

RRT 5 Shoreline Cleanup Guidelines for VERY LIGHT OIL (e.g., gasoline) ** DRAFT ** 2/4/93 **

Shoreline Type Codes	
1 - vertical rocky shores, seawalls, piers	6 - gravel beaches
2 - eroding scarps & sediments	7 - riprap
3 - shelving bedrock ledges	8 - sheltered bedrock & bluffs
4 - sand beaches	9 - sheltered low-lying banks
5 - mixed sand & gravel beaches	10 - fringing & extensive wetlands

Countermeasure	Shoreline Types									
	1	2	3	4	5	6	7	8	9	10
1) No Action	A	A	A	A	A	A	A	A	A	A
2) Manual Removal	A	A	A	A	A	Aa	Aa	A		
3) Passive Collection (Sorbents)	A		A			A	A	A	A	A
4) Debris Removal/Heavy Equipment										
5) Trenching (recovery wells)										
6) Sediment Removal										
7) Cold Water Flooding (deluge)						Ab	Ab		Ab	Ab
8) Cold Water Washing										
a) Low Pressure (<50psi)						Cb,f	Ab,f		Ab,f	Ab,f
b) High Pressure (<100psi)										
9) Warm Water Washing (ambient to 90F)										
10) Hot Water Pressure Washing (>90F)										
11) Slurry Sand Blasting										
12) Vacuum						Ab	Ab		Ab	Ab
13) Shore Removal/Replacement				C	C				Cc	
14) Cutting Vegetation (depends upon time of year)										
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL										
15) Chemical Treatment										
a) Oil Stabilization										
b) Protection of Beaches										
c) Cleaning of Beaches										
16) Burning (depends upon time of year)										C
17) Nutrient Enhancement										
18) Bacterial Addition										
19) Sediment Reworking				C	C					

Key to Identifiers

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

a = Manual removal of oiled debris or small persistent pockets.

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

c = Shoreline removal/replacement with clay if substrate is saturated with oil.

f = Proximity to water intakes should be considered when pressure washing shoreline.

RRT 5 Shoreline Cleanup Guidelines for LIGHT OIL (e.g., diesel) ** DRAFT ** 2/4/93 **

Shoreline Type Codes	
1 - vertical rocky shores, seawalls, piers	6 - gravel beaches
2 - eroding scarps & sediments	7 - riprap
3 - shelving bedrock ledges	8 - sheltered bedrock & bluffs
4 - sand beaches	9 - sheltered low-lying banks
5 - mixed sand & gravel beaches	10 - fringing & extensive wetlands

Countermeasure	Shoreline Types									
	1	2	3	4	5	6	7	8	9	10
1) No Action	A	A	A	C	C	C	A	A	A	C
2) Manual Removal	A	A	A	C	C	C	C	A	A	Cd
3) Passive Collection (Sorbents)	A		A	A	A	A	A	A	A	A
4) Debris Removal/Heavy Equipment	A		A	A	A	A	A	A	A	A
5) Trenching (recovery wells)				Ce	Ce					
6) Sediment Removal										
7) Cold Water Flooding (deluge)				Cb	Cb	Ab	Ab		Ab	Ab
8) Cold Water Washing										
a) Low Pressure (<50psi)	Ab,f	Ab,f	Ab,f				Ab,f	Ab,f	Ab,f	
b) High Pressure (<100psi)	Ab,f		Ab,f					Ab,f		
9) Warm Water Washing (ambient to 90F)	Cb,f,g	Cb,f,g	Cb,f,g					Cb,f,g	Cb,f,g	
10) Hot Water Pressure Washing (>90F)										
11) Slurry Sand Blasting										
12) Vacuum	Ab		Ab	Cb	Cb	Ab	Ab	Ab	Ab	Ab
13) Shore Removal/Replacement				C	C					
14) Cutting Vegetation (depends upon time of year)								C	C	C

ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL

15) Chemical Treatment										
a) Oil Stabilization				C	C	C				
b) Protection of Beaches				C	C	C				
c) Cleaning of Beaches				C	C	C				
16) Burning (depends upon time of year)										C
17) Nutrient Enhancement				C	C	C	C			
18) Bacterial Addition				C	C	C	C			
19) Sediment Reworking				C	C	C				

Key to Identifiers

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

d = Low intensity removal of mobile debris only, e.g., vegetation or driftwood.

e = Trenching only if heavy impact exists and no other viable collection method is available.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

RRT 5 Shoreline Cleanup Guidelines for MEDIUM OIL (e.g., #4 or medium crude) ** DRAFT ** 2/4/93 **

Shoreline Type Codes	
1 - vertical rocky shores, seawalls, piers	6 - gravel beaches
2 - eroding scarps & sediments	7 - riprap
3 - shelving bedrock ledges	8 - sheltered bedrock & bluffs
4 - sand beaches	9 - sheltered low-lying banks
5 - mixed sand & gravel beaches	10 - fringing & extensive wetlands

Countermeasure	Shoreline Types									
	1	2	3	4	5	6	7	8	9	10
1) No Action	Ch	Ch	Ch				Ch			Ch,i
2) Manual Removal	A	A	A	A	A	A	A	A	A	Cd
3) Passive Collection (Sorbents)	A		A	A	A	A	A	A	A	A
4) Debris Removal/Heavy Equipment			A	A	A	A	A	A	A	
5) Trenching (recovery wells)				Ce	Ce					
6) Sediment Removal		C		A	A					
7) Cold Water Flooding (deluge)				Cb	Cb	Ab	Ab		Ab	Ab
8) Cold Water Washing										
a) Low Pressure (<50psi)	Ab,f	Ab,f	Ab,f			Cb,f	Ab,f	Ab,f	Cb,f	Cb,f
b) High Pressure (<100psi)	Ab,f		Ab,f			Cb,f	Ab,f	Cb,f	Cb,f	
9) Warm Water Washing (ambient to 90F)	Ab,f,g	Cb,f,g	Ab,f,g				Cb,f,g	Cb,f,g	Cb,f,g	
10) Hot Water Pressure Washing (>90F)	Cb,f,g,j		Cb,f,g				Cg,j			
11) Slurry Sand Blasting	Cj						C			
12) Vacuum	Ab		Ab	Cb	Cb	Ab	Ab	Ab	Ab	Ab
13) Shore Removal/Replacement				A	A	C	C			
14) Cutting Vegetation (depends upon time of year)								C	C	C

ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL

15) Chemical Treatment										
a) Oil Stabilization				C	C			C	C	C
b) Protection of Beaches				C	C					
c) Cleaning of Beaches				C	C					
16) Burning (depends upon time of year)		C						C	C	C
17) Nutrient Enhancement				C	C	C	C			
18) Bacterial Addition				C	C	C	C			
19) Sediment Reworking		C		C	C	C	C			

Key to Identifiers

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

d = Low intensity removal of mobile debris only, e.g., vegetation or driftwood.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

h = No action only if residual sheening is present.

i = No action only if the wetland fringes are impacted or access would result in unacceptable damage.

RRT 5 Shoreline Cleanup Guidelines for HEAVY OIL (e.g., bunker c) ** DRAFT ** 2/4/93 **

Shoreline Type Codes	
1 - vertical rocky shores, seawalls, piers	6 - gravel beaches
2 - eroding scarps & sediments	7 - riprap
3 - shelving bedrock ledges	8 - sheltered bedrock & bluffs
4 - sand beaches	9 - sheltered low-lying banks
5 - mixed sand & gravel beaches	10 - fringing & extensive wetlands

Countermeasure	Shoreline Types									
	1	2	3	4	5	6	7	8	9	10
1) No Action	Ch	Ch	Ch				Ch			Ch,i
2) Manual Removal	C	A	A	A	A	A	A	A	A	Cd
3) Passive Collection (Sorbents)	Ck	Ck	Ak	Ak	Ak	Ak	Ak	Ak	Ak	Ak
4) Debris Removal/Heavy Equipment			A	A	A	A	A	A	A	
5) Trenching (recovery wells)				Ce	Ce					
6) Sediment Removal		C		A	A					
7) Cold Water Flooding (deluge)				C	C	C	C		C	C
8) Cold Water Washing										
a) Low Pressure (<50psi)		Ab,f	Ab,f				Cb,f	Ab,f	Cb,f	Cb,f
b) High Pressure (<100psi)		Cb,f,g	Ab,f				Cb,f	Cb,f		
9) Warm Water Washing (ambient to 90F)	Ab,f,g	Ab,f,g	Ab,f,g				Cb,f,g	Cb,f,g	Cb,f,g	
10) Hot Water Pressure Washing (>90F)	Ab,f,g,j		Cb,f,g				Cb,f,g,j			
11) Slurry Sand Blasting	Cj						Cj			
12) Vacuum	Ab	Ab	Ab	Cb	Cb	Cb	Cb	Ab	Cb	Cb
13) Shore Removal/Replacement				A	A	A				
14) Cutting Vegetation (depends upon time of year)								C	C	C

ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL

15) Chemical Treatment										
a) Oil Stabilization										
b) Protection of Beaches				C	C					
c) Cleaning of Beaches										
16) Burning (depends upon time of year)		C							C	C
17) Nutrient Enhancement				C	C	C	C			
18) Bacterial Addition				C	C	C	C			
19) Sediment Reworking		C		C	C	C	C			

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b = Passive collection and vacuum should be coordinated with flooding or washing methods.

d = Low intensity removal of mobile debris only, e.g., vegetation or driftwood.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

h = No action only if residual sheening is present.

i = No action only if the wetland fringes are impacted or access would result in unacceptable damage.

j = Hot water pressure wash or slurry sand blast for aesthetic reasons.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 1

VERTICAL ROCKY SHORELINE, SEAWALLS, PIERS

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A	Ch	Ch
2) Manual Removal	A	A	A	C
3) Passive Collection (Sorbents)	A	A	A	Ck
4) Debris Removal/Heavy Equipment		A		
5) Trenching (recovery wells)				Ce
6) Sediment Removal		C		A
7) Cold Water Flooding (deluge)				C
8) Cold Water Washing				
a) Low Pressure (<50psi)		Ab,f	Ab,f	
b) High Pressure (<100psi)		Ab,f	Ab,f	
9) Warm Water Washing (ambient to 90F)		Cb,f,g	Ab,f,g	Ab,f,g
10) Hot Water Pressure Washing (>90F)			Cb,f,g,j	Ab,f,g,j
11) Slurry Sand Blasting			Cj	Cj
12) Vacuum		Ab	Ab	Ab
13) Shore Removal/Replacement				
14) Cutting Vegetation (depends upon time of year)				
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL				
15) Chemical Treatment				
a) Oil Stabilization				
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)				
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking				

Key to Identifiers

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

h = No action only if residual sheening is present.

j = Hot water pressure wash or slurry sand blast for aesthetic reasons.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 2

ERODING SCARPS & SEDIMENTS

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A	Ch	Ch
2) Manual Removal	A	A	A	A
3) Passive Collection (Sorbents)				Ck
4) Debris Removal/Heavy Equipment				
5) Trenching (recovery wells)				
6) Sediment Removal			C	C
7) Cold Water Flooding (deluge)				
8) Cold Water Washing				
a) Low Pressure (<50psi)		Ab,f	Ab,f	Ab,f
b) High Pressure (<100psi)				Cb,f
9) Warm Water Washing (ambient to 90F)		Cb,f,g	Cb,f,g	Ab,f,g
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum				Ab
13) Shore Removal/Replacement				
14) Cutting Vegetation (depends upon time of year)				
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL				
15) Chemical Treatment				
a) Oil Stabilization				
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)			C	C
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking			C	C

Key to Identifiers

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

h = No action only if residual sheening is present.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 3

SHELVING BEDROCK LEDGES

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A	Ch	Ch
2) Manual Removal	A	A	A	C
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)				
8) Cold Water Washing				
a) Low Pressure (<50psi)		Ab,f	Ab,f	Ab,f
b) High Pressure (<100psi)		Ab,f	Ab,f	Ab,f
9) Warm Water Washing (ambient to 90F)		Cb,f,g	Ab,f,g	Ab,f,g
10) Hot Water Pressure Washing (>90F)			Cb,f,g	Cb,f,g
11) Slurry Sand Blasting				
12) Vacuum		Ab	Ab	Ab
13) Shore Removal/Replacement				
14) Cutting Vegetation (depends upon time of year)				
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL				
15) Chemical Treatment				
a) Oil Stabilization				
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)				
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking				

Key to Identifiers
A = Acceptable
C = Conditional - Use after other less intrusive methods or following particularly heavy impact
Blank space = Not Advisable or Not Applicable
b = Passive collection and vacuum should be coordinated with flooding or washing methods.
f = Proximity to water intakes should be considered when pressure washing shoreline.
g = Consider biological community and porosity of substrate when using pressure or elevated temperature.
h = No action only if residual sheening is present.
k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 4
SANDY BEACHES

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	C		
2) Manual Removal	A	C	A	A
3) Passive Collection (Sorbents)		A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)		Ce	Ce	Ce
6) Sediment Removal			A	A
7) Cold Water Flooding (deluge)		Cb	Cb	C
8) Cold Water Washing				
a) Low Pressure (<50psi)				
b) High Pressure (<100psi)				
9) Warm Water Washing (ambient to 90F)				
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum		Cb	Cb	Cb
13) Shore Removal/Replacement	C	C	A	A
14) Cutting Vegetation (depends upon time of year)				
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL				
15) Chemical Treatment				
a) Oil Stabilization		C	C	
b) Protection of Beaches		C	C	C
c) Cleaning of Beaches		C	C	
16) Burning (depends upon time of year)				
17) Nutrient Enhancement		C	C	C
18) Bacterial Addition		C	C	C
19) Sediment Reworking	C	C	C	C

Key to Identifiers
A = Acceptable
C = Conditional - Use after other less intrusive methods or following particularly heavy impact
Blank space = Not Advisable or Not Applicable
b = Passive collection and vacuum should be coordinated with flooding or washing methods.
e = Trenching only if heavy impact exists and no other viable collection method is available
k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

**Shoreline Type 5
MIXED SAND & GRAVEL BEACHES**

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	C		
2) Manual Removal	A	C	A	A
3) Passive Collection (Sorbents)		A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)		Ce	Ce	Ce
6) Sediment Removal			A	A
7) Cold Water Flooding (deluge)		Cb	Cb	C
8) Cold Water Washing				
a) Low Pressure (<50psi)				
b) High Pressure (<100psi)				
9) Warm Water Washing (ambient to 90F)				
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum		Cb	Cb	Cb
13) Shore Removal/Replacement	C	C	A	A
14) Cutting Vegetation (depends upon time of year)				
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL				
15) Chemical Treatment				
a) Oil Stabilization		C	C	
b) Protection of Beaches		C	C	C
c) Cleaning of Beaches		C	C	
16) Burning (depends upon time of year)				
17) Nutrient Enhancement		C	C	C
18) Bacterial Addition		C	C	C
19) Sediment Reworking	C	C	C	C

Key to Identifiers
A = Acceptable
C = Conditional - Use after other less intrusive methods or following particularly heavy impact
Blank space = Not Advisable or Not Applicable
b = Passive collection and vacuum should be coordinated with flooding or washing methods.
e = Trenching only if heavy impact exists and no other viable collection method is available
k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 6
GRAVEL BEACHES

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	C		
2) Manual Removal	Aa	C	A	A
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)	Ab	Ab	Ab	C
8) Cold Water Washing				
a) Low Pressure (<50psi)	Cb,f		Cb,f	
b) High Pressure (<100psi)			Cb,f	
9) Warm Water Washing (ambient to 90F)				
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum	Ab	Ab	Ab	Cb
13) Shore Removal/Replacement			C	A
14) Cutting Vegetation (depends upon time of year)				
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL				
15) Chemical Treatment				
a) Oil Stabilization		C		
b) Protection of Beaches		C		
c) Cleaning of Beaches		C		
16) Burning (depends upon time of year)				
17) Nutrient Enhancement		C	C	C
18) Bacterial Addition		C	C	C
19) Sediment Reworking		C	C	C

Key to Identifiers
A = Acceptable
C = Conditional - Use after other less intrusive methods or following particularly heavy impact
Blank space = Not Advisable or Not Applicable
a = Manual removal of oiled debris or small persistent pockets.
b = Passive collection and vacuum should be coordinated with flooding or washing methods.
f = Proximity to water intakes should be considered when pressure washing shoreline.
k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 7

RIPRAP

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A	Ch	Ch
2) Manual Removal	Aa	C	A	A
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)	Ab	Ab	Ab	C
8) Cold Water Washing				
a) Low Pressure (<50psi)	Ab,f	Ab,f	Ab,f	Cb,f
b) High Pressure (<100psi)			Ab,f	Cb,f
9) Warm Water Washing (ambient to 90F)			Cb,f,g	Cb,f,g
10) Hot Water Pressure Washing (>90F)			Cg,j	Cb,f,g,j
11) Slurry Sand Blasting			C	Cj
12) Vacuum	Ab	Ab	Ab	Cb
13) Shore Removal/Replacement			C	
14) Cutting Vegetation (depends upon time of year)				
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL				
15) Chemical Treatment				
a) Oil Stabilization				
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)				
17) Nutrient Enhancement		C	C	C
18) Bacterial Addition		C	C	C
19) Sediment Reworking			C	C

Key to Identifiers

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

a = Manual removal of oiled debris or small persistent pockets.

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

h = No action only if residual sheening is present.

j = Hot water pressure wash or slurry sand blast for aesthetic reasons.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 8

SHELTERED BEDROCK & BLUFFS

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A		
2) Manual Removal	A	A	A	A
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)				
8) Cold Water Washing				
a) Low Pressure (<50psi)		Ab,f	Ab,f	Ab,f
b) High Pressure (<100psi)		Ab,f	Cb,f	Cb.f
9) Warm Water Washing (ambient to 90F)		Cb,f,g	Cb,f,g	Cb,f,g
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum		Ab	Ab	Ab
13) Shore Removal/Replacement				
14) Cutting Vegetation (depends upon time of year)		C	C	C
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL				
15) Chemical Treatment				
a) Oil Stabilization			C	
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)			C	
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking				

Key to Identifiers

A = Acceptable

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Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 9

SHELTERED LOW LYING BANKS

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A		
2) Manual Removal		A	A	A
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)	Ab	Ab	Ab	C
8) Cold Water Washing				
a) Low Pressure (<50psi)	Ab,f	Ab,f	Cb,f	Cb,f
b) High Pressure (<100psi)			Cb,f	
9) Warm Water Washing (ambient to 90F)		Cb,f,g	Cb,f,g	Cb,f,g
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum	Ab	Ab	Ab	Cb
13) Shore Removal/Replacement	Cc			
14) Cutting Vegetation (depends upon time of year)		C	C	C
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL				
15) Chemical Treatment				
a) Oil Stabilization			C	
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)			C	C
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking				

Key to Identifiers

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C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

c = Shoreline removal/replacement with clay if substrate is saturate with oil.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 10

FRINGING & EXTENSIVE WETLANDS

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	C	Ch,i	Ch,i
2) Manual Removal		Cd	Cd	Cd
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A		
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)	Ab	Ab	Ab	C
8) Cold Water Washing				
a) Low Pressure (<50psi)	Ab,f		Cb,f	Cb,f
b) High Pressure (<100psi)				
9) Warm Water Washing (ambient to 90F)				
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum	Ab	Ab	Ab	Cb
13) Shore Removal/Replacement				
14) Cutting Vegetation (depends upon time of year)		C	C	C
ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL				
15) Chemical Treatment				
a) Oil Stabilization			C	
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)	C	C	C	C
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking				

Key to Identifiers

A = Acceptable
C = Conditional - Use after other less intrusive methods or following particularly heavy impact
Blank space = Not Advisable or Not Applicable
b = Passive collection and vacuum should be coordinated with flooding or washing methods.
d = Low intensity removal of mobile debris only, e.g., vegetation or driftwood.
f = Proximity to water intakes should be considered when pressure washing shoreline.
h = No action only if residual sheening is present.
i = No action only if the wetland fringes are impacted or access would result in unacceptable damage.
k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.