NET ENVIRONMENTAL BENEFITS ANALYIS HABITAT FACT SHEET:
UNCONSOLIDATED SHORE HABITATS

I. Habitat Description

The unconsolidated shore habitat includes all wetland habitats that have unconsolidated substrates with less than 75% cover of stones, boulders, or bedrock and less than 30% cover of vegetation other than pioneering plants. This habitat is also described as having any of the following water regimes: irregularly exposed, regularly flooded, irregularly flooded, seasonally flooded, temporarily flooded, intermittently flooded, saturated, or artificially flooded. Within this habitat erosion and deposition by the rivers current produces a number of landforms such as bars, beeches and flats, both of which are included in this class. The different substrate compositions usually support characteristic invertebrate fauna. Unconsolidated shores are found adjacent to unconsolidated bottoms.

II. Sensitivity to Oil Spills

Unconsolidated shore habitats have a low to medium sensitivity to oil spills. They generally don't have sizeable biological communities. However, unconsolidated shores consisting mostly of sand may be considered sensitive due to their recreational beach-type use. Organisms commonly found in gravel dominated unconsolidated shore habitats are mollusks, snails, toad bugs and leeches. Copepods, oligochaete worms, mollusks and fingernail clams primarily inhabit sand dominated habitats. Muddy habitats support diverse populations of fingernail clams, snails, crayfish, copepods, mollusks, shore bugs, isopods and mayflies. Oil will not penetrate far into fine-grained sand, but as the substrate increases in size oil penetration will also increase. If the area is a high recreational use area, removal and replacement of the substrate may be necessary in order to recover.

III. Sensitivity to Response Methods

Methods Causing Least Adverse Habitat Impacts

Debris Removal

- Degree of oiling that warrants debris removal and disposal depends on humans and sensitive resources

Natural Recovery

- Lower impact for small spills, lighter oil types, and remote areas

Flooding
- Only useful when oil is fluid and on sandy surface, rather than penetrated or buried
- Only effective in gravelly environment when oil is fluid and adheres loosely to the sediments
- Use on heavy oils is likely to leave large amounts of residual oil in the environment

Sorbents
- Overuse generates excess waste
- Physical removal rates of heavy oils will be slow, so less oil will be mobilized for recovery by sorbents

Methods Causing Some Adverse Habitat Impact

Manual Oil Removal/Cleaning
- Minimizes sediment removal and problems of erosion and waste disposal
- Effective when oil is mostly on the surface, not deeply penetrated or buried

Vacuum
- Early use of vacuum on pooled, liquid oil can prevent deeper penetration
- Will minimize the amount of sorbent waist when used with flushing effort

Shoreline Cleaning Agents
- May be only technique to remove viscous oils without removing sediment
- Individual products vary in their toxicity and ability to recover the treated oil

In-Situ Burning
- Can effectively remove pooled surface oil accumulations
- Concerns about air pollution, physical nature of the residue, and thermal impact on biota
- May have to dig trenches to accumulate oil in pools
- Lighter oils will not remain on the sediment surface

Methods Causing Probable Adverse Habitat Impact

Low-Pressure, Hot-Water Flushing
- May be needed to soften and lift sticky oil off the sand surfaces
- Any organisms present will be affected by hot water

Methods Causing Most Adverse Habitat Impact

High-Pressure, Cold-Water Flushing and High-Pressure,Hot-Water Flushing
- High-pressure water jets will fluidize sand-sized sediments, erode the beach, and wash the oiled sediment into nearshore habitats

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