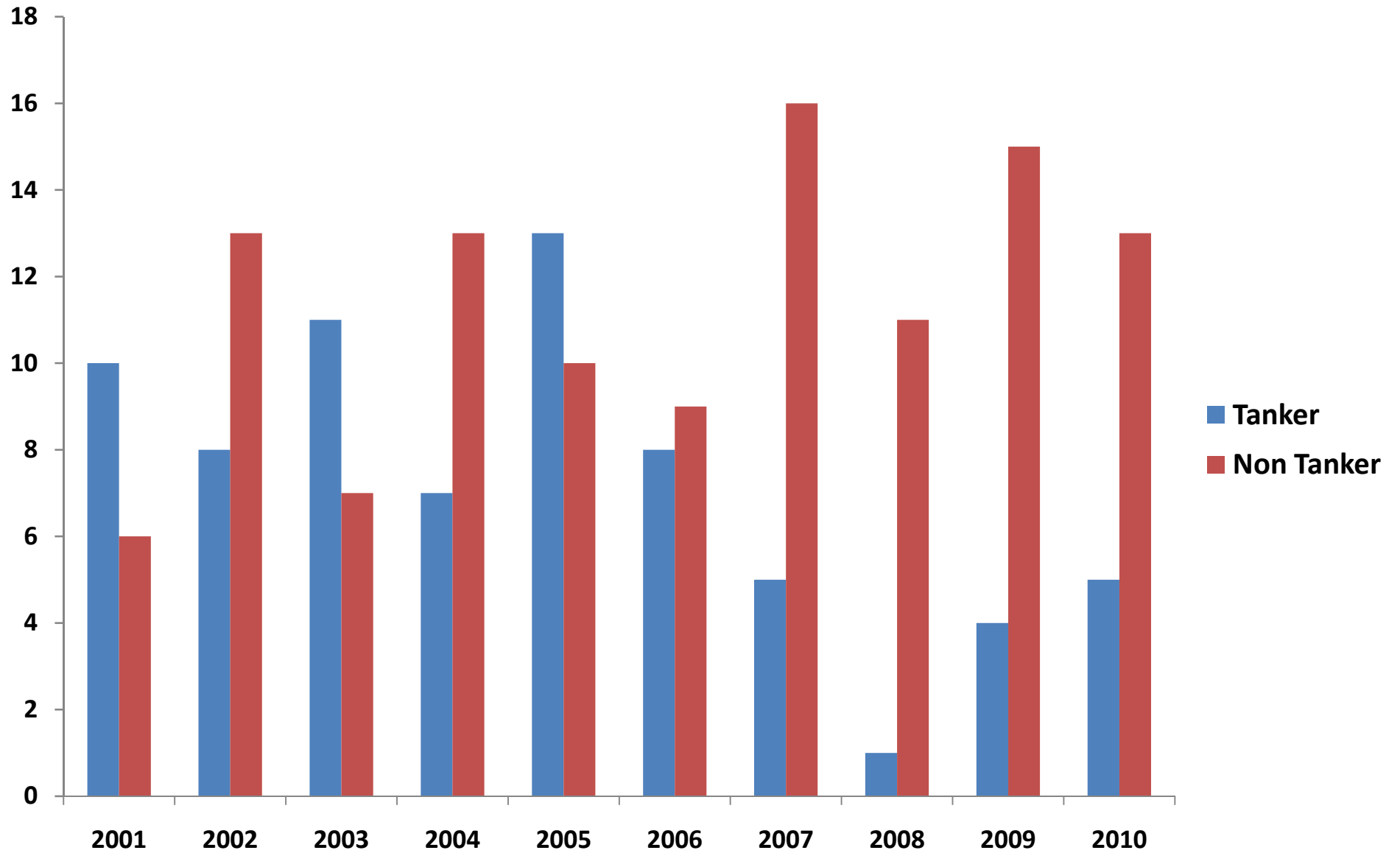
VOLUME OF OIL SPILLED



VOLUME OF SPILLS > 700 MT



TANKER and NON TANKER SPILLS



IMPLICATIONS FOR FUTURE SPILL RESPONSE

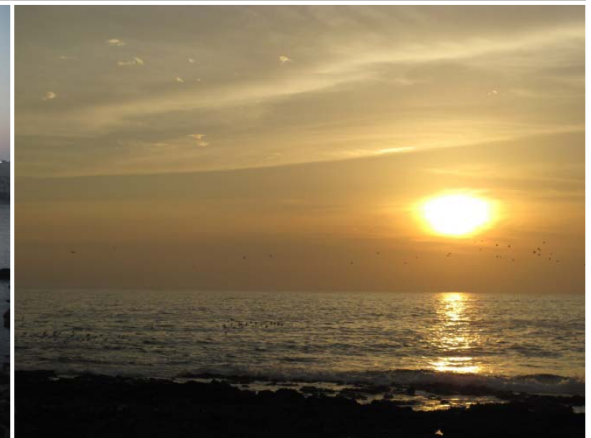
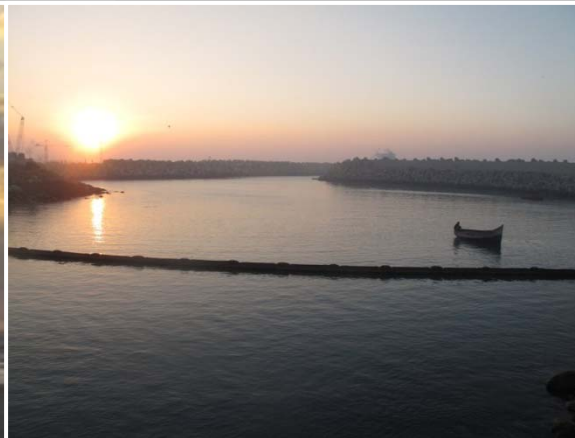


THE NEED REMAINS TO BE PREPARED FOR LARGE INCIDENTS, HOWEVER...

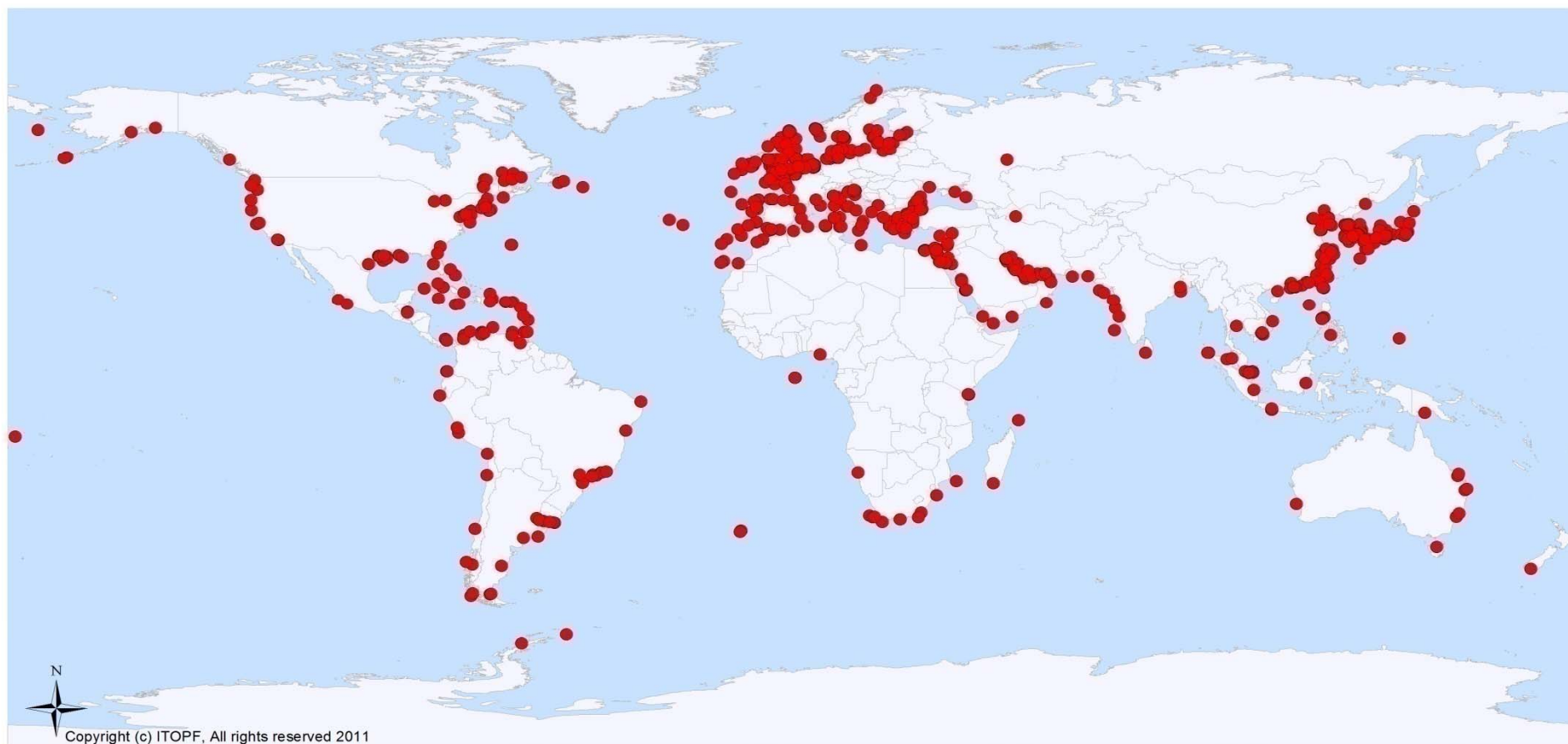
DIMINISHING IN-COUNTRY EXPERTISE AND RESPONSE TEAMS WILL HAVE LESS PRACTICE

FINANCIALLY BRIDGING THE GAPS BETWEEN LARGE SPILLS WILL BE CHALLENGING

MAINTENANCE OF RARELY USED EQUIPMENT



700 INCIDENTS IN 99 COUNTRIES



MAIN ISSUES IN OIL SPILL RESPONSE

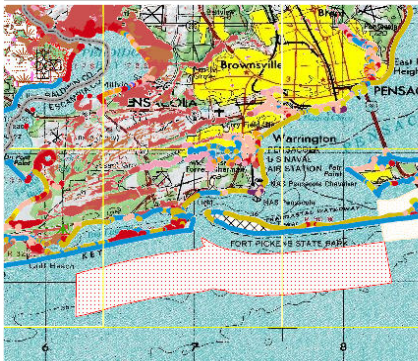
CONTINGENCY PLANNING

COMMUNICATION

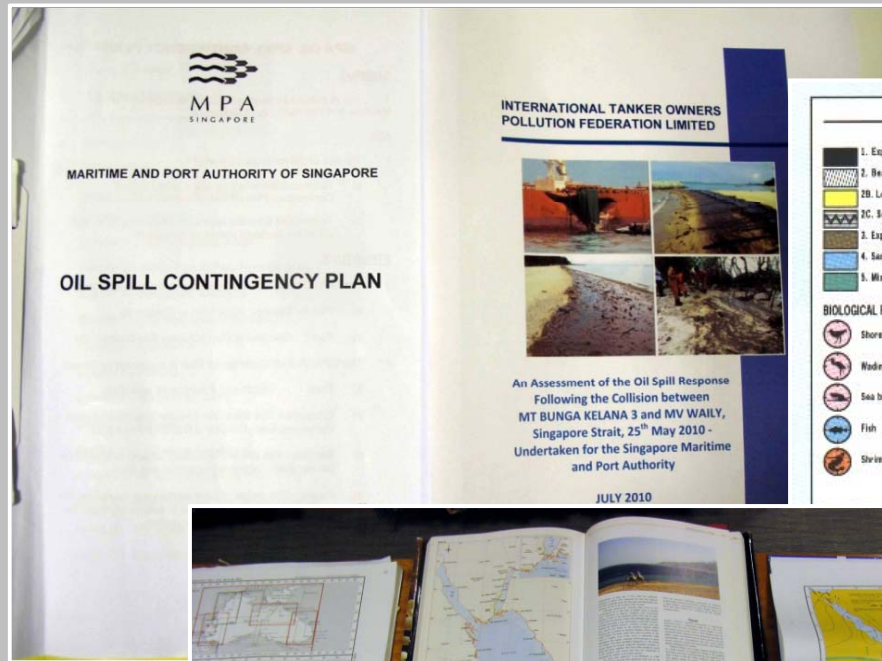
INEFFICIENT USE OF EQUIPMENT AND MATERIALS

WASTE DISPOSAL

TERMINATION OF CLEAN UP



MAIN ISSUES: CONTINGENCY PLANNING

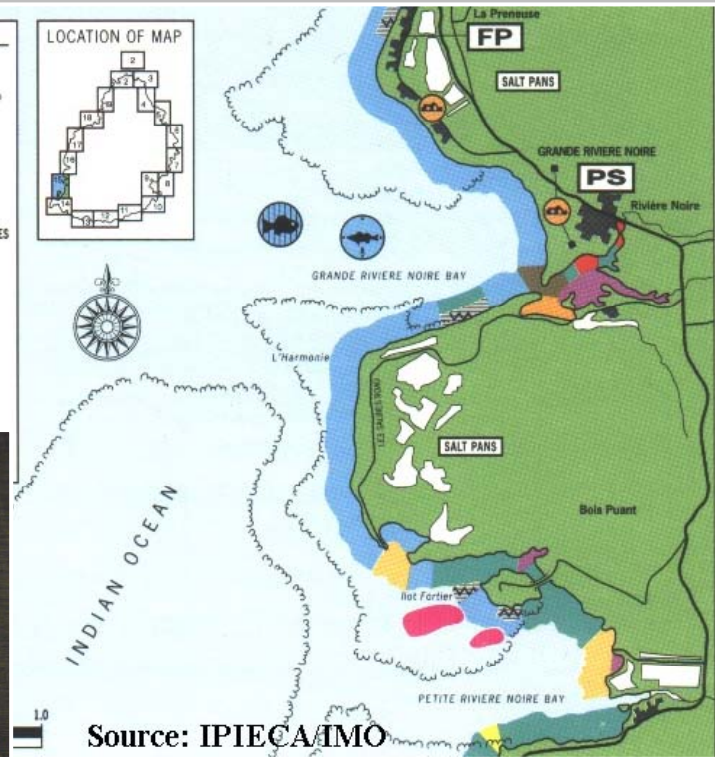


MAP LEGEND

SHORELINE TYPES	
1. Exposed cliffs	8. Exposed tidal flat
2. Beach rock	7. Sheltered rocky shore
2B. Low basalt	4. Coral reef
2C. Seawall	9. Sheltered tidal flat
3. Exposed boulders	10. Marsh
4. Sand beach	10B. Mangrove
5. Mixed sand/gravel	11. Dull-up zones

BIOLOGICAL RESOURCES	SOCIO-ECONOMIC RESOURCES
Shore birds	Fish pond
Wading birds	Fishing reserve
Sea birds	Nature reserve
Fish	Public beach
Shrimp	Coastal hotel

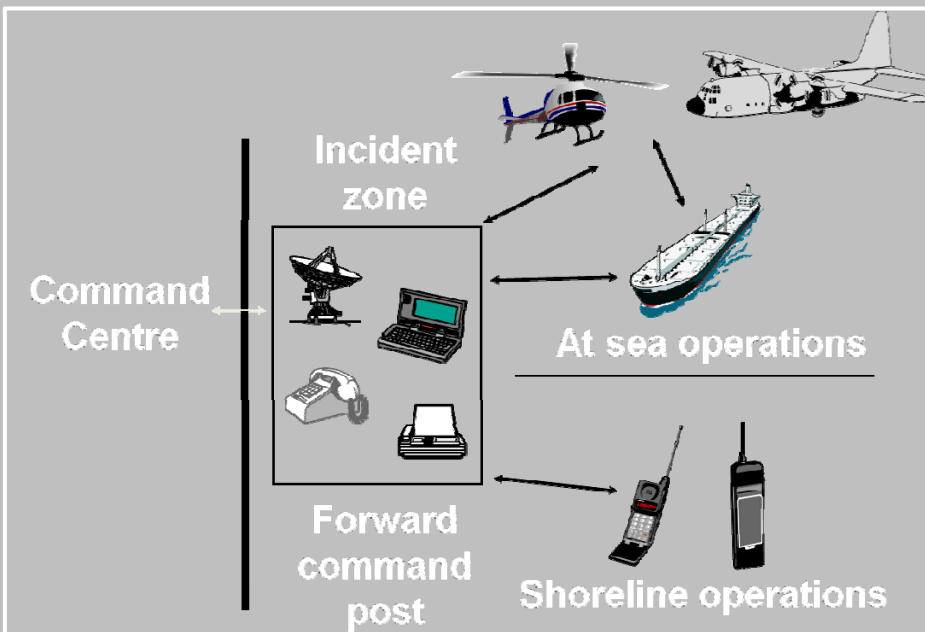
SPILL-RESPONSE FEATURES



Source: IPIECA/IMO



MAIN ISSUES: COMMUNICATION



MAIN ISSUES: INEFFICIENT USE OF EQUIPMENT AND MATERIALS



MAIN ISSUES: WASTE DISPOSAL



MAIN ISSUES: TERMINATION OF CLEAN UP



MAIN ISSUES: OBJECTIVE DAMAGE ASSESSMENT



FURTHER COMPLICATED BY.....

POLITICAL INFLUENCES

MEDIA

LIMITATIONS OF SPILL RESPONSE NOT ALWAYS FULLY UNDERSTOOD

EVER INCREASING EXPECTATIONS OF FINANCIAL GAINS



RESEARCH AND DEVELOPMENT NEEDS



TECHNOLOGICAL DEVELOPMENTS

SPILL RESPONSE ORGANISATION

ENVIRONMENT RESEARCH



REAL TIME TRACKING OF SLICK AREA, THICKNESS AND MOVEMENT

INCREASED EFFICIENCY IN SKIMMING /CONTAINMENT AND ENCOUNTER RATES

- ROUGHER SEAS
- ARCTIC CONDITIONS
- HIGH VISCOSITY OILS

MORE ENVIRONMENTALLY AND ECONOMICALLY SOUND OIL AND WASTE RECYCLING OPPORTUNITIES

REMOVAL OF OIL FROM SUNKEN WRECKS

- SUITABLE FOR SMALL BULK QUANTITIES
- LEAVING FEWER RESIDUES
- FASTER AND CHEAPER



CONTINGENCY PLANNING

- MORE READABLE
- INCIDENT FLEXIBLE
- INTEGRATED BETWEEN REGIONS AND LEVELS

IMPROVED COMMUNICATIONS

- RESOURCE TRACKING
- FIELD DATA TRANSFER
- LESSONS LEARNED/KNOWLEDGE SHARING
- DEALING WITH THE MEDIA

NET ENVIRONMENTAL BENEFIT ANALYSIS

- REALISTIC EXPECTATIONS/BALANCED DECISIONS

EFFECTS OF DISPERSANTS USE

- LARGE, UNDER WATER AND NEARSHORE RELEASE SCENARIO'S
- CORRELATION BETWEEN LAB/MESO SCALE AND FIELD CONDITIONS
- REAL TIME DISPERSANT EFFECTIVENESS AT SEA

RISK ASSESSMENT/ SEAFOOD SAFETY STANDARDS

- THRESHOLDS / VALUES
- CONDITIONS

ENVIRONMENTAL MONITORING

- REAL TIME DATA COLLECTION

HABITAT RESTORATION

- FEASIBLE AND MEANINGFUL RESTORATION





**CONSISTENTLY DO WHAT WE ALREADY
KNOW HOW TO DO**

BALANCED DECISION MAKING

**PROMOTING PRODUCTIVE AND
BALANCED SPILL SPECIFIC R&D**

**MAINTAINING SCIENTIFIC AND
TECHNICAL INTEGRITY**



THANK YOU

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