Acute response strategy

Module 6b

Acute response – Initial phase

- Initial phase – definition
- Shore line protection initial phase
  - Techniques using contaminant booms
- Response strategy

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Initial phase – free floating oil at sea

- At the point the incident has just occurred, the situation is acute. Initial tasks are divided into two:

– 1) action **on water** – The main task of source control at the scene of the accident and combating the free-floating oil at sea.
– 2) action for **shoreline** protection.

- When the source is taken care of, the salvage operation is completed and there is no more free-floating oil at sea. At this stage, the operation shifts its focus towards shoreline response and clean-up. At this point, the operation is no longer defined as acute.

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Initial phase – free floating oil at sea

On water operation

Shoreline protection

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On-Scene Commander - Shore (OSC - Shore)

Shoreline management phase is now initiated by the On-Scene Commander – Shore (OSC).

- At this point, information gathering has given the OSC information through the **first** version of the **Incident action order** on what to do and resources available. At this point, resources are limited – so to prioritise will be a difficult, but necessary, task for leading the initial effort.

- Tasks for OSC - Shore – starting the initial phase if oil is about to hit the shore or the oil has already stranded the coast. This can include channelling oil into areas more accessible for recovery operations, which at the same time can potentially protect other vulnerable areas and ecosystems.

- Trained task force/strike teams perform the initial action. This is often the best and safest procedure with limited resources at hand.

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On-Scene Commander - Shore (OSC - Shore)

- Starting the initial phase onshore

Offshore and shoreline clean-up strategies

- It is vital for on-shore operations to recover and lock stranded oil quickly before it can be reworked, buried down in sediment or remobilized. The valuable window of opportunity in the initial phase will impact the subsequent success of the shoreline response operation.
- Booms – floating barriers, are one of the usual tools that are used to prevent oil contamination of the shoreline.
- There are several types of booms that vary in size including hard booms, sorbent booms, and fire booms. All booms need to be placed and maintained in a coordinated strategy with other response alternatives to ensure their effectiveness.
- Oil stranded on shorelines can become mobile and re-float with changing tides and wind direction. Consideration should be given to recover such mobile oil which is most relevant at the initial clean up phase.

Other clean up strategies such as burning, dispersal with chemicals and clean-up microorganisms are not discussed in this training module.

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Offshore and shoreline clean-up strategies

Protecting

Lock in stranded oil

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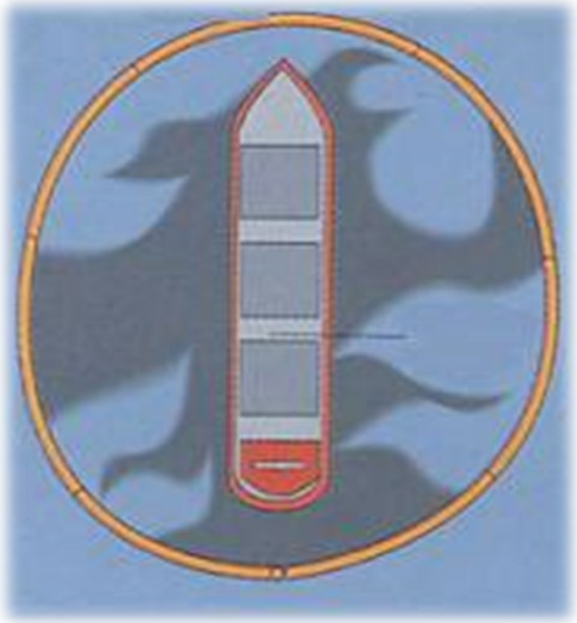
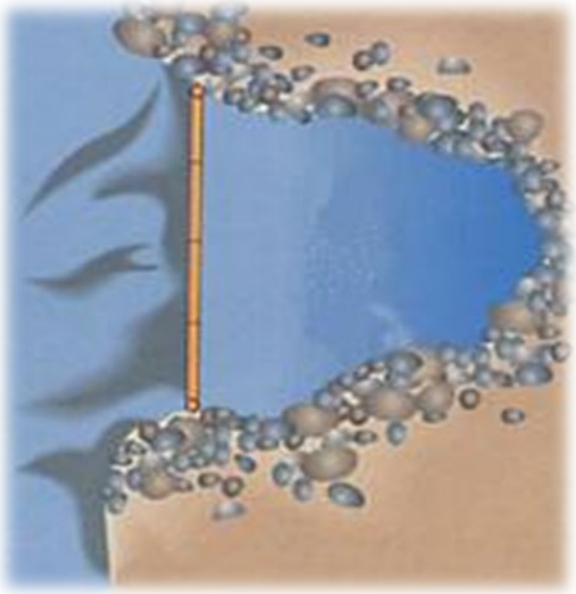
Using booms in response to oil spills

Containment boom
-Source control



Exclusion boom
-Protect



Exclusion boom
-Collect

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Protecting fragile ecosystems

- Protecting fragile ecosystems in the initial phase is a challenge – since this requires quantities of meters of boom – that at this point may not be available.

- Because booms can fail in winds and strong currents, often multiple rings of booms are placed to prevent leakages through the boom system.

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Protecting

- Remember - there are creative ways to create barriers to prevent the contamination of the shoreline, such as making barriers of sand or stacking sandbags.

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Protecting

- Another example - Booms positioned in front of a power station protecting cooling-water intake.

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Oil recovery equipment

Regarding oil recovery equipment, you should consider that the equipment is:

- Appropriate for the task – not over or under sized for the task, knowing the potentials and limitations of the equipment.

- Best practice – practice on how to correctly operate the equipment. This includes correct way of mooring and how to handle example tidal issues.

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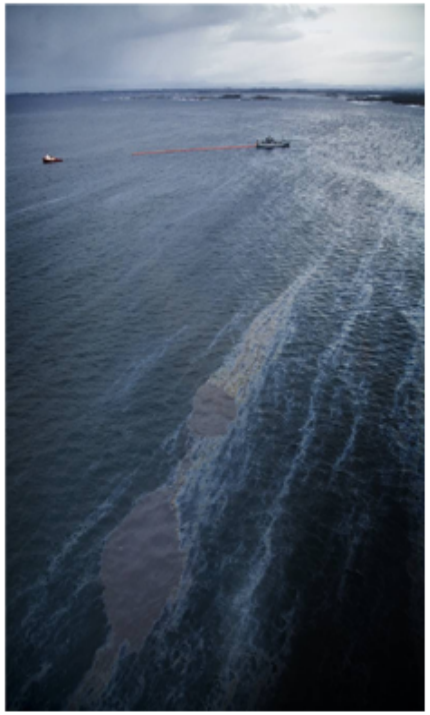
Response strategy

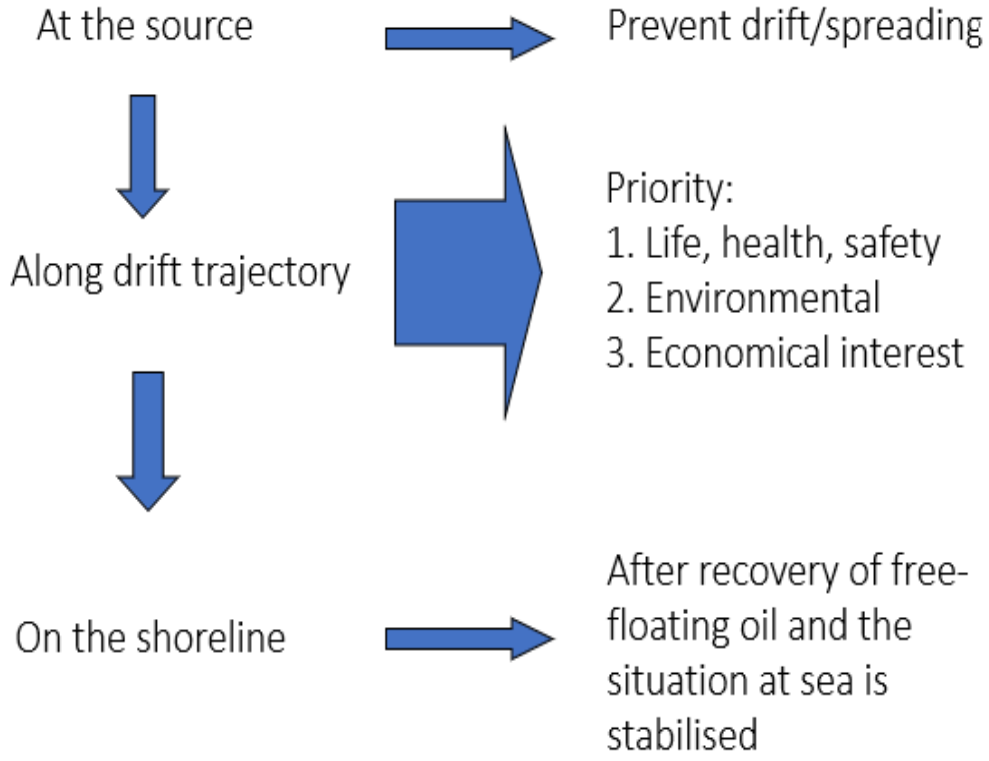
A general chain for the operation starting at the top:

- At the source – take control of the source, combat the free-floating oil at sea and prevent oil from hitting shoreline.

- Along drift trajectory – after the oil spill has been identified, know where the oil will drift and plan the operation along the trajectory of the spill → priority 1, 2, 3.

- On shoreline – after recovery of free-floating oil and the situation at sea is stabilised. At this point, beach cleaning starts, taking the oil spill response into a new phase.





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Summary

- Resources are limited in the initial phase – prioritize limiting spread of oil along shoreline and vulnerable areas
- Plan along trajectory line – be ahead of where the oil can potentially damage the shoreline
- Start uptake of oil at an early stage – prevent already stranded oil to remobilise

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Thank you

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