

SCOPE

Substrates: sand, stones
Pollution: light to very heavy
Pollutant: various
Sea: with (or without) tides



EQUIPMENT NEEDED

Basic equipment:

- Fire or PVC impact hoses
- Pumps (30 m³/h – 4 to 8 bars)

Extra equipment:

- Effluent recovery system
- Skimming/effluent absorption means
- Storage facilities

DESCRIPTION/PRINCIPLE

Involves remobilising oil trapped in sediments by mixing vigorously the substrate underwater using hoses. The resurfacing oil is recovered within a small boom using either sorbents or a skimmer. This technique is generally conducted by individual operators on foot, using impact hoses supplied by a small light pump unit.

CONDITIONS OF USE

Pollution: light oil (preferably) emulsified to a varying degree – pollution buried up to 40 – 50 cm deep.
Substrate: fine to coarse sediments; water depth of 0.5 to 3 m.
Site: accessible via a barge/pontoon, relatively calm during operations.

IMPACT ON THE ENVIRONMENT

Physical: temporary disturbance to the first 60 centimetres of sediment (loosening, quicksand).
Biological: potential impact on the macrofauna living in the sand; temporary disturbance, recolonisation in the short term.

PERFORMANCE

Yield: very variable depending on the pollution and the sediment.
Minimum workforce required: 10 people (including recovery): 1 to 3 per hose.
Waste: pumpable or absorbable emulsified oil (oil content of cleaned sand < 1g/kg).

OBSERVATIONS

- Provide responders with the necessary protective clothing: overalls, oilskins, boots, gloves, head gear, glasses, masks. Users are exposed to a lot of dirt (spray of large particles of pollutant).
- Manual technique but its mechanisation has been, and still can be, considered in view of increasing the yield. Either using a series of hoses mounted on a motor boat (pontoon type) or from the beach using a mobile device (fitted with a sweeping arm).
- Operation of hoses is tiring; provide hoses with handholds and rotate personnel (hose, water supply, effluent recovery).
- Can also be used to remove patches of submerged heavy fuel oil (using extended hoses where necessary, as used during the *Erika* pollution for instance).
- Systematically provide a recovery system.