

ONSHORE ENVIRONMENTAL MITIGATION

RESPONSE OPTIONS TO PREVENT MARSH OILING

Marshes provide many important ecological services and functions and are habitat to many species. When an oil spill affects these habitats, impacts can be severe; however, impacts from inappropriate response methods can increase these impacts and slow overall recovery.

Source: NOAA's "Oil Spills in Marshes."



RECOMMENDATIONS FOR RESPONSE OPTIONS IN OILED MARSHES BY OIL GROUP (NOAA)

Oil Group Description I - Gasoline products II - Diesel-like products & light crude III - Medium grade crudes and intermediate products IV - Heavy crudes and residual products	RESPONSE METHOD	OIL GROUP			
		I	II	III	IV
The following categories are used to compare the relative environmental impact of each response method in the specific environment and habitat for each oil type. The codes on each table mean: A = The least adverse habitat impact B = Some adverse habitat impact C = Significant adverse habitat impact D = The most adverse habitat impact I = Insufficient information - = Not applicable	Natural Recovery	A	A	B	B
	Barriers/Berms	B	B	B	B
	Manual Oil Removal/Cleaning	D	C	B	B
	Mechanical Oil Removing	D	D	C	C
	Sorbents	-	A	A	B
	Vacuum	-	B	B	B
	Debris Removal	-	B	B	B
	Sediment Reworking/Tiling	D	D	D	D
	Vegetation Cutting/Removal	D	D	C	C
	Flooding	B	B	B	B
	Low-pressure, Ambient-water Flushing	B	B	B	B
	Shoreline Cleaning Agents	-	-	B	B
	Nutrient Enrichment	-	B	B	C
	Natural Microbe Seeding	-	I	I	I

OILING CONDITION	RESPONSE OPTIONS	KEY ISSUES/CONSTRAINTS
Heavy oil on vegetation	Natural Recovery	- Preferred tactic, unless there are key species of concern at risk
	Passive Sorbents	- Use only as long as oil is being released, closely monitor to make sure that the sorbents are properly deployed, remove prior to high water or waves to prevent stranding in the marsh
	Loose Organic Sorbents	- Consider how long before the oil weathers to a dry coat, application should be only a thin coating on the vegetation, will be difficult to apply to marsh interiors
	Vegetation Cutting	- Consider only if there are key species of concern at risk, consider how long before the oil weathers to a dry coat, may need to cut accessways to reach interior oil, use walking boards, test different tools to determine best tactic
Light to moderate oil on vegetation	Surface Washing Agents/Flushing	- Use when necessary to reduce contact hazard quickly, must wash to water (so only use when water levels cover the soils), use only products that lift and float, potential short-term increased aquatic toxicity
	Natural Recovery	- Preferred tactic particularly for light oils, small areas, dormant vegetation, some exposure to waves and/or currents
	Passive Sorbents	- Use only as long as oil is being released, closely monitor to make sure that the sorbents are properly deployed, remove prior to high water or waves to prevent stranding in the marsh
	Loose Organic Sorbents	- Consider how long before the oil weathers to a dry coat, application should be only a thin coat on the vegetation, will be difficult to apply to interior of the marsh

