

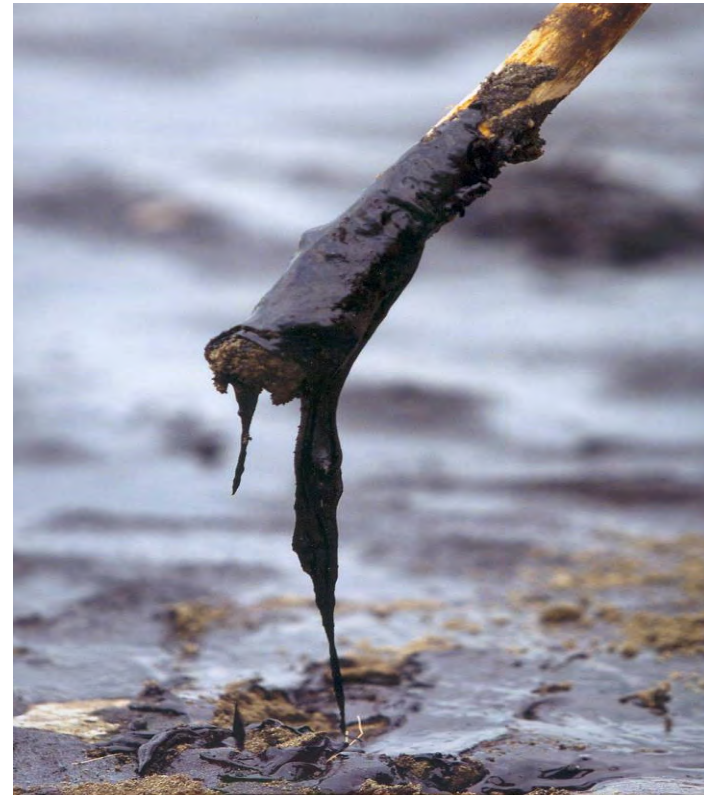
# Oil Spill Response Overview

February 2015  
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Technical Advisor



# Why Respond

- International Convention
- Responsibility
- Impact & effect
- Visible
- Effective



## OPRC CONVENTION

INTERNATIONAL CONVENTION ON  
OIL POLLUTION PREPAREDNESS,  
RESPONSE AND CO-OPERATION, 1990

OPRC CONVENTION

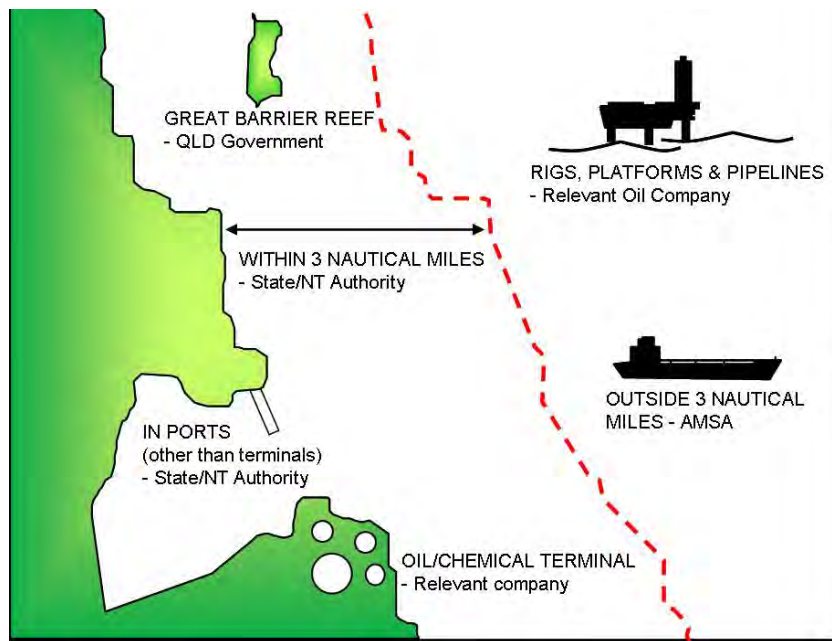
OPRC CONVENTION

OPRC CONVENTION



- OPRC -1990
- Equipment
- People
- Plans
- Reporting Structure
- Exercise
- Cooperate
- Research and development

# Combat Agencies / Statutory Agencies



# The Role of AMOSC

- 1991 – AIP
- Oil Spill Response
- Equipment and resources
- Training
- Response planning and auditing services
- Represent industry
- NATPLAN support





# AMOSC Area of Operation



# Recent Activations

- Mystery Spill – Golden Beach - 2014
- Barge – Cervantes - 2012
- MV Rena – NZ - 2011
- Pacific Adventurer –Brisbane - 2010
- Montara – Darwin - 2009
- Pasha Bulker – Newcastle - 2007
- Global Peace – Gladstone - 2006



# What is Oil?

- Hydrocarbon
  - Carbon
  - Hydrogen
- Persistent or non persistent
- Refined products or crudes

## **Persistent Oils GROUP 3/4**

- Most crude oils
- Heavy & medium fuel oils
- Diesel (heavy)
- Lube oils
- Hydraulic oils

## **Non-Persistent Oil GROUP 1**

- Diesel (light)
- Kerosene
- Petrol/gasoline
- Aviation fuels
- Condensate

## **Refined Hydrocarbon Oils GROUP 2/3**

- Fuel oils
  - Light, medium & heavy marine fuel oils
  - Diesel (gas oil)
  - Gasoline (petrol)
  - Aviation fuel (avgas)
  - Kerosene (paraffin)
- Lubricating oils
- Hydraulic oils



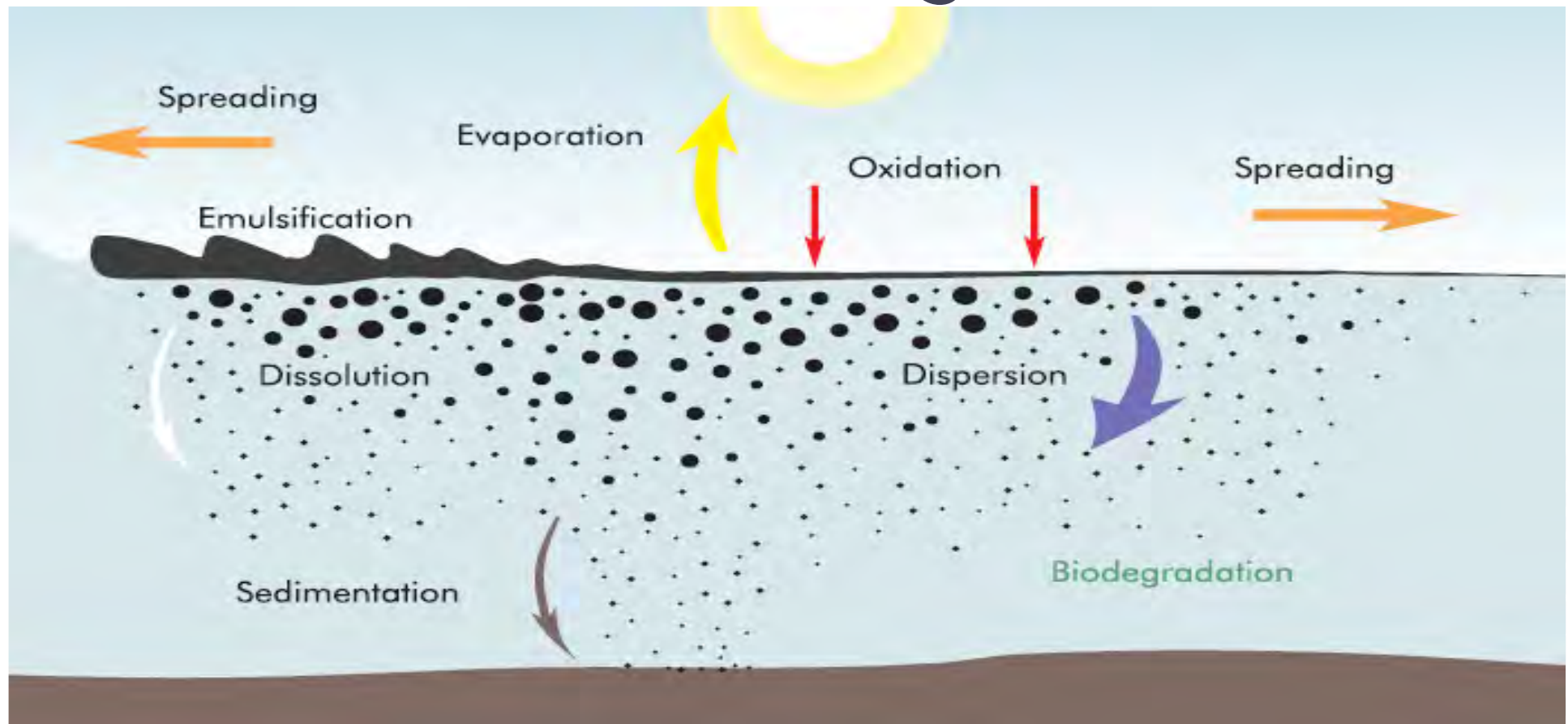


# Key properties of oil

- **Specific Gravity** - weight – sink or float?
- **Viscosity** - tendency to flow/spread
- **Pour Point** - c.f. melting point
- **Flash Point** - important for health and safety
- **Wax Content** - pour point, viscosity, remain



# Processes of weathering



stranding





# Oil Spill Response

Response Options



# Monitor and Evaluate

- Location
- Clarification of initial reports
- Elimination of 'false alarms'
- Confirm origin
- Planning tool
- Operational support
- Movement
- Weathering
- Site prioritization



# Booms



- Protect
- Deflect
- Contain
- Block



# Skimmers



## Recover

- Type of skimmer
- Sea state
- Oil type
  - Viscosity
- Storage

# Dispersants



- Reduce oil droplet size
- Mix into water
- Enhance biodegradation

# Shoreline Cleanup

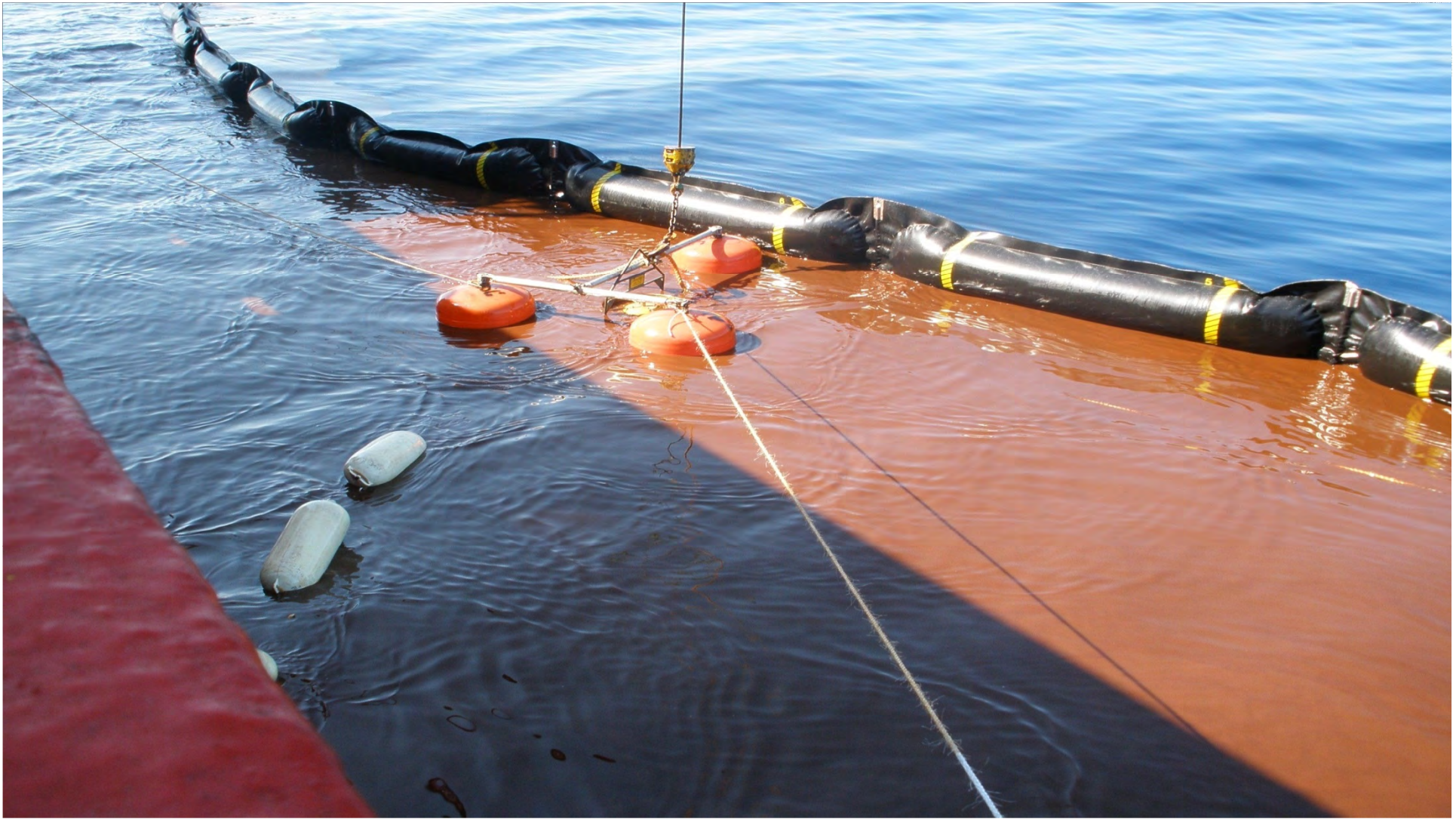
- Sediment grain size /oil penetration
- Energy / self-clean potential
- Mechanical vs manual?





















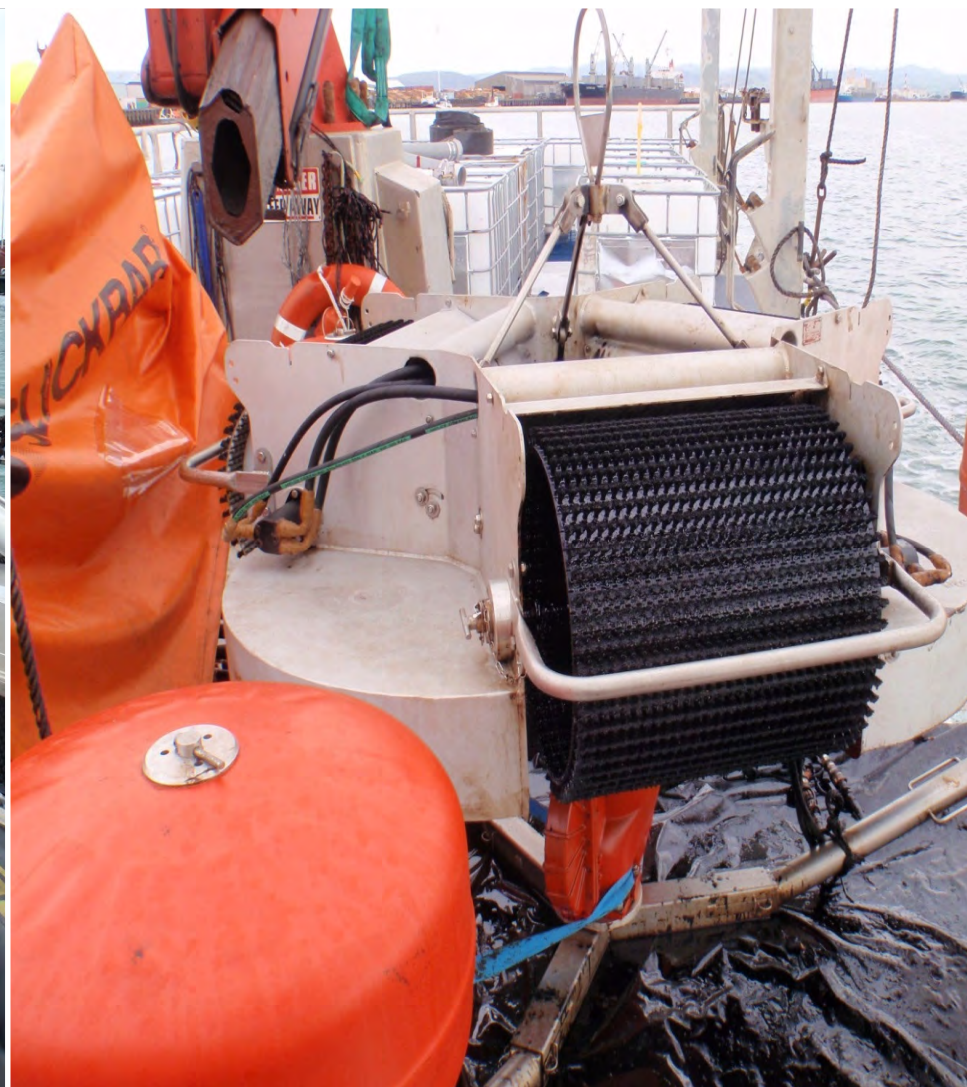


































# Useful websites

- [www.amosc.com.au](http://www.amosc.com.au)
- [www.amsa.gov.au](http://www.amsa.gov.au)
- [www.mnz.govt.nz](http://www.mnz.govt.nz)
- [www.itopf.com.au](http://www.itopf.com.au)
- [www.noaa.gov](http://www.noaa.gov)
- [www.bp.com](http://www.bp.com)