

Oil Spill Response and Equipment Deployment Guide

Forties Pipeline (landline) POC/DPO Role & Responsibilities

- Available for immediate response in the event of an onshore spill from a BP FPS pipeline.
- Proceeds to site of spill to liaise with BP Incident Officer (PERO), agrees the strategy/plan of action to be taken to minimise environmental damage and manages site pollution response activities until advised otherwise. DPO will handover to POC when POC arrives on site.
- Co-ordinates the mobilisation to site of the oil spill response standby equipment and personnel.
- Liases with the Contractor's Base during mobilisation and site activities and ensures FPS Grangemouth Incident Management Room (IMR) is kept advised of status.
- Liases at site with external organisations interested in the pollution response (SEPA, SNH, local council etc) on behalf of BP to ensure they are consulted on the strategy/plan of action.

Contractor contact details

Taylors

01224 872972 (24 hour number)

I&H Brown

01738 494478 (24 hour number)

07979 090670 (duty mobile number)

Caltech (normally for south of Forfar only)

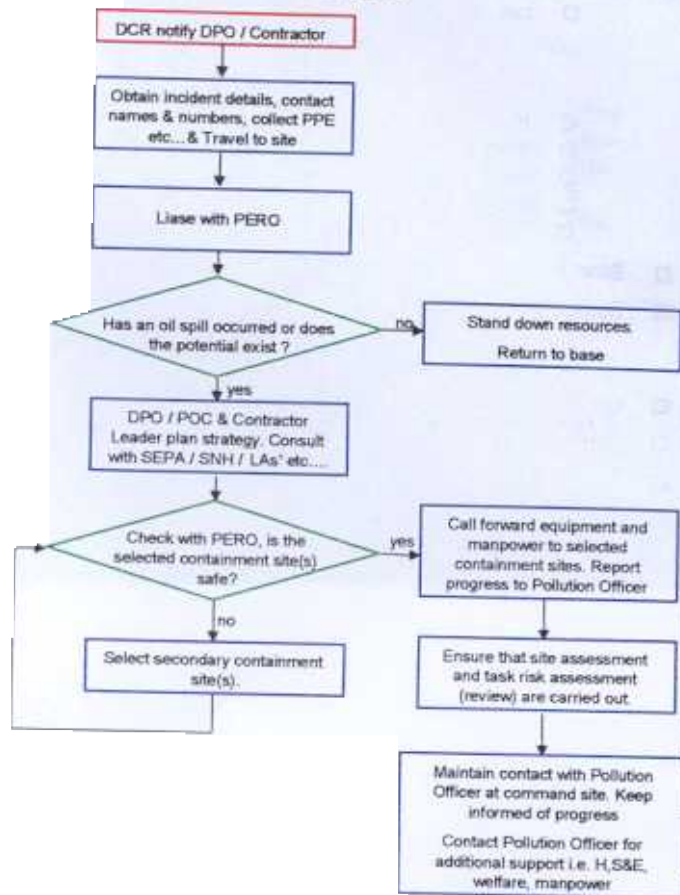
Office hours 01324 473971

Out of hours 07774 109261

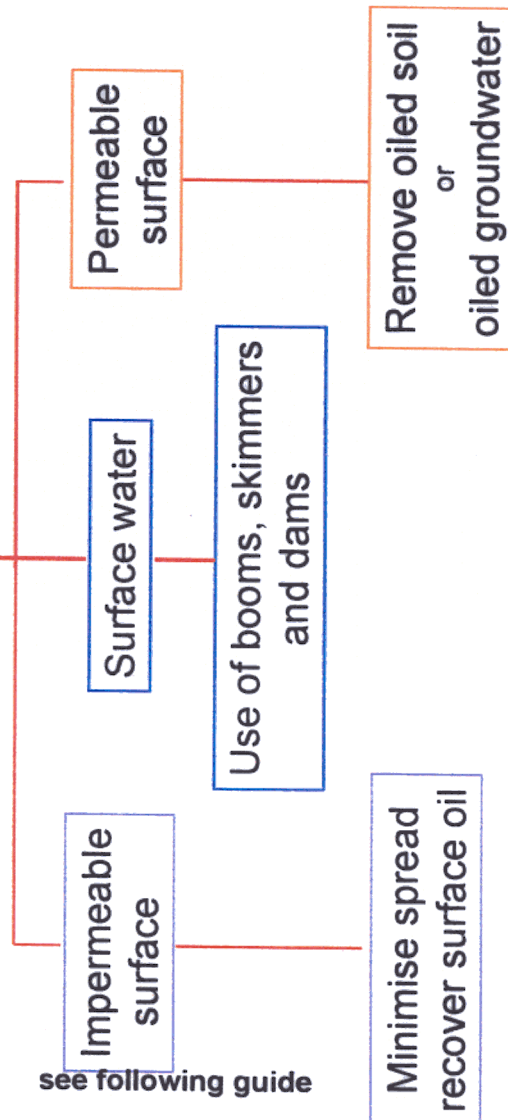
POC / DPO Checklist

- ☐ Obtain incident initial information
 - ☐ call-back details
 - names & numbers
 - Grangemouth IMR if known
 - PERO details
 - ☐ incident location
 - ☐ anticipated oil spill size
 - ☐ weather conditions
 - ☐ PERO rendezvous (RVP)
 - ☐ have contractors been mobilised
- ☐ Start personal log
- ☐ Establish contact with PERO
 - ☐ confirm location for Command Van
 - ☐ request update
- ☐ Confirm RVP / FHP (if known)
- ☐ Arrive at site / RVP. Liase with PERO
- ☐ Open Containment Manual to correct section
- ☐ PERO should provide EXCLUSION zone information and safety related information
- ☐ Establish basic known facts
 - ☐ incident location
 - ☐ estimate of oil release
 - ☐ is the pipeline de-pressurised
 - ☐ quantity remaining in pipeline
 - ☐ wind direction
- ☐ Brief contractor supervisor on known facts
- ☐ Select appropriate strategy/containment site(s)
- ☐ Brief PERO on planned actions
- ☐ Brief SEPA / SNH / etc....as required
- ☐ Keep PERO informed of actions / progress
- ☐ Utilise 2nd Command Van as Pollution Control Centre
- ☐ Prepare summary of actions / progress for IMR
- ☐ Handover to Grangemouth POC on arrival

Callout Flow Diagram

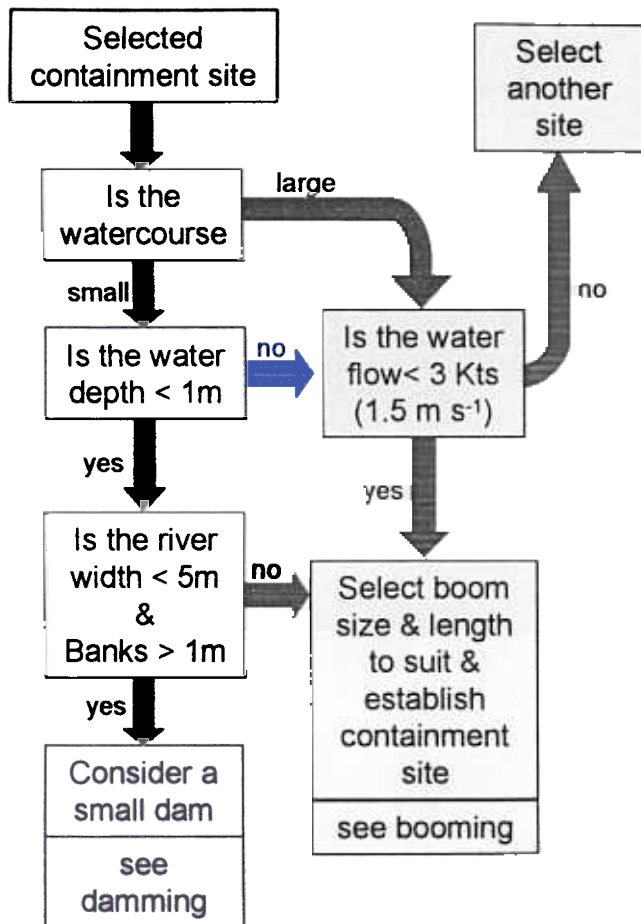


Oil Spill

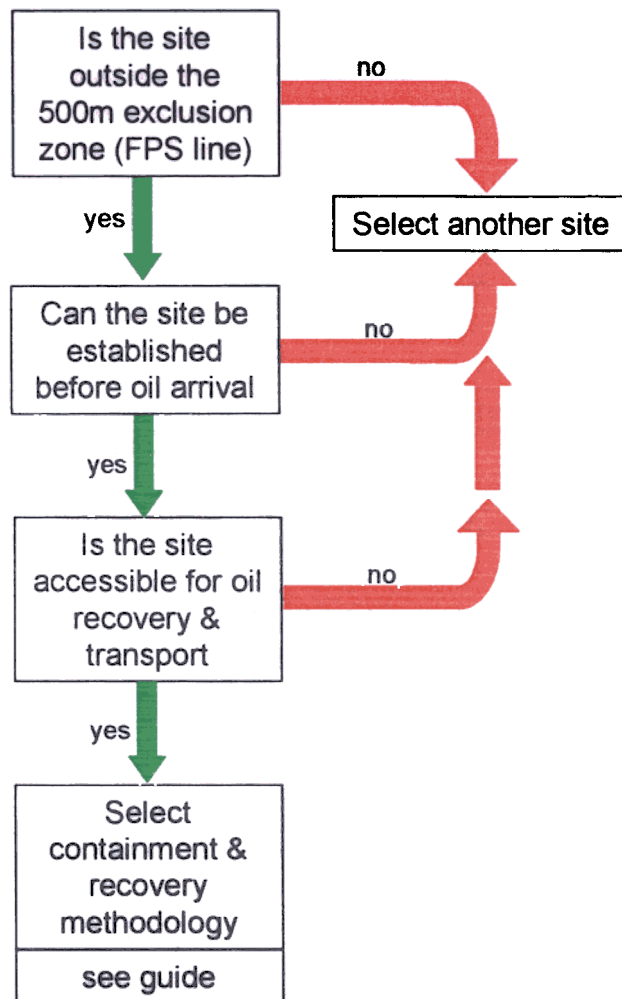


see following guide

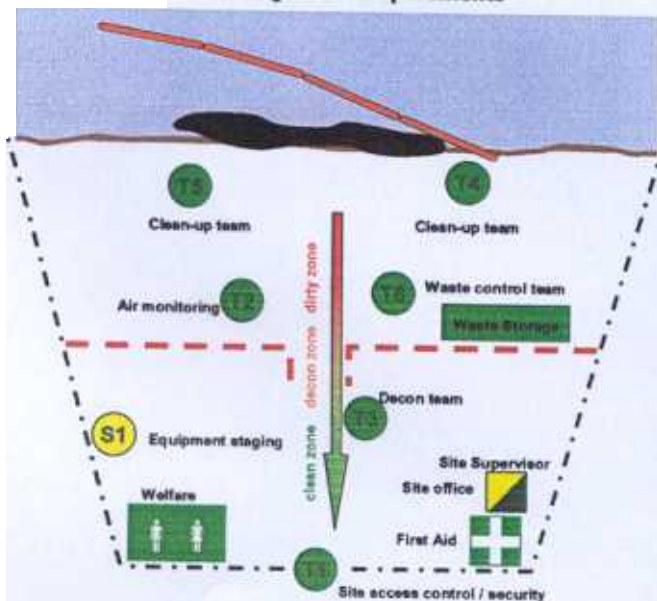
Containment & Recovery Selection Guide



Alternative Site Selection



Site Management Requirements



15 point checklist

Start-up

1. Commence log
2. Check comms
3. Reassess work sites
4. Team safety briefing
5. Work plan for the day
6. Set days objectives
7. Check all PPE
8. Assign resources
9. Equipment functional
10. Commence work

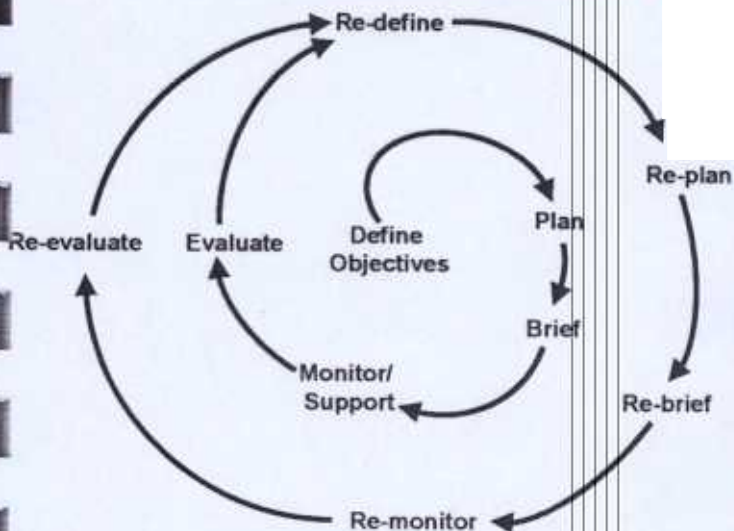
During

11. Monitor
 - a) Safety
 - b) Progress
 - c) Equipment
 - d) Welfare
12. Complete progress report

End

13. Survey site
 - a) Operational debris
 - b) Completion of work
14. Decontamination
 - a) Manpower
 - b) Equipment
15. Review days activities

Action-centred Leadership



Leadership

- Clear roles & responsibilities
- Achievable objectives
- Correct tools for the job
- Enough staff for the job
- Correct skill-set for the job
- Recognition of team needs

Clear and understandable instructions communicated to the team in a timely manner will go a long way to ensuring that the clean-up is carried out in a safe and effective manner.

Inland strategies

Impermeable Surface (roads, hard standings)

- Block all drains
- Concentrate oil, limit spreading

Permeable Surface (fields, soils etc)

- Create a bund
- Introduce a water bottom
- Dig trenches/pits into water table

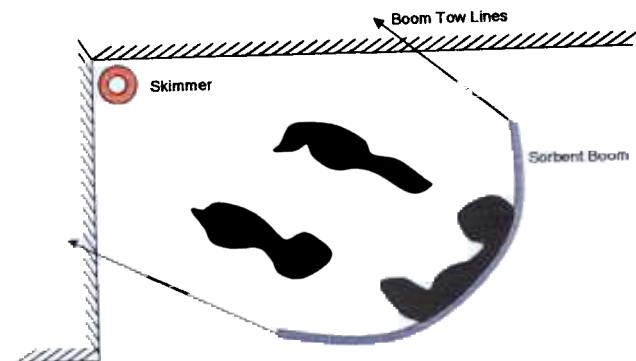
Surface Water, rivers & streams

- Floating booms & skimmers
- Dams (flume, spade, sandbag etc..)

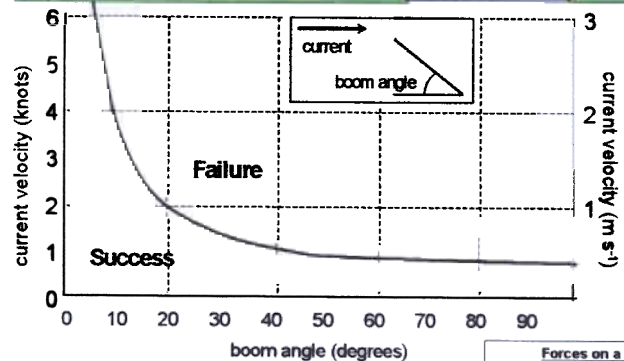
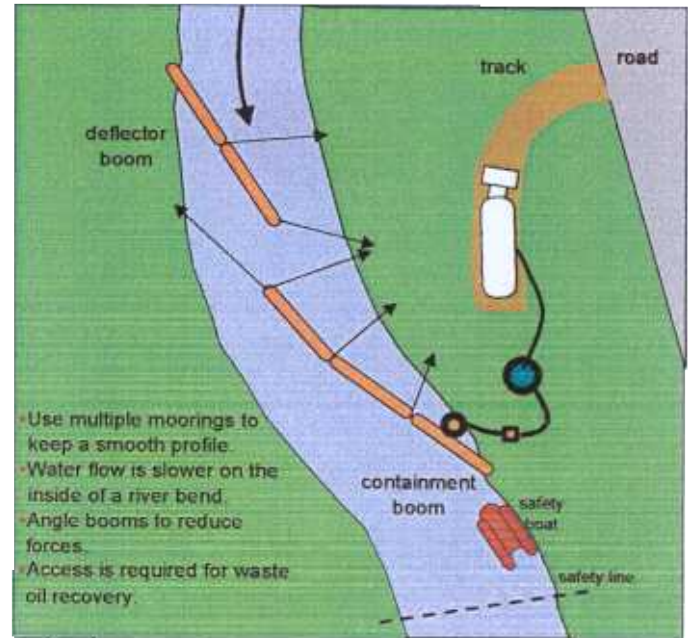
Recovery storage of spilt oil

- Recovery with pumps and skimmers
- Storage in pits, tankers, temporary storage tanks

**adsorbent boom use
for sweeping
ponds/reservoirs etc...**



Booming Guide

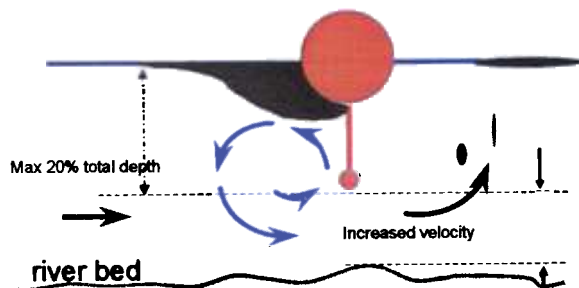


Effects of Current on Boom Angle

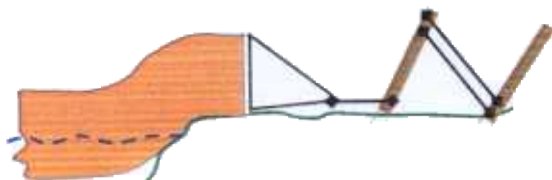
Forces on a Boom
water flow induced
 $F(\text{kg}) = 26 \times A(\text{m}^2) \times V^2(\text{knots})$

wind induced
 $F(\text{kg}) = 26 \times A(\text{m}^2) \times \left(\frac{V}{40}\right)^2$

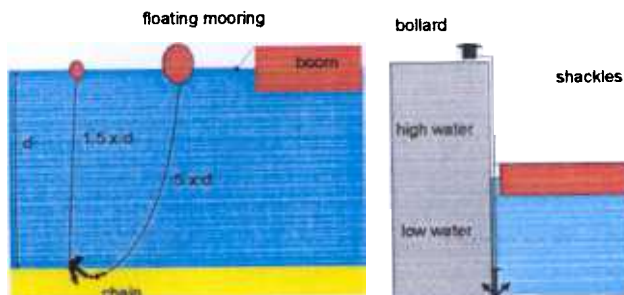
Depth of Boom in the Water



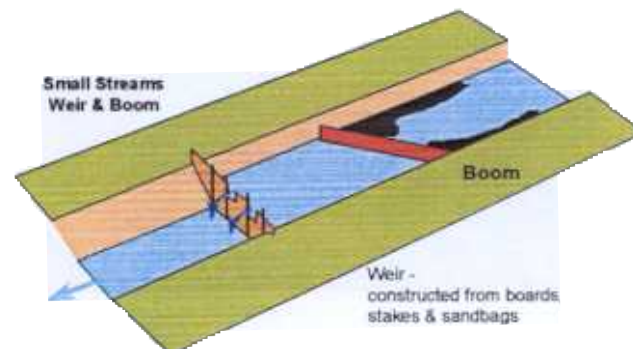
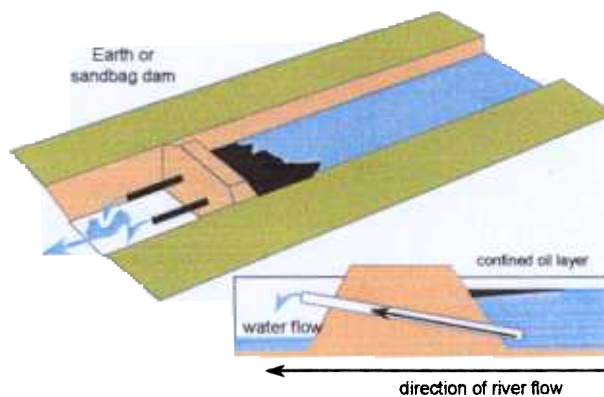
Staked Mooring



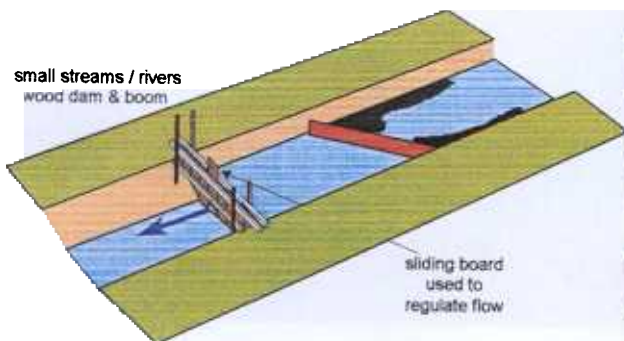
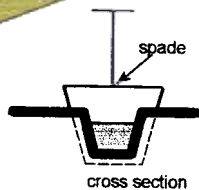
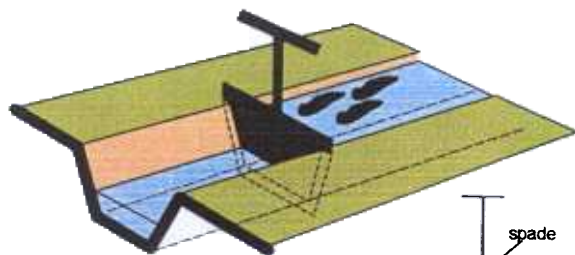
Floating Moorings



Damming Guide



- ☐ Raise level
- ☐ Maintain flow
- ☐ Do not flood surrounding land
- ☐ Deploy boom before dam if possible
- ☐ Deploy skimmer



Soil retention and penetration

Soil	Capacity (litre/m ³)
Stones/coarse gravel	5
Gravel/coarse sand	8
Coarse sand/medium sand	15
Medium sand/fine sand	25
Fine sand/silt	40

$$\text{Depth (metres)} = \frac{1000 v}{A \times R \times k}$$

where;

v = Volume of Spill (m³)

A = Area of infiltration (m²)

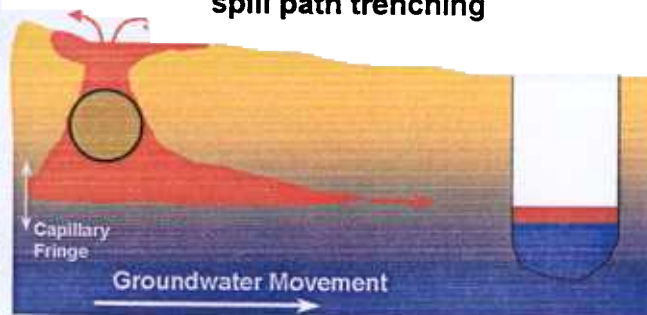
R = Retention capacity of soil (l/m³)

k = correction factor for various oil viscosities 0.5/2.0 *

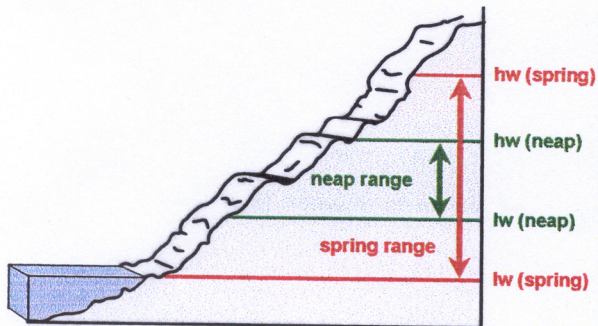
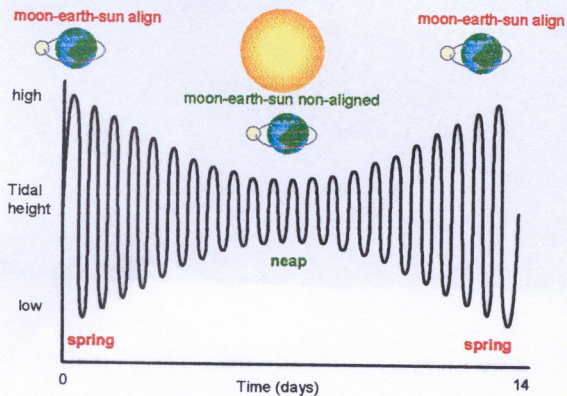
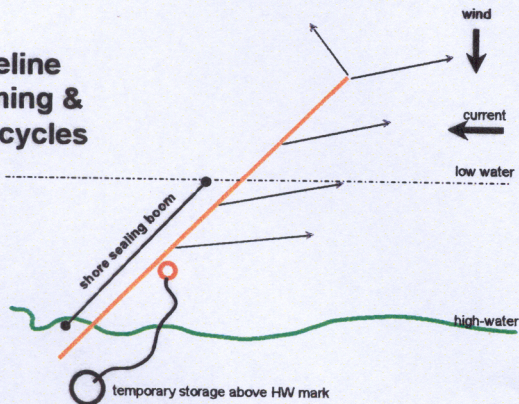
0.5 for low viscosity e.g. gasoline

*2.0 for light fuel oils

spill path trenching



shoreline booming & tidal cycles



shoreline strategy guide

	Jetties, piers, sea walls, etc...	Ice	Cliffs	Rock Shores (exposed)	Rocky Shores (sheltered)	Cobble/pebbles (exposed)	Cobble/pebbles (sheltered)	Sandy beach (exposed)	Sand flat (sheltered & firm)	Mud/sand flat(sheltered & soft)	Saltmarsh	Coral reef flats	Mangroves
Natural Cleaning	●	●	●	●	●	●	●	●	●	●	●	●	●
Low Pressure Flushing	●	●	●	●	●	●	●	●	●	●	●	●	●
High Pressure Flushing	●	●	●	●	●	●	●	●	●	●	●	●	●
Warm Water Flushing	●	●	●	●	●	●	●	●	●	●	●	●	●
Hot Water Flushing	●	●	●	●	●	●	●	●	●	●	●	●	●
Drainage	●	●	●	●	●	●	●	●	●	●	●	●	●
Substrate Removal	●	●	●	●	●	●	●	●	●	●	●	●	●
Vegetation Removal	●	●	●	●	●	●	●	●	●	●	●	●	●
Substrate Displacement	●	●	●	●	●	●	●	●	●	●	●	●	●
High Tide Tilling	●	●	●	●	●	●	●	●	●	●	●	●	●
Absorbants	●	●	●	●	●	●	●	●	●	●	●	●	●
Manual Collection	●	●	●	●	●	●	●	●	●	●	●	●	●
Chemical Dispersants	●	●	●	●	●	●	●	●	●	●	●	●	●
Burning	●	●	●	●	●	●	●	●	●	●	●	●	●
Bioremediation	●	●	●	●	●	●	●	●	●	●	●	●	●
Beach Cleaning Machines	●	●	●	●	●	●	●	●	●	●	●	●	●

● preferred
● possible
● avoid

skimmer efficiencies

