

H. COLD WATER DELUGE

Objective & Strategy

Cold water deluge is typically a protective counter measure with the objective of minimizing the impact to designated shoreline areas. This is achieved by creating a flood of water that forms a hydraulic head in the beach substrate above the sea water level. The flood raises the normal water table, producing free flowing water down the beach surface which prevents the oil from adhering to the shoreline and penetrating the substrate. This strategy can also be used to enhance shoreside recovery.

Deluge is performed by placing perforated hose along the high tide area of the shoreline, connecting it to a high volume (typically six inch) pump. Suction hose is connected to the pump from the source of water, and when started, the water is pumped through the perforated hose to create a flood. This technique can be deployed along selected shoreline prior to impact to reduce the quantity of oil that might otherwise adhere to the beach. This technique can also be applied to assist in treating shoreline that has already been impacted. One of the most common applications is deployment of this technique in unison with Diversion and Marine Recovery units where spilled oil is entrapped or intentionally grounded. Access to selected shoreline may be accomplished from the water using shallow water platforms such as landing craft or, from on-land using ATVs or other four-wheel drive vehicles.

The general strategy is to:

- Identify the trajectory of the spilled oil and select shoreline to be protected, as well as identify natural recovery sites that may be intentionally used for entrapment.
- Evaluate access restrictions and select appropriate marine deployment platform, or on-land vehicles.
- Mobilize and deploy personnel and equipment to selected shoreline sites.

Resources for this module have been defined as personnel with pumps and hoses. Quantity of units required will be determined by site, and resource sets may need to be refined as site specific requirements dictate.

Deluge Unit General Configuration

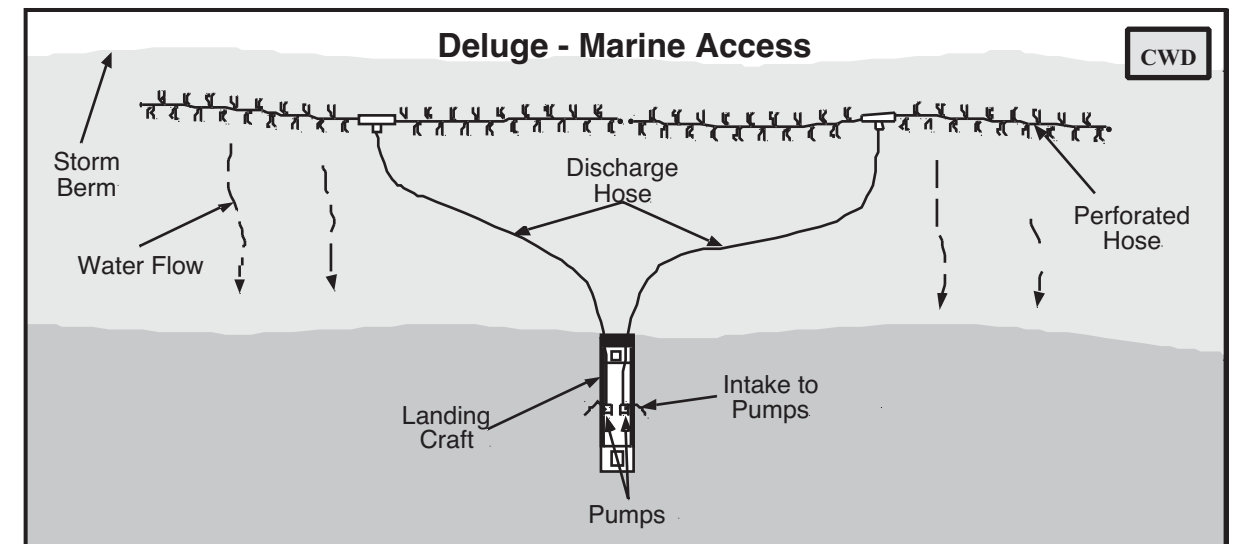


Figure G-2-30. Aerial view of a deluge configuration marine access.

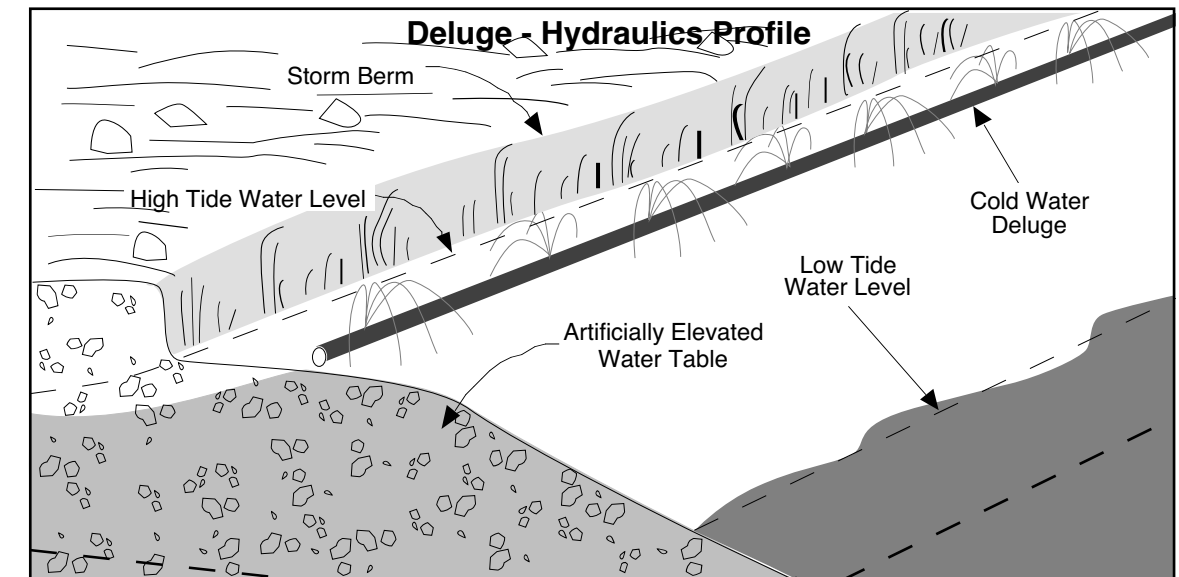


Figure G-2-31. Deluge hydraulic shoreline cross-section profile.

Resources

Cold Water Deluge, Marine Access CWD

Direct Resources

Description	Type	Function	Quantity
Pump	6" Diesel - Trash	Water Flood	2
Perforated Hose	6" Lay Flat – Discharge w/Holes	Deluge Header	400'
Discharge Hose	6" Lay Flat	Header Supply	400'
Suction Hose	6" Suction	Pump Supply	2 x 20'
Kamlock Fittings, Pipe Fittings & Basket Strainers	6" Assorted	Hose Connections	

Support Resources*

Description	Type	Function	Quantity
Personnel**	Crew & Tech./Shift		8
Landing Craft	Shallow Draft	Access/Deployment	1

Cold Water Deluge, Shoreside Access CWD-S

Direct Resources

Description	Type	Function	Quantity
Pump	6" Diesel - Trash	Water Flood	2
Perforated Hose	6" Lay Flat – Discharge w/Holes	Deluge Header	400'
Discharge Hose	6" Lay Flat	Header Supply	400'
Suction Hose	6" Suction	Pump Supply	2 x 20'
Kamlock Fittings, Pipe Fittings & Basket Strainers	6" Assorted	Hose Connections	

Support Resources*

Description	Type	Function	Quantity
Personnel	Crew & Tech./Shift		6
ATV's		Material Transport	2
Trucks with ATV Trailers		Mobilization Support	2

* Support Resources may need to be re-evaluated, and in most cases decreased, when deploying multiple units or tending systems after deployment.

** Personnel does not include Landing Craft crew.

Deployment Considerations and Limitations

- Shoreline access may influence deployment platform options.
- Deluge pressure needs to be regulated to avoid beach erosion.
- Kamlock fittings should be secured with wire or wire ties after lockdown.
- The marine access unit does not specify an ATV. If available, an ATV could support hose & fittings transport from the vessel up the beach.