



## SURFWASHING

### SCOPE

Substrate: sand, stones  
Pollution: slight to very heavy  
Pollutant: various  
Sea: tidal



### EQUIPMENT NEEDED

#### Basic equipment:

- Front loader
- Bulldozer

#### Extra equipment:

- Quarry truck
- Recovery means (nets, sorbents)

### DESCRIPTION/PRINCIPLE

Consists of moving sediments towards the lower end of the beach, to subject them to the natural cleaning action of the sea. Wave action breaks down the piles, separates the pollutant from the sediment, spreads out the sediment over the beach and cleans it by agitation and abrasion, while moving it back up to its original location. This technique can be used both in phases 1 and 2.

In phase 1, the aim is to separate the pollutant from the sediments. The freed pollutant is deposited along the low water mark, necessitating surface recovery as quickly as possible. The pollutant can be recovered manually on the foreshore, possibly after being trapped by a material such as straw or sorbents, spread along the beach beforehand. In the case of a viscous pollutant, recovery is best carried out using nets spread out over the foreshore and anchored at one end, further up the foreshore from the piles or windrows.

In phase 2, surfwashing is used for different purposes:

- to directly clean slightly oiled stones or finish the previously undertaken washing operations (no recovery needed)
- as an alternative to sand screening (for example, where sand screeners are no longer effective on micro tar balls of heavy fuel oil): plan for the possible recovery of dropped clusters (from nets or manual recovery)
- to accelerate washing of sand contaminated by a light crude oil: recovery is generally not possible (pollutant in the form of a soiled foam or concentrated sheen).

### CONDITIONS OF USE

Pollution: very light to very heavy

Substrate: stones and sand

Site: access possible for public works equipment; well exposed to the sea's energy

### IMPACT ON THE ENVIRONMENT

Physical: temporary disruption to beach's layout: obvious geomorphological risk (erosion of coastline) in the event of poor assessment or operations not being carried out correctly.

Biological: limited except in the event of erosion; possible recontamination of the foreshore by freed pollutant.

### PERFORMANCE

Efficiency: depends on the beach's characteristics (size, manoeuvrability, exposure) and on the pollution.

Minimum workforce required: at least 2 people (1 driver + 1 assistant).

Waste: varies depending on phase: clusters, nets polluted to varying extent, sorbents etc.

### OBSERVATIONS

- Due to geomorphological risks, this technique requires approval by a geomorphological expert (assessment of possible risks of shoreline erosion, ensure the feasibility of the operation and organise it).
- Deposit stones in piles or windrows (not in a layer).
- Repeat the operation depending on results of washing.
- Restrict the volume involved to what is strictly necessary.

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