



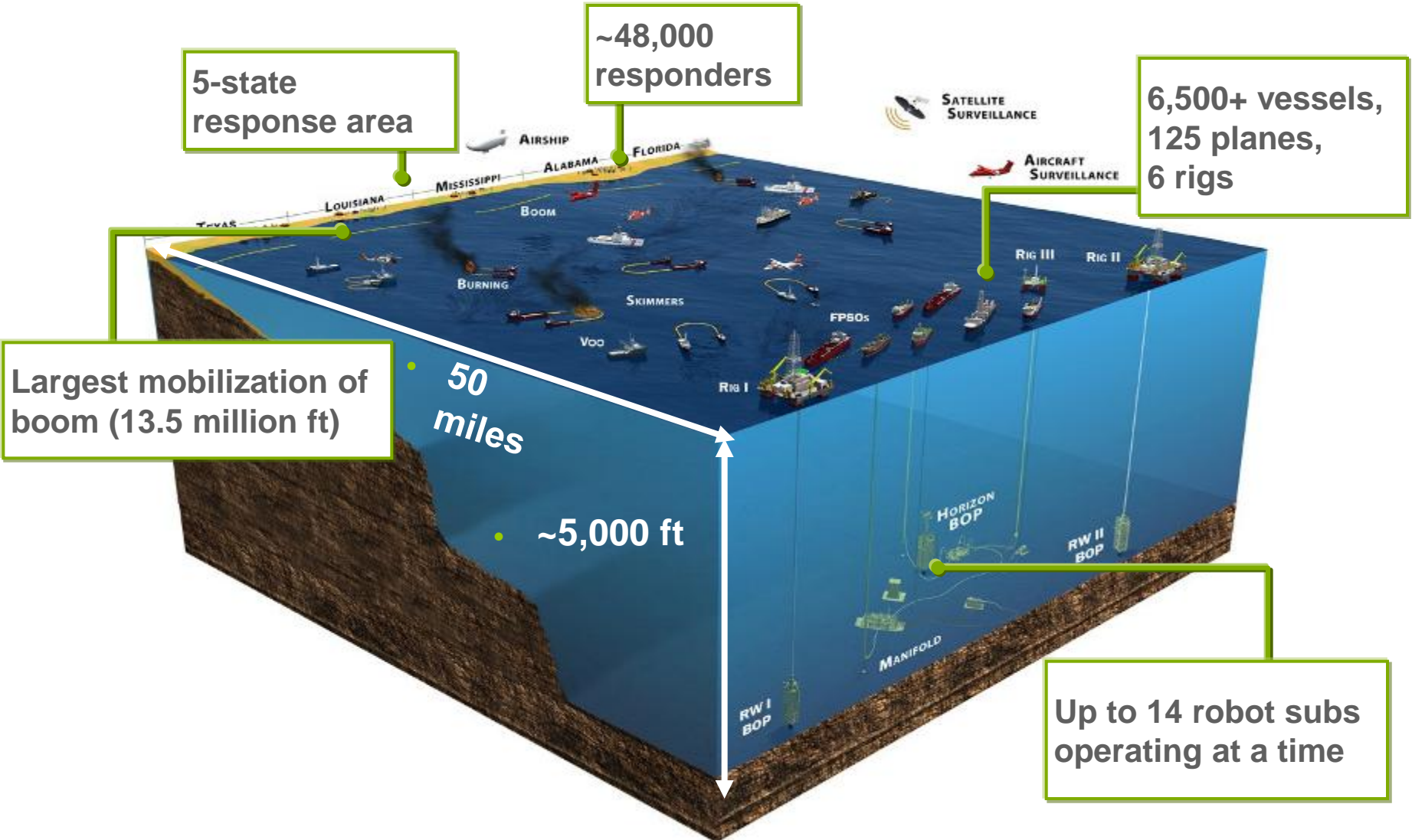
# Dispersant use in the Deepwater Horizon Oil Spill Response

3<sup>rd</sup> February 2012

**Dr. Peter Collinson**

Global Environmental Response,  
Safety & Operational Risk, BP

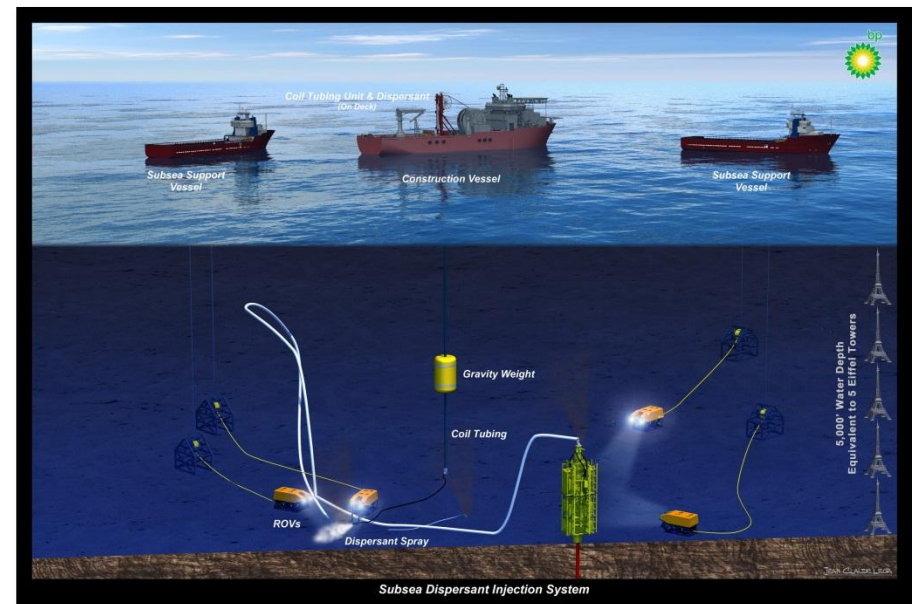
# Responding at scale



# Overview



- Dispersants in the oil spill response toolkit
- When to use dispersants
- Dispersant application in the Deepwater Horizon (DWH) response
- Evaluating dispersants
- Key learnings and ongoing work



# What are dispersants?



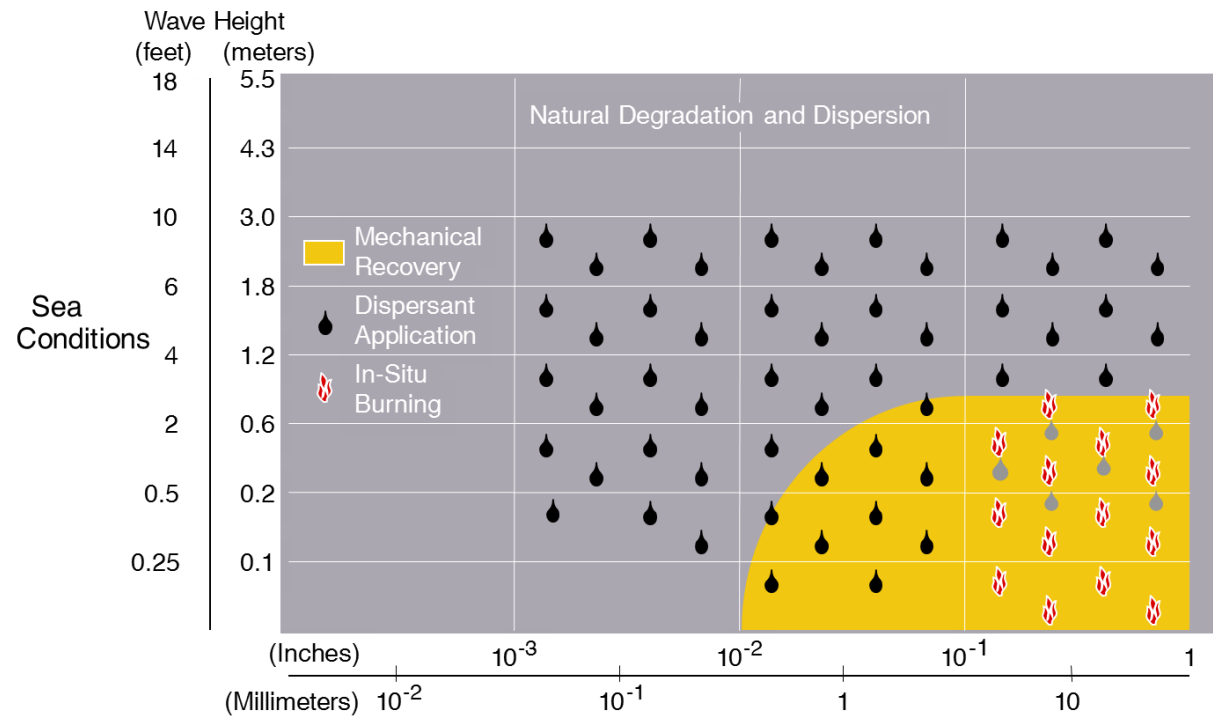
Swirling Flask Test -  
Five dispersants compared in quick test,  
immediately after 20 minutes mixing.

# Factors to consider in dispersant use during response or something similar



Potential to:

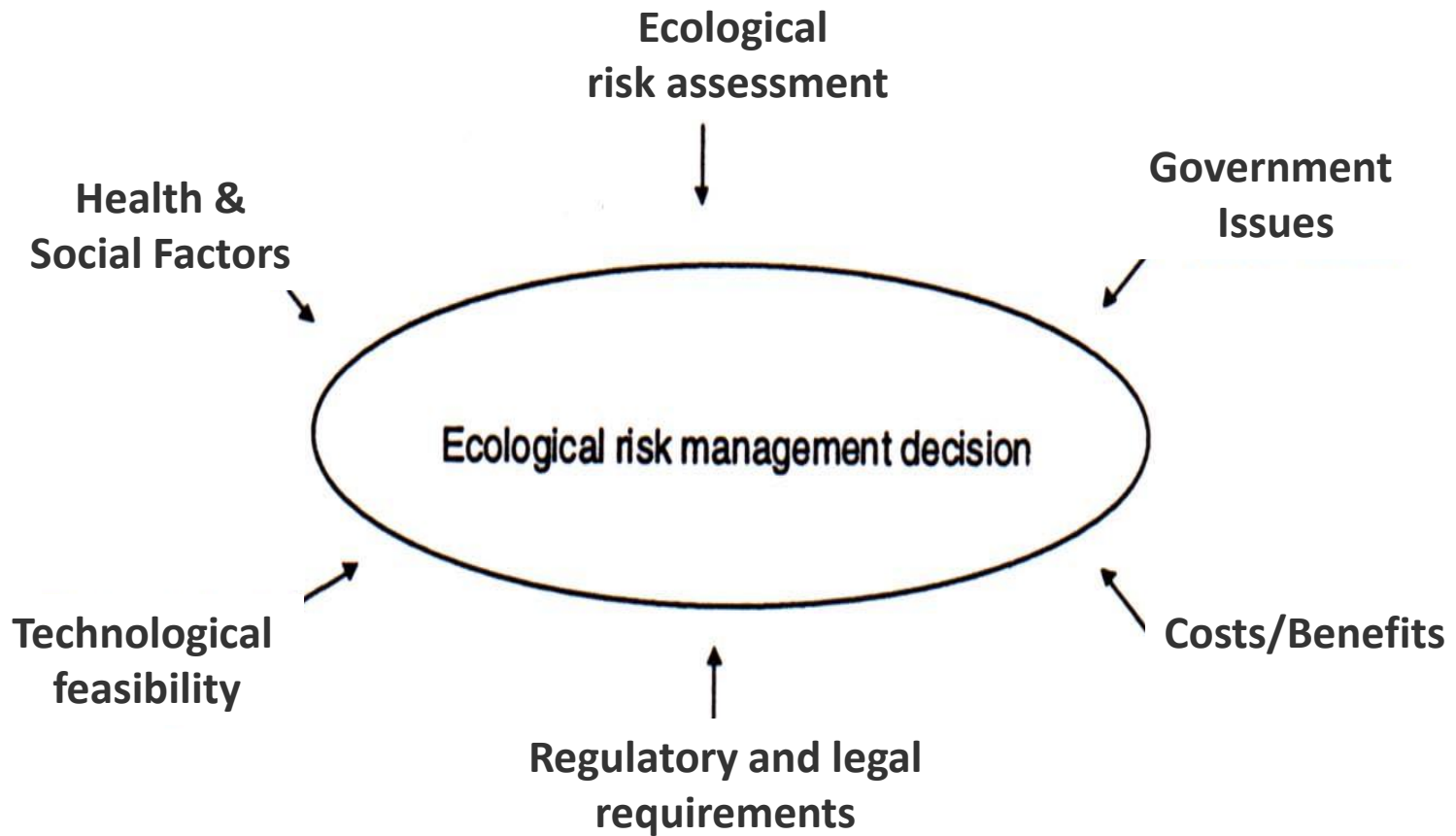
- Reduce amount of oil that may reach sensitive near-shore habitats and other ecologically important areas
- Increase biodegradation of oil due to increased surface area because of smaller droplet size
- Minimize shoreline stranding of oil
- Improve worker safety by reducing VOCs and LELs



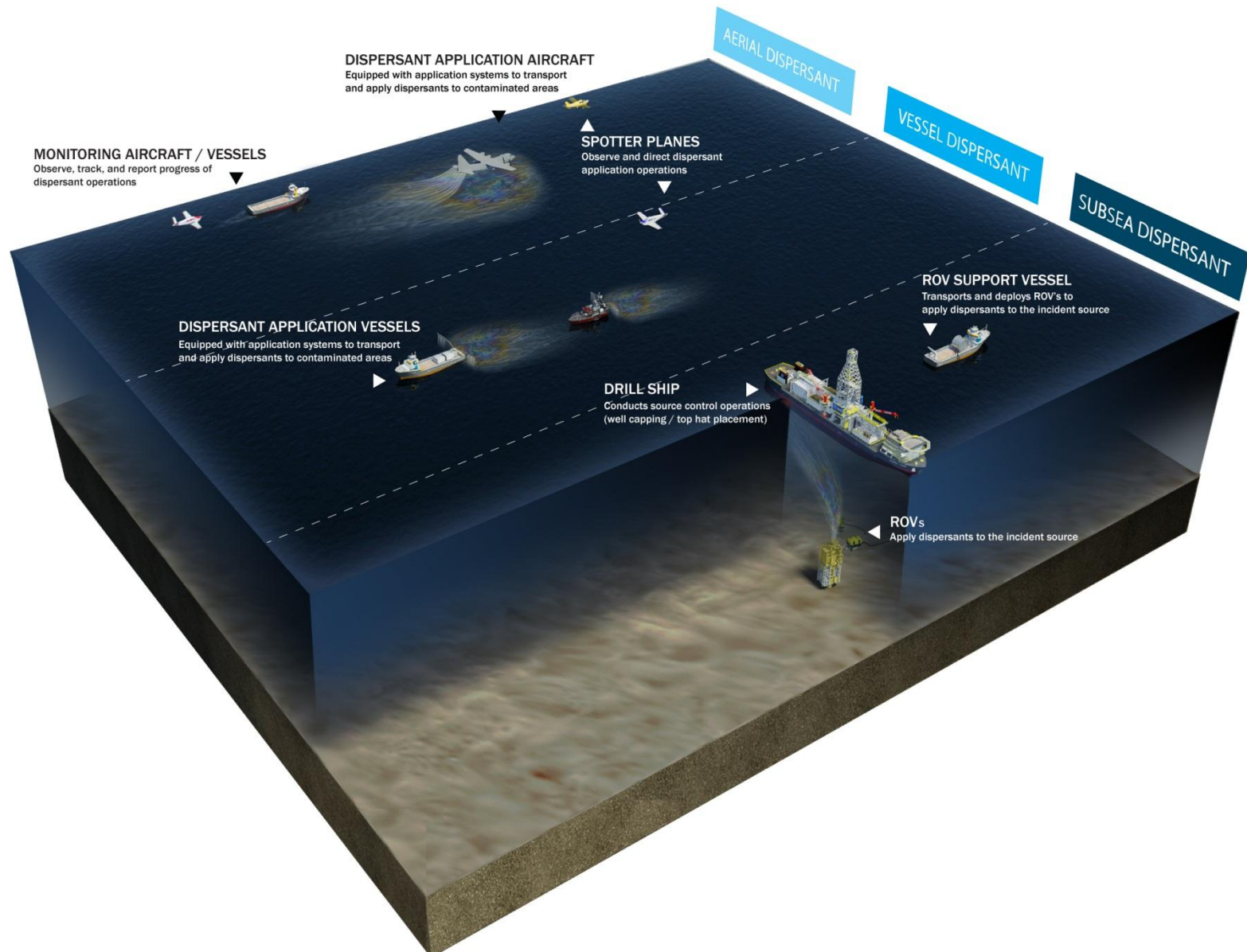
# Deciding when to use dispersants: Net Environmental Benefit Analysis (NEBA)



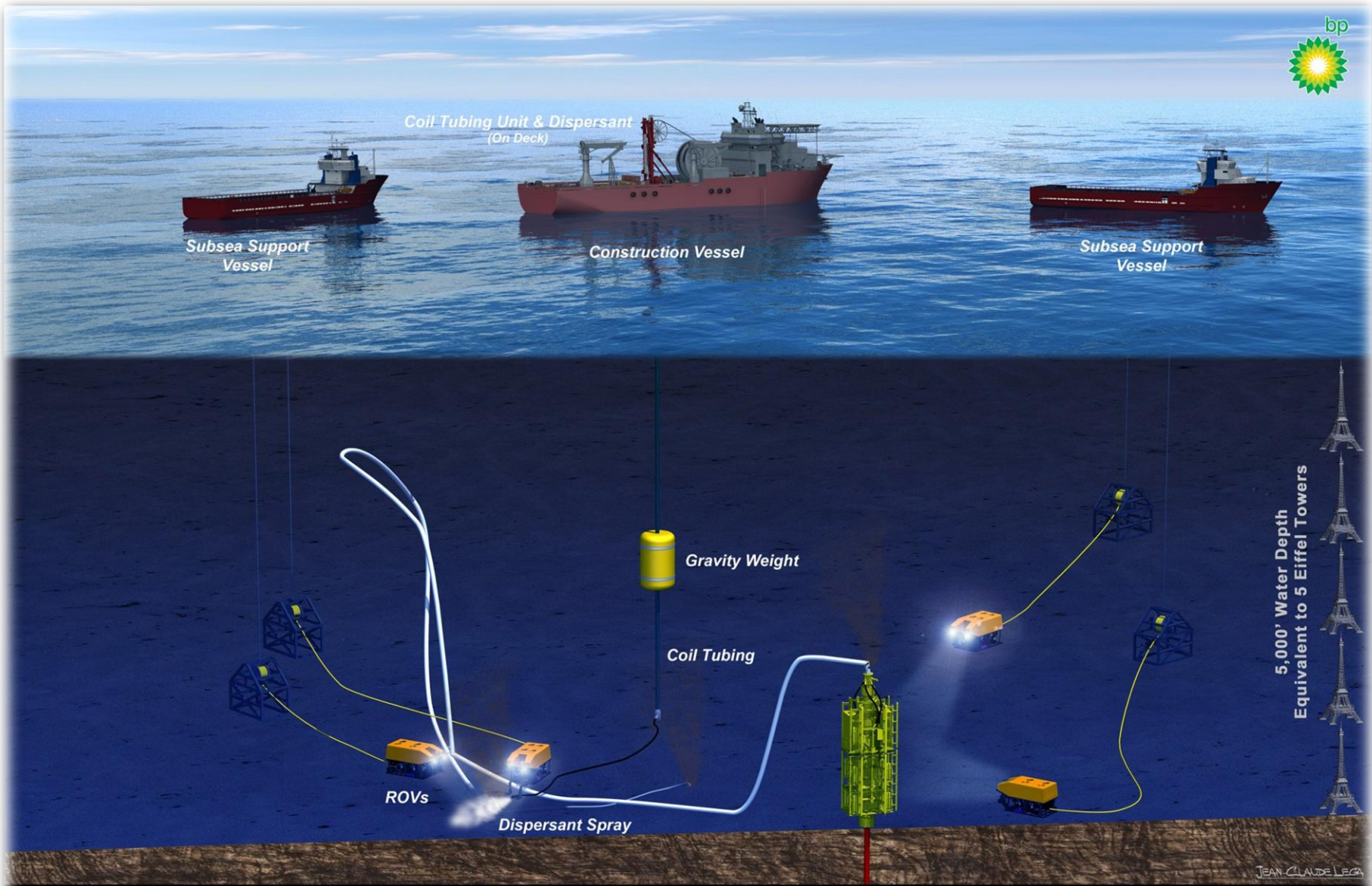
Examples of the type of factors that need to be considered:



# Use of dispersants in the DWH incident



# Deepwater Horizon: subsea dispersant injection



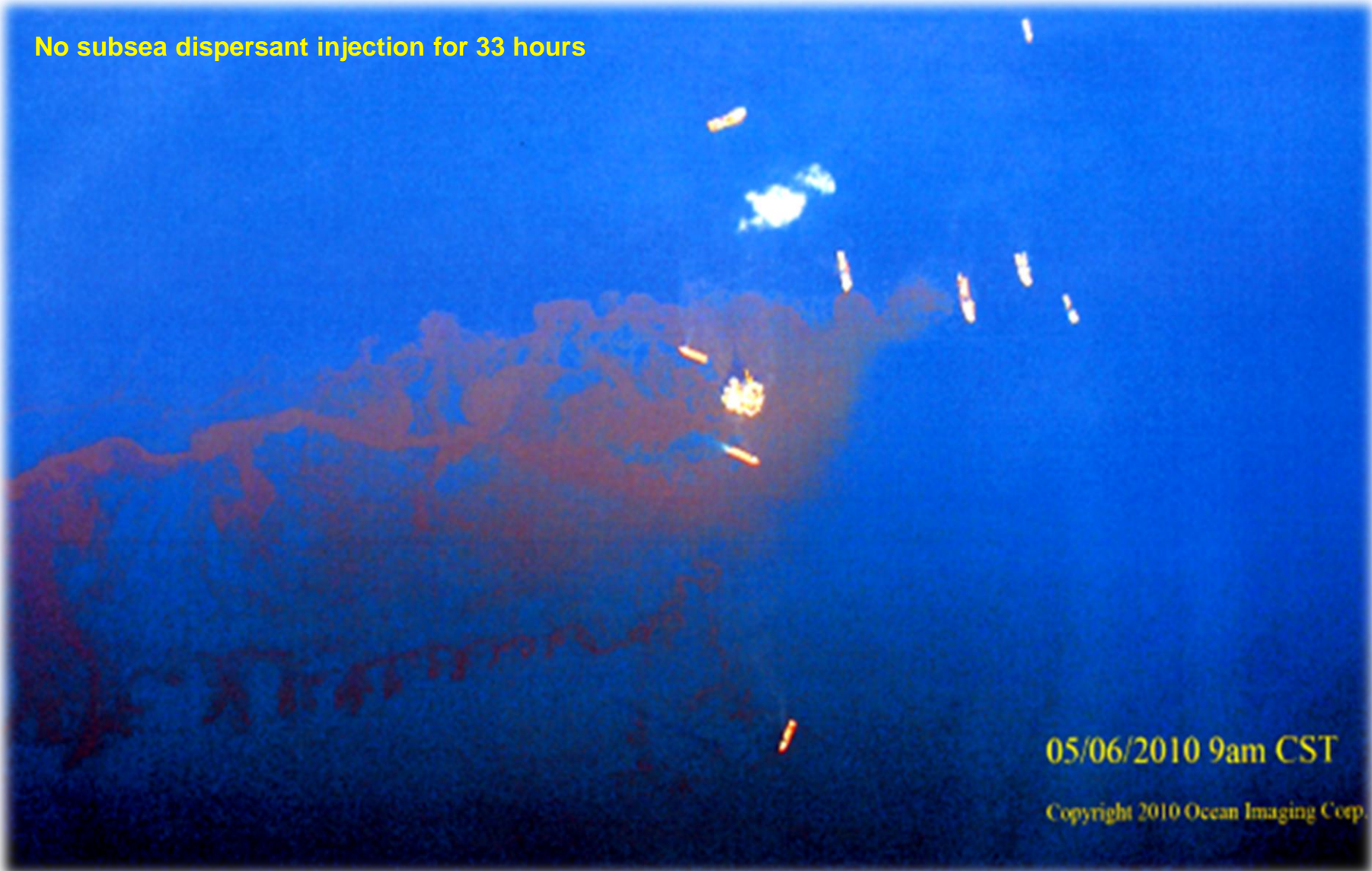
Subsea Dispersant Injection System



# Deepwater Horizon dispersant application



No subsea dispersant injection for 33 hours



05/06/2010 9am CST

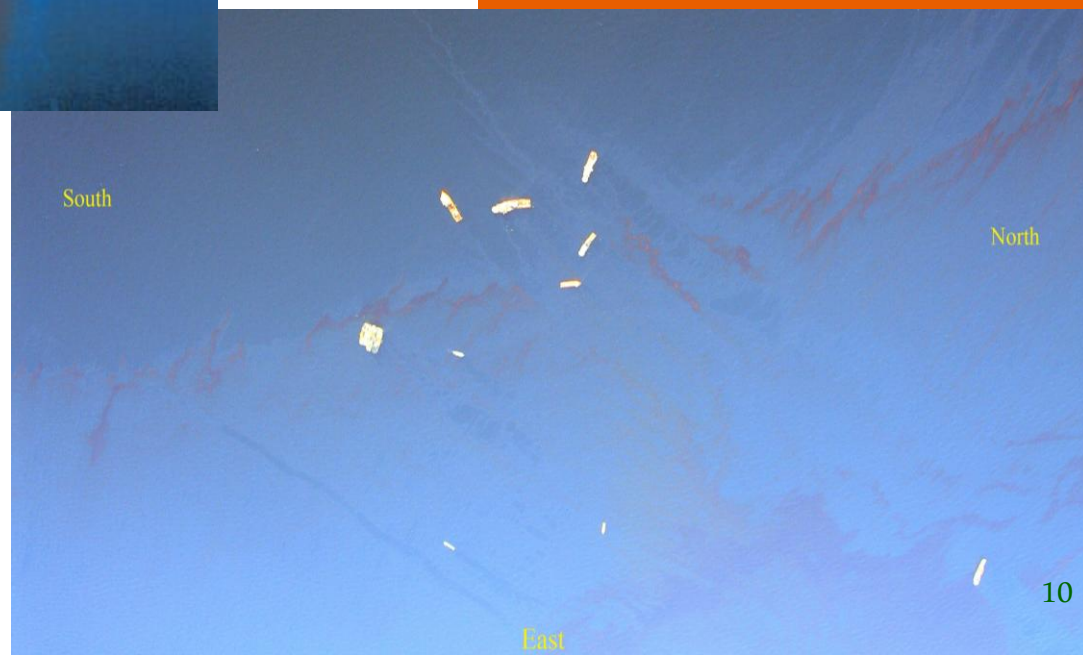
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# Deepwater Horizon dispersant application



Before subsea injection

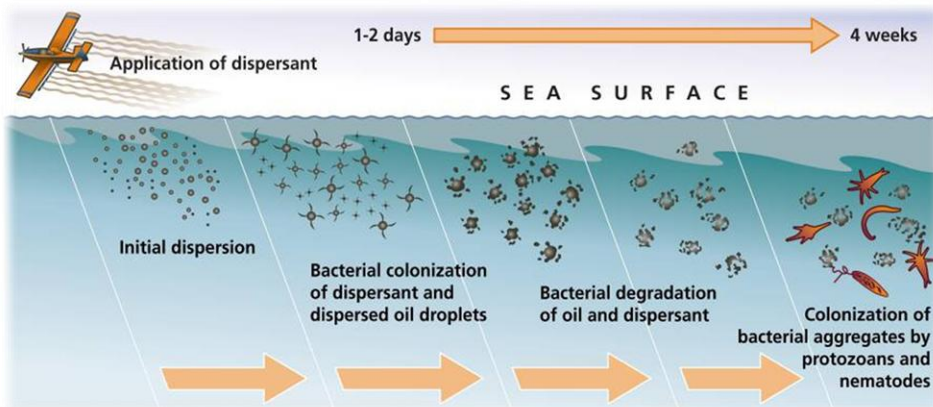
After subsea injection



# DWH dispersant application: Lab and field monitoring & evaluation



- Toxicity and efficacy of dispersant must be understood
- Effective dispersion results in more bioavailability in the water column and enhanced biodegradation
- Field monitoring is required to evaluate efficacy and inform ongoing use



# Ongoing work: research & collaboration



# Summary



- Dispersants are an important part of the oil spill response toolkit
- Under the appropriate circumstances, dispersant use can reduce safety risks and overall environmental impacts
- Dispersant selection and application based on science and government approval; pre-planning is very useful.
- Both industry and governments can do further research building on the experiences gained from the DWH response





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